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Labor and Poverty

Michael Lipton

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ABSTRACT

This is the second of four Working papers about characteristics of the poor, and of the "ultra-poor" at nutritional risk. It reviews the evidence on participation rates (PRs), duration of work, and rewards per period worked - both as they interact to form average labor income, and as they vary in time and space.

Village materials from semi-arid areas of Western India (especially work based on AERC, Gujarat and Rajasthan) and Northern Nigeria (especially work by Norman and Simmons, based on Ahmadu Bello University) are the basic data. Related rural and urban evidence comes from Indian National Sample Survey rounds for 1971-2, for 1972-3 (especially as analysed by Visaria), and for 1977-8; from work by the Nigerian Economic Society; from large-sample and synoptic labor-market analyses (notably by Bardhan, Binswanger and Rosenzweig); and from empirical studies in several developing countries.

Labor markets seldom "fail", but in succeeding they impose on the poor - especially those with little chance of acquiring human or physical assets - interlocking and cumulative disadvantage. Crude PRs are reduced by high dependency ratios, illness, and other factors (although poverty is nevertheless strongly correlated with high age-specific PRs). As the poor increasingly come to rely on wage income, labor duration is cut by unemployment, which increases cross-sectionally as outlay-per-person declines. Wage-rates are kept low for the poor, not mainly by wage discrimination, but by lack of skills, mobility, and good health - and perhaps by discrimination in access to such assets.

These disadvantages interact. Groups, areas and seasons with lower wage-rates also feature considerably higher unemployment and somewhat lower PRs. The ultra-poor show discontinuous disadvantage: their ASPRs are seldom higher, often lower, than for the moderately poor; and unemployment rates show a sharp upturn around the point of ultra-poverty. Fluctuations in PRs, in employment, in wage-rates, are (a) positively correlated and (b) severer for the poor.

Several features, over-represented among the poor, are also correlated with lower and/or less stable PRs, labor duration and/or employment. These include: Female sex, or membership of female-headed households; youth; lack of assets (given income-per-person); disability; casual-labor status; minority caste or tribe affiliation; and usually, despite the new conventional wisdom, recent immigration to urban informal activity. The urban sector, and "advanced" villages, feature rather higher unemployment, much lower (female) PRs, and higher wage-rates, than remote villages.

This suggests a supply-and-demand model. Long-run real-wage stagnation, plus major short-run fluctuation, suggest wage-elasticities of labor supply (and demand) low in the short run, but high in the long. Cross-section analyses may understate long-run wage-elasticities of labor supply - as much as the Lewis model overstated them. However, alternative models of labor markets cannot be dismissed. Anyway, few could take pleasure even in "perfectly" functioning labor markets that generated persistent poverty and disadvantage. If this review presents the evidence roughly correctly, redistribution of access to physical and human assets may be needed to enable poor people to compete fairly, even in perfect labor markets.

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CHARACTERISTICS OF POOR AND POOREST: GENERAL INTRODUCTION TO WORKING PAPERS

(a) Origins

In 1982, a Bank-wide Task Force reported on the impact of Bank activities on poor people. It showed that the proportion of the Bank's lending directed mainly at people in absolute or relative poverty had risen sharply - from about 5% in 1968 to 30% in 1980. Moreover, such activities showed rates of return at least as good as conventional lending, and succeeded, as intended, in benefiting mainly the poor. However, "neither borrowers nor lenders have been very effective in benefiting people who lack productive assets - the poorest 20%" (World Bank, 1983, pp. ii, 3, 5, 6-7). The report stressed the need for increasing the salience of poverty reduction in Bank "policy dialogue" with developing countries. But what can they learn from each other about appropriate policies for the poorest 20%?

While working with Alexander Shakow and Norman Hicks on the Secretariat of the Task Force, the author of the present paper was examining the characteristics of the poor and the poorest. This search was given special urgency by the Bank's partial success in raising the productivity of the poor, and its relative failure to do the same for the poorest. It may be, of course, that the "power structure" somehow prevents the poorest quintile of households in low-income countries - or the poorest decile in middle-income countries - from sharing the fruits of growth, while allowing moderately poor people to do so. Before accepting such a complicated hypothesis, however, we should look at the alternative: that very poor people (unlike the moderately poor) have characteristics that affect their capacity to benefit from development programs.

This is one of four linked Working Papers that aim to identify such characteristics, if any. Three in the series - dealing with nutrition, labor, and demography - will appear early in 1983, and the fourth, on assets, later that year. Comments are especially welcome, because these papers are to be revised for publication in book form in 1984.

(b) Data sources

It had been hoped to draw mainly on data sets for two ecologically comparable poor regions, one Asian and one African, each with micro-information from good village studies supported by regional data from larger sample surveys. Partly to follow data availability, partly to ensure that climatic fluctuations would permit study of variability as a poverty problem, we selected semi-arid areas in N.W. India and N. Nigeria. In N.W. India, main emphasis was to be placed on Rajasthan, Gujarat and Maharashtra; the first two States permit the use of village studies by the Agro-economic Research Center at Vallabh Vidyanagar, and the last two of Pravin Visaria's disaggregations of National Sample Survey data by household outlay-per-person deciles. In N. Nigeria, outstanding work at the Ahmadu Bello University (Department of Agricultural Economics) has produced three good surveys, each covering three villages (Patel, 1973, 1975; Ankodia, 1964, Falna, 1976, etc.; Norman, 1972, 1976).

As work progressed, however, it proved essential to support hypotheses from these sources with other enquiries, urban and rural, from a wide range of LDCs.

(c) Discontinuities

Not because this was originally expected or planned, but because of the accumulating evidence, the method of these Working Papers came increasingly to involve a search, not simply for relationships between poverty and other characteristics (e.g. participation rates, caloric inadequacy or family size), but for discontinuities in these relationships. It transpired that in LDCs such discontinuities usually occurred, not at the "poverty line" (i.e., not between the "poor" and the rest), but at a much lower level of income or outlay, per person or per consumer unit.

This is consistent with discontinuities observed in experimental work on producers' behavior. Notably, farmers exhibit "threshold" changes in behaviour (in respect of risk-aversion, reluctance to innovate, and - given the technology - reversal of the usual inverse relationship between size of operated farm and yield-per-acre) not around the "poverty-line", but around the much lower level of welfare at which subsistence appears to be endangered.

The "discontinuities" do not normally take the form of sudden, sharp rises or falls - as income or outlay, per person or per consumer unit, increases - in the proportion of persons within a given income or outlay interval. Rather there are reversals or intensifications - i.e., respectively, turning-points or points of inflexion - in behavior, as welfare changes around levels of great poverty. It is well-known that per-person income and outlay are usually distributed more or less lognormally. However, as these crude "welfare" indicators fall, adult female workforce participation rates increase until a "welfare" level signifying extreme poverty is reached - and then decrease with further falls in welfare. Ratios of food spending to total outlay, around much the same point on the "welfare" scale, shift from steady rises as poverty increases, to a more or less constant 80-85% level. Unemployment rates, a steadily increasing function of poverty, increase more sharply at very low income levels, and become more seasonally unstable.

(d) Causality

On such issues, and generally, these Working Papers try to remain agnostic about causality. For example, we find that income-per-person (and other welfare indicators) tend to increase fairly steadily as household size falls, yet paradoxically also tend to be higher among groups of households with higher wealth or status. In seeking to reconcile these two findings we try not to make our explanations dependent upon whether large family size is cause or effect of (a) higher status or asset ownership, and/or (b) smaller welfare at a given status or wealth level. Perhaps larger households get poorer, as Malthus posited; perhaps poorer households are driven to get larger, as is averred by economic demographers of both Marxist and neo-classical persuasions.

The scarce and scattered data, the extreme rarity of time-series, and our ignorance of how very poor people reach decisions all suggest that one should defer attempts to make strong causal statements. These papers "explore the space" relating poverty to, say, economic and demographic characteristics. We must discover the direction and strength of the relationships, the gaps in observations on variables, and the turning-points or points of inflexion. Only then can we make sensible claims about causal directions. The author

is too interested in policy inferences (and too incautious) to abjure all causal hypothesising. However, the preferred form of conclusion should usually, at this stage, be neutral between "A causes B", "B causes A", and "C causes A and B". These papers are a first shot at outlining the shape, under different circumstances, of functional relations between poverty-variables (A) and characteristics-variables (B). Causal specification is largely left for others.

(e) Policy for a non-underclass

What, if any, policy conclusions can be drawn from causally inexplicit relationships? The answer depends on the nature, alterability, and costs of remedying the characteristics associated with moderate and extreme poverty. In particular, is remedying those characteristics likely to enable an affected person significantly to improve his or her level of welfare in a self-sustained way? Or is such improvement, instead, the likeliest way to remedy them? The answer to that question is logically independent of whether the characteristics "caused" the poverty level in the first place, or were caused by it.

Hence we can identify important policy implications of the "characteristics-poverty-ultrapoverty" links - implications independent of the causality of these links. One such implication is central to our whole enquiry. We find that the ultra-poor have very different behavioral characteristics from other poor (and nonpoor) people. Do these characteristics mean that most of the ultra-poor belong to an "underclass"?

It has been argued that the poorest 5-15 per cent of people in developed countries have "underclass" characteristics rendering it impossible, or prohibitively costly, to enable them to raise their income and productivity in a self-sustained way. These characteristics may be linked to misfortune (e.g. persistent mental deficiency in persons recently released from hospitals), to earlier choice (e.g. alcoholism), or even to demographic circumstance (e.g. widowed and childless status). Whatever the moral issues, and whether the characteristics cause poverty or are caused by it, the result is the same: the "underclass" cannot at reasonable cost be helped to help itself out of poverty, but must rely on social-security payments or on charity.

The evidence of these Working Papers strongly indicates that the great majority of the ultra-poor in LDCs are not, in this sense, an unreachable "underclass". Their extreme poverty is associated with lack of promising human and physical assets; with weak labor-market positions; with large families, high dependency ratios, and very high infant mortality; and with significant risks of nutritional damage. Only tiny proportions of the Third World's ultra-poor could survive as drug addicts, alcoholics, mental defectives, or even single-member families. These ultra-poor are mostly a resource, not a burdensome underclass.

This raises a second policy issue, also largely independent of the causal links between characteristics and ultra-poverty. Does an ultra-poor group require different projects and policies, to achieve self-sustained improvements in income and productivity, from those required by the moderately poor? These working papers suggest that "food and health first", especially for children - and policies to improve capacity to contest labor and asset markets - may be necessary preconditions for improved productivity for the ultra-poor. Otherwise, benefits from "poor people's projects" will continue to stop at the second quintile.

LABOR AND POVERTY

I. POVERTY AND DEPENDENCE ON LABOR

The economic circumstances of people in very poor households are largely defined by food and work. Some 70-85 percent of outlay is needed to obtain food, and this seldom leaves much prospect of either using time or accumulating savings to acquire skills or assets. Therefore, the great bulk of poor people's household income derives from unskilled labor, 1/ either hired out or combined with inexpensive owned or rented assets such as small areas of unirrigated land.

Poor people's dependence on income from unskilled labor is especially strong among groups suffering from social discrimination, such as women, Indian "scheduled castes", or African minority tribes. In other words, the disadvantages from poverty and from discrimination tend to be cumulative, not merely additive. For example, poor members of scheduled castes are less likely to be educated to a given level, relative to rich members of the same castes, than are poor members of non-scheduled castes. 2/ (See also Lydall, 1968).

Thus poor households, especially in "minority" groups, depend for their well-being mainly on being able to transform time and strength into labor-income. Such transformation capacity differs, in low-income countries, as between the 10-20% of ultra-poor households whose members are at income-induced nutritional risk; the further 15-35% of households whose members are poor but not ultra-poor (Lipton, 1983); and other households. Transformation capacity also differs as between different sorts of members, and potential members, of poverty groups - urban and rural, men and women, etc. This Working Paper uses rural data sets from villages in Northern Nigeria and Western India to enquire into the impact of transformation capacity - of work, and of income from work - on the consumption-levels of people from poor households. Other rural and urban data, from several developing countries, form a background to this enquiry.

The transformation capacity of a household, village or nation, during a defined period such as a year, can be analysed in terms of a labor utilisation (LU) identity: 3/

$$\frac{\text{Income}}{\text{Persons}} = \frac{\text{Working-age}}{\text{Persons}} \times \frac{\text{Workforce}}{\text{Working-age}} \times \frac{\text{Hours worked}}{\text{Workforce}} \times \frac{\text{Income}}{\text{Hours worked}}$$

This paper explores, in turn, the first two components (Part II), the third (Part III) and the last (Part IV) of the right-hand side of this identity. In each case, we ask not only (a) how these components differ, both as between poor people and others, and as between different sorts of poor people; but also (b) what affects the average level of the components under different circumstances. The second question is also relevant to this enquiry into the "labor characteristics" of the poor because - with labor income looming so large in poor people's total income - factors raising a community's labor income per person (i.e. raising the average value of any component in the identity) will, ceteris paribus, favor the poor.

The first two components are, respectively, an age-structural or demographic 4/ participation factor (increasing as the dependency ratio decreases), and the resultant of a set of socio-economically determined age- and sex-specific participation rates (ASPRs). The demography of poverty is discussed elsewhere in this series (Lipton, 1983a); socio-economic causes and effects of differences in ASPRs among and within lower-income groups are considered in Part II of this paper. 5/ We try to avoid the many issues surrounding definitions of ASPRs (see Annexes 2-3), and of "unemployment", by comparing the rates only between groups within a single survey, or between surveys using similar definitions.

Evidence about the component measuring duration of labor, viz. hours worked per person of working age, is discussed in Part III below. This component enshrines perhaps the central poverty debates in development studies. Are the poor in low-income countries underworked or overworked? In either case, is the duration of their effort either effect or cause of their poverty? Under what circumstances can relatively low duration of effort among the unskilled poor - at a season of the year, or in a particular sort of area (e.g. semi-arid), or among a particular group of persons (e.g. casual laborers, or women) - be usefully described as "unemployment", i.e. ascribed to some sort of deficiency in the demand for labor-power? Part III seeks to throw a little light on these debates.

The final component of the LU identity, hourly rewards from work, is explored in Part IV. This component can be read as an equilibrium price of labor, in a neo-classical framework. Thus many economists would interpret ASPRs through a set of labor-supply schedules; participants' duration of labor, through a set of labor-demand schedules; and "rewards per hour", accordingly, as a set of supply-demand intersections. However, in developing the LU identity, 6/ I had hoped to provide a framework with much less "tight priors" (Reċer, 1982). Explicitly, it was sought not to equate participation and labor supply; labor demand and absence of "unemployment"; or wage-rate and equilibrium price of labor. There were reasons for this. Even without self-employment, low ASPRs can be due to perceived lack of demand for one's effort by others, as was recognised thirty years ago by Mahalanobis (Connel and Lipton, 1977, p.23); low duration of labor to supply factors (high search-costs, illness), not just to "unemployment"; and low wage-rates, for large groups of individuals, to discrimination against them, not only in task-rates, but also in acceptability for better-paid tasks (Lluch and Mazumdar, 1981), or for "pre-market" qualifications such as appropriate residence, education or training (Bannerjee and Knight, 1982). With pervasive self-employment, in family farms or trading-artisan enterprises, not only are such problems with the "tighter" interpretation generally more serious but also there are grave doubts about the very distinction between planned supply of labor and planned demand; with 100% self-employment, the distinction becomes an unobservable partition inside the worker's mind.

So it is not surprising, nor due to incompetence, that most of the intensive micro-studies of labor use, if at all organised around an analytical framework, tend towards the looser, less neo-classical interpretation of the LU identity. We can often write down, from an Indian or Nigerian village survey, the period participation rates, duration of effort, and reward-per-hour for some groups, times, and types of activity. We are seldom invited to see these numbers as representing respectively supply factors, demand factors, and equilibrium prices.

Some distinguished recent work, in several different intellectual traditions, has sought to revive the "tight" interpretation discussed above (a precursor was Hansen, 1969). Partly the reasons lie in real-world changes: a growing proportion of economic agents appears to be operating in formalised labor markets, owing to urbanisation, to integration into markets of villages traditionally separate and based on mutual worker-employer bonds (Rudra, 1982), and to the falling share of self-employment in total rural work (p.69); this in turn is due to the rising man/land ratio and in some cases, such as Bangladesh (Peach and Januzzi, 1979), to land concentration. Partly the reasons lie in intellectual history: micro-economists increasingly interpret household outcomes, such as poverty associated with low income from labor, as due to choices under constraints. Liberal economists tend to stress the choices, and to interpret demographic and labor-market behavior "as if" the outcome of an optimizing plan, at the time of household formation, about leisure, income, and household-size preferences (Schultz, 1981). Marxian economists interpret the same behavior "as if" the constraints of differential class power, superimposed on resource scarcity, almost forced decision-sequences - again, on labor-market behavior and family size simultaneously - upon poor households (Mamdani, 1972).

Whatever the reasons for the revival of "tighter" interpretations of the LU components, our discussion of how poor people differ from others - and among themselves - in ASPRs, labor duration, and wage-rates will neither assume nor exclude such interpretations. However, we shall try to maintain the distinction between low participation, low duration of work, and low returns to work, as the three components of low income from labor. This is not just a mechanical division of topics to follow the LU identity. Dasgupta's categorization of Indian villages, using factor analysis, clearly separates two types of "village with poverty". In one type, most poor households feature low duration of work, despite high participation; these villages tend to have not-so-unequal, but on average low, returns per workday, 7/ and to be remote and subsistence-orientated. In the other type, poor households tend to feature low (especially low female and adolescent) participation, but high duration of work; these villages tend to have more unequal, but not so low, returns per workday, and to be less peripheral and more commercially orientated (Dasgupta, 1977). To take another example, big upsurges in the demand for seasonal labor - such as were associated with the harvesting and threshing of high-yielding wheat in the Indian Punjab - can be met in one of two ways. There may be substantial rises in labor duration or PRs (e.g. via immigration), and only a modest rise in the real wage rate; or there may be smaller elasticity of labor supply, and thus larger short-run rises in real wage rates, but consequently heavy pressures from bigger farmers for labor-replacing mechanization, e.g. for subsidies (often via credit or fuel) to threshing machines or reaper-binders.

The impact of all aspects of labor - participation, duration, returns - on the poor depends, not only on the average, but also on variation over time. A 1% rise in the coefficient of (weekly) variation of labor income does most harm to the poorest, and more to the poor than to the non-poor (Annex 1). We shall consider variability alongside average; for example, participation of labor, for total communities and for the poor within them, is considered in Part II, and followed by a discussion of variability of participation for the poor and for total communities (pp.37-41). The important question of covariance or contravariance - e.g., among communities, between average wage-rate and propensity of that wage-rate to fluctuate; or, within a community, between fluctuations in wage-rates and in the level of employment - is considered at a later stage (p.72; cf. Table 2).

II. PARTICIPATION, POVERTY AND ULTRA-POVERTY

Almost everywhere, over 90 percent of men aged 15-59 work, or seek work, for either cash or non-household self-employment income, during a typical week. 8/ Differences in participation rates as between poorest, poor, and others must therefore be sought mainly among (a) women, and (b) men not aged 15-59. If data for (a) and (b) are not available, the next best search area is (c) total populations - preferably excluding some people who are not potential workers, e.g. under-fives. In (c) differences are mainly associated with differences, as between households at different levels of economic welfare, in (1) female and non-prime-age male PRs, and/or (2) the age- and sex-composition of households. Since women are slightly over-represented, and non-prime-age persons substantially over-represented, among the poor (Lipton, 1983a), and since prime-age male PRs are so high as to offer little scope for variations, it follows that PR differences among income-groups in total populations underestimate the extent to which female and non-prime-age male PRs vary with economic welfare.

Part II of this paper first gives reasons, and then summarizes evidence, that - down to some threshold welfare-level, at least - increasing poverty goes alongside increasing ASPRs. This reflects the fact that, being generally too poor to save (and, because relatively dependent on casual labor, prone to higher and more fluctuating unemployment; see Part III), the poor cannot afford prolonged voluntary withdrawal from the workforce. Abundance of unwanted leisure - in hungry slack-seasons especially - precludes the asset-less from choosing low ASPRs as well. This does not imply a backward-bending labor supply function: the generally negative response of male (female) adult PRs in very poor households to the female (male) wage-rate, plus their positive response to "own-sex" wage-rates, clearly reveals normal, but analytically separable, income and substitution effects (Binswanger and Rosenzweig, 1981a, pp.45, 51-2). Nevertheless, over most of the range, rising household economic welfare from all sources is associated with falling ASPRs, at whatever set of wage-rates (and rewards to self-employed effort) prevails for workers from the different welfare-groups of households at the time of survey.

"Over most of the range" and "down to some threshold", in the above paragraph, indicate a surprising qualification. We suggest on pp.25-7 that the rise in ASPRs, as household welfare declines, may be checked or reversed if welfare drops below a certain threshold, which is probably not far from "ultra-poverty" (Lipton, 1983). Evidence is still scanty, but micro-data confirm large-scale studies, and reasons will be given on pp. 25-7 why the finding should not after all surprise us (see Table 2).

It does, of course, worsen the labor position of the ultra-poor if their ASPRs, for whatever reason, fail to follow the usual pattern, i.e. if they do not go on rising in response to greater pressure of poverty. This is especially so because year-round average levels of the ASPRs are apparently the only "labor correlate" of economic welfare to change, with income-per-person, in a way that normally compensates to some extent for poverty. The other correlates - fluctuations of ASPRs and levels and fluctuations of dependency-ratios, wage-rates and employment - appear to become less favorable as household welfare declines. If this can also apply to levels of ASPRs, even if at the ultra-poor end only, then the probable values of all six cards in the "labor income" pack - the three components of the right-hand side of the LU identity, and their variabilities - appear to be stacked against the poorest.

Dynamic evidence could be sought as follows. Suppose that ASPRs indeed rise as between ultra-poor and poor households, and then fall steadily as households become less poor. Then, if general welfare levels are improving but the ultra-poor are being left out, one would expect declining ASPRs. This is exactly confirmed by the results (on roughly comparable definitions of PRs) of the Indian 1961 Census and 1972-3 NSS. The proportion of adults "usually" participating in the workforce declined significantly for all-India and for most urban and rural areas. The exceptions were rural Karnataka; urban Gujarat and Maharashtra; and rural and urban Kerala, Punjab and Rajasthan (Krishnamurthy, 1978, pp. 1, 7, 16; compare Grawe, 1979, p. 6). On the whole, though the overlap is not perfect, these exceptions are the very areas where in 1961-72 either (a) technologies (Punjab, rural Karnataka) or political institutions (Kerala) probably enabled even the very poor to share in growth, pushing their ASPRs (if our hypothesis is correct) down to the levels of the moderately-poor; or (b) growth was slow or negative (Rajasthan), so that even the moderately-poor did not raise welfare, and in the process enter household-welfare groups with lower ASPRs.

These inferential dynamics rest on "cross-section to time-series" argumentation, and are in other respects also very "iffy"; alternative hypotheses are consistent with the facts, as is the case with all "as-if" arguments. For that reason, most of our (very limited) evidence for the claimed non-monotonic ASPR-welfare relationship is both more direct and more static (pp. 24-7). But the dynamics, however uncertain, are important for anti-poverty policy. Thus we should stress a possibly optimistic policy implication from the apparently gloomy fact that ASPR levels (as well as all other levels and fluctuations in the LU identity) seem stacked against the ultra-poor. If ultra-poverty declines for reasons not directly connected with the labor market or with factors affecting PRs, then the process may be reinforced by rises in ASPRs, even though such ASPRs normally decline with rising welfare among groups that are not ultra-poor.

Another important policy issue is the presence of social pressures to conform, as income-per-person rises, to norms in higher status groups that depress ASPRs. In Northern Nigeria, these norms can cut female PRs by imposing female seclusion (Longhurst, 1980, p. 8; Hill, 1972, p. 190). In India, upper-caste norms can cut the attractiveness of participation for upwardly-mobile poverty groups that engage in "caste-climbing" that rules out certain profitable occupations; in an Orissa village, the Ganjams escaped poverty (though not untouchability) through toddy-tapping, while the Boads, as welfare rose slightly, chose caste advancement and rejected toddy income (Bailey, 1960), doubtless achieving less poverty-reduction and lower ASPRs than the Ganjams. The lesson is not to seek to impose "materialist", economic or Westernizing norms, but to be aware of the costs - not least to child nutrition - of alternative norms that cut PRs if status begins to improve.

(a) Demography raises ASPRs for poor people - but not for poor groups

Lower welfare, normally indicated by lower income or adult-equivalent or per outlay per adult equivalent or per consumer-unit (CU), induces poorer people to raise ASPRs (except for the above threshold effects: see pp.25-7). This sequence would apply even if households in

all income-per-CU groups were of similar sizes and demographic structures. However, demography and poverty interact in a way that further tends to raise ASPRs among the poor. Rising poverty accompanies rising infant and child mortality. This, in turn, lowers the "hands/mouths ratio" - the proportion of household members of working age (Lipton, 1983a, tables) and thus able to support the rest. The positive effect on ASPRs, and on duration of labor among participants, has been familiar at least since the 1920s (Chayanov, 1968). People of working age in households with low "hands/mouths ratios" are more pressed to participate; and the range of working ages, at the school end and the retirement end, is pressed outwards.

Since large households with high dependency-ratios are associated with higher risks of poverty in total populations (rural or urban), demography interacts with poverty to raise such households' ASPRs. But this demographic push - although clear in total populations and even stronger within specific asset and status groups, e.g. landless farm laborers or particular tribes or castes - is reversed as between such groups. The landless normally have smaller households, and lower dependency ratios, than the landed (Januzzi and Peach, 1979, App.D, Table D-1) marginal farmers, than big ones; and low-status castes and occupations, than high-status ones (Lipton, 1983a, esp. Tables).

It is the ultra-poor who are especially likely to be over-represented in particular groups with very low status - and with access barred to higher-income jobs. Thus the smaller households and lower dependency ratios in such ultra-poor groups may partly account for the reversal, at very low outlay-per-CU, of the negative link of ASPRs to outlay-per-CU. This reversal means that people below the conventional poverty line may show two quite distinct sorts of participation behavior, especially among women. Among over 4000 rural Indian households sampled in 1968-71 (of which 39-77 percent were "poor", at different times and according to whether income or outlay, and per-head or per-CU, criteria were used), some 41-42% of "poor" households showed adult female PRs below 10%, and another 49-50% showed rates above 60% (Gaiha and Kazmi, 1982, pp. 10, 43). The two modes may well be "poor because of low participation" (including the old, pregnant, etc. - ultra-poor?) and "poor despite very high PRs". Here, however, we stress - and on pp. 24-7 will demonstrate - the strength, except at the bottom of the welfare scale, of the negative link for total populations between ASPR and outlay-per-CU.

(b) The poor prefer high ASPRs, but may find them costly or unattainable

The poor are particularly likely to be forced into non-participation, because

- they are more prone to illness or disability (pp. 15-19);
- their very young age-structures (apart from imposing high infant/worker ratios) reduce adult, especially female, ASPRs via the claims of pregnancy and child care - but not enough to prevent PRs of women and children from rising as poverty presses harder (pp. 19-24);
- customary restrictions on who may do what work, while often necessarily ignored by the very poorest, curtail participation by the would-be rising poor, especially among women (pp. 30-37);
- absent factors, especially owned land of adequate yield potential and potentially co-operant with labor, can reduce the returns to marginal participation below the marginal.

caloric cost of effort plus job search, especially since (pp. 41-2) such costs are especially high for the poor, and above all seasonally and in bad years.

For the poorest, such considerations may help explain lower ASPRs than among the moderately poor. Only for those above a certain level of extreme poverty does extra income "permit and stimulate", i.e. lead to, the normal positive relationship between income-per-person and leisure-preference; this parallels the "truncation" of Engel's Law (Bhanoji Rao, 1981; Lipton, 1983, Sec. II(b)) for the very poorest. These also suffer higher unemployment, and greater seasonal work variation in employment, wage-rates and participation than other groups (pp. 37-41, 46-47, 60-4. 88-91). So the total vulnerability of the poorest 10-20% (though not of the 20-30% above them) to lack of rewarded work may be as serious as the "conventional wisdom" suggests.

Ridiculing the notion that the poor can afford to turn down employment just because the reward is below the "going rate", Myrdal once said: "Unemployment is a bourgeois luxury". But the very poorest may find that idleness - either as non-participation or as unemployment - is the least-cost option, or in extreme cases unavoidable due to constraints, for some weeks or months. (Long-period, and also what the Indian NSS calls "usual-status", unemployment or non-participation are indeed minute among poor people.) Non-participation can be compelled - by illness, child-care, or other constraints - or, if search-costs are large and jobs scarce (e.g. in a slack season), it can be the cheapest alternative.

We shall review evidence that, and reasons why, this is likeliest among the extremely poor (pp. 25-7). The upshot is that people behave as if leisure were a normal good, or a luxury even, at "normal" incomes; but, in extreme poverty, leisure often appears to be an inferior good. The reality is that, as such low levels of welfare, participation has hidden costs. Initial "doses" of extra income permit purchases of medicine, transport, boiled water, child-care, etc. that encourage - or, in extreme cases, allow - households to substitute (income from) work for leisure in the next time-period.

What is going on? The poor and the poorest do partly "compensate" - for high infant/adult ratios, for poverty, and for higher involuntary unemployment - by "choosing" high ASPRs. That is, as income decreases cross-sectionally, so people increasingly substitute (work) income for leisure, given the relative returns to leisure and to effort. However, among the poorest, falling levels of welfare are probably often associated with a shift, in these relative returns, in favor of leisure. Illness, and agricultural seasonality, especially for casual employees, discontinuously and sharply reduce the returns to, or even the possibility of, productive work. Such contingencies as the need for child care (or for the observance of customary constraints) discontinuously and sharply increase the returns to withdrawal from the workforce. The poorest are usually likeliest to be ill (pp. 15-19), to lack "extended family" to help with child-care (Lipton, 1983a), to be casual employees (pp. 50-51), and to be subject to seasonality (pp. 37-41). Hence a downturn in ASPRs around the level of ultra-poverty (apart from being compatible with the equation of that state to nutritional risk: Lipton, 1983) would be perfectly normal economic behavior.

Before examining the impact (on the poorest, the poor and the rest) of non-participation in the working force, we recall that:

- non-participation by the poor is seldom explicable as some sort

- of irrational response to incentives; the non-participant poor, in other words, correctly judge that they would be even worse off if they were to seek higher daily ASPRs at the cost of accepting lower net returns to effort; and
- estimates of the total PR (the workforce/population ratio, W/P) depend critically and substantially on the age-groups counted in W and P, on the activities and periods of work qualifying for membership of W, and on the reference period; since different survey organizations make different decisions about all of these, inter-survey comparisons of PRs are risky.

These conceptual issues are relegated to Annexes 2 and 3, so as to avoid breaking up the substantive argument.

(c) Sickness and disability especially harm poor people's peak PR

NSS rounds hint at major losses to India's poor, caused by non-participation during sickness (Sarvekshana, Apr. 1979, p. S.514). Casual laborers (already the main victims of both poverty and conventional unemployment: pp. 50-1) found in 1977-8 that illness-related absence from work reduced their labor-input by a further 5% of worked time for rural men, and 6% for rural women and urban persons, aged 15-59.- see Table 13. Non-participation due to sickness must be commoner among all persons normally at work, among non-casual employees and the self-employed. 9/ Probably total Indian labor supply, i.e. the daily overall PR among all persons normally at work, was reduced by about 5-6 percent due to illness. Much higher proportions were estimated in the early 1960s for "work-days lost per year for usually-working persons due to acute conditions" in some developing countries: Ecuador 29%; Venezuela 20%; Guatemala 16%; Chile, Colombia and Egypt 15%; Burma and Mexico 12%; Brazil 8%; Portugal and Peru 6% (Correa, cited in Standing, 1978, p. 93). These data are dubious; the careful Indian sample suggests they need adjusting downwards. Small-sample workforce surveys, however, suggest somewhat higher incidence of work-loss due to illness in Africa (p. 18) than in India.

To this 5-6% cut in Indian PRs due to acute illness among those normally at work - a percentage comparable for casual laborers with conventional unemployment (Sarvekshana, Apr. 1979, p. S.514) - must be added non-work due to chronic disability. Disabled persons in 1972-3 comprised 0.7 percent of rural Indians aged 15-24, rising to 1.5% at ages 45-59 and 3.7% among over-60s; corresponding urban figures were 0.5%, 1.2% and 3.0%. The incidence among men was about 40 percent higher than among women; given normal ASPRs, and assuming (plausibly) that these disabilities will have prevented work over 80 percent of the time, we can infer that permanent disability reduced labor-force participation by at least a further 1 percent of workforce (Sarvekshana, Apr. 1979, pp. S.715, S.727, S.739, S.751). Greater vulnerability, both to accidents at work and to disability caused by mismanaged childbirth, must have substantially raised that ratio for casual laborers and other poor people.

* * *

Before disaggregating the evidence, we must ask a question. Suppose that most of this 6-7 percent of extra labor time - a greater proportion among the working poor - were to be supplied, once illness and disability (both largely preventable 10/) were prevented. How much of this

extra labor supply would find extra work, and to what extent would this mean extra income, both overall and in particular for the poor and the poorest?

At worst, less sickness will enable those formerly disabled, or most often sick, to gain labor-income at the cost of other workers. Frequent or chronic sickness is obviously one cause, and one effect, of extreme poverty. Hence higher PRs for the "ex-sick", even if wholly at the cost of reduced work (or, with wage-elastic demand for labor, reduced hourly income) for other casual workers, redistributes from poor to poorest. But can increased PRs among the "ex-sick" do better, raising output by (and/or the income share of) "poor and poorest" together? In the short run, it probably depends on when better health permits higher participation.

Extra labor supply in the slack season normally produces little extra employment income (although - and this may be nutritionally important for the poor - it permits leisure and effort to be less unpleasantly peaked across the year). In agricultural peak periods, however, even where unemployment is widespread at other times of year, both positive marginal products of labor and perceived labor "scarcity" are usual. The extent to which the immediate benefits of higher peak-season participation will go to the poor, as they become less sick, is an increasing function in the short run of (a) the extent of self-employment, (b) the employment-elasticity of output in self-employed enterprises, and (c) employers' wage-elasticity of demand for peak labor. The latter, in turn, increases with their capacity (1) to use or sell extra product without declines in its value and/or (2) to replace non-labor by labor inputs, per unit of any given output level.

However, the long-run dynamics suggest a favorable outcome, for poor people's labor-income, from a rise in the proportion of healthy persons among "economic actives". Such a rise, for poor persons, increases (a) probably, their capacity to be self-employed - in particular, to persuade a large landlord that they should receive land on crop-share; and (b) almost certainly, their capacity to induce employers to abstain from potential peak-labor-displacing mechanisation, especially tractors. In January-March 1978 - admittedly on a small sample - male "casual labor abstained from work due to sickness" seems to have comprised 10 percent of male casual "person-days in agriculture" in India's rural Punjab. At least a further 2 percent of the Punjabi rural workforce were disabled (Sarvekshana, Apr. 1979, pp. S.574, S.715). An easing of this seasonal labor bottleneck might well have delayed or stopped mechanizing innovations - in draught, harvesting, binding, and storage and milling, and in irrigation - that, with little effect on output, have seriously retarded growth in year-round, especially slack-season, employment and labor-income.

So the question, "Will less illness and hence higher participation bring higher duration of labor and/or higher income for the working poor?" has the probable answer: "Yes, but swiftly only if the reduced illness and increased participation are concentrated in the peak seasons". In most developing countries, diseases are either seasonally invariant in incidence, or concentrate in wet seasons, when insect vectors (and perhaps bacteria and parasites) breed and spread more rapidly, and when drinking-water quality may be worse (Chambers et al., 1981, *passim*). Thus proportionate

reductions in all illness would mean more-than-proportionate increases in peak-season labor supply. This would, incidentally, create some of the extra processable products - and extra wage-goods, especially food - permitting extra (as opposed to merely redistributed) employment and income even in the slack season, thus absorbing some of the increase in slack-season labor supply; but that increase would anyway be less than proportionate to the peak rise. Concentration of a given health outlay on peak-season debilitating diseases, probably including malaria, 11/ would be likelier to turn extra "poor people's participation" into extra "poor people's income" than an aseasonal attack on all diseases, irrespective of season of incidence. (Of course, income and/or poverty impact are not, and should not be, the main criteria in choosing where to concentrate health outlays.)

* * *

The 1977-8 NSS shows about 30% more rural men (330,000 more persons) classified as "casual labor, abstained from work due to sickness" in India in the July-September peak than in the April-June trough - see Table 13.12/ (Female illness, presumably because more closely linked to pregnancy and childbirth, appears less seasonal). So sickness appears to be likeliest to strike Indian male casual workers - mostly poor - in peaks, when they could find remunerative work if they were well.

Moreover, NSS reports total days of abstention from casual work due to sickness, averaged over the four quarters of 1977-8, at 5.3% of casuals' employed days for rural men, 6.0% for rural women, 5.9% for urban men, and 6.0% for urban women. These figures would be higher for poor, underfed persons. They embody increases in sickness-induced rural "down-time" in the decade following 1964-5 (Grawe, 1979, p. 20 and Table A3), probably due largely to the widespread resurgence of malaria (Cassen, 1978, pp. 85-8).

Statewise NSS data summed over all four rounds, at least in the larger states, refer to significant absolute numbers of sampled sick, and hence non-participant, casual workers. Confining ourselves to observations (either urban or rural) where these sampled numbers are at least 20, we find major statewise variation in 1977-8. In rural Kerala, for every hundred days worked by the employed casual male labor force (totalling about 814,000), an extra 15% were not offered due to sickness; for females (total casual employees on an average day 514,000) the figure was 10%. In rural West Bengal, only 4 days per 100 were lost, for casual men (employees 2.47 m.) and women (0.51 m.) alike. Kerala also "led" for urban sickness as a cause of casual non-participation (10.4% of male, 12.6% of female casual employment, respectively 154,100 and 56,400); in West Bengal, the proportions were only 2.1% (on top of 261,000 casually employed men) and - on a tiny sample - 3.6% (of 33,200 women) (Sarvekshana, April 1979).

Not all these differences reflect variations in the incidence of sickness. In Kerala, widespread primary health care (Mencher, 1980) probably induces ill people to seek help - and to withdraw from the work-force - under conditions that in less health-conscious places merely induce continued formal "participation" at low levels of efficiency. States with low figures for sickness-induced non-participation may also feature a low tendency for sickness to be concentrated in peak periods, when employment is more likely and participation (unless ill) therefore more attractive.

This paper's Indian micro-data stress Rajasthan and Gujarat (where the NSS macro-samples of ill urban persons, withdrawn from the casual workforce, were too small to conclude anything) and Maharashtra. There, for every 100 casual urban days worked, 4.6 were lost to illness, for both sexes; on a typical day, 318,000 such man-days and 193,000 women-days were worked. In rural Maharashtra, with about 2m. each of males and females casually employed on a typical day, a further 5-6% abstained due to illness. In rural Gujarat the reported incidence was far lower - 2.7% of 1.2m. casual man-days, 1.9% of 700,000 casual woman-days. In rural Rajasthan, 9% above the 500,000 casual male workers employed on a typical day (but - on a very small sample - only 5% above the 220,000 females) would have sought work but for sickness (Sarvekshana, April 1979).

These data show up non-participation due to illness as a major problem. For 1977-8 as a whole, such withdrawal by casual labor alone accounts for 14% as much male downtime of the entire rural male workforce as does unemployment, although casuals comprised only 22.0% of that workforce; for rural females, the corresponding figures were 18.6% and 32.3%; for urban men, 5.7% and 9.4%; and for urban women, 6.4% and 20.5%. 13/ Furthermore, this withdrawal is widespread enough over space and time - being concentrated, if at all, where and when work chances are greater - to reveal that, if better health increased labor supply, such supply would often find work, raise not just its own but total labor-income, and enhance GNP. 14/

The poor, and especially the poorest, are worst hit by all this - because least likely to enjoy non-labor income if illness stops participation, and most likely to be underfed and/or exposed to occupational illness. Micro-studies are needed, however, to guide policy by showing which groups suffer, when, where, why. Indian micro-studies, surprisingly, tell us almost nothing about the effects of health status upon the participation, duration or productivity of urban or rural labor. A study of slum life in Trivandrum traces the sequence by which illness - in enforcing the scale of residual assets (in this case, the pawning of food-ration books) to make up for lost labor-income through non-participation - can begin a cumulative slide from poverty into destitution (Gulati, 1977, p. 503). Similar rural sequences due to illness and non-participation are documented for the Gezira (Barnett, 1977) and elsewhere (Parkin, 1978, pp. 60-1). Data for semiarid parts of India, on asset sale following drought, describe an analogous chain of contingencies (Jodha, 1978).

Most of the few data on illness, as it might affect participation, come from a dozen or so studies in rural Africa. Working men are usually ill (or seeking treatment) for 3-5 percent of their total time, but for 5-7 percent of their working time. Figures for women are usually slightly higher (Dasgupta, 1977, pp. 20-2; Standing, 1978, pp. 94-101; Cleave, 1974, pp. 152, 155, 184-7). The causal sequence is not always clear, as "the unemployed . . . may rationalize their economic inactivity by attributing it to health factors"; while ill-health lowered ASPRs (as expected) in a Chilean sample in 1974, in Jamaica, and (weakly) in rural Kenya in 1976, urban Kenya showed no relationship, and there is evidence of increasing "catch-up participation" after illness, or during it by other family members (Standing, 1978, pp. 94-101). In six semi-arid Indian villages, too, disability reduced the likelihood of female workforce membership in a season by 22% (significant at 5%), but the wage-rate by only 7%; for men, the respective falls were only 6% (n.s.) and 43%. "Perhaps... seriously

disabled men may have fewer income-earning family members who can sustain them and hence they must participate to survive, even at greatly reduced wages" (Ryan and Wallace, 1982, pp. 11-12, 18).

As regards the effect on poor people's welfare - our main concern - it makes little difference, however, whether disability or illness makes itself felt as reduced participation and/or duration, or as a requirement to force oneself (and/or other family members) into increased participation and/or duration at levels of productivity and hence income drastically reduced, for the unwell person, by illness and/or longer days or, if the inexperienced replace the sick, by their unfamiliarity with the work. In either case, the levels of non-participation due to illness and disability, cited here, indicate large "pools" of lost output and/or welfare among those who need them most.

Of course, excess morbidity among the poor - usually preventable at a fraction of the cost of marginal sickness prevention among the better-off 15/ - is a world-wide phenomenon; and its main contribution to "illfare" is not via foregone labor-income but directly, in pain and discomfort. Second, costs of treatment often cause poverty. However, the third effect of excess morbidity among the poor (with their high PRs) - the reduction of labor-input at busy times, and hence of output - has special importance in making a case, to planners hard pressed by immediate resource scarcity, for health interventions to reduce the incidence even of non-life-threatening maladies among the adult poor.

* * *

Poor people, then, are - despite their greater need for labor income, and higher overall participation rates - likelier on an average day than the not-so-poor to drop out of the workforce because of exposure to illness. Some illness prevents participation; some reduces its returns, increases its discomfort, and thus raises its cost. Gujarat village surveys confirm NSS evidence of the concentration upon the poor (especially the landless) and upon women of slack-season withdrawal from the workforce (Patel et al., 1975, pp. 35-47, 91; Sarvekshana, Apr. 1979, pp. 149-50). This means that poor people and women (who are slightly overrepresented, and far likelier to participate in non-domestic work, in poor households), tend to the greatest concentration of their working-time in the normally more hot and sticky peak season. 16/ This concentration interacts with the greater exposure of these groups to illness, much of it also concentrated in peak (wet) seasons. That interaction "crowds" sickness-induced non-participation by the poor into periods when productive work is most readily available.

(d) Poor households' age-structures cut crude, raise child, and "tax" adult, PRs

Apart from higher, and more perversely seasonal, illnesses, poor households' ASPRs tend to be reduced by their age-structures for a greater part of the life-span than is the case with less-poor households. I elsewhere (Lipton, 1983a) review the evidence that

- households with low income-per-person are typically larger than households with high income-per-person;
- this is due to much higher dependency burdens at the very young "end" of the age-spectrum;
- the effect is only partly life-cyclical, caused by greater poverty in a given household when the couple's children are small; another major cause is that lifelong poor households

- have higher infant and child mortality (and hence more replacement births) than other households;
- despite the positive link of family size to poverty, major status-linked subsets of households in which the ultra-poor are over-represented (assetless, female-headed, or in India scheduled-caste) households are significantly smaller than others, though this may be due to greater nucleation more than to a lower dependency ratio.

This produces four effects of age-structure on poor people's PRs.

1. First, poor households' crude PR - proportion of person-days in the workforce - is kept down by high numbers of under-fives, who cannot work. In rural Gujarat in 1973, the proportion of persons aged under five, in the decile of households with the lowest outlay-per-person, was 17.0 percent, falling to as little as 10.5 percent in the least-poor decile; naturally the associated crude PRs increased (surprisingly little, from 41.5 percent to 43.2 percent). In urban Gujarat the corresponding decline in the proportion of under-fives was both larger and smoother (14.8% to 6.9%), as was the response of crude PRs, which rose, with outlay-per-person household deciles, from 27.7% to 37.7% (Visaria, 1977, App. Tables 17-18). As Table 1 shows, village studies suggest that the relationship in rural Gujarat is weak due to the much greater PR of landless than of landed adult women (combined with the smaller proportions of under-fives in landless households). This has policy implications concerning the "discouraged worker hypothesis" (pp. 41-2).

2. Second, the age-structure of the poorest families means that it is they whose mothers are likeliest to have to look after children at home. Across 93 Indian villages, the adult female (and therefore overall) PR in the 1960s "declines with an increase in the proportion of ... children aged up to four years, particularly with an increase in their ratio to women and other children" (Dasgupta, 1977, p.153). Poor households' lack of incentives that might retain married sons in the extended family may increase the difficulty - aged grandparents, uncles, or aunts are more seldom available, to "stand in" as child-watchers if mother seeks work outside the home. Backyard income (poultry, vegetables) or in-household outwork (handlooms, mortar-and-pestle) therefore acquires special importance, if very poor households are to overcome demographic barriers to participation.

3. Third, the poor compensate for such barriers by accepting higher adult ASPRs. There is little scope for this among men, ^{17/} because their participation, at least in busy seasons, seldom falls much below 90% in any income decile (Visaria, 1980, pp.86-7). However, it is noteworthy that village studies in Gujarat (Table 2) suggest that season-specific adult male participation too is slightly lower among the poorest, probably due to illness, than among the poor (compare Visaria, 1977, App. Table 17).

However, Table 1 and other studies (from Kenya, the Philippines, Jamaica, Chile, India, and some developed countries; see Standing, 1978, pp. 74-81) concur that rising family income or assets - per family, per household head, or per adult equivalent - accompanies falling female PRs. Some of these studies are specific to married women; some hold age and/or educational levels constant. At least two, in Kenya and Chile, tentatively suggest an "upper-end" reversal of the effect, with increases in job-seeking, among urban married women (ibid., confirmed in Visaria, 1981, p. 13, for urban Western India). But all agree that female participation is highest among the poor.

Village evidence from Indonesia suggests that this becomes possible by "crowding out" women's domestic work. Less-poor women do more of this than the poor, shopping in towns or managing more ambitious cooking, whereas the poorest must work for income (Hart, 1980, pp. 202-3). The "cross-sex" wage elasticity of labor supply for women - the negative response of female PRs to husband's income - appears especially large (despite the normal own-wage supply response of female labor, with rising female wage-rates inducing price-effect, viz. substitution of better-rewarded effort for leisure, to outweigh family-income effect). Despite (2) above (p.20), higher adult female PRs are a major response to the twin pressures of poverty and the associated high child/adult ratio.

Probably because of their higher and more unequal incomes-per-person, India's urban areas (Visaria, 1981, p. 13) feature adult female PRs much lower than rural areas. 18/ However, it is hard to see how (say) in urban Gujarat more than 3 in 4 women, in the poorest decile of households, can typically stay out of the workforce (NSS, reported in Visaria, 1981, p. 13)! Some of this must reflect concealment of illegal or socially-disapproved activities. In Moslem areas, and indeed wherever status attaches to men who appear to support non-earning wives, female participation is generally underestimated (Seers (ed.), 1980, paper G, p. 9, and fn. 2; Sundar, 1981, p. 863; Myrdal, 1968, p. 1072). However, in northern Nigeria (as in Pakistan), there does seem to be near-unanimity that rural Moslem females seldom participate in non-household work, except for some trading (Hill, 1972, pp. 22, 279; Norman, 1972, p.29; Longhurst, 1980, pp. 14-19). Add the constraints of demography that impose child care on many such women, their frequent lack of land (and in some Moslem countries, notably Bangladesh, even of a homestead), and the urgency of female participation for the poorest; and forms of work that can be done at home - outwork, small-scale post-harvest activity, and informal trading, brewing and "petty production" - are again revealed as crucial, even life-or-death, safeguards for the many poor rural women.

4. Fourth, especially if it is hard for women to participate, the poorest are heavily pressed - by high child/adult ratios as well as by poverty - into child labor, especially rurally. Large samples give little idea of this, and I suspect that swift visits in four "rounds" of a year-long sample survey, especially if they concentrate on termtime, seriously understate child labor, especially among the poorest. Visaria and Pal (1980,p. 70) does suggest that high and rising labor/land ratios "and the rise in school enrollment ratios, rather than the biases of emunerator and interviewers, explain" NSS reports of child participation rates below 1% for children aged 5-9 in Gujarat, Maharashtra, Sri Lanka and Nepal in the 1970s, and around 15-20% at ages 10-14 rurally (much less - 1 to 5 percent - in towns, except in Nepal). Table 3, however, especially as it refers only to children whose participation is sufficient to prevent school attendance altogether), already suggests - if these five villages are typical - more child labor than do NSS data for rural Gujarat. Studies devoted specifically to identifying child labor - while they seldom separate participation (yes or no) from duration (how long) - suggest much higher figures still. A summary of data available in the mid-1970s (Mellor, 1976, pp.247-8) suggests the commonsense view that children (like females: pp.24-5) participate much more in non-household labor among the poor. School non-attendance rates by income-group (Lipton, 1983b) tend to confirm this. A newspaper report of Indian evidence, based on UNICEF and other sources, suggests that some 13 million children under 15 were working in 1982 (Schidlowsky, 1982).

It might be objected that children's participation is so heavily complementary with assets, and so little geared to paid employment, that it may be impossible for very poor households, in unequal land-scarce economies where those at the bottom have neither cattle nor crops to be tended on a self-employed basis. This may indeed apply to very young child-workers, but not otherwise. Accordingly, although a 1976 village survey in Bangladesh found that among under-nines (where PRs were significant) the larger landowners' children did more work than the landless, it was only among children over 10 - with wage-work taking over five hours per day among landless boys - that landless children families participated more than those of larger landowners (Cain, 1982, p. 238). In a Javanese village, probably a little less poor, even boys and girls aged 6-9 (a very small sample), as well as those aged 10-15, typically engaged in considerably less income-earning activity in the 21 households with at least half a hectare of owner-operated rice (or the equivalent) than in the 35 "poorest" households with below 0.2 hectare (Hart, 1982, p. 206). In another Javanese village survey, which reports food/outlay ratio and labor-input per child for each household, no significant correlation emerges, and the half-dozen apparently ultra-poor households (food/outlay ratio over 90%) show near-average child PRs (Nag et al., 1980, p. 260).

For purposes of anti-poverty policy, the key question about child labor is surely: does it impede the full development of children's potential - and if so, can the work be altered to avoid such impediments, without seriously reducing the contribution to poor families' current income? Assuming that the work is unlikely to do the child physical harm - not, tragically, at all uncommon 19/ - whether it "impedes its development" boils down to the twin question:

- is there a school accessible to the child?
- if so, does the timing of the work impede, or reduce the gains from, school attendance?

The latter question is carefully worded: it needs to be shown that the seasonal and diurnal timing of the work prevents school attendance (or at least makes it significantly more onerous or less rewarding), and that the child would attend school if not prevented by such work. These questions are seldom asked, even in the few quantitative studies of child labor. Such studies often do not state whether there is a local school, let alone who attends it or when. We need to know; otherwise, in assessing the impact on poor people of child labor, we shall lump together criticisms of pre-school newspaper delivery, or cattle-tending in the vacations, with justified complaints about near-fulltime work in farm, shop or home during school hours. Possible remedies (Lipton, 1978, vol. 1, p. 146; Smith, 1978), involving the rescheduling of school, or sometimes of work, without significantly reducing income, will also be missed if all child labor is written off as evil.

* * *

Education is strongly correlated positively, and overall ASPRs inversely, with (a) household income-per-CU, (b) absence of child labor. Thus (a) and (b) are likely to be strongly correlated, though direct evidence is lacking - perhaps because the link is almost too obvious to be worth verifying! However, it is not only at the "children's end" that the demographic structure of poor households affects their PRs.

Very big samples from five Asian censuses and surveys (Indonesia, S. Korea, Malaysia, Pakistan, Thailand) - using a comparable occupational classification, but possibly differing in methods, and in definitions of participation - all confirmed urban PRs above 90% for men aged 25-44, but revealed similar urban patterns of PRs by age, sex, and marital status:

- Men aged over 45 showed PRs ranging from 71 to 76 as against 90-95% at ages 25-44, and 40-43% for men aged 10-24 (except for Indonesia where the latter figures was only 29%).
- Women's PRs varied much less, and less systematically, with age than men's; in S. Korea, female PRs were 32% at ages 10-24, 17% at 25-44 and 15% at 45+, whereas in Malaysia the respective figures were 27%, 29% and 17% (Shah and Smith, 1981, Table 1). 20/
- In each age-group, married status substantially raised PRs for men, but lowered them for women; even in urban Pakistan, where only 4% of married women aged 25-44 reported participant status at census time, 22% of single women in that age-group did so (the respective figures for men being 93% and 80%).
- Except for Thailand (where ratios of female to male ASPRs were 50-100% above levels elsewhere), recent rural-urban migration greatly increased female PRs for single females aged over 10, who comprised 30-50% of the urban female sample: among single women in S. Korea, 61% of recent rural-urban migrants participated, as against 24% of non-migrants (Shah and Smith, 1981, Table 2).
- Among females over 10, household heads - especially if single - were much likelier to work than other household members (ibid., Table 5).

Thus high urban PRs - normally a response to high risk of poverty, but tending to reduce that risk - are associated, among urban persons over 10, with (i) maleness; (ii) ages 25-44 (and to a lesser extent over 45), especially among men; (iii) married status for men; (iv) non-married status for women; (v) recent rural-urban migration for single women; (vi) among women, household headship. How does all this affect the likely capacity of poorer households to participate, and the costs to them of doing so?

The increase in the incidence of household poverty is only slight with the ratio of female to male adults, and in most South Asian cases (though not elsewhere) with female headship (Lipton, 1983a, citing Visaria and others). Thus (i) slightly harms poor people's capacity to participate, relative to the non-poor; (vi) makes little difference in Asia, and slightly favors the female poor elsewhere. As for (iii) and (iv), in Indonesia (Hull and Hull, 1976) marital disruption comprises a much larger proportion of adult life for the poor than for others; ceteris paribus, this would tend, with (iii) above, to lower PRs among poorer adult men, but with (iv) above to increase them among women. The net effect, since a much larger proportion of men participate than of women, could be to associate greater poverty with lower PRs. As for (ii) there is some weak evidence that poverty in villages of Gujarat and Rajasthan appears to be substantially life-cyclical to the extent that job assignment is by achievement rather than by (lifelong) ascription (Lipton, 1983a), and that the incidence of poverty in rural India falls once the head of household passes the age of 60 (Gaiha and Kazmi, 1982, p.56), a finding closely paralleled by Hill's work in both Karnataka and Northern Nigeria (Hill, 1982, pp.187-8); falling PRs among older persons, then, could (in non-ascriptive labor and land systems, at least) indicate diminishing pressures from poverty. As for (v), we know too little about recent female migrants, disaggregated by household income per person or per CU, to draw

conclusions on the likely effects for poorer households' PRs.

In general, however, if it seems likely that demographic influences - due to age, marital structure, migratory status, or anything else - push poorer households towards lower PRs, and probably even ASPRs, thus helping to cause their poverty. Since we know they also feature higher ASPRs than less-poor households, we can conclude that the poor are willing to incur substantially higher demographic "hidden costs" than the rich, in order to achieve higher ASPRs (pp. 24-6) despite less favorable demographic structures.

To these higher demographic costs should be added higher search-costs (because a smaller share of income is earned from work with owned assets, and a larger share from uncertain casual day-labor) and lower earnings per unit of time worked. Yet this is not a picture of abnormal price-effects upon labor supply, but of strong income-effects. The poor, because of their demographic structures and lower welfare levels, try harder to participate; when they succeed, it is at higher cost; and when they fail, it has graver consequences, perhaps including a risk of descent into extreme poverty (pp. 25 - 7). Thus among the poor and near-poor it is those with low PRs who do worst; 21/ but all these are pressed to adopt higher PRs than those safe from poverty.

(e) Other features, not necessarily typical of the poor, can cut their PRs

The success of poor (or other) people in fighting poverty by high ASPRs can be frustrated by failure (a) to convert participation into welfare, or (b) to achieve ASPR norms. The first problem, low wages or own-account income per participant (due to high unemployment, low labor-productivity and/or income-per-hour, or unsatisfactory types or status of work), is reviewed later in this chapter. As for (b), failure to achieve ASPR norms is not unique to the poor. (They are especially vulnerable to "participation blockers", sickness and high child/adult ratios (pp. 10-21).) We now consider possible "participation blockers" which, while not necessarily commoner among the poor as a whole than among others, affect the PRs of sub-groups of the poor in distinctive ways. These include:

- possible causes of lowered PRs, not among the poor as a whole, but among the very poorest (pp. 25-7);
- types of region or place of residence (pp. 27-9);
- religious or customary factors (pp. 30-7);
- lack of assets, especially land (Annex VI)
- seasonal factors (pp. 37-41);
- other factors, especially search costs, leading in some circumstances to "discouraged workers" (pp. 41-2).

(f) Net effect: poorest often participate less than poor, but more than non-poor

For 1972-3, good data exist, for seven groups of households ranked in increasing order of deciles of monthly outlay-per-person, for age-standardized, "usual" participation rates among over-10s in urban and rural Maharashtra and Gujarat. 22/ Negative links between overall poverty and participation are universal. The linear relationship is significant for females in all areas; for males in Gujarat (and suggestive in urban Maharashtra); and for total populations in Gujarat (and suggestive in rural

Maharashtra) . 23/ The decile-wise data, however, also allow us to ask: what is happening to over-10s' ASPRs, as households move from extreme poverty - exemplified, say, by a move out of the lowest outlay-per person decile - into more modest poverty? Is the decline as significant as the general relationship, shown by the regression, would lead us to expect?

Contrary to such an expectation, the standardized rate among males over 10 actually rises between the poorest decile and the next-poorest, in both urban and rural areas of both States - despite regressions predicting the contrary. For females over 10, this rise in ASPR, between "poorest" and "poor", is seen only in rural Maharashtra; in urban areas of both States, and apparently in Gujarat, female ASPRs fall, as between the poorest and the next-poorest decile of households, somewhat faster than the all-decile regressions predict. For all persons over 10, ASPRs fall with decreasing poverty between poorest and next-poorest deciles, but less than expected from the overall regression, in urban Maharashtra and rural Gujarat; move in the opposite direction (i.e. participation rises as extreme poverty gives way to less-extreme) in rural Maharashtra; and fall faster than predicted in urban Gujarat. 24/ Clearly, even these aggregated (State-level) data - while not uniformly supporting the "ASPR turning-point" suggested by such micro-data as Table 2) - show that ASPRs do not clearly rise with welfare in ultra-poor groups, as they do in other poor groups. This pattern, and other information for these two States, suggests that the ultra-poor (not other poor) may have PRs especially harmed by illness and disability.

Male PRs are uniformly high among healthy adults, leaving little scope for poverty-linked variation. The changes with changing household poverty in these Indian ASPRs among male over-10s, therefore, presumably reflect poverty-linked differences in (a) decisions by or about adolescents; and (b) illness. Longer education among men of 10-23, as income rises, helps explain the "normal" poverty-participation relationship above the second decile. It is unlikely, however, that the "reversal" in the poorest groups of male over-10s in Gujarat and urban Maharashtra (fns. 22-23) - i.e. their reduced ASPRs vis-à-vis the next decile up - corresponds to a higher incidence of adolescent schoolgoing among these very poor young men. More probably, some are kept at home by (i) high infant/adult ratios, especially where there is no adolescent girl to mind the children; (ii) less access, for that purpose, among the poorest to joint-family or other relatives (Lipton, 1983a; Mazumdar, 1981, p.43); (iii) high morbidity; (iv) exceptionally low expected earnings per hour worked; and perhaps (v) lack of even the minimal assets which allow some young men in poor, but not poorest, deciles to undertake "acceptably male" income-earning work near the house or homestead - in different cultures animal care, carpentry or hawking.

Among workers of all ages, how do illness and disability affect ASPRs among "poorest" and "poor"? The Maharashtra and Gujarat data on ASPRs by outlay-per-MEP decile (fns. 23-24) suggest an interpretation. Generally, ASPRs fall as MEP rises. Yet, in the poorest decile of households, males over 10 show ASPRs below those predicted by the linear regressions for "poverty-participation relationships" in both urban and rural areas of both States; graduation from poorest to next-poorest household decile, instead of the predicted declines in these male ASPRs participation rates, produces increases (fn. 24). For females over 10, the reverse is usually true: ASPRs in the poorest household decile are above those predicted by the "poverty-participation relationships", and so is

the decline in female ASPRs with graduation from poorest to next-poorest household decile. However, in rural Maharashtra alone, female rates behave like male rates - being, indeed, far below predicted levels among the very poorest decile of households, and rising sharply in the next decile.

The above evidence suggests, in combination with data for illness and disability, that these disproportionately reduce participation among the very poorest. If that were so, the evidence (fns. 23-24) would suggest, with respect to the four regions under review (urban and rural Maharashtra and Gujarat), that the incidence of illness and disability - among persons of working age - was relatively high for women in rural Maharashtra, but not in rural Gujarat; and, except perhaps in rural Maharashtra, was higher among men than among women. The data strongly confirm these implications. 25/ They therefore tentatively suggest that a carefully-designed attack on the causes of illness and disability (especially if combined with appropriate timing and placing of education, to cut its opportunity-costs) will increase the productivity, not only of whole communities, not only of the poor relative to the non-poor, but in particular, via the impact on PRs, of the poorest relatively to the poor.

Some other large samples - urban Nepal, 1973-4; Taiwan, China, 1968 - also suggest a "threshold" welfare level, below which household ASPRs, female and/or total, reverse their normal tendency to increase as outlay or income per person decline (Visaria, 1980, p. 86; other large samples show no relationship between ASPRs and poverty, suggesting measurement errors). However, there are few supporting data at micro-level to indicate whether this "threshold effect" - by which age- and sex-specific participation rates increase with poverty, but cease to do so (or even decrease) when poverty becomes extreme - is regional and "ecological", or local. That is, we cannot be sure whether

- very poor places show somewhat lower ASPRs than quite poor places (we do know that in general ASPR averages, in a place, decline significantly as its average welfare rises - see pp.27-29 - especially for females and adolescents); or
- within any place, such PRs decline with rising per-person income, but this decline is reversed as between poorest and poor households.

Two fascinating data sets, however, support the latter, location-specific interpretation. Table 2, for four nearby Gujarat villages, show in each season that adult male PRs are slightly lower in "poorest" than in "poor" households, but otherwise tend to decline as income rises. This also appears to apply for women; in particular, female adult participation rates fall sharply from poor to well-off groups, being zero in all three seasons for the eleven women from the least poor households. The poorest households (below 200 R/person/year) show a much higher child/female ratio - 1.92, as against 1.29, 1.59, 0.95 and 1.00 in rising order of income-per-person (Patel, 1973, App. Table 4); this presumably looms large in keeping some of the poorest women in the reproductive rather than the "productive" workforce. Data are lacking, but probably this ratio reflects high infant and child mortality (and replacement) among the poorest in these four villages, consistent with the balance of evidence that only extreme poverty and undernutrition significantly raise these risks (Lipton, 1983).

Second, in six semi-arid Indian villages in 1975-8 - four of them in Maharashtra - probit analysis showed probability of adult participation in the daily hired labor market rising as assets-per-household fell. "An

increase . . . of Rs. 1000 from the mean level of Rs. 25,900 would reduce the male [probability] by 5%" and the female by 7% - both significant at 5% (Ryan and Wallace, 1982, pp. 11-12, 14). Since deepening poverty soon brings a zero floor to a household's farm assets as valued here, 26/ this "day-labor ASPR-raising" effect of falling welfare clearly ceases to operate at some very low level. In confirmation, the 1968-71 survey of 4118 Indian rural households showed total (not just hired) PRs among over-14s steadily falling across seven landholding groups as farm size rose, from 58.3% at <1ha. to 43.7% at 10.6-14.5 ha. and 35.5% at >14.5 ha. - but the PR among non-landowners was 55.2%, lower than among landowners with below 1 ha. (Gaiha and Kazmi, 1982, p. 46). Probably both access to non-farm incomes (for the not-so-poor) and search costs (for the ultra-poor) are depressing ASPRs, in the Gaiha-Kazmi sample, for non-landowners; but the latter effect is clearly operating as a "floor" upon ASPRs for the completely assetless in the villages studied by Ryan and Wallace, and is revealing, for this latter fairly homogeneous group, that a zero-asset, low-welfare "floor", on ASPR rises to compensate for deepening poverty, applies within localities, not just between them.

These six villages also provide evidence that physical condition may prevent or reverse, among the ultra-poor in a particular locality, the normal, corrective rise of ASPRs as welfare falls. Under-nutrition significantly cuts female (but not male) adult participation in daily hired labor, and vice versa for disability (Ryan and Wallace, 1982, pp.10, 17-18); elsewhere it is shown that, for the sex with adult day-laboring PR not depressed by the physical constraint in question, day wage-rate is depressed instead (Ryan, 1981). Assuming, reasonably, that most of the very poor depend heavily on day-labor, and are heavily over-represented among the disabled and undernourished, we can conclude that - either via reduced PRs, or via lower wage-rates resulting from supplying a lower quality of labor at maintained PRs - the bad physical condition of the very poor impedes their prospects of working themselves out of poverty; and that this is not, apparently, true for the moderately poor. (In N. Nigeria, Table 5 shows adult male PRs steadily increasing with poverty. This is due to the unavoidable aggregation of the low-asset group, plus the shortage of ultra-poor in Hausaland; to the lack of female (and hence more 'variable') participants; and perhaps to the greater prevalence than in Gujarat of illnesses whose incidence is little affected by ultra-poverty.)

(g) Advanced villages, and especially towns, feature lower PRs

We have argued that these effects operate within places. Certainly, however, as between places, development appears to cut the PR. Thus, urban-rural gaps in adult female PRs seem dramatic. (There is less scope among adult men, well over 90% of whom participate anyway.) In Maharashtra in 1972-3, the ASPR of females over 10 from the poorest decile of households was 59.9% in rural areas, but 29.3% in towns; corresponding rates in Gujarat were 62.3% and 25.3% (Visaria, 1977, Tables 23-4). Similarly, integrated and "advanced" villages show lower female ASPRs than remote (and more equal) villages (Dasgupta, 1977, pp. 169-71). Tribal women show the highest ASPRs of all in India (ibid., p. 35), and are also less likely than settled groups in rural Northern Nigeria to practise ASPR-reducing customs such as female seclusion (Longhurst, 1980, p. 8). Remoter villages may maintain higher ASPRs - i.e. may deter potential participants from elsewhere - by implicit social contracts, in which employers and employees each insure against times of need by giving priority to local labor (Rudra, 1982, pp. 13-14 and Table 1), rather than by search-cost barriers. But the question remains: how is this steady decline among the poor in participation, as economic integration and modernization proceed, to be explained?

First, references to custom may not help much. Religious or other non-economic restrictions against female participation are both easier to enforce and harder to escape in closed, remote, "backward" places offering few options. Custom would therefore militate against the observed pattern, in which even the very poor seem to find it easier - or more attractive - to "fight poverty by working" in remoter places, or in tribal groups.

Second, it is not very plausible to argue that returns-to-labor are more attractive to the rural than to the urban female poor, and therefore draw out a higher labor-supply as reflected in ASPRs. Urban wage-rates exceed rural, and settled rural persons' rates normally exceed those of tribals; any wage-gap between men and women is also likely to be higher, for a given job, in remote areas. Thus one would expect substitution-effects to induce higher leisure-to-participation ratios among "remoter" women - not lower ratios as are in fact observed.

Third, it does not seem likely that domestic claims on women's time are more demanding in towns than in villages. Fetching water and grinding grain, the two largest such claims in rural areas, are much less important claims on the time of urban women.

What, then, are the plausible explanations?

First, urban (and "advanced" rural) areas may be relatively poorly endowed with types of work for which the socially-determined disadvantages of women are not so important. Urban jobs may be more demanding of achieved educational levels, and less tolerant of intermittent attention to child-care and cooking, than rural employment and (especially) self-employment. In particular, scale-economies to factory work - as well as artificial but enforceable zoning restrictions, e.g. on poultry or retailing at home - are much likelier to impede "economic" activity by women at home in urban than in rural areas.

Second, urban household structures or life-cycles may militate against female participation in urban areas more than rural areas; in integrated rather than remote rural communities; and so forth. Thus (a) rural-urban migration may actually raise ASPRs for single women, but lowers them for married women, who loom much larger in the workforce (Shah and Smith, 1981, Table 2) - indeed among the latter the poor, not as normally the less-poor, sometimes show lower ASPRs (Mazumdar, 1981, p. 47). Again (b) in each income-per-person decile of households in Western India, females comprise a substantially larger proportion of rural than of urban household heads (Visaria, 1977, p. 8A). At least in urban areas, female ASPRs are higher - in most countries, much higher - among household heads than among others (Shah and Smith, 1981, Table 5).

Third - more speculatively but also probably of more widespread relevance to barriers against participation by the poorest - it may be in places of greater modernization and overall inequality that higher-status men seek to confirm and advertise such status by withdrawing wives from work - and that some poor husbands feel constrained to imitate them. If applicable, this could also help explain the variation in female ASPRs between tribals and more settled, hierarchical rural groups; and also among regions. Except for Eastern Uttar Pradesh, where strong Moslem influence in some areas led to a high coefficient of variation, 27/ village average

participation rates around 1956-70 for Indian women aged 15-59 tended fairly systematically to be lower in regions that had achieved more economic advance: Western Uttar Pradesh, Haryana, Punjab, and Himachal Pradesh (44 villages), 24%; Tamil Nadu (15), 55%; Rajasthan and Gujarat (15), 60%; Madhya Pradesh (20), 67%. 28/ We have already mentioned (p.12) the crucial policy issue of preventing artificial pressures upon the very poor, as welfare begins to rise, to adopt customs and constraints typical of higher status-groups, but tending, if adopted by the poor, to curtail acceptable forms of labor-force participation and thus to perpetuate poverty.

Fourth, the incidence of bogus non-participation, because women conceal socially-disapproved activities from interviewers (p.21), is almost certainly higher in towns than in villages. However, probably not much of the large excess of rural over urban participation rates can be accounted for in this way.

Finally, demand for labor may become more "male-specific" as the degree of urbanization increases. This could help explain the urban rise in female non-participation to the extent that urban women - having experienced, or anticipating, failure to find work - drop out of the labor market as "discouraged workers" (pp.41-2). Several phenomena, linked to education, suggest that "discouraged worker effects" would indeed deter labor supply (because of prior falls in demand) in respect of urban women, both absolutely and relatively to rural women or to urban men; and that such effects would apply most strongly to the poorest deciles: -

- urban workforces are much more highly educated than rural;
- especially among the poor, women are less likely to have attained any given educational standard than men (Lipton, 1983b) in most cases surveyed;
- rural-urban migration in most poor African and Asian countries comprises mainly men, who are usually better educated than in rural non-migrant workforces at similar income levels;
- hence, for a given job, urban employers can insist more easily than rural ones on a higher level of education, and such insistence is male-selective;
- moreover, the proportion of self-employed work, especially for the poor (and, particular, near the homestead, where assetless mothers without extended families must often seek work), is lower in town than in country, so that the "anti-female" effect of screening-by-education for employees affects a larger proportion of the workforce.

Such factors would also help to explain lower PRs in wealthier places - in "advanced" villages than in "remote" ones, and for settled rural women than for tribals. However, we shall see on pp. 41-2 that the evidence for urban female discouraged-worker effects is in fact rather weak.

(h) Custom, religion, and poor people's PRs

We have, then, five main "economic" facts about poor people's labour supply. First, positive response to real wage-rates is well-established. 29/ Second, both poverty itself and the associated high dependency ratios thus involve increasing costs of, but also pressures to, higher ASPRs as welfare falls. Third, the net effect is that ASPRs normally rise with falling household welfare, at least until a threshold welfare level around "ultra-poverty". Fourth, given household welfare, richer or more "developed" communities feature lower ASPRs. Fifth, almost all healthy prime-age men participate; ASPR variations therefore affect mainly women, children, adolescents, the marginally healthy, and the old.

As the economic effects are quite complex, it is not surprising that the cross-cutting effects on ASPRs of culture, religion, custom, and other non-economic factors are controversial. Empirical work reveals cases where Islam, high-caste Hindu status, etc. has apparently reduced women's ASPRs independently at income-levels - and cases where this has not happened (Dasgupta, 1977, p. 36; compare Longhurst, 1980). Changing socio-religious environments complicate the issue further; for example, as the large, ex-untouchable and normally very poor Mahar caste of Western India converted from Hinduism to Buddhism after Independence, and rejected their assigned Hindu caste work of scavenging, costs of seeking a new occupation presumably cut ASPRs at first - but raised them later, alongside hopes and prospects for access to such new work.

Can we set out a simplified picture of the likely comparative-static relationships between custom and religion, ASPRs and poverty? Starting from the fact that "custom and religion" tend to reduce ASPRs for persons other than prime-age men - by restricting female participation, by insisting on prolonged religious education, etc. - I set out below some brutally over-simple assumptions:

- (1) Two customary groups, H and M, have completely separate land and labor markets - e.g. separate villages and lands, with no mutual employment or land rent or sale.
- (2) Perfectly integrated product and capital markets include H and M (e.g. identical grain prices and interest-rates).
- (3) H and M have identical physical resource bases (e.g. land per person is identical in amount and quality).
- (4) H and M have identical total populations; in each, 30% of people are prime-age men (PAM); 35% are non-participants - too young, old, unable to escape domestic obligations, or otherwise precluded from participating; and 35% are optional participants, i.e. in age - and sex-groups where, barring customary pressures, ASPRs would tend to vary with poverty (given real wage-rates).
- (5) Proportions of ultra-poor, poor and non-poor in H and in M are identical.
- (6) Poor and ultra-poor have (to the same extent in H and M) less favourable demographic dependency-structures, and non-poor more favourable ones, than the averages in (4) above.

- (7) ASPRs are higher for poor than for non-poor, but slightly lower for ultra-poor than for poor, in both H and M.
- (8) In M only, completely effective rules - say, female seclusion - are now added; on an average day, they cut ASPRs among the "optional participants" (see (4) above) by 80 percent of the ASPRs that prevailed, before the "rule" at each given level of poverty and real wage-rates. (To retain the comparative-static approach, we assume that neither H nor M has any memory of the position before the rules were adopted.)

How are M's poor and ultra-poor affected by (8) on these assumptions? Their labor-input and its output fall in non-PAM groups. But that is not the whole story.

First, the PAMs in M will raise ASPRs, responding to the lost income from non-PAM work. However, optional participants - 35 percent of persons, and over half the potential participants - have cut their ASPRs from 35-70 percent to 7-14 percent. Even before the cut, PAMs typically had a PR around 90-95 percent. Neither it nor the duration of their work can be raised by enough to prevent household labor-input from falling substantially as a result of the rule. This fall will be more marked in the poorer households because, on the evidence of pp. 24-5, (a) poorer optional participants had higher pre-rule ASPRs (e.g. 50-70 percent for rural adult women) so that a rule-based cut of 80 percent in ASPRs means a bigger absolute cut in labor input per optional participant; and (b) poorer households also featured a higher pre-rule PR among PAMs (perhaps 95 percent). For both reasons, poor households, despite higher overall pre-rule ASPRs, are less able than other households to expand post-rule labor-input to compensate for withdrawal by optional participants.

Second, output in M will fall - though proportionately less than labor-input; factor-proportions and output-mixes are variable, in some activities at least. PAM participants (or hours-per-participant) may produce on average rather more than the non-PAM labor inputs "withdrawn" because of the rule; but extra hours (due to extra post-rule PAM input) will show diminishing marginal returns to labor. The fall in output will probably be greater in poor households, with initially higher PAM and non-PAM PRs.

These two effects mean, respectively, that the rule reduces person-hours, and output per person-hour. Both effects operate more harshly on poorer persons (though, if ASPRs cease to fall with deepening poverty below a threshold, perhaps no worse for the ultra-poor than for the poor). But need poor people in M get worse off? As labor input is cut by the rule, average returns to labor - and, if labor is hired, wage rates - rise because (a) a reduced amount of labor-input, given other factors and technology, will achieve a higher average and marginal product; (b) total labor supply is lower relative to demand; (c) for working society to survive, the PAM labor share in households below the poverty line must rise, as such households now have to reproduce the labor-force almost wholly from the incomes of PAM labor (not, as we have seen, greatly expansible in amount, especially in efficiency-units). 30/ Of course, if all labor is self-employed, the fall in each household's (optimizing) labor-input and output, after the rule, must leave it poorer - more so in initially-poor households, because they have the least "spare" PAM labor to make up for the most withdrawn non-PAM labor.

However, suppose all poor household labor is hired in by rich household-firms, which are operated with no unskilled family labor. Now, if demand for labor is wage-inelastic, adoption of the rule in M - by lowering poor households' supply of labor-for-hire in efficiency-units - enriches those households (acting as a sort of surrogate for trade-union, or other, collusion to restrict labor supply). In fact, the evidence (Part IV) is very Marshallian, suggesting short-run wage-inelasticity but quite high long-run elasticity. Thus an instant switch to the rule by all households in M could well start by enriching the poor. Loss of income by the non-poor in M would exceed loss of total M-output (as poor households' non-PAM labor was withdrawn), because the proportionate rise in the wage-rate they paid per efficiency-unit of "poor labor" exceeded the proportionate fall in the number of such efficiency-units.

However, in the long run, labor-replacing investment and/or changes in the output-mix imply increasingly wage-elastic demand for labor. A scenario, with the poor absolutely worse off is a more realistic view of the situation some time after the "rule change"; that scenario would also apply to isolated M labor-markets long following rules that restrict rules of ASPRs for non-PAM labor, but otherwise comparable with H labor-markets.

In practice, poor households have some assets, and rich households do some family labor on their assets. The former increases the expected income loss by poor households from the rule, because some of the fall in output due to their falling labor-input is directly felt in falls in the productivity of their own household assets, and thus self-employment income; and because any rise in employees' income (if demand for their hired labor is wage-inelastic - otherwise, of course, that income also falls) represents a smaller part of their total income and has to be set against more of a fall in household-firm income. 31/

The above conclusion - that rules restricting participation are likely to damage poorer households - survives most "realistic" adaptations of assumptions (2)-(7) on pp. 30-1 above (although variations from (5), including long-term post-"rule" changes in M's incidence of poverty relative to H require review: pp. 34-5). We deal on pp.33-4 with the likely imperfect application of (8), especially in poor households; clearly it will reduce, but not reverse, the long-run harm to the poor from such rules. If this is also true of adaptations to (1) (pp.32-3) and (5), how important are these rules in relation to such harm? The big apparent impact on PRs is clearest in Pakistan (p,23); indeed, these rules are featured in many cultures and religions. In strictly observing Islamic communities, female seclusion restricts women's ASPRs. Hinduism, by (more or less) assigning occupations to particular kin-groups, cuts ASPRs among occupational kin-groups where demand has grown relatively slowly, where technology has been labor-replacing, or where population has grown relatively fast. Buddhist customs of prolonged religious education would normally lower ASPRs among adolescent men, and raise them among other groups.

A modification to this account of how custom affects the poor via ASPRs, however, arises in the many places - including most of India - where groups with different rules on participation live together, and do not follow assumption (1), but operate in more or less integrated land and labor markets. One effect worsens the impact on the poor of a rule cutting the ASPR of some sub-group. If, when that rule is applied to (say) Moslem women, the gain from a tighter market in hired labor is diffused across employment and wages for all groups (and not concentrated on hired male Moslem workers, as in the account on pp. 30-1) then the Moslem

poor are much likelier to suffer from the rule than when, in isolated labor-markets, their male hired labor could obtain - via extra work and via higher wage-rates - some indirect benefit from female withdrawal. However, the effect of output losses and income-distribution effects on the poor will be improved as, following the lines of comparative advantage, each community seeks to supply the gaps in the "labor spectrum" of the other. In effect, Moslem communities experience much higher costs in supplying work at which women have a comparative advantage; Buddhists, in work relatively suitable for adolescents; Hindus, in work classified as polluting. Where such groups work in integrated labor markets, it is often the relatively poor in each who gain most from the restriction imposed by other groups. Poor Hindu women, for example, often do the work made more rewarding by the low ASPRs of Moslem women; and poor Moslem men accept low status, but increased income, to undertake butchers' or scavengers' tasks where Hindus will not.

Of course, no economic analysis can evaluate the pros and cons of a set of religious or customary norms. However, whether customary groups are integrated or segregated in labor-markets, poor people do lose worktime, and hence output, from norms that restrict ASPRs for non-PAM labor. Are the possible compensating gains, from higher wage-rates and more PAM labor, more in separate or in integrated labor markets? It has not been tested. I would hypothesise that the poor should, given the religious and customary constraints of two separate communities, normally gain much more from labor-market integration - increasing output, options, specialization and incentives - than from segregation. Segregation helps "unrestricted" poor demographic sub-groups of each religion's poor to confine, to themselves, such gains as arise from better hired employment and wage prospects due to non-participation by that religion's rule-following, restricted demographic sub-groups; but in segregation Moslem male employees capture the gains due to their wives' withdrawal, and adult Buddhist employees capture the gains due to their adolescent sons' withdrawal, partly at the cost of other religions' poverty-groups, and output is foregone due to lost opportunities for trading labor according to comparative advantage.

Assumption (8) also needs to be modified, to allow for the fact that poor people are especially likely to adapt religious norms. Great world religions could not survive if they imposed inflexible norms on big groups near the margin of survival. Losers would include, not only such groups, but powerful people (including religious officers) who live partly from surpluses that such groups' labour generates. Hinduism, as has been brilliantly shown (Rudolph and Rudolph 1967), adapts its rules about who may do what work, as about much else, to local and temporal costs and benefits. Islam, even in Pakistan where urban adult females average a reported PR of 4 percent, is compatible with a corresponding rate of 71 percent where such women are single heads of households (Shah and Smith, 1981, tables 2, 5) - doubtless even more in poorer groups, and if unreported activity is allowed for. Other major religions must have permitted similar flexibility to major poor groups, especially in bad times and anomic social conditions (e.g. those of major recent migration) when charitable contributions could not be relied upon. Indeed, inflexible working rules, restricting poor people's PRs either directly (e.g. by purdah) or by denying them attractive work chances (e.g. by caste assignment of tasks), have historically been a major contributory cause of mass conversions. To retain members, a religion, tribe, customary group, etc. must normally permit rules to be "interpreted" in ways consistent with the vital economic interests of the major groups

necessary to its political economy.

Thus caste job assignment, gandu (Hill, 1982, pp. 100-1) and other work-discouraging aspects of the extended family, pardah and other work-constraining forms of female seclusion, religious education that delays participation - all provide the poor both with most incentives to bend the rules, and with most prospect that the powerful will tolerate the below-average cutback towards ASPRs that would satisfy "unbent" norms. Needy women in a general system of female seclusion may even show ASPRs higher, not just that custom or religion taken literally would suggest, but higher than in social systems without female seclusion; for seclusion norms effectively reduce participation, potentially competitive, by better-off women. Accordingly it is noteworthy that several sub-classes of urban women likely to be in special need of labor income and high PRs - such as household heads who are single or recently immigrant - actually show higher PRs in some Moslem societies (Indonesia, Malaysia, even Pakistan) than in South Korea and Thailand (Shah and Smith, 1981, Table 5). Sometimes "approved" forms of participation are opened, for poor people, to groups formally excluded from work outside the home by religious rules. Examples are trading in food, for poor women in rural Hausaland (Longhurst 1980, p.25) and post-harvest work in rural Bangladesh (Greeley, 1982). Here too, the poor in M may be gaining because religion and status exclude older women.

The "realistic" modifications to assumptions (1) and (8) on pp. 30-31) - lesser observance by the poor; mixed-custom or mixed-religion labor markets - interact, further softening any blows that religious rules may inflict on the poor via reduced ASPRs. Thus, in mixed tribal-Hindu villages of Gujarat, low PRs among Hindu women permit high rates among tribals; tribal income-per-person is hardly below Hindu levels, though they work more to achieve it. 32/

Conversely, the escape from poverty is complicated (and the PR cut) when a group seeks to advance itself by adopting - at a price - behavior of higher-status groups, especially female seclusion, in a process of "caste climbing" (Bailey, 1953). This typically Indian phenomenon is reflected in generally higher female ASPRs in remoter places (pp.27-9), and echoed in Hausaland, where female seclusion (with a lower PR) often accompanies urbanization, or adherence by Maguzawa tribesmen to the Islamic "great tradition" (Longhurst, pp. 8, 19,23 and fn. 1).

Such a calculated sacrifice of short for long term has analogues in almost all cultures and religions, but is typical of the poor, not the poorest. These must try, instead, to raise PRs by accepting work that "higher" groups reject: scavenging, tanning, work with alcohol or drugs. A typical contrast is between the search for status by the poor Boads, but for income by the ultra-poor Ganjams, in an Orissa village (Bailey, 1960); the Boads caste-climbed, the Ganjams enriched themselves by distilling toddy.

How is the impact, on the poor, of customary and religious participation norms affected by "realistic" modifications of assumption (5)? In fact, poverty (and poverty-induced higher PRs) are plainly not independent of such norms. First, high CVs in adult female PRs among villages (fn. 27; Rudra, 1982, Table 1) are almost certainly linked to variations in both poverty and "little traditions" (Redfield, 1960).

Second, religious and customary norms vary with asset ownership; converted Moslems or Buddhists in Western India are likelier to be landless than Hindus. Third, the poorest are seldom able to escape restrictive norms by migration; they are under-represented in most rural-urban and international flows (Connell et al., 1976; Ali et al., 1981, pp.63, 66-8, 101), gain less, absolutely and perhaps even proportionately, per migrant from such moves (Ali, 1981), and may well find greater restrictiveness - or at least lower ASPRs - in the city (pp. 27-9): hence in part, perhaps, the migratory emphasis of the very poor on temporary rural-to-rural movements by women (Connell et al., 1976, pp. 79-80). Fourth, religious conversion is often in part motivated by the wish to escape restrictive, poverty-inducing PR or other norms; it will often "select" initially poor people. The new set of norms may either leave them poor or permit them to "take off"; either way, the homogeneity-assumption (5) on p. 30 is implausible. Finally, long adherence to a set of rules altering ASPRs - and hence membership of a religious or customary group that advocates such rules - itself alters the risk of poverty.

Poverty, particular customary or religious norms, and constrained PRs often go together. Seclusion restricts adult female PRs to below 5 percent in several very poor Islamic societies; peak-season rest days, holy days and feasts curtail output in Judeo-Christian societies; Hindu high-caste norms remove profitable occupations as polluted and able workers as inappropriate; prolonged monastic education defers entry to the workforce for able young Buddhist men. Growth and urbanisation, far from reducing such restrictions, often lead the poor to emulate the rich by stricter observance. Such relationships attract both social engineers and market-freers towards radical remedies: would not poverty be cured, if the huge gaps between potential (liberal-humanist) and achieved (customary-religious) ASPRs were closed, especially alongside urbanisation or modernisation, by laws or institutions or incentives?

Before noting the dangers of that approach, one should admit its attractiveness. Suppose women's ASPRs could be raised - in Moslem Pakistan (about 5 percent recorded, and almost certainly not above 15 percent in reality), to the 40-60 percent levels prevailing in Buddhist Thailand (Shah and Smith, 1981, Table 5); or in West Bengal, from the rates observed in the Moslem villages to those in the Hindu villages (Rudra, 1982, p.13 and Table 1); or in urban Gujarat and Maharashtra, from 15-17 percent to the 52-61 percent permitted in rural areas (Visaria, 1980, Table 21). We now have the evidence (unlike Lewis, 1954) to be sure that such extra labor's marginal product would be positive. Moreover, the poor themselves would gain something, since even they experience major intercultural variation (often largely due to different norms) in ASPRs; often have some owned assets that their family labor could be improved, or exploit more fully; and appear seldom to face wage-inelastic long-term demand for hired labor (Part IV).

However, there are three major reasons for caution. First, beliefs and scarcities are mutually responsive. Planners and market-freers alike should therefore beware of interactions simply designed to influence - in a context that is really one of simultaneously determined equilibrium - just one variable (such as custom) that is misperceived as a simple cause of another (such as ASPRs). Second,

man and woman do not live by participation alone. It is not only that important ethical values, such as charity, may be inextricably linked, in a web of belief and custom, to apparently restrictive practices affecting PRs. Also relevant is the possibility that output per adult, and perhaps even adult ASPRs, may in the long run benefit from rules restricting those ASPRs in the short run. Third, labor economists - planners and marketeers alike - are not obviously competent either to design schemes to change religio-customary behavior, or to predict the outcome of changes successfully achieved. The great changes in systems of religious or customary constraint appear to have been initiated by one of three processes: external pressure, from wars and forced conversions to sharp increases in the economic costs of accepting unchanged systems; internal humane reformism or reformation; and, usually alongside such external or internal convulsions, charismatic leadership rooted in the traditions it seeks to change - the leadership of a Gandhi or a Luther. A labor economist, like anyone else, may aspire to this status; but he or she will not achieve it by virtue of expertise.

What sort of groups, tending to set customary norms that cut ASPRs, tend also to be over- or under-represented among the poor or the ultra-poor? Do such tendencies, together with differential non-observance among poorer people, tend in various circumstances to reinforce or to counteract the higher ASPRs (especially in peak seasons - pp.46-53) among poorer people?

The answers are fairly clear where a group whose norms restrict participation - Brahmans or Marwaris in India, Jews in some Western communities, some Moslem sects in Pakistan (Papanek, 1968) - is underrepresented among poor people. Religious or customary sanctions, withdrawing women or adolescents (and/or days or periods) from participation - or reducing ASPRs by cutting out certain tasks as inappropriate or unclean - normally operate more strongly if the income sacrifices can be readily afforded. Moreover, although the earning capacity of the better-off is in general relatively high, this would not normally apply to sub-groups of person-days (e.g. adolescents, or a fasting season), within a better-off religious or customary group, that have been selected for a social sanction against participation. Hence both income-effect and substitution-effect would, to the extent that a religion or custom is over-represented among the better-off, raise the net advantage of accepting such sanctions. Therefore, the tendency for ASPRs in total populations to be higher among the poor is consistent with the presence of religious, ethnic, etc. groups, overrepresented among the non-poor, and restricting ASPRs; for non-poverty renders such restriction relatively acceptable, and, by definition, the constraints have not compelled poverty. (A problem does arise for persons, affected by PR-restricting rules of a normally well-off religious or ethnic group, but suddenly made poor - usually by the life-cycle. The once well-off Moslem or Brahman wife, if widowed, remains "forbidden" to work outside the house or in particular occupations (and, if Brahman, even to remarry), and can become extremely poor, especially if no sons support her. The "poor Brahman" family, constrained from participating in "polluting" work, is similarly threatened. However, while tragedies do occur, better-off religious groups normally seek to make observance attractive and low-risk, by providing safety-nets for such cases. The rule, that ASPR-restricting customs more prevalent among the less-poor help to stabilize the link between poverty and higher ASPRs, remains.)

The questions are harder to answer in the common situation where poor people are over-represented among religions, etc., that restrict ASPRs. For example, as data on asset ownership from villages in Western India and elsewhere show (Lipton, 1983b), disproportionately many poor Indians are Moslems. How can the poor "afford" a religion with rules that make it more difficult to earn a living? Four facts explain such situations. First, rules are "bent" to suit economic need; if a religion insisted that poor widows should not work outside their home, such widows would often leave it. Second, the poor often attribute their plight partly to the rules of one religious group, and seek to escape by conversion to another despite its constraints on ASPRs. Third, a few people (Swamis, monks) choose a "mix" of lower income and greater piety, including acceptance of PR-reducing rules; or belong to a family able paternalistically to impose such a mix. Fourth, it makes good sense - religious and economic - for the priests in ASPR-reducing religions to stress alms-giving to the pious poor.

(i) PRs fluctuate most for poor workers, especially casuals in semi-arid areas

We have examined the relationship between poverty and ASPRs, and the impact of custom and religion on that relationship. A further poverty-related variable, assets-per-person, also affects ASPRs but is hard to relate to them with available data; the issue is considered in Annex VI. All this, however, is about average ASPRs. Poor people are disproportionately damaged also by a given fluctuation in ASPRs, because most are dependent on labor income and with least access to reserves or credit. What is the evidence on poor people's relative degree of variability in their ASPR?

National or regional samples provide a lower bound to a correct estimate of seasonal fluctuations in PRs; single-village, etc., samples provide an upper bound (Annex V). For the poor, who are relatively prone to migrate seasonally in search of work (Connell *et al.*, 1976, pp. 23, 161, 207), fluctuation is likelier to be near the lower-bound figure than for the less-poor. Nevertheless, because the poor are likelier (pp. 50-1) to be casual laborers (and to own few aseasonally exploitable assets), our evidence suggests that they suffer the highest incidence of seasonal PR fluctuation (as well as greater damage from a given incidence).

Analogous is a convincing implicit account of the impact of annual work fluctuations (Sen, 1981). This analyses most famines as damaging most severely, not small farmers whose crops or herds are partly destroyed, but assetless laborers for whom the decline in labor demand destroys all prospect of gainful participation in work, leading to "failure of exchange entitlement". Since casual, hired, poor labor is dispensed with - and its income removed - before generally less-poor family labor, the same process, of selectively greater PR fluctuation for the poor, would apply also in less extreme contingencies.

Let us look first at national data for India (Table 5). For persons aged 15-59, on a typical day in 1977-8, some 88.2% of rural men and 34.7% of rural women were in the labor force - i.e. at, seeking, or available though not seeking, work. The corresponding urban PRs were 83.8% for men and 20.2% for women. Fluctuations

in PRs were much greater for women than for men; for women, the number of rural participants (and the PR) fell by 8.8% between the July-September, 1977, peak and the April-June, 1978, trough, as against only 3.1% for rural men. In urban areas the fall was 1.1% for men, but 6.2% for women. Nationally, rising urban PRs partly made up for seasonal rural slack; nevertheless, 7.0% of the women (but only 2.3% of the men) who found it worthwhile to participate in the peak season did not find it worthwhile in the slack season. 33/

Was the seasonal withdrawal at national level especially serious for the poor, as Visaria's data for Maharashtra and Gujarat suggest? Certainly seasonal variation in successful participation by (i.e. in employment of) casual workers, who are especially likely to be very poor, comprises a very large part of variation in overall PRs (Table 4). From peak to trough quarter in 1977-8, on a typical day, rural male casual workdays fell by 2.5 m. - over 69% of the total fall in the rural male labor force. For rural women, the fall of 4.7 m. in casual employment actually exceeded the seasonal workforce decline of 4.1 m. - while numbers "seeking work" rose from 2.2 m. to 2.9 m. Moreover, though total urban PRs rose in April-June, 1978, seeming partly to offset the seasonal rural decline (Table 4), this did not help the assetless poor, for casual urban employment actually fell slightly (Table 4).

This Table shows that seasonal variability in PRs is greater in regional, e.g. Indian-State-wide, labor markets than nationally (and positive Statewise urban-rural employment correlations suggest the integration of regional rather than national labor markets 34/) - at least in such semi-arid, generally single-cropped States as Gujarat, Rajasthan and Maharashtra. In Maharashtra, where both urban and rural samples are large enough to be fairly reliable, the peak-trough PR variation cut back 1.2 mn. participants - 17.6% of peak PR - for rural women, and 9.6% for urban women; male variation was much lower, though still slightly above the national level. Once more, casual employees - the working poor - bore the brunt of the fluctuations, falling by half (1.4 m. from peak to trough among rural women. This decline comprised 30% of the 4.6 m. employed rural women in the slack season - much more than the 0.2 m. rise in the numbers seeking, or available for, work.

These data suggest that the seasonal decline in rural female participation, and perhaps in participation overall, may be largely due to a reduced expectation that a search for work would be successful; a seasonal version of "discouraged worker effect" broadly defined. Indeed, the early rounds of NSS clearly identified this effect (the director, P.C. Mahalanobis, pointed out that those who knew no job was probable might well not seek one: Myrdal, 1968, p. 1024). It would imply that seasons with a high incidence of unemployment featured also relatively low participation. This seems to apply only if there is a substantial seasonal increase in an already substantial risk of unemployment. For example, among rural women in Maharashtra, unemployment in April-June 1978 was 12.4% of the half-days offered for work, as against a 1977-8 average of 9.6%; in that quarter, the number of half-days offered fell to a yearly low of 5.25 m., almost 12% below the yearly average. In urban Maharashtra in July-September 1977 and January-March 1978, about 18.7% of women in the workforce were unemployed, as against 13.7% in the other two quarters of 1977-8;

the workforce in the slack quarters was 5.3% down from the 1.25 m. recorded in the peak quarters (Table 13). Urban women in Gujarat similarly show "discouraged worker effects" seasonally - an interesting contrast to the cross-sectional effects for this group among States (pp. 41-2). For milder fluctuations in unemployment, or for lower levels of average unemployment risk, such "discouraged worker" PR fluctuations are not significant, however. The macro-data on casual laborers (Table 4) show that these, especially the women, suffer most fluctuation in PRs. Casual laborers are of course heavily over-represented among the poorest - 37% in rural Gujarat and 29% in rural Maharashtra in 1972-3 were in the lowest MEP quintile of households (as against 23% and 21% respectively of all workers). In urban areas the discrepancy was even greater; the proportion of casuals in the lowest MEP quintile was 43% in Gujarat (as against 22% of all workers), 58% in Maharashtra (22%) (Visaria, 1980, pp. 29-30). The last two figures suggest that giant cities like Bombay may be prone to "crowd" casual laborers into the poorest groups.

The correlations between casualness and (a) poverty (b) fluctuation in PRs - and the similar correlations between female workforce status and (a) and (b) - are only indirect evidence that the poorest may suffer most fluctuation in participation rates. Direct evidence, especially for very poor women, is provided at village level for Gujarat (Table 2). From peak to trough, participants of all ages, as a proportion of all over-14s (a quite defensible summary statistic for ASPRs: see Annex V), in the lowest two income-groups fell by over 20% - for women by about 33%. This was far above declines in other groups. Since seasonal average PRs were already lower for the poorest than for the poor (confirming some of Visaria's statewide data - pp.24-7), such further-reduced PRs in the trough especially harmed their already low earning prospects. Among both poor and poorest, those who did participate in the slack season (rabi) managed to compensate somewhat for reduced household PRs by higher employment per participant. Nevertheless, the combined effect on the poorest of seasonality, in employment and in participation, stands out clearly from Table 2. Worked days, as a proportion of available adult days, fell from 38% in peak to 32% in trough among the 18 poorest households, while the best-off eight households, despite zero female participation, were able to offer such steady work to adult men - presumably mainly in farm or commercial supervision - that workdays remained nearly steady, at 43-45% of adult-days. Table 6 - in another semi-arid coarse-grain area, but with rather more favorable land/labor ratios - shows that Northern Nigerian villages confirm the Indian evidence: poorer farmers show higher seasonality of labor.

The Gujarat village data, incidentally, suggest that the "discouraged worker" effect - which in the macro-data apparently explained some seasonal non-participation (see above) among total workforces - does not operate much among the poor and the poorest: for neither sex in these two income-groups is the season of lowest employment also the season with the lowest adult PR. Only among the higher income-groups in Table 2 do seasonal rankings of PRs and employment prospects look similar. Voluntary seasonal non-participation by discouraged workers may truly be a "bourgeois luxury".

Nevertheless, the poorest - heavily dependent on casual labor, and thus on seasonally optional demand; usually with few non-farm assets, less land, and less irrigation of their own - are doubly exposed to seasonality in their already low access to income from work. A 16% fall

in workdays-per-adult for the poorest income-group from kharif to summer season (Table 2), especially when superimposed on a seasonal wage fall of perhaps 10-20% (pp. 88-9), is significant - especially as compared with near-stability, around a higher level of workdays-per-adult and a lower dependency ratio, for the richest income-group.

Given this study, and in view of Visaria's decile-wise data (pp. 37-8), "Short time" and its fluctuations seem to be significantly associated with risk of extreme poverty - although average rewards per person-hour are more important, and although overall unemployment (and male non-participation) averaged across income-groups is indeed small in most studies. Hart's data - showing that the poorest villagers are (in her coastal Javanese village) driven in the "slack" season to raise the proportion of participating time spent in job search (Hart, 1980, p. 219) - shows that, even when we allow for the fact that poor people's ASPRs fluctuate most, we may underestimate their disadvantage (vis-à-vis the less poor) in respect of seasonally unstable access to productive work.

Would such problems be eased if the ultra-poor were made more moderately poor by modest land reforms? Certainly search costs in slack seasons would be reduced, for such beneficiaries, where agriculture was not acutely seasonal, and earning time as well as ASPRs could fluctuate rather less (around a somewhat higher average). However, in seasonal agricultures, land redistribution might not offer the poor all that much extra stability of ASPRs. In semi-arid Indian villages, small family farms show significantly higher season variability of labor-per-hectare than do bigger units reliant more heavily on hired labor (Ryan, Ghodake and Sarin, 1981, p. 357); transforming part of the bigger units into family farms would thus involve losses as well as gains in PR stability for the recipients of land.

Moreover, while in any one village the spread of irrigation to small farms would reduce seasonality in poor (not so much 35/ in landless poorest) people's ASPRs - as well as in their employment and labor-income - the favorable impact is less clear across large numbers of villages. Adult PRs and duration of work per participant in a village, annually, show weak but significant negative links to that village's level of double-cropping and irrigation in India (Dasgupta, 1977, p. 67). This decline in average PRs has to be set against the probable improvement in stability of work. Of course, this apparent decline in average PRs (and duration), and hence the impact on the local poor, are not to be blamed on double-cropping and irrigation, but on (a) their non-spread to poorer areas, so that residents migrate thence to the favored areas, and there depress not the volume of participation, but its ratio to total post-migrant working-age population; (b) the frequent accompaniment of new technology by subsidized labor-replacement (notably through tractors and their fuel) and by a rise in the proportion of land that is operated in larger, and normally less labor-intensive, holdings.

Table 4 shows that rural-urban, male-female, and interstate variations in adult PRs all exceed seasonal variations. However, this does not mean that the latter are a low priority for policy. It is the interactions among different types of PR variations - and between them and employment and wages - that harm the poor most. Thus seasonal workforce withdrawal appears usually to be greatest among groups over-represented in the poorest deciles - women, casual landless workers, probably the urban informal sector. It is concentrated on the poor, already suffering from

lower employment, wage-rates, and (for the poorest) perhaps even year-round ASPRs. All this adds importance to the accurate identification and treatment of the 10-20% (Lipton, 1983) at serious risk, in bad seasons, of falling outside the limits of nutritional homeostasis.

* * *

We have considered associations between poverty and ASPR seasonality. Is there evidence about the causal sequence from ASPR seasonality to intensity of poverty?

If we define poverty as risk of incapacity to meet food needs, useful guidance appears in Kumar's study of three villages in Trivandrum District, Kerala, in February-September 1974. For 48 households (all in the lower 60% of village incomes-per-person) with a child aged 6-30 months, "gain in body weight appears to slow down . . . preceding the autumn harvest", when heavy rain "brings virtually all agricultural work to a standstill". The children most at risk were "below 18 months of age and in households where mothers are in the labor force" - i.e. the poorest households. Table 7 shows that only in those households, and only in the slack season when earning prospects fell sharply, was children's weight-for-age affected substantially and significantly by extra income - and only by own-farm income. 36/ The importance of concentrating interventions and improvements seasonally, on the poorest at-risk groups, is vividly illustrated; yet - because, as the data from this study also show, mother's participation off the farm (precisely what poorer families feel driven to seek) may reduce child care and also worsen birthweights (Kumar, 1977, pp. 72-3) - much more cost-effective improvements in slack-season child health can be obtained from farm income increases than by rises in maternal slack-season wage-work. 37/

(j) Do search costs discourage male, frustrate female, work-seekers?

Seasonal differences in search-costs and in access to work on own and others' assets, and hence seasonal variation in ASPRs due to "discouraged worker effect", have been considered, in respect of differential impact on poor, poorest and others. Even non-seasonally, higher search costs for the poorest - combined with greater child care needs - might be expected to influence participation (see, for example, Hart, 1980, p. 211). In Northern Nigeria, both in Kano and in the villages, Hill documents how "the poorest men who own little or no land" must "waste much time looking for work and contacting people", and in shifting occupations (Hill, 1977, p. 103). In rural South Gujarat, for unskilled industrial work, "the offer, and the securing, of a job is essentially analogous to the granting and accepting of a favor . . . without 'laghvag' (influence) it is difficult to obtain [work]" (Streefkerk, 1981, p. 726).

Given these high search costs, is there any evidence - either from cross-sections or from intensive local studies - of discouraged workers and hence reduced PRs year-round, either because of the experienced difficulty of finding work (the characteristic form of the "discouraged worker hypothesis") or because of experience of high home costs when mothers undertake less child care?

Table 1, for four Gujarat villages in 1970-71, shows an average monthly PR three times as high for landless women as for landed women. Plainly, the landless must search harder for work than those who have it on the home farm. Hence the "discouraged worker" effect is being overwhelmed by other effects. These are, first, reduction of female ASPRs by richer, higher-status landed households (note that the male PRs among landed and landless are almost the same); and, second, the lower child/female ratios among landless than among landed families, given the income level. ^{38/} In any event, PRs among landless women strongly suggest that lower PRs among the poorest in general (Table 2) are not mainly due to discouraged-worker effects, though the higher search costs of the very poor might well be expected to produce such effects. This confirms the observation that only the not-so-poor seem to be able to "afford" such effects seasonally.

Surveys in six semi-arid Indian villages suggest that discouraged-worker effects seem less applicable to women - and hence to the poor households from which, chiefly, they participate - than to men. There were "significant positive correlations between [fortnightly] male PRs and probabilities of employment in four of the six villages. For females this was true in only two villages, and in two others the correlation was significantly negative" (frustrated-worker effects) (Ryan and Ghodake, 1980).

Macro-relationships confirm such findings. Across 17 Indian States in 1977-78, for men aged 15-59, participation was positively correlated to the probability of employment in rural areas ($r = .491$, sig. at 5%), indicating some discouraged-worker effect; but there was no relationship in urban areas ($r = .010$). For women aged 15-59, urban participation was negatively correlated to probability of employment ($r = .476$, sig. at 5.4%), while the rural relationship was non-significant ($r = .209$, "sig." at 42%!). Once again, female workers - mostly from poor families - cannot afford to be discouraged; in towns, they participate more to compensate for being in States where employment prospects are bad; so that they are likelier to be frustrated workers than discouraged workers (Sarvekshana, Apr. 1979, p. 151).

This turns our attention naturally to the question: what are these "employment prospects"? To what extent can poor, or other, people in LDCs be meaningfully said to be exposed to risks of unemployment?

III. POVERTY AND 'UNEMPLOYMENT'

(a) Despite recent critiques, much poverty is linked to unemployment

The economics profession's view of unemployment in developing countries has, since 1955, passed through three stages: a Lewis thesis, a Myrdal antithesis, and an empirical synthesis. In the mid-1950s, Lewis hypothesized that massive reserves of freely "removable", largely idle, labor existed. Such reserves of open or disguised unemployment were thought to comprise a pool of unskilled workers, usable at low cost for industrialization (Lewis, 1954).

From the late 1960s, the view that massive unemployment was a major characteristic of poor people and underdeveloped countries was increasingly suspect, for five reasons (Myrdal, 1968, pp. 959-1028).

First, most of the data appeared to undermine it. National sample surveys revealed very small proportions of persons seeking work for long periods. Micro-analyses showed small and seasonal, not large and year-long, gaps between genuinely available working time and total work (domestic, "social", and productive) with returns above, at, or not very far below going rates.

Second, with traditional security systems such as extended families uncertain or eroding, it was unclear how poor people could afford to be unemployed for long. In Myrdal's memorable aphorism, "unemployment is a bourgeois luxury".

Third, the concept of "unemployment" - originally defined as willingness to work at the "going wage" - seemed unmeasurable or inappropriate in economies where self-employment was the norm, and where wages were flexible. Improved conceptualizations separating "inadequate working time" from "inadequate income" or "inadequate recognition" (Sen, 1975; Krishna, 1976) produced clearer minds, but not more easily interpreted data.

Fourth, an alternative approach to labor-force analysis, viz. the measurement of components in a "labor utilization identity" (p. 8), proved less problematic conceptually, more relevant to the assessment of correlates of low labor input, and measurable in practice (Connell and Lipton, 1976; Streeten, 1972, pp. 121-5).

Finally, this approach tended to show that, per participant, differences in duration of work - and therefore in both unemployment and supply of work-time - were rather small components in international or interregional differences in income-per-person. Productivity differences were much more important. Micro-analyses, sometimes suggesting that "the poor" worked long hours for low returns, seemed to confirm this.

Since the mid-1970s, as more sophisticated concepts of employment and unemployment have been developed and, as data have been disaggregated and improved, a new understanding of the importance of involuntary idleness has arrived. The insights of the 1960s and 1970s - that the unemployed are largely seasonal, not to be "mobilized" without adequate private incentives and/or major public costs, and not a massive source of potentially free industrialization - remain. However, new data and new interpretations do suggest that, for some places and groups, duration of labor is low mainly because work is unobtainable, though wanted, at a rate of

reward close to the prevailing rate. In other words, vulnerability to specific sorts of unemployment, though not a cheaply remediable "barrier to development", is a pervasive, and in some conditions serious and substantial, correlate of extreme poverty. The following sections review seven types of evidence suggesting that, especially for the poor, conditions usefully definable as unemployment matter after all.

First, the low overall estimates of time spent per participant in unemployment - in seeking, but not finding, rewarded work at something close to one's normal rates of reward and types of occupation - appear to be underestimates, especially for the poorest (pp. 44-6).

Second, and most important, such unemployment is usually concentrated on the poorest (pp. 46-7). For example, over four seasonal NSS rounds in 1972-3 in rural India, unemployment in the poorest 0.7% of households averaged 22.4% of workforce (person half-days unemployed in the week before interview); in the next poorest 9.8% it averaged 14.1%; and the rate fell steadily to 4.8% for the workforce in the best-off 8.4% of households (I. Singh, 1982, p. 20a, citing Visaria, 1980a).

Third, unemployment particularly affects some groups tending to have low incomes: those with few assets, especially land (pp. 48-50); those who when at work are casual laborers (pp. 50-1); women, and those at particular stages of the life-cycle (pp. 51-3); and some urban groups (pp. 53-8).

Fourth (pp.58-60), regional concentration of unemployment further worsens its impact on the poorest.

Fifth, seasonal and annual employment fluctuations often bear most heavily on the poorest, and on groups overlapping with them (pp. 60-4); this is especially serious in view of the risk that nutritional levels in prolonged poverty may fall below the limits of homeostasis (Lipton, 1983).

Sixth, if "unemployment" for the poorest is linked causally to low returns-per-workday (and/or low participation), then there is not much force in the arithmetical point that, taken in isolation, varying proportions of time spent in unemployment account for rather little of the variation in income-per-person (pp. 64-7).

Finally, trends in demography, asset ownership, and technology suggest that unemployment and its effects are becoming increasingly important correlates of extreme poverty (pp.68-70) - especially because, for the poor, hired labor is an increasing proportion of total labor, which reduces prospects for choosing duration and reward together by operating one's own assets to the desired level of intensity.

(b) Unemployment estimates understate impact, especially on the poorest

A number of activities, inside and outside the workforce, tend to "expand" to absorb the time available to undertaken them, notably in the agricultural slack season. Such expansion reduces, probably artificially, estimates of slack-season unemployment. Inside the labor force, cattle-care is such an activity; in "Senapur", Eastern Uttar Pradesh, workers in the slack season tend cattle which, in the busy season, are tied to a tree (Hopper, 1959). In 1956-7, farm management surveys in two adjacent Maharashtra districts - involving daily, or thrice-weekly, visits to each farm - showed a year-round average of only 6% of adult male workdays

unemployed, but a further 28% were spent in livestock work; excluding the 75 adult males spending fewer than ten days a year in cattle-care, and the 21 who had large herds to manage, we find 167 with "very limited livestock holdings", spending "possibly a large part" of their time on cattle-care merely "to keep occupied". Moreover, "when the farm work was more, generally fewer hours were spent in looking after cattle" (Rath, 1981, pp. 10, 22). (Similar relationships exist in Botswana. 39/)

Outside the formal labor force, too, domestic activities, even for men, clearly show by their seasonal variations that labor withdrawn from participation in fact partly corresponds to unrecorded unemployment. Across 24 periods in 1967-8, the correlation in Maharashtra villages between the percentages of a period spent by adult men in "farm and non-farm work, except livestock" and in "housework" was -0.865 , significant at 1% (Rath, 1980, p. 20). In Northern Nigeria, such activities also appear "during the slack season ... particularly susceptible to elaboration" (Cleave, 1974, p. 122). This relationship is fairly dramatic in rural Botswana also (Sheppard, 1979, p. 116).

Unemployment reduces duration of earning time for the poor, not only directly, but because its relatively high incidence combines with poor people's greater need for income to involve high search costs (pp. 41-2) as observed in the need of landless laborers in some Kerala villages to operate, throughout the year, "within five miles ... working wherever they can find employment" (Shivakumar, 1978, p. 766) and walking to, from, and between fairly distant workplaces (using up scarce calories). In rural Northern Nigeria, too, it is the poorest who spend the largest proportion of working time in travel; 40/ this applies even to owner-farmers, both because better-off people usually farm nearer the village, and because a given number of plots-per-farm involves a higher ratio of travel-time to work-time if the farm is small. Travel-costs as a form of "unemployment" also appear in towns: in Bogota in 1972 the poorest adult workers averaged 2 hours and 5 minutes per day in travel, as against $1-1\frac{1}{2}$ hours for the three best-off groups of households (Westin, 1980, p. 69).

Rath stresses that - if respondents (especially poor ones) cut their rewarded work-time not only via overt unemployment, but via its penumbra of high search-costs, travel, expansion of cattle-care and domestic work in slack season, etc. - then unemployment is much higher on the income-criterion than on the time-criterion; and that, therefore, public-works schemes, offering local day-labor at the going wage in the slack season, will find considerably more work-seekers than local unemployment data, based on time-criteria, would suggest (Rath, 1980, pp. 12-13). This has indeed been the experience with Maharashtra's Employment Guarantee Scheme (Dandekar and Sathe, 1980), though part of the excess may have been due to migration rather than to the penumbra of lost worktime that supplemented overt local unemployment.

* * *

Apart from these effects, intensive micro-studies almost always reveal much higher unemployment than sample surveys, which in turn reveal more than censuses. In 1975-6, in six semi-arid villages, two in Andhra and four in Maharashtra, the proportion of person-days unemployed averaged 14% for men and 21% for women - considerably more, respectively 19% and 23%, for those who had to rely wholly on wage employment (Ryan and Ghodake, 1980, p. 17). This compares with 6.2% and 9.2% respectively in the 1973-4 National

Sample Survey for rural Maharashtra, and 8.6% and 14.3% in rural Andhra. 41/ There is evidence that the strong preference of farm operators for work on their own land leads them, especially the poor, to preserve status by reluctance to seek off-farm work (Visaria, 1980a, p. 23).

In general, both rural and urban unemployment are likely to be selectively underreported among the poor, illiterate and unskilled. Given the usual glut of these laborers, an employer is less likely to advertise for them, and they are less likely to think it worth seeking him. If they do, they are likelier than the less-poor to take up time both in the search and in travel to distant work.

(c) Unemployment, even as estimated, is highest among the poorest

So many different definitions for "unemployment" exist that absolute rates can seldom be compared among surveys. Even to compare rates for different groups within a survey - or ratios between, say, male and female rates among surveys - we must ensure that the definition(s) cannot artificially support our argument. However, within each of several surveys, unemployment rates are persistently measured as higher among the poor than among the less-poor.

Table 7 summarises Visaria's Asian evidence on decile-wise links between household MEP and proportion of half-days unemployed (see also pp. 44-5 above). Most persons in the poorest two household deciles in Gujarat and Maharashtra, and in the poorest decile in Malaysia and perhaps Sri Lanka, have outlay-per-person too low to avoid nutritional risk - i.e. are often unable to meet below 80% of average ASAG caloric needs. (The next decile or two up in these cases, and the poorest decile in Taiwan, are poor - typically meeting 80-100% of average ASAG caloric needs, and thus probably quite often hungry but seldom at nutritional risk; Lipton, 1983). Except in Taiwan, the "poor" are exposed to substantially more risk of unemployment than other MEP groups.

The poor are more likely to be unemployed, despite the greater incidence of unemployment among educated persons. In Malaysia in 1967, barely 2% of the uneducated were unemployed, as against 20% of those with 10-11 years of education, and similar disparities applied in Sri Lanka (Mazumdar, 1981, p. 264; ILO, 1971, pp.26-9). For two reasons, this renders Table 7 even more striking. First, the probability of substantial levels of education plainly rises with MEP per person. If we could hold educational level constant, therefore, the links between poverty and risk of unemployment would be even stronger than Table 7 suggests. Second, many of the educated better-off are counted - or report themselves - as unemployed because, although they reject work offers at going rates, they seek and/or register for more desirable, secure, normally public-sector, jobs; many such educated "unemployed" are helping in family enterprises, or doing casual or part-time hired work, while looking for something better. Therefore, the link between poverty and unemployment in the narrowest sense (i.e. excluding any productive participation, or rejection of any work at the going rate, in the reference period) is, again, even stronger than Table 7 (or parallel micro-data such as Tables 1-2 and 8), suggest.

This finding is supported at two statistical extremes. Very aggregatively, for four three-monthly intervals between October 1972 and September 1973, a very large all-India sample shows that rural workers from the poorest 0.7% of households were unemployed in the week before interview

for 22% of the half-days on which they wanted work (29% of women, 18% men); for the next-poorest 9.8% of households, the respective rates were 14% of persons (18% women, 12% men); but the overall rural rate was only 8% (11%, 7%). In the same year, workers from the poorest 0.3% of urban households were unemployed for 29% of the half-days in which they wanted work (women 26%, men 32%), as against 16% (17%, 15%) for the next-poorest 4½% of households, and 9% (14%, 8%) for urban workers as a whole (Visaria, 1980, p. 10).

Some help is provided from the other extreme - data disaggregated to village or city level. In four nearby and similar villages of West Godavari, Andhra Pradesh, in 1972-3, each day of "employment per worker" - holding constant family size, wage-rate, PR and landholding size in standard acres - raised household income per person by 0.65 rupees, and at the mean of days worked (200.7) a 1% rise in employment was associated with a rise of 0.37% in income-per-person. Across all labor households, with the "absolute poverty" threshold MEP at Rs. 25, "average level of employment" was strongly and negatively associated with "risk of falling below threshold" (chi-square value significant at 1%: Parthasarathy, 1977, pp. 45-6). In four nearby and similar villages in Gujarat in 1970-71, there was a similarly clear relation between poverty and "unemployment", especially for women from the poorest households - but "unemployment" was defined as workless days proportional to a seasonal norm, so that this finding has only limited value. 42/ More conclusive is Mrs Bardhan's 1972-3 evidence from village West Bengal that "poorer households are much less fully employed, even at the low wage-rates. This is more pronounced in the case of women" (K. Bardhan, 1981, p. 182, and Table 4, p. 37).

Most Nigerian (and other African) microstudies are in rural areas where almost all households operate some land. It is therefore difficult - once it has been established that a person participates in the workforce - to decide whether below-average duration of work is due to "unemployment", however defined, or to "voluntary" withdrawal on account of illness, holiday, etc. If "unemployment" varies inversely with workdays-per-participant, and if (as is likely) money incomes in the Zaria and Sokoto villages had similar purchasing power, then, for six Northern Nigerian villages in the late 1960s, Table 8 shows that, among adult men, the two poorest groups have significantly higher "unemployment" rates than the others. The finding is strengthened if travel time is excluded, and if "large children", the only other group doing much non-domestic labor, are included.

The evidence, then, is that at any moment a larger proportion of poor than of less-poor people is likely to be unemployed. The evidence, therefore, selects - of the two competing hypotheses about poverty and unemployment - that which claims, "Poor people are poor partly as a cause and/or an effect of their relatively high rates of unemployment". It rejects the hypothesis, "Poor people are least likely to be unemployed, because they could not then survive". But, if the latter is false, how do unemployed poor people survive? Sometimes they are supported by working persons in the same poor household; sometimes by running down savings from past periods of employment. Almost certainly, the unemployed poor generally suffer frequent short periods without work - not the prolonged unemployment that characterises the not-so-poor (Mazumdar, 1981, pp. 302, 334-5). In rural Western India, unemployment is the "usual activity", or normal status, of negligible proportions of workers - below 1% - for rich, poor and ultra-poor alike; but intermittent unemployment, the proportion of half-days jobless, rises with the pressure of poverty - from 4% among the best-off MEP household decile to 11-16% among the poorest. Urban patterns are more puzzling (pp. 53-8) but in essence similar, with the very poor prone to recurrent short-term, not chronic, unemployment (Visaria, 1980a, p. 12).

(d) Unemployment concentrates in groups with high membership among the poor

1. The assetless

There is an obvious connection between lack of assets, unemployment and poverty, especially extreme poverty. Work on the 1971-72 Indian NSS data tapes suggests that almost all the link between poverty and unemployment, in a cross-section of 56 rural regions, is due to "close association ... for the virtually assetless wage-income dependent households", and that in the "self-employed poor households - at least as numerous - the link is weak" (Sundaram and Tendulkar, 1982, p. 2). Members of a household that can afford to buy or hire a productive asset can - within limits set by user cost - determine for how long they want to work to obtain income from that asset; while they do so, they are self-employed, and do not supply labor to the job market. However, households without assets supply labor competitively to that market and are employed at employers' discretion.

Several Indian rural examples testify to this three-way linkage of asset shortage, unemployment and poverty. A 1972 survey of 100 households dependent mainly on labor income, in ten villages of Andhra Pradesh, showed that the 32 households with a little land - although by definition of "labor households" too little to provide even half their income - were less likely to fall below the absolute poverty line, much less likely to be in extreme poverty, and considerably more fully employed than the 68 "non-cultivating" households. (Parthasarthy and Rama Rao, 1973, p. A-126). In 1970-1 in four Gujarat villages, the risk of "unemployment" was 25% higher for workers from landless households than for those from landed households (Patel *et al.*, 1975, p. 50). In three of the six semi-arid villages analysed by ICRISAT, women in small and medium farms had significantly better employment prospects than those from landless-labor households. 43/

There are usually similar differences between smaller and larger asset-holders. In Jambua, Gujarat, in 1975-6, the proportion of person-days reported as "available for work but unemployed" was 12% for households with 0-2 acres of land, 13% for households operating 2-5 acres, and only 6% for households operating more land (Jambua, 1980, p.94). On other samples also, poor micro-holders are sometimes more prone to unemployment than the landless, if as often the count of the latter "includes non-cultivating white-collar workers" (Dantwala, 1979, p.1050).

The link between physical asset ownership, employment, and freedom from want should not be overstated. A low-value physical asset - one which produces little for which demand exists - does little to increase its owner's reservation price; ownership in such cases may even indicate poverty and lack of work options. In Northern Nigeria, capacity to work off the home farm is linked to higher levels of income and employment (Norman *et al.*, 1976, p. 33). In Maharashtra, in very poor villages, presumably for similar reasons of bad and unrewarding land, the relationship between landholding, employment and income is very weak (Rath, 1980).

For larger samples, however, such as those for the (big) rural sectors of Maharashtra or Gujarat as a whole, the negative relationship between asset (*viz.* land) ownership and unemployment is clear. Moreover, a quadratic specification improves substantially on a linear one, suggesting (a) that the poorest in asset terms, the landless and near-landless, are

much more prone to unemployment than the poor, who are only slightly more at risk than the non-poor (again in asset terms), and (b) that there exists a level of holding size - around 18 acres in Gujarat, around 23 acres in Maharashtra - above which the relationship is reversed, and more land means a higher instead of a lower incidence of unemployment. For example, for rural men in Gujarat, the percentage of person-days spent in unemployment in the week preceding the 1972-3 sample-survey interviews was 10.47 minus 1.2 (household landholding in acres) plus 0.034 (square of household landholding in acres), with $r^2 = .87$. Unemployment for women was 70-80% higher than for men among the landless, but fell about twice as fast with each extra acre; the impact of land on unemployment was progressively "braked" by the quadratic term, and again reversed at 18-22 acres. Figures for Gujarat were similar. In both States, all constants and B-coefficients were significant at 5% (mostly at 1%) and r^2 's were .8-.9 (Visaria, 1978, pp.44-6 and tables A.11-12). At the even more aggregative all-India (rural) level, these tendencies are broadly confirmed, except that the near-landless (0-1 acres) seem even more prone to unemployment than the landless (Visaria, 1978, Table A.13), perhaps for reasons suggested by Dantwala (see p. 48).

There are not really any inconsistencies here. In villages with decent land, and when we compare such villages with others (as a big State sample implicitly does), ownership of such land provides (a) a higher "reservation price" for labor, reducing the landowners' supply to the market, and (b) a discretionary source of labor demand, for the farm family, at zero search cost. Both (a) and (b) reduce unemployment rates, compared to families with fewer assets. However, (c) big landowners, enjoying more asset income - and, as is well known, using both less labor per acre and a lower proportion of family labor - supply, past a certain farm size, labor to the market only at a high asking price, reflecting their high farm income (and perhaps social status) and hence the lower marginal utility of income; so their unemployment rate can exceed that of the medium-size landowner. Indeed, in Palanpur village, Eastern Uttar Pradesh, in 1974-5, the Thakur landowning caste were compelled, by their decision not to be involved in landless labor, to seek jobs in a remote, inconvenient town (Bliss and Stern, 1982, p.98). Moreover (d) in villages where land is especially infertile, ownership of very small plots is likelier to be a mark of extreme poverty - and, both as such and because the plot absorbs little work, to drive the owner out to seek extra work and thereby to raise his or her unemployment rate - than is "landlessness", which sometimes is associated with craft or functionary work that is secure and aseasnal.

In most cases - whatever happens "quadratically" to reverse the effect for big landowners, and whatever happens in villages where land is especially infertile - both landlessness and very small landholding mean higher unemployment rates, due partly to higher labor supply, partly to characteristics of the labor (slack-season concentration, femaleness, casualness, illiteracy) tending to lower the demand for it. This seems to work for unequal regions, not just for poor households created by local inequality. Cross-section analysis, of 56 agro-climatic regions in rural India in 1971-2, suggests that unequal asset distribution makes more difference to the region's average unemployment rate than does the absolute value of assets per household, or the farm output they produce: at the regional averages, a 1% fall in the Gini coefficient of assets-per-household - land, improvements, animals, implements - was associated with a 2.1% fall in the unemployed proportion of person-days (i.e. from 7.60% to 7.44%), as against falls of only 0.2% (to a 7.58% rate) for each 1% fall in either assets per household or agricultural output per hectare (Sundaram and Tendulkar, 1982, pp. 20, 22; Tables 8 and A2).

Evidence from urban areas is lacking. Similar associations between unemployment and assetlessness - and hence intra-urban asset inequality - are to be expected. Strong linkages have been noted in India between urban (and rural) casual status and susceptibility to being unemployed on any given half-day. Such status is unlikely to accompany significant ownership of productive assets, which are connected with self-employment.

2. Casual workers

Development in many countries is accompanied by increasing polarization of firms into large employers and family concerns, and of the laboring classes into organized semi-skilled workers and unskilled, including semi-employables. Casual workers, day-laborers, typify underdeveloped economies (Table 9), especially where residual demand for workers, in seasons and by employers with insufficient family labor, forms a large but unsteady component of total demand for labor. Casual laborers, usually outside the ambit of trade unions or enforceable labor laws, and often too poor and/or under-educated to have attractive alternatives to their present job, are almost everywhere likeliest to be both poor and unemployment-prone. In many developing countries, especially in Asia, casual laborers form the bulk of the unemployment-prone. Though they are seldom unemployed for very long 44/ and are often mobile and with low dependency ratios, 45/ they are persistently and greatly over-represented among the poorest.

A sample in rural India in 1968-9 showed 54% of rural households below "poverty line" income-per-person - but 68% of the 952 daily wage households, as against 50% of the 2290 cultivating households and 43% of the 371 permanent-wage households (Gaiha, 1982, Tables IX-XII, XV-XVII). In the NSS of 1972-73, in rural Gujarat, 36-37% of casual laborers (as against 22-25% of all workers) came from households in the poorest MEP quintile, at nutritional risk due to ultra-poverty; in rural Maharashtra, it was 28-30% (as against 21-23%). Urban poverty was even more concentrated among casuals, day-laborers: 43-46% of them in urban Gujarat came from the poorest MEP household quintile (as against about 23% of all workers), and in urban Maharashtra it was 58% (1) (22%). Age-structures show that only in urban areas could the "casualness-poverty" link be attributed to some small extent to the life-cycle (Visaria, 1980a, pp. 29-30). By 1977-8, in the NSS's 100,000-household sample in rural India, 31.0% of all workers - but 43.4% of workers in households below the poverty line - were casual laborers by main activity; for women, the respective figures were 40.0% and 50.8% (Sundaram and Tendulkar, 1982, Table 6). Moreover, while 59% of casual-labor men and 61% of women were in such households, the respective proportions among "workers other than casual laborers" were 33% and 40% (ibid., Table 5).

In India, casual laborers are not only poor. They are the link between high participation in labor markets, poverty, and unemployment. Table 9 shows the linkage between sex, work status, and unemployment. In rural India in 1977-78, among women of prime working age, 33% of workdays were spent in casual labor, while for men the proportion was 23%; the relative unemployment rates were 9.5% and 8.1%. In urban India, women spent more than twice as large a proportion of their time in the workforce in casual employment as men did; respective unemployment rates were 15.6% and 9.5%. The residual, especially seasonal, nature of much women's work exposes them to heavier unemployment than men, who are likelier to be protected by self-employment, long contracts, or workforce organization. Even urban women are surprisingly likely to depend mainly on casual labor in seasonal agriculture.

This greater role of casual employment in work patterns of (a) rural people and (b) women is associated with briefers, as well as more,

unemployment for them. In 1977-8, the ratio of "week-long" to "half-day" unemployed women was 1.91 in urban areas, but only 1.30 in rural areas; for men the respective figures were 1.72 and 1.29 (Sundar, 1981, p. 868). This helps to solve the mystery of how the very poor can "afford" to be unemployed: being mainly casual workers, they tend to alternate brief periods of unemployment with their work. 46/

There is a strong linear relationship between a State's percentage of person-days unemployed and its percentage of casual laborers in the workforce. In 1972-73 a difference between States of 1 per cent in the "casual" proportion of workers was associated with a 0.4% difference (in the same direction) in the unemployment rate; this relationship was powerful for rural and urban men, and for rural women, but not for urban women. 47/ The rural relationships are even stronger if the "fit" allows unemployment to increase somewhat more than linearly with the incidence of casual labor. 48/ The absence of a link between casualness and unemployment for Indian urban women is probably explained by the importance for this group of "educated unemployment" 49/ - likely to be a major feature of the bigger towns, while casual female agricultural work (with its associated high risk of unemployment) looms larger in less concentrated urban areas. 50/ In rural areas, the relationship between (a) casual labor and (b) unemployment is strengthened by the association of both with (c) agricultural labor (Parthasarathy, cited in Dantwala, 1979, p. 1050) and (d) seasonal fluctuations. These are most severe for casual workers, especially women, the rural, and the poorest (see below, pp. 60-4).

Data at micro-level, or from outside India, do not separate casual from other workers in ways allowing us to explore the relationship of workforce status to unemployment risks. We cannot, therefore, disprove that the main victims of unemployment, although likely to reside where casual labor is relatively important, are not especially likely themselves to be casual laborers. Perhaps, for example, turnover of longer-term employees is more frequent in places with a big casual "reserve army". The higher observed unemployment rates among the assetless do suggest that workers hired by the day are at greater risk than those hired less "casually", but this cannot be assumed; a long-term work contract indeed assures the employees of work while it is in operation, but that very fact may cause employers to prefer casual laborers.

3. Women, life-cycles and unemployment

The evidence casts doubt on some of the claimed links between poverty and gender. For example, women - outside Northern India and Bangladesh - seldom receive smaller proportions of caloric requirements than men (Lipton, 1983). Again, female-headed households seem little, if at all, likelier than male-headed households to fall into the lowest deciles of the rural or urban income distribution (Visaria, 1980, p. 55).

In the labor market, however, women do worse than men, in four ways. First, many women, but few men, work a "double day". with labor-force participation plus domestic duties; this arises partly from the biology of childbirth, but mainly from the assignment - by power and prejudice, not comparative advantage - of customary gender roles. Second, custom and power similarly impede women's access to labor force participation, especially in better-paid work. Third, the frequent "men first" nature of labor inputs (whether due to supply, demand, custom or force) means that women's participation and employment, being residual, are most prone to peak-season expansion and slack-season decline, with harmful effects on women's access to income, especially to individually controlled cash income.

Fourth, female unemployment rates - however measured - usually exceed male rates (especially in towns), partly, perhaps, because of women's greater reliance on easily terminable casual labor (p. 50). Tables 10-11, and discussions elsewhere in this paper, make that clear; but the imbalance in India may be declining. From 1972-3 to 1977-8 the proportion of female days offered for work that were unemployed, as a multiple of the male rate, fell from 1.45 to 1.26 in rural areas, but edged up, from 1.57 to 1.64, in towns; in only two of India's 17 major States (Rajasthan and UP) was the urban unemployment rate higher for men than for women in 1977-8, though this was true in rural areas of 7 States. 51/

The ICRISAT study of six semi-arid Indian villages, four in Maharashtra, suggests where female unemployment is likeliest to affect poor rural households. Year-round average female unemployment, on an indicator very close to the NSS's "proportion of participant-half-days in week before survey seeking or available for work", were as follows (male rates in brackets): overall, 21% (14%); in the two Sholapur villages, 43% (25%) and 19% (6%); Mahbubnagar, 7% (14%) and 17% (28%); Akola, 16% (10%) and 21% (9%). These aggregate all groups within each village, and inter-village differences depend largely on ecology. "In the two drought-prone, predominantly food-producing villages ... men have a significantly better chance of ... daily market-wage employment". Significantly, within villages, "females from the poorest households" had the highest unemployment rates (Ryan and Ghodake, 1980, pp. 14-17).

Disadvantages of females, in regard to the unemployment rate, are smaller in irrigated areas, especially rice-growing areas. Few significant sex differentials appeared in a ten-village unemployment study among rural laborers in West Godavari in 1972-3; the high unemployment rates among landless laborers, as compared with households dividing time between employee work and family farming, were much more striking (Parthasarathy and Rama Rao, 1973, pp. A120-8). Should one hypothesize that, where the physical nature of soils and ecologies and tasks favors men (in semi-arid areas), sex-wage differentials do not adjust fully but landless-landed workers' differentials do; whereas the opposite applies in better-watered zones? Are different patterns of reservation prices part of the reason? If so, physical and technical environment might largely determine whether unemployment, as a characteristic of the very poor, was more closely linked to gender or to asset status.

From Nigeria, the tendency of employers in semi-arid rural areas to favor men, especially young single men, at prevailing relative market-wages and productivities, is well documented (e.g. Hill, 1977, p.122). This conforms to Indian rural observations that, especially in semi-arid areas, only the demographically fortunate households among the landless (with high male/female and adult/child ratios) are likely to escape poverty (Visaria, 1980a, p. 32; Parthasarathy, 1977, p.45).

The rural employment problems of women have urban consequences. Rising shares of unemployment in Nigeria are urban, female, semi-educated, and young (JASPA, 1980, App. G.(1), pp. 12-13). This is despite (or because of?) a huge and growing excess of rural over urban poverty, and in some rural areas persistent discrimination against female employment prospects. It is echoed in Indian urban experience; female migrant streams are modifying our picture of casual urban labor as overwhelmingly male, especially among the poorest and most unemployment-prone (Joshi, 1976, pp. 1303-8). Women, especially the poor with some primary schooling, are

beginning to exemplify especially clearly the perception "that, while [unemployment is] most visible [in the towns], its roots are in the rural sector" (JASPA, 1980, App. G(1), p. 17). In Malaysia, the (1967) rate of unemployment was much higher among women than among men in large towns (16.1% as against 7.8%), a good deal higher in other towns (14.4%; 7.6%), and negligibly different in rural areas (Mazumdar, 1981, p. 268). This indicates sex differentials at a "more advanced stage" in development, and hence in the export of rural female unemployment to the towns.

Recently, in South Asia, male-selective emigration to the Middle East may have slightly modified job markets as women replaced emigrants in the home areas. However, this can have had little impact on sex-differential unemployment among the poor. Very few of the poor in India or Bangladesh have enough education (or contacts) for the men to obtain such jobs, or for the women to compete for jobs vacated by emigrants.

So, women, especially the poor, are more prone than men to unemployment, partly because they are likelier to be casually employed and less likely to be self-employed. Higher female unemployment is notable especially in urban areas, but also in those rural ecologies that dictate seasonal, unirrigated work.

However, if we wish to disaggregate demographically, "women" and "men" provide a pretty crude classification. Two reasons for male-female unemployment gaps are that (a) male-female wage differentials imperfectly reflect productivity differentials, and/or (b) poor men are likelier to be partly self-employed asset-owners (rather than market-dependent seekers of employment) than are equally poor women. However, such differences are likely to affect unemployment rates at least as differentially between other demographic groups than male-female: adolescent-prime-old, for example. In six South Asian surveys in 1966-71, on a variety of definitions on unemployment, national rates among persons aged 15-19 were uniformly about three times average rates; the multiple was higher in towns, and somewhat higher for men (Mazumdar, 1981, pp. 276-7). In Nairobi, for men in 1974, a similar multiple was found; moreover, while only 4% of male heads of household were "unemployed", the proportion for their sons and other male relatives were respectively 39% and 49% (Collier and Lal, 1980, p. 281). These latter figures must include some de facto non-participants; but they do underline the important relationship to poverty of life-cycle patterns of unemployment. Rather little is known about such patterns.

4. Rural and urban groups

However unemployment is measured, and wherever the rural-urban borderline is drawn, overall urban unemployment rates are usually well above rural rates. For example, in Indian places with over 5,000 inhabitants in 1977-8, men aged 15-59 spent 9.5% of half-days in the week before survey "seeking or available for work", as against 7.6% in rural places; the respective female rates were 15.6% and 9.5% (Table 13). On similar definitions, the urban-rural gap had been narrower, but still clear, on the Indian 1972-3 data, covering all age-groups: men in urban areas were unemployed for 8% of half-days, as against 6.7% rurally; women for 12.6% as against 9.9% (Sarvekshana, Oct. 1977, p. 102). Regional disaggregations - and micro-studies of rural and urban areas - usually confirm the urban excess; so do other national samples. In South Asia in 1966-71, only Sri Lanka seemed to be an exception, though in Malaysia by 1974 the urban excess had declined sharply (Mazumdar, 1981, pp. 275-7).

It is not a question of "urban unemployment versus rural under-employment". The terms "disguised unemployment" and "underemployment" are used to mean many different things - some of them highly questionable, e.g. allegedly "mobilizable" days, between actual work and some norm; or days when "more" might (in somebody's judgement) be earned or spent at work, or produced - and are probably best avoided (Myrdal, 1968, pp. 1007-12). The above-quoted Indian data on "unemployment", being on a time-disposition basis by half-days, include even quite short periods, in the week before survey, when the respondent wanted productive work but could not obtain it. They thus include the more readily measurable (and logically unobjectionable) component of "underemployment" in the measured unemployment rates.

But do these make sense, especially in rural areas? Growing proportions of the rural poor depend on hired-labor income. There is clear evidence of a rural "going wage" (Bliss and Stern, 1982, p. 98) - often specific to the sex, age, village (Rudra, 1982), or even social group of workers (Lluch and Mazumdar, 1981) as well as task and season. Hence unemployment rates on a time-disposition basis - measuring the proportion of time in which persons with given mobility want, but do not get, at the "going rate" work they are normally able to obtain - do seem both measurable and susceptible to rural-urban comparisons.

Two questions now arise. First, given the seasonality of much rural work, how is it possible that rural unemployment is below urban? Second, how does the excess urban rate affect the poor?

To the first question, there are five main answers. (1) There may well be seasonal withdrawal from the workforce by rural groups that know there are few chances of gainful work (pp. 41-2). Such slack-season declines in labor supply keep down rural unemployment - at the cost of declines in off-season PRs. Probably, these declines are larger in assetless households, partly due to search costs - see Annex VI; in less-poor households, which assign lower priority to income vis-a-vis leisure; and in households with larger proportions of women and children, who often shift some domestic or school tasks into slack seasons and thus reduce their wish to participate then. (2) Slack-season rural emigration, with the effect of reducing local unemployment, is common, especially among the very poor - typically rural-rural for women, rural-urban for men (Connell *et al.*, 1976). (3) Not all rural places show simultaneous labor peaks, so that rural participants can reduce their seasonal unemployment rate (and fluctuation) by moving among villages. (4) Ownership or leasing-in of productive assets - even by the poor - is commoner in rural than in urban areas, enabling asset-owners to time and pace work as they wish, so that on most definitions "unemployment" is less significant because family farmers may choose the "going return" below which they voluntarily curtail labor-input; while probably still the main single factor pulling rural unemployment below urban rates, this is becoming less important as man/land ratios rise, and in some places as land is concentrated. (5) The rural age-structure, owing to life-cycle townward migration, often places a much lower proportion, of men especially, into unemployment-prone working-age-groups than in towns; similarly for educational structures.

These five facts bear on our second question. The normal "Western" perception is that any unemployment, including an urban excess, hurts the poor most. For developing countries, however, one asks whether the really poor can hold out, in unemployment, until they can get work at "the going rate". The other side of the same coin is the large number of clearly not-very-poor (semi-) educated urban unemployed, living off savings (or relatives) while they seek work with high income or security or status - and rejecting menial work that could impede that search.

Three tendencies are at work. First, poor participants spend a considerably larger proportion of time in unemployment than others. Second, on this time-disposition basis, most evidence suggests higher urban rates overall - usually a good deal higher for men, and much the same or slightly lower for women, than rural rates (Visaria, 1980, pp. 10,12; Table 8 of this paper; Mazumdar, 1981, pp. 261, 276-7; JASPA, 1980, App. G(1), pp.12-13); but if we examine prolonged unemployment - say, as a "usual activity" in Western India - it seems almost wholly urban, and at least as common, puzzlingly, among the poorest (in the large 1972-3 sample for urban Maharashtra, 6.1% of men from the poorest decile of households report unemployment as their usual status: Visaria, 1980, p. 12). The third fact is that, where any measure suggests significant unemployment, female rates almost always exceed male rates.

However, these three tendencies do not always cumulate. Thus in the poorest decile of households men (and women) in Western India in 1972-3 carried 1.6-1.8 times male (and female) average unemployment risk in rural areas; but the poorest decile's urban excess varies widely, from 1.1 for women in Gujarat to 2.0 for men in Maharashtra (Table 11). The generally much weaker correlation of "poverty ranking" by deciles with unemployment incidence for urban females, as compared with rural persons or urban males (Visaria, 1980a, pp. 10-12), is probably due to an upsurge of "semi-educated unemployment" in the upper-middle female deciles.

In other words, for urban females just as for other groups, the poorest are at above-average risk of unemployment - but the impact of education, especially incomplete education, on urban females causes them to exhibit "bursts" of above-average unemployment in one or two higher deciles as well. The impact of education in modifying the normal link of high unemployment to low income, and in creating instead a bimodal pattern with high unemployment at very low and moderately high incomes, is confirmed for all-India data (Grawe, 1979, p. 7) and Malaysia, especially the urban areas (Mazumdar, 1981, pp. 244, 246).

African studies reveal similarly bimodal patterns of urban employment by education level: "the unemployed school leaver who is young and has never worked before" who "waits for the right job" with "support from relatives and friends"; and the "uneducated older group of unemployed persons many of whom are heads of households", according to studies in Sierra Leone and Uganda. In the Sierra Leone study, "the educated unemployed (most of whom are recent school leavers) resided in households with above average incomes". Probably, both in Uganda and Sierra Leone, the uneducated older unemployed overlapped considerably with the urban poor (Byerlee *et al.*, 1977, p. 13). In urban Nigeria, the bimodality clearly shows up in high unemployment among (a) semi-educated "school leavers or dropouts" in big cities, such that in 1972 "90 percent of the unemployed people in [Lagos] had a minimum of full primary education and a maximum of full secondary education", with one unemployed person in three a secondary-school dropout (Ojo, 1979, pp. 130-1); and (b) plainly much poorer people in smaller cities like Benin, where in 1977 "only 14 percent [had gone] beyond Primary 6" and where 68 per cent, when at work, were general laborers (Akerle, 1979, pp. 117, 121).

Who are the unemployed urban poor? Women are especially liable in urban India to unemployment (pp. 52-3), and they also seem to be at greater risk in urban Nigeria; in 1974, in the seven major urban areas of East-Central State, unemployment was over 2.4 times higher among women

than among men (Okorafor and Iwuji, 1979, pp. 101, 104). Familiarly, urban employment, especially among the not-so-poor, is heavily concentrated among the young. 52/

More controversial is the urban relationship between those at high risk of unemployment, the poor, recent immigrants, and those normally in the "informal sector" as self-employed family workers. The old conventional wisdom, based mainly on Asia and Africa, is that these four sets have strongly overlapping membership. The new, based mainly on Latin America, is that they are almost mutually exclusive. There are differences among countries, and among types of town within a country; but the older view is nearer the mark, at least in cities where absolute, extreme poverty as a major problem: although, admittedly, this is a matter of judgment. Direct data, for example cross-tabulating the rate and/or duration of unemployment by immigrant and non-immigrant townspeople (or by recency of migration), seem very rare. One has rather to juggle with facts about townward migrants that, while proven, do not conclusively prove much about their unemployment status, and indeed to balance facts pointing in opposite directions, and then to enquire whether this balance of facts suggests that poor, or very poor, people loom large in the urban unemployed.

Firstly, townward immigrants, especially recent ones, are in most LDCs overwhelmingly in age-groups with exceptionally high incidence of urban unemployment. 53/ The age-group overlap is so strong as to make it very likely that overall (i.e. not age-specific) unemployment is higher among immigrants. However, the evidence is not conclusive, because recent immigrants might be prepared to accept a lower wage for a given job than settled populations (who have, perhaps, more dependents and higher housing costs). In that case, high unemployment among young people might be associated, not with high unemployment among young immigrants, but with very high unemployment among young "settleds" who are competed out of work by the immigrants. The net effect of immigrants' high propensity to be young freshers, however, probably raises their unemployment rates and poverty - especially in conjunction with the fact that casual laborers in Western Indian towns are also much likelier to be young, poor unemployment-prone, and illiterate than other workers (Visaria, 1980a, p. 30).

Secondly, however, most townward immigrants are male, and urban male unemployment is considerably below female rates (p. 55). This tends to offset the age-structure effect, and to cause relatively lower unemployment among immigrants. However, in migrant streams, men do not predominate in the less-poor LDCs of West Asia, Latin America and North Africa; their predominance in Indian townward migration may be declining (Joshi, 1976, pp. 1303-4); and, as with age-structure, there is a knock-on effect. Male immigrants may raise unemployment, not in their own ranks, but among settled workers (or immigrant females) whom they undercut, in terms of wage for specific tasks per efficiency-unit of labor, in the job market. Apart from such knock-on effects, sex differences in urban unemployment are generally less than age differentials. Hence the youth of townward immigrants probably raises their unemployment (relative to the settled rate) more than their "maleness" lowers it.

Third, urban unemployment peaks among the semi-educated - typically, in poor countries, those who dropped out just before completing primary school, or who completed primary but not secondary school (Mazumdar, 1981, pp. 263-4). In almost all LDCs, such people form a higher proportion of migrant streams to the cities than of the remaining rural populations. Except perhaps in some of the very poorest countries, such "educationally unemployment-prone" groups also form a higher proportion of townward migrants than of settled urban residents.

Youth tends to accompany incomplete education and job inexperience; all three interact to keep migrants' earnings per day low, as well as their unemployment risk high (Mazumdar, 1981, pp. 128-34, 144; Lucas, 1982, Table 1).^{54/} This increases the likelihood of higher incidence of poverty among recent migrants than among settled townspeople.

Fourth, the work found by rural-to-urban migrants - especially by recent poor ones - may be more "unemployment-prone" than the work of urban residents of longer standing. We have seen (pp. 50-1) that casual labor is strongly linked to high unemployment risk; and small and informal enterprise is, familiarly, most prone to bankruptcy, retrenchment, and seasonal inactivity.^{55/} Are urban immigrants, especially poor ones, likelier than "settleds" to be concentrated in these unemployment-prone sectors? As for informal and small-scale activity, the answer is clearly "yes" in Abidjan, Sao Paulo, San Salvador, Djakarta and Nairobi; "probably" in Brazil, Peru and the Sudan; and "no" in parts of urban India, and in Costa Rica and Malaysia (Rempel, 1971, pp. 107, 123-5; Mazumdar, 1981, p. 224). Even where it is "no" - at least for recent migrants with little education and few "contacts"; i.e. for the migrants likeliest to be poor - casual labor is almost bound to be the alternative to informal work, in view of the cost of finding contracts, the time needed to seek lasting work, and the self-protective mechanisms of most organized, unionised or semi-skilled longer-term work groups. The job structure of recent urban immigrants, especially poor ones, thus probably conduces to relatively high unemployment. This is made (a) tolerable by initial support from urban kin (Rempel, 1971, pp. 111, 126) or rural-to-urban remittances (Connell *et al.* 1976, pp. 101-2), one of which is usually necessary to permit townward migration anyway; and (b) desirable by the wish to leave time free to search for a good formal-sector job (Mazumdar, 1981, pp. 247-8), a search usually inconsistent with non-casual, organized, contractual, longer-term employee status.

Almost the only hard evidence on the upshot appears to be East African. In December 1968, 27 percent of migrants reaching Nairobi during the previous three months were unemployed, as against 14 percent of migrants who had moved two years before and 10 percent of the total Nairobi labor force; corresponding percentages of self-employed were 8, 12 and 7, leaving respectively 65, 74, and 83 percent wage-employed (Rempel, 1971, p. 107). In seven Tanzanian towns in 1971, migrants seemed to have lower rates than non-migrants (3% and 8% for men on the "active" job search criterion, 15% and 27% for women; 4% and 11% for men on the "passive" criterion, 29% and 38% for women). However, since these towns consisted largely of migrants, it is more important that migrants arriving in the three years before survey showed substantially higher unemployment rates than "settleds" (Sabot, 1977, pp. 34, 40). Similarly, in urban Botswana, rates of employment vary only slightly between the first year of residence in town and other years, but indirect evidence of a sharp rise in the first year is provided by the considerably higher average earnings (holding age, sex and education constant) earned in later years (Lucas, 1982, pp. 11-14). The balance of evidence suggests that similar or larger excesses of unemployment will be found among the past few years' migrants (as compared with "settleds") in most LDC cities.

Two groups are affected, closely corresponding to the better-off "pull" education-linked townward migrants and the poor "push" migrants. One group has some education, urban kin support, and hence both incentive and possibility to wait until suitable, secure work is found. Unemployment, for these urban not-so-poor, is (if not too prolonged) tolerable, and indeed a sign of hopeful job search. The other group - the hard-core unemployment problem (Hall, cited in Mazumdar, 1981, p. 258) - would, although of necessity seldom workless for very long, constitute a much more serious

issue. Such people are condemned by their own lack of adequate education and of assets to provide alternative chances, to drift between unsatisfactory casual work, petty crime, begging, and dependency on hardly-less-poor urban or rural kin.

(e) Spacial variations in unemployment, not specific to the poor, harm them

Persistent, year-round regional differences in unemployment are found even in studies with large samples (and adequate regional sub-samples), uniformly trained field staff, consistently defined concepts, and carefully collected data. The differences are much larger than those normal within developed countries (Table 11). "Six states - Andhra, Bihar, Kerala, Maharashtra, Tamil Nadu and West Bengal - accounted for two-thirds of person-days seeking or available for work in rural India in 1972/3 [but] only 44% of the [rural] labor force" (Grawe, 1979, p. 9), i.e. they showed over 2½ times higher rural unemployment than the other 11 states. On a typical day in 1977-8, rural men in Kerala were sixteen times as likely to be unemployed as in Assam (Sarvekshana, Oct. 1977, pp. 100-1; Apr. 1979, p. 153). Other groups showed equally extreme disparities, which persisted over time; from Table 11, simple correlations (r) between 1977-8 and 1972-3 person-day unemployment rates across 17 States were .937 (rural men), .932 (rural women), .954 (urban men), and .849 (urban women).

These differences among States in India are echoed at village level. In 1975-77, a pair of villages in Mahbubnagar district showed days of involuntary male unemployment (as a proportion of days in the workforce) at 7% and 14% (Ryan and Ghodake, 1980, p. 13; male and female rates in other paired villages showed similar gaps). In West Bengal, gaps - and apparent immobilities, claimed to be due to the strength of prior intra-village commitments - are even greater (Rudra, 1982, p. 11). In between State and village level, 56 agro-climatic regions in 1971-2 averaged 7.6% unemployment, but the coefficient of variation was 73% (Sundaram and Tendulkar, 1982, Table A2).

Similar disparities appear elsewhere. In Malaysia in 1975, 45% of fresh entrants to the labor market were still unemployed after five months in Kuala Lumpur, but only 20% in the East Coast towns (Mazumdar, 1981, p. 35). In Nigeria in 1974, unemployment rates in State capitals ranged from 1.5% in Ilorin to 23.3% in Calabar (Okorafor and Iwuji, 1979, p. 102). Many other instances could be cited. It is reasonable to assume that - though imprecise - such figures reflect real and substantial differences. They raise several questions.

First, do they mainly reflect differences in demand for labor, or in supply? We have seen (pp. 40-1) that low participation rates tend, though weakly, to be associated with high unemployment rates. So we can, in most cases, exclude the possibility that very high unemployment in some areas occurs largely because unusually large proportions of people are offering themselves for work. It is, of course, true that where this "offer" is to the casual labor market - as against family-farm or longer-term work - unemployment is higher, and cross-section regressions from regional data sets strongly support this (see, for example, Sundaram and Tendulkar, 1982, p. 10).

Second, do any other regional patterns emerge? Krishnamurthy and Grawe identified four groups of Indian States in 1972-3: Andhra, Jammu/Kashmir, Orissa, Tamil Nadu, W. Bengal, showing high rural unemployment and high seasonal variation; Bihar, Karnataka, Kerala and Maharashtra, with only rural unemployment high; Assam, Madhya Pradesh and Rajasthan, with only seasonality high; and Gujarat, Haryana, Punjab and UP, with both low (Grawe, 1979, p. 10). The classification changed little in 1977-8 (Sarvekshana, April 1979, pp. S.515-90; October 1978, pp. 44-53).

The four States with both low unemployment and low seasonality in 1972-3 had "led all others in increasing agricultural output between 1956-57 and 1969-70"; there is a +0.50 correlation, significant at 5% for the 17 States, between agricultural growth in the earlier period and the employment level in 1972-3 (Grawe, 1979, pp. 10-11). At first glance, this finding, and the abundant micro- and macro- evidence (Dantwala, 1979, pp. 1051-3) of positive employment elasticities of demand for labor - typically 0.5-0.6 - during the "green revolution", support not only each other but also common sense. 56/

However, before we can conclude that faster regional agricultural growth would cut rural unemployment (and thus poverty) very substantially, some awkward questions come up. Should growth determine employment level, instead of employment growth? Why assume that labor/output ratios change, as between areas, either not at all or independently of differences in agricultural growth rates? Why should workers stay in States with very high unemployment, if faster growth has created better job prospects not too far away - and why does not capital move towards the high-unemployment States? The failure of faster growth in some regions (like India's Punjab) to pull in enough migrants to eliminate regional differentials in unemployment has something to do with imperfect markets, ethnic and language barriers, etc.; but does this explain enough, especially since high-unemployment regions also suffer low participation (pp. 41-2) and low wage rates (K. Bardhan, 1977, p.65)? There is some evidence that regional differences in average agricultural levels affect unemployment less than differences in distribution. The elasticity, at the mean, of the per-day rural unemployment rate across 56 Indian agro-climatic regions, was only -0.24 with regard to farm output value per hectare, but 2.10 with respect to the Gini coefficient of assets - suggesting that a given effort devoted to redistribution may do more to cut unemployment than a similar effort devoted to growth (Sundaram and Tendulkar, 1982). Of course, other issues also affect that choice.

Third, how do these large, persistent, and puzzling regional gaps in unemployment risk affect the poor? If the very poor are relatively likely to face barriers - of cost, knowledge of local obligations - impeding distant migration, and also to face high risks of unemployment where they live, the puzzle is less. Indeed, despite unemployment among the semi-educated, security-seeking not-so-poor, the rural unemployed, at least, are likelier than others to be poor (Dantwala, 1979, pp. 1050-1). Conversely, for several data sets, the poorer, and especially the poorest, urban and rural deciles are the most unemployment-prone (Visaria and Pal, 1980, pp. 74-6). Therefore, persistent differences among places in unemployment rates (especially as higher unemployment is accompanied by lower wage-rates and lower participation) indicate two damaging effects on the poor. First, inequality among them is increased (via the component of regional inequality in job access) and with it the suffering caused to a given number of persons, of given average income, below the poverty line (Sen, 1981, pp. 36-7). Second, reinforcing this effect, the barriers to self-improving migration, suggested by these persistent interregional gaps, most acutely hamper movement (especially long-term movement) by the poorest, though not by the poor as a whole (Connell et al., 1976). Third, all this is much more damaging if unemployment is a usual status, not an intermittent problem, for significant proportions of the very poor in high-unemployment areas. In India in 1971-3, usual-status, i.e. year-long, rural unemployment is negligible (Visaria, 1980a, p.12). In urban areas, however, even in the poorest deciles (ibid., p. 12), and in four of the six high-unemployment States (Krishnamurthy, 1978, pp. 4, 10, 30) - some 40-55% "of the unemployed [on a given day] report waiting

periods of more than a year" and these proportions are as high or higher among the illiterate, who are not likely to be waiting about for a better job (ibid., pp. 10, 30). Regional differences in the risk of unemployment seem especially harmful to the urban poor. This is especially the case since five disadvantages - membership of castes or other groups subject to wage discrimination, daily wage employment, relatively low earnings (for these see Bannerjee and Knight, 1982, table 1), casual status, and high unemployment risk (pp. 53-8 above) - tend to affect the same, very poor, urban groups; in rural areas, the link between casual status and lower wage-rates is somewhat less clear (pp. 82-5).

(f) Fluctuations in unemployment probably affect the poorest most

Regional variations in labor use interact with seasonal fluctuations. Stagnant rural areas, without recent major improvements affecting off-season activities - non-farm output; irrigation to permit dry-season farming of dwarf cereals - tend to suffer much more severely the fluctuating levels of labor use (Grawe, 1979, p.26; Krishnamurthy, 1978, p. 5). This harms the poor most, because in bad times surplus farmers cut down on hired labor before family labor. The poorest 10-20% of persons, in low-income countries, typically spend 70-80% of outlay on food, yet are often unable to meet even 80% of the minimum food requirements for average members of their age, sex, and activity group. These ultra-poor people, although probably below average requirements also, are thus at serious risk of undernourishment (Lipton, 1983). Hence nutritional stress is very likely to be associated with prolonged, severe, and unexpected downward fluctuations in income, for those whose average level is already barely enough to afford minimum food needs.

Seasonal fluctuations in employment, however, are to some extent anticipated, predicted, and if possible allowed for, both by varying the level of stocks, and by timing of cattle-care and home tasks. However, the groups most vulnerable to seasonal unemployment appear to be the poorest, especially casual workers and "residual" members of the labor force (especially rural women), and those in agriculturally stagnant areas.^{57/} Such groups are least able to save up even for predictable bad seasons, especially if the previous season's income or output was below par. Also some bad seasons, and most bad years, are not predictable. It is not surprising that, in famines, it tends to be the poorest, especially landless laborers where they exist, who die - not those on whose farms the main crop shortfalls occur (Sen, 1981, pp. 162-6).

There is much evidence that fluctuations in unemployment - and even in the duration of labor - greatly understate fluctuations in productive effort in efficiency-units. In "Senapur", Uttar Pradesh, slack-season work was made in personal supervision of cattle; yet in the busy season, when that time had higher productivity elsewhere, they were tied to a tree (Hopper, 1959). Similarly counter-seasonal cattle-care is quantified from five rural areas in Botswana (Sheppard, 1979, esp. pp. 122-6). Rath points out that - although a 1954-5 farm management survey in two Maharashtra villages revealed only 6 percent of adult male worker-days in "unemployment ... quite comparable to the .. various rounds of the National Sample Survey", there was major, make-work expansion of livestock work in the slack season. With the year divided into 23 periods, the cross-period correlation between "livestock work-time" (as a proportion of livestock, other farm, nonfarm, and household work, plus unemployed time) and "unemployed time" (as a proportion of all the above less livestock) for

adult men is 0.3122, significant at 5% (calculated from Rath, 1980, p. 9, and p. 20; table 3, col. 4 and col. 6/(100-col.7)).

Time taken for domestic tasks shows even stronger expansion in the slack season (Sheppard, 1979, pp. 122-6; Norman *et al.*, 1981, p.30). Some of the slack-season tasks (e.g. house repair) do have to be done some time, but others - and the time spent on all - probably include a big element of slack-season time-filling, as is understandable and sensible. In Rath's Maharashtra villages, for adult men, the proportion of non-housework time spent unemployed (across 23 periods in 1954-5) was strongly correlated with the proportion of time spent in housework ($r = .5035$, sig. at 1%; Rath, 1980, p. 20, table 3, col. 7 and col. 6/(100-col. 4)).

The severity of fluctuations in unemployment is understated not only by such seasonal time-filling, but also by the practice, notably in the Indian National Sample Survey, of using smoothed quarterly data ^{58/} to indicate such fluctuations; evidence from Andhra (Parthasarathy and Rama Rao, 1973, Table 4b) and Maharashtra ^{59/} shows sharp fortnightly and weekly variations, which are smoothed out of sight by staggered quarterly interviews. A Statewise sample, moreover, understates fluctuation in unemployment in a typical place within that State since not all peaks coincide - although, owing to temporary migration, highly localised variations in demand for labor somewhat overstate variations in that labor's probability of being employed (Annex V).

Although severely understated, fluctuating exposure to unemployment is a major problem even according to official estimates (Tables 12-13), and bears most heavily upon the poorest. Indirect evidence comes from (a) their heavy over-representation among casual employees (p. 50) plus (b) the proven cross-State link, in India, between the unemployment rate and the incidence of such labor (p. 51) and (c) the much greater intra-State fluctuation in casual employment than in employment as a whole (Table 13).

Local farm management studies (FMSs) confirm this. In 116 farms of Hooghly district, West Bengal, across 12 months in 1970-71, the coefficient of variation for on-farm employment per family farmworker was 20.0%, but for hired-in labor it was 31.4% (P. Bardhan, 1982, p. 60, cols. (a) and (e)); within this latter figure casual labor presumably suffered more variability than attached labor. In a model to explain man-days in agricultural wage employment (in the week preceding a 1970-71 FMS) in two areas of Uttar Pradesh, seasonal effects showed up as significant and major determinants for non-cultivating labor households, but not for cultivators (*ibid.*, pp. 81-2). Numerous African studies also reveal the greater susceptibility of hired labor to seasonal fluctuations in employment, as compared with family labor (Cleave, 1974, pp. 120, 122).

As compared with bad seasons, the effects of bad years in reducing access to employment income are more serious for the poorest. They are harder to anticipate; they are also costlier to prepare for, both because capital (such as stored grain) must be tied up for longer periods, and because there is waste, often unaffordable, when the worst does not happen. A study of 4118 households in India, over a three-year period of sharply improving climatic conditions (1968-9 to 1970-1), showed that "in bad years [only,] workers from poor households are 'crowded out' by those from rich households" (Nugent *et al.*, 1981, p.27). This, too, is confirmed by more localized studies. In 1974-5 a particularly bad drought in six villages of Dhandhuka taluk, Gujarat, meant a 55% fall in family farmwork, but an 88% fall in casual work, as compared with 1973-4 (Desai *et al.*, 1979, p. 46; an interesting discontinuity is that demand

for family labor fell most on big farms, so that proportionate loss of income from farmwork was presumably least for the "poor but not poorest" small farmers - ibid., p. 48).

Thus casual labor is (a) most prone to higher unemployment in slack seasons and bad years; it is also (b) likeliest to be very poor (pp. 50-1). This squares with two other characteristics of the poorest. First, it is usually landless laborers (rather than small food producers) who risk death in famine (Sen, 1981, pp. 162-6); their employment is cut down, rather than that of family labor, in a bad season or year - yet it is the poorest who depend most upon such income for access to food. Second, the poorest are especially vulnerable, even well short of famine, to multiple interacting contingencies: in the case of casual labor, (i) relative poverty, (ii) regional agricultural backwardness, and (iii) employment fluctuation. In Panchmahals, the "most backward" District in Gujarat on a composite index, a study in 1972-3 (the second worst in 22 years for scarcity) showed tribal members of the workforce reduced to an average of 89 days of work each per year, and non-tribal members to 92 (Sambrani and Pichholiya, 1975, pp. 27-8, 36, 90-1; cp. Sarvekshana, Apr. 1979, pp. 156-8). Moreover, even within small areas, ecological variations affect the crop-mix; such crops as sugarcane greatly reduce variability of employment income among the poor (Parthasarathy and Rama Rao, 1973, pp. A122-3).

Fluctuation of employment also "homes in" on the poor in most LDCs by being concentrated on agricultural employees, on rural areas, and on women (Grawe, 1979, esp. pp. 8-9). All three groups are relatively poor, and contain a larger proportion of the absolute poor. However, such "seasonality in employment" is not confined to the rural labor force (ibid., p.8). Agricultural labor looms surprisingly large in the urban labor force, especially among female, poor, and presumably casual workers. Of the employed urban population aged over 10 in 1972-3, in Maharashtra, 12.3% were agricultural; in the poorest decile of households, 28%; but of females in that decile 4-5%, and in the next poorest two 30.4% (Visaria, 1977, Table 34; Table 33 for Gujarat shows similar - though less extreme - differences). This applies not only in India, but generally - and partly because the defined urban-rural population borderline is low: 5,000 in India and most LDCs, 2,000 in several (UN, 1980; Lipton, 1982a). 60/ While seasonal employment fluctuation is certainly greater in rural areas (because agriculture absorbs larger proportions of workers), cyclical fluctuation is greater in urban areas (because a greater proportion of labor-time is producing marketed output), and the latter, less regular and predictable, fluctuation is probably more harmful to the poor.

Among persons aged 15-59 in India in 1977-8, there was not much difference between rural and urban fluctuations in the number or rate of man-days unemployed; but the number of rural woman-days unemployed in the worst quarter was 1.35 times the number in the best quarter (and the rate was 1.37 times higher) as against only 1.08 (1.13) for urban women. As for those more seriously affected by unemployment - hinted at by the figures for persons spending most of the previous week seeking, or available for, work - seasonal fluctuation is more striking; but even such longer-term unemployment fluctuates more in rural than in urban areas only among women. Thus 1.9 times as many Indian rural women reported most of the week unemployed when interviewed in the worst quarter of 1977-8 as in the best quarter; for urban women, the "worst-best ratio" was only 1.2 (respective unemployment rate ratios: 2.0 and 1.2). For men, this ratio was 1.11 for rural numbers

of weekly unemployed, 1.09 for urban numbers; and 1.13 (1.10) for the respective rates (Sarvekshana, Apr. 1979, pp. 155-6). All this squares with the hypothesis that women - distributed towards poorer households somewhat more than men - are residual workers; prone to more fluctuating (and on average higher) unemployment; and likelier to live, and much likelier to work, in rural areas. There, overall unemployment rates anyway fluctuate more, and the impact of such fluctuation is much likelier to fall mainly on women; and, even in towns, women are far likelier to depend on fluctuating casual farmwork. Such interactions among place of residence, migration, sex, poverty, and fluctuation in employment (including self-employment) warrant more policy-orientated research.

* * *

So fluctuations in unemployment - even as both it and they are understated by the data - concentrate on casuals, women, and rural people. Is there direct evidence about whether the victims are more, or less, likely to be found in the lowest income groups? First, this is usually the case for the victims of high unemployment averaged over the year (pp. 46-7); since the poor can seldom be long unemployed, higher average unemployment (person-days per year) among the poor strongly suggests higher variability across the year in its incidence. Second, the all-India NSS sample for 1972-3 (unlike the State samples) is big enough to compare sub-samples for each quarterly round, even across "outlay-per-head" groups comprising quite small proportions of households (Table 13). 61/ In interpreting Table 13, we should recall that most persons spending below 21 Rs. per person per month, and many urban persons spending 21-34 Rs. per month, were ultra-poor - i.e. likely to be at some nutritional risk - in 1972-3. Almost all rural persons (and the rest of the urban persons) spending 21-34 Rs., plus some urban persons spending 34-55 Rs., were poor but not ultra-poor.

Before we ask how fluctuating unemployment affects the poor (on the evidence of Tables 2 and 12-13), the impact on them of seasonally averaged unemployment - and of its locations - should be recapitulated, because the interaction of a bad average and bad contingencies can turn poverty into disaster. We have seen that average unemployment is, as a rule, somewhat higher among the poor, and much higher among the ultra-poor, both in towns and in villages. These effects are clearer at all-India level (Table 12) than within States (Table 11) or villages (Table 2).

This suggests that two tendencies are pushing up average unemployment among the poor. First, the poor tend "ecologically" to reside and remain where the unemployment rate is high and/or concentrated upon them; some evidence may be provided by lower unemployment, especially in slack seasons, in States (Krishnamurthy, 1978, p. 5) and villages (Parthasarathy, 1977, p. 37) with rapid recent agricultural growth due to improved cereal varieties. Second, the poor tend "locally" to be unemployed for larger proportions of time in the workforce than other income-groups in any particular place. Both tendencies are most marked among the ultra-poor.

These often achieve lower ASPRs than the poor, who in turn have higher PRs than the non-poor (pp. 24-7). This, together with a very high unemployment rate, places the ultra-poor in a grievous labor-market position. In four nearby Gujarat villages the poorest 19% of households (with MEP below Rs. 17 in 1970-71) achieved 13% fewer workdays per adult than other groups in the busy Kharif season, 17% in the rabi, and 29% in summer; for

the ultra-poor, high unemployment and low ASPRs interacted. At all-India level in 1972-73, the poorest 4.8% of urban households had their working members unemployed for 16.7% of the days offered for work; the poorest rural 10.5% suffered a 14.7% unemployment rate (Table 12); here too, partly due to illness and injury, the ASPR is often unfavorable.

How do fluctuations impinge on this position? Quarterly NSS data for all-India (Table 12) show that the poor are in a particularly grim situation. The poorer rural and urban persons, households, and men, and the poorer urban women, are more vulnerable to seasonally increased unemployment risk than the non-poor; and the ultra-poor are much the most vulnerable. ^{62/} Only for poor rural women is there no such tendency, but these live in a rural household of corresponding poverty, and thus suffer from the high seasonality of unemployment among rural men in such households (Table 12).

Matters are made worse by the social structure of employment. In peak seasons, the poor can often choose among employers. When unemployment is highest, only one or two big peasants in a village are likely to offer it, because family labor suffices for the smaller farms. These effects are quantified for two Tamil Nadu villages in 1976-78 (Shivakumar, 1978, pp. 763-4); the role of each village's structured and mutual obligations, in limiting seasonal employment in "other people's" villages, is demonstrated for West Bengal (Rudra, 1982). Lack of choice, high unemployment, and serious seasonal downturn also probably compel the poorest to tolerate especially unfavorable terms of contract in the slack seasons.

An important source of relief is that - at State as well as all-India level - the times of year with worst employment prospects in different areas, while correlated, do not overlap perfectly. This fact helps households to achieve greater employment (and income) stability if they have a member able to migrate, temporarily, away from seasonal unemployment. Although purposive long-term migration does not show relatively high incidence in the poorest households, there is some, rather weak, evidence that seasonal migration does (Connell et al., 1976). This is often a wandering search for work, and is usually limited to one or two, frequently female, household members. The creation of counter-seasonal work chances (e.g. in irrigated farming, by choice of cropping-patterns to research and promote, or through public works such as Maharashtra's Employment Guarantee Scheme (Dandekar and Sathe, 1980, pp. 708-10)); support for seasonal migrants (e.g. by better information; temporary, e.g. tented, accommodation; appropriate transport); and avoidance of subsidies to labor-replacing non-peak inputs (e.g. weedicides): these may offer cost-effective ways to cut seasonal unemployment among the poorest.

(g) "Unemployment" is more to blame for poverty than is usually believed

The LU identity (p. 8) is:

$$\frac{\text{Income}}{\text{Persons}} = \frac{\text{Working-age}}{\text{Persons}} \times \frac{\text{Workforce}}{\text{Working-age}} \times \frac{\text{Hours worked}}{\text{Participants}} \times \frac{\text{Income}}{\text{Hours worked}}$$

This divides the labor sources of "potential economic welfare" into low dependency and high participation in, and productivity and duration of,

rewarded work. The identity is useful to the extent that economic welfare, for a household or group, depends overwhelmingly (within the range of feasible changes) upon labor income. On that assumption, how might the identity suggest - erroneously, I believe - that "unemployment" does not much matter as a cause of poverty?

Differing duration of work is not the main component of differing income from work. Almost all comparisons show that a population, if much poorer (in terms of labor-income-per-person), is so mainly because of lower income-per-hour-worked (lower productivity, and/or a lower share of product appropriated) by a member of that population. Next, it is poorer because of higher dependency-ratios; less important are differences in participation-rates and in duration of labor.

Second, differences between populations in employment (or unemployment), as proportions of the workforce, are only one component of differences in duration of labor per participant. Differences in labor supply, e.g. because one of the populations contains a much larger proportion of pregnant women, are often more important.

Third, many poor populations live and work as self-employed, peasant-style owners of their equipment - a small family-farm, a few carpenter's tools, a hawker's barrow. Such a family firm's duration and participation decisions, combined, cannot sensibly be decomposed into employee's supply and employer's demand for labor at the going rate. Nor, therefore, can "unemployment" be said to prevail if at that rate the "supply" exceeds the "demand". In the extreme case that the producer-consumer household is a Crusoe-like isolate, e.g. a farmer eating all he grows, he decides at once how much to grow and to eat, and sets, within technical constraints, the supply, demand and returns of labor, increasing its input until the last unit is just worthwhile for him to apply. Even to the extent that a self-employed concern produces for the market, it still determines labor supply and demand together. Thus the hawker, for example, decides how much longer it is worth his while to supply and demand his own time to stay at work, given the diminishing probability (as the easier customers, areas, or times of day are "used up") of a profitable sale: given, that is, the expected value of the return to extra labor.

These objections all relate to interactions among unemployment, other factors, and poverty. The first objection claims that low duration of labor is a small component in the causation of poverty; the second, that unemployment is not a major component in low duration of labor; the third, that for many Third World poverty-groups unemployment is a nonsense-concept. A fourth objection is that the poor cannot afford to be unemployed. What is the evidence on these four objections?

* * *

As for the first - that duration of work-per-year differs, between groups (especially nations) with high and low average income-per-head, less than do other components of the IU identity and in particular than productivity - this is in two ways of doubtful relevance to the importance of low labor duration (and hence perhaps of unemployment) as a cause of poverty. First, such low duration - partly reflected in reported unemployment - is, as we have seen, significantly more serious for poor

people, periods, and places than under other conditions in the same country; the incidence among the extremely poor is especially; and the cost of cure, per unit benefit to the poor or poorest, may often be less than the cost of bringing them similar welfare gains through labor-productivity increases, which might be at the cost of their own or other people's durations of rewarded labor. ^{63/} Second, even if we accept the comparison, among components of the right-hand side of the LU identity, with respect to "responsibility" for the value of the left-hand side, a crude arithmetic breakdown will not suffice, ^{64/} because it ignores interactions - especially casual interactions - among the variables on the right-hand side. Low duration of labor (whether or not due to unemployment) might harm the poor, not just by directly lowering the value of income-per-person in the LU identity, but by reducing other components: by causing conditions, of participation or productivity, disfavoring the poor. For such interactions to be important, it is necessary, though not sufficient, that places of high unemployment show greater poverty than otherwise closely comparable places of low unemployment. In 1969-70, among ten villages of Central Gujarat, days employed per worker - which ranged from 181 to 220 per year - showed a simple r of $-.96$, significant at 1%, with the Sen index of poverty (B. Singh, 1980, p. 110 and Table 13).

Some of these interactions, between participation and duration, have been mentioned (pp. 40-1). "Frustrated worker effects" seem to prevail among women, and "discouraged worker effects" among men. So the experience of one form of low duration - high unemployment - is linked, given the level of household welfare, with somewhat lower participation for more unemployment-prone ("discouraged") men, and somewhat higher participation for more unemployment-prone women, who thereby seek to compensate for lower duration prospects per participant, but tend to be "frustrated" in the attempt. The two relationships are of similar significance and strength, and men in workforces typically outnumber women by 2-2½ to 1, so that on balance high unemployment appears to be associated with high non-participation. It is plausible, though not proven, that unemployment is the cause. Unemployment (and casual, shifting work) also militate against the build-up of work experience, which is known to raise earnings (p. 94).

Groups with low average incomes, then, suffer more from low duration of labor than one would expect from the arithmetic breakdown of its role in the LU identity (p. 8). This is mainly because unemployment rates for the poorest groups are above the population's mean. Also, however, it is because of the association between high unemployment, low PRs and lower earnings, for male and female workers together: an association in which unemployment is probably partly causal.

We have largely been assessing the "importance" of unemployment to poverty by comparing high-unemployment and low-unemployment households or places. If instead we compare ultra-poor, poor and non-poor households, two tentative conclusions emerge. Comparing non-poor and poor, we find that the positive incentive, given by poverty to participation, outweighs the negative effect on it of the higher unemployment-rates normally prevailing in poor MEP groups; they participate more than the non-poor. Comparing poor and ultra-poor, however, we find that the damage that ultra-poverty does to ability to participate (e.g. via illness), plus "discouraged worker effects" from the usually much higher unemployment rates (Tables 7, 12), often tend to pull ultra-poor ASPRs below those of the moderately poor. In ultra-poor households, especially in slack seasons,

low labor input - the upshot of low supply of and demand for both participants within the family and workdays per participant - has much more to do with poverty than crude arithmetic interpretations of the LU identity, ignoring interactions, would suggest (Table 2).

Places and seasons of low total factor productivity tend - since migration is not a perfect, instant equilibrator - to show below-average demand for labor, relative to supply. (Such places also show greater fluctuation in this imbalance; see Dantwala, 1979; Grawe, 1979; Parthasarathy, 1977, p. 37). Obviously, this depresses wage-rates; the impact on the poor is discussed on pp. 78-81. Here it suffices to point out that high unemployment, since it is not fully offset by its mild participation-reducing effects, tends also to reduce wage-rates when and where it occurs, again amplifying its effect on the poorest (who are likeliest to depend mainly on wage-income).

Finally, the effects of equilibrating processes across regions complicate the relationships among growth, unemployment and poverty. Fast-growing rural areas appear in the short term to feature low unemployment, in part because of high investment demand. However, these improved prospects can well induce (a) among potential employees, high labor immigration to the fast-growing area, quite possibly raising labor supply more than demand (especially if technical changes and/or seasonal constraints had significantly raised wage-rates); (b) among employers, especially bigger farmers, increased capacity to afford, and inducement to adopt, labor-replacing investments. In (a), medium-term fast growth in some places lowers unemployment in others. 65/ In (a) and (b), it raises unemployment in the high-growth area.

The first two objections on p. 65, therefore, are not very strong. Higher unemployment is correlated, probably causally, with lower participation and lower earnings - the other components of the LU identity. Unemployment also homes in on the poor, and on places and types of worker (e.g. casual laborers, women) that over-represent the poor and especially the ultra-poor. Quite small inter-group differences in rates of unemployment, therefore, can mean quite large differences between the proportions of those groups in poverty, and especially in extreme poverty. It is also quite clear, especially for the poor and even more where urbanisation and growing rural landlessness are tending to separate poor people from productive assets, that inter-group differences in unemployment rates are an important part of differences in duration of labor per participant.

What of the other two objections on p. 65? The poor do show higher unemployment rates than others. So they cannot - as these objections suggest - be immune from unemployment because they are in family enterprises and/or unable to "afford" unemployment. In reality, the proportion of the poor with no land, or too little to earn much of their income from it, and/or increasingly dependent on selling labor for hire, is high and growing. We know this for Asia; in Africa the myth of "free land" dies harder, but there too the real costs of bringing it into cultivation are rising, and in the process are gradually being understood.

(h) Evidence is weak, but probably poverty is increasingly due to unemployment

Growing man/land ratios; urbanization (although slow) shifting people to places where unemployment is measurably higher (pp.53-8); inflexible structures (not simply "markets") for responding to such trends; and the falling proportion of persons in household enterprises that induce preferences for not presenting themselves on job markets (Visaria, 1977; Sundaram and Tendulkar, 1982, p. 15): these are four strong a priori reasons to suspect that urban and rural unemployment rates in most LDCs have been increasing in recent decades. Since 1970, world recession reinforces such suspicions, except in oil-producing countries - and perhaps where, as in Egypt (Sabot et al., 1981, pp. 14-15), increased migration towards these countries has kept labor supply from outpacing demand.

Reliable evidence is very scarce, however. In Latin America, where the ultra-poor are few, "no clear trend ... emerges, though the data are clearly suggestive of improvement". 66/ However, in even the fastest-growing parts of rural India, "increasing aggregate employment ... was accompanied by sharply increasing numbers of rural wage laborers" and hence no fall in unemployment (Bardhan, 198, p. 57). Between 1961 and 1972-3, the (very small) proportion of Indian workers reporting unemployment throughout the previous year rose sharply in almost all States (Krishnamurthy, 1978, table 3 and pp. 2-3, 8-9). The much more useful figures for "proportion of person-days unemployed", in the week before survey (staggered over the year), are available only for 1972-3 and 1978-9, and show much higher Indian urban and rural unemployment rates in 1977-8 than in 1972-3 - though 1972-3 featured a worse harvest, so that, as one would expect (and against the trend), rural women somewhat improved their employment prospects. 67/

Unfortunately, the a priori case for worsening Asian and African unemployment rates is reinforced by reasons to suspect that these may be increasingly concentrated on the poor. Of course these general arguments do not imply deterioration everywhere; but, even in some of the more striking exceptions with rapid growth, demand for labor has kept up with supply only at the "cost" of constant or falling real wage-rates and/or ASPRs (Lluch and Mazumdar, 1981, pp. iii-iv, 33; Collier and Lal, 1980, pp. 173-181).

Let us look into the four a priori arguments, and the evidence, a little more. First, the supply of persons of normal working age is in most Asian and African LDCs growing by 2.2. to 3.5 percent yearly, and will do so for at least 15-20 years due to past population growth, even if birth-rates now decline. Output-elasticities of demand for labor are around 0.4, or slightly less, in both agriculture and other sectors (Berry and Sabot, 1981, p. 3, and ref. at fn. 1; Dantwala, 1979, p. 1052, and refs.); Indonesia's 0.5 figure for 1961-78 (Lluch and Mazumdar, 1981, p. 41) was unusually high. To keep up with labor force growth, i.e. to avoid falls in the proportion of working-age persons' time spent at work, output would therefore have to grow by 5.5 - 8.8% per year, even if the composition of output did not shift towards less labor-intensive activities (if it did, higher rates would be needed). Few developing countries are achieving such rates. Of course, a falling proportion of working-age persons' time spent at work need not imply a rising rate of unemployment. Participation could decline, or education could grow, or cattle-care or domestic work could expand. Whatever the mechanisms, labor force growth seems likely in most LDCs to reduce average duration of rewarded work for

some decades yet, especially among hired laborers, who increasingly overlap with the poor.

Second, the structure of populations, workforces, and output, in almost all LDCs, appears to be changing in ways that increase vulnerability to unemployment. The urban proportion of workforce is growing, though more slowly than is often claimed; and urban unemployment rates (among the poorest deciles, not only among "educated unemployed") generally exceed rural rates (pp. 53-8). Agricultural output is a falling proportion of GNP in most poor countries; that too tends to cut the employment-intensity of production, and - especially as subsistence output falls relative to GNP - to increase the exposure of aggregate labor to cyclical fluctuations in demand. Finally, women, young persons, and educated non-graduates are a growing proportion of the workforce in most LDCs; all suffer higher average unemployment than men (pp. 51-3).

Third, systems do not adapt smoothly to rising supply-demand ratios in labor markets. More labor-using techniques do not swiftly come onstream; assets are not swiftly redistributed to less-employed workers; and wages are not sufficiently flexible to permit labor income to be shared among more workers in response to the above trends. Partly (despite a powerful denial: Collier and Lal, 1980, pt. 4), wage inflexibility is due to segmented or artificially protected labor markets in public-sector and/or unionised activities. Partly, it is because even private employers in non-union sectors choose to avoid risks and search-costs by continuing to hire, even at apparently above-market rates, the worker with whose productivity they are familiar, or whom they have helped to train or feed, or who is kin: or whom they "screen" by offering higher rewards. And partly it is because of regional or other variations in activity levels such that potential employees would incur major risks and search-costs by moving into areas or activities in hope of better prospects of employment. Whatever the causality, large and deep pockets of unemployment coexist for fairly long periods with sectors, activities and areas featuring considerably higher wage-rates and work-prospects (ILO, 1971, passim).

Finally, trends in each country interact with trends in the world economy. This interaction must have produced some rise in LDC unemployment rates since the early 1970s, as it has in DCs. Many LDCs have a large modern sector and a large exporting sector; both sectors, and especially the intersection between them, are especially vulnerable to (a) fluctuations in DC demand, whether induced by oil prices, protectionism, or monetary contraction, and (b) transfer of labor-replacing technology, chiefly designed by multinational corporations for their DC operations, but increasingly economic in their LDC operations as well.

The poorest are likeliest to be in the most unemployment-prone status group - casual labor - when employed (pp. 50-1). In India, between two comparable enquiries (1964-5 and 1974-5), the incidence of unemployed days rose fastest among male agricultural labor, from 14% to 21%; the rise for all rural male labor, from 13% to 19% was slower, reflecting less exposure among this somewhat less poor group, and indeed not much worse than could be accounted for by the differing climates of the two years (Grawe, 1979, Tables 1-3).

The real reason for concern that unemployment may increasingly affect the poorest, however, rests on logic rather than on the thin evidence. In most Asian and some African LDCs, a growing proportion of

rural people are deriving most of their income from hired labor, especially casual labor. This is not in most cases because of any trend to dispossess tenant farmers; 68/ such a trend is doubtful as a generalization for large areas. It is because (with little good uncultivated land) inheritance and population growth steadily increase the proportion of families which, at equilibrium levels of income and effort, are net hirers-out of labor from the home farm. The supply of unskilled agricultural labor is rising; demand rises much more slowly than population growth; the scope for adjustment without changing the levels of employment is limited; 69/ and avoidance of falls in employment, by means of switches of labor supply into non-agriculture, is limited by the associated higher unemployment rates in urban areas. As education raises skill levels - so that some jobs once done by unskilled laborers are done (better) by those whose parents could afford the direct and opportunity costs of their education - unemployment shifts even further towards the unskilled, under-educated poor and poorest.

Not only, then, is unemployment probably a more important component of poverty than is generally believed; its relative importance is probably increasing.

IV. POVERTY AND LOW INCOME PER HOUR WORKED

We have argued that participation - and duration of labor, including, perhaps increasingly, the effect of unemployment - are more important correlates of poverty than has been claimed in several recent analyses. Nevertheless, differences in the proportions of people in absolute poverty among nations can be traced substantially to differences in the level, or distribution, of labor-productivity and/or of the proportion of product retained by labor. Among families within countries, on the other hand, much poverty (and especially ultra-poverty) is associated with high dependent/worker ratios, unemployment, or non-participation. In other words, a significant proportion of poor families would escape poverty (and a larger proportion of the ultra-poor would escape ultra-poverty) without any rise in their income per hour worked, if only the workers in such families worked no fewer hours per year, and had to support no more dependents, than did the workers in an average family in the same country.

Yet low income per hour worked - as opposed to low ASPRs, high dependency, or low duration of labor - is linked arithmetically (but see fn. 64) to perhaps 70% of the intra-country gaps in income-per-person between ultra-poor and poor, and between poor and non-poor.

The rest of this paper considers only those gaps in wages, or in self-employment earnings, per unit of time, between poor people and other people that are not due to obvious differences in assets, skills, or the occupations to which these give access. We try, that is, to see where, when, and how apparently "standard" unskilled work, done by poor (or ultra-poor) people, is either less productive, or equally productive but worse rewarded, than apparently similar work done by others. Sometimes the reason lies in "discrimination" 70/ (pp. 73-6, 87-8); sometimes in "labor monopsony", as has clearly been the case on Kenyan estates (Collier and Lal, 1980, pp. 179-80); sometimes, more controversially, in "labor-market segmentation", as in urban Malaysia (Mazumdar, 1981, Ch. 9), but perhaps not in urban Kenya (Collier and Lal, 1980, Ch. 12). This paper does not, however, seek to show that the reason for poor people's low wage-rates need lie in any combination of these three. It is not even claimed that, if (say) women are paid less for the same work than men, the cause must lie with these three, and/or other, demand factors, rather than with labor supply. Our concern is with characteristics and correlates of poverty and ultra-poverty - in this case, with low income per hour worked - rather than with the sequence of causes and effects. Obviously, we hope to say something about that sequence, but detailed and definitive statements often made about such causal sequences appear premature, especially in studies of wages. This is illustrated by the very low degree of explanation (r^2 's) of wage-rates usually obtained, even when complex supply-and-demand models with many explanatory variables are tested against big samples with good data - and even in developed countries (Smith (ed.), 1980) but much more so in LDCs (Bardhan, 1982; Binswanger and Rosenzweig (eds.), 1981).

The rest of this paper is planned as follows. First, we examine the evidence for relatively low hourly rewards - and hence, since high duration of labor compensates imperfectly if at all, for relatively severe, widespread or lasting poverty - among:

- demographic groups of workers such as women, children, the old, the single, etc. (pp. 73-8);
- geographic groups reflecting ecology, region, type of village or town, etc. (pp. 78-80);
- work-linked groups - the causal, those without work options (e.g. the landless), those with particular sorts of (not necessarily "easy", e.g. non-strenuous or unskilled) activity, those with smaller employers (pp. 80-6); and
- groups with particular personal characteristics - the less healthy, those from particular castes, tribes, etc. (pp. 87-8).

Second, we look at trends and seasonal fluctuations in the real wage of the poor (pp. 88-91).

Finally, on pp. 91-100, we briefly examine the evidence and theory on alternative explanations of wages in LDCs. Recent synoptic work (especially Bardhan (1982), and Binswanger and Rosenzweig (1981)) helps us to examine these alternatives - subsistence wage, screening, nutritional efficiency, and market clearing with and without employer monopsony - in the light of conflicting evidence, especially about wage-elasticities of labor supply and demand. However, the approach is rather different to that in the above literature. We take, as the two central issues, whether the correlates of poverty go together; and, if so, whether, and how, they can be separated by individual or social action. Our concern here with alternative theories of wage determination is solely for their implications on these two issues.

For example, low wages (or self-employment earnings) of the poor might be due to two sequences. The pessimistic sequence arises if low demand for labor (crudely, "high unemployment") induces low wage-rates in places, at times, or for groups that are then induced (by substitution-effects in which leisure is preferred in view of the bad income and employment prospects) to offer low participation-rates. ^{71/} In that case, the three crucial labor-related correlates of poverty - unemployment, low labor income, low participation - reinforce each other.

There is an alternative low-wage sequence more hopeful for the poor. Suppose, instead, that high labor supply of some groups (or in some places or seasons) leads to relatively low wage-rates - which in turn mean that such groups' labor-supply curve intersects with a demand-for-labor curve at near-full-employment levels of demand. In that case the "low wage" component of poverty is offset by high participation and employment.

The opposite effects of seasonality and landlessness make clear how important it is, for the poor, which sequence is operating. In slack seasons, wage-rates, participation-rates and proportions of participants finding work all decline together (pp. 88 - 9, and Table 2). Seasonal patterns therefore suggest the gloomier view of low-wage poverty. On the other hand, the landless, although often tending to get lower wages per hour - perhaps due in part to price-discriminating local employment practices: see fn. 84 and p. 86, and Collier and Lal, 1980, pp. 179-80 - tend (as poorer people) to show higher participation rates than the landed (Annex VI).

* * *

Hence we here examine what sorts of people, in what sorts of time, place and work, suffer low labor-income per hour. We hope to see whether the same people are likely to suffer unemployment and/or low participation. There are also some hints as to whether such suffering

is "spread" among persons by being specific to particular phases of the life-cycle, or even by temporary migration at any one stage of the life-cycle.

The discussion of wage determination (pp. 91-100) is similarly motivated, not by the usual quest for identifiable wage functions over the whole range, but by the search for correlates of low-wage poverty and ultra-poverty. Which wage-theory - screening, subsistence, neo-classical, etc. - would one like to work, in order to minimize (or "spread") the incidence of poverty and/or to alleviate it? Which theory does work, where, when? How, if at all, can policy interventions increase the proportion of situations in which the "desirable" (poverty-reducing) theories of wage differentiation do in fact apply?

(a) What groups run higher risks of poverty wages?

1. Demographic groups

(i) Women

Women are much likelier to participate in labor, especially wage-labor, in areas or households with high risk of poverty (Pt. II). Therefore a larger proportion of women is found in the workforce of poor provinces, States and areas, than in richer places; and these women tend to come from poorer households with lower skill-levels and opportunity-costs of labor. In assessing whether women are worse paid than men at levels of pay involving a risk of poverty, therefore, it is important to keep one's comparisons within smallish areas. Table 14, for "rural India", has its uses - but certainly does not show that in 1974-5 Indian rural women received only 70% of male wage-rates ceteris paribus. This gap indicates mainly that the pressure on females to raise ASPRs was highest, relative to males, in poor areas. For 159 Indian districts, adult women averaged 80 percent of the adult male daily wage in 1960-61 (Rosenzweig, 1981, Table 2). Even this may be an underestimate; the five districts reporting women as earning only 10-15% of the male wage - the next lowest figure was 40% - should probably be disregarded. An 81 percent average was found in 126 village surveys in various Indian States in 1954-65 (Dasgupta, 1977, pp. 166-7, 93-5), and this is broadly consistent with late 1970s data for Andhra (Wade, 1983, p. 22), W. Bengal and Kerala (Mencher, 1982, p. A-150). As for urban areas, a careful Kenyan study surprised its authors by revealing no wage discrimination against women, when personal characteristics like education and experience were allowed for - though of course non-wage discrimination may deny women such characteristics (Knight and Sabot, 1982). The surprisingly small wage gaps are further reduced by three factors.

First, employed women often work a shorter hired day than men. It was 5-12 percent shorter in six villages of semi-arid Southern India (Ryan and Ghodake, 1980, p. 19). So the hourly-wage gap is less than the daily-wage gap.

Second, there is a significant difference in the tasks performed by hired male and female workers. Part of the male-female wage gap is caused by the different demand conditions (and supply conditions, including required effort) or male and female tasks. Thus Table 14 can legitimately be used to show that the task-specific wage gap is a good deal smaller than the overall wage gap.^{72/} In the six South Indian semi-arid villages, wage differences by sex are a good deal smaller where there is much demand for such peak-seasonal, "normally" female work as transplanting and weeding (Ryan and Ghodake, 1980, p. 19). More generally, and especially in towns, women are much likelier to be forced by their "two roles"

- as homemakers and earners - to select informal or homebased work for earnings: work compatible with child care, but (partly for just that reason) commanding lower hourly pay than more typically "male" tasks (Birdsall and McGreevey, 1982).

Third, women do have considerably lower average body-weight than men - 15% lower in rural India (Lipton, 1983, fns. 27-28). The caloric "cost" per hour worked, the reservation wage of a single own-account worker (especially one spending, say, 70% or more of income on food), and any possible incentive to an "efficiency-wage-orientated" employer to pay in order to induce the worker to eat more and work better (see p.84), would all be lower for a woman worker. While women's tasks are not, as such, less demanding than men's (fn.71), task discrimination does enable these three effects to reduce hourly rates for female-specific tasks relative to male tasks. Crudely, any sex differences in wage - especially task-specific wage - per hour, per kg. of body-weight, in India may be very small indeed; obviously, fat people cannot ipso facto expect higher wages, but task discrimination against a group (women) with lower food needs will, in societies where most wages are spent on food, create the illusion of wage discrimination against that group.

Fourth, one would expect development to reduce the supply of female participants relative to males (pp. 27-9); to increase mobility, education, and non-discrimination; and hence to reduce the wage gap between the sexes. Most evidence confirms the expectation. Although the male-female gaps in Table 14 greatly overstate local realities (because women's PRs are higher in poorer places (pp. 27-9), and rise where male - and thus overall - wage-rates are low (Binswanger and Rosenzweig, 1981a, p. 16)) the table does show that, between 1964-5 and 1974-5, most task-specific gaps in Indian agricultural wages-rates shrank even faster than overall gaps for "all agricultural operations". That is probably also true of State-specific gaps, though directly comparable data are not available; in West Bengal, average daily female farm wage-rates rose from 75.0% of male rates in 1964-5 to 85.5% in 1972-3 (K. Bardhan, 1981, p. 22). Similar trends are seen in all the six semi-arid villages analyzed by ICRISAT from 1975 to 1979-80 (Asokan, 1980, p. 3). Public-sector developmental activity near a village provides that village with differential rises in female wage-rates much more than in male rates (Ryan, 1981, pp. 23-3). This is presumably because such activity enforces equal pay, and because it raises effective demand locally for female relative to male workers (Dandekar and Sathe, 1980). Also, in West Bengal, it was the least agriculturally developed areas that suffered in the mid-1970s the highest, and most fluctuating, male-female wage-gaps (K. Bardhan, 1981, p. 24); this last relationship is itself a recent trend (probably associated with market integration), because in 1954-65 village studies showed the female/male wage-ratio substantially higher in "backward" than in "advanced" villages. 73/

The task-specific and place-specific wage disadvantage of women, in most of rural India anyway, is thus smaller than is often thought - especially relative to requirements. Consistent with this, female-headed households, and households with larger proportions of adult women, are not greatly over-represented among the Indian poor and ultra-poor (Visaria, 1980, p. 55). Rather, the wage disadvantage of women is twofold:

- Lack of access to better-paid tasks and localities; this condemns women to a lower return than men enjoy to investment in human capital (education, health, nutrition) and therefore reduces female access to such investment, and - in a vicious circle - both demand for women to do tasks requiring it, and pressure by women to obtain either the tasks or the human capital;

- Consequent greater retention of women in the sort of work that pays less well and is more prone to seasonal fluctuation (in wage-rates and days worked), combined with rather less mobility than men enjoy.

Women, in the poorest rural groups, find it harder than men to raise wage-rates by acquiring even small amounts of human capital through better education, health and nutrition. There is a good deal of evidence that, even in cereal farming and indeed even among unskilled farm laborers, extra education brings higher wage-rates even with other variables held constant (Lockheed *et al.*, 1980). However, Indian studies show that this effect is substantial for men, but insignificant for women (Ryan, 1981, p. 15; Rosenzweig, 1978; Chaudhuri, 1979). Similarly for health, although disability levels are higher among women, "the effect on [wage-rates] of having a degree of disability was much more substantial" for men in six semi-arid Indian villages (Ryan, 1981, pp. 19-20). As for nutrition, in these six villages - where the average and the dispersion in weight/height ratio shortfalls were similar for day-laboring men and women - it was only among men that increases in wage-rates were significantly associated with better anthropometric status. This may explain "why males tend to have priority in the allocation of limited food supplies in low-income households" (*ibid.*, p. 18 and Table 8), if and when this happens. Another inference is that any remaining task-specific wage-gaps may be partly due to the employer's appreciation that for men, but not for women, more food (bought by higher wages) means higher efficiency (see also Rodgers, 1975). This would reinforce, and is perhaps in part a result of, any effects of women's lower weight on their wage-rate (p. 74).

Good health and good education, plus a high capacity to raise one's wage-rate by using these in suitable work, are likely to confer high mobility upon a group, from jobs and areas of extremely low wages towards places with better prospects. In Northern Nigeria, seasonal volatility of real wages is greater where crop activity and villages are associated with immobile groups of workers (Slade and Candler, 1982, p. 8 and Table). Such immobility is more severe for women, partly because of poorer health and more frequent pregnancy, illiteracy and perhaps undernutrition; partly because improvements in these raise women's wage-rates less than men's; and partly because of family decision procedures. Hence, in West Bengal in 1972-3, women's agricultural "wage-rate suffered the worst seasonal drop" (aggravated by "the steepest seasonal rise" in unemployment), presumably accompanied by lower mobility to better-favored areas; "a female laborer's weekly wage earnings [i.e. rate times duration] dropped ... during the slack quarter to 20% of [earnings] during the busiest quarter", while for male laborers the drop was only to 67% (K. Bardhan, 1981, pp.18, 23, 32, 38). In six villages of semi-arid India, when wage functions are pooled across seasons, far less significant results are obtained for women than for men; this again suggests lower female mobility (Ryan, 1981, p. 13) as is confirmed by a large-scale district survey (Rosenzweig, 1978). Finally, when poor women in Asia and Africa do migrate, they are much likelier than men to move into low-paid, temporary rural jobs with few prospects; men still far outnumber women in townward, longer-term migrant streams (Connell *et al.*, 1976, pp. 42-5). 74/

Women are somewhat more prone to poverty than men, and this has much to do with women's low wage-rates. However - and this finding is echoed for many other groups exposed to poverty - the problem is not principally that women receive lower wages for identical work. In the US South before 1965, and in South Africa today, there were racially discriminatory piece-rates; these have also, in effect, been reported from Nairobi (Sabot and Knight, 1982). However, especially with female employers and private contracts, sexually discriminatory piece-rates seem less likely.

The problem is rather that women, like other groups over-represented among the poor and the poorest, are faced with special difficulties (a) in acquiring the human and/or physical capital needed to compete for the higher-wage, less-unstable forms of work, (b) in using such extra capital, even if they do get it, to acquire the jobs they want, and (c) in moving, readily and for long periods, to work of their choice. They therefore concentrate in places, activities, and sorts of work status (e.g. casual labor: Binswanger and Rosenzweig, 1981a, p. 46) with low wage-rates - for want of access to "better" sorts of activity.

The purpose of this subsection is to argue, not that women suffer little discrimination, but that such discrimination usually takes other (normally more harmful, less avoidable) forms than the payment of significantly lower wage-rates for similar work. Customs that reduce women's ASPRs, discussed on pp. 30-7 above, raise female (and male) wage-rates (Binswanger and Rosenzweig, 1981a, p. 9) and may well reduce the differential, judging by the low figures for Moslem villages in West Bengal (Mencher, 1982) - but they do not reduce overall discrimination! Legal wage minima, too, often embody old norms of discrimination against women far in excess of what now normally prevails in labor markets (Mencher, 1982, p. A-155). Women's poverty problem may be, not greater incidence, but harder escape. Customary rules of seclusion, effectively preventing women from competing for men's jobs (Longhurst, 1981, pp. 14-15, 18-19, 20-21), are an extreme case. Here and in similar cases, we might expect women - like the lowest castes in Indian villages with hereditary job assignment (Lipton, 1983a) - to feature lifelong poverty for most of the poor x percent. A point survey might not show much below x percent of men poor, but the better prospects of escape would make for higher male turnover, perhaps linked to the life-cycle, between poor and non-poor status.

(ii) Children, young, old

In 1975-77 in six semi-arid South Indian villages, children earned about 55 percent of adult male daily wages, for a working day about 90 percent as long (Ryan and Ghodake, 1980, pp. 19-20). The all-India wage ratios for 1974-5 (Table 14) are very close to the 55 percent figure, and this large sample suggests that in rural India children's daily wage-rates, like women's, fell less far behind male rates in 1974-5 than ten years previously.

Even more than women, however, children are likelier to be a major source of income in poorer households - and (Binswanger and Rosenzweig, 1981a, p. 45) to be in greater labor-supply and lower demand where adult wage-rates are low. The rather high (and rising) ratio of children's wage-rates to men's - especially when lower effort and efficiency, greater supervision requirements, lower food needs (compare p. 74), and lower duration are allowed for - again underlines the fact that national averages (Table 14) overstate local wage differentials. Probably, too, Ryan's very poor villages featured

usually high differentials . As with women, so with children: wage discrimination, in the same place for the same task, is probably not a major cause of poverty, at least in rural India.

The general age-wage relationship is more complex. One effect of experience and education is that male wage-rates increase between the ages of about 15 and 45, even for farm day-laborers. In rural West Bengal (1977-8) the turning point came at age 43. The downturn after that age is perhaps because of reduced energy or initiative. ^{75/} Though the inverse-U effects are highly significant in this large West Bengal sample, r^2 is small, and there may be hidden variables. However, the inverse-U is confirmed by Ryan in six South Indian villages, "most strongly ... in the [three] most commercialised [, which] the new agricultural technology has touched most"; the rising wage trend (until age 42) for men, and the subsequent fall, are both significant at 5% for men, but not significant (turning point at age 55) for women. For 753 wage-earning male household heads in rural Guatemala in 1974-5 - allowing for the level of education, literacy, and the remoteness of the village - the inverse-U again proved highly significant, with wages peaking at age 43 for non-farm workers and 31 for farm workers. ^{76/}

To examine the effect of the inverse-U on poverty, we should again ask: are the lower wage-rates "caused by" relatively low demand for the labor of the affected age-groups (higher "unemployment"), and do they lead to relatively low participation rates in these groups; or are they "caused by" relatively high supply of labor (higher participation) in the affected groups, which therefore enjoy relatively high employment because the demand curve for labor is intersected by a higher-quantity, lower-wage supply curve? The evidence on participation-age relationships is pretty thin. Indonesian male rural participation rates rise fairly sharply to age 25-44 and fall gently thereafter (Lluch and Mazumdar, 1981, p.45). Figures for several South and East Asian countries show unemployment rates clearly higher for persons aged 20-24, and much higher for under-20s, than for others (though differences are most striking for urban areas, and for women) (Mazumdar, 1981, pp. 271, 276-7). So the impact of the age-wage inverted-U, in concentrating poverty in high and low age-groups, (a) could well be reinforced by a participation-age inverted-U, presumably in part an indicator of positive price-elasticity of labor supply; (b) is certainly similarly reinforced at the "young" end by high unemployment rates; ^{77/} but (c) may be modified among elderly workers by relatively low unemployment.

All this, of course, relates only to the issue of whether adults in "low-wage" age-groups - say 15-25 and over 45 for men - tend also to have unfavorable rates of participation and employment. The exposure of such adults to poverty, however, depends on the total income and requirements positions of the households to which people at different ages tend to belong. This would also need review before the life-cycle poverty impact of the inverse-U age-wage relationship could be assessed. However, unskilled assetless workers aged 15-23, if they have independent households and several children, seem relatively likely to suffer total labor environments - wage-rates, participation, employment prospects - conducive to household poverty.

(iii) Other demographic issues

In Bombay (Mazumdar, 1979, p. 23), one sort of workers with dependents (WD) - married workers - receive higher wage-rates than single workers (WS), apparently because they are believed to be more reliable. This result might disappear if age were held constant; certainly it was not replicated, for either sex, among the (considerably less poor) workers of Bogota and Cali (Mohan, 1980, p. 83).

In rural areas especially, "nutritional efficiency wage" theory makes unclear predictions. On the one hand, WD "will need higher nutritional wages" per day to attain a given level of nutrition and hence of working efficiency 78/; so - especially if slow work involves non-labor costs (e.g. tractor hire) or output losses, and/or if in achieving a given output per year "more laborers" is an inadequate alternative to "better" laborers - WS might well get lower day-rates. On the other hand, it pays employers better to raise day-rates for WS than for WD, because WS do not share with relatives any extra food bought out of extra wages and are thus likelier to convert it into more effective work per day. On this argument WS would get higher day-rates, especially if labor is plentiful, undernutrition common, and long contracts (or rehiring) general (see fn. 78). There is even a third hand: a common day-rate for WS and WD might be determined (a) institutionally, or (b) because employers cannot easily discover whether a candidate worker is WS or WD, or (c) because for day-laborers the employer cannot readily "catch" any efficiency gains from better nutrition, or (d) if employers are quantity adjusters separately in perfect markets for WS and WD, "buying" days of each until the (diminishing) returns to a marginal day of WS and of WD are equal to each and to the common wage.

These possibilities are all consistent with standard maximization assumptions, though some require various, quite plausible, constraints on perfect mobility or perfect knowledge. If those assumptions are modified, our expectations become still cloudier. For example, employers might pay WD more, even if short-run profit was maximized by hiring a WS, because (a) the village was a "moral community" (Paige, 1975, and Popkin, 1979); or (b) they preferred a local (even if WD) to an outsider (even if WS) to retain local loyalty, in case labor was needed in an emergency (Rudra, 1982); or (c) they wanted to ensure that WD labor could support families and reproduce labor-power, though this assumes a very long view, highly localized labor, and employers' capacity to distinguish, and wage-discriminate among, workers with different requirements to support dependents.

How does this all this affect the poverty-labor nexus? Will poverty be less, if WD are offered higher wage-rates than WS? It might appear so, especially since big families tend to be poorer, and small children are likelier to be damaged if severe poverty leads to undernutrition. However, the interactions with other components of the LU identity also matter. The ASPR will be bid up with the wage-rate, especially for female WD; but hired employment of WD will tend to fall, if employers know they must pay more per efficiency-unit than for WS.

Evidence is scanty, but shows no apparent distribution in rural Asia between daily rates for single and married workers (Binswanger and Rosenzweig, 1981a, p. 9). This neither refutes nor confirms "efficiency wage" theory; and more evidence on WS-WD wage structures is needed to determine the effects on poverty.

2. Geographic variables affecting wage rates

(i) Region

"In Indian rural labor markets [for each sex] the chief source of wage rate variability appears to be geographical rather than personal ... annual averages of daily agricultural wages computed within sharply defined categories such as weeding, reaping, plowing, etc. ... vary significantly across Indian districts" (Rosenzweig, in Binswanger and Rosenzweig, 1981, Ch. 11, p. 28). Since there is no evidence that such variations are offset by opposite variations in employment prospects (indeed, the reverse is true

(P. Bardhan, 1982, pp. 88-9) - or are caused by regional differences in workers' skill levels - we must suspect geographical immobility of labor. That, in turn, suggests that some important aspects of poverty are permanent rather than life-cyclical; if they were life-cyclical, people with low wage-rates in localized labor markets could, by quite minor adjustments to the cycle (e.g. marrying a migrating a year or two earlier from poorer places), bring about much more equal rates. Indian areas with modern irrigation showed much higher real wage-rates in 1972-3, both in a large West Bengal data set (P. Bardhan, 1982, p. 3) and a survey of villages in eight different, smallish areas in Andhra Pradesh.

The latter survey (Parthasarathy, 1977, p. 41) also shows the linkage, to wage-rates, of an area's type of irrigation. Villages in canal-irrigated regions (averaging Rs. 3 per person-day over the year) fared much better than villages with tank and well irrigation (Rs. 1.8). (A relatively favorable impact on overall poverty of canals (but also of simple wells), and less beneficial impact of tubewells or tanks, was identified among districts at all-India level: Narain and Roy, 1980.)

Also, the geographical wage differences in Andhra very closely reflected differences in output-per-person. The village average ratios of the wage-rate to the value of daily labor-product range only from 15% to 19% (a range of 1.2 to 1), but the productivity of labor varies with a range of 2.3 to 1 (Parthasarathy, 1977, p. 41). In rural Andhra Pradesh at least, it appears to be regional differences in techno-economic scope for agricultural development rather than in the degree of labor-market distortion, that (in combination with labor immobility) account for 79% the persistent and large wage differences.

Among bigger regions, wage gaps confirm this "technological" explanation of cross-sectional differences in wage-levels. In rural Gujarat in 1968-9, 77% of inter-district wage-rate variance was associated with per-acre variation in pumpsets (positively), agricultural laborers (negatively) and tractors (negatively, but not significant) (Misra and Gupta, 1974, p.32). In both 1956-7 and 1966-7, some 50-60 percent of inter-State variance in Indian agricultural money wage rates is associated with variations in (a) irrigated proportion of net sown area (positively) and, (b) laborers as proportion of agricultural workforce (negatively) (K. Bardhan, 1973).

However, trends in regional wage gaps - i.e. in the degree to which they are explained by local technology, economic geography, and labor immobility - do not seem to be affected mainly by such factors. The dispersion of male farm laborers' wage-rates among Indian States shows no clear trend between 1950-1 and 1970-1; coefficients of variation shift about substantially from year to year in the 26-40% range, but the "dispersing" impact of more rapid growth in initially more prosperous areas (Punjab, Haryana) seems over the medium run to be about balanced by the "converging" impact of mobility of workers towards higher-wage areas (Lal, 1976, pp. A. 54-5). 81% Within the Punjab - a highly-developed and fast-developing State - real wage-rates for male farm laborers, for each specific operation, showed clear convergence among districts between 1951 and 1977 - except (due to the differential impact of labor-replacing reaper-binders and threshers) at harvest time (Bhalla, 1979, pp. A. 58-9).

To summarize the largely Indian evidence the agricultural productivity of a rural region, and its laborer/land ratio, play a large part in determining whether it offers wage-rates sufficient - given the correlation of less-low wage-rates and lower unemployment risk (P. Bardhan, 1982, pp. 88) - to permit most laborers to avoid poverty. (As is suggested by the strong cross-State correlations of rural and urban unemployment rates, this "slops over"

into urban wage differences; depressed rural regions are likelier to expel workers who seek out and tolerate low-wage work in a nearby town, because their alternatives are less attractive.) However, while such supply-and-demand factors explain much interregional variation in wage-rates and poverty at any moment, they leave unexplained why migration is so bad at equalising wage-rates (which are one major component of poverty risk) across regions over time. It is not, by and large, the ultra-poor who can afford the risks and costs of job mobility that significantly enhances wage-rates (Connell et al., 1977; Lipton, 1982, esp. p. 201).

(ii) Locality

Apart from a region's ecology and man/land ratio, do village characteristics have much relationship with wage-rates? In an all-India 1970-71 sample of rural wage workers, "village size" was the only clearly significant factor associated with variance in wage-rates for the 522 women sampled; it was one of three (the others being "weather" and "presence of factory") for the 900 men ($r^2 = .25$; Rosenzweig, 1981, Table 7). 82/ For 470 villages in rural West Bengal in 1977-8, non-agricultural activity was associated with higher average daily male farm wage-rates in a village; this again suggests the importance of factory or other options, but again r^2 is very low, .12 (P. Bardhan, 1982, pp. 6, 42).

How important is inter-village wage difference, within a fairly contiguous area of not too drastically varying ecology? In 110 villages of West Bengal in 1979, the mean wage for daily male harvest labor is worth 469 grams of rice per hour, with a coefficient of variation of 24% - accounted for mainly by varying labor/acre ratios (not by degree of agricultural backwardness) and strongly associated with the harvest-time unemployment rate (P. Bardhan, 1982, pp. 88-9). This 24% seems big, in such a densely populated State, compared with 25-40% cross-State CVs (fn. 81), across much more varied ecologies (and much greater distances to inhibit wage-equalising mobility). One study suggests that inter-village CVs are larger for female wage-rates (Ryan, 1981, p. 25).

Within a town, workplace and residence are also associated with likely wage-rate. Causation probably runs mainly from low wages via poverty to slumdwelling. In Bogota and Cali, however, residence in poor areas has been associated with inadequate schooling, which in turn helps explain a high incidence of low-wage work; but the effect is much weaker for poor than for better-off workers (Mohan, 1980, pp. 73-4).

3. Work-linked low-wage groups

(i) By type of employer

To the extent that low wage-rates are associated with poverty, it is important to enquire whether the poor can diversify away from low-wage activities. This means, among other things, finding who employs the poor. Do some types of employer pay especially low unskilled wage-rates? The conventional wisdom - with some supporting evidence - tells opposite stories for two parts of the economy.

In the urban formal sector, relatively high unskilled wage-rates are supposed to be associated with the cluster: "big firms, foreign firms, firms with a relatively high capital/labor ratio". If such firms pay

wage-rates as low as possible - even at the cost of an unscreened, uncommitted workforce - average cost of production is likely to rise; the cost-cutting effect of lower wage-rates, with a small workforce and much equipment, is outweighed by the cost-raising impact, on capital utilization and efficiency, of rapid turnover, "unrest", and uncertainty among laborers dissatisfied with their rewards. Also, a big formal employer is less likely than other employers to recruit most workers via family or localized contacts or methods. Big formal employers can therefore expect greater advantages than others from offering somewhat higher wage-rates to "screen" applicants, and to retain screened employees.

In the informal sector, especially rurally, the opposite pattern is believed to apply. Larger farms employ landless workers (who have few alternative ways to turn time into income) cheaply. Smaller farms, especially with different seasonal peaks, employ each other's families at a higher real wage per hour. Similar price-discrimination, against assetless employees with low opportunity-cost of labor, is often claimed to occur in respect of "outwork" at home by garment-workers (for firms with some monopsony power in the labor market) as compared with the in-factory wage paid by such firms.

Why, in either case - formal or informal - should employers go on buying expensive labor as well as inexpensive labor? It is unwise simply to attribute the poverty of the less expensive laborers to wage-discrimination by one or other type of employer. There are other models under which such employer behavior is rational. However, few economists would accept that wage-gaps among employers of more than, say, 1.5 to 1 can be explained by such models. Much bigger gaps - say 2:1 for the same labor-products - could hardly last; they would create such attractive prospects for small urban-formal firms (or big rural-informal firms) to seize the entire market - because their big urban-formal (or small rural) rivals pay too much for labor, and hence are forced to price themselves out of product markets. Even while the gaps did last, workers would migrate, and/or misreport (where possible) characteristics subject to wage discrimination. Large, persistent wage-gaps - unless particular workers are held to the worse-paid work, and capital is maintained in the high-wage firms, by some sort of force or socio-religious sanction - must normally mean that the high-wage firms are buying a different and higher-grade sort of labor: more reliable, experienced, strong, skilled; or more likely to stay with the job and learn by doing.

Offering a wage better than the minimum needed to get a job done - or terms of contract tantamount to such a wage offer - may "screen" applicants for those characteristics, or may (as in the "morale" version of efficiency-wage theory: Binswanger and Rosenzweig, 1981a) permit, help, or motivate their development. Moreover, employers are willing to bear some "costs of discrimination" in favor of their relatives, co-religionists, home-townspeople, etc. Even if wage-gaps traceable to these two factors were as small as 1.2 to 1, the fact that some sorts of employer clustered around the "1" could well help to concentrate the families of their lowest-wage employees into poverty groups. Have we evidence about what sorts of employers, if any, these are?

In the urban-formal sector, domestic firms appear to offer somewhat lower unskilled wage-rates, even ceteris paribus. In 1974-5, Manning surveyed wages in weaving, kretek (local smoking material) and cigarette firms in Java. Among 69 domestically owned firms, he found wages of 28 rupiah per hour for unskilled operatives in non-mechanized firms, 37 Rp/hr. in mechanized but labor-intensive firms, and 63 Rp/hr. in capital-intensive

firms. The 13 foreign firms paid Rp. 95 per hour. "The analysis ... is for fairly homogenous skill groups ... Controlling for [personal] variables [viz. sex, seniority and education,] foreign ownership [still] exerts a strong net effect on [wage-rates]; the [beta] coefficient was reduced from .27 to .20" (Lluch and Mazumdar, 1981, pp. 90-3). However, these are exceptionally high unskilled differentials. Unskilled formal-sector wage-rates in Malaysia were only 7 percent higher in 117 foreign establishments than in 119 Malaysian ones (Lim, cited in Squire, 1979, p. 67). 83/

Capital-intensity, as one would expect, militates against low unskilled rates. In Indonesia (while strongly correlated with foreign ownership) it was associated independently with high unskilled rates. Smallness of firms (as measured by numbers of employees) did not make much direct contribution to these, but acted as proxy for domestic ownership and labor-intensity, which did (Lluch and Mazumdar, 1981, pp. 90-3). In Malaysia, also, plant size on its own did not contribute significantly to earnings levels for unskilled workers (who included most urban workers from poor households) (Mazumdar and Ahmad, cited in Squire, 1979, p. 67).

If they have imperfect knowledge, it makes sense that foreign firms, and domestic firms with a lot of capital per worker, should pay somewhat higher urban formal rates even for unskilled labor. It is not so clear why, as such, big firms would. To some extent they may be likelier to abide by legal wage minima, and to rely on non-family labor. A complication in several countries is likely to be the effect, observed in Nairobi, that firms owned by wealthy racial minorities (or foreigners) are likely to offer higher unskilled wages largely confined to their own ethnic groups; since such firms are also liable to be bigger, more formal, more capital-intensive, etc., another, ethnic, element is added to the "cluster" of characteristics associating particular sorts of firm with "non-poverty" unskilled labor (Sabot and Knight, 1982).

In the rural sector, however, both anthropological observation and economic quantification suggest the reverse pattern. Big farmers employ the landless and near-landless at minimal (market) rates, while medium-to-small farmers employ each other at higher rates. In India, Rosenzweig shows a significant (though small) negative impact of Kuznets's indicator of inequality of landholding upon wage-rates, especially for adult males; he then constructs structural supply and demand equations suggesting this "may partly reflect the monopsonistic restrictions of wages and employment by relatively large landlords." 84/

Far from being a characteristic of extreme "backwardness", such wage disadvantages for the very poor in Java appear to be intensified by the increasing formalization of labor contracts that is brought to farming (by growing man/land ratios, by urban policy bias against the subsistence sector, or by "capitalist" production (Kikuchi et al., 1981, pp. 7-8)). Closely related phenomena in India are the greater inequality of wage-rates by sex (Dasgupta, 1977, pp. 193-4) and by age (Ryan, 1980, p. 17) in "advanced", commercialized villages - where formal employment is, of course, much more prevalent.

(ii) By occupational status of employee

Casual laborers, given the skill level, tend to be poorer than laborers on long-term contracts. This is partly due to such laborers' greater exposure to unemployment, and to their greater concentration among young workers (near the bottom of the \cap -shaped wage-age function) and women (victims of task

and access discrimination). The evidence of greater poverty among casual laborers implies that such factors are, at least, not outweighed by a possibly higher wage-rate. Indeed, most evidence suggests a rate lower than for contract workers. But the story is far from clear.

On the side of labor supply, workers might choose longer-term contracts at lower rates, trading in wage-expectations for job-security. Or younger, stronger workers, able to walk far in search of work, might be likelier to opt for day-labor. Such factors would make for higher wage-rates per casual-day than for attached workers. Conversely, workers who are unable or unwilling to commit themselves to steady work could become low-wage drifters, earning less than regular employees.

As for the employer of unskilled labor, he could prefer attached labor - and be prepared to pay more for it - to obtain prior claims in emergency (Rudra, 1982), in which case the day-rate is partly a retainer; or to avoid uncertainty about labor quality (screening); or to raise morale and reduce labor unrest; or to retain skills learned on his particular sort of equipment or land; or to feed a worker regularly and obtain higher quality of labor. Conversely, an employer might be prepared to pay less, per day of attached labor, than for casual labor in order to avoid having to hire when demand was slack: only one argument against many, but a powerful one, referring to a common situation.

A sample of 4118 Indian households in 1968-71 showed average wages somewhat higher among daily workers, "attributed to a security discount" (Gaiha, 1982, p. 21). However, a survey over such a large area - and over all seasons - inevitably runs together regional and household factors. "Advanced" areas may well show more polarization, landlessness and day-labor, but also higher incomes overall. Moreover, casual workers are drawn into the labor force much more in agricultural peak seasons than in slack seasons; casuals may get lower wages than others in each season, yet their average day-wage over the year can be higher, because the incidence of "peak-wage" days is greater in casuals' work-year than in other workers'. I have found only one study suggesting that day-labor earns higher rates, in a given place and season, than similarly unskilled monthly or annual contract-labor: in a typical study area in Thailand in 1975, respective rates were 25 baht per day, 200-300 b/month, and 1800-2500 b/year (Kitahara, 1977, p. 149). Work in 1975-6 in Bangladesh suggests that, at normal yields of paddy, contract rates are 15-20% above rates for day-labor; but that at exceptionally high yields over 3 t./ha., the day-rate is 5-8% above the contract rate (Clay, 1976, pp. 432-3).

However, much more usual is the pattern found in the six "ICRISAT villages" of South India. There, "daily incomes are generally higher from contract jobs, although [the former do] often involve longer hours and/or more strenuous work"; monthly wages of regular farm servants exceeded the equivalent earnings of day-laborers by 25-150% in five villages, and fell 20% short in only one (Binswanger, Doherty *et al.*, 1980, p. 5 and Table 4). Wade's Andhra village (Wade, 1983, p. 28) showed a similar pattern. Similarly, among 1483 Kenyan small-farm households in 1974-5, regular employment provided only 9-11% of income for the three poorest household groups (0-249, 250-499 and 500-999 shillings per adult-equivalent), but 15-25% in the four better-off groups; casual employment income followed the opposite sequence, declining steadily from 18.4% of income (or 26% of non-transfer income) in the poorest households to 2.8% (2.9%) among the better-off (Heyer, 1980, p. 24;

Smith, 1978; Government of Kenya, 1977). Urban casual labor in Kenya also earned less than workers on longer contracts at comparable skill levels (Collier and Lal, 1980, p. 178).

Empirical work in West Bengal also suggests that employers continue to hire, even at a higher daily wage, permanent workers, on whom they have a standing prior claim in emergency (Rudra, 1982). As a rule, too, casual tasks are probably less strenuous (and therefore less liable to be improved by extra food at work) and less skilled (and therefore less liable to be improved by experience) than tasks associated with permanent labor. The differentials in favor of attached wages are not likely to be big, however, because both employers' collusion (Binswanger and Rosenzweig, 1981a, pp. 82-3) and linkage of employment with debt burdens (*ibid.*, p. 7) are almost completely confined to attached-labor relations, and might be expected to reduce relative wages there.

It is worth considering a little further effect of efficiency-wage theory on the relative adequacy, to prevent poverty and associated hunger, or casual and attached wages. "In a substantially larger percentage of longer-term [than of] daily contracts, the wage includes meals" (P. Bardhan, 1982, Ch. 4, p. 30). Efficiency-wage theory appears to predict this, because only for long-term employees can the employer "capture" better nutrition as higher productivity. Moreover, it takes days, probably weeks, for extra food to be "felt" as better work; to provide a meal at work, therefore, has a yield only for the employer of long-term employees (Binswanger and Rosenzweig, 1981a). However, nothing much impedes fungibility of food - i.e. stops such employees from using such meals to replace purchased foods, or from eating less at home and feeding their families more. Employers gain nothing then. What efficiency-wage theory really predicts, therefore, is a higher total wage-rate (cash and kind) for long-term workers (and perhaps - but see pp. 77-8 - employer preference, among such workers, for the single). Such factors, and any remaining greater propensity by employers to provide contract workers with wage-in-kind (on the assumption that it is not fully fungible because such food is "cheaper" than at retail, and/or likely, for the worker, to be additional to home meals), could concentrate low-wage poverty among casual-labor households in rural areas.

In cities, the employer is willing to pay more for a permanent, committed worker than for a day-laborer who may return to the village before he "learns by doing". In Bombay, supply factors also reduce the relative wage of temporary or casual workers, who do not have to be induced to uproot their families and pay the costs of lasting urban settlement (Mazumdar, cited in Squire, 1979, p. 73). It had long been the practice in Bombay for casual labor in textiles, often recruited only for the slack season, to be paid substantially less than regular labor for similar tasks (Morris, 1975, pp. 99-100 (fn.), 172).

Supply, demand, and institutional forms (the unionization of many permanent workers) normally ensure that, in towns, long-term labor is better rewarded than casual labor. The rural position, as we have indicated, is more complicated. "Attached workers" include especially good performers, sought and bought by big farmers - but also ethnic minority workers on plantations, laborers working off a debt, camps of migrants with depressed caste or tribal status such as the Voddas (Epstein, 1973), and others with relatively little alternative work or bargaining power. Casual laborers are also much likelier to be women than are long-term employees, and are also probably likelier to be young. The overlap of casualness with all these factors tending to reduce reservation price, rather than casualness as such, may be

the main influences on the wage gap between casual and attached workers.

Finally, in rural areas especially, the casual-longterm wage gap depends on local factors, such as the seasonality of work and the incidence of landlessness, that greatly affect the "balance of power" between the two groups of employees. For example, casual workers are likely to receive higher wage-rates (compared with year-round laborers) where they are pulled into the hired workforce by seasonal peak demand for work; but lower wage-rates, where they are pushed into it by the declining productivity of their small owned holdings.

Whether or not casual workers earn less per hour than long-term employees, they very seldom enjoy a wage-rate advantage comparable with their disadvantages in respect of the duration of both participation and employment. Though rural households in all-India in 1968-71 averaged a somewhat higher day-wage for casual than for attached workers - for the reasons suggested on p. 83 - the incidence of poverty in casual-labor households was considerably higher (Gaiha, 1982, p. 21). Casual employees' families, especially if their dependency ratio is high, are much more likely than full-time employees' families to be found among the poorest decile.

(iii) By type of activity

Usually, unskilled labor earns less in agriculture than in construction, and in construction than in manufacturing (Squire, 1979, pp. 57, 59). Data biases, notably the omission of medical and family benefits from urban formal wages, increase the size of the gaps above the 1.3-1.5:1 typically reported. Rurally, too, eight careful sets of micro-studies in diverse LDCs reveal that about 25% of (non-domestic) working time is typically spent outside agriculture - but yields about 33% of income, a 1.5 to 1 gap in favor of non-farm rewards per hour (Chuta and Liedholm, 1979).

Why doesn't every unskilled worker quit agriculture? How can these gaps persist? Partly it is the "ecological" issue once more; wage-rates are higher where there is much non-farm activity, and hence it drives up unskilled farm wage-rates (P. Bardhan, 1982, Ch. 5, p. 6; Rosenzweig, in Binswanger and Rosenzweig, 1981, Table 8), but mobility to such often distant areas is not easy.

Within a sector, little sign of wage discrimination by activity can be found for each sex in the Indian data. In eight Andhra Pradesh villages in the early 1970s, "when allowances are made for hours of work, wage-rates stand high only for arduous operations", and during brief un-anticipated peaks before migrant labor responds (Parthasarathy, 1977, pp. 42-3). Surprising is the apparently large gap between wage rates in rice work and on other crops, and between agriculture and other activities, in rural Java. In one careful village-study, agricultural wage-labor earned 20-36 Rp/hour, while "handicrafts, minor trading, sharecropping palm trees, etc. ... earned 6-10 Rp/hour", and numerous similar instances have been cited. They turn out, however, to be ways of favoring the extended kin-group - rationalized, no doubt, by associating its employment with special types of allegedly less-unskilled work (Lluch and Mazumdar, 1981, pp. 76-83). Such favor is a special case of the same sort of discrimination, rationalized as activity discrimination in the context of socio-religious sanctions, as the Indian caste system of assigning work. However, these extreme wage disparities between jobs with similar skill requirements, in the same locality, seem unique to rural Indonesia.

(iv) Rich vs. poor, cultivators vs. landless

What do the links between economic category and wage-rate suggest about the association, if any, between poverty and low wages? The answer is not obvious. Until asset ownership per household passes a certain threshold, its linkage to "escape from poverty" is weak - partly because smaller (or zero) holdings are linked to small family size (Januzzi and Peach, 1979). For big samples in Western India, Visaria showed that no relationship existed between poverty and holding size upto 5 acres (Visaria 1978, pp. 14-5). Bhalla and Chadha obtained a similar result in the Punjab (1982, p. 871), but in the ultra-fertile deltaic lands of Andhra Pradesh even the smallest of ownership holdings significantly reduces the family's risk of destitution (Parthasarathy and Rama Rao, 1973, p. A-129). Probably landowners, even small ones, tend to achieve the same level of income-per-CU with less constraint, effort, seasonality, search and insecurity than landless laborers. However, it remains incorrect to argue, for example, from "landless earn lower wage than landed for similarly unskilled work" to "landless are poorer even than small landed", even on average. In some places, significant proportions of landed people have little, or very bad, land.

Nevertheless, landless people on balance usually have lower opportunity-costs of labor than the landed, less access to better-paid work - and hence somewhat lower wage-rates, though the margin is not large. We have seen, both in Java and India, a pattern of small-to-medium farmers who hire in each other's families - nowadays usually for cash and kind, though some exchange-labor, attan in Sri Lanka or varangula in Maharashtra, persists - while the landless seek work from bigger farmers at somewhat lower daily rates; it is plainly a matter of lower wages for the landless, not of a general inverse correlation between wage-rates and size of holding. 85/ The higher ASPR of females - but not significantly of males - in landless (and in poor) households, combined with lower female wage-rates, partly accounts for what is easily misread as wage discrimination against the landless (Parthasarathy and Rama Rao, 1973, p. 129); but the impact on the worse-paid households remains damaging.

Economists too readily reason such phenomena away as income-effect. Indeed poor households, needing income more (and having higher dependency ratios), push out labor supply further - into seasons, groups of participants, tasks and distances where wages are lower, prospects of work worse, jobs harder and dirtier. However, it could as well be argued that the inevitable acceptance of marginally-rewarded tasks causes poverty, as that poverty induces its victims to accept those tasks. Conversely, in small-scale urban manufacture in Java, "many more potential semi-skilled workers are able to [learn by doing to] perform the job than those who in fact get selected, and the return to their firm-specific skill has an element of rent" (Lluch and Mazumdar, 1981, p. 95); those not selected remain unskilled, and are then driven to increase working effort and time at, respectively, the "intensive" and "extensive" margins of self-exploitation. Especially if this process means that children must either work themselves (and sacrifice schooling) or - because both parents are employed - go short of potential stimulus, it can lock the poor into a cycle of deprivation (Birdsall and McGreevey, 1982).

4. Personal characteristics affecting wage-rates

(i) Caste, tribe and race

The incidence of poverty in particular ethnic, etc., "outgroups" can be increased by discrimination in three ways. First, an employer prejudiced in favor of a certain sort of employee may pay for his taste (Becker, 19) by offering them a higher wage, thus damaging the outgroup by wage discrimination. Second, access to higher-wage tasks or skills, or training for them, may be denied to the outgroup by occupational discrimination. Third, the outgroup can be brainwashed into regarding only low-paid or menial work as appropriate, as in Aurepalle village, Maharashtra, where Madiga castemen - plainly skillful and high-achieving in other contexts - had by their own acceptance of "inferiority" locked themselves into low-wage attached labor as farm servants (Binswanger, Doherty *et al.*, 1980, pp. 21-4): such internalized discrimination is seldom measured separately.

Especially where - as in most of Asia and Africa - discrimination is illegal, one might expect it to disappear in "Darwinian" fashion; firms making a particular product, if they insisted on paying more than their rivals for labor (or on selecting skilled workers by race, etc., instead of by ability), would either go bankrupt or - if supernormal profit rates prevailed in the industry - would find they made more money by selling their assets to non-discriminators, than by staying in and discriminating. Yet, even in advanced urban places, this process is hard to trace, or at best slow and incomplete: perhaps because outgroups remain the victims of internalized discrimination. In Nairobi, holding constant variables affecting productivity, Knight and Sabot (1982, p. 82) found significant discrimination against Africans, especially by Asian employers. As between scheduled-caste and other working immigrants to Delhi during the previous decade, "of the gross [monthly] earnings differential of 17%", all but 29 (15%) was accounted for: 0.4% by differences in wages (and 3.4% by differences in occupational structure linked to personal skills); 6.7% by wage discrimination; and 4.5% by discrimination in occupational access (Bannerjee and Knight, 1982, p. 23).

What of rural evidence? In six semi-arid villages of S. India, male workers from middle-caste households (e.g. shepherd, weaver, non-harajan farm laborer castes) received wage-rates about 6% lower, and scheduled-caste households about 11% lower, than did workers from the highest-ranked caste households (e.g. Maratha or Reddy landlord) apparently for similar unskilled work (Ryan, 1981, p. 24). No significant differences were observed for women. Across 159 Indian districts in 1960-61, however, a rise from 30% to 35% in the proportion of Moslems (on average 33%) was associated with a 5% rise in the female wage-rate, but the effect on the male rate, though also positive, was not significant (Rosenzweig, 1978, pp. 856-7). Probably the "Islamic" fall in female labor supply outweighed the effects of discrimination in mixed villages, and acted in their absence in villages with overwhelmingly Moslem populations.

A study of poor villages in Gujarat questions the standard association between backwardness and wage-discrimination. In 1972-3 (a bad crop year), it was in non-farm work, rather than in unskilled farm labor, that tribals had to work longer than caste Hindus to earn the same wage (Sambrani and Pichholiya, 1975, p. 87). Urban evidence tends to confirm the persistence of wage discrimination. For unskilled work in light industry in Bulsar, South Gujarat, in 1974, 37% of the 93 tribals and scheduled-caste workers interviewed earned below 4 Rs/day, as against 23% of the 37 koli Hindus (Streefkerk, 1981, p. 725). In Delhi, scheduled castes gained less wage-rise than others from urban experience or from

integration into formal employment (Bannerjee and Knight, 1982, p. 17), again suggesting that modernization may intensify caste and ethnic - like sexual (pp. 20-1) - discrimination through an analogue of "Sanskritization" (Srinivas, 1962; Myrdal, 1968, pp. 1136-7) rather than destroying it through economic Darwinism.

These few pieces of evidence suggest a clear but small impact of race, caste and tribe on wage-rate. As with age and sex, these factors probably influence choice of work and training more than they do wage-rates; and the effect on wages can be overborne by "discrimination-neutral" market effects: those Moslem women whose poverty drives them into unskilled work may earn more than Hindu women in similar circumstances, because of the greater shortage of women willing to work outside the homestead in Moslem areas. However, wage discrimination modestly supplements other effects in raising the likelihood that members of some minority castes, tribes and ethnic groups will be poor. It is of course true that this likelihood is ipso facto reduced for the other groups. However, since the "victim" groups usually remain the same (and relatively poor) for several generations, poverty is more unevenly distributed by this process, and intensified among those worst hit, so that the Sen index of poverty is increased.

(ii) Health and disability

The obvious effect of ill-health on "poverty via labor" is through withdrawal from the workforce. There is little evidence about the effect on wage-rates. In six semi-arid villages of South India, some 7% of male day-laborers, as against 14% of female day-laborers, suffered some disability; "but the effect on wages ... was much more substantial for males". So was the effect of a low weight/height ratio (Ryan, 1981, pp. 19-20 and tables 8-9).

(b) Seasonality, wage-rates and poverty

We have seen that the poorer groups are likelier to experience seasonality of participation and employment. As regards wage seasonality, there are two questions. Is it more for poorer groups, or less? Does it intensify or offset the seasonal fluctuations in participation and/or employment? Two problems arise in answering these questions. First, daily wage-rates do not allow for the substantial differences among season in labor duration and effort per day; lower slack-season daily rates may overstate the decline in welfare because they conceal the fact that less work per day is required. Second, and with the opposite effect - i.e. causing fluctuations in wage-rates to understate slack-season welfare decline - most data sets are for districts, not villages or households; different villages feature different peaks, which smoothes out the employment and wage pattern for a district, but does little to help poor and immobile workers.

In rural West Bengal in 1972-3, a sample of 432 villages revealed major seasonal variation in the risk of very low daily male wages. Rates below Rs. 2 prevailed for 7% of villages in July-September, but for 21-23% from January through June. Moreover, high seasonal fluctuation in a village's probable demand for labor, as indicated by the proportion of rainfall normally received during the June-September monsoon, had a significant, though small, "negative [year-round] impact on the wage rate". However, the poorest three groups (71%) of labor households kept their coefficient of variation of MEP far below that of wage income per laborer: 15.7% (about mean MEP of Rs. 12.6) for the very poorest group, as against 33.1% (about mean monthly

salary of Rs. 65-4) (P. Bardhan, 1982, pp. 9, 39, 45). ^{86/} Since employment as well as wage-rates fall in the slack season, and since agricultural labor is much the main source of income for these very poor people, it was probably borrowing - inevitably at high interest and/or involving bonding, etc. - that permitted high earnings variability to be transformed into relatively low (though, given the low year-round average, bad enough) seasonal fluctuations in consumption.

These relationships suggest that double-cropping, apart from its effect on variability, may raise the year-round average wage (P. Bardhan, 1982). Permanent farm-servant couples in Thanjavur, S. India, in 1969 earned combined annual wages in single-crop areas only 67.4% of the level (Rs. 732) in double-crop areas (Muthiah, 1970, p. 19). However, a group of three districts - both in the mid-1950s and in the late 1960s - showed dramatically lower monthly variability for the district with a low average (year-round) wage-rate (Ghose, 1980, p. 419).

Geography apart, within any area it is the social groups most prone to poverty - casual employees, women - who are most prone, also, to wage variability. As demand for labor slackens, it is, almost by definition, first the day-laborer who must go short of work or take a cut in his daily reward; second the longer-term contract worker; and last of all the owner-operator, farmer or artisan. In any given season, he raises his hourly reward by reducing total labor input, and raises it most, net of costs, to the extent that he reduces hired (or other) labor-input upon fixed capital and land. He finds such reductions most profitable in slack seasons, unless wage-rates fall sharply. (The amount, strenuousness, and hence marginal disutility of family work are also lowest then.) Women are likelier than men to be employed as "residual", casual employees. In 1972-3 in West Bengal, apart from being over-represented in poorer households which suffered higher unemployment, women showed the greatest percentages of slack-season decline in both average wage-rate and average duration of work. "A female laborer's weekly wage earnings dropped ... during the slack quarter to 20% of [levels] during the busiest quarter. In the case of a male laborer, they dropped to 67% ... Irrigation ... and seasonally compensating non-agricultural work programs would affect women's employment and earnings relatively more favorably". This female-oriented, and hence poverty-focused, benefit from aseasonality may largely explain the distributional impact of the Employment Guarantee Scheme in Maharashtra (K. Bardhan, 1981, pp. 23-4; Dandekar and Sathe, 1980).

(c) Trends in real wage-rates for the poor

Perceptive observers stress how "the pervasive regional, annual and seasonal variations ... in almost all empirical studies contrast with ... the obsessive preoccupation of wage determination models with justifying fixed wages" (Binswanger and Rosenzweig, 1981a, p. 53). There is a real problem underlying this "preoccupation", however: the coexistence of these "pervasive variations" with long-run wage stagnation. Indeed, "in most countries there has been no sustained secular trend in rural real wages that is easy to document" (*ibid.*, p. 42) - even in largely rural countries, and despite prolonged and significant growth of real output per person.

Seldom, if ever, is there a series for ten years or more of reliable, localized, season-wise wage-rates for major unskilled activities, let alone a price series similarly localized. We are therefore compelled to make do with bits and pieces - in particular, to compare pairs of years.

The Rural Labor Enquiry (India, Government of, 1978) is a major all-India sample, on a comparable basis, for 1964-5 and 1974-5, disaggregating men, women and children; agricultural and other workers; and scheduled caste, scheduled tribe, and other households. 1964-5 came before the bulk of innovations associated with high-yielding cereals (mainly in a few States), but by 1974-5 the spread of these innovations was slowing down. Moreover, 1974-5 was a rather bad year relative to trend growth of farm yields, and 1964-5 rather good.

For what it is worth, these data tell a clear story. Male real wage-rates fell very slightly over the decade, by 1% in agricultural work and by 6.5% in other rural work, for households deriving most of their income from hired rural labor. In such households, female rates rose by 11% for farmwork (typically 140-160 days per woman-year), far outweighing the effect of the 14% fall for the 10-15 days of non-farm employment; the corresponding changes for children were +3% and -2%. Among farm-labor households, the groups likely to suffer from wage or task discrimination showed mixed fortunes in 1964-5: 8 m. scheduled-caste households had fared somewhat better, and the 2 m. scheduled-tribe households slightly worse, than the other 10.5 m. households. Wages in kind - about 16% of all wages for men agricultural laborers, 25-30% for women, 30-40% for children, in each case somewhat less for rural nonfarm labor - showed little change, as a share of that total wage, over the decade (Government of India, 1978, pp. 46-7; deflator from Grawe, 1979, p. 17, fn.). This evidence that 1974-5 rates and 1964-5 rates were similar should be set beside stagnation in 1956-64, a slight fall in 1950-56, and a sharp rise in 1964-70 (Grawe, 1979, pp. 15-16; Lal, 1976, p. A-48).

The persistent controversy - plus a careful compilation of evidence (Satyanarayana, 1981, esp. graphs 2 and 9) that year-to-year fluctuations dwarf any possible long-term trend - surely means we cannot safely reject the hypothesis that real wage rates in rural India (and hence the main income source for half the world's ultra-poor?) have shown no trend in the past thirty years. Male-female, inter-caste and inter-tribe, and adult-child gaps have probably narrowed (K. Bardhan, 1982, ch. 10; Government of India, 1978, table 3.1; and see below, p. 126). Some States (such as West Bengal) appear to show real-wage falls, others (e.g. Andhra) stagnation, and the fastest-growing (e.g. Punjab) increases (P. Bardhan, 1982, Ch. 5; K. Bardhan, 1977, pp. 15, 47-8; Parthasarathy, 1977, p. 44; S. Bhalla, 1979, pp. A-58-9, 68). But the long-run trend of "fluctuations around stagnancy", for the rural laborer in the average season and place in India, seems clear (Binswanger and Rosenzweig, 1981, p. 68; Satyanarayana, 1981, graphs 2-4, 9-10).

Such laborers' families - being defined as those who get most of their income from unskilled rural labor - overlap strongly with the poor and ultra-poor. Since 1964, they may well have got less poor. They may have gained higher "social wage" - health, education, roads, famine security, etc. They appear to have acquired an increased (albeit still small) proportionate addition to labor income from owned or rented land. 87/ They may also have very slightly raised the share of non-farm labor income in total income, with good effects due to the higher ratio of non-farm to farm wage-rates, 88/ even if both rates stagnated. But their real wage-rate has not shown a significant trend. This is confirmed by rather long historical reconstructions in particular Indian Districts (e.g. Wade, 1983, Ch. 3, pp. 22-4).

There is no space to say much about the non-Indian evidence. In rural Egypt, daily real wage-rates fluctuated violently, but by 1977 had regained 1950 levels, with no clear trend at all (Sabot *et al.*, 1981 tables 2 and 3). Indonesia in the 1970s also shows no time-trend in average real wage-rates for unskilled landless labor (Lluch and Mazumdar, 1981, pp. vii-ix, 50, 54-5), despite faster growth in real GNP per person than India has enjoyed. Both Northern Nigeria - because wages have not kept up with inflation-rates much faster than those of rural India (Hill, 1982, pp. 62,119; ILO (JASPA), 1980, App. G2, p. 25) - and Bangladesh (World Bank, 1982, Stat. App., Table 5.4) show some mild decline in real rural wage-rates. Nepal shows a substantial decline between 1968-9 and 1976-7 (Islam *et al.*, 1982, p. 45). However, some countries such as Kenya (Collier and Lal, 1980, pp. 178-9), and some regions - including Indian regions (S. Bhalla, 1979; Soni, 1970, p. 25) - show increases.

The structure of unskilled wage-rates (apart from some narrowing in sex and other differentials) also appears to show no drastic change in most LDCs. Ratios between agricultural and non-agricultural unskilled rates have usually changed rather little, as have proportions of wages paid in kind (Squire, 1979, pp. 24-5; Government of India, 1978, pp. 46-7). Even inflation has had less effect than might be anticipated from the common view that rural money-wage changes lag price changes. If true, this would cut real wages relatively for groups and places suffering relatively rapid inflation (in the longer run, migration might correct this, and/or movement of goods might equalize inflation speeds). However, one of the very few series allowing a test (from rural Andhra) produces no evidence for such a lag; both current and last-period prices are good predictors of wage-rates, but current prices perform somewhat better. 89/

Only two exceptions disturb this generally stagnant long-run picture. First, differential adoption among operations of labor-displacing innovations - weedicides, threshing machines, sometimes tractors - has led to some (but surprisingly little) change in relative wage-rates as between unskilled farm operations and hence seasons (Government of India, 1978, pp. 48-9; Soni, 1970, p. 25). Second, where the combined pressure of commercialization and population is rapidly shifting wage-labor away from kinship arrangements towards "capitalist" hiring - as in parts of rural Java (Kikuchi *et al.*, 1981, Ch. 6, pp. 2, 10) - there do appear to be major, large-scale changes (probably unequalizing) in the structure of unskilled wage-rates.

(d) Explaining poor people's wage-rates

1. The problem

What needs explaining is the persistence of large and small differences in wage-rates. Large are fluctuations across seasons and years; differences among places; to some extent (we have argued for 1.2-1.5 to 1, but some claim 2-1 or even more) wage-gaps for similar work according to the age, sex, caste, employer, and activity groups, even in the same area and at the same time. Small or absent are long-run trends of real, unskilled, sector-specific, annual wage-rates for typical years in most developing areas - both trends of average rates and most ratios among types of task-rate, types of wage-component, etc.

Clearly, for many developing areas, the past three decades have seen vast changes in aggregate demand for, and supply of, the labor of unskilled poverty-prone persons. On the demand side, growth in output - and

hence in desired demand for factors - has been unprecedented; but overall (especially for some activities, e.g. plowing, weeding, threshing, milling, roadbuilding) that growth has been accompanied by changes in technique, in most cases reducing, per unit of value added, the uptake of labor relative to capital at any given set of prices. On the supply side, labor/land ratios have risen sharply with population growth, but labor/capital ratios have fallen with accelerated investment; and the supply of unskilled and uneducated labor has fallen relative to that of other workers. Because such changes have happened at very different rates in various places and sectors, the long-run structures of unskilled-labor supply and demand have changed as drastically as the aggregates.

It is, therefore, at first sight rather puzzling that few clear long-term trends in size and structure of real wage-rates can be found in the long term - especially since fluctuations and instantaneous regional differences both suggest substantial short-term responsiveness of real wage-rates to variable labor supply and demand. Several explanations are possible.

First, trend changes in the position of supply and demand curves for unskilled workers might, in general, just offset each other. If that happened - and what would comprise "just offsetting" of course depends on the uncompensated elasticities of the members of each "family" of wage-labor functions, the supply family and the demand family - then real wage-rates (and the ratios among them) would tend to stay the same. Such a series of coincidences is very implausible.

Second, the long-run average real wage-rates of the unskilled poor might on balance be pressed down by economic change (or by competition among employers to keep down product prices) - but only as far as some lower bound. Normally this is taken to be some sort of physical, or "historical and moral" ("moral" in the sense of customary), subsistence wage-rate. There are major difficulties with this classical account. (1) It can explain rates if, and only if, (a) the unskilled poor started off near the subsistence rate, and (b) the wage-rate tends to fall (due to the net effect of shifts in labor supply and demand functions). This joint condition is, surely, fulfilled in only a few of the many circumstances where real unskilled wage-rates and/or structures have shown little trend. (2) What sort of "moral communities" (a) induce employers to pay the poor a long-run average wage-rate high enough to subsist on, despite excess supply of their labor at that rate - yet (b) break down in bad seasons, years, or areas, permitting real wage-rates to show big short-term fluctuations and gaps? (3) If the "subsistence wage" is a long-run average for individual workers, how and why do employers pay more to workers with larger families and higher subsistence needs? If for workers as a whole, how and why should that wage just cover the average working family's costs of producing and reproducing work-power - and what happens to non-average families? (4) People subsist from "rewards times hours worked", not from "wage-rates"; how is any theory of long-run wage stagnation at "subsistence" to allow for persistent regional variations, or trends, in the volume of (a) income from self-employment, or (b) time in wage employment?

A third (and opposite) explanation is that the net pressures of economic change would on balance tend to push up the real wage-rates of the unskilled poor, but for the existence of an upper bound that keeps them to their existing level. That "something" is normally taken to be (as in the Lewis model) some sort of reserve - whether an army of unemployed or a mass of spare time - that keeps labor supply almost infinitely

wage-elastic at some going rate. Although short-run elasticities of labor supply are in general low (see below), this theory is consistent with long-run stylized facts. People take time to learn, decide, and respond. Long-run elasticities, therefore, are usually in general higher than short-run (Marshall, 1920, pp. 93-4, 378-9). This should apply especially strongly to labor supply. First, changes in it often require a decision to migrate, which can involve long preparation. Second, on the evidence supporting the "permanent income hypothesis" (Friedman, 1957), lasting wage-increases will take some time to induce rises in consumption-levels, but these levels then restore pre-increase ratios of consumption to income; if so, the (negative) income-effect of wage-rises upon labor supply will decrease over time, leaving the (positive) substitution effect ever more dominant - and supply-elasticity higher. A high long-run price-elasticity of unskilled-labor supply, such that (in face of rising demand curves for labor) poor people's wage-rates show no uptrend, is thus consistent with a low short-run elasticity, and hence with sharp seasonal and annual fluctuations and big regional gaps. Labor supply might, in other words, respond to change in demand mainly by price adjustments in the short run, but mainly by quantity adjustments in the long. Such long-run quantity adjustments, by largely reversing the initial price changes, would create long-run stability in real unskilled wage rates - while not impeding, indeed perhaps while reinforcing, short-run fluctuations and instantaneous (cross-section) differences in such rates.

Two ironies in recent wage debates take our eye off the object. First, the evidence for low wage-elasticities of labor supply is usually taken as opposed to Lewis-style explanations (e.g. by P. Bardhan, Binswanger and Rosenzweig); yet, on the above account, it may well provide a short-run model perfectly consistent with fairly high (though certainly finite) long-run elasticities. ^{90/} Second, this evidence is often taken - though not by P. Bardhan - to be consistent with a neo-classical theory of unskilled wages (perhaps because of its apparent contrast to the classical Lewis-type models); yet the smooth functioning of neo-classical models is hindered by very price-inelastic (unresponsive) supply and demand functions in markets that represent large parts of product or factor transactions for large groups of people. Several regression sets suggest that demand for unskilled labor, too, is price-inelastic (-.3 to -.7) in developing rural areas (Binswanger and Rosenzweig, 1981, p. 89; Evenson and Binswanger, 1980, p. 15). Price-inelastic supply and demand for unskilled labor - just as, in international markets, for tea and coffee - imply that quite small movements in demand or supply conditions (and thus curves) generate large changes in equilibrium price, very small changes in equilibrium quantity, and major instability in revenue. If entire economies - not just particular markets - are considered, this revenue instability will greatly alter outlay from those affected - be they countries in whose GNP tea looms large, or poor households living mostly by hiring out unskilled labor. Hence very low price elasticities, in big micro-markets, would imply very unstable macro-markets.

To grasp what is happening to poor people's wage-rates, we need first to look at the evidence on supply response, and second to consider the underlying wage theories. In what follows, we rely heavily on Berry and Sabot (1981); Binswanger and Rosenzweig (1981); and P. Bardhan (1982).

2. Evidence about supply elasticities

How do poor and ultra-poor people adjust their labor supply to alternative prospects of higher earnings-per-hour? This is one of the most important questions for any policy that seeks to benefit such people. Unfortunately, the question is difficult to answer, or even to formulate in a way that clarifies what the statistical evidence is, in fact, evidence for. To the familiar problem of identification - marketed labor is, by definition, both supplied and demanded, and (even if "unemployed but available" workers are included in the labor supply to be compared at various wage-rates ^{91/}) we can seldom be sure we are measuring purely a supply function and not partly a demand function - is added a third set of relationships to disentangle: those of "earnings functions" in which age, experience, education, etc. affect an individual's wage-rate directly, given the supply and demand for total labor.

(i) Elasticity for how long?

Unfortunately, the scarcity (and serial-correlation problems) of time-series data have compelled almost all enquirers to use cross-section methods. Hence they measure labor supply elasticities timelessly - e.g. by relating inter-village differences in labor supply to wage-rate differences that are simultaneous (or lagged in a fixed way). A true wage-elasticity of labor supply, of course, would specify the period of response.

What can be inferred from these timeless pseudo-elasticities - from the proportional gap between places (households, villages, districts, etc.) in unskilled labor supply, associated with a small proportional wage gap - about true elasticities? In other words, over what period of response is the true elasticity the same as the pseudo-elasticity?

The latter can be interpreted in two ways. If the ratios among all village wage-rates are fairly constant over time, then we are dealing with very long-run elasticities. ^{92/} Discussion with researchers suggests that this is their view (though the question does not appear to be considered in the literature): the cross-sections are believed to measure the differences, in wage-rates and labor-supplies, among places in approximate labor-market equilibrium (or diverging from it to similar extents).

But is this plausible? If the ratios among village wage-rates change significantly and often, the cross-section pseudo-elasticities indicate extremely short-run true wage-elasticities of labor supply. These - even on the most favorable assumptions (nearby villages, perfect information, low short-run movement costs) - will be much lower than longer-run elasticities.

But suppose the cross-section pseudo-elasticities really measure long-term true elasticities. Transferring them to timed elasticity estimates involves two further serious problems, connected respectively with reversibility (or symmetry) of elasticity with regard to initial changes in either direction, and with the fact that elasticities are estimated at mean values. Consider two villages, fifty miles apart, agronomically and demographically identical except that A's better soils, and hence A's higher (let us say Hicks-neutral) factor productivity, have shifted its long-run demand-for-labor curve up, along a long-run supply-of-labor curve identical with B's. Suppose the long-run equilibrium in B involves a 5% higher wage-rate, but a 2% higher labor supply, than in A. Is the supply pseudo-elasticity ^{93/} of 0.4 applicable to labor response in A (because higher wage-rates induce A's labor to work longer), in B (because they induce B's labor to move to A),

or some mixture of the two? Realism suggests a mixture, dependent, for example, on non-farm options in A and B, and on the costs of movement. What can be inferred, about likely changes if average wage-rates rise or fall in the set of villages including A and B, depends on how we interpret the pseudo-elasticity in this respect.

The second problem arises if we try to apply this 0.4 elasticity from "A plus B" to other villages - or conversely, as these large-sample cross-sections in fact do, to infer that a figure of 0.4, estimated at the mean by regressions upon wage-rates and labor-supplies in each of A, B, C, D, ..., is a best estimate for labor supply elasticity in response to the appearance of, or to a change in, a difference between any pair of village wage-rates. Abstracting from movement costs, information, etc., this assumes more or less uniform transferability of farm experience, linguistic skills, etc. (i.e. the economic value of a laborer, resident in any one village, who goes to work in any other, is cut by much the same proportion whatever the two villages concerned). It also assumes that the degree of resistance to (or discrimination against) outsiders is independent of both the village of origin and the village of destination. It is not clear what it means to transfer such assumptions, based on cross-section estimates of "elasticity" at the mean, to the estimates of true elasticities for entire supply functions over particular periods.

All this is not intended to attack cross-section "elasticity" data. They are hard work to produce, and they do tell us something. But we have to be terribly careful in saying just what they tell us, especially about the scale and speed of response by poor workers to local or distant wage changes.

(ii) Elasticity of supply of what?

In one way, cross-sections seriously understate even the supply "elasticities" for labor that they ostensibly measure. Labor supply, and wage, can relate to working persons, weeks, or days or hours. Normally the samples suggesting low wage-elasticity measure person-days. But suppose lower wages per person-day tend to be paid in villages with somewhat lower hours per person-day - as appears likely (e.g. from the Ryan-Ghodake evidence that female sex disadvantages in wage rates are associated with lower time-inputs (p. 73), and from the similar evidence, that contract status meant higher day-wages but also longer hours, cited in Binswanger and Doherty, 1980, p. 83). Then a small cross-village proportionate difference in supply of person-days, in response to differences in day-wage, can easily conceal a larger difference in supply of person-hours, a smaller difference in hourly wage, and hence a considerably larger cross-section "elasticity" of supply of labor-time. 94/

Persons, days, etc. may also refer to different categories of worker: e.g. to all laborers, or to those whose income is mainly from cultivation, or - and this gets closest to "the poor" - mainly from hired employment. We can measure elasticity for men, women, children, or all persons in any such group. Very different results ensue. Landless rural women appear to have supply pseudo-elasticity of 2.0 in a large Indian cross-section, as against 0.7 for landed women and -.0.16 for men (Rosenzweig, 1977). Yet in an Indonesian village seasonal wage falls are associated with much larger proportionate withdrawals from the workforce among "small landowning females [than] landless girls and women [who] cannot afford to do this" (Hart, cited in Lluch and Mazumdar, 1981, p. 76). In West Bengal, P. Bardhan's 1972-3 cross-sections of about 1800 rural households with cultivation as principal occupation, and about 1570 with agricultural labor,

separately showed small, but significant and positive, pseudo-elasticities of supply; but the two groups pooled did not (P. Bardhan, 1981, pp. 7-10a, 11a-12).

(iii) Supply to whom?

Most claims of "low" pseudo-elasticities from cross-sections relate only to market supply of farm labor. Another study for West Bengal (1977-8), across 511 villages, found uncompensated effects of wage-rates on market labor supply of person-days "not significantly different from zero", but stressed that non-farm (and hence total) market labor supply could still be significantly elastic (P. Bardhan, 1982, Ch. 1, pp. 5, 17).

That short-run elasticity is significant is supported by the cross-elasticities. It was, however, small in the short run in some cases; in six South Indian semi-arid villages, the presence (or absence) of extra demand for labor, following the arrival of a nearby Government project, meant substantially higher (lower) wage-rates for "traditional" local work (Binswanger, Doherty *et al.*, 1980, p. 28). On the other hand, the small (but significant) impact of the Employment Guarantee Scheme (with its equal-pay provisions) on private-sector wage-differentials in Maharashtra (Dandekar and Sathe, 1980) suggests cross-elasticities implying a rather high long-term own-wage elasticity of unskilled off-farm labor supply. As for non-market labor - and some households, while earning much of their income from hired labor, have farms of their own into which labor-input is also expansible (fn. 87) - P. Bardhan's West Bengal (1977-78) sample suggested that cultivating households' total labor input showed smaller (and statistically less significant) wage-elasticity than did their input of market labor (P. Bardhan, 1981, pp. 13-14). 95/

(iv) Compensated or uncompensated elasticity?

This is a familiar problem in demand analysis; its importance as regards labor supply is stressed mainly in the work of P. Schultz, R. Evenson and M. Rosenzweig (see especially Schultz, 1981). A rise in the wage-rate induces suppliers of labor, not only to substitute work for leisure (because the relative price of work has risen), but also to expand leisure-time (because it has positive income-elasticity of demand 96/, and a higher wage-rate *ceteris paribus* means higher income). The income-effect can in principle outweigh the substitution-effect - i.e. a backward-bending labor supply curve is consistent with neo-classical economics (Robbins, 1930) - but empirical work suggests that substitution-effect almost always prevails, as is to be expected for people who are poor, have excess unwanted leisure, or both (see, for instance, Quizon and Evenson, 1982). However, income-effect certainly dampens substitution-effect, i.e. causes "uncompensated elasticity" to be smaller than the "compensated" figure. This is confirmed by observing the strong negative response of female market labor supply to a rising real male wage-rate, and the still clearly negative (though weaker) cross-elasticity of male supply to the female rate (*ibid.*, pp. 61, 64; Schultz, 1981; Smith, 1980). Unfortunately, estimation of compensated elasticities from available data is not easy.

These apparently "academic" issues are crucial, in two ways, to the effects of real wage-rates on various poverty-groups. First, even if we have established a long-run uncompensated elasticity, it allows us only to infer wage-bill changes from wage-rate increases; but changes in the amount of leisure (especially important if they reduce caloric

requirements) influence welfare too. Second, it is plausible to expect negative impact on the work/leisure ratio of income-effect to "fade out" with time, as the recipient of higher wages learns of and plans for higher consumption; positive impact of substitution effect, on the other hand, increases as people discover and exploit new prospects at the changed relative prices (p. 93). P. Bardhan accordingly stresses that one of his low supply-elasticities is "uncompensated" (P. Bardhan, 1981, Ch. 1, pp. 5, 17).

(v) Conclusion

There are so many doubts about what cross-section elasticity estimates mean, when applied to statements about who responds by how much to specific wage-rate changes in a time-period, that one is thrown back on basic economic commonsense. Unfortunately, both common sense, casual empiricism, and rigorous survey work point in two quite different directions, with respect to the responsiveness to real wage-rate changes of poor unskilled laborers.

One commonsense view is that the poor, and especially the poorest, are those who cannot afford to withdraw their labor supply - at once rendering "unemployment a bourgeois luxury" (because the poorest, if work is unavailable at the alleged going rate, must accept less) and keeping the poorest poor (because their lack of options compels them to accept even desperately low wage-rates). This piece of commonsense would predict extremely low wage-elasticities of labor supply among the very poor, because they must, to stay alive, go on working long hours, however low the wage, and cannot work much longer even in response to wage increases. At this extreme of bare physical survival, the account is only too plausible; so is the converse, that less desperately poor (and/or landed) workers have more leeway to raise or lower market labor supply with the wage offered. (Moreover, such workers are likelier to have own-account work and/or optional non-participation to divert, if incentives change, into marketed labor supply.) This conforms with the far-below-subsistence - but not below-marginal-cost-of-working - wage-rates that are tolerated by lace-weavers (married to small farmers) in rural Andhra (Mies, 1979), and with Indian (cross-section pseudo-) elasticity far higher for landed than for landless female laborers (Rosenzweig, 1977, and 1981, pp. 32-6). Such "commonsense" notwithstanding, long-run labor supply elasticity exceeds short-run even for the very poor - indeed perhaps especially for these, because better nutrition due to higher (wage) income might eventually extend the length of a tolerable, or of a chosen, working day. But even long-run wage-elasticities well below unity would be expected. 97/

Yet a strong commonsense counter-argument, too, can be mounted, and on some data sets supported. "The higher proportion of laborers among working women, their rather higher time-rate of unemployment, the substantial proportion willing to take alternative regular wage-employment inside or outside the village - all are indicators of elastic labor supply of the poor rural women" (K. Bardhan, 1981, Ch. 10, p. 27). The high wage-elasticity of child labor (Binswanger and Rosenzweig, 1981, Ch. 1, p. 27), and indeed the apparent cross-section "response of local birth and survival rates to child wage-rates" (Schultz, 1981) suggest that some of the poorest (who are likeliest to supply child labor) are relatively wage-responsive as appears to be the case in Indonesia (Hart, cited in Lluch and Mazumdar, 1981, p. 76). However, this is clearly minority evidence, and even in these cases the poor may well have low wage-elasticity of labor supply than the less-poor.

Two things are clear. First, unskilled-wage fluctuations (and local variations) are explained by low short-run wage-elasticities of labor supply - and long-run stagnation of those wage-rates, by more elastic long-run supply, especially perhaps for the poor. Second, long-run elasticity, especially, is seriously understated by cross-section samples, of day-rates especially (p. 95 and fn. 94).

(e) Wage theories and the poor

For most poor people in developing countries, three propositions are well-established. First, partly due to urbanization and to limitations on the supply of farmland, large and growing proportions of the poor depend, for a large and growing proportion of household income, on unskilled wages. Second - despite regional exceptions, short-run fluctuations, and growth of real income-per-person (even among the poor) from sources other than unskilled labor - real unskilled wage-rates have in general shown long-run stagnation. Third, despite lively research and controversy about wage-elasticities of unskilled labor supply, we cannot yet upset either of two Marshallian verities: that such elasticities are small in the short term but always much larger in the long; and that usually the very poor (especially men) - finding that they must market almost all the labor-time they can, even at very low going rates - show significantly lower wage-elasticities of supply of labor than the less-poor.

How will such elasticities, and the wage characteristics of the poor, be affected by the theory of (unskilled) wage determination judged to be appropriate? The relevant theories appear to be four. Classical theory holds that wages, for one of various reasons, are driven down to a set "subsistence" level. 98/ Neo-classical wage theory, either in standard competitive form or with a significant degree of labor monopsony, predicts an employment point at which the wage-rate equals both the expected marginal value-product of labor and its opportunity cost. Efficiency wage theory predicts that employers will pay higher rates (and be faced with a greater supply, but accept a lower offtake, of workers) than this neo-classical employment point indicates - either to ensure adequately-fed and hence more productive workers, or to increase labor's productivity by raising its "morale". Segmented labor-market theories predict the persistence of higher returns to similar unskilled effort for (a) wage-work as against self-employed work; or - within wage-work - locations or activities where a higher wage (b) "screens" applicants and helps to select the more competent, or (c) rewards the employer's kin, co-religionists, or other favored groups.

We have drawn attention to evidence supporting or undermining one or other theory at various points in this paper. Each appears valid under some circumstances only. There is no meta-theory to assign areas of validity to each (for efficiency theories, a powerful - and severely limiting - attempt has been made: see Binswanger and Rosenzweig, 1981, esp. Table 1, p. 20). It is incorrect that any one theory, e.g. that of competitive neo-classical labor markets, must explain an increasing proportion of wage-contracts because employers and/or employees could always gain by switching towards markets in which transactions met the assumptions of such a theory; such economic Darwinism ignores the costs of switching, the fact that past recipients of economic surpluses might choose to bear the costs of less "efficient" systems in the interests of security, and the existence of power positions (in interacting markets or otherwise) by which gainers from one wage system can impede the growth of other systems.

Nor is any of these theories, except perhaps the morale version of efficiency-wage theory, simply refutable. Subsistence wage theory refers to long-run trends, and is not refuted by proofs that wages "vary both over time and space"; even long-run variation is consistent with a wage that just supports subsistence in Marx's sense - historical and moral, and hence locally specific, rather than biological - though there are serious problems in specifying employers' decision procedures, especially (as in Kay, 1973, p.18) if the subsistence wage is seen as a lower bound (see above, p.92). Nor need evidence that rural unskilled wage-rates respond to supply and demand refute the subsistence theory (as suggested in Squire, 1979, p. 51) if long-run real levels seem to change little when averaged over such large areas as India, Nigeria or Indonesia (pp. 89-91).

Similarly, nutritional efficiency-wage theories may not be simply refuted by inter-village or inter-seasonal wage gaps (as suggested in Lluch and Mazumdar, 1981, p. 115). The theories do not claim that all villages in a country will at all times feature identical wage-rates, but that, to the (variable) extent that under-nutrition threatens working efficiency, it pays employers to open up a wage gap - to bid above "market rates". The gap will vary inversely with employees' propensity to share wages with relatives, directly with the intensity of the work, and perhaps (pp. 73-6) by sex. Since wages in kind are fungible (the earner can eat them, eat less at home, and allow relatives to eat more), their presence is not a sign of efficiency-wage payments. Higher wages for attached workers, however, might be (p. 84).

The alternatives of competitive or monopsonistic labor markets have usually been posed in a neo-classical context, but would affect the outcomes predicted by most theories of wage determination. It is common to link monopsony in agricultural labor markets to unequal landholding (Squire, 1979, p. 53), but they have surprisingly little connection in India, apparently because land inequality "corrects" for its downward effect on the number of net buyers of labor by increasing the total demand for formally hired work (K. Bardhan, 1977, pp. 25, 31, 35). Important elements of labor monopsony (and linkage of employment to credit) were found in six semi-arid Indian villages for regular, but not the generally poorer casual labor (Binswanger and Rosenzweig, 1981, pp. 82-83a, 86-7). Only the most isolated village - where presumably laborers had fewer options (but that must also have applied to hirers!) - featured really substantial labor monopsony (Binswanger, Doherty et al., 1980, pp. 29-31).

* * *

As with many other markets, so with labor: the problem for neo-classical theory does not lie mainly with market failure. This happens, but less often than suggested by populist rhetoric. The main problem is the appalling and persistent results, for the assetless and powerless unskilled poor, of the successful functioning of markets. 99/

Less-poor and/or rapidly growing LDCs often feature rising real unskilled wage-rates, at least in urban areas, and falling unemployment (Berry and Sabot, 1981, p. 178). Almost by definition, however, this does not reach the ultra-poor. As food/outlay ratios confirm (Lipton, 1983), they are seldom found in the more dynamic areas of Latin America, the Middle East, or even East Asia. And even in such areas, the prospects for rapid growth, and hence for trickle-down to the quite poor, are threatened by world recession and by national problems of import financing in an environment of increasingly burdensome external debt.

In most large, poor developing countries (which have over two-thirds of workforce in agriculture) - India, Bangladesh, Indonesia, Nigeria - and even in many places and periods of rapid real growth in per-caput total and even farm output, the balance of evidence suggests (a) by usual standards, good labor-market performance given initial resource distribution, yet (b) dismal levels and declining or static trends - sharpened by severe, covariant fluctuations - in labor-market outcomes (wage-rates, employment, ASPRs) for the poor, who increasingly depend on income from unskilled hired work. While trends are subject to controversy, it cannot be seriously argued that a clear uptrend (in unskilled workers' average real wage-rates, or volume of employment) has been demonstrated, even at the level of casual empiricism, for any of the above four "big poor" countries in, say, 1962-82 or even 1932-82. Yet all four have shown, by historical standards, rapid growth - often benefiting even very poor people, through rising yields on smallholdings as well as through rising access to socially-mediated outputs such as schools, clinics and roads. It is as unskilled laborers that the poor have gained little.

Developing countries without formal labor markets have done no better in raising the employment income of unskilled workers. (Some may have done better, however, in upgrading larger proportions of the unskilled poor into skilled workers, with consequently higher product and real income per hour worked.) The emergence of substantial unemployment in most centrally planned economies is recorded in numerous journalistic accounts and in a few quantitative estimates.

In poor (and other) countries, thirty years of accelerating investment in education, in physical capital and perhaps in labor-displacing technology have brought rapid real growth. The process has not by-passed the poor, especially not those whom it has brought higher levels of skill. But - especially where growing populations press upon limited land, and despite the fortunate exception of a non-labor-displacing "green revolution" - the process has not clearly increased the real resources available from hired work to the average unskilled poor employee. The poorest, in particular, continue to experience not only low real wage-rates, but also lower and more unstable rates of participation and employment, than other comparable groups.

ANNEXES

Annex I. Fluctuation of Labor Income and the Poor

A fluctuating income is worse than a stable income of the same average amount, for several reasons: diminishing marginal utility of income-per-day; superimposed on this, fluctuating requirements (e.g. for medical costs) that are raised in disutility more by occurring when daily income is a rupee below average, than lowered by occurring when it is a rupee above; credit market imperfections; and costs of uncertainty, or of guarding against it by insurance, storage or prediction.

A given absolute (and probably even a given proportionate) fluctuation in labor income is worse for the poor than for the less-poor - as compared with stable labor-incomes of the same average amounts for each group - because poor people:

- derive a smaller proportion of their income from non-labour sources;
- are less likely to carry reserves, or to be able to borrow during emergencies;
- seldom save much, so that a fluctuation in income is likelier to mean a fluctuation in spending;
- are hurt more by a decline of Rs. X in spending per person, because that spending was lower to begin with;
- arguably, are hurt more even by an x % decline;
- feel a greater welfare loss (particularly if well below any plausible poverty line) from a day when income is Rs. X below average - relative to their welfare gain from a day Rs. X above it - than do the better-off (again, it may well be that this applies even when "x%" is substituted for "Rs. X").

How much worse is a fluctuating average labor-income of Rs. X per period than a stable income of Rs. X? The answer depends on:

- the variable: are fluctuations about the mean, affecting total labor income (returns per hour of labor, times hours' duration), mainly via hourly returns - or mainly via duration, so that, when total labor income falls, so does drudgery?
- range: how long (a week, a season, several years of poor harvests) is a typical 'abnormal' period?
- amplitude: how big is downside variability?
- frequency and bunching: is recovery possible, or does the next downward shock come too soon?
- elasticities: to what extent are downward variations in labor-income due to falling duration offset (or intensified) by variations in labor-income due to rising (or falling) return per hour?
- incidence: is variability concentrated on particular groups (e.g. women of child-bearing age), or spread across an area or nation (so that all household members suffer at once)?
- distribution: is variability of labor-income likeliest to hit the poorest, e.g. because they are landless labourers, laid off when slack seasons or poor harvests mean that it pays (better-off) farmers to engage only family labor supply?
- linkage: is labor income likely to be relatively low at times of greater need, e.g. illness, or at times of lesser need, e.g. if a family receives a windfall gain and decides temporarily to curtail work?
- predictability, or cost of (and access to) predictions.

"Poor people's variation" in labor income may tend to be shorter-range than less poor people's - but larger (at least relative to the person's average total income), more frequent and bunched, more unfavorable in its linkages, and less predictable.

Annex II. Non-Participation and "Voluntary" Unemployment

The very poor seldom choose prolonged idleness. However, they are often forced into idleness by illness, by age or youth, by the needs of child care, or by their correct assessment of a (usually seasonal) absence of any potential employer. Through a freak of social-science terminology, such enforced idleness gets classified as "voluntary".

This is intended to connote that they are non-participants because they do not seek work at the going return. ^{1/} Yet it is often suggested, or even implied, that the "voluntary unemployed" are workless because

- they insist on a return higher than the current market rate, and/or
- they are unwilling to accept a lower market rate, although this is implicit in absorbing them into work, due to diminishing returns to homogeneous labor and/or to the fact that their labor quality is below that of the existing workforce.

Such an analysis is misleading. Often, as in the case of the very ill, non-participants could not work at any wage-rate, however attractively high. Sometimes, especially in remote places at slack seasons, marginal product of labor is so small that - if "accepted" as a "lower" market wage - it would not meet the marginal caloric cost of extra effort. It is therefore misleading to term non-participation "voluntary unemployment", and to attribute it to unrealistic wage expectations or leisure-preference.

Almost all the very poor in LDCs are prepared to work at the going rate, if physically able. In Pt. II we assess how the various causes of non-participation - itself usually involuntary, although by a quirk of language stated to cause "voluntary" unemployment - differentially affect, and impose differential hardship on, poorest, and not-so-poor.

Annex III. Workforce/Population Ratios: Definitions

Let us not, yet again, tramp over the well-trodden ground of defining "participation" and "unemployment" (for discussions see Sen, 1975; Raj Krishna, 1976; Connell and Lipton, 1977). However, we have to compare data using different definitions of each term - and to combine data on "participation" and "duration of employment or self-employment" - in order to assess the access of very poor persons to time when they may obtain income from their effort.

There are four main issues in defining the "participation rate" W/P, the ratio of the "economically active" (i.e. of "members of the workforce") (W) to the population of potential members (P):

- (1) what age-groups are to be counted in W and P;
- (2) what activities qualify for membership of W;
- (3) what reference period is used;
- (4) what qualification period (of participation in qualifying activities), within the reference period, causes a member of P to be counted as a member of W.

Very few pairs (let alone larger groups) of surveys, unless carried out by the same person or by an organization that imposes a uniform method, embody the same decisions on all four issues. Hardly any surveys provide data in sufficiently disaggregated form to be "reshuffled" by a user seeking to standardize different surveys upon the same set of decisions. Therefore, one can seldom compare - for example - female participation rates in different surveys. Nor can one often make much use of particular absolute numbers, e.g. the rural female participation rate in Gujarat in 1972-3, as such. Instead, we usually compare data within the same survey, and try to see if the comparison holds up when similar data sets are compared within another survey.

For example, it seems that in any given survey rural women from households with land have significantly lower participation rates than landless women, but that this does not hold in general for men. This seems to hold true, whatever definition of "participation" each survey adopts. We must, of course, ask whether such a finding - apparently suggesting, since unemployment risk is obviously greater for landless workers, that non-participation by poor women is not due to discouraged-worker effects (pp.41-2) - is likely to be affected by differences between landed and landless, and/or men and women, in age-structure, activity-pattern, or seasonal time-distribution of non-participation. As a rule, though, intra-survey comparisons of participation rates among "potential poverty sets" (rural-urban, poor-poorest, male-female, landed-landless, etc.) - and inter-survey comparisons of ratios between rates for similar pairs of groups - should

- cast light on the causal links between poverty and either (i) enforced non-participation, due for example to illness, or (ii) enforced overwork, due for example to low-labor-productivity and/or wage rates;
- be reasonably robust in face of most differences among surveys on definitions of age-groups, activities, reference periods, or participation periods to be counted in W or P (provided the same decision was made within any given survey for each potential poverty set" being compared).

What decisions have survey workers taken on the four issues listed above, viz. age-groups, activities, reference period, and qualification period to be counted into W and P?

(1) As regards age-groups, it is normal to count the same groups into W and P. This seems sensible, but is it? "Participants of all ages, as a proportion of persons aged 15-59", for instance, seems a good guide to the capacity-plus-will of a community to participate in productive work - better than an all-population P/W (which unduly aggregates the effects of age-structure with those of other variables upon P), or than picking 15-59 (or other arbitrary bounds) for both P and W. Different surveys "cut off" W and P for ages below 8, 10, 14, 15 or 16; at ages above 59 or 64; or not at all. Usually, age-structures of P and W are not given - overall, let alone by income-groups - so standardization is not possible. (Visaria has achieved it for some of the Indian data. 2/) Some recent Indian rural macro- and micro-data reveal that a surprisingly small share of the non-domestic workforce comprises under-12s, suggesting that their inclusion or exclusion in W makes little difference to overall participation-rates; however, this seems not to be case for Africa, nor perhaps for urban India.

(2) As regards activities in W, controversy arises about "domestic" work, mainly done by women. Clearly it is arbitrary to count growing food as productive, but not cooking it, or fetching water. However, the exclusion of work in the household (unless rewarded in cash or kind from outside the household) from the set of activities sufficient, alone, to count a worker into W, carries no implication that such work - indeed child-raising - is less "important" than work in W (nor indeed that it is peculiarly female, let alone that female work is somehow less important). The criterion for membership of W is simply the carrying-out of work - employed or self-employed - that brings cash, or commodities saleable (even if not sold) for cash or in barter, into a household. It is noteworthy that - despite the wholly desirable growth in awareness of both the importance of women's work and domestic work, and of the substantially contingent and "sexist" nature of the overlap between the two - a leading Indian survey research unit, the Agro-economic Research Center for Gujarat and Rajasthan (Jambua, 1980, p. 90) has abandoned the attempt to include purely "domestic" workers in W: presumably because it is confusing, unduly aggregative, and inhibitive of comparisons. (The Indian NSS's category of "family helpers" is supposed to exclude purely domestic work.)

On the other hand, W must include income-earning work at home - textile outwork, custom rice-milling. Such work, unlike cooking family meals or even caring for one's own children, earns direct access to commodities. (Indeed, it is central to the survival of the poorest households where female seclusion is practiced.) This case, for including rewarded outwork in activities "qualifying" for W, applies even if the reward from such work falls short of the worker's caloric needs, as in lace-making in Andhra (Mies, 1979) and probably dekhi custom-milling of paddy in Bangladesh (Greeley, 1981). The extra income, miserable as it is, far exceeds the extra caloric cost of effort; is often necessary and sufficient to permit family survival, in conjunction with incomes from other occupations; and is normally compatible with both child-care and female seclusion, 3/ even for the poorest with no homestead plot.

(3) and (4) The periods of reference and of qualification are linked issues. In most censuses and in many older surveys, even one day of work (or even search for work) qualifies a person to be counted as a participant, or as "economically active". If the reference period is a year, as is common, such

a short qualification period means artificially high reports of participation rates, as in the Indian Agro-Economic Research Surveys. (There is reason to believe that this explains some of the high reports of very young children's rates. 4/) In the Indian NSS data, the problem is handled by presenting, separately, estimates of persons not in the labor force (a) normally during the previous years ("usual activity"), (b) mostly during the previous week ("current activity"), and (c) on any half-day in the previous week - thus a respondent, working or available for work on 6 of the 14-half-days before interview, is counted as 3/7 participant, 4/7 non-participant ("time disposition") (Visaria, 1977, p. 26, and Stat. App., Table 20). Largely because of NSS's staggered timing procedures, there is often little difference between the three sets of estimates. In some of the Indian village surveys, the reference period is a cropping season; though the qualification period is brief, participation rates (i) are not markedly above NSS once the differing age limits on W and P are allowed for; and (ii) show marked seasonal variation, not least for poverty groups.

Annex IV. Limits of use of NSS statewise seasonal participation data, 1977-8

Persons aged 15-59 in about 100,000 rural and 59,000 urban households were included in the sample, one-quarter in each of the quarterly rounds (Sarvekshana, April 1979, p. S. 509). The category "casual labor abstained from work due to sickness" accounted typically for 0.95% of male and 0.61% of female rural person-days (whether or not casual or in the workforce at all), and for 0.41% and 0.22% of corresponding urban days. The number of such sick casual absentees sampled throughout India in an average 3-monthly round - assuming as many as 1.5 persons aged 15-59 per average household for each sex - cannot have exceeded about 355 rural men, 250 rural women, 150 urban men and 70 urban women. 5/ The NSS estimates comprise such very small numbers, blown up by very large population/sample ratios - the universe of households in each round numbered over 100 million. Small inter-seasonal movements in sample-based estimates of casual sick absenteeism, especially on the urban figures - relative to very large total numbers (and have to be interpreted very cautiously as a very small percentage even of sampled adults).

Seasonality, moreover, is patterned differently in different States, and State samples are much smaller, even, than national ones. Thus it looks remarkable that sick absenteeism, related to casuals, at work, among rural women in Maharashtra appears to have been 140,000 out of 2,270,000 (6.2%) in October-December 1977 but only 90,000 out of 1,960,000 (4.6%) in January-March 1978. 6/ However, if 250 sick rural casual-labor women were interviewed in India in each round, the number in Maharashtra was only 15 to 20. Perhaps there were 17 in the last 1977 round, and 18 in the first 1978 round - a bad basis for conclusions about seasonal sickness in Maharashtra.

That is why we have usually been compelled to confine inferences from NSS seasonal data about small sub-groups, e.g. women prevented by sickness from undertaking casual work, to an all-India basis.

Annex V: Problems in measuring seasonal fluctuations of PRs

There is a major, little-recognized difficulty in assessing whether poor people are harmed by seasonal fluctuations in PRs. Usually, PRs (however defined) are measured at household level, either by sample surveys or by intensive local, e.g. village, studies. However, household composition, especially in poor households, changes radically over the seasons, as the Nigerian village data (Simmons, 1976, 1976a, Norman, 1972, 1976) illustrate. Although permanent migration comprises mainly the moderately poor (moving as entire households) and the moderately better off (moving as "chains" or sequence of individuals); and although commuter movements seldom affect the poorest; yet seasonal migration comprises mainly the very poor, with few chattels or prospects to tie them to the place of origin, but, when activity there is slack, driven by necessity to seek work elsewhere (Connell et.al., 1976).

Such seasonal migration of the very poor can cover long distances, as with the movement of laborers from Bihar and Eastern Uttar Pradesh to the farms of the Punjab for harvesting and threshing. It can involve regular cycles such that dominant home-base is not quite clear - as with the movements of poor migrant fishing laborers (largely Moslem), to match the fishing seasons, between West and East coasts of Sri Lanka. These movements - like most seasonal migration - usually involve laborers only; less common is total households migration to match seasonal demand, as with the Voddas of Karnataka (Epstein, 1973); this almost always characterizes those so poor that even the home base (and usually the children's schooling) must be sacrificed in search of off-season work.

All these cases, however, share the feature that PRs cannot be reliably measured through a series of household-level surveys in the same places, unless those places are numerous and cover a large area (such that there is, say, a 95% overlap between workers participating in the area if at all, and workers measured as participating there at survey times). Since seasonal migration affects mainly the poor - often the poorest - great caution is needed in drawing disaggregated or localized inferences about seasonal fluctuation in their PRs from local household samples. Those not participating in the home area may well, in that season, be participating, unmeasured, somewhere else. Yet they usually still get counted as household members

Therefore, localized measures of PRs - unless unusual care is taken - overstate seasonal fluctuation, especially among the poor. National measures in large areas understate them, because such areas (notwithstanding seasonal migration) are nothing like perfect labor markets; costs of search and travel, especially relative to incomes from short periods of low-paid seasonal labor, are substantial. The fact that not all Indian agriculture (which still occupies 70% of the Indian workforce) peaks together does encourage workers, especially if in great need, to look for work away from the home area when activity there is slack; but the modest seasonal fluctuation of total employment prospects, in such a big area as India (or even an Indian State such as Maharashtra), conceals much larger fluctuations in the prospects, and hence the useful participation in job search, of any particular unskilled worker. Local and national fluctuations in PRs therefore set, respectively, upper and lower bounds on the instability of participation by the poor.

It is therefore useful to look together at the impact on the poor of PRs and their fluctuations at three levels: national, regional, local. Big samples, like the Indian NSS, allow us to disaggregate national data by types of worker; but regional sub-cells are usually too small. Village and urban surveys, often unfortunately not for the same years, provide local information.

Annex VI: Assets and participation rates: some issues

In this Annex, we consider only the impact of physical producer capital. 7/ Let A = household's productive assets per worker, W=labor income per hour, Y = household income per CU. Elementary micro-economics suggests that ASPRs are higher for:

- (a) Poorer households, with lower Y - holding W and A constant;
- (b) Households containing workers who can earn higher W - holding household A and Y constant (normal substitution-effect of income for leisure);
- (c) Households with more A - holding Y and W constant (because search costs are lower).

The relationship between assets and ASPRs is complicated, because

- (d) rises in W tend to cause rises in Y; rises in Y tend to be cause and effect of rises in A; and rises in A tend to cause rises in W;
- (e) most surveys, in making claims about the household-level relationship of assets to ASPRs, do not hold constant (or introduce as independent variables) either Y or W;
- (f) nor do they standardize assets on a per-worker (or per-person or per-CU) basis, although larger households tend to have more total (though less per-person, per-worker and per-CU), assets and income, and to show higher ASPRs (Lipton, 1983a);
- (g) finally, nor do they identify, in general equilibrium, supply and demand effects upon labor markets of alternative volumes and distributions of A. 8/

We shall revert to these issues in discussing the data on links between assets structures and ASPRs. It should, however, be clear why this question - of great concern in analyzing the relationship of labor to poverty - has at this stage to be relegated to an Annex. Our reasoning and conclusions must be even more than usually tentative, even speculative, given these seven effects (a)-(g).

* * *

How do two societies X and Y, identical except that X has more equal assets and income, differ in ASPRs? More equal incomes, on the evidence so far, raise ASPRs among the (few) well-off, cut them among the (many) moderately poor, and do little to alter them for the ultra-poor; effect (a) above thus pushes X's ASPRs below Y's (though the effect on labor-input may well be outweighed by lower unemployment per participant in X). On the other hand, via effect (c) above, more equal assets shift X's capital towards "smaller" owners than in Y, raising X's ASPR (or average labor duration, or both), because smaller asset-owners have lower opportunity-costs (and search-costs) of labor and supervision, due largely to their higher ratio of family in hired labor. However, households and persons with more income tend also (as in (d) above) to have more assets. The empirical effects of assets and income on PRs, although in principle opposite, are in practice hard to separate.

Some studies (Rosenzweig, 1978; Ryan and Wallace, 1982, p. 15) nevertheless provide data suggesting that rural asset (land) equalization substantially cuts PRs: the (c)-effect for people who gain assets, or land, appears to outweigh the negative (c)-effect for the (fewer) losers. However, these studies do not separate assets and income: the alleged, apparently

perverse, PR-reducing effects of a more equal assets variable may well come from its role in an (a)-effect, viz. in proxying an income variable where equalization has genuine, natural PR-reducing effects, because many households cut PR (as incomes rise) but few raise them (as incomes fall). Also, these studies fall foul of the (f)-effect: they operate with assets-per-household, although assets (even more than income) are positively linked to household size. More equal assets per efficiency-unit of labor, and perhaps also per consumer-unit (Chayanov, 1968), raise ASPRs more clearly than similar equalization on a household basis.^{9/}

Some direct review of asset-PR-poverty relations is therefore needed to answer the opening question. Assets-per-person decrease with, but faster than, household income-per-CU. Asset structure also changes substantially, with ownership shifting towards producer durables including land (evidence is summarized in Lipton, 1983b). Point household surveys in LICs usually show the poorest 35-70% as net dissavers and/or with liabilities exceeding assets. We lack data for a methodologically satisfactory enquiry into the impact on PRs and their association with poverty. Here, we consider a few hints, from surveys, about how ownership of physical producer assets 1C/ affects PRs in various income groups.

In acquiring such assets, the poor must emphasize increase earning-power much more than "saving time". They thus normally aim for land or oxen, complementary with labor, rather than for labor-replacing assets, e.g. a two-wheel tractor. The latter costs more, per unit of gross income earned (and both borrowing and foregone consumption are dearer for the poor), largely because it "saves labor" (which can be supplied by the poor at relatively low supervision or opportunity cost).

We must now "unpack" effect (c) on p. 107: that one expects higher ASPRs among the poor when they own more physical assets, especially land, complementary in production to their labor. At first glance this must normally be right. There is an incentive to supply more effort when one reaps not merely its own marginal product, but also the extra product that such effort calls forth by raising optimal levels of inputs from complementary factors. This will happen reliably if, and only if, one controls those factors.

At second glance, however, well-functioning markets in land, capital and labor - or even in two out of three (Binswanger and Rosenzweig, 1981a) - should permit hire transactions to optimize 11/ operational scales of production, and therefore to equate factor use ratios, among all entrepreneurs producing the same good - whatever the ratios of their owned asset values (or land-holdings) to their family labor. Owners of big farms can either hire in labor or lease out land, and should, if maximizing returns, do so to equate the return at the margin to labor in each use. Conversely, farm families owning too few assets to employ them full-time can either hire in more assets (e.g. by leasing in land) or sell their labor. Returns to effort should be equated, at the margin, between work on one's own assets and work on someone else's.^{12/} Indeed ICRISAT has found remarkably small variation in average, not just marginal, factor-use ratios in semi-arid farming over a wide range of holding sizes - although the variation does confirm some slight tendency for small farms to show higher labor/land ratios (Ryan and Rathore, 1978), and on irrigated land, where technical options with very distinct labor-intensities are much more common, this is an almost universal finding (Berry and Cline, 1979). On largely unirrigated land in Western India, women's PRs show only a very weak tendency to decrease as holding size rises (Visaria, 1978, p. 41);

Jambua, 1980, p. 94), though income-per-person correlates positively with assets-per-person and with female non-participation. These relationships suggest, in concordance with competitive market theory, that - holding income-per-person constant - households with fewer owned assets per person quite often differ little from other households in either ASPRs or factor-use ratios.

However, a third glance re-establishes the conclusion of the first, because of effect (c): search-costs and transactions-costs, including risks. It is costlier to seek work and to move to it than to undertake self-steered work with one's own assets; to supervise an employee, than to select one's own pace and priorities of work. Also it is riskier, especially where market information (e.g. via labor exchanges) is absent or imperfect: one may find no job, or a bad employer; one may hire a lazy employee, or none at all. Such considerations apply, analogously, to all rural and urban factor markets - most forcibly in the most "underdeveloped" circumstances. It is, therefore, after all, reasonable to expect that - independently of income-per-CU - participation among the poor is impeded by lack of asset ownership plus costs and risks of seeking, and transacting in, labor or asset hire; and that such participation is further "discouraged" by the depressant impact of such costs and risks upon the propensity of the better-off, who overlap strongly with the asset-owners, to hire in labor or hire out assets, including land.

There are five reasons for the conflicting empirical data on links between asset-holding and participation.

First, some activities offer little scope for variation in technology, yet are pursued in areas where few other activities exist and where even the less-poor cannot afford a great deal of leisure. The factor-mix in different units - big and small firms, rich and poor households, etc. - therefore tends to be similar. When a community depends largely on such an activity, e.g. unimproved semi-arid agriculture, there is little scope for families with different asset endowments to change PRs by switching into activities with different labor/capital or labor/land ratios. The importance of the joint condition, "near-uniformity of factor-intensity if you participate and intolerable poverty if you don't", in removing the usual link between poverty (low self-managed assets plus low income) and long work (participation times duration), is clear from the contrast between semi-arid Indian and N.E. Brazilian observations. Farm households owning below 10 ha. in N.E. Brazil frequently suffer poverty, though not as extreme as in India; but there is more choice of techniques, and of crop-mixes, with different factor intensities. Even in the drought-prone sertao, these farms used 0.23 man-years of labor per hectare - as against 0.08 for the 10-50 ha. size-group, 0.04 for 50-100 ha. and even less for bigger farms (Kutcher and Scandizzo, 1981, p. 85). This is in marked contrast to semi-arid India, where technologies appear less open to labor-intensification - with owned assets, pressure of poverty, or anything else (Ryan and Rathore, 1978).

Second, most available data do not "unpack" the demography of asset-holding. Typically, they allow us to relate PRs and employment, even in highly disaggregated work, only to assets - or land - per household; ASPRs that differ little according to such asset-holding well might show much more variation with assets owned per worker or per household member (or CU). Furthermore, land, or assets, per worker (or per CU) varies less among households than does land, or assets, per household; even the rank-orderings of households by land (or assets) per household and by land (or assets) per worker, or per CU, differ substantially. Therefore, in trying to trace the relationship of PRs, etc., to asset-holdings, we risk serious specification errors.

Third, suppose assets-per-person bore a simple linear relationship to outlay-per-person. The latter probably, as it declines, pulls up ASPRs only until it reaches some "ultra-poor" threshold (pp.). Hence assets-per-person, for that reason alone, would not show a good linear (monotonic) relationship to ASPRs.

Fourth and most important, more income naturally goes with more assets. Higher income-per-person may be caused by higher PRs or employment, and itself causes the substitution of leisure for income. In most data sets, we cannot hold income-per-person constant in estimating the interaction of participation, etc., and assets-per-person or per-household. High-asset households are induced to participate by the nearness of complementary capital - but have higher income, and hence substitute leisure for it. A rare bit of direct evidence, from North Bihar, does suggest that asset ownership independent of income raises ASPRs: it shows households that both own and rent land farming owned land significantly more labor-intensively than rented land (Bell, 1977).

Finally, there is a problem of simultaneity - direction of causation. Suppose the other four problems are solved - that technologies and/or activities can be chosen, and the factor-mix accordingly varied by households; that assets-per-CU (or per worker) are measured at household level, as well as PRs and employment; that each household's income-per-CU is available; and that disaggregation suffices to test if a lower (poverty) turning-point in per-person income-ASPR relationships is complicating per-person assets-ASPR relationships. In testing association between (a) age-specific (or adult) and sex-specific PRs, across households, and (b) assets-per-CU or per worker - either including income-per-CU in the regression as an explanatory variable, or holding it constant in a partial correlation of ASPR on assets - we run together two offsetting sequences. Few assets, and high search and transaction costs, may put low-asset households off participation. But high participation may lead to the accumulation of assets.

Where the income and asset data cannot be separated, but the asset data are available at household level, it looks as if the pressure on poor people (with few assets and probably low incomes) towards high PRs and employment - due to low income-per-CU - outweighs their incentive, from high search and transactions costs due to low assets-per-worker, to select low PRs and employment. Land owned per worker, in 40 households sampled in each of two villages in Sholapur, Maharashtra, in 1975-6, was negatively correlated with male, female, total family, and total labor (in hours per hectare) - holding constant the leased-in, irrigable, and 'drought-sensitively cropped' shares of land, and also the dependent/worker ratios. For the 80 households together, a 1-ha. rise in land owned per worker was associated - significantly at 5% - with a 94-hour fall in annual labor-hours per ha., distributed almost equally between male and female family labor. This clearly was a fall in labor supply rather than a rise in unemployment, for hired labor (both male and female) showed negligible and non-significant changes, 13/ and off-farm labor is relatively minor in these villages. Thus the net effect of "more land ownership and associated income", on household PRs and employment together, is clearly negative. A similar link seems to hold in N. Nigerian villages. 14/ These linear regressions do not rule out a possible reversal of the relationship among the very poorest (pp.24-7).

Moreover, "asset ownership" is not freely variable for all persons. More assets for some, except in the long run, mean fewer assets for others. We cannot, therefore, rest upon the above individualistic discussion to

explain the strong negative correlation between villages with (a) severe landlessness, and/or inequality among landholders, and (b) low participation rates, especially for women (Dasgupta, 1977). At individual level, "low assets plus associated low income" does more to compel work via poverty, than to deter it via search and transactions costs and risks. At village level, the pressure of large proportions of individuals in this deprived condition, however, reduces ASPRs. Given asset totals, in this case of land, are so distributed as to reduce the incentives to effort that they in total provide. If one goes to national level, such villages feature relatively high emigration rates (Connell et al., 1976), and thus tend to swell involuntary non-work (i.e. to lower PRs and/or employment per participant) elsewhere in the economy. It could nevertheless be true that, within the villages featuring high landlessness and high inequality, the victims showed higher PRs than the beneficiaries.

ABBREVIATIONS

<u>AER</u>	<u>American Economic Review</u>
AERC	Agro-economic Research Center (India)
ARTEP	Asian Regional Team for Employment Promotion (ILO)
ASAG	age, sex and activity group
ASPR	age- and sex-specific participation rate
CU	consumer-unit (Lusk, adult-equivalent)
<u>EPW</u>	<u>Economic and Political Weekly (Bombay)</u>
ICRISAT	International Crop Research Institute for the Semi-arid Tropics
<u>IJAE</u>	<u>Indian Journal of Agricultural Economics</u>
IFPRI	International Food Policy Research Institute
<u>JDS</u>	<u>Journal of Development Studies</u>
LU	labor utilization
MEP	monthly expenditure per person
NSS	National Sample Survey (India)
PAM	prime-age adult male
PR	participation rate
WBSWP	World Bank Staff Working Paper
WD	worker (with dependents)
WS	worker (single)

TABLE 1: PARTICIPATION AND LANDHOLDING, FOUR VILLAGES, GUJARAT 1970-71

		PARTICIPANTS AGED 15-59 AS % OF PERSONS AGED 15-59 1970-71			NUMBER OF PERSONS AGED 15-59
		MEAN	S.D.	COEFFICIENT OF VARIATION	(JUNE 1970)
LAND HOLDING:	MEN	88.2	3.9	4.5	81
	WOMEN	14.4	9.3	64.4	73
	TOTAL	53.2	5.6	10.6	154
LANDLESS:	MEN	88.4	4.3	4.9	48
	WOMEN	44.4	10.9	24.5	46
	TOTAL	66.8	4.5	6.8	94

Source: Patel et al., 1975, p. 91. Data are means, SD's and CVs for twelve sets of monthly data from June 1970 to May 1971 inclusive.

TABLE 2: PARTICIPATION, EMPLOYMENT AND FLUCTUATION, FOUR VILLAGES, GUJARAT 1970-71

Income per Person per Year (Rs.)	Adult Population		Participants of All Ages: as Percentage of Adults			Percentage of Days in Season Worked by Average Participant			Worked Days (All ages), per Adult in Household, per Day			Children in Household	Number of Households
			K	R	S	K	R	S	K	R	S		
Below 200	M	27	85.2	74.1	77.8	67.0	72.2	63.6	.57	.54	.49	48	18
	F	25	48.0	32.0	36.0	35.4	40.2	32.4	.17	.13	.12		
	T	52	67.3	53.8	57.7	56.2	63.1	56.1	.38	.34	.32		
201-400	M	68	94.1	82.4	88.2	70.0	74.6	80.1	.66	.61	.71	80	44
	F	62	50.0	33.9	46.8	46.2	52.9	48.5	.23	.18	.23		
	T	130	73.1	59.2	68.5	62.2	68.7	69.9	.45	.41	.48		
401-600	M	20	90.0	100.0	100.0	80.7	76.3	79.9	.73	.76	.80	35	13
	F	22	40.9	31.8	31.8	43.9	30.6	24.5	.18	.10	.08		
	T	42	64.3	64.3	64.3	68.5	64.4	65.5	.44	.41	.42		
601-1000	M	28	89.3	82.1	82.1	79.0	82.0	93.6	.71	.67	.77	18	11
	F	19	15.8	10.5	10.5	49.4	34.5	44.0	.08	.04	.05		
	T	47	59.6	53.2	53.2	75.8	78.2	89.6	.45	.42	.48		
1001 +	M	14	92.9	92.9	85.7	85.8	82.7	90.4	.80	.77	.77	11	8
	F	11	0	0	0	-	-	-	-	-	-		
	T	25	52.0	52.0	48.0	85.8	82.7	90.4	.45	.43	.43		

Source: Patel et al., 1975, pp. 36-42, 65-67; Patel, 1973, Appendix, p. ix.

Note: "Adults" are defined as persons over 14. "Workforce" includes all age groups, but in fact no under-fives participated. Only 3 boys and 1 girl (out of 71 and 54 respectively) aged 5-14 participated in Kharif; corresponding figures for Rabi were 1 and 0, and for Summer the same. The source assumes 125 working days in Kharif (K), 100 in Rabi (R), 75 in Summer (S).

TABLE 3: SCHOOL AND WORK, VILLAGE N.W. INDIA, 1960s

VILLAGE	DATE	CHILDREN OF SCHOOLGOING AGE			CHILDREN NOT ATTENDING DUE TO "WORK" OR "DOMESTIC WORK"			NON-SCHOOLGOERS DUE TO "WORK" AS % OF CHILDREN OF SCHOOLGOING AGE		
		BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
PATADIA	1960-1	81	65	146	34	36	70	42.0	55.4	47.9
ANKODIA	1960-1	244	219	463	13	20	33	5.3	9.1	7.1
FALNA	1961-2	222	289	511	21	10	31	9.5	3.5	6.1
RAMPURA	1961-2	107	124	231	3	10	13	2.8	8.1	5.6
OON	1963-4	141	140	281	8	10	18	5.7	7.1	6.4
ALL FIVE VILLAGES	1960-4	795	837	1632	79	86	165	9.8	10.3	10.1

SOURCES AND NOTES: Patadia, pp.60-3; ages 6-14. Also further disaggregated by age-groups (6-10 and 11-14); into tribals and non-tribals; and by type of work (domestic, cattle, crops). Non-attenders exclude discontinuers (6 boys, 3 girls) for whom reasons not given.

Ankodia, pp.73-4; age 5-14. Also grouped by ages (5-10, 11-14); caste; income (unfortunately per household); and type of work ("to take care of children"; "labourers"). Discontinuers (4 boys, 9 girls) excluded from non-attenders.

Falna, pp. 96-101; age 6-14. Also grouped by ages (6-9, 10-14); caste; and household income. "Work at home" only. Discontinuers included in non-attenders.

Rampura, pp.74-6; age 6-14. Grouped 6-9 and 10-14; by caste; by whether reasons are for discontinuing or for never-attending school; and by type of work ("domestic"; "to help family occupation").

Oon, pp.89-93. Non-attenders exclude discontinuers (7 boys, 10 girls). Infants deducted to re-estimate "children of schoolgoing age", but no age figures given, in source.

COMMENTS:

- 1) Based on interviews with parents, not on attendance registers (which usually understate non-attendance).
- 2) Participants (i) cover only those participating in work sufficiently to be, as a rule, non-attenders at school, but (ii) include domestic work.
- 3) Arguably, "discontinuers" excluded from "children of school-going age", if they are excluded from "children known to be not attending due to work". If that is done, the last three columns become: Patadia, Boys 44.7, Girls 58.1. Total 51.1; Ankodia, 5.4, 9.5, 7.3; Oon, 5.0, 7.7, 6.7; Total 10.2, 10.5, 10.4
- 4) One other study, Samaldevi (1964-5, pp. 15-8), cannot be included above because an unstated number of infants is included in the 57 children (of 142 non-attenders), classified as "of schoolgoing age" but not schoolgoing by reason of "young age". In Samaldevi, 4 boys and 28 girls gave "work at home" (the only "work" category) as the reason for non-attendance (excluding discontinuance) - out of a population (of "schoolgoing age" plus some infants) of 165 boys and 161 girls, including (a) 5 boys, 11 girls discontinued, (b) 19 boys, 38 girls never-attended because stated by parents to be "too young". In Samaldevi, the absolute minimum estimate of participation rate among non-attenders, if all in category (b) were above age of infancy, is: Boys 2.4%, Girls 17.4%, Total 9.8%. The estimate if all in (b) are infants, and if we also exclude discontinuers from "children of schoolgoing age", is: Boys 2.8%, Girls 25.0%, Total 12.6%.

TABLE 4: INDIAN PARTICIPATION, TYPICAL DAY, 1977-8: M.PERSON-DAYS

Period	Million Days in Labor Force, per Calendar Day			
	Rural		Urban	
	Men	Women	Men	Women
July-September 1977	114.9	46.3	31.5	6.5
October-December 1977	114.7	45.0	31.5	6.4
January-March 1978	112.7	43.3	31.8	6.9
April-June 1978	111.3	42.2	31.8	6.9

Source: Sarvekshana, April 1979, p. 149

Notes: Sample based on an all-India total population assumption of 128.6 million rural men, 127.6 million rural women, 37.7 million urban men, and 33.1 million urban women, in the age-groups 15-59. Labor force, recorded in half-days for week preceding survey, comprises members of the following categories: working, seeking work, and available for work though not seeking it. See fn. 33.

TABLE 5: DAYS AND HOURS WORKED, AND VARIABILITY BY MONTHS
 (3 villages in Sokoto, N. Nigeria, April 1967-March 1968)

	Low Asset Group	Medium Asset Group	High Asset Group
Land per resident (ac.)	5.5	9.1	15.6
Households	37	30	33
Days worked (% of days in average month)	79.9	71.2	67.8
Participant days per adult-male-year	297	263	247
% Coefficient of variation (over 12 months)	18.1	13.4	8.3
Hours worked per day	3.2	3.4	4.4
% Coefficient of variation (over 12 months)	20.1	21.9	9.9

Source: Norman, 1976, Vol. 1, p. 177.

Notes: (1) Hardly any women did farmwork. (2) "Hours worked per day" in 1967-8 equals "hours worked per year" per adult male, divided by 366. (3) CV based on month-by-month hours-per-day averages.

TABLE 6: FEMALE SEASONAL PARTICIPATION AND CHILD WEIGHT
(3 Kerala villages, 35 households, Feb.-Sept. 1974)

	Children's scores on Gomez weight-for-age scale: -			
	Mothers in workforce (n=21)		Mothers not in workforce (n=14)	
	Slack	Peak	Slack	Peak
Intercept (score if no farm or wage income)	64.15	66.46	78.54	72.82
Add, for every Rs.10 per trimester of:				
Farm income, β_1 (t-stat.)	0.83 (2.44)	- 0.19 (0.98)	0.22 (0.58)	0.22
Father's wage inc., β_2 (t-stat.)	0.13 (0.84)	0.14 (1.26)	0.03 (0.20)	- 0.06 (0.70)
Mother's wage inc., β_3 (t-stat.)	0.20 (1.42)	0.22 (1.47)	- -	- -
Others' wage inc., β_4 (t-stat.)	- 0.25 (2.75)	- 0.05 (0.45)	- 0.03 (.50)	0.02 (0.40)
r^2	.405	.270	.095	.204

Source: Kumar, 1977, pp. 72-74.

Note: Scores are for percentages on Gomez scale for children aged 6-36 months.

Table 7: UNEMPLOYMENT AND POVERTY: ASIAN MACRO-DATA
 ("Unemployed" as percentages of labor force)

Group	Household Decile by Outlay Per Person	1972-73				1969 - 70	1968	1974	1973
		10 and Over Gujarat		10 and Over Maharashtra		10 and Over SRI LANKA	15 and Over TAIWAN		15 - 44 PENINSULAR MALAYSIA
		Rural	Urban	Rural	Urban				
Male	Poorest	10.1	9.9	13.1	13.5	14.2	4.5	4.0	6.5
	2nd Poorest	7.3	10.2	11.1	9.0	13.6	4.3	4.1	5.0
	3rd & 4th	5.9	7.6	7.7	7.9	12.8	3.8	4.7	3.1
	All	5.5	6.9	8.2	6.8	11.7	5.3	5.5	4.4
Female	Poorest	12.8	13.3	20.6	13.7	17.7	9.6	5.3	5.9
	2nd Poorest	11.0	10.9	15.7	8.2	18.8	9.6	3.9	5.2
	3rd & 4th	8.7	12.5	14.1	10.4	22.0	9.7	11.8	10.2
	All	7.9	11.7	12.8	10.5	20.6	11.9	11.0	6.4
Persons	Poorest	11.1	10.8	16.3	13.5	15.0	6.6	4.6	6.2
	2nd Poorest	8.8	10.3	13.1	8.8	15.0	6.6	6.5	5.1
	3rd & 4th	7.0	8.5	10.5	8.4	15.5	6.2	7.5	5.0
	All	6.4	7.7	10.0	7.4	13.9	7.7	7.5	5.1

Sources: Gujarat and Maharashtra: Visaria, 1980a, p. 12. Others: Visaria, 1980, p. 75.

Notes: Indian data: Half-days "seeking or available for work", as proportion of these plus half-days working or employed, in week before survey. Sri Lanka: active work-seekers; of those whose normal work is temporary or casual, the figure includes only those who had worked for fewer than 10 days in month before survey. Taiwan: criteria not stated.

TABLE 8: INCOME STRATA AND "UNEMPLOYMENT", N. NIGERIA

(3 villages each: Sokoto, April 1967-March 1968;
Zaria, April 1966-March 1967)

Stratum and Group	Acres of Farm land		Income (Sh.) Per Resident	Workdays Per Male Adult	HOURS OF WORK PER YEAR PER MALE ADULT					
	Average Per Household	Average Per Resident			Family Farm	Family Farm Travel	Off Farm	Out of Village	Total Excl. Travel	Total Incl. Travel
X Zaria	3.94	0.41	169.9	237.5	570	89	538	-	1,108	1,197
Y Zaria	6.72	0.73	210.2	203.9	607	91	356	-	963	1,054
X Sokoto	5.52	0.89	258.5	296.6	736	181	346	106	1,188	1,369
Y Sokoto	9.10	1.60	323.5	262.7	695	142	342	220	1,257	1,400
Z Zaria	17.17	2.66	376.6	248.0	669	106	456	-	1,124	1,230
Z Sokoto	15.61	3.22	502.8	248.0	766	125	488	236	1,491	1,615

Sources: Norman, 1972, pp. 12, 18, 23, 107; Norman, 1976, pp. 14, 26-7, 33, 137.

Notes: "Out of Village" = "cin rani", migrant labor within a 5-mile radius. A five-hour day is assumed. as suggested in these documents, if (exceptionally) no details of workday length are specified. Zaria appears to have had a cost of living about 5% above Sokoto, roughly offsetting inflation between 1966-7 and 1967-8, so that the income-per-resident figures are roughly comparable. For X, Y, Z, see fn. 40.

**TABLE 9: INDIAN WORKFORCE STRUCTURE, THOUSAND PERSON-DAYS AND PERSON-WEEKS
PERSONS AGED 15-59, JULY 1977-JUNE 1978**

		RURAL		URBAN	
		Male	Female	Male	Female
CASUAL LABOR (inc. public wks.)	Weeks	28687.7	17148.0	3507.5	1562.1
	Days	23921.3	12388.6	2798.5	1181.0
EMPLOYEES:					
REGULAR WAGE AND SALARY	Weeks	12807.0	1961.0	14653.6	2046.2
	Days	12672.0	1836.2	14606.0	2005.2
SELF-EMPLOYED (inc. family helpers)	Weeks	70302.4	28857.9	11473.4	2851.8
	Days	68260.5	24901.2	11207.3	2462.5
TOTAL WORKERS	Weeks	111797.6	47966.9	29634.5	6460.1
	Days	104853.8	40026.0	28611.8	5648.7
UNEMPLOYED	Weeks	4525.8	2203.1	2352.1	875.6
	Days	8581.2	44204.3	3016.3	1044.0

Source: Sarvekshana, April 1979, p. 514.

Notes: Weeks: all persons aged 15-59 who worked, or were employed, for at least one hour in the week preceding the survey were assigned to "Total Working", and then to the category (casual, regular, self-employed) to which the most working time was devoted. All other persons aged 15-59 who sought, or were available for, work at any time in the week preceding the survey were assigned to "unemployed".

Days: In the seven days preceding the survey, each person-day in which four or more hours were "worked or employed" was assigned to "total working" (and then to the major time-category as above). If one to four hours were spent on a person-day, half of it was assigned to "total working"; the other half was assigned to "unemployed" if the respondent sought or was available for work on that "half" day, but to "not in labour force" otherwise. Days in which less than an hour was worked or employed were counted as "unemployed" for the whole day if the respondent sought, or was available, for work for at least four hours; if for 1 to 4 hours, as half "unemployed" and half "outside labor force", if for less than one hour, as wholly "outside labor force".

TABLE 10: PERCENTAGE OF PERSON-DAYS UNEMPLOYED, 1972-73, W. INDIA

Decile	Group	Gujarat		Maharashtra	
		Rural	Urban	Rural	Urban
Poorest	Male	10.1	9.9	13.1	13.5
	Female	12.8	13.3	20.6	13.7
2nd Poorest	Male	7.3	10.2	11.1	9.0
	Female	11.0	10.9	15.7	8.2
All	Male	5.5	6.9	8.2	6.8
	Female	7.9	11.7	12.8	10.5

Source: Visaria, 1980a, p. 12.

TABLE 11: PERCENTAGES OF PERSON-DAYS UNEMPLOYED, INDIA, 1977-8 AND 1972-3
(Ranked by male rural incidence, 1977-8)

States	Rural Percentages				Urban Percentages			
	Male		Female		Male		Female	
	1977-8	1972-3	1977-8	1972-3	1977-8	1972-3	1977-8	1972-3
Kerala	26.0	22.5	28.9	25.4	25.2	22.7	26.9	23.4
Tamil Nadu	15.8	9.9	17.8	15.5	14.1	9.8	20.5	14.3
W. Bengal	9.7	9.6	10.3	15.6	11.8	9.0	17.3	15.4
Andhra Pradesh	8.7	8.1	14.3	16.3	10.7	11.5	16.2	17.5
Karnataka	8.3	7.1	11.4	11.1	10.6	8.7	14.2	12.9
Orissa	7.8	7.6	9.4	14.7	8.7	6.6	13.1	13.7
Bihar	7.8	8.6	9.7	14.1	8.1	8.6	11.2	12.3
Haryana	7.6	3.9	3.0	1.0	7.1	7.2	9.0	10.0
Jammu & Kashmir	6.4	9.3	2.4	6.1	5.2	4.8	18.7	10.3
Gujarat	6.3	5.7	5.7	5.0	7.0	7.2	8.6	7.4
Maharashtra	6.2	7.7	9.2	11.7	9.1	8.3	16.4	14.7
Punjab	5.4	5.0	2.2	1.4	4.9	5.3	11.1	7.1
Uttar Pradesh	4.3	3.2	2.7	3.7	6.7	4.4	5.1	3.1
Rajasthan	3.5	2.6	2.2	2.8	5.7	5.9	2.6	4.2
Himachal Pradesh	2.9	0.8	0.2	0.2	6.2	2.9	13.4	10.3
Madhya Pradesh	2.4	2.7	3.3	4.5	5.8	5.3	5.9	6.3
Assam	1.6	1.9	1.2	2.4	3.9	3.0	11.7	3.1
(All India)	(7.6)	(6.7)	(9.5)	(9.9)	(9.5)	(8.0)	(15.6)	(12.6)

Source: Sarvekshana, Oct. 1977, pp. 100-102; April 1979, pp. 156-158.

TABLE 12: PERSON-DAY UNEMPLOYMENT RATE, FLUCTUATION, POVERTY - INDIA, 1972-3

Area	Rupees: Monthly Outlay per Person in Household	Person-Days Unemployed ÷ Person-Days in Labor Force (Quarterly Percentages)									
		% of All Households In Sector	MEN			WOMEN			PERSONS		
			Av. of Qtly. %s	S.D. of Qtly. %s	C.V. of Qtly. %s	Av. of Qtly. %s	S.D. of Qtly. %s	C.V. of Qtly. %s	Av. of Qtly. %s	S.D. of Qtly. %s	C.V. of Qtly. %s
R	<11	0.7	17.5	5.2	29.4	29.4	3.2	11.1	22.4	3.6	16.1
U	11-21	9.8	11.9	1.9	16.3	17.7	2.3	12.9	14.1	2.1	14.5
R	21-34	30.1	8.2	1.3	15.9	13.1	3.2	23.9	9.8	1.8	18.9
A	34-55	35.2	6.1	0.9	14.8	9.6	2.0	21.2	7.1	1.2	16.9
L	55-100	19.0	4.5	0.2	5.6	7.0	0.9	12.4	5.2	0.4	6.9
	>100	5.1	3.0	0.3	8.7	3.3	2.2	65.8	3.2	0.5	16.9
U	<11	0.3	32.1	16.8	52.5	25.8	7.2	27.9	29.2	12.1	41.6
R	11-21	4.5	15.5	2.7	17.4	17.0	2.3	13.3	15.9	1.7	10.8
B	21-34	19.2	10.9	1.2	11.4	15.1	2.1	14.1	11.9	1.2	10.2
A	34-55	27.4	9.3	0.9	9.2	12.9	1.5	11.7	10.0	0.8	8.1
N	55-100	28.3	6.9	0.5	7.4	13.6	1.4	10.7	7.9	0.5	5.9
	>100	20.2	4.2	0.4	9.3	10.3	1.3	12.2	4.9	0.5	9.4

Source: Visaria, 1980a, p. 10.

Note: "Unemployed" means "seeking or available for work", recorded separately for each half-day of the week preceding the quarterly survey round.

TABLE 13: PARTICIPATION, TYPICAL DAY, 1977-78; MILLION PERSON DAYS (AGES 15-59)

Region	Sex	R U R A L										U R B A N									
		M A L E					F E M A L E					M A L E					F E M A L E				
		1	2	3	4	AV	1	2	3	4	AV	1	2	3	4	AV	1	2	3	4	AV
ALL INDIA	Total working	106.52	106.37	103.92	102.62	104.85	42.20	41.36	39.22	37.28	40.03	28.38	28.42	28.80	28.94	28.61	5.45	5.36	5.87	5.92	5.65
	Casual employed	24.72	23.07	23.41	22.24	23.11	15.56	13.81	12.02	10.87	12.95	2.84	2.65	2.73	2.77	2.70	1.16	1.12	1.21	1.17	1.16
	Seeking work	5.06	5.39	5.92	5.94	5.58	2.20	1.90	2.36	2.86	2.33	2.44	2.51	2.45	2.46	2.47	0.68	0.75	0.82	0.79	0.76
	Available, but not seeking	3.36	2.99	2.90	2.78	3.01	1.92	1.77	1.73	2.08	1.87	0.66	0.59	0.51	0.43	0.55	0.38	0.30	0.26	0.21	0.28
	Casual, not working because sick	1.43	1.22	1.18	1.10	1.23	0.79	0.81	0.74	0.78	0.78	0.22	0.15	0.13	0.13	0.16	0.07	0.07	0.09	0.07	0.07
GUJARAT	Total working	4.98	5.10	5.10	4.69	4.97	2.30	2.43	2.24	2.12	2.27	2.02	1.91	2.06	2.08	2.02	2.28	0.36	0.35	0.41	0.38
	Casual employed	1.14	1.31	1.39	1.01	1.21	0.66	0.80	0.78	0.54	0.69	0.21	0.18	0.20	0.19	0.19	0.07	0.10	0.09	0.10	0.08
	Seeking work	0.19	0.20	0.29	0.33	0.26	0.06	0.09	0.10	0.12	0.09	0.17	0.13	0.11	0.11	0.14	0.03	0.04	0.02	0.02	0.03
	Available, but not seeking	0.07	0.06	0.13	0.06	0.08	0.05	0.01	0.10	0.02	0.04	0.01	0.01	0.01	0.01	0.01	0.01	-	0.01	-	-
	Casual, not working because sick	0.04	0.03	0.03	0.03	0.03	0.03	0.01	0.01	-	0.01	0.01	-	0.01	-	0.01	-	-	-	-	-
MAHARASHTRA	Total working	8.55	8.45	8.55	8.25	8.45	5.86	5.86	5.26	4.59	5.39	4.27	4.37	4.29	4.39	4.33	0.84	0.98	0.90	0.97	0.92
	Casual employed	2.45	1.95	2.10	1.68	2.00	2.85	2.27	1.96	1.45	2.09	0.39	0.30	0.31	0.34	0.32	0.21	0.22	0.18	0.19	0.19
	Seeking work	0.34	0.40	0.36	0.40	0.38	0.20	0.28	0.36	0.44	0.32	0.31	0.31	0.35	0.38	0.35	0.09	0.10	0.14	0.13	0.12
	Available, but not seeking	0.27	0.17	0.14	0.15	0.18	0.29	0.22	0.20	0.21	0.23	0.12	0.09	0.07	0.06	0.08	0.10	0.06	0.07	0.02	0.06
	Casual, not working because sick	0.10	0.09	0.08	0.09	0.09	0.12	0.14	0.09	0.12	0.12	0.02	0.01	0.01	0.02	0.01	-	0.01	0.01	0.01	0.01
RAJASTHAN	Total working	5.44	5.31	5.24	5.06	5.26	2.77	2.82	2.84	2.34	2.70	1.00	1.10	1.09	1.10	1.07	0.18	0.17	0.21	0.25	0.20
	Casual employed	0.46	0.47	0.50	0.62	0.50	0.27	0.19	0.24	0.23	0.22	0.06	0.08	0.06	0.04	0.06	0.02	0.02	0.01	0.01	0.02
	Seeking work	0.04	0.11	0.13	0.17	0.11	0.01	0.02	-	0.06	0.03	0.04	0.04	0.06	0.05	0.05	-	-	-	-	-
	Available, but not seeking	0.05	0.04	0.07	0.15	0.08	0.03	0.01	0.01	0.11	0.04	0.03	0.02	0.01	0.01	0.02	-	-	-	0.01	-
	Casual, not working because sick	0.07	0.06	0.04	0.01	0.05	0.02	0.01	0.01	0.01	0.01	0.01	-	-	0.01	0.01	-	-	-	-	-

Source: Sarvekshana, Oct. 1978, pp. 44, 46, 49, 52; Apr. 1979, pp. S.511-4, S.527-30, S.555-8, S.565-8.

Note: All-India sample size: 59,280 urban, about 101,660 rural, households, one-quarter in each sub-round
(1 Jul.- Sep. 1977 ... 4 Apr.-Jun. 1978)

TABLE 14: TRENDS IN AGRICULTURAL MALE-FEMALE WAGE GAPS BY TASK, RURAL INDIA.
Women ÷ men, daily earnings; children ÷ adults in brackets, percentages

	Plowing	Sowing	Transplanting	Weeding	Harvesting	Others	All Agric. ops.
<u>Agricultural Labor</u>							
<u>Households</u>							
1964-5	73.4 (64.7)	64.2 (57.0)	61.0 (52.2)	61.3 (50.7)	66.4 (55.2)	66.7 (51.4)	66.4 (50.3)
1974-5	72.2 (64.2)	68.7 (49.7)	73.7 (63.5)	63.5 (57.3)	69.8 (61.0)	74.0 (54.7)	70.1 (56.2)
<u>All Rural Labor</u>							
<u>Households</u>							
1964-5	63.3 (63.3)	51.0 (55.6)	53.8 (54.3)	58.7 (52.2)	61.3 (55.6)	66.2 (51.1)	63.1 (53.9)
1974-5	70.1 (63.0)	69.9 (49.7)	74.0 (63.6)	62.7 (57.2)	70.1 (61.0)	73.2 (54.3)	69.9 (55.8)

Source: India, Government of, 1978, pp. 48-9.

Note: Not comparable with 1960-61 districts (p. 73 ; Rosenzweig, 1981, table 2); the absolute gaps in Table 14 greatly overstate what would be found in most villages or even districts because female wage participation is higher, relative to male, in poorer places.

FOOTNOTES

1. In exceptional cases, transfer income from migrant household members can exceed labor income, but surveys frequently overestimate the importance of this, because they give proportions of households rather than persons dependent mainly on transfers; single-member (and other small) households are heavily over-represented in the "transfer-dependent" groups. See, for example, Government of Botswana, 1976, pp. 97-100. Moreover, "transfer-dependent" households usually rely on a particular sort of labor income - remitted by a temporary absentee.
2. My forthcoming Staff Working Paper on human and physical assets of poor people (Lipton, 1983b) will review the evidence on this.
3. Streeten, 1972, pp. 121-5 outlines the use of this identity, and its origins.
4. When a community's normal working age begins, however, depends on economic and socio-cultural variables; it is not demographically fixed. Hence we cannot rigidly allocate all information about the component (working-age-persons/persons) to the demographic discussions in Lipton, 1983a.
5. Demography and economics interact also in respect of the component (workforce participants/working age persons). The costs of maternal workforce participation, for example, depend in a complex way on the age-structure of children in the household. See pp. 19-24.
6. See Streeten, 1972, pp. 121-7, on the evolution of the employment-utilization debate in Myrdal, 1968, pp. 959-1148.
7. Since most families in these less-unequal villages own and operate land, the distribution of returns-per-workday is closely related to that of returns-per-hectare.
8. For example, of males aged 15-59 in rural India in 1977-8, excluding students and sick casual workers, 96.1% reported "working (at least one hour) or seeking work or available for work (at least one day)" in the week before survey; 94.0% of each of the fourteen half-days was mainly spent in these activities. In urban areas the corresponding figures were 96.5% and 85.7%: Sarvekshana, 1979, pp. S.510, S.514. ILO age-specific data are similar.
9. Older people are ill oftener; and the non-casual workforce is less poor (and morbidity goes with poverty).
10. For example, over 1 m. cases of lameness in India are due to lathyrism induced by dependence on Kesari dal (verbal estimate to the author from National Institute of Nutrition, Hyderabad); TB, and to some extent leprosy and malaria, are preventable diseases of poverty; etc.
11. Chambers et al. 1981. See, however, Standing, 1978, pp. 91-2, for a sceptical view.

12. Indian data require great caution if used in assessing seasonal non-participation (Annex 4). However, the 1977-8 all-India rural sample is big enough, and seasonal peaks around monsoon activity (July-September) and monsoon harvesting and winter ploughing (October-December) are clear and general enough, for us to use NSS all-India seasonal sickness data. This is especially so because seasonal fluctuations are in the same direction for total employment, the female/male ratio, and the casual/others ratio.
13. On a basis of main activity on 14 half-days during the week prior to interview. Unemployment includes half-days seeking work, plus half-days available and workless though not seeking work; see below, Tables 7 and 9, Notes.
14. This is despite the low short-run wage-elasticity of demand for labor (see pp. 94-5). The evidence suggests that illness and disability are probably severest in times and places where that elasticity is high: in peak seasons in "busy" areas. If the casual labor concerned is near to some sort of "ultra-poverty" nutritional danger-point (Lipton, 1983), it is not surprising that such labor is most illness-prone at times and places of work-stress, i.e. of wage-elastic demand for labor, notwithstanding the prevailing wage-inelasticity.
15. For example, the huge excesses of urban over rural health provision per person (Lipton, 1977, pp. 265-8, 448) and the concentration of both on the better-off, plus the big general excess of rural mortality at all ages for both sexes (Mitra, 1978, p. 223), strongly suggest that transfers of health resources to the rural poor are cost-effective. Higher rural ASPRs (p. 27) reinforce this suggestion, along the lines argued here - rural output is likelier to be constrained than urban output by illness, inducing non-participation at seasonal peaks.
16. This is also the case because, among operating farm households, the poorer are less likely to have access to irrigation, and thus to multi-season farming that does not involve an uncertain search for hired employment.
17. Jambua, 1980, p. 94, exemplifies adult male participation in different income-per-person groups. It confirms NSS - see Visaria and Pal, 1980, p. 71.
18. Similarly, there is a higher adult female PR in villages with higher average income and greater inequality (Dasgupta, 1977).
19. In Tamilnadu "an estimated 50,000 children ... work ... making matches and fireworks ... Explosions have killed and wounded some". In carpet-weaving in Kashmir, Tamilnadu and Uttar Pradesh, "children as young as 6 work long hours ... 60 per cent ... develop TB [or] asthma from inhaling fluffs". About 300,000 Indian children are employed in rolling bidis; "many are said to develop chronic bronchitis". This journalist's account (Schidlovsky, 1982) appears to be neither sensational nor censorious, stressing poor families' need for income. The data are attributed to medical and child-welfare experts and, while doubtless very approximate, ring true to this reader. India is ahead of most LICs in its active concern for this issue; in others, risky or unhealthy child labor is probably at least as prevalent.

20. Because of possible differences in definitions or survey methods, direct comparisons across the five countries between absolute values of pairs of ASPRs are best avoided: e.g. we attach no significance to the fact that married women aged 25-44 showed a PR of 4% in Pakistan, 22% in Malaysia and Indonesia, and 45% in Thailand, as "PR" may have meant different things in the five cases. However, patterns of ASPRs - e.g. male/female or single/married ASPR ratios in each age-group - should be approximately comparable across countries, allowing for differences in concealment or misreporting.
21. Thus in the UK in the mid-1970s (on a much more generous definition of poverty), "even among husbands on earnings under 70 pence an hour, only 19 per cent of families were poor if the wife worked, compared with 76 per cent if ... not" (UK, Royal Commission, 1978, p. 25, cited in Mazumdar, 1981, p. 41).
22. "Seven groups": poorest and second-poorest decile; second-poorest, middle, and second-richest quintile; and second-richest and richest decile of households, ranked in order of monthly expenditure per person (MEP). "Age-standardized": in each such "group", the observed PRs for each five-year age-group (i.e. 10-15, 15-20 ... 59-64, over 64) are applied to the number of persons in that decile who would be in that age-group, if the age-structure of each decile were the same as that of the population as a whole. "Usual-activity" participation corresponds to a report that the respondent is "usually" at work or seeking it; "time-disposition" data (showing proportion of half-days spent at work or seeking it in the past week), or even "current-activity" data (recording the presence or absence of participation in the previous week), would be preferable. However, such data are not available age-standardized by MEP quintiles or deciles. Visaria reports that the three measures give similar results.
23. Visaria and Pal, 1980, Appendix Tables 23-24, gives separate age-standardized "usual" participation rates (among over-10s) for deciles 1 (poorest), 2, 3-4, 5-6, 7-8, 9 and 10; thus n = 7. We regressed PRs (p) on deciles (d), counting 3-4 as 3.5, etc. Results are:

State	Area	Males		Females		Persons	
		Equation (p=)	r	Equation (p=)	r	Equation (p=)	r
Gujarat	Rural	-.0089d+.8037	-.9535	-.0216d+.6345	-.9778	-.0153d+.7216	-.9985
	Urban	-.0045d+.6852	-.8118	-.0144d+.2309	-.8963	-.0064d+.4504	-.8092
Maha-rashtra	Rural	-.0001d+.7614	-.0481	-.0132d+.6698	-.7666	-.0045d+.7060	-.5609
	Urban	-.0018d+.6833	-.5366	-.0149d+.2580	-.7749	-.0020d+.4579	-.2684

(Significance levels of r with 7 observations, or 5 d.f, on 2-tailed t-test: r = .95 at 0.1%; .87 at 1%; .75 at 5%; .67 at 10%; .55 at 20%).

24. Levels in the poorest decile, and inter-decile changes to the next-poorest, for actual and regression-predicted age-standardized participation-rates among over-10s, derived from Visaria and fn. 23, are given overleaf:

24. (Continued)

State	Area	Data	Males		Females		Persons	
			% Rate in Poorest Decile	% Change, Poorest to Next-Poorest	% Rate in Poorest Decile	% Change, Poorest to Next-Poorest	% Rate in Poorest Decile	% Change, Poorest to Next-Poorest
Gujarat	Rural	Actual (Pre- dicted)	78.54 (79.48)	+1.22 (-0.89)	62.34 (61.29)	-4.30 (-2.16)	70.82 (70.63)	-1.82 (-1.53)
	Urban	Actual (Pre- dicted)	67.88 (68.07)	+0.07 (-0.45)	25.32 (21.65)	-5.99 (-1.44)	45.84 (44.40)	-2.04 (-0.64)
Maha- rashtra	Rural	Actual (Pre- dicted)	73.35 (76.13)*	+0.27 (-0.01)*	59.94 (65.66)	+6.23 (-1.32)	67.43 (70.15)	+3.64 (0.45)
	Urban	Actual (Pre- dicted)	68.30 (68.15)	+1.03 (-0.18)	29.31 (24.31)	-6.04 (-1.49)	48.39 (45.59)*	-2.23 (-0.20)*

* Predictive equation not statistically significant (see fn. 23).

25. (a) In rural Maharashtra, cases of female disability per 100,000 were: at ages 15-24, 573 (as against 433 for rural Gujarat and 457 for rural all-India); ages 25-44, 879 (as against 371 and 579 respectively); and at ages 46-59, 1,462 (as against 501 and 1,244 respectively). Casual labor days, off work due to sickness, as a proportion of total casual labor days (averaged over all four rounds - see Annex 4), comprised 5.7% for rural Maharashtra, and only 1.9% for rural Gujarat.

(b) Disabled persons, as percentages of age-groups aged 15-24, 25-44 and 45-59, respresented, respectively among women (men in brackets): rural all-India, 0.5% (0.9%), 0.6% (1.1%), and 1.2% (1.7%); urban all-India, 0.4% (0.6%), 0.5% (0.8%) and 1.0% (1.4%). Statewise differences were fairly similar. As for sickness-induced absenteeism as a proportion of days worked, among casual laborers, the incidence was in fact slightly higher among women than among men on an all-India basis (0.6% vs. 5.3% rural; 6.4% vs. 5.7% urban), but not nearly enough to outweigh the effects of sex-differentials in disability. Consistent with our hypothesis, the gap was a good deal larger in rural Maharashtra - 5.7% vs. 4.4%: Sarvekshana, April 1979, pp. S.514, 530, 558, 726-7, 738-9.

26. Farm assets = value of operated land + improvements + livestock + implements (Rs. 000) (my italics): Ryan and Wallace, 1981, p. 26. Per-person, -CU, or -worker asset definitions would be preferable to per-household ones, but the ranking of households, on different definitions, are probably quite strongly associated.

27. For 19 villages, the rate averaged only 19.8%, but the CV was 140.5 (see fn. 28).

28. CVs were, respectively, 131.3; 39.6; 44.3; and 32.51: Dasgupta, 1977, pp. 24-5.

29. Most of the evidence reveals normally-sloped labor supply functions, even without "compensating variations" to allow for income-effects of changes in the rate of labor rewards (Dean, 1966, Ch. 4; Helleiner, 1975.) The few surveys that try to separate price-effects on labor supply of wage rises from income-effects invariably show positive price-effects (Smith (ed.) 1980; Binswanger and Rosenzweig, 1981) though it is not always clear how these are divided between wage-respective changes in the number of participants and in the duration of labor per participant.
30. The extent to which these effects are alternative, rather than additive, depends on the market-structure ((a) and (b)) and to some extent on the economic model used ((a) and/or (b) as against (c)).
31. Also rich (living-in) households, as they adopt the rule, reduce non-PAM own-labor ASPRs. This bids up demand for replacement labor from poor (living-out) households. Since richer households usually have fairly low non-PAM ASPRs, even before the rule - and have more spare PAM time to replace it with afterwards - the effect is probably small.
32. Sambrani and Pichholiya, 1975, show that - despite the overlap between 'backward' villages and high incidence of tribals - tribals were no poorer than non-tribals, due to slightly higher participation and considerably higher off-farm work (albeit at a lower daily wage rate).
33. Sarvekshana, April 1979. The sample is of mid-period (1 June 1978) population; 14,820 urban households (about 1 in 1,900) and 25,416 rural households (about 1 in 3,100) were sampled at each of the 4 rounds (despite population growth).
34. The urban proportion of half-days on which men in the workforce obtained employment, regressed (across 17 States in 1977-8) on the rural proportion, gave $r = .84$ (sig. at 0.1%). Sarvekshana, April 1979, p. 151.
35. But still somewhat; 'poor' small-farm families, by spending more time on their own land after irrigation arrived, would compete less for hired workplaces, and free them up for extra participation by the landless 'poorest'.
36. Kumar, 1977, pp. 19, 58, 70-74. The three criteria we use for a "substantial and significant" effect - an equation giving a reasonably high r^2 ; a t-statistic above 2 or so; and a high B-coefficient (as proportion of intercept) for a unit (here 10Rs over 3 months) reflecting a plausible change in the explanatory variable - are never jointly met in Table 6 for households with mothers not in the workforce, or for the peak season. The negative coefficient on B4, for (slack-season) wages to "others", in Col. 1, almost certainly indicates worsening child care when both mothers and "others" go out to work.
37. Note that in Table 6, Col.1, an extra 10Rs. of farm income per trimester "produces" four times as much nutritional gain as does an extra 10Rs. of maternal income earned away from the home farm (in the slack season).

38. Although child/female ratios were much higher (1.92) among the below-200R/m. income-group than among other groups (0.95-1.59) (Patel, 1973, Appendix Table 4), family size was 6.7 for the 14 landed households mainly dependent on labor income, 6.0 for the 31 mainly self-cultivating, and 4.4 for the 49 landless (Patel, 1973 Appendix Table. 1). The landed, among persons aged 15-59, had a male/female ratio of 1.11; the landless, of 1.04 (Patel et al., 1975, pp. 39, 91).
39. "Household tasks", for both sexes, also expand in Botswana when farmwork is scarce. Lipton, 1978, Vol. II, pp. 122-9.
40. Norman et al., 1976, p. 33, and 1972, p. 23. In 3 Sokoto villages, "Substratum X", the poorest farmers, averaged 0.89 acres, and 258 shillings of yearly income, per household member, and 5.52 acres per household; the best-off "Substratum Z" averaged 503 shillings, 3.22 acres/member and 15.61 acre/household. Travel time for family farm work alone by adult men - who did almost all the farmwork - was 12.8% of total productively employed on-farm and off-farm time in X, 8.6% in the intermediate Y income-group, and only 7.3% in Z (Norman et al., 1976, pp. 14, 26-7, 33, 137). There were similar "poor-selective" travel burdens in Zaria.
41. Sarvekshana, April 1979, pp. S.518, S.558, using daily basis (see Table 9 of this chapter) as closest to that used by Ryan and Ghodake, 1980.
42. Patel et al., 1975, pp. 65-7, yields the following (see also Table 2 above; available workdays for persons aged 5-14 are negligible):-

Income per person per year (R)	Group (Over-5:)	Workdays available				Proportion of Workdays unemployed			
		Total	Kharif	Rabi	Summer	Total	Kharif	Rabi	Summer
Below 200	Men	6450	2875	2000	1575	31.5	33.0	27.8	33.3
	Women	2975	1500	800	675	63.9	64.5	59.7	67.6
	Total	9425	4375	2800	2250	41.7	43.8	36.9	43.6
201-400	Men	18100	8000	5600	4500	26.1	30.0	25.4	19.9
	Women	8150	3875	2100	2175	51.5	53.8	47.1	51.4
	Total	26250	11875	7700	6675	34.0	37.8	31.3	30.2
401-600	Men	5750	2250	2000	1500	21.0	19.2	23.7	20.1
	Women	2350	1125	700	525	64.4	56.1	69.4	75.4
	Total	8100	3375	2700	2025	33.6	31.5	35.6	34.5
601-1000	Men	7150	3125	2300	1725	16.5	21.0	18.0	6.4
	Women	725	375	200	150	55.9	50.7	65.5	56.0
	Total	7875	3500	2500	1875	20.2	24.2	21.8	10.4
1001 +	Men	3825	1625	1300	900	14.1	14.1	17.3	9.6
	Women	-	-	-	-	-	-	-	-
	Total	3825	1625	1300	900	14.1	14.1	17.3	9.6

43. Ryan and Ghodake, 1980, p. 16. In the other three, the differences were not significant at 5%. Nor were differences between small and medium landed households, although these differences consistently favored employment for the latter.
44. This is why the percentage of persons reporting week-long unemployment is so much less than the percentage unemployed on any given half-day: Visaria, 1980, p. 12. Hypothesis: this ratio is lower, the larger the casual-labor proportion of the employed labor force.
45. Household size and child/adult ratios are increasing functions of land-holding (Lipton, 1983a). Hence they almost certainly decrease as the proportion of time spent in casual labor rises, at least in rural areas.
46. "The true problem of hard-core unemployment is that certain members of the labor force account for a disproportionate share of unemployment [not because they are long-term jobless but] because they drift from one unsatisfactory job to another, spending time between jobs either unemployed or out of the labor force" (Sir Robert Hall, cited in Mazumdar, 1981, p. 258).
47. Visaria, 1980, p. 25. The r^2 's in rural areas are .67 for men and .81 for women; in urban areas, .40 and .19 respectively.
48. Ibid., p. 25; cf. fn. 46 above. A log-log transformation changes the corresponding r^2 's to .76 and .88 (rural), .41 and .08 (urban).
49. This is characteristically most severe among the young, urban, female sections of the workforce: Mazumdar, 1981, p. 261; ILO, 1971, Ch. 3.
50. In 1972-73, in urban Gujarat, 39% of female casual laborers gave their main occupation as "agricultural labor" (male 21.6%); urban Maharashtra - heavily influenced by Bombay - had corresponding figures of 62.8% (!) and 33.2% (Visaria, 1980, p. 28). Note that communities of 5,000 persons and above are normally counted as "urban" in India.
51. Visaria, 1980, p. 8, 39; Sarvekshana, April 1979, pp. 156-8. The rural ratio of male to female rates moved closer to unity in every State except Rajasthan. It is hard to see why much of this should be due to the small definitional change in 1977-8 (excluding persons below 15 or over from the workforce). Thus correlation between 1972-3 and 1977-8 rural ratios was .5841 for the 16 States.
52. See, for example, ILO, 1971, Vol. 1, Ch. 3. Persons aged 15-23 formed 88.2% of the urban unemployed in Nigeria in 1966-7 (Okorafor and Iwuji, 1979, p. 103). In South Asia in the early 1970s, "young, new labor force entrants ... appear[ed] to account for between 40 and 60 percent of the urban unemployed" (Ridker, 1971, p. 12). Among persons aged 15-24, urban unemployed rates in seven South Asian countries in the early 1970s were 2-3 times the rates for urban labor forces as a whole (Mazumdar, 1981, pp. 275-7).
53. See fn. 52; compare Zachariah and Condé, 1981, p. 67; Connell et al., 1976 ; Mazumdar, 1981, p. 203; Rempel, 1971, pp. 80-1.

54. A commentator on an earlier draft of this paper pointed out various regression and probit analyses separating the effects of age, education and workforce experience from those of migration given these three characteristics. While useful for some purposes, such separation tends to drown, in ceteris paribus assumptions, the fact that migrants are for some time worse-off in terms of employment, and income-per workday, than the settled urban populations.
55. Probably persons dependent mainly on either casual-labor or small informal activity are much more likely than other persons to obtain significant secondary income from the other activity.
56. Certainly they are much more appealing than the paradoxical claims that farm growth reduces employment - claims based on statistical misinterpretations (Lakdawala, 1977; Tyagi, 1981).
57. These are also most vulnerable to high average unemployment - both, presumably, in large part because agricultural stagnation means relatively low demand for labor in investment activities. This reduces not only total employment, but also the prospects of scheduling it into the slack season when demand for labor to make consumption goods is also slack.
58. For an account of the method, see V.M. Dandekar, 1978: "The results pertain to the average condition during the three months" (p. 36), although "all persons of age 5 and above were asked how they spent each day of the week preceding the day on which they were interviewed" (p. 35). Hence, to avoid lapses of memory yet obtain results for the whole quarter, the survey - and the preceding week - was staggered and averaged over each quarter.
59. Rath, 1980, pp. 2, 6, and Table 2. Rath explicitly points to NSS underestimation of fluctuations on account of their infrequent (quarterly) and averaged measures.
60. Visaria, 1977, shows that 8.8% of employed men, and 29.9% of employed women, aged over 10 in urban Gujarat were in agriculture; in urban Maharashtra the corresponding figures were 9.0% and 27.6%. Except for women in Gujarat, proportions were much higher in the poorest deciles. On urban-rural boundary sizes, see Lipton, 1982, fn.3.
61. In interpreting Table 13, we should recall that most persons spending below 21 Rs. per person per month, and many urban persons spending 21-34 Rs. per month, were ultra-poor - i.e. likely to be at some nutritional risk - in 1972-3. Almost all rural persons (and the rest of the urban persons) spending 21-34 Rs., plus some urban persons spending 34-55 Rs., were poor but not ultra-poor: see Lipton, 1983.
62. It is a high average plus high CV (together implying high SD) that renders unemployment fluctuations really harmful. For example, the 65.8% CV among rural women in households spending over 100R/person/month seems big - but is not very serious, because their average unemployment rate is so low (3.3% of person-days available for work).
63. For example, if a given land area is ploughed faster but yields the same, higher labor-productivity is exactly offset by lower labor-duration and income is unchanged (indeed its distribution usually worsens).

64. That is, it does not suffice to calculate what proportion of the logarithm of the LHS (or of differences, or ratios, between LHSs, for two populations being compared) was constituted by each of the logarithms of the four RHS components.
65. This is analogous to the Todaro-Harris effect of urban growth in pulling in migrants in proportion to the higher expected urban income, allowing for unemployment - and this is raising, or at least failing to lower, urban unemployment (Todaro, 1971). One should also stress, however, the effect in lowering rural unemployment.
66. Gregory, 1980, cited in Berry and Sabot, 1981, p. 17, fn: "For the 14 countries for which Gregory presents a linear regression of the unemployment rate on the time variable ... five coefficients were statistically significant at [5%], all being negative".
67. Sarvekshana, April 1977, p. 87, Oct., 1978, p. 39. Proportions of days in unemployment year-round were: rural men, 6.7% (7.3%, 1977-8); rural women, 9.9% (8.9%); urban men, 8.0% (9.9%); urban women, 12.6 (16.3%).
68. For evidence that very small landholdings in India are growing faster than any reasonable estimate of rural population, see Vyas, 1979.
69. To the familiar reasons for stickiness downwards of wages must be added - even for those impressed by general evidence against efficiency-wages (Binswanger and Rosenzweig, 1981a) - Leibenstein-like effects of very poor people's wages on their nutrition and hence productivity, and also the fact that some such farmworkers are receiving wages that place their families near the minimum levels required to produce output and to reproduce themselves.
70. i.e. in willingness by employers to pay a premium to employ workers of a particular type (age, sex, caste, color, etc.) that bears no relation to productivity.
71. These effects would have to outweigh income-effects: see above.
72. This is not, of course, to claim that "women's tasks" are less pleasant or skilled than men's, or that they are adapted from physiological comparative advantage rather than from male "dictatorship" - beliefs well disposed of by Mencher, 1982.
73. 70.6% (s.d. 18.62) in 42 "A-villages"; 92.7% (19.2) in 42 "B-villages"; $t = -3.55$ for difference, significant at 1%: Dasgupta, 1977, p. 194.
74. The huge inter-village differences in male-female wage differentials (Rudra, 1982, p. 15) do not, however, provide supporting evidence for lower female mobility. Really high mobility for either sex could reduce these gaps. As Rudra suggests, prior commitments to employ locals in some villages, plus different patterns of (traditionally sex-specific) tasks, are a more convincing explanation of these village differences.
75. P. Bardhan, 1982, table 04 -3; $r^2 = 0.1287$ for 2902 observations. The positive effect of age on wage is confirmed ($r^2 = .2078$, $n = 709$) for monthly-paid (regular) farm laborers in 1972-3 at table 04-8, but no test is applied for a negative effect of (age²), i.e. for a turning-point.

76. Ryan, 1982, p. 17, for the Indian cases; non-significance of increasing age from 15 to 45, for women's wage rises, is reminiscent of the relatively small contribution of female education to rural wage-rates (p. 114) in the same study. For Guatemala, Sumner, 1981, p. 5. Binswanger and Rosenzweig, 1981a, p. 45, suggest negligible age-wage effects for casual field labor; however, of their two sources, one may lose the local evidence of these effects because it is an all-India sample, and the other is for ICRISAT villages, where, as we have seen, Ryan did find an effect for men.
77. Mazumdar, 1981, pp. 268-71, gives confirmation from other developing countries. Educated persons, waiting for a suitable job, are seldom very poor, but Visaria's evidence of highest unemployment in the lowest income deciles (Part II) suggests that these high rates are also prevalent among the poor, uneducated or little-educated young.
78. Binswanger and Rosenzweig, 1981a, p. 8, 14-15; Rodgers, 1975. The argument would apply more strongly to attached or contract workers than to day-laborers (since the physical effect of better nutrition is not all captured on the day of improvement). "Income" refers to cash, kind, and meals-at-work - which a worker can indirectly divert to a relative, if any, by using their existence to leave more food for such a relative at home.
79. There is at least one historical experience and one model that, instead, suggest that lower wages cause lower levels of technical development. US labor shortages may in the nineteenth century have accounted for faster technical progress than prevailed in the UK, where labor was cheaper relative to other factors (Habakkuk, 1962). Free interregional trade, mobile capital, and immobile labor can perpetuate regional wage gaps (Emmanuel, 1972). However, the first experience was associated with an open US land frontier; and the latter model assumes full employment of all factors.
80. The exponential fit is even better ($r^2 = 0.82$) for the 14 districts. In both regressions, pumpsets and laborers per acre are significant at 1%; tractors n.s.
81. Coefficients of variation of per-day money wage rates: 1950-51, 31.9%; 1956-57, 37.4%; 1964-65, 25.2%; 1970-71, 37.0%.
82. Only these variables gave β -coefficients with t-statistics clearly above 2; r^2 was around .25 in the relevant equations (col. 2; in the context of my argument, it would be inappropriate to use the columns where "village average wage" is introduced as an explanatory variable for the wage-rates of individuals sampled).
83. ILO (JASPA), 1980, Appendix G2, p. 28-30, also shows that average formal-sector "wages paid by large firms are much better ... and foreign firms tend to pay higher wages" in almost all sectors, but the conclusion suffers from failure to review these possible proxy effects.
84. Rosenzweig, 1978, pp. 857, 860. This does not contradict the finding (P. Bardhan, 1982, Ch. 4, p. 9) that, across 52 agroclimatic regions of rural India in 1970-71, "the wage rate is positively associated with ... the proportion of large farmer households"; a similar linkage of wages to average land area per landowner also appears in Rosenzweig, 1978, p. 857, and means that wage-rates rise with land-linked demand, not with (mechanisation and monopsony-linked) inequality.

85. For disproof of such a correlation among the landed - drawing on NCAER's survey of 3000 farm households in 1968-71 - see F. Iqbal, 1982.
86. In Ferozepur in 1969-70, months of low on-farm employment featured low average daily wage-rates ($r = .6371$, sig. with 12 months - 10 d.f. - at 3%); in Hooghly in 1970-71, least aggregate labor was hired in by cultivator households when wage-rates were lowest ($r = .5769$, sig. at 5%. Calculated from K. Bardhan, 1977, p. 60).
87. Households mainly dependent on hired-labor income rose from 25.4% to 30.1% of rural households from 1964-5 to 1974-5. However, the proportion of such rural "labor households" cultivating land rose from 43% in 1964-5 to 49% in 1974-5, averaging 1.2 acres per landed household (about 41% of these landed "labor households", however, cultivated below 0.5 ac., and a further 19%, 0.5 to 1 acre : India, Government of, 1978, pp. 22-3). For confirmation from the 1961-71 period, see Vyas, 1979.
88. Non-farm labor fell between 1964-5 and 1974-5 as a proportion of total days of wage-work, from 10.6% to 10.3%, for men, but rose from 6.4% to 7.4% for women, and from 7.2% to 8.3% for children. Wage-rate ratios between non-agricultural and agricultural work, for 1964-5 and 1974-5 respectively, were: men, 1.33 and 1.25; women, 1.35 and 1.03; children, 1.07 and 1.01: India, Government of, 1978, pp. 25, 47-8.
89. Data from Parthasarathy, 1977, p. 43. Money wages in W. Godavari, 1958-9 to 1970-1, showed (i) $r = .930$ ($n = 13$, d.f. = 11) on the price of paddy for the current year, and (ii) (for 1959-60 to 1970-1 wages, 1958-9 to 1969-70 prices) $r = .898$ ($n = 12$, d.f. = 10) on last year's paddy price. This does not support the claim of a "pronounced lag between retail prices and money wages" (p. 44).
90. To establish this, we need to show that these low elasticities - invariably derived from cross-sectional work - are in fact short-run; see pp. 94-5.
91. In part because such "availability" is often hard to distinguish from leisure.
92. The costs of temporary or permanent movement (appropriately discounted, and spread weekly over migrants' working lifetimes in the new workplace) between any pair of workplaces need to be netted out of the lifetime difference in expected (weekly) wage-rates, to which such movement is a response.
93. The arc pseudo-elasticity is in fact .406.
94. Suppose villages A and B are demographically identical, but A has a daily wage of Rs. 2 and a labor supply of 1000 person-days on a typical day, while B pays Rs. 2.5 and supplies 1100 person-days. In person-day terms, the (uncompensated) apparent elasticity of supply of labor-days is 0.400 on an A-base, 0.455 on a B-base, and about 0.427 across the arc. But now suppose the average person-day in A is 7.50 hours, in B 7.75 hours. Labor supply in person-hours is thus 7500 in A, and 8525 in B; respective hourly wage-rates are Rs. 0.267 and Rs. 0.323; and elasticity for labor-hours is 0.652 on an A-base, 0.694 on a B-base, and 0.673 on the arc. Thus even a small rise in the length of the day (3.3%) - less than is plausibly associated with a 20-25% day-wage gap between villages in one region - in this plausible case means that day-elasticities understate cross-section labor-elasticities by almost 60%!

95. This question is the obverse of the debate about the relative price-elasticities of marketed, total and self-consumed food. The balance of evidence is that marketed supply (strongly: price-elasticity of supply about .5 to .8), self-consumed output (weakly) and total food output (significantly: .2) all respond positively to higher food prices, more as time passes (Lipton, 1977, Ch. 12 and fn. 86).
96. A further complication, pointing in the same direction, is that demand for leisure probably has positive cross-elasticity with income (to spend on leisure-enhancing commodities): Hicks, 1946.
97. Supply-elasticity is bound to be low (in response to a wage rise) - as we know it is among the poorest - if labor supply, Q , is already very high. An extra hour per day of work is a smaller proportion of initial work, so ΔQ is small, for a high Q . Also ΔQ has relatively high marginal disutility.
98. The arguments, by which classical economists supported the long-run subsistence theory of wages, varied. For Ricardo, diminishing returns to land implied tendencies for growth to by-pass wages and profits, as an increasing share of the rising GNP was absorbed by rents on intra-marginal land (an effect reincarnated internationally, since 1973, via OPEC). For Malthus, rising populations adjusted birth-rates up (and/or death-rates down) when real wage-rates rose, thereby increasing labor supply and depressing real wages. For Marx, "competition among capitals" forced their owners to bid down wage offers. For Lewis, excess labor supply (relative, in particular, to land) so depresses MPL as to prevent wage growth.
99. "Given the evidence ... the presumption should be that rural labor markets are subject to the forces of supply and demand ... [This does not] imply that all is well in the rural sector. The rural labor market may work reasonably effectively yet the return to labor may be unacceptably low" (Squire, 1979, p. 53). Or from P. Streeten and R. Jolly (eds.), 1981): (a) "We do not view the employment problem as unimportant [but] the term is a misnomer because it conjures up an image of labor market failure. The slow rate of growth of workers' income at the bottom of the distribution ... is better termed a poverty or distribution problem" (A. Berry and R. Sabot, pp. 181-2); (b) "In rural development, neoclassical proofs that markets are efficient, coupled with commonsense observation that such efficiency [produces outcomes] both stagnant and unjust, compel radical reappraisal of the power structure [that turns] incentives against the rural sector [and steers its] scanty credit towards the [often] low-yielding, capital-intensive projects of big [surplus] farmers" (M. Lipton, p. 209).

ANNEXES I-VI: FOOTNOTES

1. The argument is not radically affected by whether this daily "return" is a wage as an employee, self-employed income or a share in family produce.
2. Visaria, 1977, Stat. App., Table 23, for instance, shows "standardised labour force participation rates by MEP decile" in several regions. That is, we discover what would be the participation rate of the nth decile, if each of its age-groups continued to enjoy its observed rate, but if its age structure became that of the whole population.
3. To point this out is not, of course, to justify the social structures that permit men to confine "child care" - let alone seclusion - to women!
4. Lipton, 1983a. This is confirmed by the much lower NSS rates using "current" or "normal" participation as a criterion, and by the low estimates of the proportion of children of schoolgoing age who do not go to school because of gainful work; but NSS rates are too low to be true.
5. 100,000 rural households, 1.5 men aged 15-64 each; 0.95% of person-days recorded as sick, divided among 4 rounds; and allowing for non-participation. Similary in other groups.
6. Table entries are rounded off; the spuriously accurate estimates in the raw NSS data (143,900/2,268,800 to 87,900/1,961,300) show an even more remarkable fall, from 6.3% to 4.5%. Sarvekshana, April 1979, pp. S.555-S.556.
7. Durable consumer-goods, for the poor, consist overwhelmingly - by value - of simple houses. Locations are chosen so as to allow the poor to "spend" time rather than money. Thus the urban poor are pressed - by the structure of rents and by the relatively low opportunity-cost of travel-time - to live relatively far from formal work (Mohan, 1980). The nature of poor urban people's housing assets therefore (a) raises net costs of formal-sector participation, (b) lengthens the unrewarded working period, (c) curtails the rewarded workday. Rural travel time (as a proportion of workdays) also rises with poverty - due partly to house location, partly to the search for hired work,, partly to travel among fragmented mini-plots. In 1975-6, in Banyutowo village, Semarang, Java, households were divided into Class I (21 households, each owning and operating fishponds and/or at least 0.5 ha. of rice), Class II (31 with 0.2-0.5 ha.) and Class III (35 with below 0.2 ha. - in fact, only three had ricelands, all below 0.1 ha.) Class III households spent 54 hours per household in working travel, and 63 in job search, in the sampled peak month (Class I:50 and 7); and 86 and 187 respectively in the slack month (Class I:61 and 21). See Hart, 1980.

8. If a productive asset, such as land, is redistributed, then (c) above induces the new owner to raise labor input (normally involving family labor supply) and the ex-owner to lower it (normally cutting demand for hired labor). There are offsetting effects through (a) and complex ones through (b) - both mediated via (d).
9. Furthermore, one of the studies (Ryan and Wallace, 1982) predicts only the effect of land redistribution in cutting PRs on hired daily labor markets; but small owners may more than make up for this by working more on their own, increased, assets.
10. Very few of the poor in developing countries can take the option of releasing persons from housework to earning work by purchasing appropriate durable consumer goods, because such goods (e.g. washing machines) are usually too expensive, indivisible, and dependent on electricity.
11. At any given income-distribution; less output, but a more equal distribution, could still be preferred by a planner.
12. Cheung, 1969. However, Bell, 1977, shows that although (a) intensity indicators (per-acre irrigation, cropping intensity, labor, intermediates, cropping pattern, and value added) are not significantly higher for pure sharecroppers than for farmers with both sharecropped and owner-farmed land, (b) the latter farmers show significantly higher indicator values on their owned than on their sharecropped land. Finding (a) seems to support Cheung, and thus to validate our "second glance"; but, since pure sharecropped holdings are on average smaller than mixed holdings, one would expect higher yields, and their absence does support an offsetting positive impact of asset ownership on labor-input - i.e. a Marshallian, "first-glance" view. Finding (b) also supports that view. Both (a) and (b) have since been confirmed by work in Bangladesh.
13. Pant, 1981, p.38. He shows much too large a proportion of family labor per hectare (in Kalman village, 116 hours on sharecropped and 254 on owner-farmer plots; in Shirapur, 175 and 499 respectively), or even of total labor per hectare (Kalman, 331 and 590, Shirapur, 331 and 790), to be accounted for by differences in household size (pp.34-5).
14. In three Sokoto villages, where land was almost the only productive asset, households were stratified into three groups: X(37 families), Y(30) and Z(33), in rising order of acres-per-resident (respectively 5.5, 9.1 and 15.6). Average days worked (on or off the farm) from April 1967 to March 1968 were: X, 297; Y, 263, Z, 247. The "poorer" a household, however, the less its daily hours-per-worker and its proportion of own-farm work. Crudely, participation rates for adult men - in these places where adult women do hardly any farmwork - rise as asset (land) scarcity forces rates up, but employed period per participating day declines. See Norman et al., 1976, p. 177.

BIBLIOGRAPHY

- A. Akerle, 'Facing up to unemployment in Benin City', in Nigerian Economic Society, Urbanization and Nigerian Economic Development, Ibadan, 1979.
- S. Ali et al., Labor Migration from Bangladesh to the Middle East, World Bank Staff Working Paper (hereafter WBSWP) No. 434, Washington, D.C., 1981
- C. Allison, personal communication, 1979.
- Ankodia, Baroda District: ... A Tobacco Village, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 3, by R.M. Patel, 1964.
- M. Asokan, 'Rural labor wages and bullock rental rates for various agricultural operations in the SAT of South India, 1975-6 to 1979-80', Economics Program Progress Report No. 18, ICRISAT, Patancheru, 1980.
- F. Bailey, Caste and the Economic Frontier, Manchester, 1953.
- , 'An Oriya hill village: II', in Srinivas, 1960.
- B. Bannerjee and J. Knight, 'Caste discrimination in the Indian urban labour market', mimeo, Institute of Economics and Statistics, Oxford, 1982.
- K. Bardhan, 'Factors affecting wage rates for agricultural labor', Economic and Political Weekly (hereafter EPW), VIII, 26, Review of Agriculture, June 1973.
- , Rural Employment and Wages with Agricultural Growth in India, Studies in Employment and Rural Development No. 38, DED (ERD), World Bank, Washington D.C., 1977.
- , 'Work as a medium of earning and social differentiation: rural women of West Bengal', in Binswanger and Rosenzweig (eds.), 1981.
- P. Bardhan, 'Determinants of supply and demand for labor', in Binswanger and Rosenzweig (eds.), 1981.
- , Land, Labor and Rural Poverty: Essays in Development Economics, mimeo, Univ. of California, Berkeley, 1982.
- , 'Wages and unemployment' and 'Peasant labor supply: a statistical analysis', in P. Bardhan, 1982.
- A. Barnett, The Gezira Scheme: An Illusion of Development, Cass, 1977.
- G. Becker, The Economics of Discrimination, Chicago, 1957
- C. Bell, 'Alternative theories of sharecropping: some tests using evidence from N.E. India', Journal of Development Studies (hereafter JDS), 13, 4, 1977.
- A. Berry and W. Cline, Agrarian Structure and Productivity in Developing Countries, Johns Hopkins, Baltimore and London, 1979.
- A. Berry and R. Sabot, 'Labor market performance in developing countries: a survey', in Streeten and Jolly (eds.), 1981.

-
- , Unemployment and Economic Development, PHR Discussion Paper 81-13, World Bank, April, 1981a.
- V. Bhanoji Rao, 'Measurement of deprivation and poverty based on the proportion spent on food', World Development (hereafter WD), 9, 4, 1981.
- G. Bhalla and G. Chadha, 'Green revolution and the small peasant: a study of income distribution in Punjab agriculture: II', EPW, XVIII, 21, May 22, 1982.
- S. Bhalla, 'Real wages of agricultural laborers in the Punjab, 1961-77', EPW, XIV, 26, Review of Agriculture, June, 1979.
- H. Binswanger, R. Doherty et al., 'Common features and contrasts in labor relations in the semi-arid tropics of India', mimeo, ICRISAT, Hyderabad, March 1980.
- H. Binswanger and M. Rosenzweig (eds.), Contractual Arrangements, Employment and Wages in Rural Labor Markets in Asia, mimeo, WB/ICRISAT, Hyderabad, November 1981.
-
- , Contractual Arrangements, Employment and Wages in Rural Labor Markets: a Critical Review, Agricultural Development Council, 1981a.
- H. Binswanger et al. (eds.), Rural Household Studies in Asia, Singapore University Press and Agricultural Development Council, Singapore, 1980.
- N. Birdsall and W. McGreevey, 'Introduction', in Buvinic et al., 1982.
- C. Bliss and N. Stern, Palampur: The Economy of an Indian Village, Oxford, 1982.
- Botswana, Government of, Rural Income Distribution Survey 1974/5, Central Statistical Office, Gaborone, 1976.
- M. Buvinic et al., Women's Issues in Third World Poverty, Johns Hopkins, 1982.
- P. Byerlee et al., Rural Employment in Tropical Africa: Summary of Findings, Dept. of Agricultural Economics, Michigan State University, East Lansing 1977.
- M. Cain, 'The economic activities of children in a village in Bangladesh', in Binswanger et al., 1980.
- R. Cassen, India: Population, Economy, Society, Macmillan, 1978.
- R. Chambers, 'Seasons and health', in Chambers, Longhurst and Pacey, 1981.
- R. Chambers, R. Longhurst and A. Pacey, Seasonal Dimensions to Rural Poverty, Pinter, 1981.
- D. Chaudhuri, Education, Innovations and Agricultural Development, Croom Helm, 1979.
- A. Chayanov, Theory of Peasant Economy, tr. B. Kerblay, ed. D. Thorner, Homewood, Illinois, 1968.
- S. Cheung, The Theory of Share Tenancy, Chicago, 1969.

- E. Chuta and C. Liedholm, 'Rural non-farm employment: a review of the state of the art', Rural Development Paper No. 4, Michigan State University, 1979.
- E. Clay, 'Institutional change and agricultural wages in Bangladesh', Staff Paper No. 76-5, Agric. Development Council, New York, 1976.
- J. Cleave, African Farmers: Labor Use in the Development of Smallholder Agriculture, Praeger, 1974.
- P. Collier and D. Lal, Coercion, Compassion and Competition: Wage and Employment Trends and Structures in Kenya, 1800-1980, Studies in Employment and Rural Development No. 64, DPS, World Bank, 1980.
- J. Connell and M. Lipton, Assessing Village Labor Situations in Developing Countries, Oxford University Press, Delhi, 1977.
- J. Connell et al., Migration from Rural Areas, Oxford University Press, Delhi, 1977.
- H. Correa, cited at Table 9 in Standing, 1978.
- K. Dandekar and V. Sathe, 'Employment guarantee scheme and food-for-work programme', EPW, XV, 15, April 12, 1980.
- V. Dandekar, 'Foreword', in Sarvekshana, October 1978.
- M. Dantwala, 'Rural unemployment: facts and issues', EPW, 14, 25, June 23, 1979.
- B. Dasgupta, Village Society and Labour Use, Oxford University Press, New Delhi, 1977.
- E. Dean, The Supply Response of African Farmers, North Holland, 1966.
- G. Desai et al., 'Impact of scarcity on farm economy and significance of related relief operations', CMA Monograph No. 84, Indian Institute of Management, Ahmedabad, 1979.
- A. Emmanuel, Unequal Exchange, NLR Books, 1972.
- S. Epstein, South India: Yesterday, Today, Tomorrow, Manchester University Press, 1973.
- R. Evenson and H. Binswanger, 'Estimating labor demand functions in Indian agriculture', Economic Growth Center Discussion Paper No. 356, Yale, 1980.
- Falna, Pali District: ... a Village in an IADP District, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 9, by M.L. Bhat and K.R. Pichholiya, 1976.
- M. Friedman, A Theory of the Consumption Function, National Bureau of Economic Research, Washington D.C., 1957.
- R. Gaiha, 'On measuring the risk of poverty in rural India', mimeo, Faculty of Management Studies, Delhi, 1982.
- _____ and N. Kazmi, 'Aspects of poverty in rural India', mimeo, Faculty of Management Studies, Delhi, 1982.

- A. Ghose, 'Wages and employment in Indian agriculture', WD, 8, 176, 1980.
- R. Grawe (with J. Krishnamurthy), India: Employment and Employment Policy (Background Paper to 1979 World Development Report), World Bank, mimeo, 1979.
- M. Greeley, 'Rural technology, rural institutions and the rural poorest: the case of rice processing in Bangladesh', in Greeley and Howes (eds.), 1982.
- M. Greeley and M. Howes (eds.), Rural Technology, Rural Institutions and the Rural Poorest, CIRDAP/IDS, Dacca, 1982.
- P. Gregory, 'An assessment of change in employment conditions in less developed countries', Economic Development and Cultural Change, 1980, cited in Berry and Sabot, 1981.
- L. Gulati, 'Rationing in a peri-urban community', EPW, March 19, 1977.
- H. Habakkuk, American and British Technology in the Nineteenth Century: the Search for Labor-Saving Innovations, Cambridge University Press, 1982.
- Sir R. Hall, cited in Mazumdar, 1981.
- B. Hansen, 'Employment and wages in rural Egypt', American Economic Review (hereafter AER), 59, 1969.
- G. Hart, 'Patterns of household labour allocation in a Javanese village', in Binswanger et al. (eds.), 1980, Rural Household Studies in Asia, Singapore University Press and Agricultural Development Council, Singapore, 1980
- G. Helleiner, 'Smallholder decision making: tropical African evidence', in Reynolds, 1975.
- J. Heyer, 'Impact of smallholder rural development projects on poverty in Africa', mimeo, 1980.
- J. Hicks, Value and Capital, Oxford, 1946.
- P. Hill, Rural Hausa: A Village and Its Setting, Cambridge, 1972.
- , Population, Prosperity and Poverty: Rural Kano, 1950 and 1970, Cambridge, 1977.
- , Dry Grain Farming Families: Hausaland (Nigeria) and Kainataka (India) Compared, Cambridge, 1982.
- S. Hirashima (ed.), Hired Labor in Rural Asia, Institute of Developing Economies, Tokyo, 1977.
- D. Hopper, 'Seasonal labor cycles in an Eastern Uttar Pradesh village', Eastern Anthropologist, 1959.
- T. and V. Hull, 'Relation of economic class and fertility', mimeo, Population Institute, Gadjah Mada U., Yogyakarta, 1976.
- ILO, Matching Employment Opportunities with Expectations ("Ceylon Report"), Geneva, 1971.
- ILO/JASPA, D. Seers (ed.), First Things First: Meeting the Basic Needs of the People of Nigeria, Addis Ababa, 1980.

- India, Government of, Rural Labour Enquiry 1974-75: Summary Report, Labour Bureau, Ministry of Labour, Chandigarh, 1978.
- F. Iqbal, 'Demand for funds by agricultural households: evidence from rural India', mimeo, Rand Corporation, 1982.
- R. Islam, A. Khan and E. Lee, Employment and Development in Nepal, ILO/ARTEP, Bangkok, 1982.
- Jambua (1975-6), Resurveys of Indian Villages, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, by V. Patel, 1980.
- N. Jodha, 'Effectiveness of farmers' adjustments to risk', EPW, Review of Agriculture, June 1978.
- H. Joshi, 'Prospects and case for employment of women in Indian cities', EPW, Annual Number, August 1976.
- G. Kay, Development and Underdevelopment: a Marxist Analysis, Macmillan, 1975.
- Kenya, Government of, Integrated Rural Survey 1974-5: Basic Report, Nairobi, 1977.
- M. Kikuchi et al., 'Change in rice harvesting contracts and wages in Asia', in Binswanger and Rosenzweig, 1981.
- T. King (ed.), Education and Income, WBSWP No. 402, Washington, D.C., 1980.
- A. Kitahara, 'The forms of rural labor and their role in the rural ecology of Thailand', in Hirashima (ed.), 1977.
- J. Knight and R. Sabot, 'Labor market discrimination in a poor urban economy', JDS, 19, 1, October 1982.
- R. Krishna, Rural Unemployment: Concepts and Estimates for India, WBSWP No. 234, Washington, D.C., 1976.
- J. Krishnamurthy, The Employment Situation in India, mimeo, World Bank, 1978.
- S. Kumar, 'Role of the household economy in determining child nutrition levels: a case study in Kerala', Occasional Paper No. 95, mimeo, Div. of Nutritional Sciences, Cornell University, November 1977.
- G. Kutcher and P. Scandizzo, The Agricultural Economy of Northeast Brazil, Johns Hopkins (for World Bank), 1981.
- D. Lakdawala, Growth, Employment and Poverty, Presidential Address to All-India Labor Economics Conference, Tirupati, 1977.
- D. Lal, 'Agricultural growth, real wages and the rural poor in India', EPW, XI, 26, Review of Agriculture, June 1976.
- W. Lewis, 'Economic development with unlimited supplies of labor', Manchester School, XXII, 2, May 1954.

- D. Lim, cited in Squire, 1979.
- M. Lipton, Why Poor People Stay Poor, Temple Smith, 1977.
- , Botswana: Employment and Labor Use, Vol. II, Ministry of Finance and Development Planning, Gaborone, December 1978.
- , 'Agricultural finance and rural credit in poor countries', in Streeten and Jolly (eds.), 1981.
- , 'Migration from rural areas of poor countries', in R. Sabot (ed.), Migration and the Labor Market in Developing Countries, Westview 1982.
- , 'Rural development and the retention of the rural population', Canadian Journal of Development Issues, 1982a.
- , Poverty, Undernutrition and Hunger, WBSWP forthcoming, 1983
- , Demography and Poverty, WBSWP (forthcoming), 1983a.
- , Physical Assets, Human Assets and Poverty, WBSWP (forthcoming), 1983b.
- C. Lluch and D. Mazumdar, Wages and Employment in Indonesia, mimeo, World Bank, 1981.
- M. Lockheed et al., 'Farmer education and farm efficiency: a survey', in King, 1980.
- R. Longhurst, Rural Development Planning and the Sexual Division of Labor in a Moslem Hausa Village, WEP/10/WP/10, ILO, Geneva, 1980.
- R. Lucas, 'Migration amongst the Batswana', mimeo, Boston University, March 1982.
- H. Lydall, The Structure of Earnings, Oxford Univ. Press, 1968.
- P. Mahalanobis, cited in Myrdal, 1968, p. 1024.
- M. Mamdani, The Myth of Population Control: Family, Caste and Class in an Indian Village, Monthly Review Press (New York), 1972.
- A. Marshall, Principles of Economics, 8th ed., Macmillan, 1920 (reprinted 1961).
- D. Mazumdar, Paradigms in the Study of Urban Labor Markets in LDCs, WBSWP No. 336, Washington D.C., 1979.
- , The Urban Labor Market and Income Distribution: A Study of Malaysia, OUP (for World Bank), 1981.
- , cited in Squire, 1979.
- D. Mazumdar and M. Ahmad, cited in Squire, 1979.
- J. Mellor, The New Economics of Growth, Cornell, 1976.
- J. Mencher, 'The lessons and non-lessons of Kerala', EPW, Special Number, October 1980.

- J. Mencher, 'Muddy feet, dirty hands', EPW, XVII, 52, December 1982.
- M. Mies, 'Race, class and capital', EPW, 1979.
- V. Misra and S. Gupta, 'Productivity, wage-rate and its determination in Gujarat agriculture', Indian Journal of Agricultural Economics (hereafter IJAE), XXIX, 3, July-September 1974.
- A. Mitra, India's Population: Aspects of Quality and Control, Vol. I, Indian Council for Soc. Sci. Research, Delhi, 1978.
- R. Mohan, The Determinants of Labor Earnings in Developing Metropoli, DED-URR 80-14, World Bank, 1980.
- M. Morris, The Emergence of an Industrial Labor Force in India, University of California Press, 1975.
- C. Muthiah, 'The agricultural labor problem in Thanjavur and the new agricultural strategy', IJAE, XXV, 3, July-September 1970.
- G. Myrdal, Asian Drama, Pantheon, 1968.
- M. Nag, B. White and R. Peet, 'An anthropological approach to the study of the economic value of children in Java and Nepal', in Binswanger et al. (eds.), 1980.
- D. Narain and S. Roy, Impact of Irrigation and Labour Availability on Multiple Cropping: A Case Study of India, Research Report No. 20, IFPRI, Washington D.C., 1980.
- D. Norman, An Economic Survey of 3 Villages in Zaria Province: 2: Vol. 1: [Text], Samaru Misc. Paper No. 37, Ahmadu Bello University, 1972.
- et al., A Socio-Economic Survey of Three Villages in the Sokoto Close-Settled Zone: 3 - Input-Output Study, Vol. 1: Text, Zaria, 1976.
- , Farm and Village Production Systems in Semi-Arid Tropics of West Africa, Research Bulletin No. 4, Vol. 1, ICRISAT, Patancheru, 1981.
- J. Nugent, A. Kapteyn and R. Walther, 'A structural model of the influence of changes in weather on the distribution of rural incomes', University of California, mimeo, October 1981.
- F. Ojo, 'The urban employment problem', in Nigerian Economic Society, Urbanization and Nigerian Economic Development, Ibadan, 1979.
- A. Okorafor and E. Iwuji, 'Urban employment problems in Nigeria', in Nigerian Economic Society, Urbanization and Nigerian Economic Development, Ibadan, 1979.
- Oon, Surat District: A Village on the Periphery of an Industrial Estate, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 13, by N. Shah, 1968.

- J. Paige, Agrarian Revolution, Free Press, New York, 1975.
- C. Pant, 'Tenancy in semi-arid tropical villages of South India', Economics Program Progress Report No. 20, ICRISAT, Patancheru, 1981.
- G. Papanek, Pakistan's Development, Harvard, 1968.
- D. Parkin, Palms, Wine and Witnesses, Intertext, 1978.
- G. Parthasarathy, 'Employment, wages and poverty of hired labour', in Hirashima (ed.), 1977.
- , cited in Dantwala, 1979.
- and G. Rama Rao, 'Employment and unemployment among rural labor households', EPW, VIII, 52, Dec. 28, 1973.
- Patadia: A Tribal Village, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 1, Anon., 1963.
- R. Patel, Afawa Village, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Anand, 1962.
- V. Patel, Consumption Patterns in Rural Gujarat ..., AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, 1973.
- , R. Indu and V.P. Patel, Employment in Rural Gujarat: A Study of Four Villages in Anand Taluka, 1970-71, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, 1975.
- J. Peach and F. Januzzi, Bangladesh: A Profile of the Countryside, USAID, Washington, D.C., 1979.
- S. Popkin, The Rational Peasant, Berkeley, 1979.
- E. Quizon and R. Evenson, 'Time allocation and home production in Philippine rural households', in Buvinic et al., 1982.
- Rampura, Mehsan District, AERC for Gujarat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 15, Anon., 1970.
- N. Rath, 'Measuring rural unemployment in India - a methodological note', mimeo, Gokhale Institute, Poona, 1980.
- M. Reder, 'Chicago economics: permanence and change', Journal of Economic Literature, XX, 1, March 1982.
- R. Redfield, The Little Community and Peasant Society and Culture (reprint), Phoenix, Chicago, 1960.
- H. Rempel, Rural-Urban Labor Migration and Unemployment in Kenya, Int. Institute for Applied Systems Analysis, Laxenburg, 1971.
- L. Reynolds, Agriculture in Development Theory, Economic Growth Center, Yale University, 1977.

- R. Ridker and H. Lubell (eds.), Employment and Unemployment - Problems of the Near East and South Asia, Vikas, 1971.
- L. Robbins, 'On the elasticity of demand for income in terms of effort', Economica, X, 1930.
- G. Rodgers, 'Nutritionally-based wage determination in the low-income labor market', Oxford Economic Papers, 27, 1975.
- M. Rosenzweig, 'Rural wages, labor supply and land reform: a theoretical and empirical analysis', AER, 68, 3, December 1978.
- , 'Determinants of wage rates and labor supply behavior in the rural sector of a developing country', ch. 11, in Binswanger and Rosenzweig (eds.), 1981.
- , 'Neoclassical theory and the optimising peasant', Economic Growth Center Discussion Paper No. 271 (1977), cited in Ryan, 1981.
- L. and S. Rudolph, The Modernity of Tradition, Chicago University Press, 1967.
- A. Rudra, 'Local power and farm level decision making', Paper to Seminar on Society and Economy in Rural India, Palli Charcha Kendra, Visva-Bharathi, 1982.
- J. Ryan, 'Wage functions for daily labor market participants in rural South India', mimeo, Economics Program, ICRISAT, Patancheru, 1981.
- and R. Ghodake, 'Labour market behaviour in rural villages of South India: effects of season, sex and socio-economic status', Economics Program Progress Report No. 15, Patancheru, August 1980.
- , R. Ghodake and R. Sarin, 'Labor use and labor markets in semi-arid tropical rural villages of peninsular India', Economic Research Program Progress Report, ICRISAT, Hyderabad, 1979; also reprinted in Binswanger and Rosenzweig (eds.), 1981.
- and M. Rathore, 'Factor proportions, factor market access and the development of technology', Economics Program Progress Report, ICRISAT, Patancheru, 1978.
- and D. Wallace, 'Labor market participation in rural South India', Economics Program, ICRISAT, Patancheru, 1982.
- R. Sabot, The Social Costs of Urban Surplus Labor, OECD Development Centre, Paris, 1977.
- R. Sabot, L. Taylor and Y. Boutros-Ghali, Labor Force Growth, Employment and Earnings in Egypt: 1966-1986, Discussion Paper 81-16, Population and Human Resources Division, World Bank, May 1981.
- Sameldevi, Panchmahals District (1977), AERC for Gujurat and Rajasthan, Sardar V. Patel University, Vallabh Vidyanagar, Indian Village Studies, No. 21, by D. Brahmhatt, 1977.

- S. Sambrani and K. Pichholiya, An Enquiry into Rural Poverty and Unemployment, Indian Institute of Management, Ahmedabad, 1975.
- Sarvekshana, National Sample Survey, Govt. of India, several issues.
- Y. Satyanarayana, Wage Trends in India, 1830 to 1976, DPS/ERD, RPO 671-84, World Bank, Washington, D.C., 1981.
- J. Schidlovsky, 'India may lead world in child labor', The Sun, Baltimore, June 24, 1982.
- S. Schofield, Development and the Problems of Village Nutrition, Croom Helm, 1979.
- P. Schultz, Economics of Population, Addison Wesley, 1981.
- A. Sen, Poverty and Famines, Oxford, 1981.
- , Employment, Technology and Development, Oxford University Press, 1975.
- N. Shah and P. Smith, 'Issues in the labor force participation of married women in five Asian countries', mimeo, Annual Meeting of the Population Association of America, Washington, D.C., March 1981.
- C. Sheppard, Appendix O.2: The Activities Survey, in Lipton, 1979, Vol. 2.
- S. Shivakumar, 'Aspects of agrarian economy in Tamil Nadu: a study of two villages - I', EPW, XII, 18, May 6, 1978.
- B. Singh, Agrarian Structure, Economic Change and Poverty: The Experience of Central Gujarat, D.Phil, University of Sussex, 1981.
- I. Singh, 'The landless poor in South Asia', mimeo, 18th Conference of the International Association of Agricultural Economists (Jakarta), Washington, D.C., 1982.
- R. Slade and W. Candler, 'Rationality among the rural Hausa', mimeo, World Bank Discussion Paper, 1982.
- C. Smith, 'Rural primary education and labor use', mimeo, Seminar Paper, Ministry of Finance and Development Planning, Gaborone, 1978.
- J. Smith (ed.), Female Labor Supply, Princeton, 1980.
- L. Squire, Labor Force, Employment and Labor Markets in the Course of Economic Development, WBSWP No. 336, Washington, D.C., 1979.
- R. Soni, 'The recent agricultural revolution and the agricultural laborer', IJAE, XXV, 3, July-September 1970.
- M. Srinivas (ed.), India's Villages, 2nd. ed., revised, Asia (Delhi), 1960.
- , Caste in Modern India, Asia (Bombay), 1962.

- G. Standing, Labour Force Participation and Development, ILO, 1978.
- H. Streefkerk, 'Too little to live on, too much to die on: employment in small-scale industries in rural South Gujarat - II', EPW, April 18, 1981.
- P. Streeten, The Frontiers of Development Studies, Macmillan, 1972.
- P. Streeten and R. Jolly (eds.), Recent Issues in World Development, Pergamon, 1981.
- D. Sumner, 'Wage functions and occupational selection', Review of Economics and Statistics, LXIII, 4, November 1981.
- P. Sundar, 'Characteristics of female employment', EPW, XVI, 19, May 9, 1981
- K. Sundaram and S. Tendulkar, 'Towards an explanation of inter-regional variations in poverty and unemployment in rural India', Department of Economics, University of Delhi, August 1982.
- M. Todaro, 'Income expectations, rural-urban migration and employment in Africa', International Labor Review, 104, 5, November 1971.
- D. Tyagi, 'Growth of agricultural output and labor absorption in India', JDS, 18, 1, October 1981.
- UK, Royal Commission on the Distribution of Income and Wealth, 'The causes of poverty', Background Paper No. 5, London, 1978, cited in Mazumdar, 1981.
- UN, Patterns of Rural and Urban Population Growth, Population Studies No. 68, New York, 1980.
- P. Visaria, Living Standards, Employment and Education in Western India, Working Paper No. 1, ESCAP, IBRD, Project on Evaluation of Asian Data on Income Distribution, mimeo, World Bank, December 1977.
- , Size of Land Holding, Living Standards and Employment in Rural Western India, 1972-73, Joint ESCAP/IBRD Project on the Evaluation of Asian Income Distribution Data, World Bank, 1978.
- , Poverty and Living Standards in Asia: An Overview of Selected Household Surveys, Living Standards Measurement Survey, World Bank, 1980.
- , Poverty and Unemployment in India, WBSWP No. 417, 1980a.
- , 'Demographic factors in the distribution of income', mimeo, World Bank, 1981.
- and S. Pal, Poverty and Living Standards in Asia, mimeo, World Bank, February 1980.
- V. Vyas, Presidential address: some aspects of structural change in Indian agriculture, IJAE, 34, 1, January-March 1979.

R. Wade, Peasants and Public Choice: Group Action in Irrigated Open-Field Villages of South India, mimeo (Chapter 3: Kottapalle), Institute of Development Studies, University of Sussex, 1983.

R. Westin, Travel Patterns in Bogota: A Descriptive Analysis for 1972, mimeo, Urban and Regional Economics Division, World Bank, January 1980.

World Bank, Focus on Poverty, Bangladesh: Food Grain Self-Sufficiency and Crop Diversification, 3953-BD, August 1982.

—————, Focus on Poverty, revised ed., February 1983.

K. Zachariah and J. Condé, Migration in West Africa: Demographic Aspects, World Bank/OECD, Oxford University Press, 1981.

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