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Labour Market Performance in Developing Countries: A Survey

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Summary. – Malfunctioning of labour markets is often given as a principal explanation of the widespread poverty in developing countries. Open urban unemployment and disguised unemployment in agriculture are generally considered symptoms of the poor performance of the decentralized system of allocation of labour time and skills in these countries.

This survey leads us to a much less pessimistic view of labour market performance *per se*, though obviously imperfections do exist. On the one hand, the shifts of the labour force in response to shifts in demand have been noteworthy and suggest, at an aggregate level, rather impressive performance. On the other, a closer look at open unemployment, disguised unemployment, and other possible types of labour market malfunctions suggests that they may be less serious misallocations than they appear, *and* that only in part can such misallocations be attributed to poor labour market functioning.

Though the labour market is the immediate locus of the problem of low and stagnant incomes of workers at the bottom of the distribution, the evidence suggests no causality in this association. There is no reason to presume that poverty is a manifestation of labour market failure.

1. INTRODUCTION

Our principle aim in this essay is to assess the social efficiency of labour markets in developing countries in allocating the supply of labour time and skills among alternative activities, on the basis of a survey of relevant theoretical and applied scholarly research. We use the term 'labour market' to refer to the complex of interactions between sellers and employers of labour services.[1] The neoclassical presumption is that these interactions simultaneously determine the aggregate level and structure of employment (and, to the extent that the market is constrained or suffers from imperfections, of unemployment and job vacancies) and the aggregate level and structure of wages or more generally the terms of work. The nature of labour market outcomes, while important *per se*, also yields important clues as to the nature of the processes by which these outcomes are determined. This process must be specified in order to achieve both our goal and the goals of governments seeking policy interventions to influence labour market outcomes at minimum social cost. We document those accomplishments of labour markets which are readily apparent when viewed from an aggregate and dynamic perspective, as a background to our assessment of their performance according to micro-economic criteria suggested by the fundamentally static concept of economic efficiency.

(a) *Growth, structural change and labour market performance*

The spatial, occupational, and sectoral redistributions of labour which accompany

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growth and structural change are observable both in individual countries over time and in different countries at different levels of development:[2]

1. The decreasing share of total output from agriculture and the increasing share from manufacturing and services as national income rises, is associated with a decrease in the shares of the labour force in agriculture and rural areas, implying a net urban migration.[3] Simultaneously the proportion of non-leisure time devoted to non-agricultural activities in rural areas rises.[4] At higher levels of national income, and especially when the number of workers in agriculture is declining absolutely, an increasing share of rural family income comes from non-agricultural activities.

2. As *per capita* income rises, the decline in the share of output from agriculture, where small productive units still predominate, together with increases in the size of manufacturing and service establishments, produces an increase in the number of employees as opposed to independent workers, unpaid family helpers, or employers.[5]

3. The increase in the technological complexity of non-agricultural production and in the size of establishments brings greater division of labour and hence increases in skill differentiation and in levels of training. Greater availability of educational opportunities, and corresponding shifts in the supply of persons of differing educational attainments, are a general feature of development.[6]

4. The increase in the share of output from services, together with the adoption of labour-saving technologies in manufacturing as income rises, contributes to a relative increase in the demand for non-production workers. The response, facilitated by the rise in educational levels and aspirations, is an increase in the supply of white-collar, professional, and technical workers and hence an increase in the proportion of the labour force in these categories.[7]

5. The process of structural change is not accompanied by systematic shifts in the rate of participation in the male labour force in the central adult ages; this remains at a high level (95% and above) as national income increases. There is a tendency, however, for the rates to decline in younger age groups, as prolonged education delays entry into the labour force, and in older age groups, because men retire earlier from wage than non-wage employment. Among females, the rate of participation in the youngest and oldest groups also tends to decrease, though these trends are less consistent than among males. In the central age groups, higher income may be associated with either increasing or decreasing female participation, reflecting the different cultures of different countries. The direction of this trend generally determines the trend of the aggregate rate of participation.[8]

In the course of development the net shift of workers, most of whom are following training and work paths different from preceding generations, tends to be toward more dynamic sectors, geographic areas and enterprises, and toward higher skilled occupations. Most of this shift is presumably from activities with relatively low productivity to activities with relatively high productivity.[9] While this does not mean that the labour market is efficient, as efficiency is assessed by comparing marginal rather than average productivities in losing and receiving activities, it does give a more favourable picture of labour market performance than judging the market in poor countries by the level of workers' incomes.

Malfunctioning of the labour market may contribute to the scarcity of complementary resources, low quality technology, and unequal distribution of resources which in large part, explain the phenomenon of poverty; but there is *a priori* no basis for assuming that it is a major factor. The market's efficiency in melding the changing needs of the economy's productive apparatus with the changing abilities and preferences of labour force participants cannot be judged by the share of people consuming less than some arbitrary minimum. More appropriate criteria — whether a reallocation of labour would permit an increase in output (or an increase in a more complicated social welfare function) — are more difficult to apply. But the responsiveness of labour allocation to changing demand suggests to us that the burden of proof should not be with those who claim labour markets are efficient, but with those who allege on the basis of observations of poverty alone that these labour markets are seriously inefficient. Therefore, we adopt what is best termed a Chicago School stance. Our null hypothesis is that, given the existing technology, structure of preferences, and stock of physical capital and land, no appreciable increment in aggregate economic welfare or its rate of growth is to be had by such reallocation of the labour force as a more perfect labour market could bring about.

(b) *Labour market performance criteria*

In assessing the degree of inefficiency of the labour market and its implications for welfare,

we compare the actual with the optimal allocation of labour. This is conventionally defined as that in which the marginal social productivity of a given type of labour is equal in each possible use, and the relative marginal productivity of any two different types equals their marginal rates of substitution in each production process. Marginal social product is defined, in turn, as the increment contributed to the value of the output of goods and services of the society by an additional worker plus the net direct utility (or minus the net disutility) of the work itself to the individual. Underlying our initial presumption of labour market efficiency is the assumption that individuals are responsive to changing labour market conditions, and that workers divide their time between leisure and work, and choose among alternative occupations, industries, and geographic areas as though they have a fine regard for marginal costs and returns. We assume further that the behaviour of employers regarding staffing decisions can also be interpreted as an attempt to maximize net returns and, furthermore, that costs and returns to individual decision-makers accurately reflect costs and returns to society.

We do not review scholarly work on the adequacy of the profit maximization assumption for business firms in LDCs as most of what little there is on this subject is concerned with issues other than decision-making and behaviour in the labour market. We focus our attention in Section 2A on the responsiveness of individual producers and sellers of labour services to differences in prices and wages. Though behaviour consistent with rational decision-making on the part of individuals is a necessary condition, it is by no means sufficient to assume an optimal allocation of labour. It is also necessary for all workers to be price-takers and to be free to enter any industry or occupation for which they are qualified, and to compete in it on equal terms with others. The numerous restrictions on freedom of entry and inequities in the distribution of opportunities in the labour markets of developing countries arise from a variety of sources, such as monopsony power, discrimination, government interventions, and workers' associations. The principle aim of Section 2 is to catalogue these restrictions and inequities and the specific forms of labour misallocations to which they give rise. It is not possible to determine for each of these misallocations, however, whether the social costs are minimal or sufficiently high to refute our null hypothesis of a high degree of labour market efficiency. In part this is because of limitations of space, but more fundamentally because labour market research has focused predominantly on those inefficiencies with readily apparent symptoms, urban unemployment and short hours of work in rural areas being the most notable. Thus in Section 3 we can only partially 'test' our null hypothesis, as our investigation of costs is confined to the most commonly investigated labour market inefficiencies.

Several other caveats regarding our assessment of labour market performance are suggested by the conceptual questions begged by the definition of efficiency. We note these here to avoid tedious qualification subsequently, and to emphasize that quite detailed investigation may be necessary to reach firm conclusions about the causes, costs and appropriate remedial policies of an apparent labour market problem. The first stage of any test for inefficiency in the labour market proceeds in one of two ways. Either we seek evidence of phenomena such as open unemployment or wage gaps between workers of comparable skill that theory tells us are symptoms of systematic malfunctions; or, alternatively, we seek evidence of phenomena such as minimum wage legislation, labour union or monopsony power, that theory tells us should cause the labour market to malfunction.

The conventional criterion of equality of marginal social product implies an exclusive identification of optimal labour allocation with maximum achievable aggregate output. The allocation that is optimal in this sense may be associated with an 'inequitable' distribution of income. While we recognize the legitimacy of adding the 'best' achievable distribution of income as another dimension of our assessment of performance, we have not done so here because it would increase the scope and complexity of the survey, and because we doubt that existing information would advance us very far toward the desired mapping of the distribution of income from various allocations and labour market structures. Nevertheless, we recognize that our neglect of this dimension of labour market performance will reduce confidence in our ability to use the theory of the optimal allocation of resources as the basis for confirming labour market inefficiency by documenting observable causes. For example, the costs, in terms of aggregate output foregone, that a legislated minimum wage imposes on the economy may be exceeded by the benefits it yields, in terms of a more equitable distribution of income.

Similarly, consideration of micro-dynamic aspects of the process of labour allocation

reduces the reliability of the symptom approach to identifying inadequate performance. Phenomena which would be symptomatic of an inefficient labour market in the static sense, such as unemployment or wage differentials for a given skill, may not be so when dynamic factors are taken into account. Given a positive relationship between length of job search and level of wages associated with accepted job offers, unemployment may be the most productive use of an individual's time, not only when alternative activities are assessed in terms of private costs and benefits but also, given the prevailing lags in information flows and wage adjustments, when they are assessed with regard to social costs and benefits.[10] Likewise, labour allocation may be both privately and socially optimal despite a wage differential if the low wage earner is in a job offering greater opportunities for learning by doing and hence a faster rate of increase of earnings.

The degree of complexity of the task a labour market performs should also influence our assessment of its efficiency. We noted above the positive correlations between the level of national income and the extent of structural change and differentiation on both the supply and demand sides of the labour market. The increasing importance of matching skills and job requirements relative to the spatial and sectoral allocative functions of the labour market presumably increases the potential for inefficiency. Even more important, given the pervasiveness of interactions among the product and factor markets in decentralized economies, is the effect of the structure and efficiency of other markets on the allocative tasks of the labour market. To conclude that one labour market is more efficient than another without taking into account the larger economic environment is like comparing the rates of acceleration of automobiles without saying that the time trials for some of them were held on a 30° incline. The malfunctioning of capital, land or product markets may result directly in the misallocation of labour. For example, insufficient labour in an industry may be the consequence of its monopoly power. We attempt to account for such interactions and other complicating factors, but our treatment of them, reflecting their neglect in the works of the researchers on whom we have relied, is not nearly as thorough as they deserve.

Evidently no such simple criterion as the rate of unemployment can be used to judge labour market performance, especially in developing countries undergoing rapid structural change. Correspondingly, one assesses such performance with some trepidation, since there is always the risk that what appears inefficient would in fact be judged efficient (or vice versa) were better data available or other relevant considerations taken into account. Our rationale for persevering is that policy decisions and decisions on the allocation of resources for research are generally based on a much more limited body of evidence than that which we have been able to collect, and that therefore a comprehensive review, tentative though its conclusions are, may improve the quality of discussion preceding such decisions. Before considering each of the cited symptoms of possible labour market inefficiency and attempting to gauge the importance of the various types of loss, we review some of the evidence on the behaviour of the actors in labour markets and the nature of the wage determination process.

2. RATIONAL INDIVIDUALS AND SUB-OPTIMAL SYSTEMS

(a) *The responsiveness of decision-makers to differences in economic opportunities*

Evidence that individual decisions on human capital investments, labour force participation and hours of work are based on complex cost-benefit calculations is not necessary to support the presumption of an efficient labour market. Whether decisions are guided by conventional rules of thumb or even motivated by apparently non-economic factors is irrelevant as long as individuals behave as if they are attempting to maximize expected returns.[11] The long-held belief that the indigenous populations of developing countries are not 'economic men', in the sense that they appear to pay no heed to normal economic incentives, can be dismissed as a manifestation of western ethnocentrism. Nevertheless, evidence of internal inconsistency in the behaviour of workers would make our task of assessing labour market performance unmanageable. In this regard, the results of recent micro-economic empirical studies are heartening, as they suggest that workers in LDC's behave in a quite conventional manner and are highly responsive to economic stimuli.

Most evidence on short- and long-run relationships between the price of a crop and its sales on the market, for example, supports the conclusion that farmers respond to changes in prices. Indeed, some evidence from cross-

country comparisons of the price elasticity of supply of given crops suggests that there is no appreciable difference in adjustment lags between farmers in developing countries and those in high-income countries.[12] Recently the interpretation of resistance to innovation as non-economic behaviour has been challenged by evidence that traditional methods are often the most appropriate for local factor endowments and that many of the techniques pushed upon unwilling smallholders by colonial agricultural experts were uneconomic. For example, the land-intensive technique of shifting cultivation which is still prevalent in tropical Africa is now seen as economically efficient in contexts in which land is effectively free.[13]

The price elasticity of supply of a given crop reflects, among other things, the elasticity of labour supply, a matter of particular interest because of our focus on the labour market. There are as yet no precise studies of the relevant contributions to the price elasticity of supply of trade-offs between leisure and work, z-goods and agricultural production, wage labour and agricultural production, one crop and another, personal consumption and market surplus. There is, however, considerable evidence on the shape of the aggregate labour supply schedule of rural dwellers.

Until quite recently, the conventional wisdom, particularly in Africa and Asia, presumed that schedule to be backward-bending in the relevant ranges as a consequence of preference structures which place a greater value on leisure than on wage goods, compared to industrial societies. This view is not necessarily an indictment of the economic rationality of the workers, nor does the implication of income effects dominating substitution effects in regard to the leisure work trade-off suggest any static inefficiency in the allocation of labour as conventionally defined. However, such a schedule may imply that sectors with the potential for the most rapid growth of output, productivity, and savings will be starved for labour as attempts to attract workers by raising wages have perverse results. Given the prevailing low level of income, government may place a lower weight on leisure than do individual workers, and therefore be justified in concluding that the decentralized labour market allocates labour inefficiently. Specifically, if the savings rate is believed to be sub-optimal, or if it is felt that individual preferences will change after introduction to a different economic environment,[14] such an argument could be entertained.

In fact, there is little evidence to support the hypothesis that labour supply functions are backward-sloping. The phenomenon was alleged mainly in those African and Asian countries where the wage system of employment was established on a large scale by foreign enterprises which, at least initially, experienced chronic shortages of unskilled labour. In Africa, scarcity of wage labour persisted into the 1950s.[15] This past scarcity, however, is not sufficient to substantiate the claim. Nor does evidence on the reduction of the scarcity problem support the popular hypothesis that over time, as the cash economy spread, there was an increasing preference for goods and services purchased with cash, and this increased the 'normality' of responses by workers to economic incentives. While economic growth may be associated with changes in preferences, some recent historical research supports the alternative hypothesis that scarcity of labour was due primarily to wages below the equilibrium supply price of labour while the recent elimination of this problem was due to wage increases. Wages were not bid up by employers during the colonial period because various coercive measures were widely used to complement economic incentives in generating an adequate supply of labour, and these reduced the costs of a shortfall of workers volunteering for employment.[16] The evidence also suggests that trade and innovation in consumption were characteristics of economic behaviour before the incursion of direct foreign investment[17] and that inadequate recognition of the amount of employment in the production of z-goods[18] led to overestimates of leisure time. The improbability of a backward-sloping aggregate labour supply curve is underscored by the fact, noted by Berg, that what might be true of individual supply functions was unlikely to be true of the aggregate function, since the participation rate in wage employment as well as hours worked would be expected to respond to increases in wages.[19] In sum, the apparent prevalence of idleness in the rural sectors of some developing countries is more likely to reflect the low marginal returns to additional work than any unorthodox preference functions.[20]

Our comparisons of different countries and different periods suggest that migration, like inter-sectoral mobility, is a virtually universal feature of economic growth. The high proportion of migrants in the labour supply to the non-agricultural sector in developing countries is the basis of the recent rapid growth of micro-economic research of the migration process. The results are an important new

source of evidence on the responsiveness of workers to economic stimuli.

Brigg has reviewed the findings of 27 field surveys of urban and rural communities[21] in Africa, Asia and Latin America, in which migrants were asked directly why they moved. Most of these were administered prior to the recent surge of interest in migration and were designed by non-economists. Despite their pervasive methodological weaknesses,[22] however, the virtual unanimity of their findings on migrant decision-making is notable. Economic motivations predominate, and such factors as 'accompanying family members' or 'seeking education opportunities' are primary reasons for moving in only a small proportion of cases. Early behavioural studies, which established simple negative correlations between regional levels of income and regional rates of emigration, also lend some weight to an economic interpretation of migration.[23]

If migration is viewed as an investment in human capital[24] which requires resources and time to realize a different set of employment and earnings opportunities, then multivariate analysis will be the best way to study it. This more advanced type of behavioural analysis of migration is still in its infancy and there are as yet significant unresolved data, measurement, and specification problems. The demographic, mobility, employment and income data gathered by conventional instruments such as censuses, annual surveys of employment and earnings, and household budget surveys, is generally inadequate for such an exercise. Information on key variables is either not collected or is spread among a number of sources which cannot be dovetailed. In multivariate analyses based on existing data, therefore, the high level of aggregation may obscure a number of significant differences in patterns of response among migrant flows and subgroups of the population.[25] In particular, such studies focus on the relationship between interregional flows and average earnings differentials, even though the structure of differentials between source and receiving areas may differ dramatically as between the rural rural and rural urban flows, and though intra-regional flows may be quantitatively as important. Of greater concern, these studies rarely analyse flows between regions that are roughly homogeneous in education, sex and age, thereby biasing the assessment of responsiveness to the extent that apparent spatial differences in economic opportunities only reflect compositional differences in the labour force and do not have a bearing on incentives for migration.[26]

Large-scale sample surveys made possible by recent developments in the technology of data processing, such as those recently administered in Indonesia, Iran, Kenya, Sierra Leone and Tanzania,[27] and designed with the specific purpose of generating a micro-data base appropriate for the analysis of migrant behaviour, have at least partially resolved the problems of missing variables and excessive aggregation.[28] Relaxing the constraints imposed by the need to use readily available data shifts the focus back to some still serious conceptual problems regarding variable measurement. For example, the difference between source and receiving areas in the incomes of employed workers is a component of all economic explanations of migrant behaviour. Most empirical analyses have relied on extremely crude proxies for income: goods produced for home consumption and the value of services or amenities subsidized by the government are frequently omitted from consideration, even though as a proportion of total income they are likely to vary significantly among geographic areas.

This latter aspect of the imprecision of measures of income may not be as serious as it first appears, at least from the perspective of using the results of research for policy planning. *A priori* there is a strong presumption that migration flows, and labour supply in general, are more elastic with respect to changes in monetary than specific non-monetary incentives. Given diverse preferences, goods provided by the government are unlikely to have the attraction of money, the most efficient instrument of exchange. Rural residents who have strong preferences for particular amenities provided by the government over other consumption items may be indifferent to the 'currency' in which their increase in income is received: if they received higher money payments they would in any case exchange it for the amenities.[29] Others who prefer the amenities less will find it difficult, if not impossible, to exchange their increase in access to the amenities for goods they value more. Thus in the aggregate, the given increase in rural incomes is likely to be perceived as less when received in kind than in cash, and similarly its constraining effect on migration is likely to be less.

Spatial differences in prices and the resulting index number problem pose another problem.[30] A related difficulty follows from spatial differences in the proportion of intermediate goods and services, which facilitate other consumption but do not confer utility directly, in total consumption. Efficiency of consumption may also be affected by spatial

differences in climate or other aspects of the physical environment, or in population density, which may necessitate more expenditure on an input such as sewage in one place than another to achieve the same final objective. Individuals who have achieved the same objective should be said to have identical incomes regardless of differences in their levels of expenditure on 'intermediate' goods.[31] Conversely, the difference in expenditure levels between rural and urban workers with the same human capital endowments might do no more than compensate such differentials, rather than being a net addition to welfare.

These are some of the problems of econometric analysis of the response of individuals to spatial differentials in economic opportunities. From even this brief discussion it should be clear that estimates of the elasticity of the rate of migration with respect to spatial differences in income are likely to be subject to considerable error. Nevertheless, as a means of testing specific hypotheses on migrant behaviour and of assessing economic responsiveness in general terms, these studies provide a more rigorous base than earlier ones in which migrants were questioned directly, or those which relied on bivariate behavioural analysis. Table 1 presents elasticities from recent studies in Kenya (rural urban), Tanzania (rural urban), Venezuela (inter state) and India (inter state) which have corrected for many of the grosser methodological problems that characterized earlier multivariate analyses. In each case the sign on the destination wage elasticity is positive and on the origin wage elasticity, negative, findings which support the presumption that decision-makers respond to economic opportunities.

This responsiveness does not imply that the individuals are income maximizers. The conventional justification for assuming that enterprises are profit maximizers is not that businessmen always make economically rational decisions; rather it is that, no matter what the motivation of the decision-maker, the operation of the market will ensure that only the more efficient producers, the profit maximizers, survive. With regard to investments in human capital, the market cannot perform this function. An individual who decides not to invest in education or migration, despite positive economic returns, does not place his survival as a participant in the labour market at risk, he simply accepts the likelihood of earning a lower income.[32] Empirical support of these assertions is

Table 1. *Partial income elasticities from migration functions for men*

	Kenya (Huntington)	Tanzania (Barnum and Sabot)**	Venezuela (Levy and Wadycki)	India (Greenwood)‡
Dependent variable*	$\frac{M_{ij}}{P_iP_j}$	$\frac{M_{ij}}{P_i}$	$\frac{M_{ij}}{P_i}$	M_{ij}
Destination wage (W_j)	+6.79* (4.61)	+1.26*	+0.94* (2.59)	+0.56* (2.02)
Origin wage (W_i)	1.15* (2.69)	−0.56	0.85* (2.32)	1.24* (4.48)

Source: T. Yap (1975).

Notes: *Significant at the five percent level.

*Definitions: M_{ij} : Migration from place i to j.

P_i, P_j : Population in place i, j, respectively.

**H. Barnum and R. Sabot estimated a linear function, using lifetime earnings, undiscounted. The elasticities are calculated at the mean of the variables, using the income coefficients, 0.0024 (destination income), and −0.0070 (origin income).

‡M. Greenwood's dependent variable is M_{ij}, rather than M_{ij}/P_i. However, the income coefficients would not change if his model were re-estimated, using the rate M_{ij}/P_i, for P_i, included in right-hand side of the equation, has a coefficient of approximately one.

In other words, the income coefficient α, is the same for

$$M_{ij} = Y^{\alpha} / \beta X^{\gamma} \quad X^{\gamma}$$

$$\text{and } \frac{M_{ij}}{P_i} \quad Y^{\alpha} / \beta X^{\gamma}$$

provided by the migration function estimated for Tanzania. Barnum and Sabot demonstrated that the positive relationship between rates of migration and years of schooling is only partially explained by movement along the function; significant shifts of the function also contribute.[33]

The role of non-economic factors in labour allocation raises yet another serious practical problem for the assessment of allocative efficiency. In order to interpret the persistence of income differentials among workers with similar embodied human capital as signifying the presence of allocative inefficiency, it is necessary to assume that workers are income maximizers. If, however, workers' preferences are influenced by the status of the employment, or its cleanliness, or the extent to which it allows them to remain their own bosses, then persistent wage differentials may only be compensating for differences in the non-wage qualities of different jobs.

(b) *Wage distortions and labour market inefficiency*

On the evidence just considered, we can eliminate perverse or internally inconsistent behaviour of workers as a basis for predicting the persistence of disequilibria arising from changes on the supply or demand side of the labour market. Other potential causes of failure to equalize the marginal social productivity of homogeneous labour may be grouped into three categories: monopoly power or other imperfections in product or other factor markets; inadequate communication between employers, workers and potential participants about essential labour market information; non-market influences on mobility and the wage determination process. The first of these should not influence our judgement of labour market performance directly. With regard to the second there is no consensus on what constitutes essential information and very little research on its rate of dispersion or its accuracy. Attempts by governments of LDC's directly to control mobility, as the South Africans do with their pass system or as is done in the centrally planned economies, are still rare and generally unsuccessful.

The absence of rigorous research on information flows does not seriously jeopardize our attempt to assess labour market performance. Research on this area in industrialized societies is not much more advanced. Furthermore the less highly developed formal channels for the flow of labour market information, such as employment exchanges, trade journals, and local newspapers, of the poor countries do not imply a significantly less efficient communications system. Indeed, on the basis of the indirect evidence of the response of farmers to price changes and of workers to spatial differences in earnings, it is reasonable to presume that the informal channels are not much less efficient.

Thus our brief review of the evidence on the causes of labour market inefficiency focuses on non-market or institutional distortions of wages. We emphasize at the outset that, given the current state of knowledge of the functioning of labour markets in LDC's, it is not possible to arrive at estimates of the social costs of labour misallocations based on observation of hypothetical causes. On the other hand, as we illustrate in our discussion of open unemployment, to determine whether a given phenomenon is symptomatic of a serious or a relatively insignificant problem frequently requires specification of its cause.

Unions and government wage policies are often identified as principal causes of wage rigidity, hence of persistent wage distortions and segmented labour markets. By segmentation we mean that some workers are paid more than others with the same human capital endowments simply by virtue of their 'sector' of employment. This situation should be distinguished from discrimination, where some workers are paid more than others with the same human capital endowment by virtue of some non-economic characteristic such as their race, religion or sex. In practice the two may be extremely difficult to separate, as segmentation implies the rationing of high-wage employment opportunities and the criteria applied may be discriminatory.

The similarity in the rate of increase of independent nations and countries where workers are represented by unions and protected by minimum wage laws in the post-war period is more than coincidence. Elimination of employers' collusive practices which depressed wages, and of the apparent tacit support by governments for such practices was perceived by the new political elites as one of the most valuable fruits of political autonomy. Understandably, though erroneously, political rather than economic forces were believed to have been responsible for the low wages of unskilled labour, a view which may well explain the readiness of new governments to adopt wages policies with potentially serious economic consequences for the efficient allocation of labour,

and for output and employment growth. Raising wages above the level determined by the market reduces output and employment by inducing firms to select more capital-intensive technologies than they otherwise would; also, by segmenting the labour market, it can lead simultaneously to scarcity of labour in some unprotected sectors and excess supplies and consequent underutilization of labour in protected sectors, phenomena we examine in greater detail in Section c on open unemployment. Furthermore, it can induce socially unproductive investment in education and mismatches between worker skills and job requirements, a phenomenon we consider in Section c(iv).

Though unions and government wage policies have undoubtedly raised the real incomes of protected groups, there is little empirical evidence as to the further crucial questions of the magnitude of the gap between the protected sector wage and the equilibrium supply price of labour, and whether these gains are mainly at the expense of capital or of unprotected workers. In principle, minimum wage legislation differs from union power in being applicable to a country's whole wage labour force (at least us usually conceived), but in fact both are relevant mainly to larger firms and the government. How much they push up the incomes of the protected group will generally depend on:

(a) The strength and aggressiveness of the union and, in the case of minimum wages, the commitment of the government and its ability to enforce legislation;

(b) The elasticity of demand for labour by the relevant employers – if quite inelastic a big push for wage increases will be natural; an inelastic demand is a natural result of price inelasticity of demand for the final product and a low labour share;

(c) The size of the protected wage sector relative to other sectors, if it is quite small, wage increases will not induce inflation; if it is large, they will, so that real wage increases will be less than money wage increases.

A simple comparison of wages in protected and unprotected sectors is insufficient to estimate the impact of non-market forces, not only because this procedure fails to take into account differences among jobs in net psychic benefits or, if the sectors are geographically separated, costs of moving. The issue is rather more complicated. For one thing, employers in the protected sector, faced with payment of high wages, are in a position to 'skim the cream' by selecting the most proficient from the pool of available workers. Thus part of the wage differential between the protected and unprotected sectors may be matched by a skill differential extremely difficult to measure. High wages and good living conditions may also contribute to higher productivity through better health; high relative wages may pay off in lower turnover and more positive worker attitudes. Indeed with these latter factors in mind, it has been hypothesized that employers themselves may be primarily responsible for increases of wages in excess of the level necessary to attract a sufficient number of workers.[34] When employers expect wage-related gains from increased productivity and decreased non-wage costs of labour to be greater than the costs of increased wages, the wage per man which minimizes total costs per efficiency unit of labour is greater than that which clears the labour market. There is some evidence from Africa, where short-term circular migration between rural and urban areas was characteristic, to support the hypothesis that employers in the manufacturing sector increased wages as a way of stabilizing their labour force and justifying investment in the training of the industrially disciplined semi-skilled workers necessary for factory employment.[35] A positive relationship between wages and productivity increases the difficulty not only of allocating responsibility for observed wage differences but also of determining the cost to the economy of such differences. The adverse consequences for allocative efficiency noted above may be offset or more than offset by improvements in X-efficiency.[36]

Even if we could resolve the problems of measuring wage differentials net of differences in non-wage qualities of jobs, and assure that the labour whose wages are compared is homogeneous and the differences the product of non-market forces rather than induced by employers, measures of the difference in wages between protected and unprotected sectors would still be a poor guide to the social costs of a wage distortion. It is now widely accepted among economists specializing in the economics of labour in industrialized societies that the difference in wages, for example between unionized and non-unionized establishments, is a poor proxy for the measure of the gap between the equilibrium market wage and the union wage. The supply price of workers in the non-unionized sector may not be the same in the presence of a unionized sector as in its absence, due to the 'emulation effect', which may stimulate wage demands from non-

unionized employees. At the same time the prospect of unionization may increase the receptivity of employers. On the other hand, the negative effects of high wages on labour demand in unionized establishments and their positive effects on the aggregate supply of workers in the occupation in question may lower the supply price of labour to non-unionized establishments.[37]

The same qualifications apply to an assessment of the direct impact of minimum wages. But it is sometimes asserted that the indirect effects of legislated wages for unskilled workers are quantitatively the most distortionary. Whether this is so depends on the degree of rigidity of the wage structure, hence the extent to which increases in wages at the bottom of the occupational ladder influence wages higher up. Our understanding of intra-firm wage structure is at present inadequate to judge the degree and nature of such rigidities, though it would seem improbable that firms would not modify wage structures if the imposition of a minimum would otherwise greatly increase their wage bill. Whether employers can expect to pass higher wages on in the form of higher prices is thus a consideration. In highly protected modern sectors, monopoly and oligopoly power are the norm, so such an expectation is plausible. Clearly economic structure and expectations with respect to general price inflation are also relevant here.

In a statistical analysis, Jackson

> inferred two characteristic processes of interrelationship between legal minimum wages and actual wage levels in poor countries. In one, wages in a 'key' sector advance rapidly, the legal minimum is periodically adjusted to follow, though not necessarily in proportion; groups between the minimum and the wage leaders also struggle to restore their relative wage position, but with varying success. In the alternative process the minimum wage is pushed up by political pressure, and workers paid above the minimum then strive again, with varying success, to maintain their previous margin over that base. Either of these mechanisms could produce both a comparatively wide 'dispersal' of wage movements and considerable instability in the wage hierarchy. They also imply, of course, that distortions of the relative wage structure are much more likely to occur in the underdeveloped economies than in the advanced ones.[38]

While research on the level and structure of wages has not yielded precise measures of the cost of distortions, it has nevertheless provided the basis for a few tentative generalizations on the roles of human capital, labour market segmentation, and discrimination in the explanation of dispersion. The following explanatory variables are normally regarded as denoting 'human capital', that is, the acquisition of productive knowledge: education, years in current job, years of past employment experience, and formal training. The increasing frequency with which wage structures in LDC's are subjected to multivariate analysis largely reflects the spread among these countries of techniques for the criticism and formulation of education policy based on estimates of rates of return to investment in education.[39] The narrow focus of these studies has so far limited the potential of this type of analysis to yield important clues to other aspects of the interactions between sellers and employers of labour services that determine wages.[40]

The coefficient on the independent variable representing years of schooling, in a function where the dependent variable is the log of a measure of wages, can be interpreted as the average percentage increase in earnings associated with 1 or more years of schooling, or as the average gross private rate of return to additional education. As in the industrialized countries, studies in developing countries invariably yield a positive coefficient on the education variable.[41] The conventional view of this positive association between educational attainment and wages is that schooling is a production process for human capital, though perhaps only one of many. Without an independent economic measure of schooling output, however, estimation of an education production function is impossible. For the same reason, we are forced to rely on a measure of inputs, generally time in school, when we attempt to assess the contribution of the educational production process to worker productivity. Since we cannot directly estimate in economic terms how much the education process increases an individual's productive capacity, any evidence of a relationship between years of schooling and productivity must be open to alternative interpretations. The 'screening' hypothesis, for instance, suggests that the higher productivity of workers with more education reflects the success of the school promotion system in selecting those with more productive capacity,[42] rather than the direct productivity enhancing effects of schooling.

The most common way of assigning weights to these alternative hypotheses on the role of the education system is to include a measure of 'ability', such as IQ in the wage function. Econometric studies of this type have not resolved the issue, in part because of variability of results. More fundamentally this approach is

open to the criticism that it is wrong to assume an identity between productive capacity and intellectual ability as measured by psychological tests. Rather the former 'is an unobserved latent variable that both drives people to get relatively more school and earn more income, given schooling, and perhaps also enables and motivates people to score better on various tests. Basically it is a hypothesis about the cause of and a re-interpretation of the correlation among the residuals from individual income, schooling, test scores, and other equations. As such, it is only loosely related to "ability" as it is commonly understood by psychologists. It could just as well be "energy" or "motivation".'[43]

There is, however, some indirect evidence and a powerful *a priori* argument in support of the hypothesis that at least some part of the wage differences between groups with different levels of education reflects the role of the education system as a screening mechanism. Presumably graduation from a course should be an indicator of productive capacity, one component of which is likely to be 'staying power', more useful to an employer than mere attendance for a number of years. Therefore, whether the rate of return is higher to those completing the final years of a course is a test of the screening hypothesis. No significant difference between 'drop-outs' and 'completers' in returns to education is found in studies of school-leavers in the United States.[44] In Malaysia, however, the earnings function estimated by Mazumdar reveals significantly higher returns to those completing each of the three post-primary levels.[45]

It is difficult to conceive of a production function for human capital that does not include as an explanatory variable the different levels of efficiency with which time spent in school is used. Even if the criteria for promotion on the job are based entirely on the accumulation of productive skills rather than on indicators of pre-existing productive capacity, we would still expect to find a positive relationship between the latter and educational level unless there is zero or negative correlation between education and 'efficiency' or 'ability' as defined in the production function. This seems highly unlikely.

The screening hypothesis has generated controversy because its confirmation seems to imply gross social inefficiency in the market for education. In our view, this interpretation is incorrect. Imperfect knowledge of pre-existing differences between workers in productive capacity motivates employers to use educational attainment as a hiring criterion and workers to allow themselves to be graded by the education system. Where education does not enhance productive capacity, that part of the cost of education which would not be justified on the basis of direct consumption benefits is a measure of the cost of this labour market imperfection, but there is no reason for assuming that investment in education is socially unproductive.

Education still has social value as a signaling device which helps to match abilities and job requirements, assuming of course that different qualities of labour are not perfect substitutes in production.[46] There is no reason why output gains from improvements in allocative efficiency – in which category would also fall the social returns to migration – should be valued less than those from increases in productive capacity. Presumably, the negative connotations of screening for social returns to education are the result of a hypothetical comparison between the costs of a conventional education system and the dramatically lower costs of a screening system based, for example, on a battery of aptitude tests. Such a comparison may indicate that a shift in screening techniques would increase returns, but it does not imply a reduction in current estimates of social returns to education. Indeed even the former is in doubt. Discussion of superior techniques begs the question why in LDC economies, in many of which there are high rates of innovation and the government does not have a monopoly in the provision of educational services, market forces have not led to their adoption. The obvious answers are either that the productivity-enhancing role of education is important at all levels or that superior screening techniques do not currently exist, because of the differences noted above between intellectual ability and pre-existing productive capacity. It is possible that both answers are correct.

The relative importance of the screening and productivity enhancing aspects of the educational system determine the cost of a labour market imperfection, not the social value of education. Confirmation of the importance of this imperfection does not imply a labour market inefficiency, however, according to our criteria of equalization of social marginal productivity. Nevertheless, differences between countries in the costs of correcting an imperfection common to all might bear on the issue of differences in labour market performance by suggesting differences in the magnitude of the imperfection.

The length of experience of workers in employment (or its proxy, age) is often found to explain nearly as much of the variance in earnings as educational attainment. This suggests that perhaps a disproportionate amount of attention has been devoted to formal training as a means of accumulating human capital.[47] Experience within the firm generally has more effect on earnings than previous experience; this may reflect the extent to which skills acquired on the job are firm specific. One means of assessing the influence of labour market segmentation on wage dispersion is to include in a wage function a dummy variable indicating whether the worker is a casual or a regular employee. The presumption is that regular employees are protected by government legislation governing wages or by other institutional interventions, while the wages of casual employees are determined solely by market forces. Consistent with segmentation theory, Knight and Sabot have shown that in Tanzania, casuals are paid less than regulars solely on account of being casual, that they possess less education and that what education they possess is of less value to them. Analyses of discrimination in the labour markets of developing countries and of its contribution to the explanation of variance in earnings are still extremely scarce. Wage functions estimated in Malaysia and Tanzania with ethnicity and sex as independent variables have revealed significant differences in wages, particularly among racial sub-groups, after standardizing for measured levels of embodied human capital.[48] Economic discrimination might seem a natural corollary of the racial divisions in the politics of developing countries. At the same time the particularly large cultural differences between ethnic groups suggest the need for caution in interpreting the evidence. The ethnicity dummy may simply be a proxy for some unmeasured characteristic of the high wage group that increases their productivity.

There are a variety of hypotheses regarding the relationship of a firm's character to its wage level that have recently received rather prominent attention. It is conventional wisdom that in developing countries wages are higher if the employer is a multinational enterprise both because, being a monopoly or collusive oligopoly and for other reasons, they have the ability to pay higher wages and because, being in a politically exposed position, they are willing to do so.[49] Similarly large firms are thought to pay higher wages than small firms and firms with capital-intensive technology are thought to pay more than labour-intensive enterprises, also for reasons of ability to pay.[50] To briefly summarize the conclusions of attempts to test these hypotheses: differences in mean earnings are consistent with these hypotheses, but using multivariate analysis to control for differences in the composition of the labour force between various categories of employers greatly reduces the independent impact of firm characteristics on wages. Knight and Sabot found that the contribution of differences in firm characteristics to wage variance was less than 10% of the contribution of differences of the personal characteristics of employees.[51]

3. SOME SYMPTOMS OF INEFFICIENCY AND ITS QUANTITATIVE SIGNIFICANCE

Persistent disequilibrium in the form of a large number of workers without employment but willing to work at the going wage, unemployment in the Pigovian sense, is the most frequently noted manifestation of labour market failure in LDCs. It is by definition a wage sector phenomenon, hence the potential for open unemployment increases as the share of the labour force employed by others rises, a corollary of structural change. Indeed the evidence suggests that open unemployment is relatively unimportant in the poorest societies, where self-employment predominates, while in the developing countries its rate increases with the national income. On the basis of this relationship, of evidence of declining aggregate labour force participation, and of disappointing rates of growth of industrial employment despite high rates of industrial investment and output growth,[52] there have been numerous declarations to the effect that the malfunctioning of the labour market has generated a problem of grave proportions. To quote the Pearson Report, 'The failure to create meaningful employment is the most tragic failure of development. All indications are that unemployment and underutilization of human resources have increased in the 1960s and that the problem will grow even more serious'.[53] This sentiment has been echoed, both in general terms[54] and in specifically African,[55] Asian[56] and Latin American[57] contexts.

The presumption is that unemployment poses a double threat in the form of significant resource costs (the output foregone relative to a situation in which all workers are employed) and welfare costs (the demoralization and physical deprivation of unemployed workers, taken as an indication that a significant propor-

tion of the population is not sharing in the fruits of economic growth). In addition, unemployment is sometimes viewed as a cause of political instability.[58] It is not surprising that the unemployed should exercise considerable political influence, nor is this inconsistent with the fact that those at the bottom of the income distribution in developing societies are among the least likely to engage in illegitimate, or indeed any political action.[59] As we shall see, the openly unemployed are not primarily drawn from these low-income groups; on the contrary they are disproportionately from relatively high income families, and are well educated.[60]

Assertions of the seriousness of the 'unemployment problem', and the conclusions that invariably follow on the need for vigorous government intervention, are generally based on assessments of the magnitude of underemployment or disguised unemployment, as well as open unemployment. Open unemployment, it is said, is only the tip of the iceberg. In the ILO's reports on the employment problem in Colombia, Kenya and Sri Lanka, 35–40% of the labour forces are reported to be underutilized, though open unemployment is only about 10%. The various definitions of underemployment are more ambiguous and hence more controversial than those for open unemployment. Also such assessments are rarely based on anything but quite aggregate data, despite the near certainty of significant relationships between the demographic and temporal composition of surplus labour and its resource and (particularly) welfare costs. Finally, and perhaps still more significant for assessing the costs of a given quantum of surplus labour, there is a tendency to abstract from the precise nature of the inadequacies of the labour market that give rise to the problem.

The aggregation of open unemployment and various other forms of underutilization of labour in the discussion of employment problems has caused considerable confusion. While some measures of underutilization rest on the same analytic foundations as unemployment, in that both attempt to quantify the excess of working hours supplied relative to demand at the given wage, others are based on comparisons between incomes and the marginal product of labour in particular sectors, between hours worked and some measure of total time available, or between actual earnings and some arbitrary level of income or productivity. None of these others yields a measure of labour market imbalance, that is the current labour surplus. The first two comparisons relate to the slope of the labour supply curve in the long run, that is, the problem of labour absorption over several decades or, from a different perspective, to the magnitude of labour reserves; while the last is more akin to measures of poverty. The phenomena measured by these various approaches generally differ in causes, social costs, and policies appropriate for remedial action; by lumping them together we lose the ability to make important analytic distinctions. For this reason we have separated our discussion of open unemployment from that of other forms of underutilization.

We do this despite our recognition of the possibility of functional linkages between open unemployment and other categories of labour surplus. If a rising share of the labour force engaged in wage employment increases the potential for open unemployment, conversely it should decrease the potential for disguised unemployment. The combination of rapid urban growth with the increase in urban unemployment, particularly in African and Latin American Countries, together with a scarcity of labour for certain jobs in rural areas, has led some observers to hypothesize that surplus labour is being transferred from rural to urban areas.[61] Thus Ramos has argued, primarily on the basis of steady increases in wages in a number of Latin American countries which cannot be explained by government policies or the pressure of organized labour, that there has been no real increase in the excess supply of labour in Latin America; rather, the growth of open unemployment has been associated with a decline in disguised unemployment.[62]

(a) *Open unemployment*

Open unemployment is predominantly an urban phenomenon; in the cities of developing countries estimated rates frequently exceed levels that would trigger major remedial government actions in industrialized economies. (See Table 2.) Problems of definition and measurement do not reduce the gloom this picture projects, as there is no evidence that the resulting biases are consistently in an upward direction. On the contrary, the use of the conventional criterion of active job search for determining the number of workers without employment who are labour force participants introduces a consistent downward bias, as it excludes from the unemployed the 'discouraged workers' who would accept a job at the going wage but have given up the search because of low probability of employment.[63] In a study

Table 2. *Recent measurements of open unemployment rates, various countries*

Asia				Africa				Latin America			
		Open unemployment rate				Open unemployment rate				Open unemployment rate	
Country	Year	Urban	Total	Country	Year	Urban	Total	Country	Year	Urban	Total
India	1971	3.0	3.9	Ghana	1970		6.0	Bolivia	1974		9.7
Indonesia	1971	4.8	2.2	Tanzania	1971	10.0		Colombia	1974	10.0	
Malaysia	1967/68	9.9	6.8	Egypt	1971		1.5	Panama	1973		6.5
Pakistan	1972		2.0					Trinidad-Tobago	1973		14.0
Sri Lanka	1969/70	16.9	13.2					Uruguay	1973	8.9	
Thailand	1969	1.3	0.2					Venezuela	1971	6.0	
Turkey	1969	4.9						Peru	1974	6.5	
Korea	1974		5.4					Brazil	1970		2.0–2.4
Philippines	1971	11.0	5.3					El Salvador	1975	4.9–8.6	5.2
Syria	1973		4.5					Honduras	1972		8.0
Taiwan	1972		1.5					Mexico	1970		3.7
Average Asia*	1975	6.9	3.9	Average Africa				Average Latin			
(ILO estimate)	1975	6.9	3.9	(ILO estimate)	1975	10.8	7.1	America			
								(ILO estimate)	1975	6.5	5.1

Source: *ILO Yearbook of Labour Statistics* (various years); country census and labour force survey statistics; IBRD country economic reports.

*Excluding China and other centrally planned Asian economies.

of urban labour markets in Tanzania, based on a sample survey designed so that the degree of sensitivity of the aggregate rate of unemployment to alternative definitions could be determined, alternative labour force participation criteria and criteria of employment were applied in order to adjust for 'hidden unemployment' and 'hidden employment'. Although the variation in the aggregate rate was considerable, the lower boundary was 8% unemployed.[64]

Intermittent collection of information on the employment status of labour force members and a tendency to redefine categories between labour force surveys or censuses has resulted in time series evidence that is sketchy at best. The apparent rise in the rates of urban unemployment may be a statistical illusion and for most countries rough constancy over the last decade a closer approximation to reality. Nevertheless, increases in the size of the labour force in less developed countries imply a rise in the absolute number of unemployed workers, and increasing urbanization implies a rise in the rate of unemployment when the national rather than just the urban, labour force is the denominator. It is not, however, the rate of growth of unemployment that distinguishes the time trend of unemployment rates from those prevailing in industrialized countries. Rather it is that high levels of urban unemployment are a chronic, not a cyclical phenomenon. It is this distinction that leads to grave interpretations of the magnitude of the problem.

(i) *The implications of alternative models of unemployment for social costs*

The social costs of unemployment are said to be so high in many countries that planners should give high priority to a cure. It is unfortunate that such statements are frequently made on the basis of an erroneous diagnosis or without reference to the causes of the problem, since costs and appropriate policy responses vary with causes. In this section we classify unemployment models in development theory and assess their implications for social costs and their relevance to the analysis of urban unemployment.[65] The criterion for relevance is their consistency with two stylized facts established by recent research in developing countries:

(a) the coincidence of unemployment in the urban sector with 'full employment' or labour scarcity elsewhere in the economy;

(b) the fulfilment by a large number of urban residents of the three conventional criteria for open unemployment: the division of all the individual's time between leisure (non-economic activities) and job-search; no earned income; and no contribution to output.

The first stylized fact suggests that models treating unemployment as a generalized phenomenon for the economy are not useful in a discussion of urban unemployment, since they cannot explain excess supply in one sector but not in another. The second raises the question of which of the various models considered are consistent, or could be reformulated so as to be consistent, with open and as well as disguised unemployment or underemployment. It is difficult to make sense of the notion of long-run explicit unemployment of specific members of the labour force without taking into consideration some mechanism by which the unemployed subsist. Since the unemployed in LDCs tend to be young, we cannot look to savings as the subsistence mechanism. Given the absence of government transfer schemes, we face a choice between direct transfer payments or, in the case of disguised unemployment, work-sharing or employment creation. Thus, to explain open unemployment we must consider the circumstances under which the employed support those without jobs by direct transfers.

Deficiency of aggregate demand economy-wide models. In contrast to classical theory, in which the labour market is characterized by flexible wages, popularized versions of the Keynesian framework assume that the real wage, the sole determinant of labour supply, is rigid. Thus there is, in effect, a fixed quantum of labour available. The employment function translates any decline in aggregate demand, and hence output, into unemployment. This unemployment is involuntary in that workers are willing to accept, but cannot find, jobs at prevailing or lower wages. Keynes himself did not in fact posit rigid wages, but simply dropped the assumption of perfect information. He assumed that, in disequilibrium, quantities adjust faster than prices. Thus any deviation of aggregate demand from the full employment level will be amplified rather than counteracted, because the initial unemployment reduces purchasing power and creates expectations of further contractions. Aside from the strong positive effect of the negative relationship between prices and wealth on demand for output, which Keynes recognized as logically possible but socially unjust and inefficient, a decline in wages only exacerbates the situation, as its first consequence is to reduce aggregate

demand, reinforcing expectations of deflation.[66]

Where unemployment is caused by deficiency of aggregate demand, it is generally associated with high levels of national output foregone. In crude terms, the cost of unemployment in industrial economies, or more generally of cyclical downturns in economic activity, is estimated as the difference between the gross national product (GNP) in the period and what it would have been if GNP had advanced smoothly from the pre-recession to the post-recession level, measured at the point at which GNP returns to the trend line of economic growth projected from the pre-recession period. Exercises such as this conducted in the United States and Britain indicate that in most downturns output could be increased by considerably more than the proportion 'full employment' bears to actual employment during any year of the recession,[67] despite the likelihood that employers lay off their least productive workers first. There are always large numbers of workers who, though not classified as unemployed, would contribute more to output in a tighter labour market than they do during a slump: those who have withdrawn from the labour force because of poor prospects of employment, those who are working less hours than they desire at the prevailing wage, and those who temporarily accept jobs at an occupational level lower than that for which they are qualified. To these direct losses in production is sometimes added the effect of the downturn on the rate of economic growth.

As explanation for urban unemployment in LDCs Keynesian models suffer from four inadequacies. They presume that demand deficiency results not only in the underutilization of labour but of complementary resources as well. Yet the numerous instances in which deficit financing, high rates of inflation and urban unemployment have co-existed suggest that this is not true in developing countries.[68] Reddaway has emphasized '...that although there is abundant labour, at least of unskilled types, a general increase in demand will not lead to a general increase in output, because other cooperating factors are needed to work with labour. The traditional one to take is capital i.e. real capital equipment; nothing much can be done with bare hands alone'.[69] Second, they abstract from such fundamental influences on output as population growth, technological change and capital accumulation. The level of effective demand alone can determine the volume of employment only in the short run. While such models may fit the cyclical pattern of production and employment in the industrialized countries, they are not appropriate to the chronic urban unemployment of LDCs.

Nor can these models explain the specificity of location and the form of unemployment in LDCs. The coexistence in LDCs of urban surplus and rural scarcity contradicts the presumption of Keynesian models that the direction, if not the rate, of change in aggregate demand is the same in all sectors. The LDCs may not be prone to deficiencies in aggregate demand. Even if they did experience such deficiencies, the difference between industrialized and less developed countries in the extent of wage employment suggests that the resulting unemployment would be disguised. Where the wage system is pervasive, workers who lose their jobs in an economic downturn have no alternative means of earning a living. Where there is free entry to the agricultural sector (either because of an abundance of land or the strength of traditional obligations to family members), or to the urban own-account sector, nearly all workers without a wage job can find other employment. Demand deficiency alone cannot account for significant and persistent open unemployment in such a situation. There must be an additional mechanism, on which more below, to explain why workers do not accept the alternative, albeit meagre, earning opportunities.

Other economy-wide models can be classified according to whether unemployment is deduced from technological lack of substitution, given the factor endowments, or from the fixity/stickiness of real wages. We review these categories of models in turn but, because they share several important features, assess their relevance and implications for the social costs of unemployment as a group.

Technical lack of substitution. Two basic models can be distinguished here: the static Walrasian model associated with the work of Eckaus on factor proportions, and the dynamic Harrod Domar model.[70] Considering first the former, with two factors (capital and labour), two commodities and production functions characterized by Leontief-style fixed coefficients, the production possibility curve is characterized by 'flats' along which labour is unemployed and there is no market mechanism to ensure that demand will take production to the production point, if it exists, at which both factors are fully employed. In the dynamic model, particularly that developed by Domar, the average savings ratio and the marginal capital output ratio are fixed.[71] Hence, the

economic system is geared to a steady rate of growth and since, again, there is no market mechanism to equilibrate demand and supply for labour, the rate of growth of production may well be exceeded by the exogenously determined rate of growth of the (working) population. The result is an exponential rate of growth in labour unemployment. It was this 'naive' growth model that Solow rescued from the inevitability of unemployment by arguing that the choice of technique, the capital–output ratio, could shift in response to a growing availability of labour, as could the savings ratio.[72]

Fixity/stickiness of real wages. The simplest model in this category is the one-sector model, such as that set forth by Meade to analyse the dilemma faced by the monocrop economy of Mauritius:[73] simultaneous dramatic increases in the growth rates of both labour force and wages. By 1960, past demographic changes had ensured a 50% increase in the working population over the subsequent 15 years.

A classical competitive economy which maintained full employment of labour should respond to this relative abundance of labour with rises in the rent of land and the rates of profit and interest, and a fall in the real wage rate. But given a highly skewed distribution of land ownership and capital such trends would further skew the distribution of income. Although from the perspective of resource allocation the wage rate ought to be very low, the 'political awakening of the underdog in Mauritius has not unnaturally been associated with aggressive trade union action, which has pushed up the wage rate in the sugar industry as a method of redistributing part of the wealth of the island'. Meade predicted that, unless remedial policies were adopted, unemployment would result. With a given supply of labour and the marginal product of labour less than the fixed real wage it is clear that capitalist employers will hire only a proportion of the labour force.

The deduction of unemployment is much the same in the two-sector models developed by international trade theorists.[74] Brecher added a (real) wage floor covering the entire labour market to the standard, two-commodity (capital-intensive, labour-intensive) two-factor model and derived the feasible (constrained) production possibility curve. Capital is always fully utilized, but for a given product-price ratio there is a locus of profit-maximizing output equilibria (a Rybczynski line) along which labour is unemployed. This model shows that unemployment will vary not only with the level of minimum wage, but also with both the product–price ratio and the composition of demand for output.

In these models unemployment, traceable either to technical lack of substitution or to a rigid wage in excess of the level required for full employment, is sector non-specific. Thus, like demand-deficiency models they do not appear to be useful for explaining why in many LDCs unemployment is exclusive to urban areas. A more fundamental issue is their ability to explain *open* unemployment. The question is not the pervasiveness of wage employment – fixed coefficients or a minimum rate of remuneration maintained by custom could conceivably characterize non-wage sectors – but whether the models can explain why employed workers offer, and the workers in excess supply prefer, direct transfers to work-sharing arrangements as a means of support. Certainly work-sharing and employment creation are not incompatible with an excess labour supply. Both sets of models imply that there is a given stock of man-hours available for employment, and demand sufficient to absorb only part of that stock; both are silent as to the number of workers meeting the demand. The excess supply of labour could just as easily be manifested in underemployment in sectors where coefficients are not rigid or in disguised unemployment, workers employed at a wage in excess of their marginal product, as in open unemployment.

Abstracting from the utility implications of eleemosynary behaviour, from the perspective of the employed the distinction between sharing work and transferring income is that in the latter case they get nothing in return for the income foregone. In the former case, there is a gain of leisure. Where employment creation is feasible there is a gain in output as well as leisure. This gives rise to the presumption that, *ceteris paribus*, the employed with an obligation to support workers in excess supply will prefer work-sharing or employment creation to transfers. There is no incentive for direct transfers such as a commitment by the unemployed to make repayment – possibly with interest to outweigh the output and leisure benefits.

None of the models we have considered provides a basis for such an incentive, because in none of them does *open* unemployment offer the prospect of an economic return directly to the job seeker. They are all demand deficiency models in the limited sense that in the economy as a whole, the number of hours offered for work by the labour force, no matter

how deployed, exceeds the number demanded by employers. Where there is an aggregate scarcity of employment opportunities, the unemployed worker is best viewed as a victim of circumstances who would prefer even part-time work at the prevailing wage rate. Thus he would have no incentive to offer employed workers 'willing to share their work' a proportion of future earnings in exchange for direct transfers.

It would be wrong to conclude from this discussion, however, that deficiencies of aggregate demand for output, lack of substitution between factors, or wage rigidities do not cause labour allocation and utilization and income distribution problems in developing countries. Our point is simply that problems of this nature are unlikely to be manifested in open unemployment. When open unemployment is the symptom being diagnosed other models are more likely to provide the appropriate analytic framework. However, in the event that the stringent conditions for technological lack of substitution or rigid wages to lead to open unemployment were fulfilled, the output foregone per man-year of unemployment would be less than in a situation of Keynesian unemployment. Indeed, if the technical and wage rigidities are accepted as given, the opportunity cost of labour and hence aggregate resource costs are zero.

(ii) *Sector-specific models*

Divergence between wage and marginal product. In his seminal paper, Arthur Lewis was concerned more with the consequences of a supply of labour, perfectly elastic at a constant real wage, to the modern capitalist sector than with the cause of the unemployment in the agricultural sector which it suggested.[75] Nevertheless, a model is implicit in his discussion. It is virtually the same as the two-sector model in which unemployment is the result of an economy-wide rigid wage in excess of the market clearing level. The wage in the agricultural sector is exogenous to supply and demand – whether it equals the average product of the peasant farmer, as Lewis suggests, a 'subsistence' level of consumption or a customary level of consumption is not of fundamental importance to the analysis. In the 'overpopulated' economies Lewis had in mind, these interactions would produce a zero or near zero return to labour because of the abundance of labour relative to capital and natural resources. Since the modern capitalist sector must draw its workers from the agricultural sector it too is subject to the same floor. The supply price of labour will reflect the agricultural wage.

Unemployment is sector-specific in the Lewis model, though the wage floor is economy-wide, because it is in agriculture that excess workers can obtain the means to subsist. Lewis' view, similar to our own, and apparently based on the same reasoning, is that workers will be in disguised, rather than open unemployment. When faced with the obligation of supporting workers, it is to the advantage of peasant farmers to employ them at the institutional wage rather than simply provide them with direct transfers. In this way the farmer reduces the cost of support by the value of his additional leisure, and, given a neoclassical production function, by the value of the worker's output. Even if the marginal productivity of labour is zero, the farmer should prefer to subsidize the worker in employment rather than in unemployment. Only if the marginal product of labour is negative or increased leisure has negative utility would the excess supply of labour be manifested in open unemployment. As Sen emphasized, 'there is no contradiction between disguised unemployment and rational behaviour. In a family-based peasant economy, unemployment will naturally put on this disguise. A piece of land that can be cultivated fully by two, may actually be looked after by four, if a family of four working men having no other employment opportunity happens to own it'.[76]

Though wage employees may be constrained from work-sharing, presumably because of fixed hours of work, Lewis does cite monopolistic competition among the urban self-employed and social consciousness among employers, who hire otherwise destitute workers whose contribution to output does not cover their wage, as means by which some of the excess supply may be absorbed in the capitalist sector. If these phenomena assumed significant proportions it would, of course, qualify our classification of divergence between wage and marginal product models as sector-specific. But the points to emphasize are that, given the assumptions regarding peasant behaviour in this type of model, surplus labour will never be confined to the urban sector, nor is it likely to be manifested in open unemployment.

Segmentation of the labour market. There is also a rigid wage in the well-known Harris–Todaro model, but unlike that of the Lewis model it is not economy wide. Rather, the labour market is segmented in the sense noted above, that some workers receive higher real wages, net of psychic and direct costs of mobility, than others with the same level of

human capital, simply by virtue of their sector of employment.

Segmentation, however, is no more a sufficient condition for open unemployment than is an economy-wide rigid wage. Indeed, it is not even a sufficient condition for the derivation of an excess supply of labour either in the sense of an aggregate imbalance in the supply of and demand for man-hours (as distinct from workers) or in the sense of an intra-sectoral gap between the wage and the marginal product of labour. As long as there is a sector in which entry is free, the consequence of raising the fixed wage to a level above the laissez-faire equilibrium is simply a decline in the flexible wage (mpl) to a level at which all the workers who could not find jobs in the high wage sector can be absorbed in employment. There is excess supply to the high wage sector in the limited sense that workers employed in the flexible wage sector prefer a job in the rigid wage sector; thus the supply curve to the latter is infinitely elastic.

The essential contribution of the Harris–Todaro model to the explanation of unemployment is a labour allocation mechanism under which actual wages are not equalized, but the actual rural wage is equated with the expected urban wage, the latter defined as the (rigid) minimum wage weighted by the rate of employment (i.e. the share of persons in this labour market who are employed). The Harris–Todaro model thus explicitly resolves the inconsistency between the predictions of the micro-economic theory of the labour market as to the form in which an excess supply of labour will manifest itself, and conventional macro-economic explanations for open unemployment. This inconsistency is resolved through provision of an incentive to workers to remain in open unemployment rather than accept a job readily available at a lower wage. The incentive derives from the implicit assumptions that employment and rural residence on the one hand and seeking an urban job on the other are mutually exclusive activities. That is to say, workers employed in the rural sector have no chance of obtaining a high wage job — or, conversely, only those excess workers in open unemployment have a chance of obtaining a job in the rigid wage sector.

The unemployed worker is not a victim of circumstances, as he is in models characterized by an aggregate imbalance between labour supply and demand. Rather, this type of unemployment is a hybrid of 'voluntary' and 'involuntary' elements. It would be involuntary if it were taken for granted that the worker is limited to a specific sector. Yet because employment is available elsewhere, he must have voluntarily limited himself.[77] With regard to subsistence, the worker believes that the present value of his future income stream is greater if he doesn't work than if he took a low-paying job. Because of the prospect of high wage jobs, the worker can offer those who support him a return in direct transfers. They expect greater benefits from this arrangement than they would get through work-sharing (which would allow them more leisure) or employment creation (which would increase output).

The model is also consistent with our other stylized fact of the coexistence in different sectors of labour scarcity and labour surplus. It could be modified to incorporate rural surplus labour in the Lewis sense, by positing a gap between a rural wage reflecting income-sharing rather than profit-maximizing behaviour and the urban wage. But clearly the model is, in its original form specified so that there is full employment or labour scarcity (job vacancies at the market wage) in the rural sector and unemployment in the urban sector.

The model was formulated in East Africa; it is consistent with other features of the evolution of the labour market there. Urban wages have not declined in response to the pressure of the excess supply of labour that emerged in the 1960s and led to rising unemployment rates. Rather, government interventions and apparently, in some industries, strong positive relationships between wage and productivity levels contributed to their continued rise, which resulted in 1970 in a rural–urban income differential for unskilled labour estimated at between 1:4 and 1:8.[78] The contribution of migration to aggregate urban labour supply — migrants comprise the majority of the urban labour force and of its annual increment — also suggests a link between migration and urban labour balance. Recently the theory has been put to more severe tests. Carefully designed econometric estimates of migration functions have verified its central hypothesis: that the probability of urban employment, independently of the differences in actual rural and urban wages, contributes significantly to the explanation of variance among time periods and sub-groups of the rural population in rates of urban migration.[79]

One apparent weakness of the model is its tendency in some countries to predict rates of unemployment significantly higher than measured rates, but one can increase its realism by tinkering with the non-price mechanism by

which high wage jobs are rationed among competing job-seekers.[80] With a labour supply function based on expected income, there will be open unemployment in a segmented labour market in equilibrium as long as, *ceteris paribus*, a worker without a job has a higher probability of obtaining a high wage job than does a worker with a low wage job. Harris and Todaro's assumption that the probability of an employed worker obtaining a high wage job is zero is both unrealistic and unnecessary. Similarly the absolute constraint that rural residence places on urban job search in the Harris-Todaro model is not essential. As long as the probability of obtaining a high wage job is higher for urban than rural residents, in equilibrium there will be urban open unemployment. The implications of relaxing the constraint of employment on job search are particularly interesting. Mazumdar and Sabot have shown that if workers in an urban flexible wage sector have a better chance of obtaining a high wage job than rural workers, though not as good as the unemployed, then some of the workers comprising the excess supply to the high wage sector, who otherwise would select unemployment, enter the urban free entry sector and depress its wage to an equilibrium level below the rural wage.[81] In this case the excess supply of labour to the high wage sector assumes three forms: hidden rural unemployment, in the sense of workers employed in the rural sector willing and qualified to work at the rigid wage, but discouraged from seeking such work by the costs of doing so; urban underemployment in the limited sense that the transfer of workers from the urban flexible wage to the rural sector would increase national output; and open urban unemployment.

This model of unemployment is not confined to interactions between rural and urban segments of the labour market. It has been applied in Jamaica, where the wage gap of significance (for a comparable level of skill) is between the spatially separated mining and sugarcane industries which are both rural. It resolves the puzzle of why the unemployment rate is higher there and in Puerto Rico and Trinidad — also relatively dynamic economies — than in Haiti which is relatively poor and economically stagnant.[82] In Jamaica and Puerto Rico unemployment remained at high levels throughout the 1950s and 1960s, despite rapid output growth and, as a consequence of emigration, virtually stable labour forces. Reynolds explains this phenomenon in Puerto Rico by reference to the low output elasticity of labour demand in industry that resulted in a decline in total employment during the 1950s, and attributes these phenomena in turn to rising wages and consequent labour-saving innovations.[83] This explanation, akin to the economy-wide rigid wage models, however, does not provide answers to the questions of why, if inadequate labour demand is the problem, both Puerto Rico and Jamaica experienced labour shortages in some sectors and why in Jamaica, where employment rose at a faster rate, unemployment remained higher than in Puerto Rico.

In the inter-sectoral misallocation model, by contrast, unemployment is a function of an excessive movement of labour from low to high wage sectors and not to an aggregate imbalance in supply and demand, so it is consistent with the coexistence of pockets of super-abundance and scarcity.[84] One way to assess the relevance of the model is to determine whether unemployed workers would accept a job at the wage level prevailing in the low wage sector where employment is available. In Jamaica, surveys indicated that in 1955 over four-fifths and in 1966–67 over two-thirds of job seekers would not accept work at the wage rate prevailing in agriculture.[85] As expected, unemployment and the uncertain prospect of a high wage job was preferred to the certain prospect of a low wage job. The model also can explain why unemployment in Jamaica remained higher than in Puerto Rico, despite a more rapid increase in employment opportunities. For a given inter-sectoral income differential, the higher the rate at which workers are hired in the high wage sector the greater the unemployment rate must be to equalize expected wages in the two sectors. Finally, the model can explain the relatively low rate of unemployment in Haiti, since for a given wage gap and job opening rate the larger the high wage sector as a proportion of total employment, at least up to a point, the greater the level of unemployment as a proportion of the national labour force.

Since employment conditions within the urban sector are themselves diverse, migration is an inessential feature of this genre of segmentation models. In some countries migration is constrained by direct controls. In Asia and Latin American contexts migrants frequently comprise a relatively small proportion of the annual increment to the urban labour force, either because of a relatively high degree of urbanization and/or a narrow differential in incomes between rural and urban areas. Nevertheless, given rigidity of some urban wages, as long as the probability at a given skill level of obtaining a high wage job is greater for those in

unemployment than employment, open unemployment is the natural result of individuals' allocating themselves on the basis of expected private economic returns. For the sector in the aggregate there may be no imbalance between the supply and demand for labour, but workers will refuse the offer of a low wage job if the expected gain, in terms of the present discounted value of expected income from waiting as an unemployed worker in the queue for high wage jobs exceeds the costs – the income foregone from a low wage job while waiting.

One model that abstracts from rural–urban migration focuses on those changes in the linkage between education and occupational levels that are a consequence of rapid expansion of the educational system. It provides an economic explanation for the unemployment of educated workers that does not rely on lags in information, rigid expectations or preference structures biased against certain types of work.[86] In most LDCs the supply of educational opportunities at any given level is not determined by demand in the occupations entered by previous school-leavers of that level. When, as has often occurred in the past two decades, the school system trains more workers than these occupations can absorb and if wages are rigid, school-leavers are faced with the choice of 'queuing' for a job in the preferred occupation or of accepting a less-preferred (lower wage) job. For some workers expected income will be higher in unemployment than in relatively low wage employment. Under the extreme assumption that employment and job search are mutually exclusive activities, the unemployment of educated workers will increase and the probability of finding a preferred job will decline until the expected wage in those jobs is reduced to the wage level in the less-preferred jobs. As in the simple segmentation model relaxing the assumption regarding the relationship between employment and the efficiency of job search reduces the equilibrium rate of unemployment. The filtering down of workers with relatively high levels of education, in effect displacing workers with less education from lower level occupations, sets off an action–reaction sequence that can generate unemployment in each occupational segment of the labour market where wages are somewhat rigid downwards.

For that open unemployment in LDCs which is the consequence of a rational response by workers to labour market segmentation, the measurement of resource costs involves both a knowledge of the marginal product of labour functions *in* various occupations and a specification of the precise benchmark situation against which the actual allocation of labour is measured. If the existing wage rigidities are taken as part of that specification, then it is logical to assume that the unemployed would have to be absorbed in low wage activities; unless labour's marginal product were zero in those activities, an increase in output would result. There could be a further increase in output if the specification involved the highly trained currently unemployed replacing less qualified people, and the latter in turn replacing people less qualified than they and so on. But since in the segmentation model the presumption is that complementary factors are fully employed, the cost of a given amount of unemployment will be less than in a situation where Keynesian deficiency of demand prevails. Thus, unless the increase in employment were to occur in activities with high marginal product of labour, which by assumption it would not, the increase in national output resulting from a shift to full employment would be less than the ratio of full employment to the prevailing level of employment. Indeed, there would be circumstances in which the reallocation of labour among various segments of the labour market would have little if any impact on aggregate output. Where unemployment is the result of a distortion in the rural–urban income differential, for example, the social opportunity cost of leaving an urban labour force participant idle is given by the marginal product of labour in the rural areas; if it is negligible, the resource costs of urban unemployment are insignificant. Even in East Africa where rural marginal product is clearly positive, the degree of urbanization is so low that a 10% urban unemployment rate translates into a national unemployment rate of under 2%, which implies an even lower proportionate loss of national output. These back of the envelope assessments of the magnitude of the resource costs of unemployment are consistent with numerous studies, in both industrialized and developing economies, of the cost of distortions in both factor and product markets. Leibenstein notes 7 studies where the cost of misallocations is less than 1% of national income.[87]

The segmentation models to which we have referred are search models only in the limited sense that differentials in the probability of obtaining a high wage job associated with geographic location and employment that give rise to unemployment in situations of labour market segmentation are attributed to con-

straints on the efficiency of job search. But search is no more than waiting in a job queue and the constraints appear to be simply on the time available for this activity. There is an implicit assumption that workers know with certainty not only the structure of wages and the job opening rate, but the number of competing job seekers as well. In search models developed for labour markets in industrialized countries unemployment is not the result of segmentation, identified with wage rigidities. Rather it results because workers are searching for rather than in possession of certain knowledge regarding the labour market. The search or learning process is modelled as a process of gathering samples of job offers, not in terms of queuing. Since all wages are generally assumed to be flexible, in the absence of uncertainties a Walrasian full employment equilibrium would prevail.[88]

The modification of these models to apply in developing countries holds some promise for enriching our understanding of labour market dynamics and unemployment, particularly in relation to structural change, but the process has just begun.[89] It is their implications for the resource costs of unemployment with which we are concerned. If all unemployment were of the search rather than the queuing variety, then the unemployed would in fact be self-employed in information collection, and under certain conditions such labour would be optimally allocated.[90] Seeking information is a necessary activity if labour is to be transferred from less to more productive uses. More generally, however, there is no presumption that the optimal share of a labour force will be engaged in search, and that of this share an optimal proportion will be searching full time, i.e. in the unemployment pool. The efficiency of the process depends, among other things, on the accuracy of individuals' guesses as to how much time they should spend searching in order to maximize their own expected income stream and on the way different people's search processes affect each other. Until the nature of the search process is better understood, it will not be possible to judge whether search unemployment has a fairly high cost, no cost, or whether it should optimally be even higher than it is. The fact that some LDC unemployment clearly has a search aspect to it does, certainly, create some presumption that its cost is less than might otherwise appear.

The general conclusion of this discussion is that the resource costs of maintaining a pool of openly unemployed workers are not likely to be very high, although this does depend on the use to which it is assumed such people would be put. If the wage rigidities which appear to be a major causal factor are taken as given, the output that would result from their employment – in sectors where work is readily available – is unlikely to add more than 1–2% to national income. This does not imply that open unemployment is not a social problem worthy of government remedial policy. The poorer the country the less it can afford to ignore an opportunity to increase national output without increasing the stock of productive resources. Unfortunately, however, it is questionable whether there are policies at the disposal of planners that can substantially reduce unemployment without imposing countervailing political or economic costs. Eliminating the wage distortions that attract workers into some sectors in excess of employment opportunities is the most obvious candidate.[91] An additional gain in efficiency to that associated with the reallocation of labour among sectors would result from investors selecting technology on the basis of more appropriate factor prices. And the elimination of wage distortions would contribute to the achievement of a distributional goal widely accepted even in states without any pretensions to socialism, namely that workers with the 'same' level of human capital doing the 'same' work should receive the 'same' pay. While the political cost of reducing the relative economic advantage of groups with disproportionate influence is likely to be the operative factor, there are several economic reasons why alteration of the wage structure may prove unacceptable.

Wage cliffs may be the result, not of arbitrary government policies or of the pressure of unions, but of employers in some sectors finding that they can reduce labour costs per unit of output by raising wages. The positive relationship between wages and productivity that gives rise to this apparently paradoxical situation may have its roots in motivational factors or in a negative relationship in some sectors between wages and labour turnover and hence costs of hiring and training workers.[92] Thus eliminating wage distortions may increase allocative efficiency but as we noted above, may also reduce X-efficiency. Furthermore the elimination of distortion in the wage structure may have adverse as well as beneficial distributional consequences. If, as is likely in the urban sector, the elasticity of substitution between capital and labour is less than unity, the share of wages in total income will be reduced and the urban wage bill may also be

reduced if increases in output occasioned by the decline in urban wages do not offset the reduction of the wage share.[93,94]

The discussion of distribution suggests another perspective on the seriousness of unemployment as a social problem. The loss of output associated with unemployment has an obverse side in loss of income; the existence of unemployment also leads to uncertainty, uneven income streams, and the psychic costs of losing the direct utility derived from work – what Sen calls the recognition aspect of employment.[95] The loss of satisfaction through income loss and the other costs of unemployment is by no means evenly distributed. Even in the industrialized countries, where the resource costs of unemployment are demonstrably high, the remedial policies, particularly those which focus directly on the workers without jobs, are frequently justified by reference to the distribution of welfare costs. These costs are generally concentrated among groups for whom the loss of income will have significantly adverse consequences on consumption, namely those without much accumulated wealth, but with family responsibilities. The relevant questions in developing countries are: who are the unemployed, and to what extent are they able to live off their own savings or assistance from other persons? As Pigou emphasized, the welfare costs are much higher if it means that those without jobs 'are reduced to the verge of starvation than if it means merely that the superfluities of some rich men are cut a little to finance the unemployed. . . .'[96]

In situations where open unemployment is best explained by segmentation (i.e. wage rigidity) or search models, it is 'voluntary' in the sense that there are employment opportunities available which the worker declines to accept. This undoubtedly has an influence on the welfare costs of open unemployment. However, the extreme argument that voluntariness should be equated with zero welfare costs for the society, implying that the composition of the unemployed is irrelevant to the assessment of welfare costs, is fallacious because it confuses *ex ante* and *ex post* perspectives of job search. Presumably for all job seekers *ex ante*, the expected income associated with a period of open unemployment is greater than expected income in the low income sectors where employment is available. Individual decisions are based on this view of the labour market. However, economic welfare is assessed by observing actual income or consumption, not by consideration of alternatives that become irrelevant once a decision is reached. In a segmented labour market, since employment opportunities are rationed by means other than the adjustment of wages, those who succeed in finding a job overfulfil their expectations while the unsuccessful underfulfil theirs.

Nevertheless, the limited evidence available on the characteristics of the openly unemployed suggests that welfare costs are lower than they would be in industrialized countries in the absence of a formal social security system. This is not because the unemployed in developing countries have a greater store of assets on which they can draw. Rather deprivation is limited because, on the one hand, the subjective costs are distributed beyond the persons without jobs to those with jobs by means of intra-family transfers and, on the other, because sectors in which incomes are flexible are available as employers of last resort. In two contexts that in many other respects are dramatically different, detailed studies of the unemployed support these assertions. In both Colombia[97] and Tanzania[98] the pool of unemployed comprises predominantly non-heads of household, the young and married women who do not bear economic responsibility for others and who have a high degree of access to transfer payments from parents or husbands. They can and frequently do remain unemployed for long periods without suffering extreme deprivation. Most of the unemployed are educated, which places their parents in the top half or third of the income distribution. Though the evidence is sketchy it does appear that the unemployed who are heads of household and thus likely to have more limited access to intra-family or other transfer payments, only remain unemployed for short periods. In a situation of labour market segmentation, when unemployment threatens with deprivation an individual who has exhausted his savings and the generosity of his relatives, he can usually find employment in the sectors where wages are flexible. The composition of unemployment observed in Colombia and Tanzania appears characteristic of other developing countries,[99] suggesting that being without work is a luxury only a small proportion of the labour force can afford for longer than several months at a time.

Our understanding of the causes of open unemployment remains rudimentary and the data to assess the number and character of unemployed workers are unavailable in many developing countries. Nevertheless, the weight of existing evidence fails to support the contention that increasing unemployment in many countries over the last two decades demonstrates that the development process has

strained the allocative mechanisms of the labour market beyond their ability to cope. But the case that labour market failure has constrained the rate of economic growth and is to blame for the persistence of large pockets of extreme poverty does not rest only on the prevalence and social cost of open unemployment but also on the extent and costs of various forms of disguised unemployment and underemployment, to which we now turn.

(b) *Disguised unemployment*

In sectors where family production units predominate, unemployment is more likely to be disguised than open. Population census data indicate that the share of the labour force classed as paid workers, which ranges from around 10% up to 60–70% or more even among LDCs, is usually lower in agriculture than in non-agriculture, being virtually negligible in the agricultural sector of Tanzania, the Ivory Coast, and Thailand and over half in a few countries (e.g. Algeria, Chile, Argentina); for those developing countries on which the ILO provides data, the median ratio is about 25%.[100] Since virtually all the early quantitative discussions of labour surplus in LDCs related to the agricultural sector, they focussed on the phenomenon of disguised unemployment, the first estimates of which were strikingly high.[101] To quote Kao, Anschel and Eicher:[102]

> Studies by Buck, Warriner, and Rosentein-Rodan in the 1930s and 1940s in less developed countries presented statistical data for China and Southeastern Europe to suggest that a large percentage of agricultural labour was idle for substantial periods of the year. . . . Doreen Warriner. . .in 1939. . .in a widely quoted study revealed that before World War II in 'Eastern Europe as a whole, one-quarter to one-third of the farm population is surplus. . .' Next, in 1943, Rosenstein-Rodan wrote that 20 to 25 million of the 100 to 110 million people in Eastern and Southeastern Europe were either wholly or partially unemployed. In 1945, Mandelbaum estimated that from 20 to 27% of the active rural workers in Greece, Yugoslavia, Poland, Hungary, Rumania, and Bulgaria were redundant. . .the widely quoted 1951 United Nations report by a group of experts including W. Arthur Lewis, T. W. Schultz, and D. R. Gadgil cited these studies and added that it seems 'safe to assume that for many regions of India and Pakistan, and for certain parts of the Philippines and Indonesia, the surplus (rural population) cannot be less than the pre-war average for the East European Region'. The experts advanced this definition of disguised unemployment: zero marginal product of agricultural labour and the condition of *ceteris paribus*, which has been adopted by Leibenstein, Viner, Rosenstein-Rodan, and many others.

W. A. Lewis' seminal article on development under labour surplus,[103] and subsequent elaborations especially by Fei and Ranis[104] heightened the interest in this issue[105] by providing a theoretical framework for the phenomenon, and contributed to a wave of research directed toward more adequate empirical measurement. The essential theoretical proposition was that, because of income sharing arrangements in family enterprises, the marginal product of labour in the traditional sector could fall below the going wage in the 'modern' sector, which was characterized by profit maximizing production units. In one variant of the model, it was assumed that as long as individuals were free to choose whether to take a modern sector job, labour would move from the traditional to the modern sector only if its marginal product in the latter (i.e. the wage) was at least as great as its average product in the former (average product would equal income if there were equal sharing of income among all family workers in the traditional sector production units). The differential in the marginal product of labour between the two sectors implies that labour is not optimally allocated; the opportunity cost of labour to the modern sector is low or even zero, so that total income (including non-monetary benefits related to preferences for living on the farm) in rural areas would rise if workers could be shifted to the modern sector. Too few workers move because doing so involves losing a share of the surplus – rent or profits – generated by family enterprises. This model assumes workers are responsive to income differentials; the misallocation of labour results from the different possibilities of income sharing according to whether the individual remains on the family farm or moves to the city.

To demonstrate the presence of surplus labour so conceived, we must show that the marginal product of labour (MPL) is low relative to that found elsewhere in the system or, in cases where few hours are worked, that MPL would be low with a small additional input of hours worked. We must also show that income sharing arrangements or other barriers to mobility not involving real costs are the reason for persons not working elsewhere. If the concern is simply to demonstrate low utilization of labour in some absolute sense (i.e. not against the yardstick of more productive opportunities) then only low MPL (*vis-à-vis* average income, for example) or low hours

worked are relevant. It is very difficult to find a measure reasonably indicative of how much additional productive work would be forthcoming under various conditions (e.g. wage rates) or of how much welfare gain would result.

Empirical work has generally shown that the estimates of 20–40% excess labour in the agricultural sector were too high by most interesting definitions: the agricultural labour force in some countries works more than was initially thought, including non-agricultural activities which sometimes take up a fair share of total time available. Currently the issue might more aptly be phrased in terms of whether the relevant surplus (i.e. the share of the agricultural labour force whose productivity would be markedly higher in another sector) is closer to zero or to say 10–15%. Such 'single figure' measures are, however, misleading. An adequate specification of labour supply distinguishes the different amounts of labour offered for different possible uses, and explains the reasons for those differences. Some of the factors determining labour supply to various possible uses are: preference for working in own enterprise, other job preferences, costs of transport and lodging elsewhere, costs of changing place of residence. Surplus labour could exist, but be usable only on the family's farm; thus if preference for work there is strong, more labour might be forthcoming if more complementary factors were available to those farms or if land were redistributed away from large 'modern' farmers. This same labour might not be transferable to urban settings by normal market mechanisms.

Further complicating the labour surplus issue is the fact that maximizing labour use may not maximize output; if the marginal product of capital is higher on large farms, using the labour surplus by transferring capital to smaller farms could lower output; the possibility of an employment–output conflict has received increasing discussion during the past decade.

The central thread of the arguments of Nurkse, Lewis and Ranis–Fei was that surplus labour existed which could be transferred and whose use elsewhere would raise total output. Potential output gains in the traditional sector and the related question of optimal distribution of other factors between the modern and traditional sectors received little attention in this early literature. After reviewing recent evidence bearing on the extent of labour surplus in the traditional Lewis sense, we turn to this more general question of optimal factor allocation and its implications for productive labour use.

(i) *Measurement of labour surplus in the traditional sector*

Following the initial attempts to test for surplus labour, a number of the original proponents of the concept either changed their minds regarding its validity, scaled down their estimates of disguised unemployment or modified their definitions of the concept. The review by Kao, Anschel and Eicher concluded that using the original definition – zero MPL and *ceteris paribus* (i.e. no increase in capital or other reorganization in traditional agriculture) – there was no serious evidence of more than about 5% disguised unemployment anywhere. Since that time, additional and more detailed studies attempting to measure labour surplus have been undertaken, and there is more information on labour utilization in general, especially for the non-agricultural sector. Since the proposition has increasingly been put forward that much disguised unemployment is now found in urban areas, especially in the service sector (e.g. retail commerce) it is important to take a new look at the evidence. We turn first to evidence on how much people work in the traditional sector, then to evidence on MPL (mainly in agriculture). There are no accepted practical criteria for a separation of traditional and modern activities, though it is usually presumed that economic units which hire workers are modern in the Lewis sense, as are independent workers or small groups of professionals and other persons working in 'modern-type' activities. Units fitting neither of these designations are considered traditional and, measured by inputs of capital and other factors, are usually smaller.

The available information suggests high labour inputs by persons attached to the traditional sectors. Open unemployment rates tend to be lower in agriculture, trade and services than in other sectors, presumably because a smaller part of the labour force is usually employed for wages in these sectors. Data on hours worked are seldom available for agriculture; for non-agriculture the data available from the ILO shows a definite decline from low to middle income countries.[106] More detailed information on hours worked by sector, available for a smaller set of countries, indicates that people tend to work longer hours in developing countries than in developed ones.

No general tendency for persons in agriculture to work longer or shorter hours than in non-agriculture appears for the set of countries whose detailed information we have studied.[107] In Colombia (1970), persons in the rural areas worked longer hours on average than urban dwellers;[108] at the same time, a higher

share of the urban labour force worked extremely long hours (70 hr per week and up). Both these differences appear to be due to differences in occupation; the two groups with many members working very long hours, sales persons and service workers, are found mainly in urban areas. Agricultural workers have medium long hours, while non-agricultural workers along with professionals, technicians and others found mainly in urban areas, work shorter hours.

Short hours of work, like non-participation in the labour force, may be due to leisure preference or the time required for non-economic responsibilities rather than to labour market imbalance. Just as open unemployment does not include all persons who are without employment, so visible underemployment does not include all persons working short hours. Whether individuals would prefer additional hours of work at their regular wage is the relevant consideration. In LDCs where the question has been asked, not too many have said they would, and the percentage of total potential labour hours their underemployment represents appears modest. As of an August 1973 survey, a total of 14.2% of employed persons in the Philippines wanted additional work.[109] As expected, a higher share of people working less than 40 hr wanted more work than of those working 40 or more hr: in August 1973 the two shares were 27.8 and 10.4% respectively. These figures varied markedly between agriculture (22.1 and 10.8%) and non-agriculture (40.0 and 8.8%).[110] For all categories, a smaller share of women working a given number of hours wanted additional work than of men working the same number of hours. Of all people wanting additional work, 70% were already working 30 hr or more.

The extent of lost labour inputs reflected in people's desire to work more hours cannot be calculated without estimates of how much more they want to work. Still, the evidence on the share of employed persons reporting a desire for additional work does not suggest that total hours would rise dramatically if their preferences were satisfied. In the Philippines, if everyone working under 40 (48) hr and indicating a desire to work more had worked 40 (48) hr, the increase in person hours would have been about 4.09% (7.48%) in May 1961 and 2.30% (3.97%) in November 1973.[111] Colombian figures for 1970, though not quite comparable, imply a lower level than the Philippines in 1973.

Similar information exists for farm households in several LDCs. In India's August 1956 August 1957 survey, the mean and median hours worked by employed farm household members[112] were 42.9 and 46.4 respectively and the percent by which person hours would have risen had persons available for more work actually put in 40hr was 4.24%. In South Korea, August 1964, the mean and median hours worked were 41.5 and 44.8 respectively; the calculated percent increase in person hours was 3.63 and 5.96 respectively By comparison, in more developed Japan (1956) these latter increases were 0.97 and 2.07.[113]

Indication of a desire for more work is not a yes–no issue, of course, and further work is needed to judge what respondents mean, especially when they answer in the affirmative. Some would take only work in the immediate area; others would be willing to migrate but might require a substantial wage premium to do so. In India,

> it has often been noted that even the rural poor reporting underemployment and/or availability for extra employment have still not availed themselves fully of the employment supplied through public construction works near their villages. Some studies have used questionnaires to probe into the reasons behind this apparent inconsistency. The 25th round of NSS indicated that a very high proportion of persons from small cultivator and labour households willing to leave village for work where quite keen about employment in public works provided they were at suitable locations. The qualifying clause turns out to be rather important.[114]

Other reasons sometimes mentioned are the short duration of such projects and low wages.

Most of the evidence cited above comes either from countries with multiple cropping patterns or from surveys taken in the summer. The substantial seasonal element of agriculture in the colder climates and other one-crop situations, raises the question of how fully the labour force keeps employed in the off-season. Most studies in such countries have focused more on available time than on desire to work. On the basis of a set of assumptions about a normal working year and needed labour inputs in the house, Cho estimated that about 32% of the potentially available time of family farm workers went unused in Korea.[115] For attached wage workers the share was 14.24%. A number of studies reporting labour inputs to agriculture in Africa have shown surprisingly low levels of man hours worked per year.[116] But Byerlee and Eicher note that there is evidence from several studies that seasonal labour bottlenecks limit future expansion of

agricultural production under existing technologies. They also observe that a considerable amount of 'leisure' time is actually spent on non-farm economic activities such as crafts and trading; as much as 50% of working time may be spent in these activities.[117] In a survey of 3 villages in Northern Nigeria, Norman found an inverse relationship between farm labour inputs and off-farm labour inputs,[118] suggesting that off-farm work is a means of salvaging labour time with a low opportunity cost. Even though seasonal labour peaks were a bottleneck to agricultural expansion, farmers still spent 31% of their time in the peak month in off-farm employment. Norman speculates that this might correctly reflect the opportunity cost of off-farm labour relative to farm labour, particularly since some activities such as trading are maintained by farmers all year round.[119]

To summarize, most of the evidence from direct surveys of hours worked indicates high labour utilization by farm families. At the same time, some of the more careful studies using other approaches have concluded that as much as 20–30% of available labour goes unused. Since a number of these refer to African countries, for which very little survey data is available, it is not possible to pin down the sources of their apparent differences. Certainly there is no evidence that 20–40% of the labour force is redundant all the year round. On the other hand, we cannot conclude at this point that there are no countries where perhaps 10% of available hours are lost ('available' in the sense of willingness to work at wages not far below going rates).

(ii) *Marginal productivity in the traditional sector*

Even where labour is fairly fully occupied, MPL may be near zero, especially in small productive units with few complementary resources. One method of quantifying the amount of labour with very low marginal product has been to compare 'needed' with available labour. But this methodology is generally suspect, since the outside observer is unlikely to be able to define the multitude of relevant micro production functions in terms of the heterogenous labour, land, and capital inputs.[120] A second approach involves use of comparative data on labour inputs by farm size. Buck's study of Chinese agriculture,[121] which provided much of the material for early discussions of the labour surplus issue, falls in this category. He emphasized the much lower average crop output per worker on small farms than on large ones. While not comparing MPL on small farms with going wage rates as labour surplus theory would suggest, Buck showed that it was substantially lower on small than on large farms. Average income per man equivalent was about half as high on small farms as on large ones (depending on just how the two groups are defined). Their inferior resource position led families on small farms to engage in more off-farm work and more non-agricultural activities on the farm; in fact they had less idle months per able-bodied man than did large farms (1.6–1.8).[122]

In India, S. Mehra[123] attempted to measure how much labour could be removed in 1956–57 without lowering agricultural output, beginning with the assumption that the largest farms, where the number of days of farm work per person so employed per year was higher had no labour surplus; she arrived at minimum and maximum estimates of 6.4 and 29% of the existing agricultural labour force, where the minimum estimate assumed that if any of a marginal person's time was needed on the farm he would not be counted as surplus, and the maximum estimate related the total surplus of person years, including fractions, to the labour force. Mehra was trying to measure labour which was 'surplus to agriculture',[124] and since persons on small farms do other work, the corresponding figures for truly surplus labour would be lower.[125,126]

An approach similar to Mehra's was used in a sample of 1,144 Taiwan farm families (1962), but allowance was made for housekeeping requirements and off-farm labour was recorded.[127] The percentage of the potential labour force (ages 12–60) employed was an increasing function of farm size; compared to the maximum utilization level (on farms of 4–5 chias), that for the smallest farms was only 55%. With this measurement technique, Wu and Lee reached an overall figure of 19% rural unemployment. While the measuring rod is arbitrary, the difference in employment across farm size, which clearly reflects a difference in opportunity for useful activity, can only mean that the MPL for many families is below that for families on large farms. This proposition is further supported by the evidence from Taiwan and elsewhere of much higher land productivity on the smallest farms, suggesting that MPL is pushed down much further on these farms.

The studies just cited were designed to locate unnecessary labour by comparing units assumed not to have a surplus with others which appear to. An alternative way to get at the marginal product of labour is a more direct production function approach. Many such

analyses have been carried out. Specification pitfalls are too numerous to consider in detail. Some studies specify a production function under which MPL cannot be zero; some present the MPL estimated at point of means[128] as relevant to the labour surplus issue (when presumably it is the MPL of farms with a-typically high labour/land ratios which is relevant); most fail to distinguish labour and land of different qualities; most exclude some factors of production from the analysis because of complementarity with labour (thereby probably generating an overestimate of labour's own marginal productivity); few attempt to discuss the complex seasonal activity and variety of work in the farm economy. To summarize what has been learned by the production function approach it would be necessary to survey such studies in detail, discarding most and piecing together the results of the best executed ones. Short of that, however, we can still conclude that such studies provide some general evidence against the proposition that large amounts of labour in LDCs, even those with unfavourable land/labour ratios, have zero or insignificant marginal productivity;[129] at the same time they provide evidence of differentials in MPL across farms and of low MPL for sizable blocks of farms.

Since the logical presumption is that such surplus labour as exists is to be found on small family farms, production function estimates based on data from small and large farms together are clearly hazardous; they may provide good overall fits without reflecting the characteristics of small farms. Separate analysis of small farms or farms with high labour land ratios is a better way to get at the issue. Most such studies have indeed found MPL to be lower on small farms.[130]

A final approach to the detection of labour surplus may be noted in passing – that which attempts to relate wage trends to the presence or absence of surplus labour. In the labour surplus model, earnings of some workers in the traditional sector are affected by 'institutional' factors, that is, they are not determined exclusively by the marginal product of labour. One simple variant of the model has taken this wage as a constant, and concluded that the modern sector faces a horizontal supply of labour. In fact, a variable set by non-economic factors need not remain constant. Further, even if the institutionally determined supply price of each potential worker in the modern sector were fixed, the aggregate supply curve of such workers to the modern sector would probably still slope up because the income sharing pattern varies across families, or because other factors such as transportation costs vary. Thus, while the existence of labour surplus would increase the likelihood that real wages would not rise over time, such a result is clearly neither a necessary nor a sufficient condition to presume that labour surplus exists. Labour surplus might also be expected to decrease the variability of wages over time, perhaps even over the seasons. But there seems to have been some confusion between the proposition that institutional (non-economic) factors affect the supply function of workers to the modern sector and the stonger proposition that the wage level is a non-market or institutionally determined one. The wage is still determined by demand and supply; supply as well as demand can shift under labour surplus conditions. So it seems unlikely that many solid conclusions about labour surplus will be reached using wage data alone.[131]

While the higher labour/land ratio and the higher land productivity on small farms could be due to a variety of factors such as higher land qualities, closeness to market, higher capital/land ratios, and while it is true that the lower share of available labour hours used by families on small farms is partially offset by greater off-farm employement, available evidence strongly suggests that the marginal productivity of small farm labour is below that of large farm labour.[132] A parallel pattern is suggested by the more limited evidence available for non-agricultural activities.[133] The evidence seems to lead to the conclusion that at least some of the difference in labour/land or labour/capital ratios between small and large productive units is due to different supply prices, and leads to systematically and substantially different MPLs. Sen's original conjecture that land productivity differentials owed their existence to a dual labour market seems,[134] in other words, to be broadly supported by the emerging evidence. A comparable phenomenon is found outside agriculture as well.

The information on labour use and labour productivity by size of establishment or farm does not demonstrate that labour could be removed from any units without a decrease in output – the extreme definition of surplus labour. Nor does it bear directly on whether workers with low productivity would be willing to take jobs elsewhere. Finally it does not, *per se*, provide any hints as to whether the labour market imperfections leading to different MPL across production units are due to information

problems, costs of mobility, monopsony/monopoly, or to the income sharing behaviour on which the main labour surplus hypotheses are based. Since it is obvious that all of these phenomena do exist at some level in most countries, they must explain part of the differentials, perhaps even the larger part of them.

It should be apparent that the labour markets and labour allocation processes in the agricultural sectors of many LDCs are quite complicated, as are those of other traditional or 'informal' sectors. While simple models like the original labour surplus ones have given us powerful insights, their simplicity when taken too literally has led to invalid or misleading conclusions. The intricate interactions of demand and supply and the detailed phasing of complementary activities over time or among household members does not imply that the market is perfect, so one cannot go to the extreme of presuming it works 'well', merely because changes in demand and supply are reflected fairly quickly in prices and quantities.

Labour surplus theory and attempts to quantify the disguisedly unemployed surplus assume inadequate complementary resources for the labour available from farm families. The amount of labour which would have to be reallocated to bring MPL to equality between the modern and traditional sectors and the corresponding income increase is a measure of the extent of labour surplus. But factor misallocation[135] loss may alternatively be reduced by improvement in other factor markets or changes in the distribution of other factors; in recent years the possible gains from channelling new inputs to traditional agriculture have received increasing attention. The implications of moving more complementary resources to a traditional sector require careful analysis, especially of the income sharing phenomenon. Consider for example, a situation where MPK is particularly high in this sector and capital is then made available to it to the point where MPK is equated across sectors. The marginal product of labour would rise if the traditional sector labour force did not change and hours worked might increase. But the income sharing arrangements which were the original source of the high labour/other resources ratio might now encourage people to return to this sector or not to leave thus reviving the original differential of MPL between sectors. Well specified assumptions about labour mobility are clearly needed before very interesting conclusions can be drawn.

Some feel for the magnitudes may be obtained from estimates of the amount of one factor which would have to be shifted to equate its MPL across productive units without any other shifting of other factors. For agriculture, evidence on the variance of labour/land ratios across farms gives clues. It appears that perhaps 30–35% of the Colombian agricultural labour force would have to be shifted,[136] while a much smaller share of India's would.

Such illustrative guesses, even if reasonably accurate, leave open the question of what can be done in practice to improve the labour and other factor markets and how much of the optimal reallocation could be achieved by various policy tools. This depends in turn on why labour is so often unevenly distributed over the complementary resources. The literature on the differing economic characteristics of farms by size includes extensive discussion of this issue; imperfections in each of the land, labour, and capital markets appear to play significant roles.[137] On the labour side, it seems well established that much family labour has lower opportunity cost on the family farm than elsewhere, because of preferences, transportation costs and income sharing. The capital market is highly imperfect because of high risks, imperfect information, monopoly, etc. The land market is imperfect because of such factors as costs of vigilance (by owner to make sure sharecroppers pay the rent), costs of subdivision (if it is possible to rent plots of a large farm), the political danger of having renters on land which they may then claim, and so on. Many of these imperfections are the stuff of underdevelopment; they diminish gradually with development but no magic wand can erase them at a given point of time. More relevant here, there is no presumption that improvement of labour allocation is more likely to result from improvements in the labour market than from improvements in other factor markets.

Capital and land market imperfections often work in the same direction as labour market imperfections to create wide divergences across farms or firms in the ratio of labour to other resources. There is some, though as yet less systematic evidence that MPK (and marginal product of land in the case of agriculture) tends to vary in the opposite direction from MPL across producing units, i.e. that where MPL is low, MPK tends to be high and vice versa. Where this is the case, the existing inefficiency must reflect some form of immobility on the part of both labour and capital (or land) and could be reduced by moving land and capital to the labour, so to speak, as well as by moving the labour to the land and capital.[138]

What are specific possible uses of low pro-

ductivity labour in agriculture? Activity on the farm clearly avoids many of the problems, such as transport cost and reluctance to leave the family which lead to labour market imperfections. Local employment, especially in the off-season, would be next easiest. Permanent emigration is the most extreme solution.

(c) *Monopolistic competition*

The open and disguised unemployment (or underemployment) phenomena discussed so far involve low or zero marginal private productivity of labour. Other forms of misallocation may be related, not to low private productivity of that factor but to low social productivity. One context in which social product is less than private is monopolistic competition.

The combination of fast or very fast urban growth, the explosion of low income 'slums', the rapid growth of tertiary rather than secondary industry in urban areas and other factors noted above have led many observers to hypothesize that rural and agricultural labour surplus is increasingly being transferred to urban areas. Part of the attraction of urban areas is the availability of some high paying jobs. We considered above the theories which explain urban unemployment in terms of expectations of getting such jobs. Another substantial chunk of labour absorption may occur in the easy entry monopolistically competitive sectors; this market structure permits more and more people to get a share of the total income generated in a sector, even though they may not raise total output, or may raise it by an amount which is less than the income they earn.

Specifically, then, a hypothesis of interest is that much labour surplus (labour whose marginal social productivity is below its income) is harboured in the growing urban tertiary sector. In support of this hypothesis, besides the obviously rapid growth of the low income tertiary sector labour force, is the fact that todays LDC's have a higher share of the non-primary labour force in tertiary activities than did the now developed countries at comparable stages of development.[139]

The major issue, as with Lewis type disguised unemployment, is not whether there is some labour with low marginal social productivity in such activities – there obviously is in any country – but whether (a) it is quantitatively significant, and (b) it could be put to better use. With a monopolistically competitive market structure, as in retail commerce where location gives any new firm an advantage with the consumers nearest to it and thus creates a downward sloping demand curve for it,[140] after a certain point the social product of an additional firm may become quite small, but the private returns are still adequate to attract new entrants. To judge whether losses due to this market structure are large one may compare the size of labour force engaged in these sectors with that of other countries, trying to allow for differences in level of development, distribution of population, etc. Income trends over time in the sectors in question may be useful, since if the labour force so engaged was growing faster than the demand for the services, average income would be expected to fall.

Little research has thus far been addressed to these questions; what has been done – mostly in Latin America – tends to suggest that labour wastage of this type has probably not been increasing rapidly nor does it constitute a very significant share of the labour force (5% might be an upper limit). Our earlier discussion of open unemployment brought out the greater wage distortions in some African countries (East Africa being the most studied) compared to most of Latin America. Since the continents could differ substantially in the present context as well, it is possible that the low social productivity labour force in monopolistically competitive activities is a significant share of the urban force in some African countries. Still it would tend not to loom large in their national labour forces.

Ramos' study of Latin America led him to conclude that disguised urban unemployment was decreasing over the period of the 1950s and 1960s to which his data referred.[141] His criterion was the share of salaried employment, which rose by a median 4.1% over the 13 countries for which he had data (for varying periods within the post-World War II period). He noted the contradiction between his conclusion and that of some earlier observers[142] who tended to take the increasing share of the tertiary sector as a sign of increasing disguised unemployment. Though the share of salaried workers is an inadequate criterion in itself, its trend is clearly part of the circumstantial evidence which can be adduced on the issue.

In Colombia, where as late as 1970 less than 40% of the labour force in commerce were wage workers and where the commerce share of the total labour force rose from 5% in the late 1930s to about 9% in 1970,[143] Berry's study revealed increases in the average wage in both wholesale and retail commerce during the period of 1954–67 (not a fast growth period

for the economy as a whole). Although evidence was spotty, there seemed no reason to believe that proprietor earnings had not risen along with small establishment wages. Even if a third of the people engaged in commerce, restaurants and some other services were 'surplus', it would be hard to build the figure much above 5% of the labour force (8–9% of the urban labour force). Such a figure would exceed the differential surplus found in Colombia *vis-à-vis* a typical developed country, since some low social productivity labour is always present in the monopolistically competitive sectors in a free market system.

Pending detailed defence of the proposition that the monopolistically competitive sectors are growing at rates exceeding demand for their output, or that earnings levels are performing badly relative to those elsewhere in the economy, a best guess is that their relatively fast growth is related primarily to demand patterns. It has been argued that a major cause of the high share of the tertiary sector in today's LDCs by historical standards is the relatively slower technological change in that sector *vis-à-vis* agriculture and manufacturing.[144] In any case, there is no persuasive evidence that the phenomenon is supply rather than demand determined.

(d) *Education–occupation and other mismatches*

An excess supply of labour in one part of an economy, as manifested by open unemployment or by workers in flexible wage jobs earning less than they could in some other activity, is one form of inefficiency in the allocation of labour that can result from the segmentation of labour markets. Other inefficiencies associated with segmentation, more difficult to document but possibly imposing greater resource costs on the economies of developing countries, involve the failure of the market to move the 'right' resources into high wage sectors, a failure commonly described by the term 'mismatch'. The essence of the problem can be seen in the diagram, where DD' and SS' represent, respectively, the demand and supply curves for labour in the protected or high wage sector, and where W_m is the wage, set for example by legislation. Assuming all aspirants have the same productivity in the high wage sector, while each worker's supply price is equal to his social opportunity cost, then if OL_0 workers are to be hired (as will occur with the wage at W_m) the social cost associated with

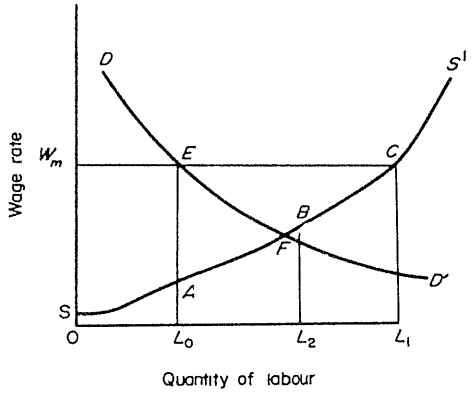

Figure 1.

their being hired would be minimized (at SAL_0O) if the low supply price workers were employed. But with the high wage being paid OL_1 workers will compete for the jobs, and they will be rationed. In the worst possible outcome, only high supply price workers will be hired, and the opportunity cost could be L_2BCL_1, where $L_2L_1 = OL_0$. It is clearly possible for this mismatching loss to exceed the loss from the hiring of too few persons in the protected sector (in this case area EFA).

The mismatch that has received the most attention to date is that related to the use of educated persons (presumably having high opportunity cost) in positions which could be filled at lower opportunity cost by others. The problem involves the relationship between the education and occupation levels of labour force members and, more fundamentally, the degree to which the educational system is providing workers with the appropriate skills, given the composition of the demand for labour.

Ordering the occupational hierarchy on the basis of the associated educational attainment, we would expect in virtually all contexts to find the wage rate positively related to occupation, since higher wages are required to compensate workers for the direct costs and income foregone during training. This presumes that as one climbs the occupational scale more training is required for minimum standards of performance. Otherwise employers should prefer to hire workers with less training and a lower supply price. If the labour market is operating efficiently, workers enter those occupations where their skills will have the greatest impact on productivity.

Segmentation can result in a mismatch between workers' skills and actual requirements. Consider the consequences of a minimum wage from this perspective. The legislation only

applies to the wage sector of the economy and frequently can only be enforced in large firms; it may lead to a significant difference between protected and unprotected sectors in pay for work requiring the same level of skills. This creates an inducement for workers with formal education to enter the protected sector even if their training does not contribute to increases in productivity as much as it might elsewhere. In the extreme a worker with considerable formal education may enter a job for which no training is required, because that job is protected by the minimum wage, while the occupation for which the worker is best suited pays less than the minimum in the unprotected sector.[145] Inefficiency in the allocation of labour among occupations need not be confined to the lower rungs of the occupational ladder. Wage fixing and wage rigidity due to government policy in middle and high-level manpower posts may result in similar misallocations of educated labour.

One resource cost of this type of misallocation is the output directly foregone because educated workers are engaged in activities in which their marginal social product is less than in the activities in which they would be engaged in the absence of segmentation.[146] The secondary effects of segmentation may impose even more significant costs. The mismatch between necessary skills and employers' requirements implies a gap between the private and social returns to investment in various levels of education. The gap would persist even if employers selected randomly among the competing applicants for high wage jobs, as some workers with 'excess' education are bound to be hired; their skills would have been better used elsewhere. The gap is greater, the more employers use education as a criterion for rationing jobs in which formal qualifications beyond a certain level are not associated with higher levels of labour productivity.[147] These gaps are almost certain to distort the signals on the basis of which educational planning decisions are reached. Certainly to the extent that the private demand for educational opportunities is a function of expected economic returns to investments of time and money, it will be inflated in the aggregate. If, when rationing employment opportunities, employers exaggerate the advantages for productivity of certain types of educational credentials, for example academic, *vis-à-vis* others, e.g. vocational, then the structure of private demand will also be distorted. While in virtually all LDCs the government controls most of the educational system, there is evidence that the supply of such opportunities is responsive to demand and is not determined solely on the basis of estimates of the future skill requirements of employers, let alone estimates of the social returns to various educational programmes.[148] Thus labour market segmentation may lead to a misallocation of resources in the educational system, one manifestation of which is the bias toward academic training, despite the skew in the distribution of school-leavers toward manual occupations.

4. CONCLUSIONS

If research on labour markets in developing countries were provided with clear and accurate data and appropriate methods for answering precisely formulated questions, this survey might be considered too long. Since there are in fact few accurate data and considerable disagreement as to which questions are important and how best to answer them, it may even be too short to do justice to the complexity and variety of the issues involved. Furthermore, because the efficiency of unconstrained markets is an article of faith for some economists, while the pervasiveness of imperfections and their dire consequences are premises to which others give uncritical allegiance, it is necessary to exercise great caution in interpreting the available economic evidence. Nevertheless, certain key features of our assessment of the performance of labour markets in developing countries, which we now recapitulate briefly, appear to be firmly established.

Our null hypothesis, that labour markets function at a comparatively high level of efficiency, is based on well-documented aspects of their macro dynamics. As development proceeds, time series and cross-country comparisons reveal changes in the occupational, industrial and spatial distribution of workers which are consistent with changes in the structure of production and economic growth. The success of labour markets in mobilizing workers for new growth-generating projects, and in other ways altering the distribution of labour services, does not, however, exclude the possibility that at any given time labour may be misallocated and a significant amount of productive potential be wasted. Furthermore, though microeconomic studies of migration and peasant agriculture have provided conclusive evidence that workers respond to economic incentives in allocating their time, this is not in itself sufficient to confirm a high level of labour market efficiency.

Our conclusion, that in most countries our null hypothesis is accepted, rests primarily on the micro-economic evidence of observable causes of misallocation and particularly, because of methodological problems in moving directly from identification of causes to assessment of costs, on the evidence relating to consequences. This is not to suggest that in developing countries labour is optimally allocated. There is little doubt that income sharing practices sever the relationship between the marginal productivity of workers and their earnings in family enterprises; that union pressure, government legislation and other factors segment the labour market; and that in hiring and wage determination employers discriminate for or against certain groups of workers on the basis of non-economic characteristics. These and other factors give rise to myriad differences in marginal productivity among workers of a given type, implying that a reallocation of labour could increase aggregate output. Indeed, we have emphasized that, though the explanation is often sought elsewhere, the immediate cause of open unemployment in developing countries is frequently a malfunctioning of the labour market. Generally, open unemployment is not a symptom of an aggregate shortfall of employment opportunities relative to labour supply, as conventional demand deficiency, technical lack of substitution, or economy-wide rigid wage models suggest. Except where it is a genuine search phenomenon (a result of inadequate information), it is in most cases a symptom of labour misallocation caused by the decisions of workers, more and less educated alike, to forego available low income employment opportunities and queue for the few high income positions available in a segmented labour market.

The explanation of labour misallocation should not be sought only in imperfections of the labour market, however. In many situations, at least two markets must have imperfections before resource misallocation occurs, and it would be arbitrary to designate either type of imperfection as the cause of misallocation. For example, misallocation of labour between small and large farms can occur only because both the labour and the land markets are imperfect.

Nor is simply documenting the presence of misallocations adequate to establish that labour (or other) markets in developing countries are seriously inefficient. An assessment of the magnitude of costs, in terms of output foregone, distributional inequities, or other types of loss is necessary. Our judgement is that the costs of such phenomena as open urban unemployment and disguised unemployment have too often been exaggerated. Exhortations to give the resolution of these problems a priority equal to the achievement of a high rate of economic growth or, more optimistically, to orient strategic planning to take advantage of the low wages and high savings a pool of surplus labour offers, seldom appear justified by the facts. This is partly explained by the failure to identify open unemployment as an allocation or pricing problem and the assumption that, because the opportunity cost of leaving a worker unemployed is high in industrialized countries (where complementary factors are also likely to be underutilized), it must be high in developing countries. Underestimation of work time, particularly off the farm, and an uncritical acceptance of short hours as a sign of surplus labour, explain in part the initial overestimates of rural disguised unemployment. As in the industrialized countries, the resource costs of any particular form of misallocation, induced by segmentation or some other cause of inadequate performance of the labour market, are not likely to exceed 2% of GNP. By contrast, where unemployment is due to deficiency of aggregate demand, output foregone per idle labour force participant is higher and aggregate costs have been measured to be 10–15% of GNP and more. Finally, it is important to recognize that optimal use of labour may require significant and often difficult improvements in other factor markets. If labour-intensive technologies were chosen wherever socially efficient, the productivity of now surplus labour might rise substantially in some countries; but the obstacles to choice and effective utilization of such technologies grow increasingly evident with the passage of time.

This is not to suggest that labour market problems are of so little significance as to justify ignoring them; only that exaggerating their magnitude is counterproductive, as it may lead to the adoption of such third-best solutions as make-work programmes whose cost exceeds their benefits. Of course, some countries may suffer several serious labour market deficiencies simultaneously, total costs being quite high; but it is doubtful whether, in this case, any single remedial measure would prove sufficient. Government intervention may be justified on grounds other than potential gains in output; unemployment is considered a social problem as much because of the loss of income suffered by individuals as because of the loss of output in the aggregate. However, these subjective costs also appear lower in developing countries than they would be in industrialized

countries without a formal social security system. They are alleviated by intra-family transfers to the unemployed from those with jobs and by the availability of flexible wage sectors as employers of last resort. Workers' views that segmented labour markets are mere lotteries while those where discrimination is practised are unjust, may of course be considered socially dysfunctional by policy-makers and provide a justification for government intervention. Finally, though we have not attempted to specify the links between labour market pathologies and the distribution of income, it is obvious that elimination of excessive income differences between sectors, geographic areas, and types of labour (the cause of many misallocations), will yield the benefits of improved distribution of income as well as greater output. The former may provide sufficient justification for government intervention where the latter alone does not.

There remains one important point to clarify. Though we dismiss exaggerated claims of critics of labour market performance, we do not view what has come to be called 'the employment problem' as unimportant. Rather, the implication of our study is that the term is a misnomer because it conjures up an image of labour market failure. The slow rate of growth of workers' income at the bottom of the distribution, despite quite high aggregate rates of growth of output, which often appears to be the source of concern, is better termed a poverty or distribution problem. When it results from the low rate of increase of demand relative to supply of 'unskilled' labour, it is apparent that the labour market is the problem's immediate locus; but the most important factors influencing the dynamics of supply and demand for labour – population growth, educational opportunities, the levels of investment, technology – are themselves only moderately influenced by aberrations in the interaction of suppliers and employers of labour services.

NOTES

1. In developing countries there are notable exceptions to the conventional assumptions that suppliers and employers of labour services are sellers and buyers and can be identified with distinct sub-groups of the population. Where agricultural and related activities are characterized by marked seasonal fluctuations in the marginal product of labour some workers may be employers at one time of the year and wage labourers at another. Indeed in several key respects own-account workers, who generally comprise significant proportions of both rural and urban labour forces, fulfil both roles simultaneously though of course without producing market transactions as evidence.

2. Data supporting these generalizations is in A. Berry and R. Sabot (1976).

3. H. Chenery and M. Syrquin (1975); S. Kuznets (1966).

4. D. Anderson (1977). For farm families this is not necessarily true during early stages of development. As such families become more integrated into the market economy they may specialize increasingly in agricultural output for sale, while purchasing items they previously provided. S. Hymer and S. Resnick (1969); S. Resnick (1970).

5. A corollary of the increase with development in the proportion of the labour force receiving remuneration is a rise in wages as a proportion of national income despite the decline of average wages relative to the average incomes of non-wage earners. The average wage is well above the average income of the labour force in poor countries, where the proportion of wage earners (LW/L) is low; the two are roughly equal when LW/L reaches 0.45, according to J. Lacaillon and D. Germidis (1975); and the average wage falls below average income in developed countries, by 25% or more. Nevertheless in economies where LW/L is quite low, 10% or so, the wage share is also low, though higher than LW/L, 20% or so. The share of total labour income, wages plus imputed income of own-account workers, also rises from roughly 40–50% in poor countries to 70% or so in industrialized countries. This increase, however, is not due to the redistribution of labour but to the decline of the ratio rate of return to capital/wage rate.

6. F. Machlup (1975); T. W. Schultz (1961).

7. S. Kuznets (1966).

8. J. Durand (1975).

9. This presumption is supported by general evidence of higher average labour productivity in sectors with rapid output growth. See S. Kuznets (1966).

10. Even equality at the margin of the social costs and benefits of unemployment implies an efficient labour market only in a relative sense. Compared to a 'first best' allocation of labour unemployment, though an optimal response in a 'second best' world, remains an indicator of labour market inefficiency.

11. See R. Sabot (1978).

12. For example, R. Krishna (1963); J. R. Behrman (1968); F. R. Dean (1965); V. Dubey (1963); W. Falcon (1964); W. D. Hopper (1965); C. C. Malone (1965); D. Welsch (1965).

13. G. Helleiner (1975).

14. And that higher welfare will be achieved after the change.

15. R. Sabot (1978).

16. R. Sabot (1978). Note that various steps such as the alienation of 'native' lands were taken with a view to lowering the supply price of labour by diminishing the alternative opportunities of potential workers. While not coercion in the sense that workers were forced to do work against their will, these steps had the same ultimate effect of making labour cheaper than it would otherwise have been.

17. M. Miracle and B. Fetter (1970); R. Sabot (1978).

18. S. Hymer and S. Resnick (1969).

19. E. Berg (1961).

20. See G. Becker 1965) and S. Linder (1970) for detailed theoretical discussions of how, given a fixed total supply and increasing demand as a consequence of rising incomes, the allocation of time among production and consumption activities and idleness is likely to change.

21. P. Brigg (1973), see also D. Byerlee (1974).

22. Only rarely are control groups, comprised of non-migrants with characteristics similar to migrants, asked why they did not move; the categories of answers are generally predetermined, and the reliability of the answers depends on the degree of clarity of the respondent's comprehension of his reasons for migrating and his ability and willingness to communicate these to enumerators. Even the best designed of these migration studies do not yield measures of the elasticity of migration with respect to changes in policy or other variables.

23. See, for example, W. J. Barber (1960).

24. L. Sjastaad (1962).

25. Of the 14 econometric studies of internal migration in Africa, Asia and Latin America recently reviewed by Yap (1975), 10 analysed inter-regional flows from which neither rural rural nor rural urban flows could be separated, and only one analysed variance in migration rates within educational groups.

26. T. P. Schultz (1976).

27. See J. Harris (1976); J. Scully and M. Toosie (1976); H. Rempel (1971); D. Byerlee and J. Tommy (1970); and M. Bienefeld and R. Sabot (1971) respectively.

28. When determining sample size, underestimation of the degree of stratification required at the analysis stage can result, as it did in the case of the Kenya survey, in limits on disaggregation similar to those imposed by conventional sources of data.

29. S. Rottenberg (1956).

30. J. Knight (1972) and P. Collier and R. Sabot (1976).

31. P. Collier and R. Sabot (1976).

32. Recall that in the classical labour markets of Adam Smith, workers made choices among alternative employment opportunities on the basis of total net advantage, not in terms of comparative wages. (S. Rottenberg (1956)). Since the maximization of income is not synonymous with the maximization of welfare, there will always be many individuals in employment who have balanced a lower level of expected income against a higher level of non-economic benefits in their human capital investment decisions.

33. H. Barnum and R. Sabot (1976).

34. See A. Bottomley (1969); C. Bliss and N. Stern (1977); J. Harris (1971); H. Leibenstein (1966); R. Sabot (1978); and J. Stiglitz (1974).

35. R. Sabot (1978).

36. Defined as the actual output of the resources utilized by a producer relative to potential output, for a given allocation. See H. Leibenstein (1966).

37. H. Johnson and P. Mieskowski (1970); H. G. Lewis (1963).

38. Study noted in H. Turner and D. Jackson (1970).

39. See G. Psacharopoulos (1973) for bibliographical details of numerous of these studies.

40. The work of M. Blaug (1973) on Thailand is an exception in that while measuring the rate of return to education was the principal aim of his estimation of a wage function, he did use the micro data base generated for that purpose to explore, if only cursorily, factors other than education influencing the level of wages.

41. G. Psacharopoulos (1973).

42. K. Arrow (1973).

43. Z. Grilliches (1977).

44. R. Layard and G. Psacharopoulos (1974).

45. D. Mazumdar (1977).

46. If they are perfect substitutes, education would be devoid of social value and the correlation between 'ability' and education level would not justify employers' preferences for relatively more educated workers in higher level occupations.

47. G. Psacharopoulos (1973); M. Blaug (1973); H. Thias and M. Carnoy (1972) J. B. Knight and R. H. Sabot (1977).

48. D. Mazumdar (1977); J. B. Knight and R. H. Sabot (1977).

49. D. Lim (1977).

50. G. Fields and N. Marulanda (1976); J. Knight and R. Sabot (1977).

51. J. Knight and R. Sabot (1977).

52. D. Morawetz (1974); W. Baer and M. Herve (1966).

53. L. Pearson (1969).

54. See for example D. Morse (1970); '. . .countries that are undergoing rapid economic growth are still faced with increasing unemployment. . .' and it is 'virtually certain that the scale of the problem will increase dramatically in the years ahead'; J. P. Grant (1971): '. . . There is a serious and growing unemployment problem in countries from one end of the developing world to the other and it is likely to dominate international development in the 1970s as the food issue did in the 1960s'; Vincent Barnett: 'Unemployment (however measured) is at too high a level in most of the countries and is increasing. A number of countries with otherwise satisfactory growth rates continue to suffer increased unemployment'; D. Turnham (1971).

55. M. Todaro (1971): '. . .A chronic urban unemployment and underemployment problem has emerged in tropical Africa. Although there are few hard data on the magnitude of African urban unemployment, owing both to conceptual difficulties in defining unemployment, and, more importantly, to the fact that very few studies have been directed to the problem, the limited evidence available provides ample empirical confirmation of what any informed observer already knows namely that urban unemployment is an extremely serious problem'.

56. R. Krishna (1973). Unemployment in India 'is a grave national problem . . . which has defied solution in spite of two decades of planned development'.

57. R. Miller (1971). The magnitude of unemployment indicates 'that the labour markets of Latin America have reached a state of nearly total disintegration – a situation in which the allocative and pricing mechanisms of urban and rural markets are either inoperative or productive of grave social consequences'.

58. For example, J. P. Grant (1971): 'It is probably no accident that many of the most severe of these (political) upheavals in recent history have occurred in countries with the highest level of unemployment'.

59. J. Nelson (1970).

60. Though unemployment rates are generally much higher among the educated and relatively high income groups, their small size means that the uneducated and poor may still comprise a significant proportion of the pool of unemployed workers. A. Berry (1975a); R. Sabot (1977b).

61. L. G. Reynolds (1969); M. D. Whitaker (1970).

62. J. Ramos (1974).

63. The discouraged worker hypothesis of a negative relationship between the participation and unemployment rates focuses exclusively on the substitution effect of standard demand theory. An increase in unemployment may draw additional workers into the labour market from families with members who are out of work in an attempt to compensate for the decline in family income. This income effect is the basis for a competing hypothesis, that has been sustained empirically by some studies in industrialized countries; Bowen and Finnegan (1969), however, conclude that it is swamped by the discouraged worker effect and raise methodological doubts about the studies which found it to be important. For Bogota, Berry (1977) found that, as in industrialized countries, the substitution effect dominates the income effect for males; for females no significant relation was found. One explanation for Colombia that would suggest that this finding applies to other developing countries concerns the household composition of the unemployed, a topic we discuss below. In industrialized countries the additional workers forthcoming tend to be secondary workers, women and children, who enter the labour force when primary workers, generally heads of households, lose their jobs. Where household heads comprise a relatively small proportion of the unemployed, as appears to be the case in the LDCs for which information is available, the rationale for the income effect is weakened.

64. R. H. Sabot (1977a).

65. The taxonomy presented here is taken from a paper by J. Harris and R. Sabot (1976) and much of the discussion draws freely from that paper as well.

66. A. Leijonhufvud (1968).

67. T. Morgan (1952) and W. S. Woytinsky (1953).

68. This does not imply that in LDCs capital equipment is fully utilized, only that for the most part underutilization is due to such factors as supply

bottlenecks, maintenance problems, etc. See G. Winston (1971).

69. W. Reddaway (1963) also quoted in M. Gersovitz (1974). For similar sceptical views of the applicability of aggregate demand policies to employment problems in LDCs see A. Peacock and F. Shaw (1972), and V. K. Rao (1970).

70. R. Eckaus (1955).

71. E. Domar (1957).

72. R. Solow (1956).

73. J. Meade (1961).

74. While G. Haberler (1950) was the first to assess the implications of the relationship between minimum wages and employment for the theory of optimal trade policies, one of which is the weakening of the proposition that autarky is inferior to free trade, and later H. Johnson (1965) and J. Bhagwati (1966) dealt with the same issue, Brecher's (1974) analysis is the most notable.

75. 'Suggested' rather than 'implied' is the appropriate term because what A. Lewis (1954) calls 'unlimited supplies of labour' could be the consequence of employers in the capitalist sector, for one reason or another, paying more than the supply price of labour.

76. A. K. Sen (1966).

77. It is not, however, voluntary in the sense associated with rentiers whose reserve price exceeds the prevailing wage; it may persist even where the reserve price of the unemployed is less than the wage in the low wage sector.

78 R. Sabot (1978).

79. See H. Barnum and R. Sabot (1977); see also M. Todaro (1976).

80. G. Fields (1975) cites evidence from a number of countries where the estimated ratio of rural to urban incomes is between 1:2 and 1:8 and thus predicted rates of urban unemployment are 12.5 50% and yet the highest measured rate of unemployment is 20%.

81. See D. Mazumdar (1976); R. Sabot (1977a); P. Collier (1975).

82. G. Tidrick (1975).

83. L. G. Reynolds (1965); L. G. Reynolds and P. Gregory (1965).

84. The combination of urban unemployment and rural labour scarcity has also been noted in Sri Lanka by E. Thorbecke (1973).

85. G. Tidrick (1975).

86. The evidence suggests that higher unemployment rates among educated than uneducated workers are found throughout the developing world. R. Sabot (1977b); A. Berry (1975a); ILO (1972); ILO (1971); D. Keesing (1975); D. Mazumdar (1977). Further disaggregation reveals that the relationship between education level and rate of unemployment is that of an inverted U: the uneducated and workers with post-secondary education experience the lowest rates. See M. Blaug (1973).

87. H. Leibenstein (1957). See also C. Dougherty and M. Selowsky (1973). Harberger's study (1959) of Chile is an exception. He concludes that the reallocation of existing resources could raise national output by as much as 15%. However, he assumes large discontinuities between those industries where inputs are located and those industries to which the resources would be moved in the absence of distortions and does not consider the costs of social overhead capital or direct capital necessary to make the moves involved.

88. E. Phelps (1970); R. Nelson and S. Winter (1975). In these models if the structure of wages remained stable, unemployment would be a transitory phenomenon since with continued search information would improve and the subjective distribution on the basis of which individuals make their decisions whether or not to accept a job offer and the objective distribution would converge, so the returns to additional search would decline to zero. However in a dynamic economy a flexible wage structure is unlikely to remain stable.

89. J. Harris and R. Sabot (1976); and T. Modigliani and F. Tarantelli (1973).

90. A. Alchian (1970).

91. See J. Harris and M. Todaro (1970).

92. With reference to the context of traditional agriculture H. Leibenstein (1957) suggested a relationship between wages and nutrition as the basis for a positive link between wages and productivity, an hypothesis that has been widely discussed. See Bottomley (1969), C. Bliss and N. Stern (1977), J. Harris (1971). The relationship among wages, turnover and non-wage costs of labour has been discussed by J. E. Stiglitz (1974) with particular reference to East Africa, by R. Sabot (1978).

93. See for example, M. S. Ahluwalia (1974). Underlying the negative interpretation of this change, however, is the presumption that the increase in the non-wage share of total income all accrues as income to capitalists. In fact, the increase in profits may induce increased investment, either by capitalists or by the government which owns the enterprises or has taxed away the increment.

94. If that elasticity were unity, the modern sector

wage bill would remain unchanged, so only under the extreme assumption that additional workers would receive no wages elsewhere would the total wage bill fall.

95. A. K. Sen (1975).

96. From A. Pigou (1933).

97. A. Berry (1975a).

98. R. Sabot (1977b).

99. See D. Turnham (1971); M. Blaug (1973); P. J. Richards (1971); D. Mazumdar (1977).

100. Among developed countries the range is also very wide and the median might be about this level.

101. Some commentators have concluded that rural underemployment was a serious problem in Western Europe prior to the industrial revolution. C. Clark and M. Haswell (1970) note that 'this state of affairs, so regrettably common in the present-day world, was also – this is not generally recognized – the lot of rural England for a long period, probably for several centuries, in the past. In 1688 Gregory King estimated that, out of a total population of 5.5 million, 1.3 million represented "cottagers and paupers" and their families, a seriously under-occupied rural population, receiving an average family income less than half that of a regularly employed labourer. This persistent rural unemployment in England did not disappear until the middle of the nineteenth century, and in Ireland is present to this day. It required a rapid growth of urban employment relative to population – more rapid than that of which the seventeenth and eighteenth centuries were capable – to solve this problem, even in a country so favourably situated as England'.

102. C. Kao, K. Anschel and C. Eicher (1964).

103. A. Lewis (1954).

104. J. Fei and G. Ranis (1964).

105. Note that the concept dated from much earlier; the term appears to have been proposed by Mrs Robinson in reference to certain types of urban workers in a developed economy; J. Robinson (1936).

106. A. Berry and R. Sabot (1976).

107. Unfortunately, only the Philippines had several surveys available, corresponding to different seasons and therefore allowing some confidence that figures used are representative of year round input levels. The Philippine data, available on a quarterly basis, do not suggest much seasonality in average labour inputs in agriculture or elsewhere.

108. Whereas nearly 58% of the former reported working more than 48 hr, only 45% of the latter did. See DANE (1971).

109. In August 1972 and November 1973 the figures were 12.6 and 12.4 respectively.

110. In other words, a high share of the low hour workers in non-agriculture wanted more work, whereas a much smaller share of those in agriculture did. This is mainly due to the prevalence in agriculture of unpaid family workers. Of wage earners, a higher share of those working less than 40 hr wanted work, over 45% in agriculture and around 55% in non-agriculture; of self-employed workers, lower but still substantial shares wanted more work.

111. Since people were not asked to state how many more hours they would like to work, these guesses could be either upward or downward biased. It seems unlikely that a higher figure could be much, if at all, downward biased.

112. Which included 4.77 who did not work during the reference week.

113. Figures for India, Korea, and Japan have been calculated from tables presented in S. Ishikawa (1967).

114. K. Bardhan (1976).

115. Y. S. Cho (1963).

116. Byerlee and Eicher (1972) report: 'Most studies in rural areas of Africa have found comparatively low labour use in agricultural production. Cleave (1970) in a survey of 15 micro-level studies of agricultural production in areas of both high and low man–land ratios, found an annual average of little over 1000 hr per male adult used in agricultural production. At first sight these figures suggest a substantial pool of surplus labour in rural areas which can be drawn into production. . .'.

117. As reported by W. Jones (n.d.).

118. J. Cleave (1970).

119. J. Cleave (1970).

120. Rosenstein-Rodan, in his study of Southern Italy, made a serious attempt to get this sort of information by questionnaires. Defining the removable surplus in persons required for 50 days or less per year, he estimated it at 10–12% of the agricultural labour force. Persons not needed at all constituted about 5%. See Kao, Anschel and Eicher (1964).

121. J. Buck (1930).

122. J. Buck (1930).

123. S. Mehra (1966). The earlier study of Mujumdar (1961) had different and probably greater methodological difficulties. (See the discussion in Kao, Anschel and Eicher (1964)).

124. S. Mehra (1966).

125. The calculations involved other problems as well. For a discussion see A. K. Sen (1975).

126. More recent studies in India include those of K. Ahuja (1973) and A. Rudha (1973). The former uses standardized coefficient of labour requirement per acre for each major crop based on farm management data related to a number of states, and a labour coefficient for maintenance of animals. On this basis labour needed is estimated; it is compared with available labour on a 2400 hr per year norm. Rudha's approach involves comparison of labour actually used (assumed equal to required) with available person hours. Neither takes account of non-agricultural activities or gets at questions of leisure preferences and other possible determinants of work done.

127. C. K. Wu and T. K. Lee (1963), as reported in A. Koo (1969).

128. Of the factor inputs.

129. It would be implausible to expect them to rule out the possibility of a moderate amount of such labour, e.g. 5–10% of the labour force. Such constraining assumptions as the same production function on all farms, homogeneous factors etc. introduce too much imprecision.

130. G. R. Saini's (1969) recent study for the Punjab and Uttar Pradesh states of India (for years 1955–56 and 1956–57) found an MPL averaging about 20% higher on farms hiring 50% or more of their total labour than on farms hiring less than 25%. M. Desai and D. Mazumdar (1970), on the other hand, separate production functions for farms not using any hired labour and for those using it. The estimated marginal product, for a West Bengal district in the mid-1950s, was positive for the farms using hired labour but not significantly different from zero for those using purely family labour. For Colombia, Thirsk estimated MPL to be lower on small farms than large ones, but still positive. W. Thirsk (1972).

131. Egypt's agricultural sector has been the context for one discussion of the implications of wage movements. The Egyptian case provides an interesting test of labour surplus; it is a predominantly agricultural and small farm economy. As Hansen has noted, 'the first Egyptian 5-year plan worked with the assumption that almost 25% of the rural labour force could be permanently removed from agriculture'. A debate between L. B. Hansen (1969) and J. Hanson (1971) focused on the level of unemployment, whether the amount of off-farm work done by members of farm families constituted substantial evidence that on-farm MPL was about equal to the wage rate, and whether seasonal and other variations in the wage rate demonstrated that it was not non-market determined. In fact, as noted above, the wage rate can be market determined and variable over the seasons without disproving the existence of labour surplus in a sector where less than 40% of the agricultural labour force is classified as paid workers.

132. Across countries, one would anticipate that the greater the availability of off-farm work relative to the labour force on small farms, the lower would be the labour/land and output/land differentials across farm sizes. This proposition does seem to be borne out.

133. For manufacturing, relevant studies include J. Todd (1972). For commerce, they include A. Bhalla (1970); A. Berry (1972).

134. A. K. Sen (1962).

135. Technically, it is not possible to distinguish loss due to misallocation of labour and that due to misallocation of other factors; the factors are misallocated relative to each other. One can, however, estimate the output gains from equating one or the others' marginal productivity across all producing units.

136. Based on data presented in A. Berry and M. Urrutia (1976). Their estimates for the Colombian agricultural sector, as of the early 1960s, suggested that the roughly one-quarter of the labour force on farms of 0–3 hectares produced only a little over 10% of the output.

137. For a recent review see A. Berry and W. Cline (1976).

138. Where MPL is low in a given sector *and* MPK is equal to or below its level elsewhere, the case is different; maximization of output calls for the demise of some production units in that sector and the shift of all factors to other sectors. The implicit assumption of most labour surplus theory – that modern technology dominates – led many analysts to expect this case to be the typical one. Empirical work has gradually eroded this position, and it is now recognized that traditional sector technology is frequently efficient under existing factor proportions. See Section 2A.

139. See D. Turnham (1971).

140. The special relationship built up between buyer and seller contributes to this, where the buyer must every so often resort to credit, his established record with a seller helps him with that seller but not much with other ones.

141. J. Ramos (1974).

142. P. Hauser (1961).

143. A. Berry (1972).

144. See for example, A. Berry (1978).

145. See S. Piñera and M. Selowsky (1976) for a formal exposition of this argument.

146. True even if the screening model applies.

147. Econometric estimates of the social returns to investment in education are not deflated to take account of the mismatch that results from segmentation. Generally, only the gap between social and private costs that arises from government subsidies of the educational system is taken into account. G. Psacharopoulos (1973). The gap between private and social returns is more difficult to estimate but in highly segmented labour markets may be quantitatively of greater significance. S. Piñera and M. Selowsky (1976).

148. See E. Edwards and M. Todaro (1974); R. Sabot (1977c).

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Comment

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Messrs. Berry and Sabot have provided us with a comprehensive survey of labour markets in less developed countries. Their general conclusion is that labour markets in such countries seem to function quite well indeed. The authors mean by 'functioning well' that labour responds to incentives in a predictable fashion, and that the operation of labour markets does not seem to have impeded the changing of economic structure and the increasing of output that is part of the development process. At the same time they find many reasons why some misallocation of labour does exist, but that the costs of this misallocation have been exaggerated. They conclude that the frequently made exhortations to aim policy directly at the 'employment problem' and away from the achievement of a high rate of economic growth rests on a misunderstanding of the factual situation. This is an important conclusion and the authors have made their case carefully. In this note, I discuss three issues that are especially relevant to the Berry/Sabot review and to the conclusion that they reach. My comments are more in the nature of elaborations and questions, rather than outright disagreements as I find their approach and general arguments to be quite congenial.

1. The particular hypothesis that the authors investigate is a relatively narrow one; namely 'given the existing technology, structure of preferences and stock of physical capital and land, no appreciable increment in aggregate economic welfare or its rate of growth is to be had by such reallocation of the labour force as a more perfect labour market could bring about'. Putting the issue in this way implies that the rest of the economy evolves independently of the labour market, and then members of the labour force simply react to the pattern of demand for labour created. Members of the labour force thus seem to respond rather well to the various opportunities for employment created. Where they do not – where there are appearances of labour market failures – the authors generally conclude that there exist sufficiently acceptable explanations to justify their conclusion that the labour markets do work satisfactorily.

Given this way of asking the question, it is not surprising that they find little evidence to support the view that simply reallocating labour would result in a significant increase in output in many developing countries. There are however other questions that may be asked in appraising the labour market. In particular in a development context, one can ask how the functioning of the labour market affects those aspects of the economy that Berry/Sabot assume given.

Perhaps the most important question in this regard is this: Does the labour market affect in any way the development and application of new technology in the economy? Of course we know very little about this question, but there are some ideas around that merit attention. Two of these may be mentioned.

Technological change imposes demands on the labour force, but in turn the labour market can affect the nature of the technological change that does in fact take place. The authors note that some firms (especially large ones) in LDCs pay higher wages than the market would seem to require. This is done because it apparently attracts a more reliable, loyal, productive worker (see below). The practice also produces signals to the firm's management and technicians that labour is expensive. Not only then do firms tend to choose the more capital-intensive of existing techniques, but more importantly they (may) tend to direct the search for new techniques toward increasing capital-intensity of production and away from new labour using technologies. This is an example of the general question, does the operation of the labour market encourage the search for new technology to proceed in the 'right' direction. While the functioning of the labour market is certainly not the sole factor affecting technological search, it is an important component. Especially foreign owned or controlled firms seem reponsive to labour market considerations, and it is these firms which are most likely to have technicians and

managers who can search effectively for new technologies.

A second general point to be mentioned has to do with labour's direct role in technological development. To what extent does the functioning of the labour market contribute to the creation of a labour input that is an effective carrier of new knowledge. This notion is partly a matter of training, and Berry/Sabot refer to, but do not really analyse, the problems of defining and implementing a wage policy in a situation where labour productivity is rising due to on the job training. The wage problem becomes even more complex when the training imposes a cost on the enterprise. Evidently, a policy that resolves current allocation problems and that provides inducement to enterprises to offer and workers to seek the 'right amount' of training is desirable. It is not clear that labour markets in LDCs contribute as much to this issue as they might.

Of equal importance is a role for labour in capital formation in agriculture. Some attention has recently been given to direct allocation of agricultural labour to capital formation on the farms. In some agricultural areas of the world such activity can be extremely productive. Given the seasonality of agricultural activity in most countries, opportunities for yield-increasing investments of this sort would appear significant, and, for the most part, unexploited. Where such opportunities do exist, the way the labour market (and of course other things, particularly price policies for agricultural output) functions is of relevance. If hired labour is used, the employer may need help in financing wage payments or the labour market might be made to work in a way such that wage payments could be postponed until harvest. In this event the hired worker lends the farmer his services. Even for the own account worker incentives may work in a way that such a person does not spend time in these kinds of capital accumulating activities. The possible use of labour in rural areas in these kinds of activities may be more productive and more easily implemented than are many rural industrialization efforts.

The point is of considerable generality. Labour practices often result in idleness on the part of workers when there are numerous and obvious things that could be done to make living and working conditions a bit more pleasant as well as more productive. Government employment in particular often fails to utilize labour in as effective a way as is possible. Why this is the case is due to many factors, but an important factor is often due to some aspect of the labour market. In economies where unemployment and underemployment are widespread, labour allocation decisions are often – especially in the public sector – based on political and equity considerations. Such considerations are very much in order. On the other hand, given that employment is offered for these reasons, the effective utilization of that labour becomes more relevant. In these circumstances, there are of course many issues, but the traditions, attitudes and practices of the labour force are surely important.

To summarize this point: It is important to ask the question that Berry/Sabot ask about allocation of labour in a situation of *given* technology, structure of preferences, and stock of physical capital. It is however equally important to ask whether or not the labour market functions in a way that these givens are themselves affected. Of greatest importance in this connection are the possibilities of the role that the labour market can play in the development of new technology and in the capital formation process. In the medium term, an effective performance by the labour market in these respects is probably more important than allocation in the short-run context.

2. The second general question that may be raised by the Berry/Sabot survey is concerned with the way time is used by economic agents. Economists are now noting with increasing frequency that the usual threefold classification of the population into employed, unemployed, outside the labour force, is often not very revealing in the LDC. Adding the category, underemployed, helps some but not a great deal. Part of the problem is the large number of own account workers, who in any society fit into the classification less well than do wage earners. Some of these own account people have productive and remunerative jobs, but others are simply trying to eke out an existence and very much available for alternative employment. Also many people appear not to be in the labour market, but in fact are pursuing other activities because of the absence of employment opportunities. University students are an obvious example of this category. In some countries (e.g. Sudan) women are generally classified as outside of the labour force, but do a great deal of the farm work while men move around the country in search of jobs. Also, as Berry/Sabot and others note, the very poor cannot afford to be unemployed.

These examples suggest the generalization that unemployment, underemployment, outside the labour force categories do not measure that which is of greatest interest to the

policy-maker, i.e. the availability of labour for economic activities and the welfare implications of an existing allocation of the labour force.

Instead then of relying on this conventional three-way classification, it may be of greater use to focus on questions relating to how the adult members of the society spend their time. In addition, data on sources of income – as a reward for work performed, from a claim based on recognizable personal relationships, from a claim based on social relationships etc. -- will facilitate increased understanding of the welfare implications of a given use of labour time.

Data on how and why the adult members of a society spend their time the way they do is especially helpful. Such data contribute to our understanding of the extent of 'voluntary' unemployment as opposed to 'involuntary', the kind of incentives to which people respond, the kind of constraints that limit their activity, the way their actual activities contribute to the way the system functions, and how that contribution may be enhanced within prevailing conditions.

With these more complete data certain policy issues become clearer. The mobility of labour, the skills and experience of the labour force, the 'non-economic' demands on the adult population, and a variety of other matters are illuminated. Such illumination then helps us to understand more clearly than we now do the conditions under which rural industry can survive, what kind of transfer payments are effective, whether or not a given technology is known or is effective, obstacles to adaptation of new seeds that would raise the marginal product of labour in agriculture, and on and on. In the few instances where a more comprehensive survey on the use of time and the sources of income has been taken, the results generally show a different picture from that which one sees from looking only at employment/unemployment/outside the labour force series. In particular one begins to gain some more detailed insight into why the labour market works the way it does. It may also be noted that such detailed surveys seem to show more employment (and more output) and income than do the more conventional employment surveys.

The point of these observations is not so much to criticize the Berry/Sabot reliance on the usual threefold approach, but rather to emphasize that a number of the analytical and, especially, policy questions rest heavily on the ambiguity of the notion of employment in an LDC. The elimination of these ambiguities requires a greater understanding of how people spend their time and their sources of survival.

3. Wage policy has become a major issue both for the analyst and for the policy-maker. Berry/Sabot treat the subject in a quite complete way, and I wish to add only a complication or two that I think deserve more attention. The authors attach importance to trade union activity in pushing wage rates up in certain industries. The exact role of the union however is indirect. Strikes are quite infrequent in less developed countries, since unions rarely have funds with which to conduct a strike. Union pressure is largely political pressure, and must be exercised through government policy or threat of government action. Companies, especially foreign, are of course interested in keeping the government pleased, but to do this may not always mean paying wages higher than the market dictates.

Why then do real wages in the modern sector seem to rise in many countries in the face of apparently ample supplies of labour? Berry/Sabot give considerable attention to the argument that higher wages result in increased labour productivity, a more reliable, loyal labour force. They also note that when wages are pushed up for this reason, it is difficult to assess the cost to the economy of any misallocations produced by such increases. This argument is convincing in explaining why wage rates may well be higher in certain key modern sector activities, especially those dominated by a few large firms. It is considerably less convincing in explaining why real wages tend to rise over time in these sectors. The argument that wages rise in urban centres in response to the rising prices of wage goods could of course account for increasing nominal wage rates, but not real wages.

The argument of Turner and Jackson, referred to by Berry/Sabot, is helpful, but not completely satisfactory. The existence of 'high' wages in some modern sector activities results in an increase in the economy-wide minimum wage to maintain some sort of equity. Then the modern sector wages are pushed up to re-establish the 'necessary' differential. This argument implies that the higher productivity and the greater loyalty and reliability are due to the wage differential, not to the level of real wages. Where the increased productivity is attributed to improved health and well-being, the differential argument is not evidently applicable. If emphasis is placed on the more subjective characteristics of loyalty and reliability, the explanation in terms of a differential rather than level cannot be ruled out *a priori*, but it is difficult to believe that such would be the case

over extended periods of time. Also, of course, minimum wage laws apply in fact to a relatively small part of the labour force.

The role of education is equally troublesome. The emphasis the authors give to education as a screening device is probably warranted. On the other hand, there is evidence to suggest that jobs often call for certain educational requirements, and then pay wages sufficient to yield a return on the cost of that education. The education does not add to the productivity of the worker, but it is allowed to justify the higher wage. One is paid higher wages because one has graduated from a university, not because the university attendance made one more productive. As education becomes more common, these higher wages become more common. Governments are most frequently guilty of this sort of thing. As Berry/Sabot note, it is difficult to estimate the cost of using educational institutions as a screening device to determine who gets these positions. Casual observations, however, suggest that it is exceedingly high, as the cost includes maintaining the educational institutions as well as the cost of a distorted wage structure.

There are other aspects of the Berry/Sabot treatment of the wage issue that one could discuss, but the general point is this: The satisfactory functioning of the labour market is crucially dependent on the extent to which wage rates reflect the true scarcity of the many kinds of labour. The evidence and arguments offered by Berry/Sabot plus the points in the preceding paragraphs suggest that wages in most LDCs do not send out very accurate signals. Attention to the source of these anomalies and to the kind of policies that would correct them is perhaps the most important aspect of labour market study at the present time.

Summary. The Berry/Sabot survey is a useful review of recent discussions of the labour market in LDCs. In this comment I have tried to widen their terms of reference a bit to say something about the relationship between the labour market and technological development and the diffusion of the new technology. Also I have elaborated on the wage issue in a couple of ways that seem to be particularly relevant in many developing countries.

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Comment

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Professor Berry and Dr. Sabot are to be commended for providing practitioners, researchers and students of development economics with both a comprehensive and perceptive review of the burgeoning literature on labour market performance in developing countries. Their general 'Chicago School' thesis that urban unemployment and underemployment is not as critical a problem as some make it out to be and that labour markets function at a comparatively high level of efficiency is an important, if not totally convincing, counter-argument to those who claim that problems of urban surplus labour *are* serious manifestations of underdevelopment arising out of chronic structural problems exacerbated by pervasive market imperfections, distortions and malfunctions. Considering the importance of the structuralist, 'dependence' school of thought, it is regrettable to note that in such an otherwise comprehensive survey the authors do not deal with recent Marxist critiques of the role and functioning of labour markets in developing countries.

In spite of its attractiveness to economists, Berry and Sabot's argument is weakened to a certain extent by their tendency to disregard those real world institutional, cultural and political factors that induce a less than socially efficient allocation of human resources – however well markets may function – and by their general neglect of key demographic considerations. I will restrict my comments to three aspects of labour market problems in developing nations which the authors have either neglected to review in their survey or where they have only provided a passing comment or two. These issues are: first, the authors' general neglect of the process whereby qualified women are systematically discriminated against in labour market allocations and the corresponding social costs of such discrimination; second, the cursory attention given by the authors to the important question of what effect rapid population growth and current age distributions of developing country populations will have for future problems of urban surplus labour; and, third, the general playing down of the seriousness of the relationship between the burgeoning private demand for formal education, job rationing mechanisms in the 'modern' urban economy and sector-specific public investment allocations.

1. WOMEN IN THE LABOUR MARKET

Except for a brief comment on female labour participation rates, the authors have neglected in their survey to deal with an issue of growing importance in the field of Third World labour market studies – namely how these markets function for (or against) women as opposed to men.[1] Although Berry and Sabot deal extensively with the important issue of segmented labour markets and employment stratification, they fail to mention or analyse sex-status as a criterion of stratification in both job search and job allocation. And yet, the interplay between sex as a variable of stratification and other criteria of group identity, race and education is critical to a more complete understanding of human resource allocation in developing nations.

For example, it has often been noted that the structure of female opportunities and the wage structure of the occupations in which they tend to settle are determined directly by the structure of male employment opportunities.[2] Urban job opportunities available to women, irrespective of their education and training, in situations of high and rising male surplus labour are typically restricted to unproductive service activities in the 'informal' sector. Women are in effect expelled from access to modern sector jobs by high male unemployment and underemployment. Their widely observed lower levels of labour force participation resulting from this job exclusion are likely to provide a significant downward bias to official estimates of urban unemployment. Their activities tend to be concentrated

in domestic services, vending, retail sales, prostitution or low-status clerical positions in the public and private sector. Pervasive discrimination blocks female entry into a wide range of factory jobs (outside of textiles and electronics in southeast Asia) and, particularly from those administrative, managerial, and related skilled occupations for which their training and/or natural abilities would qualify them. Frequently, men with lesser training and lower productivity are selected for these activities, thereby lowering potential output (and employment) beyond what non-discriminatory market forces would dictate.

Although the above problem is by no means unique to developing nations, it is in general more pronounced. Moreover, the social costs of this 'inefficiency' are likely to rise with time as more and more women gain access to education, but are denied access to those jobs for which their training qualifies them. Problems of urban surplus labour are likely to be exacerbated in the coming decade as increasing numbers of educated, unattached women in Africa and Asia begin to dominate the rural–urban migration streams. What is needed, therefore, is a new look at urban labour markets and rural–urban migration, one in which factors that systematically and exclusively affect women are taken into account.[3]

2. DEMOGRAPHIC DYNAMICS AND URBAN LABOUR MARKETS

While Berry and Sabot do on occasion mention the problem of population growth for labour supply, they fail to give sufficient attention to this question when discussing whether or not the problem of urban surplus labour is as serious an issue as many have claimed. Given the acknowledged downward bias of urban unemployment statistics, the continued influx of rural migrants (with growing numbers of women in the migration stream), and the very high proportion of current LDC populations under 15 years of age (averaging from 42 to 47% in the developing world), it is clear that however well labour markets may have functioned in the past (and this, in spite of Berry and Sabot, is still a moot point), they will be increasingly strained to function as well in the future. Since the size of the labour force for the next decade is already determined by previous birth rates and cohort sizes, even under the most optimistic assumptions about rural labour absorption and decelerated internal rural–urban migration, the problem of efficient labour allocation in cities and towns will surely remain as one of the critical dilemmas faced by Third World planners and policy-makers alike.

3. EDUCATION, JOB RATIONING AND PUBLIC RESOURCE ALLOCATION

Among the most controversial and politically sensitive issues in the development economics literature is the one that relates to the growing recognition that public investment in formal education, particularly at the higher levels, may represent a considerable misallocation of scarce financial resources.[4] Many authors, including Dr. Sabot, have described and documented the widespread 'filtering down' and 'credentialization' phenomenon that characterizes labour markets in developing countries.[5] In situations of urban labour surplus, both public and private, employers tend to ration jobs on the basis of educational certification or more simply, years of completed schooling – often irrespective of whether or not such schooling is necessary for satisfactory job performance. Schooling thus becomes a necessary criterion for successful modern sector job search and given well-known urban wage differentials, both by sector and occupation, the private, expected benefits of more years of completed schooling greatly exceed private costs. On the other hand, in the context of high and growing urban surplus labour, the social benefit/cost ratio of devoting additional resources to formal educational expansion as opposed to alternative uses such as job creation is less clearly apparent. However, the political pressures arising out of intense private demand for more publicly financed school places tend to dominate economic considerations, with the net result that distorted labour markets and arbitrary job 'rationing mechanisms may impose severe social costs not adequately described in the Berry–Sabot review.

Despite the above comments, this reader found the Berry–Sabot paper provocative, extremely informative, well-organized and, on the whole, generally persuasive in many of its arguments. It should serve as a valuable intellectual resource in the often complex and confusing field of labour market studies in developing nations.

NOTES

1. For an enlightening analysis of women and labour markets in developing nations, see Nadia H. Youssef, *Women and Work in Developing Societies* (Berkeley: Institute of international Studies, Population Monograph Series, No. 15, 1974). See also Ester Boserup, 'Employment of women in developing countries', *Proceedings of the International Population Conference*, Vol. 1 (Liege: IUSSP, 1973); and Guy Standing, *Labour Force Participation and Development* (Geneva: International Labour Office, 1978).

2. An examination of this thesis can be found in Paula E. Hollerbach, 'Maternal employment and fertility: a new theoretical perspective', Center for Policy Studies, The Population Council, February 1978 (mimeo), pp. 18–23.

3. For a first attempt to analyse this issue, see Veena Thadani and Michael P. Todaro, 'Towards a theory of female migration in developing countries', paper presented at Population Association of America Meetings, Atlanta, Georgia, April 1978.

4. For an extensive analysis of investment in education, see John Simmons (ed.), *Investment in Education: National Strategy Options for Developing Countries*. (Washington, D. C.: IBRD, June 1976). See also E. Edwards and M. P. Todaro, 'Educational demand and supply in the context of growing unemployment in less developed countries, *World Development*, Vol. 1, Nos. 3 & 4 (1973).

5. One of the best and most comprehensive analyses can be found in Ronald Dore, *The Diploma Disease* (Berkeley: University of California Press, 1976).