3 Labour institutions and economic development: A conceptual framework with reference to Asia

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I. Introduction

The goal of economic development is to raise standards of living throughout an economy. Most households' standards of living are determined by the earnings of household members in the labour market. (Throughout this paper, the term "labour market" is used to include both wage employment and self-employment, whether regular or casual.) Consequently, raising the real earnings of a fully-employed labour force is rightly viewed as a primary means of improving living standards. The institutional arrangements governing labour markets help determine the rate and character of economic development. An excellent, yet concise definition of "institution" is that given by Irma Adelman: the rules of the game, plus the behavioural patterns in response to them.

After a long hiatus, mainstream economic theorists have returned to the task of modelling economic development. Lucas [1988] states that the goal of the "new growth theory" is to explain differences in income levels and in growth rates among countries. However, I would define the question of interest more broadly than that: it should include not only how the *total* income grows but how the benefits are *distributed*. But even for purposes of Lucas' more limited question, the labour market characterizations in the new growth theory models (e.g. those reviewed in Barro and Romer [1990] and those published in a special issue of the *Quarterly Journal of Economics*, May 1991) are still quite primitive. In these models, at any given time, all workers have the same human capital. Furthermore, all workers with a given human capital endowment receive the same wage. These assumptions are for analytical ease; however, they are at odds with the facts.

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Ideally, one would want to model labour institutions and economic development in explicitly dynamic fashion. What we would want ultimately is to embed institutionally-sensitive labour market characterizations into dynamic development models. Unfortunately, we are not yet at that stage. First, we need appropriate labour market models.

In this chapter, I set forth a framework for analysing how labour markets function under existing institutional arrangements and predicting how they would respond to alternative changes and policy interventions. I seek to blend logical rigour with institutional realism in a stylized way. My approach borrows from orthodox neoclassical analysis where relevant, and departs from those characterizations when the standard assumptions are empirically untenable.

To illustrate this, standard economic analysis posits the law of one wage, i.e. competition in labour markets is assumed to bring about equal wages for all workers with given skill at a level which just clears the market. In those circumstances where the assumption of a single market-clearing wage is empirically false, the analysis must include wage diversity and unemployment. I stylize wage diversity by formulating a dualistic labour market model, linking the two sectors through product and factor markets.

The rest of this chapter proceeds as follows. In Section II, I exposit the basic neoclassical labour market model: an upward-sloping labour supply curve, a downward-sloping labour demand curve, and market determination of wages and employment. This is a useful place to start, not only because it is familiar but because it is descriptively accurate in some (but by no means all) labour market situations in Asia. This model maintains a number of assumptions about labour market institutions and motivations for behaviour. These institutional and behavioural assumptions are highlighted and some implications are derived from them. However, when these assumptions are at odds with empirical reality, as often they are, the basic neoclassical model is not applicable and should not be used. It is for this reason that I use the basic model to understand the rapidly-rising real wages in Hong Kong, the Republic of Korea, Singapore, and Taiwan (China) since the 1960s but propose an alternative model to fit these economies' earlier experiences.

The next two sections then go beyond the basic labour market model in a variety of ways, presenting numerous illustrations from different countries in Asia. In Section III, I introduce into models of single labour markets a number of additional features, including unemployment, non-market wage-setting institutions, efficiency wage considerations, workers' resistance to wage-cutting, insider-outsider models, transactions

costs and asymmetric information. Then, in Section IV, I proceed to the analysis of multiple labour markets linked one to another and discuss wage dualism and labour market segmentation, differences among workers in human capital, and labour market discrimination. What emerges is a richer characterization of labour markets than in the textbooks, but one which still carries the flavour of supply and demand as a theory of employment and unemployment, though not necessarily as a theory of wage determination.

II. The basic neoclassical labour market model: Positive analysis

Consider the labour market model depicted in Figure 1. It is sometimes said that models such as this are devoid of institutional characterization. This is wrong. Rather, such models make assumptions about institutions. It is important to identify what those assumptions are.

1. Assumptions of the basic neoclassical labour market model

Assumption 1: Labour is homogeneous

Workers are assumed to be identical in relevant dimensions and employers are assumed to treat them as such. This is a simplifying assumption, one quickly relaxed in more sophisticated analysis.

Assumption 2: There is a single unified labour market

This means that the same institutional arrangements apply in all labour markets, e.g. wages are set by supply and demand everywhere. This too is a simplifying assumption, relaxed in many different ways.

Assumption 3: There are numerous buyers and sellers

No individual worker or firm is large enough to influence the terms and conditions of employment.

Assumption 4: Information is full and complete

Workers are assumed to know about the wages and other conditions of employment in all jobs. Similarly, firms have full information about all the economically relevant characteristics of each current or potential worker.

Assumption 5: Mobility is essentially costless

Workers can switch firms at essentially zero mobility cost. Likewise, firms can switch what, how much, where and how they produce, the only costs being those required to purchase the relevant inputs.

Assumption 6: Workers seek to maximize utility

Labour earnings are assumed to contribute positively to utility, whereas working itself contributes negatively to utility. Each worker tries to attain the highest level of utility possible.

Assumption 7: The supply of labour to a labour market is an upward-sloping function of the wage

Other things equal, when the real wage paid in a labour market rises, some additional workers come into the labour market in question from other labour markets, while others enter the labour force for the first time.

Assumption 8: Firms seek to maximize profits

Firms will do whatever is within their power in order to earn as much they can. In particular, they will hire workers only to the extent that this adds to their profits.

Assumption 9: The demand for labour in a labour market is a downward-sloping function of the wage

Other things equal, when the real wage required to be paid in a labour market rises, employers will tend to substitute capital in place of labour to produce any given level of output, and will also tend to reduce their scales of operation, demanding less labour for both reasons.

Assumption 10: Wages are set by labour supply and labour demand

If the wage is not at the level W* in Figure 1, equilibrating forces are set into motion driving the wage to that level. These include the systematic movement of workers from low wage to high wage employers and the systematic movement of firms from high wage to low wage locations. It is assumed that no institutional impediment prevents the wage from rising or falling to level W*.

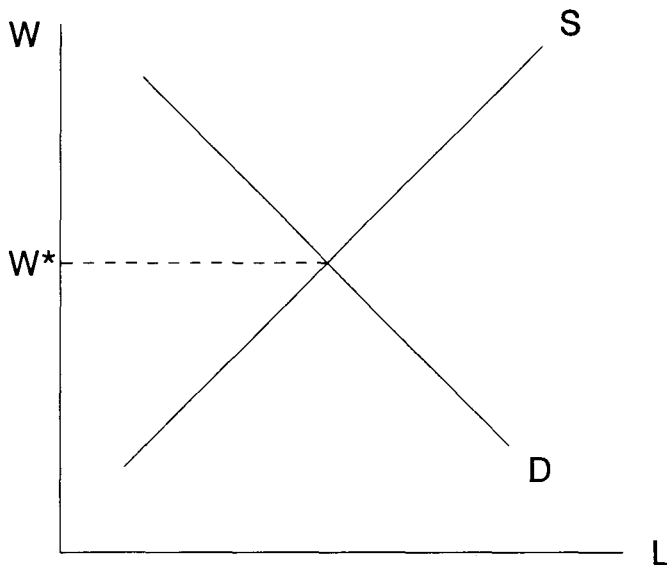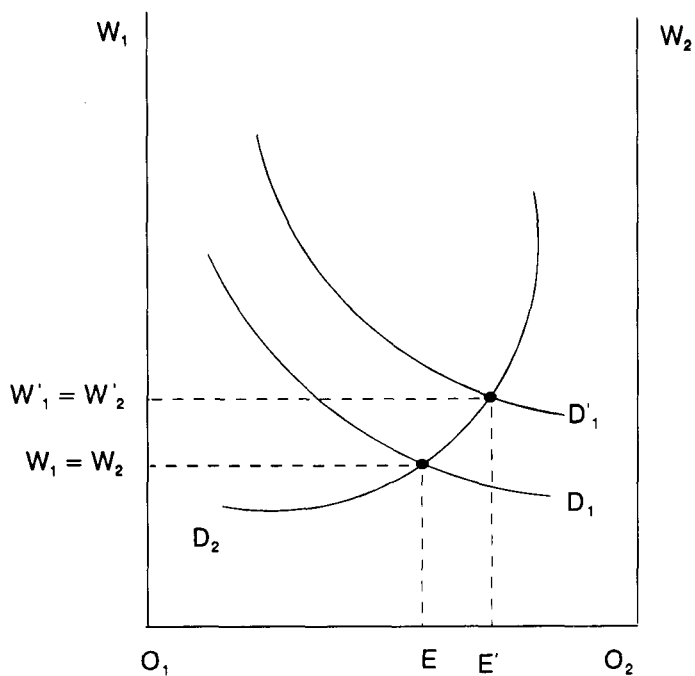**Figure 1. The textbook labour market model**

Figure 2. The effects of sector-specific growth in a two-sector labour market with market-clearing wages

2. Positive economic analysis under the basic neoclassical assumptions

Suppose for the moment that these assumptions are fulfilled. What are the model's predictions for economic development? The single most important one is that if the derived demand for labour increases in one sector of the economy, it will result in an increase in wages not only in that sector but in all sectors of the economy.

The analysis is aided by considering Figure 2. The initial demand for labour curve in Sector 1 is D_1, which is downward sloping relative to origin O_1. Similarly, the initial demand for labour curve in Sector 2, D_2, is downward sloping relative to origin O_2. The labour market clears when the same wage is paid in the two sectors and the combined demand for labour by employers in the two sectors exactly equals the available labour supply. At this wage, denoted by $W_1 = W_2$ in the figure, O_1E workers will be employed in Sector 1 and the remaining O_2E workers will be employed in Sector 2.

Suppose now that *one* of the sectors experiences economic growth, so that more labour is demanded in that sector than before. This is illustrated by a rightward shift of the demand for labour curve in that sector from D_1 to D_1'. Following the same logic as in the preceding paragraph, the model predicts that the labour market will equilibrate at a new, higher wage in *both* sectors of the economy ($W_1' = W_2'$) and with a reallocation of the labour force toward the growing sector (EE' workers shift from Sector 2 to Sector 1).

Empirical evidence strongly supports this prediction. Take for instance the changes in employment and wages that have taken place during the economic development of the Newly Industrializing Economies (NIEs) of East Asia — Hong Kong, the Republic of Korea, Singapore, and Taiwan (China). In the last thirty years, these economies have achieved virtually unparalleled rates of aggregate economic growth, approaching or surpassing 10 per cent per annum over long periods. Labour market conditions have moved in parallel fashion [Fields, 1984]. All four of these economies have experienced generally full employment (unemployment rates of 4 per cent or less). Labour earnings have increased sharply. From approximately 1960 to 1980, real wages rose by a factor of four in Taiwan, a factor of three in Korea, and a factor of two and a half in Hong Kong. In the 1980s, real wages in Korea doubled again — see the papers by Park and You in this volume.

As a result of the attainment of full employment and rapidly-rising real wages, standards of living became markedly higher in economic terms

in the Asian NIEs. One measure of this is the poverty rates in these economies. Poverty fell dramatically in all of them: from 18 per cent to 7 per cent in ten years in Hong Kong, from 41 per cent to 15 per cent in 11 years in Korea, from 37 per cent to 18 per cent in 14 years in Singapore, and from 35 per cent to 10 per cent in eight years in Taiwan.

What brought about these improvements in real earnings and standards of living in the recent decades? The answer, according to the basic labour market model described above, is that the labour market both facilitated economic growth and served to transmit this growth to households, thereby raising their standards of living. It bears mention that different styles of growth were responsible for the shifting labour demand conditions — government is much more heavily involved in the economies of Singapore and Korea than in those of Hong Kong and Taiwan [Scitovsky, 1986; Krause, 1988] — and the sources of growth were different in the different economies: technical change was a major factor in the economic growth of Hong Kong, while in Singapore technical change contributed virtually nothing to that country's growth [Young, 1992].

The consistency of real-world evidence with the model's predictions suggests that the multisector neoclassical framework is indeed a useful analytical framework for understanding changing labour market conditions in the East Asian NIEs since the 1960s. Real-world conditions do not appear to be so greatly different from the assumed conditions of the model as to invalidate the model's qualitative conclusions, at least for that time period.

3. Positive economic analysis: The need for alternative models in alternative circumstances

The basic neoclassical model outlined above offers a precisely specified economic framework with which to perform positive economic analysis of the workings of labour markets. The positive model can and should be challenged in terms of empirical realism.

On these grounds, the basic neoclassical model *cannot* explain earlier labour market developments in the East Asian NIEs. When economic growth took place in those economies in the 1950s, real wages did not rise. What did rise was employment. Those economies began with substantial unemployment. More workers were available than employers wanted to hire. When employers wanted to hire more workers to expand output, they were able to do so at the prevailing wage. It was only when no more labour was available to be employed at that wage that wages started to rise. This was because employers had to raise wages in order to attract more

workers. If the challenges to the basic neoclassical model are to be constructive (remember: the goal is to formulate the most useful analytical framework possible), care should be taken to avoid two pitfalls. One is to argue that because one or more of the assumptions presented in the first part of this section does not hold we must discard the entire approach. Of course, inaccurate assumptions should be replaced by others which better characterize a particular country's circumstances, but those assumptions of the basic neoclassical model that *are* accurate should be retained.

Secondly, care must be taken not to replace a precise assumption by a vague one. If a precise assumption is to be replaced, it must be by an equally precise alternative. To illustrate, consider Assumption 1, which maintains that a country has a single unified labour market in which the returns to labour are equalized across sectors and across individuals. Generally, we know this is not the case — comparable workers are paid higher wages in some sectors of an economy than in others, some workers are better educated than others and are rewarded differently in the labour market, and employers discriminate against some groups on the basis of characteristics not related to productivity. Observations such as these imply that there is not a single unified labour market in many circumstances. However, this is not a sufficiently precise alternative assumption. For analytical purposes, we must specify how the various labour market segments operate and how they are linked together, if at all.

Figure 3 presents an alternative to Assumption 1 which is helpful in explaining changing labour market conditions in the early economic development of a number of Asian economies. The figure depicts the high-wage sector in a dualistic labour market. The effect of economic growth is to shift the demand for labour curve rightward. Here, though, shifts in the demand for labour result in reduced unemployment, not higher wages — precisely what happened in the earlier phases of economic development in Hong Kong, Korea, Singapore, and Taiwan.

Figures 1 and 2 are the basic neoclassical labour market model; Figure 3 is not. What the preceding discussion shows is that the basic neoclassical model holds some but not all of the time. The different models apply to the same group of countries at different times.

It is important to understand where the two models differ. It is in their characterization of wage-setting institutions. The model of Figures 1 and 2 embodies the assumption of market wage determination through supply and demand, whereas the model of Figure 3 embodies a different assumption: wages are set above the market-clearing level for some reason.

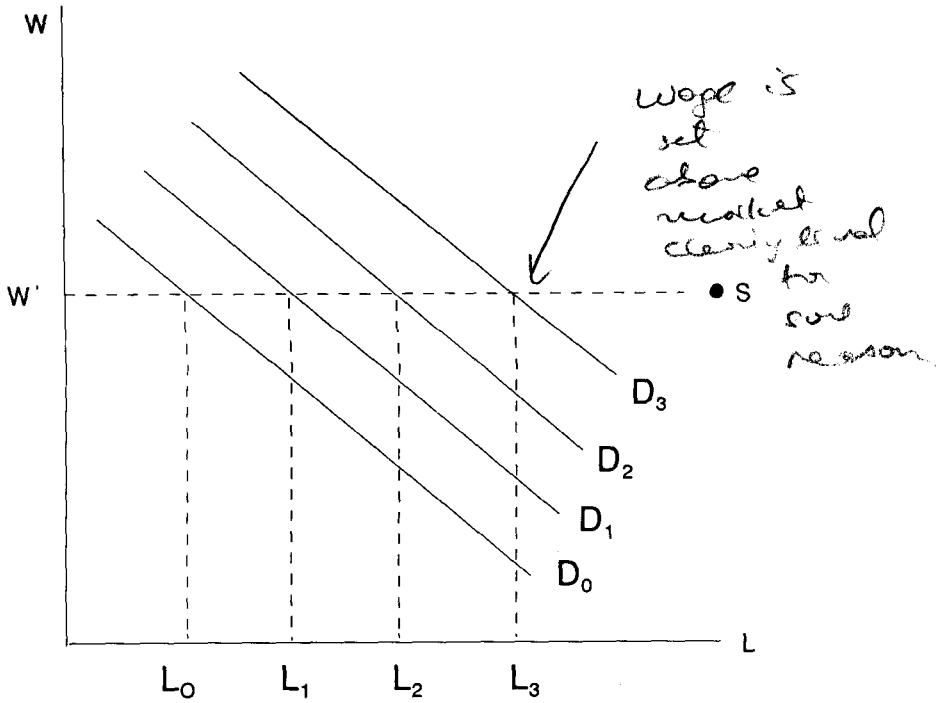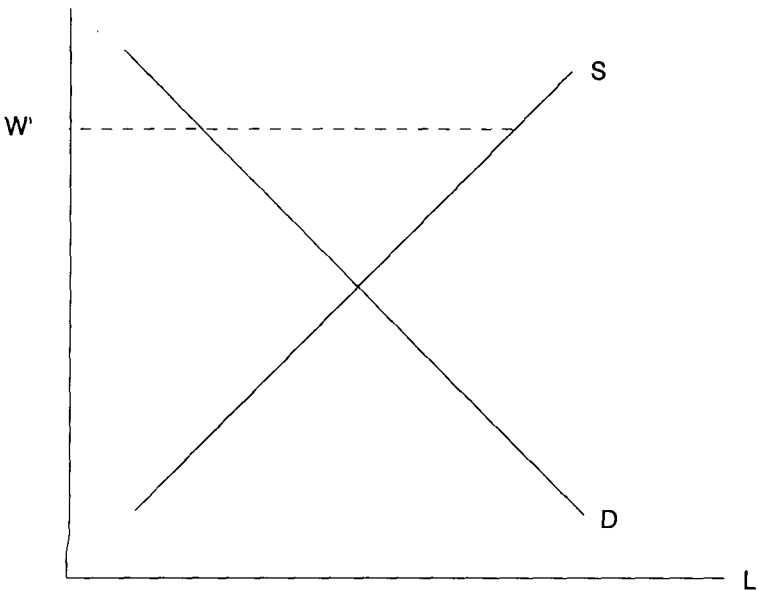**Figure 3. High wage sector in a dualistic labour market**

Figure 4. A single labour market with higher-than-market-clearing wages

The point I want to make by this is that no one model will do. Rather, a number of alternative models are needed to analyse how labour markets change in the course of economic development. The building blocks of the models must be modified to fit the circumstances. Because conditions are very different in different countries at different times, the models must also differ.

In Section III, I further discuss some of these alternative institutional assumptions in the context of positive labour market analysis.

III. Beyond the basic labour market model: Unemployment and non-market-clearing wages in models of single labour markets

1. Unemployment

The single biggest problem with the basic labour market model is the absence of unemployment. One defence of the basic model is to maintain that such unemployment as exists is frictional — those workers seeking jobs and those firms with vacancies have not yet matched up with one another. Indeed, in some Asian economies — Hong Kong, Indonesia, Korea, Singapore, Taiwan, Thailand — unemployment rates are under 5 per cent, a level quite consistent with the frictional unemployment characterization. Bertrand and Squire [1980] found that unemployment rates in all regions of Thailand during both wet and dry seasons were below 1 per cent of the labour force. But elsewhere in Asia, much higher unemployment rates have been observed: 13 per cent in Jakarta and 11 per cent in Metro Manila, for example [Rodgers, 1989]. These rates exceed any reasonable standard of friction. This suggests that something more permanent than friction is responsible for the observed unemployment.

The natural modification of the basic neoclassical labour market model — one which generates unemployment as a permanent feature of labour markets — is to introduce a higher-than-market-clearing wage. This is illustrated in Figure 4. As long as the wage remains at a level like W', unemployment will persist.

Models of unemployment caused by above-market-clearing wages raise the question of why the wage remains at the level it does. The literature offers a number of possible answers.

2. Institutional wage-setting models

The earliest was the class of institutional models. Five institutional forces, singly or in combination, have potent influences on wages in much of Asia: (i) *minimum wage laws* are commonplace and when enforced cause wages to be higher than they otherwise would be; (ii) *labour unions* are often very strong. At times, this is because of the close association between organized labour and the political party in power. Other times, it is because labour unions are encouraged as a means of achieving higher wages for workers; (iii) *pay policy for government workers* often sets the pattern of wages for the rest of the economy, and those in charge have a propensity to pay high wages to all government workers, including themselves; (iv) also, *multinational corporations* often pay high wages, partly to maintain parity between expatriate and local employees and partly (in some instances) to appear to be good corporate citizens and thereby to avoid expropriation or expulsion; (v) finally, *labour codes* may require higher wages, fringe benefits, and severance pay, resulting at times in bloated work forces and inflated labour costs.

Institutional wage-setting above market-clearing levels characterizes many Asian economies. For instance, Starr [1981] discusses minimum wages in a number of developing countries. Yet, he comments explicitly about the *absence* of institutional wage-setting in Hong Kong, Korea, and Singapore (and presumably in Taiwan, though at that time Taiwan could not be mentioned in an official ILO publication). Evidence on the prevalence of market wage-setting in the four NIEs (except for occasional lapses in Singapore) is detailed in Fields and Wan [1989]. It is no accident that all four of these economies have sustained very low rates of unemployment: artificially high wages were not present, so labour use was not discouraged.

3. Efficiency-wage models

After the institutional models came the class of models known as efficiency wage models. These models share two key behavioural assumptions: (i) a worker who is paid a higher wage will be a more efficient employee; and (ii) paying an efficiency wage may be in the firm's profit-maximizing interests.

Efficiency wage theory comes in two variants; see, for instance, Akerlof and Yellen [1986] and Weiss [1990] for reviews of this literature. One variant maintains that by offering higher wages, a firm may be able to *induce higher productivity from a given individual*. This may be because more highly-paid workers are better-nourished and hence stronger, or more

willing to work harder or faster, or less likely to quit or be absent, or less likely to shirk or commit malfeasance on the job. A second variant of efficiency wage theory maintains that by offering higher wages, a firm may be able to *attract more productive individuals*. This may be because the firm can attract individuals with more education and training and/or select those who score better on tests, appear more qualified in job interviews, or possess observable correlates of high productivity such as good work histories.

When would a firm be willing to pay an efficiency wage? Suppose that by paying a 10 per cent higher wage the firm gets a more than 10 per cent increase in the productivity of its labour input. The firm's profits are thereby raised. More precisely, it will pay the firm to offer higher wages if and only if the marginal proportionate increase in efficiency is greater than the marginal proportionate increase in the wage.

Now, to the extent that efficiency wage considerations are responsible for wages being set and remaining above market-clearing levels, a labour market equilibrium with unemployment will result. In the basic neoclassical model, by contrast, when wages are above market-clearing levels, the labour market is in disequilibrium. This is because firms have an incentive to lower wages and the unemployed have an incentive to accept lower wages. The consequent lowering of wages will tend to reduce and ultimately eliminate unemployment. But when efficiency wages are being paid, one of the equilibrating forces in standard labour market analysis — the desire of profit-maximizing firms to lower wages in the presence of unemployment — is absent. *Firms could lower wages and employ more labour but they won't: it is not in their profit-maximizing interest to do so.* Wages will remain above the market-clearing level and unemployment will persist.[2]

How important are efficiency wages as an empirical matter? Taking India as a case study, the evidence is quite mixed. Rodgers' village studies [1975] found that wage variation with seasonal changes in labour market conditions was rare and could not be attributed to demand and supply factors. Bliss and Stern [1978], on the other hand, reported a "great, even bewildering diversity" of wages. In agreement, Binswanger and Rosenzweig [1984] cited "pervasive regional, annual, and seasonal variations of wages" in most empirical studies that cast doubt on fixed wage models. Drèze and Mukherjee [1989] found that the same standard wage often

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[2] For further analysis of other labour market implications of efficiency wages, see Bulow and Summers [1986].

applies for several months or even several years. So it is difficult to draw a firm conclusion from the available evidence about the presence or absence of efficiency wages.

Recent analysis has noted at least one problem with efficiency wage explanations for the persistence of unemployment — the absence of long-term contracts. Binswanger and Rosenzweig [1984] observe that "long-term employment contracts are not very common in the South and Southeast Asian countries. When they are entered into, they seem to be based on the demand for specialized skills." Bardhan [1984], Drèze and Mukherjee [1989] and many others have also noted the ubiquity of casual labour markets throughout Asia.

In those circumstances in which casual labour markets predominate and long-term contracts are absent, it may be difficult for individual employers to internalize the benefits of efficiency wages [Basu, 1992; Mukherjee and Ray, 1992; Guha, 1989]. Basu (p. 110) puts it thus: "... there is a time-lag, often quite long, between wages and productivity... Hence, in markets where landlords face a high labour turnover there may be little relation between the wage paid by a particular landlord and the productivity of *his or her* workers" (emphasis added). Basu notes that this is particularly the case in "casual labour market(s) where labourers are hired afresh each day."

The point raised by Basu and by Mukherjee and Ray has merit in those cases where the motivation for efficiency wages is better nutrition: the employer who offers today's workers higher wages does not get higher productivity today. It is much less applicable to situations in which the efficiency gains are immediate, for instance, when the pace of work is increased and higher wages are paid to reward workers for working faster.

In those cases where the labour market is a casual one and where wages exceed market-clearing levels, the source of these higher-than-market-clearing wages is called into question. Rather than employers' resistance to wage cuts being responsible in those instances, another explanation must be sought. Several others are discussed in the next sections.

4. Seasonal unemployment

In rural Asia, seasonal unemployment is endemic; see, for instance, Bardhan [1984] and Binswanger and Rosenzweig [1984]. Villagers routinely report themselves available and actively looking for work during the slack season. Alas, not enough jobs are available for all who wish to work.

Figure 5. Unemployment in the slack season
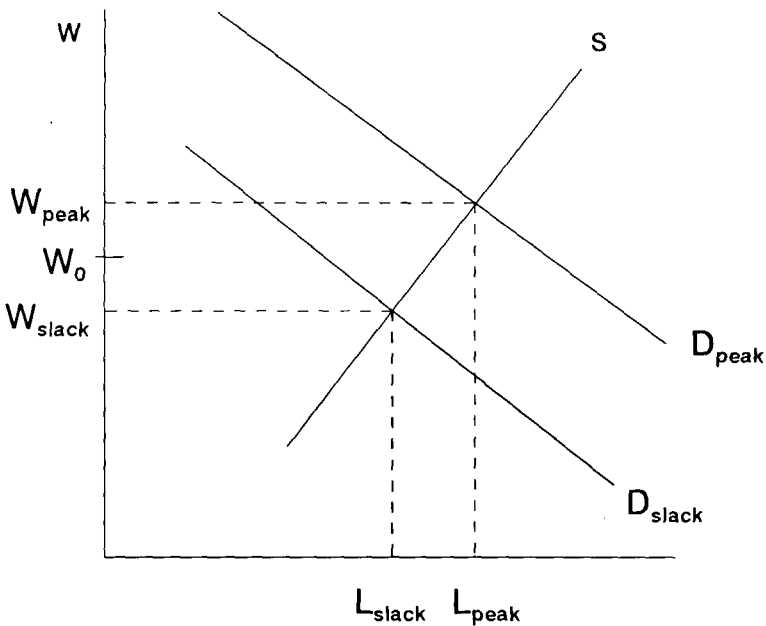
An orthodox analyst would expect that the peak-season labour demand curve would shift leftward in the slack season, tending to lower wages. The existence of slack-season unemployment might then be understood in either of two ways. One is that the wage may indeed have fallen by enough to clear the market and that the unemployment is more illusory than real. The other is that the slack-season wage has not fallen sufficiently far to eliminate unemployment.

Consider the first explanation. Figure 5 depicts the leftward shift of the labour demand curve from D_{peak} to D_{slack}. If the wage falls from W_{peak} to W_{slack}, then there will be no seasonal unemployment — all who want to work at the prevailing wage are working at that wage. However, the remaining $L_{peak}-L_{slack}$ persons may be willing to work at wage W_{peak} but not at the current wage W_{slack}. Those workers may regard themselves as unemployed and they may be counted as such in the surveys. Doing this goes against the common conception of labour supply as consisting of those persons who wish to work *at the prevailing wage*. Of course, we may want to redefine what we mean by unemployment — for example, by classifying as unemployed anyone who would like to work but is not at work. Redefining unemployment is possible but would go against standard ILO definitions and conceptions.

Slack-season unemployment may arise for another reason: the slack-season wage may fall but not by enough to clear the slack-season market. Consider a wage such as W^0 in Figure 5. The slack-season wage may fall to W^0 but not as far as W_{slack} for any of several reasons: (i) institutional barriers such as minimum wages prevent the wage from falling that far; (ii) efficiency-wage considerations lead employers not to offer wages below W^0 (nutritional reasons, for example); or (iii) the labour market may not be a casual one — rather certain elements carry over across time periods. This last point requires further elaboration.

Some employers find it advantageous to maintain a supply of permanent labourers. These labourers must be fed in the slack season if they are going to be strong enough to work in the peak season. They may offer *those particular labourers* higher wages in the slack season so that those workers will be ready for work in the peak season. Casual workers who are not part of such permanent relationships might offer to work in the slack season at W_{slack} and yet will not be hired.[3]

A different reason for the slack-season wage not to be lowered to the market-clearing level is offered by Mukherjee and Ray [1992]. They postulate a form of "everyday peasant resistance" whereby workers have bargaining power in the slack season precisely because they have bargaining power in the peak season. In their words (p. 229): "In the slack season, a labourer has no option but to accept any wage offer not less than his reservation wage. However, depending on the state of affairs in the peak season, a labourer may decide to refuse to work for the farmers that have been unfair in his opinion, in the sense of paying a 'low' wage... The farmers are aware of these possibilities and act accordingly." The authors find that under this model, nearly all equilibrium wage configurations are characterized by wage payments that exceed the reservation wage despite the presence of slack season involuntary unemployment. What the explanations offered in the preceding paragraphs have in common is that employers' actions in the slack season affect their ability to hire in the peak season, when labour is urgently needed. They pay more than they need to in the slack season so that they can get the labour they need in the peak season. Involuntary unemployment in the slack season results.

5. Worker-side resistance to wage cuts

Let us return to the context of a casual labour market. Suppose we find that wages are above market-clearing levels in a casual labour market

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[3] I thank Pranab Bardhan for making this point.

in which individual employers are unlikely to be able to internalize the benefits of efficiency wages. Suppose further that no obvious institutional factor such as a union or a minimum wage is present. Another factor may be at work keeping wages in such a labour market above the market-clearing level and that is resistance on the part of workers to wage cuts.

According to basic neoclassical labour market theory, if wages are above market-clearing levels, unemployed workers would be expected to bid wages down in order to secure jobs. Yet, various authors including Bardhan and Rudra [1981], Rudra [1982], Drèze and Mukherjee [1989] and Osmani [1991] have found that unemployed workers in India and Bangladesh do *not* do this. The question is why.

Arguments given by Drèze and Mukherjee [1989], Solow [1990] and Osmani [1991] suggest the following explanation. Casual labour markets in rural Asia may be thought to be comprised of many potential employers and many potential employees who negotiate as frequently as daily with one another. Their strategies in these negotiations may be thought of in game-theory terms. In particular, when each worker decides what wage rate to offer to work for, he takes into account the effects of his actions on the likely behaviour of others and the effects of their reactions on his opportunities. Now, if the worker offers to work for less than the "going wage" in a particular locality, s/he may figure that others will also offer to work for that lower wage rather than remain unemployed. If the demand for farm labour has less than unit elasticity, the lower wage will not be counterbalanced by a correspondingly higher employment rate. The worker's expected income thus falls. S/he is also working more, thereby consuming less leisure. For both these reasons, the worker's expected utility falls. Anticipating these consequences of offering to work for a lower wage, the worker does not offer to do so even though s/he experiences involuntary unemployment some of the time. In this way, wages might remain above market-clearing levels, not because of formal wage-setting institutions nor because of employer-side resistance to wage cuts, but rather because of worker-side resistance.

6. Insider-outsider models of unemployment

Another explanation for unemployment pertains to those situations in which labour markets are not casual. In non-casual (i.e. "non-spot") situations, certain individuals are incumbents in jobs, and for this reason their positions are not available to others. It becomes important, therefore, to distinguish those who have jobs ("the insiders") from those who aspire to jobs ("the outsiders").

Insider-outsider models are developed by Lindbeck and Snower [1988] and Blanchard and Summers [1986], among others. Unemployment can arise if two conditions hold: (i) the insiders get together to insist upon wages and working conditions at higher than market-clearing levels, and (ii) the employer finds it more profitable to accede to the insiders' demands than to hire from the outside market.

What would happen if an outsider offers to work for a lower wage than the insiders now receive? Because the insiders are experienced, they are probably more productive than inexperienced workers would be. However, the insiders are typically more expensive than newly-hired workers would be. Suppose that the employer compares the productivity levels of experienced insiders versus inexperienced outsiders and concludes that it would be profitable to replace an insider by an outsider. Remove any threat from insiders, and the employer would want to hire the outsider. But the insiders *can* threaten: for example, they can go on strike, not work cooperatively with those who are newly-hired, or refuse to train them. These threats are effective if they lower the firm's profits by more than the firm gains by hiring the outsider. Knowing this, the firm may indeed not hire the outsider.

What we have then is that the unemployed are willing to work for lower wages and the firm would be willing to employ them at lower wages, with threats from insiders removed. However, the presence of such threats may lead the firm not to lower its wage and employ the unemployed. Above-market-clearing wages and involuntary unemployment result.

7. Transactions costs and imperfect information in labour markets: Positive and normative analysis

Labour market analysis has been enriched in recent years by the application and refinement of models based on transaction costs and/or imperfect information. The literature on this is vast; I shall briefly summarize some of the highlights.

The transaction costs school emphasizes that institutions arise in labour markets, as elsewhere, in order to lower the costs incurred by economic agents in dealing with others. These costs include information, negotiation, monitoring, coordination and enforcement of contracts. The imperfect information school analyses why particular institutions arise in response to limited information and missing markets.

These types of models have been developed to analyse a variety of institutional arrangements which "emerge as substitutes for missing credit,

insurance and futures markets in an environment of pervasive risks, information asymmetry and moral hazard" [Bardhan, 1989]. Among the labour/production relations which have been analysed in such terms are interlocked transactions, labour tying, and sharecropping.

There is now a large literature analysing various forms of tenancy contracts, including sharecropping, in terms of transaction costs and imperfect information [e.g. Newbery and Stiglitz, 1979; Bardhan, 1984; Eswaran and Kotwal, 1985]. In reviewing this literature, Rosenzweig [1988] focuses on two themes: access to unmarketable inputs and reduction of production risk. One unmarketable input is labour effort: workers may not work as hard as possible. The landlord may solve the effort elicitation problem by renting the land out to tenants for a fixed fee; the tenant becomes the residual claimant on production, hence puts in an appropriate amount of effort. While this solves the landlord's problem, it does not solve the tenant's. This occurs due to two reasons. One is that under fixed rental contracts, all of the risk of production falls on the tenant. If tenants are risk-averse and output risk is uninsurable, a fixed rental contract may be unbearably risky. "By sharing output, landlords and tenants share production risk, and share it optimally when the optimal allocation of inputs on tenanted land is enforceable" [Rosenzweig, 1988, p. 740]. The other problem is that besides land, the tenant must also obtain suitable inputs from the landlord such as managerial knowledge. The landlord has a greater incentive to supply such an input if he receives a share of the extra output. "It is the *double* coincidence of moral hazard (two, not one, market failures) that makes share tenancy potentially superior to fixed rate tenancy, even though neither tenant nor landowner supplies the full level of his own input that would be forthcoming under self-cultivation" [Rosenzweig, 1988, p. 740, emphasis in the original].

The preceding analysis leads to a strong welfare conclusion. Neither landlords nor tenants are *obligated* to organize themselves into sharecropping arrangements; fixed rent tenancy and wage employment are other possibilities. If we find that production relations *are* based on sharecropping, we may presume that *both* landlords *and* tenants gain by participating in such arrangements. If they were prevented from forming such arrangements, both sides would lose out. As Bardhan [1989, p. 1390] cautions in reference to sharecropping: "Its simple abolition, as is often demanded on a radical platform, without taking care of the factors that gave rise to the institution in the first place, may not necessarily improve the conditions of the intended beneficiaries of the abolition programme."

Moving from the specific institution of sharecropping to the more general issue of welfare and public policy, the literature on imperfect information and incomplete markets has produced some strong policy conclusions. Bardhan correctly notes that it may not be a good idea to outlaw an institution such as sharecropping. However, this does not imply that it is optimal to leave the institution alone either. Government interventions may be better yet. Stiglitz has demonstrated this in a series of papers: Shapiro and Stiglitz [1984], Arnott and Stiglitz [1985], and Greenwald and Stiglitz [1986] deal with contexts characterized by incomplete markets and imperfect information in which the laissez-faire equilibrium is Pareto-inefficient and might possibly be improved upon by suitably chosen taxes and subsidies which can make everyone better off. However, as Stiglitz carefully notes, certain conditions must be fulfilled for the *potential* positive role of government to become an *actual* one. That is, the government could effect a Pareto improvement if (i) it had sufficient knowledge of the structure of the economy; (ii) those responsible for implementing government policy had at least as much information as those in the private sector; (iii) those responsible for designing and implementing government policy had the incentives to direct policies to effect Pareto improvements, rather than, for instance, to redistribute income (either from the poor to the rich or vice versa, or from everyone else to themselves)... [Stiglitz, 1986, pp. 257-258].

Rigorous economic analysis sensitive to the particular institutional and political circumstances is what is called for.

8.   Other single-sector models

Space does not permit me to go into all of the interesting labour market models that might be applied. I shall merely call the reader's attention to some of the more valuable contributions: the analysis by Svejnar [1989] of modern sector labour markets under conditions when unions and government increase not only firms' wages but also their levels of employment, so that firms are no longer on their labour demand curves; the analysis of downward wage rigidity in terms of implicit contracts offered to risk-averse workers [Baily, 1974; Azariadis, 1975]; the analysis by Amsden [1989] of "getting relative prices *wrong*"; and Harriss, Kannan and Rodgers' [1990] analysis of the determinants of mobility out of protected sector jobs and into small scale self-employment.

IV. Beyond the basic labour market model: Multi-market analysis with heterogeneous labour and market segmentation

1. Introduction to multi-market analysis

In some Asian countries, the neoclassical market-clearing paradigm provides a useful analytical starting point; such models were developed in Section II in both a single sector and a multiple sector context. In other countries, however, differences in labour market opportunities between sectors or between different types of individuals are enormous. Because of discrimination, women's labour market opportunities are much more limited than men's. The greater the worker's education and skills, the higher are his or her employment and earnings potential. Some workers are able to find jobs in protected labour market segments, while many others are not. And so on.

In view of these institutional realities, one would be hard-pressed to maintain, as does standard textbook labour market analysis, that the workers in any given Asian country participate in a single integrated labour market. It would be better to think of there being a multiplicity of labour market sectors and groups, each with its own particular conditions, linked one to another.[4]

A thorough analysis of labour institutions as factors in Asian economic development would require several steps:

— identifying the different sectors and groups;

— studying the labour market functioning within each;

— specifying the connections between the various sectors and groups;

— analysing policy with the resultant model.

In the following sections, I outline how these steps might be followed in multi-market analysis of three different types: heterogeneity of labour markets due to wage dualism and segmentation, heterogeneity of labour markets due to differences among workers in education and training, and heterogeneity of labour markets due to discrimination in favour of certain types of workers and against others.

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[4] Harriss, Kannan and Rodgers [1990] draw the useful distinction between "stratification" (when a labour market is characterized by a vertical layering of individuals) and "segmentation" (when labour markets work differently in different parts of an economy).

2. Wage dualism and segmentation

In many economies, for workers of a given type, labour market rewards are higher in some sectors of the economy than in others. The general name given to this phenomenon is "labour market segmentation". Suppose that the appeal of a labour market can be summed up by a single variable called "wage".[5] When the various segments can be grouped into two categories — those offering relatively high wages and those offering relatively low ones — the term used is "wage dualism". This subsection considers one type of wage dualism, that associated with wage floors.

A wage floor is a rate below which wages cannot fall. As discussed above, wage floors may be caused by minimum wages, union wage increases, public sector pay policy, or something else. Wage dualism arises because of differential applicability of these wage-setting institutions in different parts of the economy. Wage dualism is a feature of many, but by no means all, Asian economies.

In Fields [1992], I analyse wage floors in a two-sector context. Sector C is covered by a wage floor and sector N is not covered. Suppose that before the wage floor was imposed, a wage W^* cleared the labour market. Then, in the covered sector, the wage is increased by g per cent compared with what it would have been otherwise:

(1) $W_C = W^*(1 + g)$.

The higher wage lowers employment in the covered sector by ge per cent, where e is the (arc) wage elasticity of demand for labour in the covered sector evaluated between W^* and W_C:

(2) $E_C = E_C^* (1 + ge)$.

Assume that there is no on-the-job search and that there is probabilistic hiring.[6] Under these assumptions, workers who seek covered sector jobs must enter the covered sector labour market. Workers seeking covered sector jobs have expected wages:

(3) $E(W_C) = W_C (E_C / L_C)$.

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[5] This is purely for terminological convenience. Differential job protection, fringe benefits, and the like are also of value to workers. So that we can work in two dimensions, we abstract from them here.

[6] These are the assumptions made in the dualistic labour market models of Harris and Todaro [1970] and Mincer [1976] among others. It would be worth extending these models to consider other hiring rules. One such extension — preferential hiring on the basis of education — is outlined below.

Workers who settle for non-covered jobs receive W_N. In equilibrium, these two expected wages are equal:

(4) $W_C (E_C / L_C) = W_N$.

It is easy to see that the wage floor causes unemployment. This is because employers in the covered sector demand less labour at higher wages and because it is in some workers' interest to risk unemployment while trying to be hired for these relatively attractive jobs. From the equilibrium condition (4), the fact that $W_C > W_N$ implies that $L_C > E_C$, hence unemployment exists.

It is less easy to determine what the amount of unemployment depends upon. The following results are proven in Fields [1992]:

— A sector-specific wage floor may induce labour to move *out of* the covered sector or *into* the covered sector, depending upon parameter values.

— Other things being equal, a greater elasticity of demand for labour in the covered sector may result either in *less* unemployment or in *more* unemployment in equilibrium, depending upon parameter values.

— Other things equal, a greater elasticity of the wage in the noncovered sector with respect to the size of that sector's labour force may result either in *more* unemployment or in *less* unemployment in equilibrium, depending upon parameter values.

— Other things equal, a higher wage floor may result either in *more* unemployment in equilibrium or in *less* unemployment in equilibrium, depending upon parameter values.

In summary, these results suggest that the unemployment effects of wage floors are more complicated than had previously been recognized. Surely, a policy-maker would want to know how much unemployment is likely to be caused by a wage floor before deciding whether to establish one. Analyses of the type indicated above tell us what the answer depends upon.

The theoretical model yields ambiguous results. So to assess the effects of wage floors, empirical estimates of the various parameter values within an empirically-relevant theoretical framework take on added importance. But before this can be done, the analytical framework would need to be extended beyond the factors considered above (the elasticity of demand for labour in the covered sector, the elasticity of the wage in the non-covered sector with respect to the size of the noncovered sector labour force, and the level of the wage floor) to consider also the effect of such additional labour market phenomena as job fixity, heterogeneous labour,

preferential hiring, and on-the-job search, all in a multi-period context. The analytical models required to determine the likely effects of this labour market institution (wage floors) are complex indeed.

3. Heterogeneity of workers: Education and training

Workers differ in terms of education, and these differences are relevant to labour market analysis. As a stylized version of these differences, suppose that there are just two categories of people: those educated and those not. Employers may hire workers from either or both of these groups.

Much development effort is directed towards upgrading the education and training of a country's labour force. To determine the effects of educational expansion, models are needed of the educated and the uneducated labour markets and the linkages between them. The following is excerpted from a lengthier account [Fields, forthcoming].

(i) The market-clearing labour market model

The standard labour market model, reviewed above in Section II, maintains that the wage in a labour market adjusts to equate the amount of labour supplied to the amount of labour demanded. When there are two types of workers, some educated and some not, the market-clearing paradigm holds that wages for the educated and the uneducated clear their respective markets.

Figures 6 and 7 depict the initial supply and demand curves and wage rates in the two labour markets. The wage of educated workers is higher than the wage of uneducated workers. This is necessary to induce young people to incur the monetary and psychological costs of education and forego years of earnings while in school.

If the educational system is expanded, the enlarged supply of graduates shifts the supply curve of educated labour to the right and the supply of curve of uneducated labour to the left. If the demand curve for labour is stationary, educational expansion in this case would lower the wages of the educated (from W^*_{ed} to W'_{ed}) in order to employ them all and raise the wages of the uneducated, who are now relatively scarcer (from W^*_{uned} to W'_{uned}). The market-clearing paradigm therefore predicts that the newly-educated would all be employed at higher wages than they would have received without the education. Society benefits from the gain in productivity associated with having more persons employed at higher wages and producing more. The social cost of education consists of the resources used in providing the additional education.

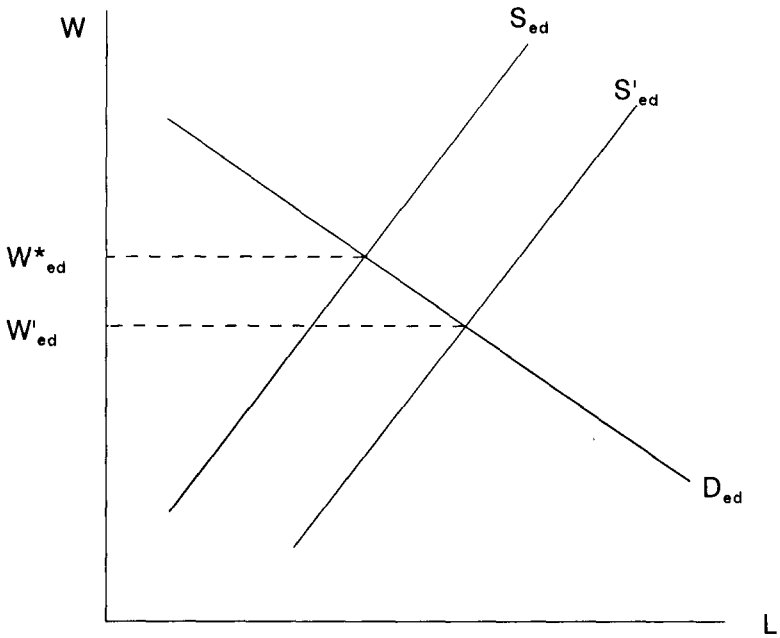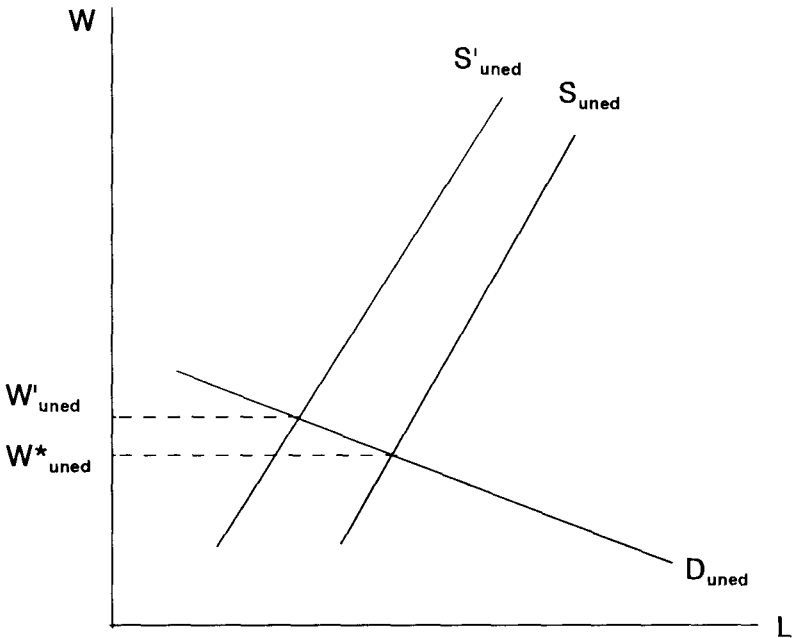**Figure 6. Labour market for educated workers with market-clearing**

Figure 7. Labour market for uneducated workers with market-clearing

Very different outcomes may result under other institutional circumstances. I now present two of these.

(ii) Non-market-clearing wages: The case of labour market stratification

Suppose that the wage paid to educated labour is above the market-clearing level. Educated persons seek the best-paying jobs in the economy. But because there are not enough high-paying jobs available for all the educated persons seeking them, we then need to ask what happens to the educated persons who do not get hired for these jobs. In the case of labour market stratification, we assume that *all* the educated continue to seek the better jobs.

Now suppose that educational expansion takes place. Figure 8 shows what would happen to the educated persons' labour market. The rightward shift of the supply curve of educated labour simply adds to educated unemployment. This, in essence, is the explanation offered by Blaug, Layard, and Woodhall [1969] for educated unemployment in India: the surplus educated are willing to endure a spell of unemployment until they get hired.

As for the uneducated persons' labour market, if their wages are set by supply and demand as in Figure 7, the leftward shift of their supply curve would result in higher wages for those who remain uneducated. But if their wages are also at higher-than-market-clearing levels, the effect is a reduction in unemployment, as shown in Figure 9. In this latter case, educational expansion simply results in a transformation of uneducated unemployment into educated unemployment. Considering the social costs involved in providing education, this is hardly a good way to achieve economic development.

(iii) Non-market-clearing wages: The case of bumping

In the bumping model, as in the others presented above, education is a requirement for the higher-level jobs. But unlike the labour market stratification model, the bumping model makes two different assumptions. First, it maintains that educated workers would be willing to accept lower-level jobs if it pays them to do so. Second, it assumes that employers offering lower-level jobs are willing to hire educated workers in preference to uneducated workers at a wage which is set for the job, not for the characteristics of the worker hired to fill that job.[7]

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[7] If there were no educated unemployed, employers would have to offer educated

Let us call the higher-level jobs "skilled" and the lower-level jobs "unskilled." The labour market for the skilled jobs is shown in Figure 10. Educational expansion would shift the supply curve of labour to the skilled jobs to the right provided that *some* of the additional educated workers seek skilled jobs. Whether they do or not depends on a comparison between (i) an uncertain prospect of finding a job at the skilled wage, and (ii) the wage that could be received immediately upon accepting an unskilled job. In the case where there is no on-the-job search and where hiring is probabilistic, the expected values associated with these two labour market strategies are, respectively:

$$V(i) = W_{sk} \, \pi_{sk}$$

and

$$V(ii) = W_{unsk}$$

(When there is on-the-job search or when hiring is not probabilistic, the formulae for V(i) and V(ii) are different but the choice process facing educated workers is the same.)

When educational expansion takes place, everyone must reoptimize. The educated workers compare V(i) and V(ii) and choose that labour market strategy which offers the highest rewards to them. The uneducated workers must then search from among those unskilled jobs that are left over for them after the educated workers are hired first. Depending on the country, it may be that the expected wage falls as a result of increased competition among the uneducated for the reduced number of unskilled jobs. Alternatively, it may be that unskilled jobs are available at the prevailing wage for all who seek them.

Depending upon the initial parameter values, three patterns are possible for the effects of educational expansion:

(i)   The educated may all continue to search for skilled jobs. In this case, the analysis is identical to that presented just above in the labour market stratification case.

(ii)   Some of the educated may find it to their advantage to bump uneducated workers out of unskilled jobs. The larger the size of the educated persons' labour force, the greater the number who will do this.

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workers higher wages in unskilled jobs than they would offer to uneducated workers for those same jobs. The employer would do this if the extra productivity of the educated worker more than justified the extra cost of hiring him/her relative to an uneducated worker. However, when there is educated unemployment, employers can set the wage for the job, not the worker, and hire the best-qualified applicant at no extra cost.

Figure 8. Labour market for educated workers with above-market-clearing wage
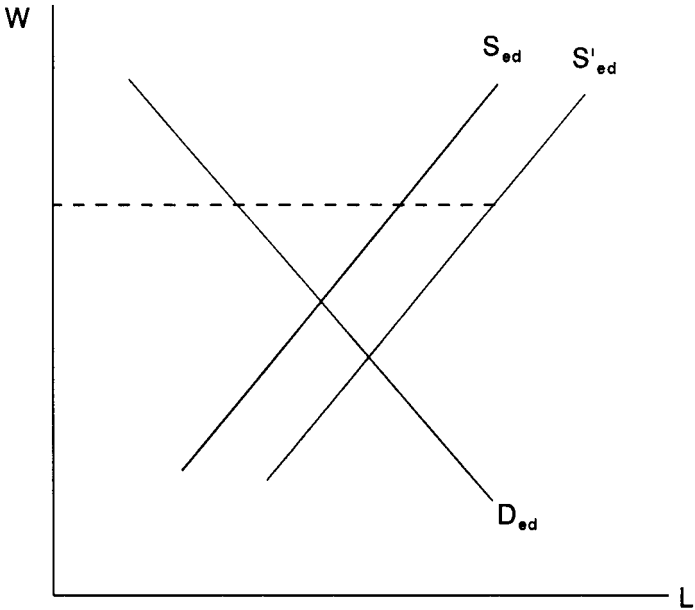

Figure 9. Labour market for uneducated workers with above-market-clearing wage
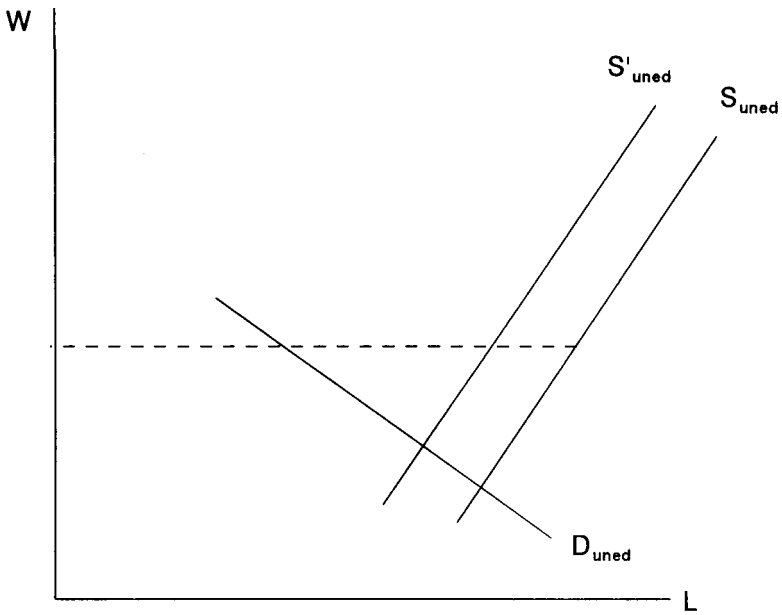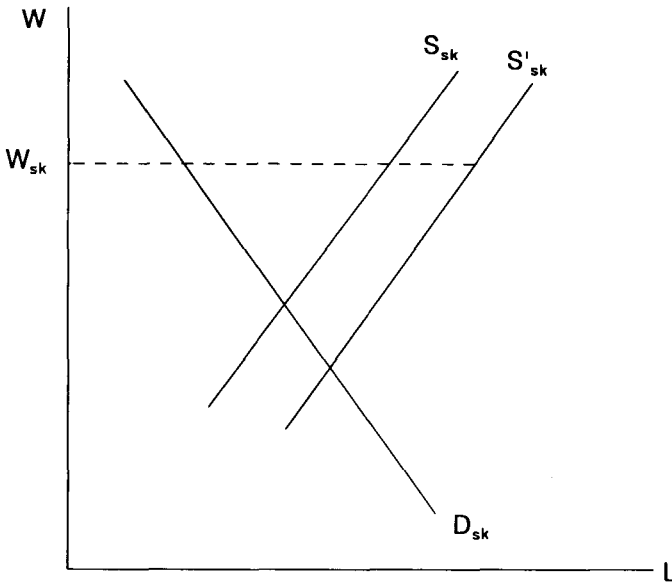
Figure 10. Labour market for skilled jobs

If the uneducated workers have some place else to go, more of them will choose this other alternative — for example, going back to the farm in the case of a land-abundant economy. The expected wages of those educated remain constant, as do the expected wages of those uneducated. The economy now has more educated people performing unskilled jobs. Society benefits from the gain in productivity associated with such people. Again, this gain must be compared with the cost of producing the education.

(iii) If some of the educated find it advantageous to bump uneducated workers out of unskilled jobs, the demand curve for uneducated workers in unskilled jobs shifts leftward at the same time that the supply curve of uneducated workers in unskilled jobs shifts leftward. If the uneducated workers do *not* have somewhere else to go (for example, because land is scarce and agricultural jobs are limited in number), it is quite possible that the demand curve for uneducated labour shifts leftward by more than the supply curve does, in which case the expected wage for uneducated labour falls; see Figure 11. A constant expected wage for educated labour coupled with a falling expected wage for uneducated labour produces a rising differential between the educated and the uneducated. In such a case, educational expansion causes the uneducated to fall further and further behind. Relatively speaking, education becomes more and more valuable, as those without it become condemned to ever-poorer labour market opportunities.

This may cause more and more education to be demanded. And if, in response, more and more education is supplied, the society may end up with *everyone* seeking education.

In summary, in these three alternative labour market models, educational expansion has very different consequences. The last thing that a poor Asian country wants to do is use its scarce budgetary resources to produce more educated unemployment with no corresponding increase in the productivity of those employed. Before a policy of educational expansion is chosen, the authorities must have a clear idea of which of these three models best fits the country's circumstances.

4. Heterogeneity of workers: Labour market discrimination

Many Asian workers suffer discrimination — some because of race, some because of caste, some because of ethnicity, and many because of gender.[8] Some of this discrimination takes place in the labour market, primarily on the part of employers, and some prior to labour market entry, on the part of parents, schools, and others. It is important to pinpoint the locus of the discrimination if progress is to be made in eliminating it.

Following Arrow [1973], we may define current labour market discrimination as "the valuation in the labour market of personal characteristics of the worker that are unrelated to productivity". Such labour market discrimination may take many forms. Among them are:

— wage discrimination — paying differential wages to equally productive workers;

— employment discrimination — the preferential hiring of members of the favoured group;

— occupational segregation — the stereotyping of jobs (e.g. "men's jobs" and "women's jobs") and the assignment of members of different groups to different jobs;

— crowding — the involuntary confinement of members of the less favoured group to the less desirable occupations or sectors;

— statistical discrimination — selecting individuals for employment or training on the basis of easily-observable attributes (race, ethnicity, gender,...) which are thought to be related to productivity.

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[8] See, for instance, Drèze and Sen [1989].

**Figure 11. Labour market for unskilled jobs
            when demand for uneducated workers shifts**
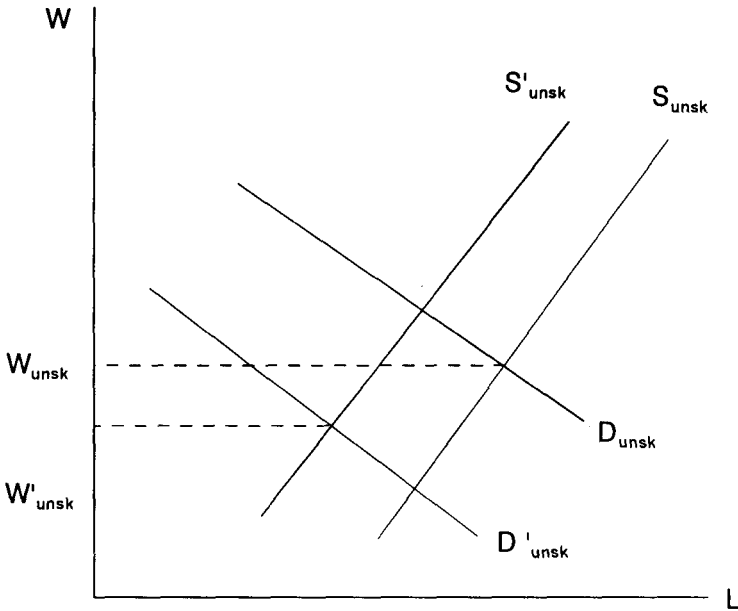
In view of these forms of discrimination, the literature on the economics of discrimination offers different models of how discrimination is effectuated and what might be done to eliminate differences in labour market outcomes due to discrimination. Four analytical approaches are briefly reviewed below.

(i)   The tastes model

Most closely associated with Becker [1957], the tastes model holds that firms enter the labour market with prejudicial tastes. These may originate with the employer, who dislikes hiring workers of a certain type; with co-workers, who dislike working alongside or under members of the discriminated-against group; and/or customers, who dislike being served by members of certain groups. These prejudicial tastes lead each firm to behave as if it had its own "market discrimination coefficient", viz., a premium that it would have to be paid, or a cost saving that it would have to realize, before it would be willing to deal with members of the discriminated-against group. For instance, when employer i considers whom to hire, s/he would behave as if the wage rate π were the cost of hiring someone from the favoured group and $\pi (1 + d_i)$ the cost of hiring someone from the unfavoured group. Here, d_i is employer i's market discrimination coefficient.

Becker notes that what matters for the economic well-being of the workers involved is not only the average of these market discrimination coefficients but also the distribution of them. If all employers discriminate against the same groups, those who suffer this discrimination will assuredly lose out economically. But if there are enough employers who are not discriminatory, workers of different types will be sorted among employers with different tastes for discrimination. The result might be segregation in the labour market (e.g. type A workers working for type A employers, type B workers working for type B employers) with little adverse effect on the economic well-being of either group.

Becker's analysis of discrimination in terms of prejudicial tastes is appealing. In my view, though, it has two problems. One is that the model allows for discrimination to be practised only through wage discrimination; non-wage discrimination is not allowed for. Employment discrimination may be much more important in many Asian contexts, e.g. against members of scheduled castes in India. The other problem with Becker's analysis is his policy conclusion. He observes that discriminatory employers are knowingly foregoing profits by not employing the most productive workers. If competition in product markets is sufficiently keen, those employers who discriminate would earn sub-normal profits, and for this reason would be driven out of business. Nothing needs to be done about discrimination, he concludes. It will fall of its own weight. This conclusion reflects a greater faith in product market competition than I think is warranted. A more activist approach is almost surely needed.

(ii) Crowding

In this model, which is developed in Bergmann [1971] and Madden [1973], discrimination takes the form of employers systematically excluding members of certain groups from certain jobs. Those who are excluded from the better jobs are then crowded into lesser jobs. Figures 12 and 13 illustrate the consequences.

Suppose that in the absence of crowding, the two sectors A and B would have been equally remunerative. However, sector A employers refuse to consider certain people for jobs. S_A is the true supply of labour curve, S_A' the effective labour supply after the exclusion. The wage in sector A rises (which may be precisely why the exclusion arises in the first place). Those crowded out of sector A are crowded into sector B. There, the supply of labour curve shifts from S_B to S_B' and the wage is bid down from W_B to W_B'. So the effect of crowding is to provide economic gain to those who attain employment in the favoured sector and to impose economic losses on those who are crowded into the lower-paying sectors.

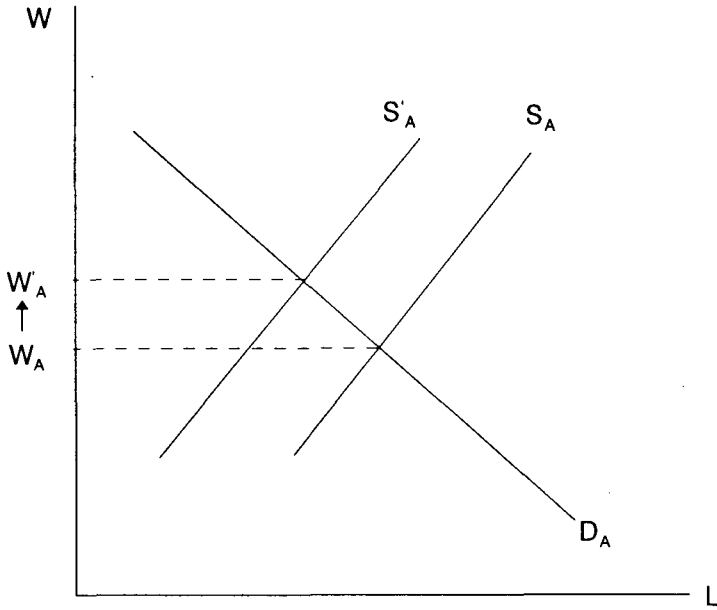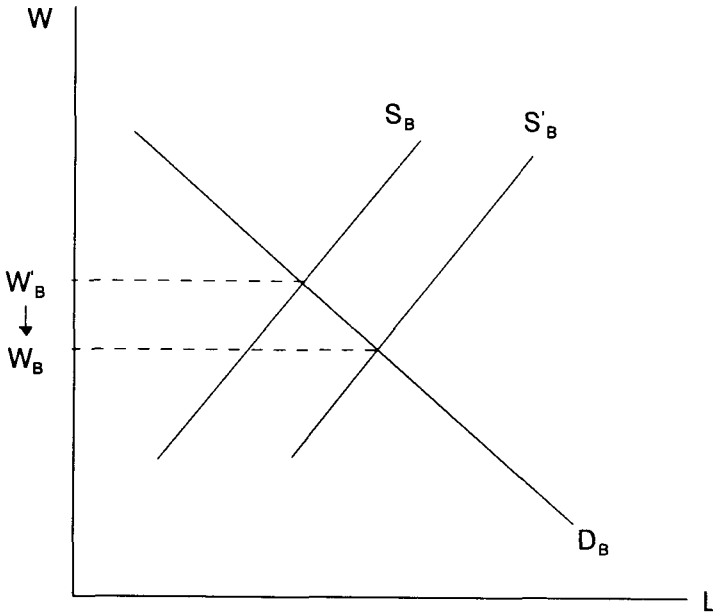Figure 12. Labour market consequence of crowding workers out of Sector A

Figure 13. Labour market consequence of crowding workers into Sector B

By allowing for employment discrimination, the crowding model meets one of the objections to the taste model. However, the crowding model does not allow for variation among employers, nor does it allow for wage discrimination within the same sector.

(iii) The imperfect information model

This model holds that employers practice statistical discrimination against members of groups which they (the employers) believe will be of lower productivity [Phelps, 1972]. Statistical discrimination creates the possibility of a self-fulfilling prophecy. For example, if employers believe that women will quit more often than men, and act on that belief by not training or promoting women, women will respond by not remaining on the job very long. (Men would do the same if they were discriminated against in that way.) The policy intervention called for is affirmative action: force employers to give women the opportunity so that women can prove themselves.

(iv) The radical model

This model analyses discrimination in quite different terms from the first three. One adherent of this model, Reich [1977], sees racism and other types of discrimination as "rooted in the capitalist system". Racism, he says, enables capitalists to divide workers' strength and gain at workers' expense. His analysis "follows the Marxian paradigm in arguing that racial attitudes and racist institutions must be seen as part of a larger social system, in placing emphasis on conflict between classes and the use of power to determine the outcomes of such conflicts". To Reich and others, discrimination can be done away with only if the larger social system is fundamentally changed.

I see two problems with the radical model, one technical and one practical. The technical problem is that the model requires that capitalists work together as a class to practice discrimination. In my view, there are great difficulties in coordinating capitalists to behave in racist fashion and large incentives for any single capitalist to cheat and break away from any discriminatory coalition. The practical problem is that a fundamental change in social systems away from capitalism hardly seems to be in the cards at the present time. The world of today seems to be moving in quite the opposite direction.

In summary: Discrimination is pervasive in many Asian labour markets. Yet, the precise mechanisms by which discrimination is manifested at the market level need to be clearly articulated. What substitutions are made by employers? What adjustments by workers? How

do these interact with segmented job opportunities? Many theories have
been put forth in other contexts, but much still needs to be specified.

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