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Macroeconomic Adjustment and Growth

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Adjustment and the Labor Market

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How much have adjustment programs affected the functioning of the labor market — and how much does the labor market hinder adjustment? Fallon and Riveros report on recent experience in 23 countries.

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How has the labor market responded to changes in macroeconomic conditions and related government policies? (In particular, is the labor market a significant obstacle to successful adjustment policies?) And to what extent has government intervention affected the microeconomic functioning of the labor market?

Fallon and Riveros reviewed the recent experience of 23 developing countries to answer those two questions. Their conclusions:

Geographical immobility of unskilled or clerical workers does not seem to hinder adjustment. Labor is increasingly deployed in nontradables and import-competing sectors, however, and problems of mobility between tradables and nontradables are reported. In addition, shortages of trained manpower are common in most countries. Whether segmentation of the urban labor market causes problems is an issue that deserves further study.

There is little evidence of wage resistance where wage indexation is not institutionalized, but this subject bears further investigation. Wage differences have tended to widen in favor of expanding sectors, which suggests less than perfect labor mobility.

Traditional methods of wage support — such as minimum wage policies and nonwage cost regulations (including fringe benefits, medical insurance, and social security contributions) — have generally become less important in the last two decades. Where effective minimum wage policies exist, they have the expected distortionary effects.

Wage differences between the public and private sectors — particularly in sub-Saharan Africa — have continued to widen, and the efficiency of the public sector has declined as a result.

Job security regulations may be an obstacle to structural adjustment programs insofar as they hinder the release of labor from contracting sectors. Regulations of this kind could become more commonplace as governments seek to offset the job-reducing effects of recession, but no clear international trend in this direction has been discerned.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-061, extension 61762 (53 pages with tables).

Macroeconomic Adjustment and Labor Market Response.
A Review of the Recent Experience in LDCs

TABLE OF CONTENTS

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I. Introduction

The macroeconomics of structural adjustment confers a central role to labor market response, since the achievement of a real devaluation demands both real wage flexibility and intersectoral labor mobility. However, it is usually argued that the effectiveness of expenditure switching and expenditure reduction policies is mitigated by obstacles in the labor market. These obstacles result from segmentation, job security regulations, wage indexation, aggressive minimum wage practices and other institutional sources of rigidities. Hence, a central issue in applied research is to determine how influential are economic forces as opposed to institutional forces in affecting labor market adjustment.

Although several analytical models single out the likely important effect of distortions and institutions in terms of a costly adjustment process, little recent empirical evidence is available for LDCs. In fact, previous research work has dealt with wage indexation, minimum wages policies, distortive non-wage costs and institutionally segmented labor markets in a theoretical perspective [see, for instance, Fischer (1984), Edwards (1988), Lal (1985), Lopez and Riveros (1989)]. However, and in spite of their potential importance in assessing the stylized facts of labor market performance in the adjustment, comparative studies of recent LDCs' experience in the framework of imperfect labor markets are all but abundant.

This paper reviews the recent experience of 23 LDCs' labor markets on the basis of ad hoc country studies prepared for the World Bank.[1]. The aim is to provide a synthesis of the main conclusions in light of the major implications of standard macroeconomic models. Given the diversity both in labor market structure and in recent economic experience among LDCs, this review is necessarily selective in its coverage and concentrates upon two main questions as its main focus:

(a) How has the labor market responded to changes in macroeconomic conditions and to related government policies? In particular, does the labor market present a significant obstacle to "successful" adjustment policies?

(b) To what extent has government intervention affected the microeconomic functioning of the labor market?

The plan of the paper is as follows. In section 2 we briefly review the main macroeconomic trends experienced by the set of countries over the 1970s and first half of the 1980s. Section 3 explores some theoretical relationships between changes in domestic policies and the external environment upon the labor market. In section 4, we look at the labor market trends that have actually occurred and relate these as far as possible to the material provided by the country studies. In Section 5, we turn to some institutional aspects of LDCs' labor markets. Finally, a summary and conclusions appear as section 6.

2. The Macroeconomic Scenario

The growth performance of nearly all the countries in our sample has deteriorated significantly since 1980. The annual average growth rate of GDP, as shown in Table 1, was generally lower between 1980 and 1986 than during earlier periods in all countries except India and Pakistan. Most LDCs in fact started to run into difficulties of one kind or another following the slowdown in the world economy after 1973. In sub-Saharan Africa, for example, exports grew on average at only 1.1% p.a. during the 1970s as compared with an average rate of over 6% during the previous decade. This largely reflected a rather poor growth performance of the agricultural sector arising from a combination of terms of trade changes, an overvalued exchange rate, low agricultural pricing policies and often inadequate levels of public investment in rural

areas. Correspondingly, GDP in sub-Saharan Africa grew more slowly during the 1970's as compared to the 1960's. Similarly, Latin American countries were characterized in the 1970's by negative terms of trade changes and use of internal policies leading to pronounced overvaluation, heavy indebtedness and severe macro imbalances. In LDCs as a whole, the 1970's was a period of slower growth than the 1960's, although the slowdown was less pronounced in South Asia and Latin America than in sub-Saharan Africa. Growth rates actually increased in East Asia and the Pacific.

The secular slowdown in the growth rates of less-developed countries since the mid-1960's may be partly attributed to an increased tendency to concentrate resources in often inefficiently managed state owned enterprises, and to a gradual exhaustion of opportunities for import substitution. Moreover, the high degree of government intervention across the economy, coupled with an enlarged public sector, fueled persistent inflation and caused lack of flexibility to respond to a changing international environment. Most non-oil exporting LDC's also suffered a downturn following the oil price increase of 1973. The much sharper slowdown observed since 1980 was, however, much more closely related to the policy responses forced by a rapidly worsening balance of payments situation. In general, the main policy response has been to further limit imports, with generally adverse effects upon both domestic investment and the availability of intermediate inputs. Hence, progress in stabilization-cum-structural adjustment policies has been poor, especially in the areas of deregulation and fiscal deficits. Private investment has also been discouraged in some countries by a tightening of credit availability to the private sector and crowding out resulting from public sector policies. Most countries have had, however, markedly less success in reducing public sector deficits, partly because of difficulties in reducing real current and social expenditures and partly because of reduced

real revenues. The brunt of reduced public expenditure has therefore tended to fall upon public investment.

In 1980 almost all of our countries possessed a current account deficit (Table 1), the exceptions being the net oil exporters, Nigeria and Indonesia, who were enjoying the effect of the 1979 oil price hike at this time. The current account position of these two countries deteriorated very seriously in later years. Furthermore, in more than one third of our countries, the current account position suffered further deterioration in 1986.

There were three main causes of generally worsening current account deficits in most LDCs. The first of these was of course the oil price increase of 1979 referred to above. The second was that recessionary tendencies among the developed countries led to a fall in demand for primary products and a consequent decline in their terms of trade. This problem was further exacerbated by increased protectionism on the part of the developed countries which reduced access to their domestic markets. The third cause of growing deficits stemmed from increased foreign borrowing during the 1970's which was partly enhanced by policy-induced overvaluation. Before 1980, real foreign interest rates had been low or even negative. Restrictive monetary policies in the developed world from 1980 onwards sharply reversed this position and made it more difficult for indebted developing countries to service their debts. Foreign borrowing later became a much less available source of financing after 1982 as the debt crisis intensified and the United States developed its own rather severe current account deficit.

The terms of trade indices for 1970, 1980 and 1986 are shown for each country in Table 2. In every country except India and South Korea - both significant exporters of manufactured goods, the index declined between 1980 and 1986. Country-by-country experience varied considerably, however, during

the 1970's as a whole, depending upon the composition of imports and exports by commodity. The oil producers thus experienced a sharp improvement in their terms of trade over the 1970's, while Chile and Zambia -- countries whose main export, copper, has experienced a chronic fall in world demand -- suffered a correspondingly spectacular fall in their terms of trade. Nevertheless, although country experience varied during the 1970's, it is clear that between 1980 and 1986, most of the countries in our sample found that a given export volume financed less imports than before.

Table 2 also shows a sharp contrast in the behavior of country indebtedness over time. Among the African countries, total medium and long term debt grew relative to exports, Sudan, Tanzania and Zambia being the most serious examples. In Asia, we observe the opposite trend during the 1970s, although the debt/export ratio increased in all countries exept South Korea between 1980 and 1987. The debt/export ratio also rose in all of our Latin American countries. It does not necessarily follow, however, that a high debt/export ratio implies a high ratio of debt service to exports. The poorest countries such as Kenya, India and Sudan accumulated much debt via concessional borrowing in the form of low-interest, long-term loans, while countries with higher GDP per capita such as Argentina and Chile typically faced twice the interest rate and half the pay-back period. Half of our countries also rescheduled their debt between 1975 and 1984. For these reasons, the ratio of debt service to debt varied considerably among countries while the two ratios sometimes moved in opposite directions between 1970 and 1987. Thus, although Egypt, Mexico and Peru experienced an increase in their debt/export ratios over the period as a whole, their debt service ratios actually fell. Nevertheless the debt service ratios do confirm the conclusion that indebtedness was, with the exception of the Philippines, a less serious problem for the Asian countries by the early 1980's than it was a decade earlier.

It is convenient at this point to divide our sample of countries into three groups. The first group is essentially those countries which, faced with a deteriorating current account position at the end of the 1970's and with the subsequent drying up of sources of foreign borrowing following the debt crisis of 1982, have attempted to reduce domestic demand and have allowed a much more rapid exchange rate depreciation than in the preceding decade. The countries in this group include Kenya, Tanzania, Zambia, Philippines, Sri Lanka, Argentina, Bolivia, Brazil, Chile and Uruguay.

Even within this group, however, there are significant departures from the general picture. In Zambia, the crisis started off rather early when the world copper price fell by almost 50% in 1975. Chile and Sri Lanka embarked upon extensive trade liberalization programs in the 1970's which fostered higher growth in the second half of the decade. Both economies have nevertheless suffered during the recession of the early 1980's.

The second group of countries consists of the net oil exporters: Egypt, Nigeria, Mexico, Tunisia and Indonesia and countries such as Peru and Sudan with significant domestic oil production. These countries all either benefited or were less adversely affected by the 1970's oil price rises than other countries. Excessive government spending in Nigeria during the middle and later 1970's however, greatly exacerbated the Dutch Disease effects normally associated with an appreciating real exchange rate. The oil exporting countries were correspondingly adversely affected by the oil price slump after 1982.

Of these, Indonesia produced the most positive policy response to the 1982 oil price slump with a tightening of fiscal policy, a significant depreciation of the rupiah and reforms of both the financial and tax systems. Mexico also allowed a significant depreciation at the same time that the

country embarked upon a structural adjustment which included an opening up to foreign trade. In contrast, Nigeria given its fixed exchange rate policy and burgeoning public expenditure, ran into a severe current account deficit in the early 1980s. The Nigerian economy then went into recession when strong limitations were placed upon imports. Egypt and Sudan were perhaps less affected and Egypt has continued as before, to balance a substantial current account deficit against an inflow of foreign investment. Tunisia was in a somewhat similar position although the current account deficit was more severe and eventually import controls were imposed at the end of our period in 1985. Following heavy public spending from the mid-1970's onwards, Peru faced a deficit in its current account by 1981, which it financed by foreign borrowing. Its experiment with trade liberalization in the early 1980's was eventually abandoned in 1984, when the deficit became unsustainable amid other socialist policy practices. Finally, Sudan's external position has deteriorated in the face of growing public expenditure, much of it, as in Egypt, arising from subsidies to loss-making parastatals. There has also been a reluctance to allow sufficient exchange rate flexibility, severe droughts and more recently, declining terms of trade.

The third group of countries consists of Colombia, India, Israel, Pakistan, South Korea and Zimbabwe. Recent country experience is much more diverse here.

Neither India nor Pakistan have experienced the growing crisis observed in most LDC's. Although both countries have run significant fiscal deficits, the degree of deficit monetization has been limited. Pakistan enjoyed substantial foreign aid inflows and overseas worker remittances during the 1970's while both countries have been slowly liberalizing their initially highly protected economies during the 1980's. Unlike most other countries in

the sample, India and Pakistan have enjoyed faster economic growth in the 1980's then previously.

Columbia is a similar case in that she has not experienced a crisis like most LDCs. Although there have been some macro disequilibria -- the clearest example being a growing fiscal deficit -- inflation has been low and the openness of the economy remained high during the 1980s, thus allowing export promotion and a strong supply response to adjustment policies.

Israel is obviously a special case -- a country with large military expenditure financed, for strategic reasons, by its allies. In common with a number of the Latin American countries, Israel has experienced rapid infla given monetary expansion emanating from its fiscal deficit. The country has a per capita GDP that is much higher than that of any other country in the sample and is on a par with the poor West European economies. Israel has experienced, however, a slowdown in economic growth and increased foreign indebtedness after 1974.

South Korea is often taken as a model for today's LDCs given its prudent fiscal and monetary management and willingness to maintain a competitive foreign exchange rate in combination with export promotion policies. Unlike the other countries in our sample, South Korea has conducted a policy of consistent trade and financial liberalization from the early 1960's onwards. Although she has borrowed throughout most of the period to finance a current account deficit, the additional investment generated has allowed external debt to fall relative to both GDP and exports. South Korea has also experienced the most rapid industrialization of any country in the sample.

Finally, Zimbabwe is another special case. After the Unilateral Declaration of Independence in 1965, the economy grew rapidly for about a decade under a regime of import substitution compelled by trade sanctions.

The economy slowed down dramatically, however, as internal conflict intensified in the mid-1970's. Independence in 1980 brought an economic boom which petered out in 1982 as the authorities took measures to deal with a growing current account deficit. So far, the government has maintained the system of quantitative import controls introduced in the 1960's by the previous government.

3. Theoretical Considerations

As we have seen, the countries in our sample have experienced a wide range of variation in their terms of trade, in their real exchange rates, in the application of demand management policies and in the degree of trade protection applied. It is useful therefore to review briefly the labor market effects that may be anticipated in following standard macroeconomic theory.

We follow here, as a starting point, a simple model that divides the economy into three sectors, exportables (X), importables (M) and nontradables (N), with corresponding prices, P_X, P_M and P_N. In the short run version of the model, fixed amounts of capital are assumed to be specific to each sector, thus ensuring upward sloping supply curves under conventional assumptions. P_X and P_M are determined by world prices at the going exchange rate, while P_N is determined endogenously by domestic supply and demand. Total labor force and the state of technology in each sector are taken as fixed as a starting point. A key further assumption is that the ranking in descending order of labor intensity is X, N and then M. Although some of the results reported below depend critically upon this ranking, this would nevertheless seem to be a plausible ordering for a typical LDC. Finally, a competitive labor market is assumed with the wage rate, W, equalized across sectors.[2]

Consider first a deterioration in the terms of trade as given by, for example, a rise in the price of imports. As a result, production will shift

away from X towards M with a corresponding movement of labor, and given the sectoral capital stock, the real product wage in importables, W/P_M must fall while that in exportables, W/P_X must rise. The effect upon employment in the nontradables sector is, however, ambiguous, as the demand for nontradables may either rise or fall depending upon the strength of the income and substitution effects. The real consumption wage (the wage, W, divided by an appropriate cost of living index calculated from P_X, P_M, and P_N) will rise in terms of exportables and nontradables and fall in terms of importables. In a long run context, with a mobile capital stock, nontradables production may once again, either increase or decrease -- due to substitution in demand towards nontradables countered by a negative income effect derived from the deterioration in terms of trade -- while wages will decrease relative to all goods. As the predominant labor reallocation is towards the more capital intensive sector, there will also be a fall in aggregate labor demand.

The analytical implications are symmetric if one instead considers improving terms of trade arising from an increased export price, except that in the long run, there is a strong presumption that nontradable production will rise. Likewise, the case of an increased tariff is similar to that of a world importable price increase of equivalent amount, except that the negative income effect is less as the country retains the tariff revenue. In this case there is therefore a presumption that employment will increase in the nontradables sector with a corresponding fall in the real product wage.

The effects of a devaluation can best be handled by following the tradition of the 'Australian' or 'Dependent Economy model'[3] and collapsing importables and exportables into a single tradable[4] goods, T, with price P_T. The desired labor market effects would then be a reallocation of employment from nontradables to tradables, a rise in W/P_N, a fall in W/P_T and a fall in the real consumption wage. This last point is particularly crucial in this

context, since if real wages remain at their initial level, then the rise in wages induced by the increase in P_T will in turn push up P_N until the original real exchange rate (P_N/P_T) is restored. Essentially this result follows from the fact that given tastes, technologies and capital and labor endowments, the model determines unique values for the ratios, W/P_T and P_N/P_T in equilibrium. Although a devaluation will initially lower these ratios, these effects will be eroded by the clearing of consequent excess demands in the labor market and and nontradables sector, unless, of course, these markets are characterized by substantial excess supply at the outset. The conclusion is therefore that a devaluation must be accompanied by appropriate demand management policies such as increased public savings and tighter credit control.[5] However, the long term implication of this combination of expenditure-switching and expenditure-reducing policies for the level of the equilibrium real wage is less clear as this will depend upon the relative labor intensities of the two sectors. The lower demand for nontradables arising from expenditures reduction policies and the subsequent contraction of that sector will allow the real product wage in non-tradables to rise. The real product wage must still, of course, fall in tradables.

Turning now to the labor market effects of expenditure-reducing policies implemented in the absence of any corresponding switching policies, these will depend upon the nature of the rigidities that one believes to be relevant. If wages and P_N are entirely flexible, then after a transitional period in which increased frictional unemployment is likely to arise as labor is reallocated towards tradables, given a fall in P_N/P_T, the economy will gravitate back towards full employment. The real product wages, W/P_N and W/P_T will have risen and fallen respectively. [If, however, nominal wages are downwardly rigid, or more realistically given domestic inflation, their rate of increase fails to fall sufficiently like in the presence of wage indexation

schemes, then persistent unemployment is likely to occur.] Slow adjustment in the rate of change of money wages thus exacerbates the undesirable consequences of macroeconomic adjustment.

There are two further mechanisms by which expenditure-reducing policies may influence the behavior of real consumption wages. The first is simply that there may be a direct reduction in the rate of growth of public sector employment relative to that of labor supply. This should depress the labor market clearing level of the real consumption wage. The second is that consequent reduction in the level of domestic investment will lower both the rate of growth of the economy as a whole and the rate of increase in real wages. Real wage resistance will clearly raise transitional unemployment under these circumstances. This effect will be further exacerbated if import controls constrain production levels in some sectors by limiting the availability of intermediate inputs.

There are a number of qualifications that need to be added to this analysis before moving the discussion to the subject of actual labor market trends in LDCs.

(i) If labor supply grows more quickly than capital stock, as may well have been occurring in many LDC's over the past decade or so, then -- although the relative movements of real product and real consumption wages given various stimuli, should still be as described above -- there will be a further downward trend superimposed on their values corresponding to labor market clearing. This may be offset, however, by technical change which may in turn affect labor deployment across sectors. We would also anticipate growing structural unemployment associated with a lack of productive capacity.

(ii) The distinction between the modern and informal sectors has been ignored. If labor market rigidities in the form of real or nominal

wage resistance apply only to the formal sector, then this would suggest informal sector expansion as a plausible alternative to growing open unemployment. Moreover, in the presence of asymmetric wage indexation a segmented labor market may be associated with a slower supply response and with inequitable distributive results, thus likely affecting the credibility of macroeconomic adjustment programs (Lopez & Riveros, 1988).

(iii) We have assumed perfect labor mobility between sectors. In the absence of this we would expect intersectoral wage differentials to change over time between expanding and contracting sectors. This point is likely to be particularly relevant given the rural-urban relationship. In particular, we have assumed that labor is homogenous, while the existence of different skills, some of which may be specific to certain sectors, may have implications for wage differentials, and it may also impose direct limits on structural adjustment.

This admittedly rather short summary of the main labor market effects that one would anticipate given changes in domestic policy and the external environment does give us some insights into the trends that we would expect given an outline of a country's past macroeconomic history. Taking the most common historical pattern observed across the countries in our sample, the trend towards protection and import substitution observed prior to the mid-1970's should have depressed the growth of labor demand in the formal sector with a shift in employment towards import-competing sectors. Adverse movements in the terms of trade later in the decade would have exacerbated this effect. Real wage resistance, if present in the formal sector, would encourage both the shift into informal activities and possibly the development of open unemployment. Otherwise the rate of growth in real consumption wages

should have fallen, while the tendency to allow the real rate of exchange to appreciate would lead to a reallocation in employment towards nontradables. Stricter import controls and more austere demand management in the early 1980's would further curtail formal sector expansion, place downward pressure on real wages and give further impetus to the growth of the informal sector and open unemployment.

4. Labor Market Trends

4.1 Labor supply

Little emerges from our review that was not already fairly well known in connection with supply trends. The salient facts are as follows:

4.1.1 Population growth rates range between 1.4% (Korea) and 4.1% (Kenya) and are highest in the sub-Saharan African countries. There is no evidence of reduced population growth across the sample as a whole, and in a number of countries, e.g. Kenya, Nigeria, Tunisia, Zambia and Zimbabwe, growth rates have increased since 1965. Decreased mortality and an increase in the proportion of the population in the most fertile age groups are the main explanation for this last phenomenon. In the absence of specific policies, population growth rates are not expected to fall by much in the poorer LDC's during the remainder of this century and will rise in some of the poorest countries.

4.1.2 Labor force participation rates have either remained constant or declined over time. Among males, as in the developed countries, declining participation is mainly due to educational expansion. Among females, however, different trends are observed across

countries. The main determinants of the overall female participation rate are: (a) the urbanization rate -- female participation being higher in rural areas given greater opportunities for productive activity around the home; (b) the average educational level of the female labor force -- this work both ways: school attendance reduces participation among young workers but increases it once schooling is completed; (c) cyclical changes in labor market conditions -- here the evidence is that the discouraged worker effect dominates the added worker effect [Sanchez (1987) and Riveros (1987)]; and (d) socio-cultural attitudes prevailing in the country in question. Taking (d) as given thus suggests that the magnitude and direction of female participation rates over time is a function of changes in the first three variables. In countries such as those in sub-Saharan Africa, within which rural-urban migration has been very rapid, female participation rates have tended to fall. In countries such as Tunisia, Israel and Korea, where rural-urban migration has slowed down given less growth in urban job opportunities, the female participation rate has grown with increased secondary education.[6] Hansen (1985) also points out that in Egypt, movements in hidden unemployment are a likely source of observed participation rate variation. This is, of course, another argument suggesting procyclical variation in labor supply.

4.1.3 There is virtually no evidence presented anywhere in our sources of information about geographical labor immobility. All of the studies except for those on Egypt [Hansen (op.cit.)], India [Lucas (1986)], and Israel [Ben Porath (1985)], emphasize the importance of rural-urban migration as a major past source of urban population growth. Egypt and Sri Lanka are in a sense special cases here, as the bulk of

the rural population live near to urban areas thus rendering the rural-urban distinction somewhat obsolete. India is also somewhat unusual in that the rate of rural to urban population remained constant over several decades, while in Israel, net immigration has been the most important factor. There is unanimity in that the importance of economic motives is the main source of migratory movement and there seems to be little doubt that urban immigration flows have varied positively with expected urban-rural earnings differentials. There is evidence, however, in accordance with observed behavior in developed countries, that the propensity to migrate increases with education [see also Collier & Riveros (1987)]. Rural-rural migration flows are also examined in three cases: Indonesia [Manning and Mazumdar (1985)], Kenya [Fallon (1985)] and Sudan [Fallon (1987a)]. In all three countries these flows are considerably larger than those between rural and urban areas. Sudan presents a classic case here in that as much as 20% of the rural labor force may move across the country and back again in a given year responding to changing economic conditions in the areas of origin and destination.

4.1.4 The average level of schooling per worker has grown and continues to grow in every country except Israel. This has the effect of shifting labor supply towards urban areas. Provision of formal manual and professional training has, however, grown more slowly and it is precisely in these areas that labor shortages still occur.

4.1.5 International out-migration is, or has been, a significant feature in Egypt, Indonesia, Pakistan and Sudan. No common pattern can be attributed here to the effects of out-migration upon the domestic skill structure as the skill composition of emigrants depends upon

the structure of excess labor demand in the receiving countries. Thus in Pakistan and Sudan where out-migration is disproportionate among skilled workers, the result has been an exacerbation of domestic skill shortages, while in Indonesia, where emigrants were generally unskilled, this has not been the case.

There is some evidence consistent with the proposition that given a macroeconomic disturbance, unskilled labor will move reasonably freely from contracting to expanding sectors. In the case of Latin American countries, however, especially Chile, Colombia, and Argentina, sectoral shifts in production have been accompanied by labor market disruptions associated with poor labor mobility between urban tradable and nontradable activities due to segmentation. In fact, labor mobility between urban tradables and nontradables has been usually hindered by job security regulations and the existence of relatively high minimum wages covering mostly tradable activities.

In most LDCs, a problem that is sometimes raised is that rural to urban flows tend to be irreversible, thus making difficult a structural adjustment process aimed at shifting resources back to agriculture. There are, in fact, two types of evidence that may cast some doubt on the persistence of this problem: (a) circular rural-urban migration, both of a seasonal and of a longer term nature, has been observed in some countries, e.g. India and Kenya; (b) following the oil price slump, there has been very substantial return migration into the rural areas of Nigeria [Collier (1987), Collier & Riveros (1987)]. Unfortunately, similar phenomena are either nonexistent or have not been empirically substantiated in other countries.

4.2 Labor Demand

The broad picture that emerges in almost all of the countries is that during the 1970's, there has been a reallocation of total employment away from primary production and towards the secondary and tertiary sectors. Table 3 shows the sectoral shares of total employment for the countries in which regular labor force surveys are undertaken.[7] In virtually every case, the employment share of agriculture and mining has fallen while that of services has increased.[8] These results are also, with the exception of Bolivia, consistent with the proposition echoed regularly through the country studies, that employment has been growing more quickly in nontradables producing sectors.

Of itself, these results may reflect little more than the trends that one would expect on the basis of the patterns approach suggested by Chenery (1960). The failure of the share of manufacturing employment to grow consistently among the country sample could then be explained in this context by a faster labor productivity growth and the development of highly inefficient capital-intensive industries protected through several policy instruments. This type of explanation is investigated in considerable detail and broadly validated for Tunisia (Morrisson (1987)]. Here, however, as productivity growth in the manufacturing sector was not much faster than in other sectors, the share of manufacturing employment did, in fact, rise significantly over time.

Although the patterns type approach may be a useful way of analyzing long-term trends, there are two other explanations which are of undoubted importance. The first is that in most of the countries, public sector employment has grown disproportionately over the period. This has been particularly true in sub-Saharan Africa, Mexico and India, but has been of less quantitative importance where the share of public sector employment is

either relatively low or has expanded less than proportionately as in other parts of Asia and in some of the Latin American countries. Thus, since the public sector production is proportionately higher in services than in the private sector, public sector employment expansion tends to increase the share of tertiary employment. The other explanation is that, in the absence of mobile surplus resources, growing domestic absorption relative to productive capacity will tend to divert resources into nontradable production, as indeed, will increased expenditure following an export-price windfall as in the oil-exporting countries. The observed sectoral shifts in employment are thus also consistent with the macroeconomic history of most countries over the period, particularly in considering the currency overvaluation achieved by certain policy approaches in many LDCs during the 1970's.

So far, we have restricted the discussion to employment as a whole, i.e. wage employment, self-employment and unpaid household labor. Most of the country studies give specific attention, however, to the behavior of modern sector employment. Although the latter has no universal definition across countries, it usually refers to wage employment in enterprises over a given size (e.g. in India this would be establishments employing ten workers or more). Public sector employment, whether in central or local government or parastatals, is treated as being exclusively within the modern sector. Although modern sector employment is disproportionately large in urban areas, it would be incorrect to regard it as being exclusively urban. For example, in Kenya, modern sector wage employment is divided roughly equally between urban and rural areas.

Two common messages emerge regarding modern sector employment trends in LDCs. The first is that as with total employment, service sectors have tended to grow more quickly than others. Here, the rapid growth of the public sector is of considerable proportionate importance, particularly in countries

like Mexico, India, Argentina, Colombia and sub-Saharan Africa. The shift of resources towards nontradables production is thus reflected in the modern sector as well as in the economy as a whole.

The other common observation is that in the sub-Saharan African countries and in Asia excluding South Korea, modern sector employment growth is inadequate, even under the most optimistic assumptions, to absorb additions to the existing labor force. This has also been the case since 1980 in the Latin American countries, where, following the recession, modern sector employment has grown more slowly than previously, particularly among large and medium-sized enterprises. Since rural-urban migration continues at a significant rate in most countries -- Nigeria being a recent exception -- it follows that, unless there is a sufficient decline in the urban participation rate, either urban informal sector employment or urban unemployment or both must have been expanding rapidly.

4.3 Informal Sector Employment and Unemployment

The urban informal sector has been defined in a number of ways according to such different criteria as establishment size, the ratio of self-employed workers, and lack of coverage under existing labor regulations. To a large extent, these criteria tend to overlap rather heavily in practice, although the general consensus seems to favor the coverage criterion and this is the one implicitly used in this review.[9] The basic assumption is that the informal sector is characterized by free entry, and a neoclassical labor market, although since the sector is usually very heterogenous -- ranging from casually employed temporary migrants to self-employed workers earning more than their counterparts in the modern sector -- the former characteristic is only likely to apply to a part of the sector.

In general the overviews indicate a mixed response to either chronically inadequate or reduced modern sector employment growth. Riveros (1988c), based on PREALC/ILO data, has found a rather small increase in informal sector employment in most countries in spite of the large macro fluctuations experienced in the 1980's. There are nonetheless some differences among countries, depending upon how the urban informal sector is measured. For instance, in both Argentina and Brazil, the urban informal sector has been a major absorber of the increased labor supply during the 1980's while the open unemployment rate has failed to increase. In Chile, informal sector employment actually fell between 1981 and 1983 [Edwards (1986)], while the open unemployment rate nearly doubled over the same period. In contrast, Uruguay and Mexico have experienced a sharp increase in urban informal employment in the 1980s. which in the case of the former has been accompanied by an expansion in open unemployment [Riveros (1988a, 1988c)]. In Bolivia, the informal sector absorbed part of the shortfall not taken up by above normal public sector employment growth, unemployment remained almost static, and the participation rate dropped significantly. This last finding, while consistent with the discouraged worker hypothesis discussed earlier, should be interpreted with some care as it may suggest also an increase in hidden urban unemployment [Klinov (1987)].[10] However, Bolivia seems to be the only country in the sample within which this effect was strong enough to offset a major part of the expected imbalance between the growth of labor supply and modern sector employment.

Inevitably, the evidence for other countries in the sample is somewhat scanty given a lack of suitable time-series data. In the Sub-Saharan African countries there is little doubt that informal sector employment has been expanding very rapidly. In Kenya, for example, the informal sector doubled its share of total urban employment between 1973 and 1984. In

Zimbabwe, the urban informal sector was restricted prior to 1980 by government legislation regarding African urban residence, but it is believed that both informal sector employment and open unemployment have expanded rapidly since then. The open unemployment rate in 1982 was 10.8% in the economy as a whole and 18.5% when communal farmers (i.e. the population residing on designated native lands) were omitted. These rather high rates reflects substantially increased rural-urban migration since Independence and the relative underdevelopment of the informal sector. In Zambia and Nigeria the informal sector is much more developed and is now the major source of urban labor absorption. Open unemployment is of unknown but almost certainly huge proportions,[11] especially, as in the other LDC's, among young people with above average education. In Sudan there seems to be less point in distinguishing between the formal and informal sectors given a lack of institutional wage support and the depressed level of wages in the predominant public sector. There is little doubt, however, that non-wage employment must have been growing in urban areas given rural-urban migration following the drought. Egyptian labor markets also appear to be fairly non-dualistic with flexible wage rates outside the public sector, while in the latter, wages appear to have declined below those in the private sector [Hansen (1985)].

In most of the Asian countries, i.e. India, Indonesia, Pakistan and the Philippines, informal sector activities have, on the whole, expanded to fill the gap left by insufficient modern sector employment growth. It is only in the Philippines that open unemployment seems to have risen seriously in recent years, although as Riveros (1987) points out, growing underemployment is a much more serious problem and is related to increased overcrowding in the informal sector following the recession of the 1980's.

4.4 Wage Rates

4.4.1 Real Consumption Wages

In Table 4 we present some available information on rates of growth of real consumption wages in the formal sector for three periods: the mid-1960's to one year after the 1973 oil shock; the remainder of the 1970's and the early 1980's. Whenever possible, we have used the wage series for construction workers on the grounds that this is least affected by improved skill levels over time. The data for 1974/80 and 1980/84 in the six Latin American countries refer, however, to average manufacturing sector wages and are likely, therefore, to overstate the wage growth enjoyed by a worker of a given skill level. This effect is neverthelesss likely to be small. The urban consumer price index is used as the deflator in each country.

There are two main facts that stand out: (i) there is little prima facia evidence on downward real wage rigidity as often suggested by opponents of exchange rate devaluation. Nine out of the sixteen countries for which data have been presented have experienced a fall in real wages over one or more periods. A recent survey of real wage growth over a much wider range of LDC's, ILO (1987) has further suggested that in fact, since the early 1970's, real wages have fallen in most LDC's. The same evidence is pointed out by Riveros (1988d) with regard to real labor costs -- considering both wage and non-wage costs of labor -- in 21 LDCs (Table 7). Whether this observed trend is due to the pressure of market forces, or to institutional intervention, or to some combination of both remains a question to be discussed later in this paper. The broad picture across countries, is however, that real wages have tended to fall in sub-Saharan Africa and in some Latin American countries, but less so in South and East Asia. (ii) By and large, real wage growth has roughly followed that of GDP per capita -- a pattern consistent with the expected outcome of market forces. This does conflict with the predictions of

models based upon surplus labor such as that of Lewis (1954) unless one assumes that the observed variation in real wages over time is entirely due to changing institutional wage-setting practices and measurement error. In recent years real wages have tended to grow more slowly than GDP per capita which may, however, suggest some lessening of institutional wage support.

4.4.2 Inter-sectoral Wage Differentials

One would also expect to find some evidence of systematic changes in inter-sectoral relative wage rates over time. In Table 5, we show indices for the wages of agricultural workers relative to those in manufacturing and construction for nine of the twenty-one countries. Since the data consist of average wage rates it is not possible to standardize for changing skill composition of the different sectors, thus leading to a potential bias which is probably less serious for the agriculture-construction wage differential than for that of agriculture-manufacturing. The series also fail to take into account differences in rates of increase in the cost of living between rural and urban areas.

To interpret the series in Table 5 there are at least three factors that one must take into account: (i) that given some degree of rural-urban labor market segmentation, the agricultural wage should fall relative to that in other sectors during periods of rapid modern sector growth relative to that of agriculture; (ii) that the degree of institutional intervention regarding both modern sector and agricultural wages may change over time; (iii) that skill accumulation in agriculture is lower than in the modern sector thus leading to a fall in observed ratio of agricultural to modern sector wages. This latter effect may be offset, however, if, as is often argued, the propensity to migrate to urban areas increases as rural residents acquire more education and the disparity between urban and rural amenities widens.

The relative wage movements shown in Table 5 suggest a rather wide set of experiences. In Zambia, for example, agriculture has grown more quickly than the rest of the economy since 1974 and one observes a marked rise in the relative wage. In Zimbabwe, at first glance one seems to observe the opposite happening between 1974 and 1980 as the relative wage rose during a period when agricultural output fell at a rate of 9.7% per annum while GDP remained constant. This period was one, however, during which internal conflict intensified in rural areas and there was a substantial reduction in rural labor supply. As explained later, the rise in the relative wage in the early 1980's was due to the imposition of an aggressive minimum wage policy which raised average agricultural wages by much more than wages in other sectors.

In both India and Pakistan, agricultural growth was not far behind that of the rest of the economy prior to 1980, while the share of rural in total population has not declined as quickly as in most other LDC's. In Pakistan, real agricultural wages grew substantially during the 'Green Revolution' period of 1966-1973 [Ahmad and Stern (1985)], but fell again in the mid-1970's given irrigation problems and land reforms. Institutional wage support introduced in the early 1970's and the effect of emigration to the Gulf in the later 1970's then explain the subsequent rise in the agricultural wage relative to manufacturing during the 1974-1980 period.

In the case of Korea [Richardson and Kim (1986a)], the lack of effective institutional intervention in the labor market has been emphasized. The relative wage of agricultural workers relative to those in construction has not changed greatly over the period, thus indicating that the intersectoral wage differential for (say) unskilled labor has remained roughly constant. The period post-1975 was, however, one in which excess labor supply among the unskilled tended to disappear [Richardson and Kim (1986b)] thus

compressing unskilled/skilled wage differentials and allowing the agriculture-manufacturing wage ratio to rise.

In Sri Lanka, the liberalization attempt of 1977 included the freezing of agricultural prices, the abolition of import controls and tariff reductions. The agricultural sector has certainly grown more quickly since that time and this is presumably reflected in an increase in the agricultural wage relative to other sectors. The role of liberalization is also pointed out by Edwards (1986) to explain the behavior of inter-sectoral relative wages in Chile in the context of a dual sector model. Essentially the argument is that rapid public sector growth in the early 1970's had the effect of pulling up the free market wage. Liberalization of the protected sector following the fall of the Allende Government then had the effect of further expanding the wage differential, likely due to high urban unemployment. Devaluation of the exchange rate is important to explain the reduction in the wage differential in the 1980s.

Some puzzles nevertheless, remain. For example, the growth in agriculture in Kenya has not lagged much behind that of GDP; yet, in the absence of any discernible change in institutional wage-setting policies, the agriculture-construction wage ratio rose during 1974/80 as economic growth slowed, then fell again during 1980/84 as it slowed down even further. Similarly, we have no full explanation of the observed relative wage trend in Uruguay, although the slower decline in the demand for agricultural labor during 1980/84 is consistent with the increase in the relative agricultural wage during the period.

The evidence presented in Table 5 and the various studies suggests, however, that intersectoral wage differentials do respond to the forces of supply and demand in a fashion consistent with imperfect labor mobility between sectors. This is also reflected in overviews on countries for which

we cannot present relative wage series. In particular, the overviews for Brazil, Colombia, Egypt and Peru all argue that intersectoral differentials respond in a more or less traditional way to supply and demand disturbances. This is not to suggest, however, that intersectoral shifts always operate smoothly. Riveros (1986) finds evidence for example, that sectoral shifts between urban tradables and nontradables sectors in Chile during the mid-1970's were subject to sufficient friction so as to significantly increase structural unemployment.

The essential point is, however, that structural adjustment policies aimed at reallocating labor between at least rural and urban areas should allow for a consequent rise in the wage paid in expanding sectors. In the extreme, where labor markets are totally segmented this will act as a real obstacle to the success of such policies. There is little evidence for this, however, with respect to unskilled labor anywhere in the overviews. The main qualification to these arguments arises when it is desired to expand sectors covered by wage-supporting regulations as such expansion should be possible without any further need to raise wages.

4.4.3 Real Product Wages

As noted earlier, exogenous shocks such as changes in terms of trade, tariff adjustment and exchange rate adjustment are all expected to influence equilibrium employment levels in different sectors through changes in real product wages. The annual rates of change in the latter are given, where possible, in Table 6 for agriculture, manufacturing and construction for the three periods examined (Table 6).

It is reasonably clear that historically, the movement of real product wages has not been dominated by a causal process in which changes in tradable goods prices lead to changes in real product wages in the opposite

direction in tradables producing sectors. In fact, the data presented in Table 6 suggest that the changes in real product wages in agriculture relative to those in other sectors almost always move in the same direction as the wage ratios presented in Table 5. This would suggest alternative explanations. One is that institutional determination of wage levels may have been important. Another is that changes in the sectoral composition of labor demand are more related to adjustments in quantity constraints on product supply or changes in non-labor input prices, than to exogenous price shocks.

5. Institutional Aspects of Labor Markets

There can be no question that labor markets in LDC's have at various times been subject to a wide range of institutional influences related to the practice of certain labor standards.[13] Such influences include government regulations regarding pay and other employment conditions in the private sector, public sector pay and employment policies, and the labor market impact of regulations on job security and non-wage costs of labor. These policies and labor market institutions are important in a macro-context in terms of their potential implications for stabilization and exchange rate policies[14] and in a micro-context for their effects upon the efficiency of resource allocation. We review the evidence on each type of policy over the rest of this section.

5.1 Wage Policies

These are essentially of two types: minimum wages (MW) regulations and income policies. The two differ in that the former only regulate the wages of the lowest paid while the latter represents an attempt to control the pay structure as a whole through government guidelines and direct intervention

in collective bargaining. As income policies are generally rarer in LDC's[15] our discussion concentrates mostly upon the evidence regarding MWs.

The main expected effects of an effective MW policy are:

(i) If such policies lead to economy-wide real wage indexation, then nominal exchange rate adjustment may be unable to change the real exchange rate, while expenditure reducing policies directed at improving an existing current account deficit may only do so by increasing unemployment.

(ii) An effective economy-wide MW will create unemployment. If, more realistically, such regulations only apply to a particular sector (i.e. the modern or covered sector), then employment in that sector is likely to fall, labor supply in total will increase, and one would expect some combination of increased informal sector employment at a lower wage, increased unemployment and quasi-voluntary unemployment. These effects are analyzed in Mincer (1976) and in Lopez & Riveros (1989). Effective minimum wages thus lead to efficiency losses both through higher unemployment and through the fact that marginal rates of substitution between inputs diverge across sectors.

(iii) The imposition of an effective MW may be expected to raise the real exchange rate, defined here according to the price of nontradables relative to that of tradables, as formal nontradables-producing sectors will find it easier to pass the wage increase on in the form of higher prices than tradables-producing sectors.

(iv) MWs should normally lead to a compression of skill differentials between skilled and unskilled labor. If however, wage differentials are maintained by collective bargaining, the employment levels of both skilled and unskilled workers may fall within the modern sector.

In general, an increase in MWs is expected to increase the relative share of the unskilled in total unemployment.

(v) Employers may become less willing to offer specific training if they find it less profitable to allow wages to rise with experience [Collier and Lal (1986)].

(vi) Indexed MWs exert an upward pressure on nominal average wages and hence inflation, thus being a potential source of macroeconomic instability [Paldan and Riveros (1987)].

The problems in assessing the impact of MWs are well known. One difficulty is that simple comparisons between unskilled and minimum rates are hard to interpret as average unskilled rates will generally be above the latter even if the minimum rate has raised wages at the lower tail of the distribution. Usually, however, one can judge a minimum rate as ineffective if the gap between actual and minimum rates is large enough and this is indeed the implicit procedure followed in most of the country studies. Nor can the presence of surplus unskilled labor be taken as a definite indicator, as it may be that an efficiency as opposed to a market-clearing wage would prevail in the absence of MW legislation. On the other hand, the effect of MWs in creating both discouraged workers and open unemployment is normally overlooked when making simple statistical comparisons [Riveros & Paredes (1988)]. Finally, there is also the question of the direction of causality between MWs and average wages and inflation. In India, for example, it is generally believed that minimum wage setting bodies simply fix the minimum at around the lower end of rates actually being paid. Paldam & Riveros (1987) have employed statistical causality tests to minimum and average wage series for six Latin American countries. They conclude that there prevails a weak causality from MW's to average wages in Argentina and Peru while the link is much stronger in Chile, Colombia and Mexico.

Two central points emerge very clearly from a review of country studies. First, that the aggressiveness of MW policies has clearly been declining over time. This is strongly suggested by Fallon & Riveros (1986) and Schultz (1987) who both show that MWs have been declining relative to agricultural labor productivity since the mid-1960's over a wide range of LDC's. Other measures such as the minimum to average wage ratio display a similar trend [Starr (1981)]. Second, that it is only in a few countries where MWs have recently been set at anything like effective levels. Here recent examples include Argentina and Zimbabwe, although there is evidence of effective minima in Chile, Kenya, Tunisia and possibly the Philippines in earlier years. It also appears that MW's have been set at effective levels in Peru, although Suarez (1987) shows that enforcement was clearly less than universal as a sizable proportion of wage employees (30%) received wages below the minimum.

The macroeconomic effects of minimum wage policies are most fully addressed in the overview on Argentina by Sanchez (1987), although wage support in Argentina used a wider range of instruments than MW's. Essentially, the results of the high wage to exchange rate policy were exactly as expected -- prices in the import-competing industries were maintained by trade policies such as tariffs. Sanchez argues that the high wage to exchange rate policies has seriously distorted the composition of production within the economy towards the nontradables sector. Unemployment has not, however, been a serious problem in Argentina, partly because of public sector growth and partly because labor supply has not been growing as quickly as in other LDC's given an aging population. An opposite argument is that provided by Solimano (1987) with regard to Chile, where he concluded in the existence of a significant positive effect of MWs on aggregate demand and output.

The impact of MWs upon employment levels is most thoroughly investigated in the overview on Zimbabwe by Fallon (1987b). Shortly after independence in 1980, the government introduced a MW with virtually universal coverage. By projecting forward a wage equation fitted over earlier years, the author was able to compare actual with predicted wage rates during the 1980's: the difference between the two being a measure of the wage-raising effect of the minimum wage policy. As expected, the sectors most affected were those with proportionately the most unskilled labor, i.e. agriculture, mining and domestic servants -- agriculture showing a 42% difference between the actual and the expected wage when the policy was at its most aggressive in 1982. Nevertheless, with the exception of financial services and, rather surprisingly, construction, all sectors experienced a proportionate wage deviation of 15% or more. However, when the employment effects of the policy were calculated using estimated labor demand functions, it was only in agriculture that a substantial employment decrease of about 18% could be attributed. In the modern sector as a whole, the estimated wage-raising effect of 17% only translated into an employment reduction of around 4%. In almost all sectors, however, the estimated labor demand equations indicated far from perfect employment adjustment over a one year period, thus suggesting that in Zimbabwe at least,[16] the employment effects of a MW policy are likely to be spread over several years.

There is little evidence of the effects of MW policies upon wage differentials by skill. Macedo (1985) discounts MW policies as the cause of narrowing skill differentials in Brazil between 1973 and 1984. In common with most other discussions of skill differentials in the overview series, he attributed their movement over time to simple supply and demand effects: the unskilled wage being set by an approximately perfectly elastic supply of unskilled workers while the skilled wage fell given faster growth of skilled

workers relative to demand. Paldam & Riveros (1987) also failed to find any evidence that Mw's had any significant effect in compressing the wage structure in some Latin American countries. Zimbabwe, however, presents a rather different case in that since the beginning of 1982 the government has introduced a graduated scale of permitted wage increase which allows progressively smaller pay raises for those higher up the wage ladder. When taken in conjunction with the minimum wage policy this should have led to an ongoing compression of wage differentials over time. Although these effects were clearly evident in the public sector, it appeared that up to 1985, private sector employers had managed to circumvent the salary controls by suitable job redefinition. This does indicate, however, that skilled workers are not in excess supply in Zimbabwe -- a theme that is consistently repeated throughout several country studies.

5.2 Public Sector Pay and Employment Policies

The public sector -- here defined as central government, local government and parastatals -- accounts for a sizable share of total non-agricultural employment in most LDC's. Among the countries in our sample this proportion is at its lowest (16%) in South Korea and at its highest (85% and 81%) in Sudan and Zambia respectively. In most countries, central and local government account for the bulk of the total, Sri Lanka is one notable exception.

None of this would be of any special relevance if public sector pay were determined by labor market forces and public sector employment according to cost-minimizing objectives based upon appropriate shadow prices. The problem is, however, that historical experience indicates that they are not. There is clear evidence that public sector wages have been set at various

times both above and below those in the private sector, while employment levels have been influenced by non-economic objectives.

Assuming that it is possible to impute appropriate social valuations to different government services, then two main distortions may arise if governments set public sector wage and employment policies according to non-economic objectives -- namely a wage rate and a marginal social value product not equal to those elsewhere. The essential point here is that if the government follows a decision rule based upon, for example, a fixed budget constraint, then wage rates and marginal social value products will not be equated in the public sector. Thus for example, setting public sector wages equal to those in the private sector will not automatically equate marginal value products in the two sectors.

Two cases may briefly illustrate this. In the first case, suppose that the public sector wage is equated to that in the rest of the modern sector but that its marginal value product is lower. The obvious remedy would be for the government to cut its employment levels thus permitting a transfer of labor to the sector with the higher marginal productivity. Given a fixed budget constraint[17] this may permit, however, a higher public sector wage thus exacerbating any existing problem of excess labor supply. The other and more typical case is where wishing to reduce expenditure, the government cuts wages while maintaining employment levels. If public sector wages were initially above those in the private modern sector, then this will have the beneficial effect of reducing excess labor supply. If, however, wages fall below those in the private sector then morale and general staffing problems are likely to be observed among public sector employees.

There is a distinct pattern to the recent evolution of public sector wage and employment policies in some of the countries in our sample. This is observed essentially in those countries which have attempted to reduce public

expenditure in the fact of balance of payments difficulties. Our conclusions here are essentially the same as those drawn earlier by Lindauer, Meesook and Subsaeng (1988) in relation to a number of African countries, namely:

(i) The real value of public sector wage rates has fallen dramatically over the past decade. This is perhaps seen most clearly in the case of Sudan where the real wage of an unskilled worker in the public sector more than halved between 1975 and 1982. Substantial real wage decreases are reported in the overviews for the Philippines and Zambia, while substantial declines have been reported elsewhere by Lindauer et.al. (1988).

(ii) There has been a systematic compression in wage differentials within the public sector over the same period. In Sudan, for example, the pay differential between a deputy undersecretary and an unskilled worker has more than halved since 1975. This pattern has been repeated elsewhere in sub-Saharan Africa, and in the Philippines.

(iii) Public/private sector wage differentials have certainly narrowed considerably over the years and private sector employees are now typically better paid. This is, for instance, evidenced in many Latin American countries, like Uruguay, Mexico and Argentina.

(iv) Public sector employment has usually been growing faster than that of the private sector as, for instance in Mexico. Public sector expenditure cuts usually have relied therefore exclusively on pay as opposed to employment reductions.

The main consequences of these policies in the countries affected seem to have been much as expected. Where alternative job possibilities exist as in Sudan where positions abroad are available for some classes of workers, there is evidence of increased voluntary turnover from the public sector thus leading to shortages of certain types of skilled labor. Casual evidence

suggests that moonlighting is common in some countries in sub-Saharan Africa, although given the low level of efficiency now prevailing in the public sector throughout much of the region, this presumably improves sectoral labor allocation.

This pattern typically has not been observed in countries facing less daunting economic circumstances. There is certainly no clear presumption regarding the sign of the public/private wage differentials: wages being above those in the private sector in Indonesia and about the same in Sri Lanka. Both of these comparisons are based, however, upon wages of roughly comparable worker grades rather than upon estimated earnings functions. Analyses of the latter type do not find a consistent pattern across different countries. Similarly, although overstaffing is a key feature of the public sector in Egypt, this is much less pronounced in South Asian countries such as India or Sri Lanka.

5.1.3 Job Security Regulations

In general, there are three relevant aspects of job security regulation (JSR) regarding its actual effect: (a) the period of notice required; (b) the formula by which compensation for non-disciplinary dismissal is determined and; (c) government permission requirements. The main anticipated effects of increased dismissal costs imposed through any combination of these three mechanisms are:

(i) Individual worker productivity may be impaired because of less worker effort, greater cost of dismissing recently hired workers who prove unsatisfactory and a greater use of temporary labor. For given wage levels, the cost per efficiency unit of labor is increased thus giving firms an incentive to adopt more capital intensive techniques. Thus although initially JSR may have employment preserving effects,

employment levels may fall below their pre-JSR desired levels as firms hire fewer workers.

(ii) Firms will become less flexible in their adjustment to changing market conditions. This may apply to both employment and output levels.

(iii) Wage rates may fall as greater job security is imposed upon employment contracts. If, however, the original contracts were optimal,[18] then the imposition of additional job security will reduce profit levels.

Riveros (1988d) has reviewed JSR in a large number of LDCs lending particular attention to the enforcement of the three aspects mentioned above. He produces a ranking in which Argentina, Colombia, Mexico, Portugal, Greece and India are the countries identified with heaviest JSR. The opposite is found in Korea, Hong Kong, Singapore and Nigeria. In general, there appears to exist a high correlation between highly export-oriented economies and existence of light JSR.

The effects of JSR are reviewed to some degree or another in the cases of Brazil, Chile, India, Peru, Mexico, Sudan and Zimbabwe. Tough JSRs are not, of course, confined exclusively to these countries and have emerged in other parts of Latin America and in both Western and Eastern Europe.

In terms of the regulations employed these appear to have varied considerably across countries. In Sudan legal compensation is six months' pay plus one month's paid notice unless the employer can satisfy the authorities that the worker has committed one or more from the series of prescribed offenses. In Mexico, the total compensation is three months plus about a month per year of service. In India the worker is entitled to one month's notice in writing and fifteen days' compensation for each year of service. In

contrast, in Zimbabwe the worker is entitled to only between one day and one month's pay as compensation and the same period of notice, the period being determined by the pay interval and the worker's length of service. Both India and Zimbabwe have recently experienced, however, the introduction of the need for employers to obtain government permission prior to retrenching or laying-off permanent workers. In India this regulation applied between 1976 and 1982 to all manufacturing and mining establishments employing three hundred or more workers and has applied since 1984 to all establishments in the same sectors employing one hundred or more workers. In Zimbabwe, every undertaking, industry, trade or occupation is covered by the regulations with a few, very minor exceptions. Both Brazil and Chile present examples of countries in which JSR was alleviated. In both cases, the authors [Brazil - Macedo (1986) and Chile - Riveros (1986)] argue that the effect of the deregulation was to allow firms to adjust manning levels given changing levels of wage indexation. This is the precise opposite of what happened in Zimbabwe, where JSR was introduced to prevent employers from reducing their work forces in the face of higher minimum wages. In Chile, however, Riveros notes that given uncertainties about the future state of job tenure laws, employers displayed a reluctance to hire during the 1973/79 period and tended to adopt labor saving technologies.

Fieldwork carried out in relation to the effects of the JSR in India and Zimbabwe indicated that employers were increasingly reluctant to hire workers. In India, the option of taking on temporary staff was generally not viable, partly because of restrictions imposed by other existing labor laws and partly because the use of temporary labor is hotly opposed by trade unions. Employers in both countries indicated a greater willingness to employ more capital intensive techniques although opportunities for this are, at present, limited in some sectors in Zimbabwe because of currently tight

foreign exchange availability. There was also evidence in India of firms resorting to illegal closures and delaying subsequent legal proceedings while gambling on the serious possibility of the existing law being declared unconstitutional.

Suarez (1987) is largely ambivalent about the effects of JSR in Peru. There does seem to be evidence, however, that JSR has led to an increased tendency to use temporary workers and may have hampered attempts at liberalization by reducing labor mobility. Similarly, JSR in Mexico have been an important stumbling block for the success of the industrial restructuring derived from the opening up of the economy [Riveros (1988c)]. Likewise, the effect of substantial financial contributions to a severance payments fund, has significantly increased the non-wage cost of labor in Colombia, thus harming employment growth.

Another institutional labor market aspect refers to non-wage cost regulations (NWC), such as fringe benefits, medical insurances, social security contributions, bonuses, etc. Riveros (1988d) has studied this issue in 21 LDCs, the main conclusion being that governments have not attempted to further intensify such regulations during the late 1970s and the 1980s. In general, and despite the wide dispersion seen across countries, the distortive effect of NWC -- as measured against the per-capita income -- has tended to diminish in time (Table 7), the only exception to this pattern being Colombia. This is also complemented by evidence indicating that total unit cost of labor have also generally decreased during the 1980s. Hence, as in the case of MW regulations, the evidence seems to indicate the existence of a deregulatory trend through time across LDCs.

6. Conclusions

There seem to be five main conclusions that emerge from this survey:

(i) Shifts in labor allocation across sectors in the light of macroeconomic policy change and changes in the external environment are much as those predicted by standard theory. The general pattern here is that labor has been increasingly deployed in nontradables and import-competing sectors. There is little evidence that geographical immobility of unskilled or clerical labor constitutes a serious barrier to the achievement of macro strategy. However, problems of mobility between urban tradables and nontradables are reported, while shortages of trained manpower are common in most countries. The actual role of urban labor market segmentation in making the process of adjustment difficult is an issue deserving more applied research.

(ii) Both real consumption wages and intersectoral wage differentials have behaved also as suggested by standard theory in country and over time periods where the effects of institutional wage intervention could be regarded as unimportant. There is little direct evidence of real wage resistance in the absence of institutionalized wage indexation -- as would be suggested by various versions of efficiency wage theories. However, this subject could certainly bear more investigation. Wage differentials have tended to widen in favor of expanding sectors, thus suggesting less than perfect labor mobility.

(iii) Traditional methods of wage support such as minimum wage policies and non-wage cost regulations have generally become less important over the last two decades. Where effective minimum wage policies are or have been present, they have nevertheless had the expected distortionary effects.

(iv) This review has supported and further underlined previous concern regarding recent trends in public sector pay and employment policies in sub-Saharan Africa. There seems little doubt that public/private

sector wage differentials are being allowed to widen with adverse consequences for public sector efficiency.

(v) Job security regulations may present a definite obstacle to structural adjustment programs insofar as they hinder the release of labor from contracting sectors. It is plausible that regulations of this kind would become more commonplace as governments seek to offset the employment-reducing effects of the recession. However, no clear international trend in this direction can, as yet, be discerned.

ENDNOTES

1 These country studies were prepared between 1985 and 1987, and they all remain unpublished. The countries covered are: (Africa) - Egypt, Kenya, Nigeria, Sudan, Tanzania, Tunisia, Zambia and Zimbabwe; (Asia) - India, Indonesia, Israel, Pakistan, Philippines, South Korea, and Sri Lanka; (Latin America) - Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Peru and Uruguay.

2 This model is developed in Edwards (1988). We discuss later the effects of relaxing some of the basic assumptions made for this presentation.

3 Origins of those models are found in Meade (1951) and Edgren, et.al. (1969). Aukurst (1977), Calmfors (1977) and Lindbeck (1979) developed the 'Scandinavian' version. Standard expositions of this model are given by Prachowny (1984), Bruno (1976) and Corden (1977).

4 As the tradables sectors may produce a wide range of products with a wide range of relative labor intensities, it would be unwise to generalize about which of the tradables or nontradables sectors is the more labor intensive.

5 This is obviously a restatement of the standard argument that an expenditure switching policy must be combined with an expenditure reducing policy given full employment. Here we are assuming that contractionary effects of a devaluation are relatively small. Examples of such effects are a real balance effect arising from a reduced value of liquid assets, redistribution towards groups with a higher marginal savings propensity and reduced spending given higher nominal external debt in domestic currency.

6 It should be noted, however, that as female participation rates are everywhere less than those of males, their movements often exert only a minor influence upon the total labor force participation rate as a whole.

7 Although employment information is available for most of the other countries in the sample, this is restricted either to modern sector wage employment or to urban areas.

8 Evidence on manufacturing employment trends for various LDCs indicates that employment absorption has been low and even negative in some countries especially in Latin America.

9 We may note that the coverage criterion is not a necessary condition for labor-market dualism. For example, if efficiency wage considerations apply differentially across sectors due top differences in specific training costs then intersectoral wage gaps will appear that cannot be eliminated by market forces. See, for example, Stiglitz (1973).

10 Nevertheless, the observation that the participation rate declines in the face of reduced job-finding probabilities in the modern sector and

falling informal sector wages is fully consistent with the predictions of standard models in the literature such as that of Mincer (1976).

11 Official government estimates claim that unemployment rates among young people are of the order of 60% or above. These estimates appear, however, to be derived residually by subtracting urban modern sector employment from estimated urban labor force.

12 Here we assume that the difference in the rate of technical progress between the agricultural sector and the rest of the economy is constant across different periods.

13 There are various aspects under the general concept of labor standards, thus covering regulations on children's work, right to periodic rest periods, work safety, etc. We will concentrate ourselves in the aspects more relevant to consider the labor market response to macro adjustment.

14 Naturally, all these labor-protective instruments cover the urban formal sector of the labor market. As often argued, they usually deal with a relatively small proportion of the total employment and create certain inequitable results in the context of macroeconomic policies.

15 One exception to this respect is Nigeria.

16 Labor demand functions have also been estimated using time series data in other LDC's. These usually indicate substantially less than perfect employment adjustment. For other examples from the overview series, see Lucas (1985) and Riveros (1988d).

17 A detailed analysis of government wage and employment behavior under a fixed budget constraint is given in Lindauer (1985).

18 Here we refer to an (internal) Pareto optimum between employers and unions such as, for example, at a Nash bargaining solution. The imposition of greater JSR must therefore lower employer utility (profit) if the level of union utility is at least maintained.

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APPENDIX

Table 1

Average Annual Percentage Growth Rate of GNP
and Ratio of Current Account Surplus/Deficit to GNP

	Growth Rates			Current Account/GNP (%)		
	1966-74	1974-80	1980-87	1980	1983	1987
Egypt	2.9	9.4	5.3	-11.4	-5.2	-4.8
Kenya	7.4	5.2	2.9	-13.1	-0.8	-6.4
Nigeria	9.6	2.7	-1.9	6.8-	4.9	-1.6
Sudan	1.3	5.3	-1.4	-7.8	-6.4	-5.2
Tanzania	4.8	2.7	1.6	-1.7	-4.2	-4.5
Tunisia	6.9	6.4	3.3	-4.3	-7.4	-0.7
Zambia	3.4	0.4	-1.1	-16.8	-8.7	1.2
Zimbabwe	7.7	0.5	2.2	-5.4	-7.8	0.9
India	3.7	4.6	4.8	-1.9	-1.1	-1.5
Indonesia	8.1	7.1	4.1	4.3	-8.2	-2.8
Israel	9.2	3.6	2.0	-3.6	-7.2	-3.0
Pakistan	5.1	5.8	3.1	-3.6	-0.7	-1.0
Philippines	5.9	6.2	2.4	-5.6	-8.1	-1.6
South Korea	9.2	7.2	8.8	-8.5	-2.1	8.3
Sri Lanka	4.4	5.4	3.7	-20.7	-9.3	-5.8
Argentina	4.6	1.8	-0.4	-8.6	-4.1	-5.6
Bolivia	4.4	2.5	-2.7	-0.23	-2.3	-11.6
Brazil	10.3	6.4	3.3	-5.2	-3.5	-0.4
Chile	2.1	3.4	-0.1	-8.5	-6.2	-4.7
Colombia	6.5	4.9	2.4	-0.7	-7.9	0.8
Mexico	7.6	6.2	0.6	-5.3	3.9	2.8
Peru	4.5	2.2	1.5	-0.6	-4.6	-4.3
Uruguay	1.3	4.8	-1.8	-8.7	-1.2	-1.7

Sources: World Tables (4th Edition), The World Bank (1987). World Bank Atlas, 1988, BESD.

Concepts used are: GDP at factor costs, Current Account Balance and GNP at market prices.

Table 2

Terms of Trade Indices, Debt[1]/Exports and Debt Service/Exports Ratios

	Terms of Trade (1980=100)		Debt/Exports (%)			Debt Service/Exports (%)	
	1970	1986	1970	1980	1987	1970	1987
Egypt	89	76	183	180	343	37	15
Kenya	92	100	80	170	342	9	34
Nigeria[2]	23	44	40	32	369	7	12
Sudan[2]	148	70	94	484	1562	11	7
Tunisia	64	81	164	91	182	18	26
Zambia[2]	314	69	66	200	670	6	14
Zimbabwe	178	86	57	46	152	2	23
Tanzania	107	104	85	375	966	5	18
India[3]	159	127	364	128	238	23	22
Indonesia	32	64	256	94	270	14	33
Israel	143	96	189	179	191	7	25
Pakistan[3]	117	103	383	209	243	21	18
Philippines[3]	176	101	113	212	318	23	25
South Korea	161	111	146	131	72	20	27
Sri Lanka	132	96	86	123	225	11	17
Argentina[3]	139	80	241	226	661	52	521
Bolivia[3]	69	46	241	260	897	13	22
Brazil[3]	187	125	165	303	432	22	33
Chile[3]	237	77	202	193	327	24	26
Colombia	61	98	161	117	220	19	33
Peru[3]	131	66	215	207	503	40	13
Uruguay[3]	197	99	104	104	256	24	26
Mexico	108	66	203	233	363	44	38

Notes:

1 Debt is medium and long-term public and private debt outstanding and disbursed.

2 Country rescheduled debt.

Sources:
World Tables (op.cit.), and Debt Tables, 1988-89 edition, and World Development Report (1988).

Table .

Shares of Total Employment by Sector, Circa 1974 and 1985-87

		Agriculture and Mining	Manufacturing	Construction & Electricity, etc.	Services
Egypt	1974	0.48	0.15	0.03	0.34
	1985	0.41	0.15	0.06	0.38
Tunisia	1975	0.39	0.17	0.10	0.32
	1982	0.33	0.22	0.11	0.34
Indonesia	1976	0.66	0.07	0.02	0.25
	1986	0.55	0.08	n.a.	0.37
Israel	1974	0.07	0.25	0.09	0.59
	1987	0.05	0.23	0.06	0.66
Pakistan	1974	0.58	0.12	0.04	0.26
	1983	0.53	0.13	0.06	0.28
Philippines	1974	0.56	0.10	0.03	0.31
	1987	0.49	0.10	0.04	0.37
South Korea	1974	0.49	0.17	0.04	0.30
	1987	0.23	0.27	0.06	0.44
Bolivia	1974	0.52	0.09	0.05	0.34
	1987	0.50	0.07	0.02	0.41
Brazil	1976	0.36	0.16	0.07	0.41
	1986	0.26	0.16	0.08	0.50
Chile	1975	0.25	0.17	0.05	0.53
	1987	0.23	0.15	0.06	0.56

Note:
Total employment includes wage employment, self-employment and unpaid household labor.

Source:
ILO Yearbook of Labour Statistics, 1988 and various earlier editions.

Table 4

Annual Average Percentage Changes in Real Consumption Wages

	1963-74	1974-80	1980-84	1984-87
Egypt	1.5	3.1	n.a.	n.a.
Kenya	6.1	2.4	-4.6	-4.0
Nigeria	-	-1.4	-9.2	n.a.
Zambia	1.8	-1.1	-10.0	n.a.
Zimbabwe	2.1	1.2	2.7	9.5*
Tanzania	-1.6	-5.5	2.8	n.a.
India	-4.1	0.8	2.6	n.a.
Israel		1.7	1.5	6.9
Pakistan	2.2	1.9	5.8	n.a.
South Korea	6.8	13.3	1.8	3.2
Sri Lanka	1.8	4.0	-6.1	5.8
Argentina	0.6	-4.2	2.9	-8.8**
Brazil	n.a.	3.5	1.3	n.a.
Chile	1.9	9.9	-0.7	-3.6
Colombia	0.1	1.9	3.7	0.4
Mexico	n.a.	0.5	-2.0	-3.9*
Peru	0.6	-3.5	-8.6	10.4
Uruguay	0.4	-4.3	-4.1	4.5

Notes:

Latin American countries (1974-1980): average manufacturing sector wages deflated by CPI. Other countries: wage of construction workers deflated by CPI. For 1984-87, Argentina and Colombia: average manufacturing sector wages deflated by CPI.

* 1984-85
** 1984-86

Sources:

Latin American Countries: data taken from Riveros (1980c). Other countries and years: ILO Yearbook of Labour Statistics, 1987 and various issues.

Table 5

Relative Wage Rates (1965=100)

		1965	1974	1980	1984	1986
Kenya	A/M	100	67.3	89.1	80.3	74.7
	A/C	100	81.1	107.2	96.7	92.5
Zambia	A/M	100	113.4	137.5	146.4	n.a.
	A/C	100	108.3	120.2	115.8	n.a.
Zimbabwe	A/M	100	79.9	84.1	118.8	n.a.
	A/C	100	81.0	89.3	119.4	n.a.
India	A/M	100	60.8	62.4	64.1	n.a.
Pakistan	A/M	100	130.1	138.3	252.5	n.a.
South Korea	A/M	100	78.6	92.3	77.5	71.7
	A/C	100	94.9	92.4	87.8	n.a.
Sri Lanka	A/M	100	94.9	118.0	124.2	136.6
	A/C	100	83.7	107.4	108.0	61.5
Chile	A/M	100	113.2	122.8	92.0	84.6
Uruguay[1]	A/M	100	122.5	95.5	92.7	86.4
	A/C	100	183.7	156.5	258.7	276.1

Notes:

A/M - Agricultural wage relative to manufacturing wage.
A/C - Agricultural wage relative to construction wage.
For India and Pakistan the figures for 1974 correspond to 1975.

1 For Uruguay, data was taken from Central Bank of Uruguay; agricultural wage = minimum wage, manufacturing wage = skilled wage, and construction wage = unskilled wage.

Sources:

Calculated from data taken from Bose (1980), Riveros (1988d), and ILO Yearbook of Labour Statistics (various issues).

Table 6

Annual Percentage Change in Real Product Wage

		1965/74	1974/80	1980/84	1985-87*
Kenya	A	1.2	3.9	-6.7	7.1
	M	3.0	1.5	-8.3	4.3
	C	5.1	2.8	-8.3	-3.5
Zambia	A	n.a.	3.1	-5.7	n.a.
	M	n.a.	-2.6	-9.0	n.a.
	C	n.a.	-10.6	-1.9	n.a.
Zimbabwe	A	-1.0	5.0	17.3	n.a.
	M	1.5	2.0	-1.0	n.a.
	C	0.3	-1.2	-11.5	n.a.
India	A	-2.6	4.4	6.7	n.a.
	M	-1.9	-1.0	2.8	n.a.
Pakistan	A	8.4	-1.8	23.9	n.a.
	M	1.2	-1.4	-4.4	n.a.
South Korea	A	2.0	9.9	3.3	6.2
	M	2.5	11.7	7.8	10.8
	C		4.0	4.3	5.4
Sri Lanka	A	-3.9	7.1	-7.1	-4.7
	M	-1.9	1.5	-5.1	2.9
	C	2.3			10.7
Chile	A	-0.8	0.8	-1.2	-3.6
	M	-8.2	15.8	14.0	1.9
Uruguay	A	4.4	3.9	-0.2	2.2
	M	-13.1	-9.2	-9.3	9.7
	C	-11.5	-3.8	-1.1	-4.2

Notes:

1 A - Agriculture, M - Manufacturing, C - Construction

2 Value added deflators taken from national accounts.

3 For Kenya 1985-87, deflator is CPI.

* 1986 and 1987 figures used when available.

Sources:

Wage data from Bose (1981) and ILO Yearbook of Labour Statistics 1987.
Deflators from World Bank Tables (3rd edition) and UN National Account Statistics: Main Aggregates and Detailed Tables 1984.
Central Bank of Uruguay

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