

Labour Markets in Sub-Saharan Africa

to be included in Poverty in Sub-Saharan Africa

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October 1997

1. Introduction

Since the first oil crisis in 1973 per capita incomes in sub-Saharan Africa have fallen in more countries than they have increased,¹ although there are some signs of recovery in the last few years (ADB, 1997). Many countries have undertaken structural adjustment programmes and have by now managed to achieve a measure of macroeconomic stabilization and to put a more liberal economic system in place. The system of extensive controls and regulations is being replaced by a system where markets are allowed to play a more important role. One of the markets that is being reformed is the labour market.

Poverty is extensive and incomes are very unevenly distributed. While policy must aim to increase per capita incomes, the issues of poverty and income distribution should also be brought back into the analysis. The labour market is crucial for growth, income distribution and poverty alleviation. Its operation determines employment and wage outcomes. To be able to increase efficiency in the allocation of labour and thereby achieve higher growth, and to bring about a better distribution of income and to reduce poverty, we need to understand how labour markets work.

In this survey we will analyse the operation of both formal and informal labour markets in Africa, and their impact on employment, wages, poverty and income distribution. We will try to establish links the labour markets, the pattern of employment and poverty and discuss ways to improve the functioning of the labour markets, which can lead to increased efficiency and poverty alleviation.

The paper is structured as follows. In Section 2 we discuss the availability of data for labour market analysis in Africa. Then in Section 3 we present some basic facts about the African labour force. Section 4 outlines the structure of African labour markets, formal and informal, urban and rural, private and public. Section 5 is devoted to a discussion of wage determination, market segmentation and gender differentials, Section 6 discusses migration. Section 7 deals with the determinants of labour supply, while the determinants of aggregate employment are covered in Section 8. Section 9 reviews the evidence on labour market institutions and government policy. Section 10 concludes and provides some policy recommendations.

¹ There have been many analyses trying to explain Africa's poor economic performance (recent surveys include Bigsten, 1995, and Collier and Gunning, 1997). Among the causes identified are the lack of openness to trade, lack of financial depth, deficient public services, lack of social capital, high incidence of shocks, a general deterioration of the external environment and misguided economic policy.

2. Labour Data

Labour market studies (and studies of the links to poverty) in sub-Saharan Africa have been limited by the availability of household survey data. Very few countries in sub-Saharan Africa have continuous household-based labour force surveys of the type that exist for much of Latin America, Asia and North Africa. South Africa is one exception—and even here prior to the 1990s coverage excluded the homelands. Data reported in the ILO *Yearbook* for sub-Saharan Africa are generally restricted to employees (collected from establishment surveys) and in one or two cases (Malawi, Chad) to "all persons engaged". Data on employees in the formal sector are particularly problematic to use if the size of the formal sector and its worker composition changes. Levy and Newman (1989) show this for Côte d'Ivoire: in a time of retrenchment when the least experienced and least qualified lose their positions, then aggregate statistics may show little change in real wages, but controlling for individual characteristics, real wages may in fact be declining.

There were occasional labour force surveys in the 1970s and 1980s for individual countries: Kenya is one of the few countries where comparisons over time are possible (for 1977/78 and 1986: Milne and Neitzert, 1994; Mazumdar, 1994b; Kulundu, 1997). It is also possible to make some comparisons over time for Kenya and Tanzania, using a pair of repeated establishment surveys, one from the beginning of the 1970s, and one from the beginning of the 1980s (see Knight and Sabot, 1990, and references therein).

More recently there has been an increase in the number of surveys, in large part with World Bank support. These include the Living Standards Measurement Surveys (LSMS) for Ghana and Côte d'Ivoire, which led to a spate of papers (Beaudry and Sowa, 1994; Schultz and Tansel, 1993; Glewwe and Jacoby, 1992; Vijverberg 1988, 1990, 1991a/b; Vijverberg and van der Gaag, 1990; van der Gaag and Vijverberg, 1988, 1989; Newman, 1988; Blundell et al., 1994). The LSMS data have the advantage of covering both urban and rural areas, and are repeated in more than one year, but have the disadvantage that the sample of employees is fairly small, and the panel is quite short.

Another World Bank project has been the RPED (Regional Program on Enterprise Development), which undertook establishment surveys in eight African countries (Burundi, Cameroon, Côte d'Ivoire, Ghana, Kenya, Tanzania, Zambia and Zimbabwe) with repeated surveys over a three-year period. The advantage of these is that they cover both the formal and informal sector but the disadvantage is that they are restricted only to manufacturing (see Biggs and Srivastava, 1996, and list of papers therein).

There are other recent surveys for individual countries including, among others, the World Bank-sponsored Integrated Survey of Uganda (see Appleton et al., 1995, and Appleton, 1995a/b, 1996), a household survey of Guinea, Conakry (see Glick and Sahn, 1997) and the Priority Survey II of Zambia sponsored by the World Bank (see Jensen and Westergaard Nielsen, 1996).

Data constrains also the linkage of labour markets to poverty. In general it is not possible to link labour market data from establishment surveys to poverty, whereas this can usually be done using household surveys. Thus work linking labour markets to poverty for Africa is feasible with data from the late 1980s and the 1990s: however, we cannot say much about earlier periods, which is unfortunate given the large economic

adjustments that occurred. According to Demery, Sen and Vishwanath (1995), there are only about six African countries (Côte d'Ivoire, Ethiopia, Ghana, Kenya, Nigeria and Tanzania) for which one can examine the effects of adjustment on poverty. However, much more can be done given the new labour force survey data becoming available. Probably one useful result of the new data availability will be an increased understanding of the differentiation of labour market experience between different countries and regions within sub-Saharan Africa. So far there has been little work on this, although there are clearly differences in the level of urbanization and links to rural areas, in women's participation in the market labour force (which seems to be particularly high in West Africa), and in the experience of adjustment.

3. Labour force growth

Population in sub-Saharan Africa has grown at close to 3% per year since the 1960s, while the labour force has grown at around 2.5% per year. Population growth rates may finally be coming down somewhat, but even so the labour force will continue to grow by at least the current rate for another decade or two. An increase in the labour force participation rate may make it increase even faster. This rapid increase in the supply of labour must be matched by increased demand for labour to make it possible for real incomes to rise. Higher incomes also require better educated labour. Presently Africa has low levels of human capital compared with other poor regions, and primary school enrolment has actually declined in Africa, while it has increased in other regions.

Sub-Saharan Africa is still predominantly rural, with more than two thirds of the population and thus the labour force in the rural areas (see Table 1). This does not differentiate it from, for example, most of Asia, but in other dimensions there are large differences. The agricultural population is growing faster in Africa than in other poor regions of the world, at the same time as it has had the worst development of agricultural labour productivity: it actually declined between 1980 and 1990. Poverty is therefore very much a rural problem in Africa, although it is gradually becoming an urban problem as well.

Table 1: Comparative Indicators for the Rural Economy

	Sub-Saharan Africa	East and South-east Asia	South and the Caribbean	Latin America and North Africa	Middle and
Rural population as % of total population (1994)	69	68	74	26	44
Agricultural labour force as % of total labour force (1990)	68	69	64	26	37
Annual growth rate of rural population (1980-94)	2.26	0.56	1.79	-0.18	1.84
Annual growth rate of agricultural labour productivity (1980-90)	-0.4	1.9	2.7	1.8	3.9

Source: Khan (1997: 1).

Most of the rural labour force is thus engaged in agriculture or at least has agriculture as the main activity. Many agricultural households, however, have a wide range of other income sources (Bigsten, 1985), and there are also households that are wholly engaged in rural, non-farm employment. Still, the proportion of the rural labour force engaged in non-farm activities is lower in sub-Saharan Africa than in other developing countries, and it seems as if the proportion has even declined in recent years (Khan, 1997). The incidence of rural poverty is high and most countries have not shown a decline in rural

poverty.² The *Human Development Report 1997* estimates that 220 million people in sub-Saharan Africa are income-poor. SSA has the highest proportion of any region in poverty.

²In the data presented by Khan (1997) only Ethiopia and Tanzania show an improvement between the mid 1960s and the late 1980s. Some countries have seen some improvements in the 1990s, though.

4. The structure of labour markets

Sub-Saharan Africa is rich in labour but poor in capital. The allocation of its abundant resource, is of utmost importance for its economic development. A central feature of the process of economic development is the allocation of labour within sectors and the reallocation of labour between different sectors, and to the extent to which there are obstacles to this process in the labour market, the transformation of the economy is slowed down and made less efficient.

Classical models of economic development typically focused on structural change and the transfer of labour between the rural and the urban sector of the economy (Lewis, 1954; Fei and Ranis, 1961; Harris and Todaro, 1970; Corden and Findlay, 1975). Whether the notion has been that there is surplus labour in the rural sector or not, this process has been seen as crucial in the transformation of the economy. The process of migration is therefore an important part of the reallocation of labour.

The labour market in Africa during the colonial period was highly segregated by race and also regulated in different ways. In the earlier years of colonial control, labour market policies were coercive, with the aim of generating a cheap supply of African labour (see, e.g., Collier and Lal, 1986, on Kenya; Collier, Radwan and Wangwe, 1986, on Tanzania). In the later colonial years there was some easing of the coercive element, and various measures to protect labour were introduced, e.g., minimum wage laws. This system carried over to the newly independent African states, which often introduced further measures to protect the interests of employees. In Kenya, for example, employers needed permission from the Ministry of Labour to declare workers redundant. Wage guidelines were introduced to control wage increases to encourage the use of labour intensive techniques and thereby stimulate employment. Minimum wages were retained and the government also exerted extensive control over trade unions. In some countries minimum wages were part of a policy to increase the wages of Africans who were replacing higher-paid expatriates. These measures were confined to the organized or formal labour market, however, which typically did not employ more than 15–20% of the labour force.

The bulk of the African labour force works in small-scale agriculture, either on the family farms or as wage employees. Most of the African labour force is thus located in rural areas, although there is a rapid process of reallocation towards the urban sector. Most agricultural labour is in smallholder self-employment, but there is also extensive wage-employment on smallholdings as well as large-scale agriculture or plantations. In the rural areas there is, of course, also some employment outside agriculture in either formal or informal activities. Activities such as mining and quarrying are generally located outside towns, but apart from those activities there is a whole range of secondary and tertiary activities also in the rural areas. Outright unemployment is probably low in rural areas.

Employment in urban areas covers a smaller share of the labour force. The urban labour market can be divided into formal and informal employment. Most of the manufacturing activities are urban based, but generally the urban areas account for most of the formal employment in secondary and tertiary sectors. Since formal employment in most countries has increased only slowly in recent decades, while urban migration has been extensive, there has been rapid growth in informal urban employment. In Kenya, for example, the share of the informal sector in employment outside small-scale agriculture, according to recent figures, is close to 60%. Moreover, urban unemployment is often

high. The small size of the formal labour market is not necessarily due to its malfunctioning, but also reflects the constraints facing firms, that is high risk, poor infrastructure and lack of social capital.

The sub-Saharan labour market is thus fragmented, with characteristics differing between urban and rural areas and between formal and informal sectors. The character of these sectors are not always that different, but to organize our discussion this breakdown is still a good starting point. Typically, anyway, most of the labour force in sub-Saharan Africa does not earn a wage income, but is self-employed, mostly on smallholdings.

4.1 The Rural Labour Market

The traditional dualistic model suggests that households either stay in the rural areas and work on the family farm or migrate to wage jobs in the urban areas or the modern sector. This model is too simplistic. The volume by Singh, Squire and Strauss (1986) presents models where smallholder households are restricted in the land market, but where they are free to buy and sell labour and where there thus is some flexibility in the allocation of household resources. This is a more realistic model of African smallholder households. Most work in rural Africa takes place on smallholdings, where the whole family works together and shares the returns from labour, land and other resources. Typically, households produce both for subsistence and for the market. Land markets in African settings are often absent or inefficient, which means that households often have vastly different land–labour ratios (Collier, 1989). Given that farmers use the same technology it would be optimal for them to achieve the same land–labour ratio. If they cannot sell or buy land, this can only be brought about by the selling or buying of labour, and households may either sell out labour on the local labour market or some members may migrate to work. Circular migration is still a common feature in Africa (Bigsten, 1995). Households often have incomes also from off-farm business activities.

Optimally households should allocate labour resources among activities so that the return on the margin is the same in all activities. How close a rural smallholder household can come to this ideal depends on the functioning of the labour markets. In one extreme case labour markets may be completely absent. This would force the household to use all its labour resources on the family farm. The amount of work would be determined by a trade-off within the family between consumption and leisure. Whether such a situation would be characterized as one with surplus labour or disguised unemployment is debatable, but it would in any case in many instances be one with very low marginal productivity of labour. At the other extreme we would have perfect labour markets. Here we assume that all household members can work as much as they like at given wages and that households can hire as much labour as they like also at given wages. If household labour and hired labour are perfect substitutes, the two wages would be equalized. In general, African rural labour markets are not perfect, but they are definitely not nonexistent. In more remote or poorly developed areas the households would have greater difficulties in realizing their desired labour allocation. See Bigsten and Kayizzi-Mugerwa (1995) for evidence on Uganda in the aftermath of the civil war.

There are several models that can generate surplus labour. One example is nutrition-based efficiency wage models (e.g., Stiglitz, 1976). In these models it is assumed that effort or productivity is determined by nutrition. In this case there may be workers willing to work at the going wages, while the employer is unwilling to hire them because of their low productivity. The employer typically chooses the wage level that maximizes profits, that

is minimizes the cost per unit of effort, and then chooses the employment level. In this situation excess supply of labour does not exert pressure on the wage level. The model just described may seem plausible, but there are few empirical tests of its predictions. A recent test on rural India rejects the validity of the model in that context (Swamy, 1997). In rural Africa it seems as if (at least open) unemployment is low, and wages seem rather flexible. That productivity does to some extent depend on consumption is plausible, but there is little evidence suggesting that the effect is large enough to significantly affect wage determination.

We have already noted that labour markets are neither completely competitive nor completely autarchic. Rosenzweig (1988) points to some rural characteristics that may lead to more complex forms of contractual arrangements. Agricultural production is inherently risky and seasonal, there is a lack of organized insurance markets, and there are information and incentive problems. The dominance of family farms in agriculture may, for example, be explained as responses to the production risks and to the incentive or moral hazard problems. Family members may be more able to share risks and smooth consumption and they may be less likely to shirk in a situation where supervision is difficult.

Still, there do exist markets for both casual and permanent labour in rural Africa. Since permanent contracts may decrease risk~ they may provide a lower income than a spot contract. The choice of contract depends on the character of the risks faced. Contract choice will also depend on the incentive problems as just noted. Permanent labour is a common feature in large-scale farming and plantations, while spot contracts are common on smallholdings.

Farm households in Africa allocate labour to non-farm activities such as employment in the rural non-farm labour market, self-employment in the local non-farm sector, employment in the migrant labour market and employment in the farm labour market (Reardon, Delgado, and Matlon, 1992; Reardon, 1997). By this labour allocation the household achieves a measure of income diversification. Apart from adjusting land-labour ratios, this is undertaken to reduce income risk, to maintain food security and to earn cash income to finance investments.

Farm households diversify into informal enterprises more often than formal ones. There is widespread self-employment in rural small enterprises (Chuta and Liedholm, 1990). Non-farm income forms a substantial share of total income in many African countries (e.g., Bigsten, 1985; Low, 1986; Haggblade, Hazell, and Brown, 1989; Bevan et al., 1989; Adams 1991a/b; Bigsten and Kayizzi-Mugerwa, 1995; Dercon and Krishnan, 1996; Melmed-Sanjak and Santiago, 1996). Leibbrandt, Woolard and Woolard (1996) show that also in the rural communities in the former homeland areas of South Africa the access to wage income is the major determinant of the level of household income. Remittances also play an important role, but are not the dominant factor.

Reardon (1997) has reviewed the evidence from 23 African studies and concludes that non farm wage labour is very important relative to non farm self-employment, that non farm sector wage earnings are more important than farm sector wage earnings, and that local non farm earnings generally matter more to rural households than migration earnings. He also found, however, that non-farm incomes are very unevenly distributed, and suggests that this is due to entry barriers and market segmentation. This may over

time lead to an even more skewed distribution of income, which makes it hard for the rural poor to cope with economic shocks and to acquire assets. There is need for research about what constitutes entry barriers to non-farm employment, particularly for the poor and women, and how these barriers can be lowered by policy interventions.

Households in rural Africa are exposed to considerable risks. As noted, they respond to this via diversification, both within agriculture and between agriculture and non-agriculture. They accumulate assets for consumption smoothing. Both types of responses are likely to reduce growth. However, this response is rational because rural credit markets are very underdeveloped. This is partly due to the lack of collateral. Substitutes for collateral may be interlinked contracts or high observability. The former has been constrained by the low level of activity in credit markets. Informal credit is possible when there is no asymmetric information, that is when the borrower and lender know each other very well (Platteau, 1997). Poor households might also be constrained from entering high return but low risk activities if they require high capital intensities and there are indivisibilities that they cannot finance. This may be the case with livestock or tree crops. Households are thus often constrained in their ability to reach their desired capital stock. Specialization reappears at high income levels, when there is less need for risk reducing activities, that is, wage employment is intrinsically less risky than farming. Credit risks that are not idiosyncratic cannot be covered by institutions such as revolving savings and credit associations (ROSCAs), since their geographic coverage is too narrow.

An expanding literature is looking into intra-household issues. One issue of interest as regards labour markets has been the intra-household allocation of work, where typically it is found that the women work considerably more than men once household work is included (Singh and Morey, 1987; Shapiro, 1990; Neitzert, 1994; Pittin, 1996).

The public institutions supporting rural households are weak. This is true for research, extension and education. Agricultural research has not had the same impact as in Asia, and extension services are often ineffective. These weaknesses have slowed down the diffusion of innovations. Education should help improve resource allocation in and between activities and public interventions in these areas could increase the returns to labour in rural areas.

4.2 The character of urban labour markets

The urban economy is much more diversified than the rural one, and therefore it requires a wider variety of skills. This also implies that there is much more diversity in rewards. How would one model the urban labour market, and how are wages and employment determined? Let us first look at what types of market types one could consider. As we have noted above the informal labour market. The formal labour market could further be divided into a private and a public one. One might also consider making self-employment a separate category.

The theories that have been developed to explain the observed patterns of income and employment generally refer to the private sector, and we will focus on those. Still, segmentation within the formal sector between private and public activities is often significant. High salaries in the public sector—which was a feature in the past in many African countries—may be part of a system of rent-

sharing. Gelb, Knight and Sabot (1991) see surplus employment in the public sector as the result of rent-seeking, where certain groups successfully lobby for high-wage employment. Bigsten and Moene (1995) argue that the government may use the public sector as an appeasement mechanism or as a reward system. Public employment may be used by the political leaders to build support that can help maintain their power position. Whatever the process, there may exist segmentation between the public and private formal sector due to non-market behaviour in the public sector.

In the private sector the character of theories of wage determination is essentially the same as those that are relevant for the rural sector. First we consider the competitive model. On the demand side profit-maximizing employers demand labour, which is supplied by utility-maximizing individuals or households. In this model employees are paid according to their value marginal productivity, which means that individuals with the same amount of human capital would earn the same income irrespective of where they are employed. Income differences would thus be due to differences in human capital endowments. If public, private formal and private informal sectors were integrated we could treat them as one market. To be able to do so we need to establish that sector affiliation does not affect the reward to labour, and that equally skilled workers get the same wage in all sectors. In Africa, as in other regions, this is often not the case.

Various institutional explanations have been proposed over the years. Segmented labour market theories such as the job competition model and the dual labour market approach were reviewed in Cain (1976). The role of the public sector as a wage leader has also been discussed extensively. Essentially these models suggested that wage differentials did not correspond to skill differentials, but they often lacked a good behavioural explanation as to why they were there.

Wage differentials that cannot be explained by the standard competitive model do not, however, necessarily constitute a disequilibrium phenomenon. If employees receive firm-specific on-the-job training, the firm has an incentive to try to reduce turnover. There might be internal markets in the form of promotion ladders, seniority rules, etc., that make it more expensive to quit as time in the firm increases. Internal markets also facilitate screening and job monitoring (Collier and Lal, 1986).

The efficiency wage theory is one possible explanation of why there exist wage differentials in equilibrium, that is why firms pay more than the opportunity cost of labour, the market clearing wage. The point is that productivity is a function of the wage paid by the firm, and the firm thus has an incentive to choose the wage that minimizes the wage cost per efficiency unit. In this type of model the demand for labour would be a function of the wage paid by the firm in question, the wage paid by other firms and the rate of unemployment (Stiglitz, 1988). There may be different reasons for why labour productivity depends on the wage rate. Higher wages may, for example, affect nutrition, incentives (reduce turnover), adverse selection or morale. In a model of this nature higher rural or informal wages would tend to push up urban formal sector wages, and thus also reduce formal urban employment.

Alternatively, some type of bargaining model may explain wage differentials. One could see the wage differentials as a form of rent-sharing.

The models reviewed were originally developed with the formal sector in mind, but to some extent they also apply to the informal sector. There has been an extensive debate in the literature on the character of the informal sector, and whether it provides a way out of stagnation and unemployment or whether it offers no impetus to the long-term growth of the economy (Sethuraman, 1977; Mkandwire, 1986; Lubell and Zarour, 1990; Livingstone, 1991; House, 1992; House, Ikiara and McCormick, 1993; Meager, 1995).

We noted that there was extensive income diversification in the rural setting. This is often also the case in urban areas, particularly as a response to the declines in real incomes during the recent crisis years (See Bigsten and Kayizzi-Mugerwa, 1992, for evidence on urban Kampala). The reasons for diversification there are similar to those in the rural areas.

We will discuss the explanatory power in terms of wage determination of the different approaches in the following section.

5. The structure and determinants of wages

There has been extensive debate in the literature on the degree of segmentation in African labour markets. While the dualistic framework may be too simplistic, there may still be segmentation of the labour market where there are non-competing groups of workers whose mobility is restricted by social or institutional factors. If labour markets are competitive, individual and firm characteristics that are unrelated to productivity or to worker utility will have no effect on wages. If there are, for example, inter-industry or firm size wage differentials unrelated to productivity, or firm profitability related differentials, then labour markets are not competitive. If this is the case, some categories of workers may be trapped in low-paying occupations or jobs with little scope for training or advancement. This, of course, has strong implications for income distribution and poverty.

5.1 Effect of characteristics of firm

The simple competitive model would suggest that firm characteristics should not affect wages, unless they also affect productivity. However, the competitive model if duly elaborated need not prevent, for example, larger firms from paying more than smaller firms. If wages are determined according to the efficiency wage hypothesis, differences across firms in the severity of information and monitoring problems would generate wage differences, since some firms have greater need for this type of inducement. Some firms may find it profitable to pay wages above market clearing levels to reduce shirking, reduce turnover, increase the size and quality of the applicant pool, or exchange productivity enhancing gifts with their workers. Since this is more important in large firms, we would expect a variable of firm size to have a positive correlation with wages.

An alternative, non-competitive explanation is that of rent-sharing. Firms in certain industries can pay higher wages because of rents generated by tariff protection or oligopoly.

Results for the manufacturing sector in Zimbabwe (Velenchik, 1997) do not find strong evidence for the non-competitive model. In the manufacturing sector of Zimbabwe, panel data on wages yielded a positive relationship between growth of profits by the firm and growth in wages, and firms that had a larger number of new competitors also granted lower wage increases than others, both of which would support the non-competitive model. However, the existing number of competitors did not affect wage growth, nor was there apparently an effect of government influence: contrary to expectations, after the reforms there was an increase in the wage gap between firms previously covered by regulations and those not covered. The expectation was that the gap between high-paying and

regulated firms, on the one hand, and low-paying and unregulated firms, on the other, would come down once regulations were removed.

Firm size has been found to have a strong effect on wages (House and Rempel, 1976; Velenchik, 1994; Kulundu, 1997; Mazumdar, 1994). Typically those differences are explained in terms of equalizing differences such as differences in labour quality or working conditions between firm size classes. Other types of explanations relate to the presence of trade unions or market power. Reasons for larger firms to have higher quality labour may be the need to reduce monitoring costs or the need for more skilled personnel in more technologically advanced processes. Other reasons for paying above the market clearing wage derive from the efficiency wage models. Higher wages may, for example, reduce turnover (Stiglitz, 1974), which may be more important for larger firms with more sophisticated equipment that requires careful handling. Large firms may have monopoly power making it possible to earn excess profits, which then can be shared with the workers (Collier and Gunning, 1997). Although firms might be unwilling to let go of their profits, the bargaining position of workers may still be better if there exist excess profits. A final possibility is that there are productivity differences between firms of different sizes.

Kulundu (1997) has analysed data on the Kenyan manufacturing industry and found a very significant effect of firm size on wages. This difference persists even after controls for (observable) labour quality differences, working conditions differences proxied by industry and occupation variables, labour unions, and profits per worker (a proxy for rent-sharing). Tenure is, however, longer in larger firms, indicating that firms may pay more to reduce turnover.

They may also pay more to attract better workers, or to maintain loyalty and morale, and some do share their rent with the employees. The wage structure in Kenya thus deviates from that of a fully competitive labour market. The labour market for the micro or informal firms seems to be rather close to a fully competitive market, however.

Verner (1997) has intriguing results for the effects of firm size in Zimbabwean manufacturing firms, in a data set containing both wage and productivity data. She finds that although there are large wage differentials, the difference in productivity between small and large firms is even larger, which is more consistent with the competitive labour market model. These results parallel those of Mazumdar (1994a) for four African countries (Kenya, Zambia, Zimbabwe and Cameroon), also using the RPED data. He finds very large firm size effects on earnings, far in excess of the differentials observed in Malaysia. However, these are consistent also with very large differences in worker productivity with firm size, even controlling for capital intensity per worker.

5.2 Segmentation

The segmentation literature is strongly developed for Latin America, where government legislation (minimum wages, pensions, severance pay) as well as unions are factors in segmentation. These factors all exist in much more attenuated form in Africa. Union levels vary between countries but tend to be lower than in Latin America (particularly as a share of total labour force, given that such a high proportion is rural). Likewise, government pension schemes, provident schemes and minimum wage schemes do exist in

selected countries (Gruat, 1990), but have diminished in vigour during the long economic decline.

Segmentation in Africa seems to relate more to economic phenomena as postulated by Mazumdar (1983). Workers in the formal sector in many African country studies have higher levels of education than informal sector workers, and it is likely that formal sector firms have different technologies, requiring more skills and more on-the-job training. Thus higher pay in the formal sector is a way to reward workers with higher skills and to reduce turnover.

Jensen and Westergaard-Nielsen (1996) undertake tests of earnings differentials between formal and informal sectors in Zambia. They find that workers in the formal sector receive a premium, and there is an additional premium for men working in the central government or in the parastatal sector, even controlling for measurable personal characteristics (such as education). When selection equations are estimated for each sector, however, there is evidence of positive sorting into both the informal sector and the formal sector: basically the two sectors reward somewhat different kinds of abilities, and workers tend to sort themselves into the sector in which they do best in terms of income (education is one of the important sorting variables, but not the only one). There are some individual subsectors where segmentation matters, in that males with standard characteristics in the informal mining and manufacturing sectors would prefer to move to the formal sector, but this is not true for women in manufacturing and men and women in trade.

They also undertake a similar analysis between self-employment and employment. Here again there do not appear to be positive self-selection effects, except for women into employment. Self-employment incomes (as in other countries) tend to be more dispersed than incomes in employment, so that more risk-averse individuals prefer to be employed. Thus there is sorting rather than segmentation.

Neitzert (1993) undertakes a formal test of segmentation for Kenya. Segmentation is suggested by the fact that the rates of return to human capital (adjusted by the probability of unemployment) differ between the formal and the informal sectors. There is particularly an incentive for the educated to try to obtain formal sector employment. She uses a method based on Magnac (1991), but there is some ambiguity since tests also reject normality and homoskedasticity in the data. The existence of segmentation in Kenya is consistent with a similar finding for Côte d'Ivoire (Vijverberg and van der Gaag, 1990).

Generally, studies of segmentation do not shed that much light on the underlying mechanisms of segmentation. Assad (1997) has used Egyptian data to investigate whether there are significant costs of entry based on non-economic characteristics, such as ethnicity and kinship. He finds that entry into the better paying craft occupations is rationed by kinship ties and access to social networks. Thus, the structure of the labour market may be such that it prevents certain categories of workers from gaining access and experience that would enhance their income in the longer term. To the extent that access to a social network is essential for access to better paying jobs, one must look beyond human capital variables when analysing the perpetuation of poverty.

5.3 Human capital and earnings

A very large number of earnings function studies have been done for Africa, and the debate on relative returns has been heated (Knight and Sabot, 1992; Bennell, 1996; Psacharopoulos, 1996). There is in any case strong evidence that private returns to secondary and higher education are large. A lot of effort has also been devoted to evaluating the effects of omitted variables such as family background, school quality and ability. Issues such as selection and unobserved heterogeneity are very important, particularly in developing countries. The issue is complicated by the very large extent of self-employment in Africa.

The approach normally used to control for participation is to jointly estimate participation and wages. Some of the variables that can be used to explain participation are endogenous, that is they depend on earlier labour supply, and this has to be dealt with in the analysis. However, it is not all that easy to identify good instruments (see the discussion in Strauss and Thomas, 1995).

An issue that has been discussed extensively is what the impact has been of the rapid expansion of education on earnings. This has been analysed for Kenya (Bigsten, 1984), Kenya and Tanzania (Knight and Sabot, 1987, 1990), and Zimbabwe (Knight, 1997). There is evidence that the educational expansion tends to increase the productivity of labour. Initially, skilled unemployment tends to increase, but this will fall as expectations are adjusted downwards. Moreover, Knight and Sabot (1990) show that more educated workers are also more productive in manual occupations. Education should thus in the longer term contribute to higher economic growth. By the forces of supply and demand, the increase in the supply of skilled labour should reduce the scarcity rents earned by the initially skilled labour.

Many studies in Africa have found the returns to schooling to be convex (Côte d'Ivoire: van der Gaag and Vijverberg, 1989; South Africa: Moll, 1992, and Fallon and Lucas, 1996; Kenya, Zambia and Zimbabwe: Mazumdar, 1994a; Zambia: Jensen and Westergaard-Nielsen, 1996; Zimbabwe: Velenchik, 1994). This contrasts with the received view that marginal returns to education diminish as education levels increase, as suggested by Psacharopoulos (1994) and others. Bennell (1996) argues that the early research for Africa on which Psacharopoulos was forced to rely used data of low quality, and that educational returns in Africa may not have been concave. Not only are returns in Africa convex, but the returns to primary education are extremely low, according to several studies.

These are, of course, private returns not social ones, and the social returns to higher education may be much lower in view of the large subsidies to higher education. Explanations for the high private returns could include credit market constraints, which may restrict entry into higher education to the well-to-do, who are able to invest in a home environment more conducive to learning. Those who continue to higher education may have had better primary education, or the quality of higher education may be better than that of primary education. Since continuation in higher education is a function of past performance, those with higher education will be a self-selected group of more able students. Controlling for ability does reduce the measured returns to education (Boissiere et al., 1985). However it is still surprising that the returns for education for Africa are so different from those of other countries as surveyed in Psacharopoulos (1994). One possibility is that the quality of primary education in Africa is very low. Another possibility, based on Schultz's (1982) argument, is that education begins to matter where

there is technological change, and that technology in agriculture and in some of the informal sector in Africa is still fairly static.

Bigsten et al. (1997) use RPED data to estimate the rates of return to education in manufacturing in a set of African countries. They find that the returns to education are highly non-linear, with returns to primary education being very low, while the returns to university education are very high. Returns to physical capital are much higher than returns to human capital on average, but the return to higher education is higher than the return to any other investment. Earnings differentials across countries are well explained by differences in the value of capital per worker. Skilled wage differentials are higher than in industrialized countries. Average wages are higher than in some Asian countries such as China, and wage differentials are much higher. This suggests that Africa may not have a comparative advantage in labour intensive manufacturing exports.

A related issue of interest is whether returns to higher education have been changing over time. Evidence for other countries, both developed and developing (surveyed in Berry, Horton and Mazumdar, 1997), suggests that returns to education have been increasing. For Africa it is difficult to test this hypothesis, since there are scarcely any comparable data sets for the same country at different points in time prior to the late 1980s. The results for Kenya for manufacturing only (Mazumdar, 1994a) suggest that returns to higher levels of schooling have been declining.

5.4 Private/public differentials

Public sector employment has been an important component of the labour market in sub-Saharan Africa. Because of the small size of the formal sector, public employment has a disproportionately large share of formal sector employment, ranging from 20 to 80% in different countries (Lindauer et al., 1988). In some countries governments have used public employment as a reward for favoured groups, or guaranteed employment to those with higher education, or used public employment as a buffer in times of economic difficulties. There is considerable variation by country in the number of government employees per thousand inhabitants. According to Lindauer et al. (1988) this figure varied from 6.8 established posts per thousand employees (Malawi) to 19.1 (Liberia) out of seven countries examined, and 9.5 "budgeted positions" per thousand employees (Senegal) to 21.2 (Zambia) (established posts tend to include permanent employees, whereas "budgeted positions" also include casual workers: in countries where there have been freezes on government hiring, numbers of casual workers have tended to increase in response). Mazumdar (1997) similarly finds a large range in the number of government employees per thousand population in the five countries he examines, with the number being disproportionately high in Ghana.

Public sector pay in the past was higher than that in the private sector, and the size of the wage premium, controlling for differences in characteristics, was often large. Lindauer and Sabot (1983) find that the premium (controlling for measurable characteristics) was 11% for the public sector in Tanzania in 1971 and 29% for the parastatal sector. The even higher wages in parastatals was a common phenomenon, and a difficult policy issue. Some countries tried to hold parastatal pay to civil service scales to avoid losing the most qualified government workers to the parastatals, but parastatals often had the ability to pay higher benefits and allowances (Lindauer, 1991).

All this changed with the economic downturn and squeeze on government budgets. Real pay in the formal sector declined dramatically in many countries. Compared with 1975, real pay in the public sector was 4–5% in Somalia in 1987, 20% in Sierra Leone, Tanzania and in the higher grades in Nigeria, 25–33 % in Sudan (or closer to 50 % including allowances) (Robinson, 1990). The losses have been so large that morale and efficiency suffered tremendously. Another feature was salary compression. In an effort to improve equity (in some countries related to African socialism), salary scales were compressed. Lindauer et al. (1988) find very large variation between countries: the highest grade earned 25 times that of the unskilled in Malawi, but only 7 times as much in Zambia in the early 1980s. Compression of the scales, combined with very large real wage declines, made recruitment and retention in the higher grades very problematic, with adverse effects on efficiency. The end result of salary compression in many countries was that in the higher grades pay was below that of the private sector, whereas there remained a wage premium for unskilled workers in the public sector.

Experience differed somewhat in the CFA zone countries. Agenor (1996) cites work of Sahn (1992) who finds that real wages in the CFA zone did not decline in the middle 1980s, whereas elsewhere they did (although there was some recovery in the non-CFA area in the late 1980s). Agenor cites corroborating evidence from Nashashibi and Bazzoni (1994) showing that public sector wage expenditures fell as a share of GDP in the non-CFA countries (although by much less than the fall in real wages) in the 1980s, but actually increased in the CFA zone in the same period.

Some studies have been done of retrenched ("redeployed") civil servants. Alderman et al. (1995) and Younger (1996) examine the case for Ghana, and Mills and Sahn (1995, 1996) for Guinea/Conakry. These shed some light on public–private differentials. For Ghana, Alderman et al. (1995) find that the result of retrenchment was a drop in earnings, not explained by returns to characteristics, but rather a downward shift of the earnings function by 48 % on average. The decline was least for those who found alternative wage employment, and greatest for those who stated that their new employment was farming, where farm size was less than 1 hectare (Alderman et al refer to this as disguised unemployment). The decline was also least for those who had had second jobs prior to retrenchment—they simply increased the hours worked in the second job. The 48% decline is open to different interpretations: it could represent a rent to being in the public sector, especially since the criteria for retrenchment included being less productive, being closer to retirement age or having least experience. Nevertheless the decline is probably not too different from that experienced by civil servants let go or that of older workers losing jobs in large private firms in industrialized countries, and likely in part represents specific skills that are not marketable outside. Younger's (1996) findings were similar.

Mills and Sahn (1995, 1996) did a similar study of Guinea, where they found the transition to be more costly than in Ghana. The costs were, however, mitigated by the severance schemes for those who left their jobs. There was a strong segmentation of the labour market between wage and self-employment sectors, where the former were preferred. This made people queue up for employment in that sector. The higher the education, the better a chance to get the preferred jobs. A large share of those who found jobs found them in the self-employment sector, however.

The declines in public sector pay, and the smaller declines in employment (where these have occurred) have had effects on the formal sector, since public employment in sub-

Saharan Africa is such a large component of formal employment. Jamal (1995) finds that wage earners in Zambia fell from 35% of the urban labour force at the start of the 1980s to 18% in 1990; in Tanzania the decrease was from 31% in 1981 to 16% in 1990 (and compared with 90% upon independence). He also comments that formal sector wages are now frequently below the poverty line. Whereas at their peak formal monthly wages would feed an average urban family for a month and a half, now they suffice for less than two weeks in many countries.

5.5 Gender differences and discrimination

The gender differences in Africa in education and wages are considerable, although there are also differences between countries. Evidence for Ethiopia, Côte d'Ivoire and Uganda collected by Appleton et al. (1995) shows that the enrolment rate of girls relative to boys in, primary school ranged from 0.64 to 0.71 and in secondary school from 0.45 to 0.67. The ratio of female to male wages ranged from 0.42 to 0.89 in the private sector and from 0.62 to 0.91 in the public sector. This and other evidence thus clearly shows that boys are more likely to attend school, that men on average receive higher wages, and that men are also more likely to be in wage employment. Different studies have examined whether there is discrimination in the labour market, and if so if this is evidenced by discrimination in wages for workers of comparable characteristics or by differential access to particular occupations, or if there is discrimination at an earlier stage in access to schooling.

Several studies suggest that discrimination in wages for comparable workers is not a large component of the differences observed. Studies of wage discrimination studies often use some form of decomposition analysis à la Oaxaca (1973). In this approach one can divide the wage gap into one part that is due to differences in wage generating characteristics, and one part that is due to differences in returns for the same endowment of wage generating characteristics. Oaxaca and Ransom (1994) refined the analysis, while Appleton, Hoddinott and Krishnan (1996) have added one further breakdown by allowing for the impact of sectoral distribution of labour. Studies using decomposition techniques have different results depending on the methodology used and the way that the participation decision is modelled.

Studies for East Africa have tended to find relatively low wage discrimination by gender. Ashenfelter and Oaxaca (1991) use the Knight and Sabot data for 1980s. They find that in the case of Tanzanian manufacturing only 17% of the wage differential can be attributed to factors other than observed individual characteristics. Knight and Sabot (1991) and Armitage and Sabot (1991) confirm that for both Kenya and Tanzania, for both 1971 and 1980, virtually all the difference in male and female wages is explained by differences in characteristics, in particular the lower levels of education and labour market experience of women. Glewwe (1991) also finds no evidence of wage discrimination against women in Ghana.

The evidence from Ethiopia, Uganda, and Côte d'Ivoire (Appleton et al., 1995) suggests that lower levels of female education, and stereotyping of women into certain occupations, is more important than wage discrimination. They find that education has a more powerful effect on male participation than on female participation in the public sector in all three countries, and in the private sector in Ethiopia and Côte d'Ivoire. However, conditional upon participation there is no systematic evidence that returns to

education are lower for women in Côte d'Ivoire and Uganda. Returns to women are lower in the private sector in Ethiopia. Decomposition of the observed wage differential indicates that the selectivity of individuals into wage employment accounts for much of the wage gap in Ethiopia and Côte d'Ivoire. In all three countries there is a substantial degree of occupational segregation, in both private and public sectors. In Côte d'Ivoire and Uganda women are more likely to be in the high paying public sector, which narrows the actual wage gap. If adjustment programmes, particularly, mean cut-backs in public sector jobs disproportionately held by women, the reforms may further strengthen the tendency for discrimination against girls in terms of education.

Glick and Sahn (1997) for Guinea have similar findings: women have lower education, and even controlling for education are less likely to enter wage employment. Men also earn more than women holding constant education and other characteristics, which may be due either to occupational discrimination or to outright wage discrimination. Vijverberg (1993) for Côte d'Ivoire and Milne and Neitzert for Kenya (1994) also find evidence for wage discrimination against women. One particularly interesting recent study is that of Verner (1997) for Zimbabwe, who uses a data set containing both wage and productivity data for manufacturing, and finds that there is discrimination in that women's wages are lower than men's, but that women's productivity is not lower than men's.

Why are there are such low levels of female schooling? One possibility is that there may be biases in the educational system or within the family that affect the amount of human capital women acquire. This could be influenced by cultural norms and tastes or role model effects, which means that differences are passed on from one generation to another. If secondary schools are distant from the home, attendance may be more difficult for girls. Moreover, the opportunity cost of female education may be higher than that for male education, which would be the case if girls are thought to be more useful than boys in household work. While the returns to education do not seem to be less once girls are able to enter the labour market, they do enter it to a smaller extent. Therefore the realized returns are lower, unless alternative uses within the household sphere are considered equally valuable. The discount rate may be higher for girls if parents assume that they will leave the household before the boys. Parents may thus evaluate benefits accruing to sons higher. They may have pro-son bias or because more of the benefits accrue to the parents. Lastly, girls seem to acquire less human capital at school as measured in exams, which is contrary to the experience in European primary schools, where girls tend to do better.

In most of Africa entry to secondary school depends less on parental choice than on performance in the primary leaving examination, which is used to ration secondary school places. Girls tend to underperform in the exam and are thus rationed out. In Côte d'Ivoire this may be explained by the fact that girls from poor households spend less time in school prior to the examinations (Appleton et al., 1995). This reflects the demand for their labour at home. No such effect was discovered in the Kenyan case, though. Parental background increases the likelihood of children receiving education and it particularly helps girls. It also has some effect on labour market participation. Schultz (1988) has found that the income elasticity of demand for education is higher for girls than for boys, which would predict that the gap in Africa will narrow when incomes increase.

A range of studies also consider discrimination by race. This issue has been most hotly debated, naturally, with regard to South Africa (Nsekela, 1981; Levin and Horn, 1987; Knight and McGrath, 1987; Moll, 1991; Fallon and Lucas, 1996). The consequences of the dismantling of apartheid is now a topic of great interest (Barker, 1995). In other countries differentials between Africans and Asians have been examined. Studies for Kenya and Tanzania in 1971 and 1980 (Knight and Sabot, 1991; Armitage and Sabot, 1991) suggest that the wage advantage of Asians has been considerable, but that within the public sector the advantage declined in Kenya and was virtually eliminated in Tanzania by 1980. A similar advantage exists for non-Africans in Zambia (Jensen and Westergaard-Nielsen, 1996) and Zimbabwe (Verner, 1997).

6. Migration

Discussion of rural–urban migration and the formal/informal sector division in Africa was given much momentum by the classic article of Harris and Todaro (1970). In this model, they tried to explain various stylized facts for Kenya, including rapid rural–urban migration despite high rates of open urban unemployment (which were on the order of 16 % in Nairobi), and cast doubt on one potential policy instrument to deal with urban unemployment, namely urban job creation. In their model, rural–urban migration was impelled by the expected income gap between urban areas and rural areas, where expected urban incomes were a function of the probability of employment and urban incomes. Because of the relatively large gap between formal sector incomes and rural subsistence wages, rural–urban migration would tend to increase and thus vitiate urban job creation efforts.

This article sparked a spate of theoretical and empirical debate, largely focusing on the role of unemployment in the model. Theoretical criticisms are summarized in Rosenzweig (1988), who argues that urban unemployment in the model is a consequence of an arbitrary minimum wage, which is theoretically unsatisfactory. Other studies have addressed more the empirical issues involved. One aspect that is fairly clear from all developing countries, is that recent rural migrants are not generally those who are openly unemployed. Recent migrants move directly into employment (Mazumdar, 1983, for example). Bigsten (1995) analyses circular migration in Kenya, that is, temporary migration from rural smallholdings. He explains rural–urban migration in Kenya as part of the optimization of smallholder households, where differences in returns in different markets determine the allocation of household labour. The evidence suggests that migration is not primarily speculative, but rather that a network of social contacts and information are important determinants of migration. Generally, therefore, migrants would not end up in urban unemployment. (See also Francis and Hoddinott, 1993.)

Other analysts have suggested that the two-sector model of Harris–Todaro has to be modified to include also the urban informal sector, as a place where migrants may "queue" to obtain a formal sector job, which changes the structure of the model (Fields, 1975).

One study by Hoddinott (1996) would seem to contradict the structuralist predictions of the Harris–Todaro model. Hoddinott estimates a neoclassical wage curve, of the Blanchflower and Oswald (1994) form, for Côte d'Ivoire. His paper suggests that similar

to the developed countries, higher levels of unemployment depress urban wages, and moreover that wage unemployment elasticity (-0.13) is quite similar to the elasticity observed in the US, Britain and a number of developed countries (-0.1).

Jamal and Weeks (1988b, 1993) and Jamal (1995) have somewhat different objections to the Harris–Todaro model. They argue that rural–urban income differentials have narrowed quite sharply with the fall in formal sector incomes, but that this has not led to an abatement of rural–urban migration. Their argument is that the rural–urban distinction is becoming more blurred with the decline of formal sector incomes, and that households increasingly straddle both formal and informal sectors (within urban areas) and may also have members in both urban and rural areas. They also argue that to assume the main factor determining income distribution is urban–rural, and hence that devaluation and adjustment policies (which tend to favour agricultural incomes) increase equality, is oversimplistic. They argue that instead "the primary dynamic distributional relationship in Africa has been between rich and poor within both the urban and the rural sectors" (Jamal and Weeks, 1988b).

Studies for Ghana and Côte d'Ivoire (Beaudry and Sowa, 1994; Blundell et al., 1994) using the LSMS data suggest that adjustment programmes did have the expected effect on rural–urban migration, in that the increase in relative incomes in agriculture led to shifts of employment into agriculture and manufacturing (Côte d'Ivoire) or industry (Ghana). In the case of Ghana there was a net loss of workers in the capital, Accra, and net migration into the cocoa-producing regions. This is a more neoclassical result than Jamal and Weeks suggest.

A series of interesting recent studies have tried to articulate the formal–informal distinction in sub-Saharan Africa, with more nuances than implied in the Harris–Todaro model, in which urban squatters sit in the twilight trying to make ends meet in the informal sector, hoping ultimately to get a formal sector job.

7. Labour supply

In recent decades a vast literature on labour supply and its determinants has emerged in industrialized countries. Theories have been extended and the statistical methods have been refined to deal with issues such as unemployment and measurement error. The basic model is still one with an optimizing individual (or household) who maximizes utility defined over leisure, consumption and taste variables. From such an optimization it is possible to derive the labour supply function. Early studies of labour supply did not take sample selection problems into account, and therefore generated biased estimates. More recent work allows for this, and first estimates a sample selection equation followed by a behavioural equation measuring the amount of labour supplied given that the individual participates in the labour market.

In a study of labour supply in Zambia, Andersson (1993) applies the so called double-hurdle model, which is a generalization of the Tobit model. This model not only deals with the standard selectivity problem of individuals choosing not to participate, but it also allows for involuntary unemployment. In this model those looking for work who are unable to find it, are considered to be labour market participants. The results relating to participation are particularly interesting. Heads of household are more likely to participate, while migrants are less likely to participate. The proxy for income, experience, is significant for female participation, but not for male. The opposite is true for income of other household members. This might suggest that males, who are traditionally the bread-winners of the household, are typically assumed to participate in the labour market, but that the pressure to do so is reduced if other members of the household earn high incomes. Females' participation, on the other hand, is more dependent on the rewards that they can get in the labour market.

8. Determination of aggregate employment

African economies suffer from persistently high levels of unemployment and underemployment. Many people are engaged in self-employment, mainly in agriculture, but also increasingly in non-agricultural activities. Formal employment has expanded only slowly, however. The creation of employment opportunities for the labour force is the crucial issue facing Africa today, and it is definitely an issue that will determine what happens to poverty. Countries that have managed to reduce poverty dramatically have all typically managed to increase the demand for unskilled labour rapidly. By making the abundant resource more scarce, the market forces are pushing wages up.

Relatively little analysis of employment determination is available. Issues that are central here are the roles of changes in real wages and in aggregate demand. Different theoretical models are available. The standard neoclassical model assumes flexible wages and full employment equilibrium and thus no involuntary unemployment. If there was unemployment, wages would adjust downwards relative to capital rentals and full employment would be restored. If unemployment were still to remain, this would arise from some market inflexibility, for example minimum wages above the market clearing level. In the standard Keynesian model, on the other hand, the level of employment is largely determined in the product market. Unemployment is due to deficient demand for products. Too high prices depress demand for goods and services, and this in turn holds back labour demand. In this case we need increased demand for goods and services to bring about an increase in employment.

There is an extensive literature on the determination of employment in developed countries, along with several generations of estimates of employment functions. In recent studies most authors identify a negative employment–real wage relationship. A review of the literature suggests that factors with important effects on employment are real wages (negative), real output (positive), capital stock (negative or positive), interest rates (negative or positive), energy prices (negative), and technical change (negative). Employment determination has recently been studied in Africa by Kanyenze (1993, 1996), Knight (1996, 1997), Ncube (1997), and Ikiara and Ndungu (1997). The four first studies analyse employment determination in Zimbabwe, while Ikiara and Ndungu analyse the case of Kenya. Of those, only Knight (1997) finds wages to have a significant effect on employment. He finds that a 10% increase in real product wages reduces employment by about 2%, while a 10% increase in output increases employment by 5%. Hoddinott (1996) also found that real wages had a significant effect on unemployment

and employment, at least in the short term. Of course, the determination of employment is a complex general equilibrium problem, which is hard to capture in a single equation. These results should therefore be interpreted with caution.

Ridell (1990) found that import substitution created extra jobs in the manufacturing sector in Zimbabwe in the 1970s. He claims that 30% of the expansion of manufacturing was due to import substitution. Velenchik (1997) has analysed the impact of adjustment on manufacturing employment in Zimbabwe in recent years, and finds that there was a reallocation of labour among sectors according to how relative prices changed in response to the liberalization measures. Labour shifted from importables to exportables. Firms seem to have been able to adjust their work force, but reductions were only brought about by hiring fewer casual workers.

The government can influence employment directly by the creation of public sector jobs, but its impact on private sector employment can only be indirect. The government can, for example, by its policies affect the sectoral composition of production or its capital intensity.

9. Changes in labour market institutions and labour market policies

Formal labour market institutions have evolved because formal labour contracts in modern firms led to the emergence of a legal and institutionalized framework for employer–employee relations, and because workers wanted certain workplace rights, conditions of work and income security (Diwan and Walton, 1997). Some of these things apply also to informal contracts that are common particularly in rural markets. They have often evolved as a response to the problems of managing risk and providing incentives for work where monitoring is hard. However, Squire and Suthiwart-Naruepur (1997) show that when regulations are binding, compliance tends to be low. Once compliance is endogenized there is an upper limit to efficiency losses implied by regulation. They argue that regulations that go against the market usually fail.

The model of development followed in Africa has provided "good" jobs to a minority of workers in the formal sectors such as manufacturing and government, but it has also led to the emergence of a dualistic labour market. Rents for a minority of workers were created. Implicit or direct taxation of other sectors financed these rents. Protectionism combined with educational expansion led to job rationing and queueing.

9.1 Wage and job security regulations

Many newly independent governments in Africa increased the minimum wages very substantially in the initial period after independence. This was an understandable response to the pattern of incomes generated under the colonial regimes. A good example is Zimbabwe, which gained independence only in 1980 (Moyo, 1988). It immediately raised minimum wages, but they peaked in real terms already in 1982 (Knight, 1997). They did have an immediate impact in domestic services and mining, but in industry and commerce they did not. Obviously those sectors were already paying more than the statutory minimum. General statutory minimum wage setting was essentially ended in 1988 except for the public sector. Knight (1997) analyses the extent to which minimum wages were effective by simply regressing average nominal earnings on the minimum wage and the consumer price index for low-income households. The equation is estimated on quarterly data for the three minimum wage sectors. The coefficients for the price level are all positive and significant as are the coefficients for the minimum wage. The coefficient for the urban formal sector implies that a 10% increase in minimum wages increases average earnings by 3.5%. Minimum wages thus did have an effect on

earnings, and, to the extent that real wages affect employment, also an effect on employment.

There has been a fall in real minimum wages in Africa (Squire and Suthiwart-Narueput, 1997). Studies of Niger and Swaziland show that non-compliance is pervasive (Morrison, 1993). Enforcement has been weak and penalties are small. Squire and Suthiwart-Narueput (1997) argue that when investigating the effect of legal minimum wages one must first check whether they are potentially binding; then the extent of non-compliance; then the relative size of the private and public sector. If the public sector is large, then the economic costs could be high.

The newly independent governments not only had the ambition to increase low wages, but they also wanted to bring about a more egalitarian wage structure. One method was to combine the minimum wages with maximum wages. For example, Zimbabwe managed to hold back high public sector wages by this method, while it was much less successful with the private sector. The latter sector found various ways of circumventing the ceilings imposed on them. One consequence of this was an increase of the ratio of private sector pay to public sector pay, particularly for the professional categories. This in turn led to a brain drain from the public sector, combined with falling morale and rising absenteeism (Knight, 1997). The problems of maintaining efficiency in the public sector were exacerbated by the policy of wage compression. The liberalization of the labour market in the 1990s in Zimbabwe implied increased wage dispersion in both private and public sectors. As one would expect, some professional categories in high demand gained a lot while less skilled workers lost. There thus seems to be a trade-off between the requirements of efficiency and the desire for equity.

Fallon and Lucas (1993) show that job security regulations tend to reduce employment by increasing adjustment costs and reducing efficiency. Increased job security reduces the incentives for employees to be productive and the employers' ability to choose and keep the most productive workers. They estimated that there was as much as a 25% long-run fall in the demand for labour at given output levels in the case for Zimbabwe. Still, it is possible that their dummy for job security regulation also picks up other changes that occurred at independence. It is possible that the measured effect also reflects fears of future wage increase or greater union strength.

9.2 Impact of economic reforms on labour markets

Recent macroeconomic reforms have changed the prospects of different sectors in a fundamental way. Export-oriented sectors have tended to gain, while those that thrived because of protection have shrunk. Generally the expansion of formal employment has been very limited, while informal sector growth has been rapid. The latter sector is domestically oriented, however, and its growth may well be a response to the poor growth of the formal economy, rather than a response to improved incentives following structural adjustment.

Kenya is a good example of the impacts of the reforms (Ikiara and Ndungu, 1996). Parastatal enterprises used to account for a big share of public sector employment in Kenya, although many of the firms were overstaffed and inefficient. They constituted a heavy financial burden on the government. Parastatal reform was slow to start in Kenya,

as elsewhere, but during the 1990s some progress has been made.³ Although the reform process has been slower than anticipated, there has been considerable personnel reduction in the enterprises. This has had an impact on formal sector employment, where public employment actually has fallen. Golden handshakes may to some extent have formed the basis for informal sector expansion.

The size of the civil service has been reduced, mainly through voluntary early retirement schemes. This has to be followed up by training and improved incentives for the remaining workforce.⁴ The civil servants had no union through which they could launch complaints, since it was banned in the 1970s.

The retrenchment programme occurred at the same time as the private sector has restructured to be able to cope with increased competition. Some import competing industries have suffered from the increased competition. Among those that have had to shed labour are the textile, leather, motor and match industries. Generally, few new formal sector jobs were created at the same time as the number entering the labour market was increasing rapidly. Even university graduates took a long time to find employment.

Kenyan labour markets were until recently highly regulated with wage guidelines, approval mechanisms for redundancies by the Ministry for Labour and Manpower Development, and involvement by the government in trade union elections. Wage guidelines were considered to be essential to keep labour costs low to attract foreign investment and to encourage the use of labour intensive technologies. The minimum wages were seen as a good method to protect the interests of the workers. Otherwise, it was argued, employers would be able to exploit unskilled workers.

In the 1990s the labour market was becoming increasingly liberalized. By 1994 the Industrial Court allowed trade unions to seek full compensation for price increases without being hindered by wage guidelines. Laws have also been amended to make it easier for firms to dismiss redundant workers. Since 1994 the firms do not need to seek permission from the Ministry of Labour and Manpower Development. The removal of the wage guidelines now makes it possible for firms to set wages on the basis of productivity rather than cost of living indexes which previously had been the case.

Sessional Paper No 1 of 1986 set out the employment strategy of Kenya, which has been pursued subsequently. Public sector employment was to be cut, while the private sector was expected to absorb the increasing labour force. It was expected that this would have to be done by small farms, small-scale industry and self-employment. The cost of generating jobs in the formal sector would often be too high, hence the focus was on agriculture and the informal sector. While the government earlier had taken a more direct responsibility in job creation, it was now given the indirect role of creating an environment that was conducive to private sector employment growth. This would consist of support services and incentives. Personnel retrenched from the public sector were often

³ By January 1996, 76 of the 207 firms set up for sale in 1991 had been sold off.

⁴ By the end of 1995 more than 20,000 persons had been retrenched.

given some form of severance payments and sometimes also training to make it easier for them to enter the private sector, primarily agriculture or the informal sector.

Kenya has had a set of measures under the general heading of social dimensions to structural adjustment. These included for example measures to deal with rural road construction and maintenance that would provide farmers improved access to markets and jobs. Still, the 1980s saw a considerable decline in real wages, particularly in the public sector. The higher paid workers suffered more in the public sector, since the government tried to protect the low-income groups from the decline. The early 1990s saw dramatic declines in real wages (Ikiara and Ndungu, 1997: 21).

The trade union movement in Kenya was fairly strong in the 1960s and 1970s, but its power has been gradually reduced. As part of the structural adjustment measures the government tried to keep trade unions under control. Already by the Trade Disputes Act of 1965, however, the government took considerable control over the unions. It could, for example, declare strikes illegal unless the union had exhausted the voluntary machinery for the settlement of strikes. Since 1992, however, the unions have regained more freedom, and COTU has become an important critic of the SAPs. A series of industrial conflicts occurred in the mid 1990s.

Employment growth in recent years has been concentrated in the informal sector. The share of formal employment in total employment fell from 90% in 1972 to only 45% in 1994. The statistical coverage of the informal sector has been improved, though, so part of the increase is a statistical artefact. The informal sector firms are typically very small; the average size in Kenya according to van der Hoeven and Vandemoortele (1987) is 2.1 persons with a dominance of one-person enterprises. They also find that about 45% of those in the informal sector earn less than the minimum wage and argue that the informal sector is a cushion for the unemployed and a source of supplementary incomes for those in formal employment rather than a source of dynamic growth. Still, in recent years there has been a dramatic increase in informal employment and it must now be regarded as one of the important sources of employment and income earning opportunities. The adjustment period has seen a relative decline of public sector employment, while private sector employment has expanded more rapidly than before. There has been a continual fall in labour–output ratios, that is employment grows more slowly than output.

A recent adjuster is Zimbabwe. It changed in 1991 from direct interventions in wage setting to collective bargaining for industrial workers and without a national statutory minimum wage. There was also an easing of restrictions on firms ability to dismiss workers. Fallon and Lucas (1991, 1993) have shown that the regulations reduced labour demand. Under the new system such issues would be dealt with through employment councils with representatives from workers, employers and the government. It is as yet unclear whether the new system changes the ability of firms to regulate their work force very much.

There seems to be some evidence that less authoritarian regimes, such as Mauritius and Botswana, have less distorting trade and labour market policies (Banerji and Ghanem, 1997).

9.3 The impact of economic reforms on poverty and income distribution

Real incomes fell in Africa in the 1980s and 1990s. The main conclusion about the impact of adjustment drawn by the World Bank (1994) is that adjustment is working relatively well and should be continued. The Bank argues that poor macroeconomic and sectoral policies were the main factors behind the stagnation and decline. It is argued that the external problems are surmountable, that terms of trade declines have not been worse than in other LDCs, and that external transfers have compensated for the decline. It is noted, however, that much remains to be done in terms of economic reform. In an extensive review of adjustment experiences in Africa over 1986–1993, Hadjimichael and Ghana (1995) find that although the general picture was rather bleak, there were extensive differences in performance among the sub-Saharan economies. They find that the differences in performance largely reflect differences in their responses to declines in terms of trade. It was found to be crucial to try to preserve international competitiveness and to reduce impediments to private sector activity while striving for macroeconomic stabilization. Sustained adjusters and countries with low macroeconomic imbalances were doing better than the others. The sustained adjusters managed to achieve positive per capita income growth during 1986–1993 and a reduction of inflation, while the reverse was true for countries applying inappropriate policies. The policies pursued by the sustained adjusters contributed to higher government savings and higher private investment, which was also accompanied by higher foreign assistance. White (1996) reviews the studies undertaken of the impact of adjustment, and his overall conclusion is that there has been a positive impact on output. Inflation is bad for growth, as are excessive government consumption and a misaligned exchange rate.

Adjustment has generally been good for growth, but there are less clear-cut results for the long-term effects. Investment response has been very weak, for example. Long-run growth requires investment in both physical and human capital. Sectoral production responses also clearly show that supply-side measures need to supplement the macroeconomic reform measures. For the agricultural sector there is need for improved roads and credit systems.

The impact on the poor and various social indicators are varied and uncertain. Adjustment policies have both direct and indirect effects on social welfare. The direct effects work through the changes in the level of income and its distribution. The indirect effects work through public service provision, etc. A priori, it is uncertain in what direction the effects will go. Although many argue that there have been general cuts in social expenditures, this is not generally true. In several countries, e.g., Ghana and Tanzania, expenditures on health and education, for example, have increased during the adjustment process. The evidence is thus somewhat mixed, but obviously the poor have suffered in many instances.

An OECD model presented by Bourignon, Branson and de Melo (1992) has been used in several studies to simulate the effect of adjustment policies on income distribution and poverty. It is concluded that adjustment without some targeted intervention (public works, food subsidies) in favour of the poor may permanently reduce their welfare. Such measures have a cost in terms of lower growth, however, which indicates that long-term poverty alleviation may suffer. In an application to Côte d'Ivoire (Lambert, Schneider and

Suwa, 1991), it was shown that reduction in government expenditures did not hurt the poor, while a devaluation could both reduce poverty and improve income distribution.

Cornell University has undertaken a major research programme on adjustment and poverty in Africa. Sahn, Dorosh and Younger (1994) summarize the results from this and conclude that adjustment is necessary for the growth required to achieve a sustained reduction in poverty. They conclude, moreover, that in the short to medium run, adjustment policies usually improve income distribution and help the poor.

This suggests that adjustment is a necessary condition for sustained poverty alleviation. Demery and Squire (1996) have compared the change in poverty with the World Bank's macro performance index. They find that macro policy deteriorated in one country in their sample (Côte d'Ivoire) and improved in the other five (Ethiopia, Ghana, Kenya, Nigeria and Tanzania). They find that poverty has increased in Côte d'Ivoire, while it was reduced in the other five. They therefore conclude (p. 46) "that failure to implement an adjustment programme has been doubly harmful to the poor—they lose the benefits that adjustment can bring, and they suffer worse deprivation under likely alternative policy regimes". However, Demery et al. (1995) also note that in the four countries with above average success in adjustment in their sample (Ethiopia, Ghana, Nigeria and Tanzania) income inequality widened.

White (1996: 804) concludes his review of the literature by noting that "critics of adjustment who point to its adverse social effects have failed to make a compelling case, relying on anecdotal evidence and weak methodology. By contrast, a set of studies—many from the Bank, but also some by independent researchers—do find positive impacts from adjustment on the incomes of the poor and in reducing poverty".

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From the discussion there have emerged some other conclusions as well. There is a need to undertake measures that facilitate supply response and investment in human capital. There is also a need for special measures targeted at the hard core poor.

10. Concluding remarks

To reduce poverty Africa needs to pursue an employment-intensive growth strategy. This must be pursued in the context of an increasingly integrated global economy and it will require macroeconomic stability. The measures needed to bring this pattern about have been discussed extensively before (see, e.g., World Bank, 1990).

It is not possible to increase wage levels through regulations, although legislation may influence relative wages, because there are often general equilibrium effects that are not expected by the policy makers. The SAPs have in any case in general implied much less direct intervention in the labour markets. There have been considerable falls in real wages during the adjustment phase, which probably was an inevitable adjustment to earlier anomalies. The employment recovery has so far, however, been muted.

The SAPs have implied less direct intervention in the labour markets, which has meant that market forces have been given a greater scope. This has implied increased wage dispersion. Still, a re-regulation of the labour market is not desirable because of the inefficiencies and deadweight losses that it implies. So what could governments do, if anything? They could continue to try to eliminate labour market distortions. Possibly the most beneficial government intervention in the labour market is the promotion of human capital accumulation in the form of education, training and learning-by-doing. Different mechanisms for helping people to accumulate human capital may be used. These could include direct provision of education as well as subsidization and loans.

The public institutions supporting rural households have been weak, especially in research, extension and education. Agricultural research has not had the same impact as in Asia, and extension services have been weak. All these limitations have slowed down the diffusion of innovations. Education should help improve resource allocation in and between activities.

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