



3 ~ Poverty, Inequality and the Labour Market

3.1 Introduction

Reducing poverty, preventing excessive inequality, and generating adequate employment are the three most important goals of a macroeconomic strategy that seeks to improve the living standards of the population. Poverty, inequality and employment are each a complex phenomenon and difficult to capture with a single measure, particularly in a low-income economy undergoing change. In order to avoid misleading simplifications, this chapter considers different indicators for poverty, inequality and employment, which capture different aspects.

This chapter addresses the following issues on the characteristics of poverty in Zambia: its level and incidence, geographic distribution, its determinants, and trends. Zambia has a database on poverty from various household surveys organised since 1991. The quality of the data varies, though there has been a consistent improvement in survey design and coverage over time. The quality improvement invites caution when interpreting trends based on comparisons between different surveys. Discussion of the methodology of poverty measurement and data issues in Zambia can be found in

an annex to this chapter. In what follows, the chapter reviews the poverty situation based on the 2003 household survey; identifies the trends in poverty and inequality, focusing on the 1990s for which there is a systematic survey evidence; analyses the nature and features of inequality in Zambia; inspects the structure of labour markets and changes in main labour market indicators over the last two decades; and presents implications for poverty, inequality and employment for a poverty reduction strategy.

3.2 Characteristics of Poverty

The latest poverty profile of Zambia was published by the CSO in November 2004, based on the data collected in the LCMS III 2002/03 (GRZ 2004). The survey measured that sixty-seven percent of the population fell below an adult equivalent poverty line of K 92,185 per month. With respect to this consumption line, poverty in rural areas affected seventy-four percent of the population and fifty-two percent were below the extreme poverty line. Thus, in 2003, more than half the rural population of Zambia was living at levels below the food

subsistence norm. Moreover, fifty-two percent of the urban population fell below the poverty line, compared to forty-five to forty-six percent during 1993-96 (see Tables 3.1 and 3.2).

According to the 2004 poverty assessment, 'poverty was attributed to the inability to acquire enough food' (GRZ 2004, 159), which is consistent with the finding that the majority of poor still live in rural areas, and that their consumption basket includes own-consumption of food. In rural areas, food share in the consumption basket was seventy-five percent in 2002/03, and the percentage of household-produced food was fifty-five. In towns and cities the proportions were fifty-two and four, respectively (GRZ 2004, 151-55). It is not surprising to find a correlation between consumption of household production and poverty levels. This suggests that poverty in Zambia is 'absolute' in the sense that a large proportion of people falling below the poverty line find themselves at a point of destitution, so food intake is inadequate.

Poverty incidence varied across provinces from fifty-seven percent in Lusaka to eighty-one percent in Northern Province. The former, the lowest for any province, was even high for any sub-Saharan region (Table 3.3). The other poverty measures, namely the poverty gap and severity, which indicate with more precision how poor the poor are, also show important territorial disparities. In Northern, Northwestern and Western province there are more households below the poverty line, but also, the poor living there are more destitute in relative terms, i.e. their average consumption is more distant from the poverty line than in other provinces (Table 3.3). Overall, the poverty gap ratio in 2003 was high (27.9 percent), but lower than in 1990s, which means that PAE consumption levels of the 'poor' were on average seventy-three percent of the poverty line. Poverty severity, which is more sensitive to the expenditure distribution among the poor, is also highest in Northern (0.21) and Northwestern and

Central provinces (0.16) suggesting that the very poorest households of Zambia can be found there.

As to be expected, poverty varies across social categories. The categories normally used in poverty analysis in Zambia for rural areas are small, middle, large scale farmers and non-agricultural households.²² In urban areas the categories derive from the average cost of living: low, medium and high cost areas. This classification is imperfect, especially for rural areas, where disaggregation among small-scale farmers would provide important information on the characteristics of poverty.²³ Data on cultivated land per household and net crop value per capita indicate substantial differentiation among both smallholders and middle scale farmers (Zulu et al. 2000, 27-30).

Poverty was exceptionally high among the rural small scale households and households residing in urban 'low cost' areas (Table 3.4). Almost five million people classified as small scale farmers were poor, and over 3.5 million 'extremely poor'. Table 3.4 also shows the poorest and most vulnerable classes, for a wide range of indicators, were, in order of importance, small-scale farmers, middle scale farmers and urban residents in 'low cost' areas (GRZ 2004). Extreme poverty was concentrated among small-scale farmers in rural areas. This group included farming households displaying a variety of coping strategies, and off-farm income, particularly casual wage labour, was probably the only source of cash and food during the four or five months before harvests. According to the GRZ (2004), ninety-three percent of small scale farm households received an income of K 600,000 or less.²⁴ Seventy-five percent of the poorest households in urban areas received less than K 600,000. A third of what were defined as large-scale farmers (more than twenty hectares) still fell below the poverty line, implying that size of holding may not be the central differentiating factor or simply that farm size is not accurately measured for larger scales. Other

possible determinants would be availability of working and physical capital, the quality of land, crop choice and other non-agricultural activities.

Typically female-headed households are often mentioned as being particularly vulnerable to poverty traps. To an extent, this may be a feature in Zambia, especially in urban areas but some studies show that it is not female-headed households per se who are particularly disadvantaged, but more specifically female-headed households lacking male adult support or households where there is 'female dominance' and lack of available labour power, since these households are severely affected by labour shortages (Byrne 1994, 17).

According to the 1998 poverty data, people classified as self-employed, unpaid family workers and unemployed had higher poverty incidence (eighty, eighty-five and seventy-five percent, respectively). In the same year forty-six percent of employees in state enterprises fell below the poverty line, and fifty-eight percent of private sector, formal and informal, waged workers. Local government employees had a notably high poverty rate, seventy-three percent showing the extent to which lower rank civil servants have suffered from poverty. Thus there are significant differences between employment categories in terms of poverty levels. It is interesting to note that parastatal employees were relatively better off in 2003 than in previous years. This is not because their living conditions improved; but, partly reflects the effect of privatisation, which rendered redundant a substantial proportion of the lowest paid employees, dropping them into the informal sector and maintaining their poverty status in a different occupation category. Female workers were particularly affected since they occupied disproportionately the lower ranks of the public sector (Byrne 1994).

Poverty levels differ according to whether heads of households work in the formal or informal sector, as shown by Kapungwe (2004). Eighty-five percent of

informal agricultural workers fell below the poverty line, with formal non-agricultural employees at fifty-two percent. The poverty incidence among formal agricultural workers, i.e. those working with contracts for more than six months, was also high, and not significantly different from other agricultural workers and self-employed farmers (eighty-two percent). This finding indicates that formal sector farm workers were not 'privileged' in terms of the risk to fall into poverty. One can reasonably assume that farm workers who are not registered as formal, and therefore, who might not have contracts, may not receive the minimum wage, or enjoy fringe benefits, would be among the most poverty prone in absolute and relative terms.

Cross-tabulations between poverty incidence and education confirmed in 1998 that poverty levels were extremely high among the least educated, eighty-eight percent for those without schooling and eighty-five for those with less than Grade 4 (Kapungwe 2004). Education was one of several elements of poverty status that might differ from area to area. The profile of the poorest households in Zambia indicates that poverty in much of the country was related to remoteness from communications networks, and lack of income-generating opportunities. This combination has led many households to request to be eligible for resettlement schemes, since migration to better served areas seems to be the only escape from poverty (Leavy et al. 2003). Transitory activities generating occasional jobs for cash or food were also typical of the poorest rural and urban households (Milimo et al., 2002; Kapungwe 2004; Kanya 1994).

Food is the dominant element in the consumption of the poorest fifty percent of the population, and poverty is consequently affected by the level and variability of food prices. This might explain why in some of the poorest rural areas destitute workers often might be paid in maize (Leavy 2003), though this is a common practice across the

developing world, and might reflect the dominance of non-market employment relations associated with forms of employer coercion. Because of the unequal distribution of land and earnings from crops among small scale farmers, it is unlikely that the poorest households benefited from expansion of cash crop production in the 1990s. This is consistent with the perception among the poor and the evidence from agricultural surveys that these farmers were 'too poor to farm'; that is, they lacked the basic farm assets necessary to take advantage of new crops, technologies and markets, domestic or foreign (GRZ 2004, 174, Deininger and Olinto 1999). This may particularly affect groups of women (especially widows, separated or abandoned) living in households with little or no male presence and scarce active labour for income generating activities. The number of days of casual employment that the poorest farmers obtain and the remuneration they receive were probably the key determinants of their household welfare.

In urban areas, the massive decline of formal sector jobs and incomes drove urban poverty trends in the 1980s and the 1990s. Lowly paid and retrenched workers of state enterprises, as well as youth in urban areas, appear to have been the first victims of the adjustment era in recession-laden towns, particularly in the Copperbelt, and became new entrants in a saturated informal economy (Kamya 1994). Changes in food prices, in part driven by liberalisation of markets and removal of consumer subsidies on maize meal, as well as falls in employment and real wages, were all central to the rise in poverty. Also important were events beyond the control of policy makers, with drought and weather effects perhaps the most important.

In the 1990s in response to falling incomes, the most common household coping strategies were: reducing food consumption or altering diets (more tubers and less cereals); keeping children out of school to work; income support from family

and friendship networks; selling at harvest and receiving food aid in the 'hungry season'; sale of household assets, particularly agricultural assets; and most important, engaging in casual wage labour (for example, agricultural piecework and food for work programmes). Survey respondents also mentioned crop diversification as a strategy, although this was limited to those rural areas where more cash crops became available after liberalisation (e.g. cotton and tobacco). In urban areas, apart from the strategies mentioned above, people engaged in backyard farming (particularly women), micro enterprises financed by redundancy payments, and activities manifesting the unravelling of social cohesion, robbery, extortion and prostitution. Very few societies undergo decline without the manifestation of socially dysfunctional behaviour, and Zambia was no exception. Work instead of education for children, prostitution as the labour force entry point for girls and women, robbery instead of decent work for men are the unavoidable fellow passengers in a process in which average incomes fall by over half.

3.3 Trends in Poverty and Social Indicators

Poverty Incidence, Trends and HIV/AIDS

Central to the analysis that follows is the previous discussion of methodological issues (see also Annex 3.1). In order to assess poverty, one needs data over a sample of the same households through time ('panel data'). There are no nationally representative panel data for Zambia. As a result, a rigorous and definitive quantitative analysis of poverty dynamics is not possible (Litchfield et al. 2003).

However, less exacting standards can produce useful insights on the basis of surveys with similar properties, especially coverage, representativeness, and if data are collected in the same way, i.e. with very similar questionnaires. Estimates from cross sections of the data suggest that

poverty incidence fluctuated in the seventy to eighty percent range during 1991-1998, then fell to just below seventy percent in 2003. Therefore, whether it increased or decreased depends on the base year.

Perhaps the most accurate statement is that in the mid-2000s poverty incidence was below its highest level during the 1990s, but not significantly below its average value in the decade. Thurlow and Wobst (2004) argue that a relatively constant poverty incidence was associated with a declining poverty gap, reflecting an improvement in income distribution, especially after 1996. This argument would be consistent with the finding that urban poverty incidence increased, while rural poverty slightly fell, from a much higher level. To put it simply, many non-poor urban households fell below the poverty line, while many poor rural households rose towards it. If one could eliminate measurement errors and properly account for seasonal effects, one would probably find that during 1991 to 2003, poverty remained unchanged around the extremely high level of sixty-five to seventy-five percent.²⁵ Poverty in urban areas increased, most dramatically during 1996-1998, when the measured increase was ten percentage points. The processes of privatisation and formal sector retrenchment largely explain this increase.

A calculation of cumulative density functions (CDF) for expenditure during 1991-1998 suggest the following if one takes the entire database;²⁶ i.e., including households with extraordinarily low expenditure in 1991 distribution.²⁷ First, the distribution (density) functions of consumption of 1991 and 1998 cross at a point near the extreme poverty line, implying that trends of poverty were different for two sets of households whose consumption levels are below or above that point.²⁸

Poverty incidence in 1998 was slightly higher than in 1991, but the poverty gap and severity diminished significantly (McCulloch et al. 2001). The situation worsened for the households from the fifty-

fifth percentile upwards, with the original sample.²⁹ This can be interpreted as a reduction in living standards of the 'middle' class, which is consistent with the overall finding that urban poverty increased significantly over the 1990s. However, the notion of 'middle' class may be inappropriate except in the quantitative sense because income and consumption levels of these households were initially close to the 'absolutely poor', and barely sufficient to afford a basic food basket plus a few non-food items. The recession of 1991-98 can be considered pro-poor if one accepts that the bottom percentiles of the distribution saw their real expenditure increase in comparison with the rest of the population. In other words, relatively poorer households gained with respect to the 'poor middle class' and less poor households over 1991-98.

These trends should be viewed with much caution. As argued, the 1991 survey reports extremely low levels of consumption for the bottom three and four deciles of the population. It is not surprising, if these estimates were correct, that over the eight-year period poorest households managed to improve their situation somehow. Dropping implausible values at the low end of the distribution makes a very substantial difference in the trends.³⁰ The analysis of growth incidence curves suggests that a sub-group of households within the bottom twenty percent had consumption growth rates well above the average. This is more evident if one compares the growth incidence curve in rural areas with that of urban areas.³¹ In rural areas the growth pattern was relatively more pro-poor than in urban areas, because the bulk of low consumption outliers concentrate in the rural domain.

In summary, the evidence from density functions and growth incidence curves confirms that urban poverty and the consumption of households in the middle-to-top sixty percent of the distribution worsened significantly. It also shows that consumption growth rates were negative for

a majority of households, and did not lift the poorest out of poverty.³² In other words, while the period 1991-1998 was, strictly speaking pro-poor, it was fundamentally a period in which poverty worsened.³³

Social indicators confirm the negative poverty trends during the 1990s. Zambia was one of the few countries in the world whose ranking on the Human Development Index declined in every year of the decade. Almost across the board, health, after improvements in the 1970s, nutrition and education worsened.³⁴ Under-five mortality increased in the twenty-year period, striking evidence of social regression. By contrast, neighbouring countries like Mozambique and Malawi showed significant annual reductions in child mortality rates.³⁵ Child malnutrition levels deteriorated substantially from the mid-1980s to the early 2000s.³⁶ According to a government report, 'almost half (forty-nine percent) of children aged three to fifty-nine months were stunted (too short for their height), twenty-three percent were underweight (low weight for their age) and five percent were wasted (low weight for their height)' (GRZ 2004, 219).

The worsening of health conditions was associated with the spread of HIV/AIDS in the country, especially during the 1990s. Reported prevalence rates from antenatal sentinel posts reached twenty percent of adults.³⁷ Child and adult mortality, malnutrition, morbidity,³⁸ and HIV/AIDS prevalence are interdependent and mutually reinforcing.³⁹ As a result, Zambia has, today, one of the highest incidences of orphans in the sub-Saharan region, over twenty percent of the population under fifteen (Hunter and Williamson 2002; Bennell 2003).

The deterioration of the health of the Zambian population was also due to a crisis in public health services. A dramatic decline in per capita health expenditure occurred between 1970 and 1992, which negatively affected existing infrastructure, quality of personnel and availability of basic drugs and equipment.⁴⁰ The motivation of health

workers declined as their real incomes fell due to the reduction of funding and the consequent decline in real wages and work material (equipment, drugs, consumables, etc.). The fall in funding was exacerbated by the introduction of user fees in 1993, which substantially reduced the effective demand for health care (Milimo et al. 2002, 34-38).⁴¹ The decline in the quality and amount of health services also explain the drop in life expectancy, to a level among the lowest in the sub Saharan region.

In education, literacy rates increased, but gross and net school enrolment rates for both sexes fell during the 1990s partly as a result of the introduction of user fees (see Table 3.5). This was a clear symptom of household hardship in light of the importance Zambians place on formal schooling.⁴² As Table 3.5 suggests, in 1980, Zambia had education levels among the highest in the sub Saharan region; and, while in the early 2000s literacy and enrolment rates were and remained higher than many African countries, the trend after 1980 was unambiguously negative.

The impact of HIV/AIDS on the education sector was particularly severe. According to Kelly (2000), teacher mortality had increased over the 1990s, and was estimated at seventy percent higher than the population as a whole. In 1998 UNAIDS estimated that Zambia lost about 1300 teachers to HIV/AIDS, 'the equivalent of two-thirds of its training college output' (UNAIDS 2002). Subsequently, teacher mortality rates fell, due to teachers' awareness of the disease, rather than improved treatment.⁴³ After 1998 the shortage of teachers decreased, because of lower mortality and an increase in the number of new teachers trained, from below two thousand in the late 1990s, to close to six thousand five years later. On a less positive note, the supply shortage was also relieved by the decline in enrolments, discussed above.

The main factor limiting the supply of teachers in the 2000s was the central

3 government's expenditure ceilings set by loan conditionalities. This constraint on expenditure prevented the government from recruiting the teachers required to meet the goals of the Free Basic Education programme established in 2002. Almost nine thousand teachers, most specifically trained for rural schools, were unemployed in 2003 because the government could not use available funds to hire them. Indeed, the number of teachers employed fell from 2002 to 2003.⁴⁴ If expenditure limits continue, Zambia will not meet the MDGs for education. Moreover, the trends above are largely consistent with qualitative evidence collected in participatory poverty assessments and trends in the ownership of basic household assets, often used as a proxy of long-term wealth (see Annex 3.1).

This section can be concluded with a brief re-statement of the major points for which the evidence is sufficient. Poverty in Zambia fluctuated around very high levels, within a sixty-five to seventy-five percent range, for the headcount measure, increasing from 1991 to 1998 and decreasing afterwards. The small overall reduction recorded between 1991 and 2003 may not be statistically significant.⁴⁵ It is likely that it reflects differences in survey design and is within the margin of statistical error. It also masks differences between income groups and geographical areas.

Urban poverty incidence increased significantly during 1991-98, then slightly fell between 1998 and 2003. The substantial increase was probably the result of a relatively large portion of households being clustered just above the poverty line in 1991, which would be consistent with poverty incidence rising while poverty gaps and severity decreased. Rural poverty seems to have slightly increased between 1991 and 1996, and decreased thereafter, especially between 1998 and 2003. Nevertheless, rural poverty levels remain extremely high, and a substantial proportion of people live below the food poverty line. Since 1991, households in the bottom quintile appear to have

fared less badly than the average. However, this last finding could be due to an underestimation of the weight of household production in the consumption basket. Whichever the reason, this more positive trend fell short of bringing the poorest rural households sufficiently close to the poverty line.

The deterioration of most social indicators, at least until 2000 calls for substantially increasing the public investment that will be necessary to reverse the situation and now also avoid health and education workers' brain drain, which has been exacerbated by a combination of 'push' (low incentives, salaries, deterioration of work conditions, general reduction in living standards among civil servants, etc.) and 'pull' factors (increasing demand for health professionals in countries like the UK and the USA).

Inequality

Zambia is one of the most unequal societies in Sub-Saharan Africa as measured by income variation. The Gini coefficient falls into the .50 to .60 range, which places Zambia with South Africa, Namibia, and Botswana as the most unequal in the sub-Saharan region, and also close to Brazil and Colombia.⁴⁶ The maximum-recorded measure for the Gini coefficient is derived from the 1991 expenditure survey, with a value of .57 if the very low observations are omitted (see discussion and chart in Annex 3A.2), and .61 in 1991 if they are included. Inequality estimates based on income data are even higher, but less reliable than consumption measures. Estimates prior to 1990 are based on income data, and not strictly comparable with consumption-based estimates.

From the few statistics there are available, and secondary evidence, several points can be inferred. First, conventional wisdom holds that at independence in 1964, Zambia was more unequal than two decades after. However, the data show increases in income inequality between 1959 and 1976, mainly due to a fall in the share of the bottom

quintile (see Table 3.6).⁴⁷ A number of hypotheses have been offered to explain the increase in inequality after independence: the rise of a public sector bourgeoisie within a state capitalist economy (Turok 1989, 219), and a widening rural-urban gap to name two.⁴⁸ The simple truth is that there are no reliable statistics to provide the basis upon which a trend could be asserted, so explanatory hypotheses are speculation about the unknowable.

According to Thurlow and Wobst (2004) evidence from the poverty profiles would indicate that income distribution has improved during the 1990s, specifically if we compare 1991 and 1998 survey data.⁴⁹ This finding is at odds with the published results of the other surveys after 1991; i.e. 1993-1998, where it seems that both the Gini coefficient and the Kuznets ratio of inequality increased (the latter being the ratio of income shares between the first and the fifth quintiles (GRZ 1997 and Table 3.6). Thurlow and Wobst (2004) conclude that despite overall increases in poverty incidence, the poorest fared better than the middle income groups, and, in this sense, growth during 1991-98 was relatively pro-poor. As argued in the previous section these results depend heavily on the possibly problematic lower consumption levels of the poorest in 1991. Thurlow and Wobst (2004), following McCulloch et al. (2001) drop some extremely low values, but not all. Income-based inequality estimates suggest an overall drop in inequality, from extremely high levels in 1991, to slightly lower in 1998 (see Figure 3A.4) and then lower still in 2002/03, mainly due to declines in the income held by the top twenty percent.

For reasons discussed above, reliance on consumption expenditure and income estimates does not yield reliable results in Zambia, because of inconsistencies across surveys. However, there exist complementary indicators of inequality. Surveys provide information for a range of education and health indicators cross-tabulated with wealth quintiles based on asset indices.

The evidence shows considerable inequality in education and health outcomes in rural and urban areas. While differences between urban and rural areas are substantial, even more striking are the differences within rural areas (Sahn and Stifel 2004). Tables 3.7 through 3.10 show the evidence of social inequality for both education and health indicators. It is worth noting that these differences on the basis of socio-economic status are far more important than gender disparities for the main education and health indicators. Households in the upper quintiles, as measured by assets, have higher immunisation rates and delivery attendance rates in public or private health centres, lower fertility rates, lower child mortality rates, and lower levels of malnutrition among children and pregnant women, than households in poorer quintiles. The negative trends for social indicators presented previously affected the lower quintiles more than the higher ones, and subsequent improvements were unevenly distributed in favour of the latter. This is shown when one compares malnutrition rates across wealth quintiles and infant mortality rates with education in 1992 and 2001 (see Tables 3.10 and 3.11, which shows that the rates dropped for both, though at a much faster pace for the higher wealth quintiles and better educated).

High inequality in the levels prevailing in Zambia means that pro-poor growth rates must be very high. This poses a significant challenge. It also means that there is significant scope for income redistribution through fiscal policies, social insurance, free health and education for the poor and direct employment creation.

3.4 Labour Markets

Demographics of Labour Markets

There is limited information on labour markets in Zambia, and what is available is not strictly comparable over time. Most of the information is derived from the LCMS surveys, which were designed for poverty

analysis. The employment sections in household questionnaires did not intend to address labour market issues specifically. At the time of this mission, the last labour force survey was for 1986.⁵⁰ The lack of such surveys for twenty years makes it impossible, for example, to judge the employment effects of the structural adjustment programmes since 1990 with any degree of precision and disaggregation. Existing evidence, however, indicates a growing 'informalisation' of the economy, resulting in part from the privatisations and liberalisation measures that were part of the structural adjustment process.

With its mid-2000s population of about eleven million, Zambia was one of the most urbanised countries in the sub-Saharan region. Urbanisation approached its peak in the decade after independence, when mining and manufacturing sectors prompted rural-urban migration. From the early 1990s this tendency reversed itself as mining declined and the rest of the urban economy followed it down. As a result, urban population has decreased from forty percent in 1980 to thirty-five in 2000. This decline in urbanisation was virtually unprecedented since the middle of the twentieth century in the developed or underdeveloped world. Perhaps more than any other simple measure, it indicates the extent to which Zambian society and economy underwent a traumatic collapse.

Quantitative evidence shows that formal sector employment fell during the 1990s, when reform packages, especially privatisation and trade liberalisation were accelerated (see Figure 3.2). Unemployment rates, as measured in household surveys, have gone up since 1986 (from thirteen to sixteen percent), mainly because recorded urban unemployment has almost doubled (Table 3.12). Census data show that between 1990 and 2000 overall unemployment decreased, however, this is only because a large drop in rural unemployment more than compensated for the significant rise in urban unemployment. One must be cautious about

recorded unemployment rates in general, but particularly in rural areas.

Given the levels of poverty in rural areas and the kind of predominant activities (small-scale farming, casual wage labour, etc.) being unemployed is not an option. In 1991 the evidence of youth unemployment was alarming and became one of the hot topics of debate on employment issues (GRZ 1991).

Since then, several surveys have shown compelling evidence of increasing youth unemployment rates, particularly for those between twenty and twenty-nine. Youth urban unemployment was already significantly high by 1986, namely 47, 33 and 16 percent respectively for the 15-19, 20-24 and 25-29 age cohorts. In the latest survey (2002/03) the figures were up to 49, 47 and 30 percent for 15-19 (GRZ 2004, 94).

Growing youth unemployment is partly a result of dwindling job opportunities and the socio-economic crisis of the past two decades; but, also a consequence of continuous increases in the youth labour force (due to population growth and higher labour force participation), in spite of the expected effects of HIV/AIDS spread among the youth.⁵¹ A report on youth unemployment (Mayaka and Moyo 1999) confirms these findings and suggests that the unemployed youth cannot be treated as a homogeneous category. The unskilled youth appear more affected by the lack of job opportunities in towns. But, more importantly, the lack of specific training and demand for previous work experience have barred a large proportion of youth from job opportunities, mostly in the regulated 'formal' sector but also in the informal economy (Mayaka and Moyo 1999, 129). Those who manage to find employment, especially in unregulated activities, often concentrate in petty services for irregular durations and pay (repairs, trading, hair-dressing, welding, etc.). Others who have alternative aspirations (mechanics, drivers, nursing, teaching, typing), and can afford to wait, prefer to remain unemployed and look

for formal sector, or better, remunerated opportunities (Kamya 1994, 30). Moreover Kamya (1994, 33) shows that many informal activities present significant barriers to entry, given the high average age of manufacturing operators (thirty-seven years)

In any case, we should not forget that data on unemployment should be taken with caution. Frequently those who declare themselves unemployed belong to less poor households. They either tend to live in middle- and high-cost urban areas or be concentrated among the most educated urban labour market entrants. Thus it is not surprising that unemployment is heavily concentrated among the more educated youth living in urban areas.

Labour supply: Education and Health

Labour supply in Zambia has suffered during the 1990s and 2004 for several reasons. Health indicators are clearly worse and the HIV/AIDS pandemic took a great toll among people of working age. The rise in undernutrition and micro-nutrient deficiency in children implies a less healthy labour force for the future, as suggested by empirical evidence in the rest of Africa (Sender et al. 2005, 26). Education attainment, after impressive progress up to 1980, regressed, in literacy indicators, enrolment rates and participation in vocational training. These trends affected formal sector competitiveness through growing high-skill shortages in various sectors (Chiwele and Chinganya 1997; Colclough 1989).

There is evidence that the long term economic crisis had particularly negative effects on public sector workers.

Recruitment fell, salaries declined and working conditions deteriorated, which prompted skilled workers, especially from health and education, to leave the country, with serious implications for an economy already suffering from skill shortages.⁵²

The deterioration in health and education obviously affected the productivity of the labour force, and exacerbated the demand factors constraining employment

growth. This creates the potential for a vicious circle as labour quality declines at the same time as skill-shortages create labour demand constraints, resulting in fewer and lower-quality employment opportunities. HIV/AIDS severely exacerbates this vicious circle. Losses in productivity of workers through sickness-related absenteeism and death of relatives may explain some of the decline in productivity. According to UNAIDS (2002), in Malawi and Zambia there has been a massive increase in illness and death rates among health workers in particular, though there is no reliable information on this (Bennell 2003).

Formal Sector Employment Trends

Official statistics indicate that formal sector employment declined slightly after 1986, when it reached its peak of 556,000, to 546,000 in 1992. Subsequently the decline was considerably more rapid, to 416,000 in 2002 (see Figure 3.2 and Table 3.17). The dramatic drop in formal sector employment cannot simply be attributed to redundancies directly related to the privatisation process alone. According to data from the ZPA, privatisation-related redundancies between 1992 and 2003 for 253 listed companies affected just over seven thousand employees, which is 5.4 percent of the total formal job losses recorded in the same period by the CSO.⁵³

Much of the decline in formal employment followed from the demand-constraints on, and trade liberalisation of, the economy in the 1990s, especially in manufacturing and mining sectors. The only exceptions to employment decline were in tourism-related activities, and large-scale farming in horticulture and tobacco, particularly after the arrival of a few hundred Zimbabwean commercial farmers. These sectors generated far too little employment to offset the fall of employment in manufacturing, in which employment had increased threefold from independence to the mid 1970s, then fluctuated with no trend in the 1980s (Figure 3.2). From the late 1980s on manu-

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facturing employment entered into a systematic decline. Agricultural formal wage employment followed a similar pattern, though apparently increasing more rapidly than manufacturing during the 1980s (see Figure 3.2). However, the extraordinary increase in the second half of the 1980s may be merely the result of different reporting systems and sources. In other sectors formal employment in 2003 was ten percent below its 1990s level in construction, fifty percent lower in manufacturing, and seventy-five percent in mining.⁵⁴

Copper prices partly explains the employment performance throughout the economy during the 1970s and first half of the 1990s, but less so during 1987-2000 (Figures 3.1 and 3.2). In the latter period copper prices fluctuated, even rising briefly, but the stimulating effect on the economy did not match the previous negative effect.

Another aspect of the formal employment market has been discrimination against women. Women were and are concentrated in the lower ranks of the public sector, in both government agencies and parastatals. As a result, the effects of retrenchments and redundancies resulting from the Public Sector Reform Programme and privatisation of publicly owned enterprises had a particularly negative impact on women, forcing many into the informal sector. As a result of the reduction of employment opportunities in the formal sector, women in increasing numbers have sought livelihoods in the informal sector (the informal sector is discussed in the following section).

It would appear that about fifty-five percent of women are working in the informal sector. As in formal sector employment, women are concentrated in the service and lower income areas of the informal sector, often adapting their domestic activities, such as food production, to the cash economy. Women also are in a large majority (70.6 percent) of unpaid family workers. (World Bank, 1993b: xi)

*Informal Labour Market*⁵⁵

The trends in formal wage employment are consistent with other evidence of growing informalisation of the labour market. However, precise information on the 'casualisation' of labour does not exist to document this. Sporadic official data, indirect evidence from the LCMS, interviews with government experts and other informants in Lusaka, plus some qualitative evidence (see Milimo et al. 2002) offer indications of a tendency towards informalisation.⁵⁵

We noted above that women have been pushed from the formal to the informal sector, and concentrated in the service trades. It also appears that their activities are ones in which the income elasticity of demand is low, serving poor populations in a saturated market. These are trades characterised by ease of entry and requiring little initial capital outlay. As a result, incomes are under continuous threat from competition as new entrants, frequently redundant from the formal sector, crowd into the easy-entry activities. These activities, such as vending and brewing, are characterised by low productivity, such that the operators have little prospect for development and expansion (Touwen, 1990:12). The informal sector is also subject to official harassment as activities may be illegal, such as unlicensed home brewing and trading. Women are subject to arrest, confiscation of goods and fines, which further reduces their profit levels and increases the risks of economic activity (Bardouille, 1991:131).

Casualisation and informalisation were reflected in the increase of reported self-employment, unpaid family labour, and shifts in the sector composition of employment towards services, particularly transport, trade, finance and construction.⁵⁷ The fall in the share of the category 'employees' from twenty-five percent in 1986 to seventeen in 1998, sixty-one to fifty-two in urban areas, corresponds to the decrease in wage employment discussed above. This shift appears more dramatic if one looks at

Census data, whose comparisons are less vulnerable to the sampling peculiarities of surveys. Between 1990 and 2000 the proportion of 'employees' in censuses fell from nearly thirty-one percent to eighteen, a decline occurring both in urban and rural areas (Table 3.14). In Zambia, as in South Africa (Theron 2005), there was a shift away from the standard employment relationship typical of the mining and manufacturing sectors. Part of this change resulted from retrenchment, especially in public enterprises. An analysis of poverty data from the various surveys during 1991-2003 indicates that the poverty headcount of government and public enterprise employees significantly decreased, especially for 1991-96.

It would appear that in the privatisation process job losses were concentrated among unskilled, lowly paid workers. Thus, the 'losers' in the retrenchment process were the poorest workers, who fell into activities with even lower remuneration, such as subsistence farming, petty trade, charcoal burning and casual piece work. Women were over-represented in this category of 'losers' due to their concentration in the service and lower income areas of the informal sector (Byrne 1994, 23). In other words, the retrenchment process was anti-poor and gender-biased, first because of its demand effect through a lower wage bill, and second through retrenching lower paid workers from public enterprises.

In the household survey of 2003, the proportion of the working age population employed in the 'informal sector' was eighty-three percent for the country as a whole, ninety-three percent in rural areas and fifty-six in urban areas. These can be compared to the 1986 percentages, seventy-seven, eighty-nine and forty-three, respectively. Even though these percentages must be viewed as approximations because of definitional ambiguity, the evidence is clear that in Zambia an extremely high and perhaps growing proportion of employed people lack employment rights and receive very low (often below-poverty level) wages.

Recent surveys show that a higher incidence of informal employment is associated with higher poverty levels, for small and medium-scale farmers, households in low-cost urban areas, and provinces other than Lusaka and Copperbelt (see Table 8.10 in GRZ 2004, 100; and Kamya 1994).

The informalisation involved a retreat into low-return subsistence farming associated with an increase in the proportion of unpaid family workers. In urban areas, the dramatic fall in mining, manufacturing and construction in relative terms was matched by an increase in services (again, see Table 3.17). If similar to other countries of the region, these categories include a wide range of casual and low remunerated occupations such as street vending, hawking, bar services, domestic service, repairs, and petty transport (Milimo et al. 2002). Women are particularly confined to very low-return activities, especially serving poor populations in saturated markets. Moreover, women involved in trading and brewing activities are also victims of official harassment to prevent these activities, i.e. arrests, confiscation of goods, etc. (Byrne 1994, 25).

Some of these trends indicate a failure of labour markets to adjust to the new policy environment and structure of incentives fostered by structural adjustment policies. Despite the intention of structural adjustment to favour tradable sectors, this did not happen (Chiwela and Chinganya 1997). However, a dichotomy between tradables and non-tradables may be too crude, especially since all agricultural outputs are treated as tradable while in reality the sector is heterogeneous and much of its production is non-tradable due, for example, to transport costs. Information used for employment patterns is not sufficiently disaggregated to provide an accurate picture of tradable and non-tradable trends and changes between more relevant sub-categories of activity. The labour market rigidities alleged by the structural adjustment analysis were not necessarily dictated by interventionism or

3 anti-poor bias of labour policies. The absence of a social security system, technical difficulties in switching skilled labour across different sectors, the time lags and scarcity of skilled labour for different occupations represented 'rigidities' more important than labour regulation, whose enforcement was sporadic. In practice it is not clear how important organised labour was across sectors. It may be that unions in Zambia had an impact on the slow employment adjustment to the stagnation and reforms, but there is no direct evidence of this. The role of unions has been exaggerated, and much of the collective bargaining took place at the firm or industry level where adjustments were less easily blocked (Chiwele and Chinganya 1997).

In summary, evidence for state or trade union created 'rigidities' is far from conclusive. Certainly by the mid-2000s such rigidities were of little importance. A 2004 World Bank assessment of constraints on businesses in Zambia shows that labour regulations rank low in the order of importance, sixteenth out of seventeen constraints.⁵⁸ Only seventeen percent of enterprises reported that labour regulations were a major constraint. Retrenchment rules changed shortly after the Privatisation Act, prior to which the World Bank alleged, 'retrenchment was never really an issue in Zambia' (WB 2003a, 28). The changes increased retrenchment benefits significantly at the same time as privatisation-related layoffs became irreversible, although the retrenchment formulae only referred to basic pay, which was often below forty percent of salary plus benefits (WB 2003a, 28). In many cases retrenchment packages were not paid, 'leaving employees in limbo' (WB 2003a, 28). The retrenchment costs of privatisation were uneven, because schemes and implementation have varied among companies. This variation makes general conclusions about the effects of labour unions on the labour market rather unconvincing and, in the absence of concrete evidence, motivated in part by ideology.

Overall, it is hard to interpret the trend towards informalisation and greater reliance on irregular and low remunerated self-employment as other than a major symptom of Zambia's decline.⁵⁹

Rural labour markets

Available information on rural labour markets is inadequate for a rigorous analysis. What evidence exists suggests that rural labour markets are quite fragmented. It would appear that the incidence of casual wage work is particularly high in rural areas, but largely unmeasured due to the difficulties in collecting reliable data through large-scale national household surveys. There are different forms of labour transactions and exchange, which vary between provinces and types of farmers/employers. The territorial distribution of large and medium scale farmers, and their concentration along the 'line of rail' biases the distribution of enumerated and unrecorded agricultural wage labour in Zambia. Micro-level research shows that small scale farming generates casual wage employment under precarious conditions (Leavy 2003).

Seasonal and casual wage work is available both in plantations (coffee, sugar) and in neighbours' farms. Employment in larger-scale plantations tends to be better paid compared to when poor farmers work for their richer neighbours, though wage levels were in any case very low in the early 2000s (Leavy 2003). Wages paid by neighbours may be in cash or kind and determined with a high degree of discretion depending on the personal arrangements and the bargaining power of casual labourers.⁶⁰ This kind of work usually involves the 'most dirty and physically demanding tasks, such as clearing an area for cultivation, planting, weeding, harvesting or shelling and pounding grain' (Milimo et al., 2002, 28).

For extremely poor households casual wage work is a coping strategy that derives from their inability to grow enough food on their holdings. For the less poor it is an income source for accumulating cash for

marriage, migration, and working capital. The number of days available for work and the levels of remuneration may be important determinants of levels of poverty in rural areas. Therefore, systematic information on rural labour markets is essential in order to create programmes for sustainable poverty reduction.

In summary, little is known about the operation of rural labour markets other than that remuneration is low and working conditions precarious. This is a particularly serious information gap, because, as shown at the beginning of this chapter, the majority of the poor live in rural areas. As a consequence, ignorance of the conditions under which the poorest gain their livelihoods makes designing effective poverty programmes difficult. If there is one thing that is known about rural poverty, it is that the simple 'trickle down' resulting from agricultural growth is not an effective strategy for poverty reduction; indeed, it is not a poverty reduction strategy at all.

Wage Levels and Tendencies

There is little disaggregated information on wage structure, let alone wage trends. Moreover, in Zambia, as in most sub-Saharan countries, few resources have been allocated to collect time-series data on the wages of workers outside the formal sector (see Annex 3A.1). The lack of information is a major impediment for a serious analysis of the impact of policies on the poorest people in the country. It also represents a constraint to investigating the interaction between poverty and employment, which would be the focus of this report were the information available. However, it is probably the case that the nature of informal employment largely precludes the collection of such information.

Soon after independence, the 1966 Brown Commission formally ended racial discrimination in wages and salaries, which resulted in substantial wage increases for black workers up to 1973 (Mkandawire 1993, 461). The increase in mining and

urban wages for black workers in this period also resulted in a growing gap between rural and urban earnings in the 1970s, though the gap has been exaggerated (Jamal and Weeks 1993). Real average earnings started to fall in the early 1970s for recorded wage employees during the first copper crisis.

Reductions in real wages occurred in all sectors and more markedly in mining, where wage levels in 1983 were just fifty-four percent of their 1970 level in real terms (Colclough 1989, 24). Agricultural average earnings did not fall as steeply, but their levels in 1983 were a third of those in mining, half of the manufacturing wage, and forty percent of transport earnings.

The fall in real earnings had its greatest impact on public sector workers, particularly those on the higher scales. In 1986 white-collar workers received a salary sixteen percent below the 1967 level, while salaries for the lowest paid workers fell by roughly forty percent (Colclough 1989, 26-29). This wage policy on the part of the government would lay the groundwork for the abysmally low salaries in the upper levels of the civil service that undermined morale and fostered corruption during liberalisation in the 1990s and into the 2000s (see Nielsen and Rosholm 2001). Also pro-poor were the government food subsidies, particularly on maize-meal (Bigsten and Ass. 2000; Colclough 1989), which would be an early casualty of the IMF stabilisation package of 1985 (Colclough 1989, 30). To a large extent, the episodes of more drastic real wage cuts were associated with devaluations of the Kwacha. The wage and salary declines at the end of the 1970s and into the 1980s would be but the beginning of a long descent. In 1996 real wages in the public sector had dropped to approximately forty-five percent of their 1984 value (Seshamani and Kaunga 1996).⁶¹

Use of household survey data indicates the magnitude of the fall in formal sector real wages. In 1991, nominal wages ranged from 5700 Kwachas per month for agricultural workers to 16,145 for finance and

3 insurance workers. Two years later in 1993 nominal wages for recorded employees ranged between 12,671 for agricultural workers, and 41,000 in mining and quarrying. Taking inflation into account between the two surveys, real wages for the lowest paid workers (agriculture) dropped by sixty percent, and by fifty-four percent for the highest salaries in finance and mining. (GRZ 1999, 116). In sum, the rather unsystematic evidence shows that, the decline in real wages for recorded formal sector workers was devastating during the 1980s and 1990s.

A major element in the rise in poverty was the fall in recorded wage employment. As we have seen before, surveys at a sector level and censuses record a process of informalisation of the labour market, compounded by a marked deterioration in working conditions in formal employment, both public and private. With the sharp rise in the price of copper after 2004, investment and employment increased in mining, and to some extent this spread to other sectors, most notably construction. Evidence is limited, but newspaper accounts, government investigations and discussions with employers and unions suggest that wages in some of the new mines are below poverty level. In addition, working conditions, especially safety conditions, in practice failed to meet government standards.

The rejuvenation of formal employment should not be on the basis of poverty wages and the ill-health of workers. To prevent this, the relevant agencies should receive increased funding to monitor working conditions, and the government should foster a simultaneous recuperation of employment and trade union effectiveness.

3.5 Conclusion

This chapter has presented and discussed evidence concerning poverty, social indicators and employment in Zambia.

Throughout the chapter and especially in the annexes it has been emphasised that, despite a significant number of household

surveys having been organised since 1991, available statistical information presents a series of problems that cannot be ignored, which have an effect on the interpretations about poverty and employment trends in the past decades. In spite of these statistical gaps, it has been possible to draw a consistent picture of the situation, taking into account policy changes in the last fifteen years. Four main messages arise from the analysis in this chapter:

- **Poverty** incidence is still very high and probably stagnating but many urban people have been falling into poverty over the last decade. However, the chapter has warned about serious problems with survey comparisons to analyse poverty trends.
- **Rural poverty** seemed to slightly improve from extremely high levels (destitution) in 1991. Given the importance of agriculture (own account and through wage employment), which affects the lives of millions of rural poor, agricultural development is critical in the medium term but not only answer, as we shall see in chapter 4.
- **Inequality** is a very important issue even with high poverty incidence: there is urgent need for redressing various dimensions of inequality particularly through employment creation and enhanced pro-poor redistributive fiscal expenditures and reformed social services.
- **Employment** there is no accurate data for any detailed assessment but growing informalisation and crisis in regulated wage employment are corroborated by a number of available indicators. This calls for a renewed focus on employment creation (directly and through better incentives to private sector) and a decent work agenda with pro-active state intervention.

As shown in this chapter, poverty incidence is very high according to the latest (2003) household survey, reaching sixty-seven

percent of the population and three quarters of rural households. The analysis of poverty trends is problematic as a result of various methodological challenges.

However, we have concluded that there is no clear statistical tendency between 1991 and 2003 in terms of overall poverty, rather a fluctuation around very high levels (sixty-five to seventy-five percent), with a slight improvement after 1998 following a considerable deterioration which particularly affected urban areas. A more disaggregated analysis has shown that while the bottom poorest people did relatively better, the top sixty percent of the population, many living below the poverty line, suffered from an absolute decline in their real incomes particularly between 1991 and 1998. The relative improvement of the poorest rural people arose from initial conditions of pure destitution and, probably, from previously worsening living standards during the 1980s. The deterioration of living standards in urban areas has been significant and its relationship with processes of economic reform, privatisation and the crisis of the Organised (formal) non-agricultural sectors seems more than a coincidence.

Other social indicators corroborate the poverty trends. From 1980 a marked deterioration of health, nutrition and education standards has been noted, slightly attenuated only recently. The unfolding of the HIV/AIDS crisis, which bears close association with generally worsening health conditions, has compounded these negative trends. Apart from the natural spread of the pandemic, policy variables and their effects on health services have been emphasised. These processes must be coupled with many other symptoms of social and economic crisis as stressed in this chapter. Overall, Zambia lost much of the ground gained in the first two decades after independence in terms of education and health standards in the context of a relatively urbanised society.

High levels of poverty, high average indices of social deprivation (health and education) and low average incomes mask

significant differences among social strata. In this chapter we have presented compelling evidence about the high, and probably growing, degree of inequality in terms of income and social indicators. Evidence on unequal prospects for different social groups, stratified by income sources, livelihoods, geographical location and gender suggest that pro-poor policies should place inequality at the forefront of the agenda.

Evolution of employment indicators is consistent with trends in poverty and social indicators. Most surveys, sector-level data and censuses suggest that there has been a process of informalisation of the labour market compounded by a marked deterioration in working conditions (wages, security, job opportunities) in the formal (organised) labour markets. Recorded unemployment increased since the mid-1980s,⁶² while formal sector (enumerated) employment has declined until recently to levels recorded in the mid 1970s despite a significant growth in the labour force over the last thirty years. The crisis in the mining and manufacturing sectors, protracted since the late 1970s, lies behind this poor labour market performance. The 'informal' unorganised sector has become the pool where a growing mass of youth in search of first jobs and adults affected by retrenchment and deteriorating conditions flock in a typical 'survivalist strategy'. Micro-level evidence suggests that the growing informal sector is characterised by lack of dynamism, precarious work conditions, insecurity and saturation, particularly in the most common occupations that present few barriers to entry. Demand restraint, associated with the crisis in the formal sector, and declining incomes in urban areas, partly explains the bleak prospects of the informal unorganised labour market.

The deterioration of labour markets and the falls in formal wage employment and wage levels call for a much more pro-active set of employment policies. First, employment can be created and/or promoted in different sectors, especially:

- 3
1. Agribusiness: substantial scope especially in labour-intensive crops like tobacco, horticulture and cotton
 2. Vertical integration of smallholders in non-traditional export value chains (vegetables, cut flowers, tobacco), which may induce increasing demand for casual and seasonal wage labour in the locations where outgrowing schemes flourish.
 3. Manufacturing (initially sub-sectors linked to agriculture), which needs a substantial recovery and more imaginative trade and industrial policies through enhanced policy and autonomy;
 4. Infrastructure construction, especially roads linking more remote areas and rural roads, and road maintenance. This can be implemented through judiciously planned public work schemes targeted at poorer areas and households thereby creating employment and injecting cash in much needed local economies.
 5. Tourism is often mentioned as having a substantial employment potential, especially to absorb part of the semi-skilled labour force that is currently precariously employed in informal economic activities of little dynamism and prospect.

Employment creation will require substantial public investments and different macro-economic policies, especially to spread (cheaper) credit access to sectors with greatest employment potential. Secondly, these incentives for the private sector to promote employment creation should be accompanied with unambiguous measures for a 'decent work agenda' that focus on employment conditions of the poorest, especially daily wages, other benefits (transport and meal allowances, nurseries, social responsibility programmes, etc.) and health and safety standards.

Enforcement of decent work standards can be used as a central element of a list of performance criteria to selectively promote industries and employers through a range of

fiscal, financial and technological incentives.

In general, the links among poverty, social indicators, and employment and inequality suggests that any pro-poor economic policy should be designed while taking into account the nexus between these various dimensions. These trends and profiles present clear symptoms of a socioeconomic crisis that calls for a more innovative and less restrictive approach to the linkage between macroeconomic policies and social outcomes through a more clearly defined employment nexus. This means that poverty reduction cannot be tackled in isolation from more pro-active and ambitious measures to address the high levels of inequality and the deterioration of employment prospects in the last two decades. A 'decent work' agenda both in urban and rural areas with pro-active state intervention is essential at this stage. The challenges ahead imply that a significant boost in the productive economy, social infrastructures and the real incomes of both rural and urban people is necessary if these trends are to be reversed on a more sustainable basis.

22 The definition of rural strata can only be found in the 1993 survey report. Farmers are stratified according to scale, defined in terms of cultivated land, with cut-off points at five and twenty hectares. If households are mainly engaged in animal husbandry more criteria apply (numbers of cows, beef cattle, pigs, poultry, etc.). See GRZ (1993).

23 Note that 'small-scale rural households' account for 61 percent of the total population (over 6 million people) and 93 percent of the rural population. Therefore, as a social category, it cannot be very homogenous.

24 Income data should be treated with even more caution than consumption expenditure data.

25 According to the official indicators, overall incidence just went down from 69.7 percent to 66.5 of the population (1991-2003), which is not a statistically significant change, whereas more successful countries like Mozambique have seen poverty levels drop from 69.4 to 54 percent between 1997 and 2003. Extreme poverty incidence and rural poverty fell more significantly, especially between 1998 and 2003. Urban poverty increases from 48.6 to 56 percent during 1991-1998, and then dropped to 52.2 percent in 2003. Bear in mind that surveys differed in the periods covered and that a seasonality pattern of consumption could be demonstrated in the 2003 survey (see Annex 3.1 and Tables 3.A.1 and 3.A.2).

26 See Annex 3.2 on the technical aspects and illustration of CDF applied to 1991 and 1998 survey data.

27 At the time of this report the mission did not have access to the 'cleaned' database for LCMS III 2003, so it was not possible to extend the density function analysis into 2003.

28 In statistical terms, neither of these distributions is stochastically dominant.

- 29 If one leaves out the implausible lower bound values (see below), the situation worsens in absolute terms from the twenty-eighth percentile approximately, i.e. the top seventy-two percent of the population had negative rates of real PAE expenditure growth. See Figures 3.A.1 and 3.A.2. 30 See Annex 3.2 and Figures 3.A.1 and 3.A.2 on the consequences of dropping very low consumption outliers or not.
- 31 See chart 2.1 in Turlow and Wobst (200, 26). See Figure 3.A.3 in Annex 3.2.
- 32 When reaching this conclusion, it must be stressed that a panel series does not exist to assess poverty dynamics. If consumption of the poorest rural percentiles greatly depends on food the households produce, the differences between 1991 and 1998 in terms of harvest and the seasonality of the survey will have a major impact on the pattern of growth incidence curves.
- 33 One could label it a 'pro-poor recession'.
- 34 See GRZ (2002), GRZ-DHS (1997) for evidence of health and nutrition worsening. The latest DHS (2003) has finally shown some signs of improvement for a range of health indicators. See table 3.5 for evidence on education.
- 35 Today Zambia is one of the worst places in the sub-Saharan region for a range of health indicators. Apart from very high child mortality rates, Zambia is among the countries in Africa with the highest malaria-related maternal mortality and a very high incidence of HIV/AIDS and AIDS related morbidity.
- 36 In a relatively short period of time, like 1991-1996, stunting had increased from forty to forty-two percent (GRZ 1997, 3). See also Haddad and Garrett (1999).
- 37 The scale of HIV/AIDS epidemic in Zambia may well be exaggerated, given the discrepancies existing between antenatal clinic estimates and population estimates. Bennell (2004, 2) quotes evidence from the latest DHS survey, in which HIV prevalence was 17.8 percent for women and 12.9 for men (15.6 percent overall) in 2001, whereas the official UNAIDS estimates stayed at twenty-one percent (from ANC posts). Whether HIV prevalence in Zambia (like elsewhere in Africa) has been overestimated or not, the existing high levels leave absolutely no room for complacency.
- 38 The PRSP (GRZ 2002b, 84) also reports increasing chronic illness incidence.
- 39 It is worth noting that U-5 mortality is severely affected by the HIV/AIDS pandemic. According to estimates by UNAIDS (2002) Zambia's U5 mortality rate would be thirty-eight percent lower in a 'without-AIDS' scenario during the 1995-2000 period.
- 40 Milimo et al. (2002, 34) quote negative trends of forty-six percent in 1970-81 and a further decline of forty-four percent from 1980 to 1992. Simms et al. (1998) argue that the deterioration of basic health services was one of the root causes of increasing child mortality over the 1980s. The Zambian PRSP also points to the long distances from health centres and the lack of transport as key determinants of health seeking behaviour (GRZ 2002, 85).
- 41 The impact of user fees is controversial but most evidence suggests a significant decrease in utilisation of health services, even acknowledged by the Government in the 2002 PRSP: antenatal and family planning attendance dropped; STDs treatment dropped by seventy-six percent; 'although government policy calls for free referrals from the first level care, the resource gap resulted in hospitals charging even those who have been referred' (GRZ 2002, 85).
- 42 Only since primary school tuition fees were removed in 2002 the trend was reversed and demand for free education increased significantly.
- 43 'Life-prolonging anti-retroviral drugs have not been available at all' (Bennell 2003).
- 44 See IMF (2004b, 8) and WB (2004b, 23). The WB (2004b, 23) confirms that 'teachers are underpaid, too few in number, and frequently absent' and 'teacher distribution has remained skewed in favour of urban areas'. See also GCE (2004) report on the teachers' crisis in Zambia.
- 45 This is especially the case if we take seasonal consumption patterns and survey design differences into account. See Annex 3.1.
- 46 See Figure 3.A.4 in Annex 3.2 for a graphical illustration of the high degree of inequality.
- 47 Note that comparisons between pre- and post 1990 income-based inequality measures should be taken with a lot of caution because there were significant differences in coverage.
- 48 For a critique of the rural urban gap hypothesis, see Jamal and Weeks (1993).
- 49 See Lorenz curve in figure 3.A.4, which shows less inequality for all strata between 1991 and 1998, even though levels remain very high by any standards. See also Table 3.6.
- 50 The 1986 survey was published with considerable delay, and provided relatively little disaggregated data. Staff at the CSO presented proposals to organise another labour force survey, drawing on lessons from South Africa. The government did not take action, and there seemed little interest by donors and lenders in providing funds for such surveys.
- 51 See Sender et al. (2005) on similar trends in various SSA countries.
- 52 These trends are also consistent with evidence of 'ruralisation' and rural-rural migration commented above. See also Padarath et al. (2003) on health brain drain in the SADC region.
- 53 An official in the Ministry of Labour confirmed that the privatisation process had only worsened already negative trends in formal sector employment.
- 54 This is based on authors' calculations from CSO sources.
- 55 Defined as "employment where the employed persons were not entitled to paid leave, pension, gratuity and social security and worked in an establishment employing 5 persons or less", which obviously includes small-scale farming (GRZ 2004, 98).
- 56 All our informants with knowledge of Zambia's labour markets (including officials at the Ministry of Labour) confirmed the tendency towards casualisation of employment, particularly in urban areas. This is also facilitated by the law, which allows temporary contracts (without usual protection measures) for up to 6 months, and by weak enforceability, which, according to Labour officials allows many employers to find loopholes and maintain large proportions of workers in a precarious contractual situation. This is especially true in rural areas and out of Lusaka. The Ministry of Labour has twenty-one offices in the field but none of them had a vehicle, according to a Labour Ministry official.
- 57 See all Tables from 3.13 to 3.17. Note that there are some anomalies in comparisons between surveys especially in the distinction between self-employment (SE) and unpaid family labour (UFL), which does not seem consistent across surveys. Thus, for the purposes of this argument, SE and UFL can be lumped together.
- 58 See WB (2004a, 21-22).
- 59 Qualitative assessments showed how urban focus groups made certain activities (growing in most urban areas of Zambia in the 1990s) like street vending, piece-working, charcoal burning, prostitution and others as equivalent to being 'unemployed' (Milimo et al. 2002, 22).
- 60 The daily wage paid in these large-scale farms was above the average daily per capita expenditure of small-scale farmers (the poorest rural stratum) as estimated in the 2003 LCMS survey (2,800 Kwachas approximately). Wages paid by local small-scale farmers are well below these levels.
- 61 In 2000, the real wages of various categories of civil servants was less than twenty percent of their 1975 level' (WB 2004b, 26).
- 62 Note, however, that the unemployment rate may be a misleading indicator of labour market performance in a developing country context as argued in this chapter. See also Oya and Weeks (2004).

Table 3.1: Poverty trends 1991-2003 from various sources

		1991	1993	1996	1998	2003 ^a
Official sources	Extreme poverty incidence	58.2	60.6	53.2	57.9	46.0
	Poverty incidence (PO)	69.2	73.8	69.2	72.9	66.5
	Poverty gap(depth-P1)	62.2	58.3	51.3	40.1	27.1
	Poverty severity (P2)	46.6	40.5	32.3	26.7	13.9
Alternative calculations ^b	Extreme poverty incidence	56.5	-	65.8	59.8	-
	Poverty incidence (PO)	68.5	-	79.4	75.4	-
	Poverty gap(depth-P1)	41.7	-	45.4	40.0	-
	Poverty severity (P2)	30.6	-	30.7	25.6	-
Alternative calculations ^c	Extreme poverty incidence	57.0	-	68.6	55.8	-
	Poverty incidence (PO)	69.5	-	81.3	71.9	-
	Poverty gap(depth-P1)	42.1	-	47.4	36.9	-
	Poverty severity (P2)	30.9	-	32.3	23.1	-

Notes and Sources:

a The 2002/03 LCMSIII results are not strictly comparable with previous surveys because the design was different.

b Thurlow and Wobst (2004).

c McCulloch et al. (2001).

Includes mission calculations from GRZ (CSO 1991, 1993, 1997, 1998, 2004), Thurlow and Wobst (2004), and McCulloch et al. (2001).

Table 3.2: Rural and urban poverty: official statistics, 1991-2003

Survey year	1991		1993		1996		1998		2003 ^a	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Extreme poverty incidence	80.6	32.3	83.5	24.4	68.4	27.3	70.9	36.2	52.0	32.0
Total poverty incidence (PO)	88.0	48.6	92.2	44.9	82.8	46.0	83.1	56.0	74.3	52.2
Poverty gap (depth-P1)	69.7	46.4	65.3	35.4	55.6	37.9	49.3	23.7	31.3	19.2
Poverty severity (P2)	54.6	29.9	47.6	17.4	36.5	19.4	34.2	13.2	16.5	9.3

Notes:

a The 2002/03 LCMSIII results are not strictly comparable with previous surveys because the design was significantly different and measurement errors cannot be distributed.

Sources:

LSMS surveys and mission's calculations for poverty gap and severity in 1998.

Table 3.3: Poverty Ratios: incidence, depth and severity by province, 2003 (ratios in percentages)

Province	Head count PO	Poverty gap P1	Severity P2	% of population
All Zambia	67	27	14	10,757,192
Rural	74	31	17	65.1
Urban	52	19	9	34.9
Province				
Central	69	30	16	10.2
Copperbelt	59	23	12	15.9
Eastern	71	28	14	13.4
Luapula	70	29	15	7.9
Lusaka	56	22	11	13.9
Northern	81	38	21	12.7
North Western	72	30	16	5.9
Southern	63	24	12	12.4
Western	65	24	12	7.6

Notes:

Head count The percentage of people below the income line designation as poverty level.

Poverty gap The mean distance below the poverty line as a proportion of the poverty line where the mean is taken over the whole population, counting the non-poor as having zero poverty gap. That is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. From the UN Statistics Division:

(http://unstats.un.org/unsd/mi/mi_dict_xxxx.asp?def_code=438).

Severity Measure of inequality among the poor. For explanation, see

<http://www.fao.org/Wairdocs/TAC/X5784E/x5784e0m.htm>.

Source: GRZ, CSO (2004).

Table 3.4: Poverty Incidence by economic group, 2003 (percent)

	Extremely poor	Moderately poor	Total poor	Population shares
All Zambia	46	21	67	
Rural stratum	52	22	74	65.1
Small scale farmers	54	22	76	60.7
Medium scale farmers	35	29	64	1.1
Large scale farmers	-	33	33	.0
Non- agricultural households	35	20	55	3.2
Urban stratum	32	20	52	34.9
Low cost areas	39	23	62	27.2
Medium cost areas	13	17	30	3.6
High cost areas	4	4	8	4.0

Source: GRZ [CSO] (2004).

Table 3.5: Education Indicators, 1970-2002

Item	1970	1980	1990	2000	2002
School enrolment:					
Total gross	-	-	94	79	82
Female, gross	-	-	89	76	79
School enrolment:					
Total (net)	-	-	79	66	68
Female	-	-	78	65	68
Literacy rate	49	59	68	78	80
Female	32	47	59	72	74
Youth*	64	73	81	88	89
Female youth	50	65	76	86	87

Note: *Defined as persons 15-24 years old.
Source: WDI 2005, WB and UNESCO.

Table 3.6: Coefficients and income shares, 1959-2003

Basis of calculation	Year	Gini	Quintiles					Ratio Q5 to Q1
			Q1	Q2	Q3	Q4	Q5	
Consumption	1991	59.3	0.9	5.2	11.7	21.4	60.8	67.0
	1993	51.1	3.2	7.6	13.0	21.2	55.1	17.5
	1996	54.8	3.5	7.0	11.3	18.5	59.7	17.2
	1998	57.4	2.8	6.4	11.0	18.3	61.6	22.4
Gross income	1959	48.1	6.3				57.1	9.1
	1972	57.0	na				na	na
	1976	55.6	3.7				56.6	15.3
	1991	77.3	0.5	2.6	5.5	10.6	8.08	147.3
	1993	66.0	1.9	4.9	8.8	15.8	68.6	36.8
	1996	61.4	1.9	4.7	8.6	15.6	69.1	36.4
	1998	64.7	1.6	4.6	8.4	15.2	70.2	43.9
	2002/03	57.0	3.6	7.1	10.6	16.8	62.0	17.5

Source: latest version of WIID database (WIDER 2005) and own calculations from CSO (various reports). All values, except for ratio in last column, are in percent terms.

Table 3.7: Health indicators by asset quintiles, 2003

Wealth quintiles	Q1	Q2	Q3	Q4	Q5	All
Health indicators						
IMR x1000	124	132	105	104	70	108
U5MR x 1000	212	226	191	191	136	192
Immunisations coverage	71	77	80	80	86	78
Age-specific fertility rate (15-19 yrs) per 1000	210	172	179	161	86	158
Births:						
Delivery in public hospital/ clinic	14	16	28	64	63	36
Delivery in private hospital/ clinic	6	8	8	4	28	10

Source: Gwatkin et al. (2000).

Table 3.8: Literacy by Wealth Quintiles, 2003

Wealth quintiles	Illiterate	Literate	Cannot sum numbers
Poorest	97	3	74
Second	96	4	68
Third	91	9	56
Fourth	78	22	36
Fifth	54	46	15

Source: CSO and ORC Macro (2003).

Table 3.9: Schooling by wealth quintile, 2003

Wealth quintiles	Never attended	Dropped out	Primary	Secondary or higher
Poorest	38	26	33	2
Second	34	25	37	3
Third	29	27	39	4
Fourth	21	29	40	9
Fifth	11	23	45	19

Source: CSO and ORC Macro (2003).

Table 3.10: Malnutrition by wealth quintiles, 1996 and 2001

Wealth quintiles	Stunting		Underweight	
	1996	2001	1996	2001
Poorest	53	42	32	26
Second	48	40	28	23
Third	46	40	24	23
Fourth	37	26	18	9
Fifth	25	12	13	6
Q1/ Q5	2.12	3.50	2.46	4.33

Source: CSO and ORC Macro (2003)) and Gwatkin et al (2000).

Table 3.11: Child mortality rates by strata, 1992 and 2001-2002

	Infant and child mortality		Under-five mortality		
	ZDHS 1992	ZDHS 2001-02	ZDHS 1992	ZDHS 2001-02	Percent change
Urban	78	77	150.8	140	-7.2
Rural	115.8	103.0	201.2	182	-9.5
Education level					
No education	115	108	204	198	-2.9
Primary	99	99	182	177	-2.7
More than primary	79	70	135	121	-10.4

Source: CSO and ORC Macro (2003).

Table 3.12: Unemployment rates, 1986-2003 (percent of labour force)

Year	Zambia	Rural	Urban
1986	13	11	19
1991	22	14	34
1993	20	14	33
1996	15	9	29

Note: Relevant age starts at seven for 1991 and 1993 and twelve for 1986 and for 1996 onwards.
Source: Mission calculations from GRZ [CSO] 1986, 1993, 1996, 1998 and 2004.

Table 3.13: Changes in employment status, household survey data: 1986-2003 (percent of labour force)

	Self-employed				Unpaid family workers			
	1986	1996	1998	2003	1986	1996	1998	2003
Zambia national	69	51	55	60	5	27	27	20
Urban	81	55	59	67	5	36	35	26
Rural	33	40	42	40	4	4	4	3
	Employees				Employers			
Zambia national	25	21	17	20	1	1	0	0
Urban	13	9	5	7	0	0	0	0
Rural	61	54	52	56	1	1	1	0

Note: Figures for population twelve and older.
Sources: Mission calculations from GRZ [CSO] various years 1986, 1997, 1998 and 2004.

Table 3.14: Changes in employment status from household survey data: 1991-1993 (percent of labour force)

	Self-employed		Employees		Employer		Unpaid family worker	
	1991	1993	1991	1993	1991	1993	1991	1993
Zambia national	41	43	25	18	0	0	30	37
Urban	49	48	6	4	1	0	41	48
Rural	23	29	63	62	0	1	3	6

Note: The remnant to 100 is accounted for 'other' and 'not stated'; figures for population of seven and older.
Source: Mission calculations from GRZ (CSO) 1991 and 1993.

Table 3.15: Changes in employment status from census data: 1990-2000
(percent of labour force)

	Self-employed		Employees		Employer		Unpaid family worker	
	1990	2000	1990	2000	1990	2000	1990	2000
Zambia national	27.3	39.7	30.6	18.3	1.8	0.4	37.4	41.6
Urban	31.2	42.1	11.3	6.3	1.0	0.2	54.3	51.4
Rural	20.2	32.5	66.2	54.5	3.2	0.9	6.4	12.0

Source: Census 2000.

 Table 3.16: Percentage distribution of employed persons 12 years and older
by employment status, rural/urban and sex. Zambia, 2002-2003

Employment status	Total			Rural				Urban		%Distribution of employment
	All	Male	Female	All	Male	Female	All	Male	Female	
All Zambia, % and 000's	100	100	100	100	100	100	100	100	100	3,517
Self-employed	60	63	57	67	77	57	40	32	54	59.7
Employed by: Public sector										
Central govt	5	6	4	2	3	1	14	14	14	4.9
Local govt	0	1	0	0	0	0	1	2	1	.5
Parastatals	1	2	0	0	0	0	4	6	2	1.3
Private sector	10	15	4	3	5	1	27	35	15	9.8
NGOs	0	0	0	0	0	0	1	1	1	.3
Embassies	0	0	0	0	0	0	0	0	0	.1
Household	2	2	2	1	1	0	5	4	6	1.8
Employer	0	0	0	0	0	0	0	0	0	.0
Unpaid family worker	20	8	32	26	12	39	3	1	5	19.6
Piece worker	2	3	1	1	2	0	4	5	1	1.7
Other	0	0	0	0	0	0	0	0	0	.2

Source: LCMS III 2002-2003 (GRZ CSO 2004).

 Table 3.17: Employment by sector of principal occupation, 1986 and
2003 (percentages)

	Total		Rural		Urban	
	1986	2003	1986	2003	1986	2003
Agriculture, Forestry and Fisheries	66	72	15	15	84	93
Mining and Quarrying	3	1	9	5	0	0
Manufacturing	5	3	12	10	2	1
Electricity, Gas and Water	0	0	1	1	0	0
Construction	2	1	5	4	1	0
Commerce, Hotels and Restaurants	10	10	23	28	5	4
Transport and Communications	2	2	6	5	0	0
Finance and Insurance	1	1	3	5	0	0
Communications and Social services	9	9	22	27	4	2
Not stated	3	0	4	0	3	0

Note: In order to keep consistency between both sources we have used the 1986 sector definitions and adjustments were made on the 2002/03 data. Thus, trade accounts for a single sector in the 2003 original source, but here it is added to Transport and Communications. Percentages less than 0.5 entered as zero.

Source: Own elaboration from GRZ (1986) and GRZ (2004).

Table 3.18: Distribution of the population 12 years and above by main economic activity, and various categories, 2002-2003

Categories	Economic status (in percent)					Population 12 & older
	Labour force		Inactive population			
	Employed	Unemployed	Full time student	Retired	Other	
Total (000's)	59	11	27	2	1	5,814
Sex						
Male	59	11	29	1	1	52
Female	60	12	26	2	1	48
Demography						
Rural	69	4	25	1	1	63
Urban	42	24	32	2	1	37
Categories						60
Farmers						
Small	70	3	25	1	1	59
Medium	62	2	34	1	1	1
Large	65	1	34	0	0	0
Non-agric urban cost Areas	66	10	20	2	2	3
Low	42	25	30	2	2	28
Medium	38	20	39	2	1	4
High	42	18	37	2	1	5
Province						
Central	63	8	26	1	1	11
Copperbelt	43	24	30	2	1	17
Eastern	75	3	20	1	1	14
Luapula	67	5	25	2	1	8
Lusaka	44	23	31	2	1	14
Northern	67	4	28	1	1	12
North Western	61	7	30	2	1	6
Southern	58	7	34	1	1	11
Western	69	5	24	1	1	7

Figure 3.1: GDP and the International Copper Price, 1955-2000

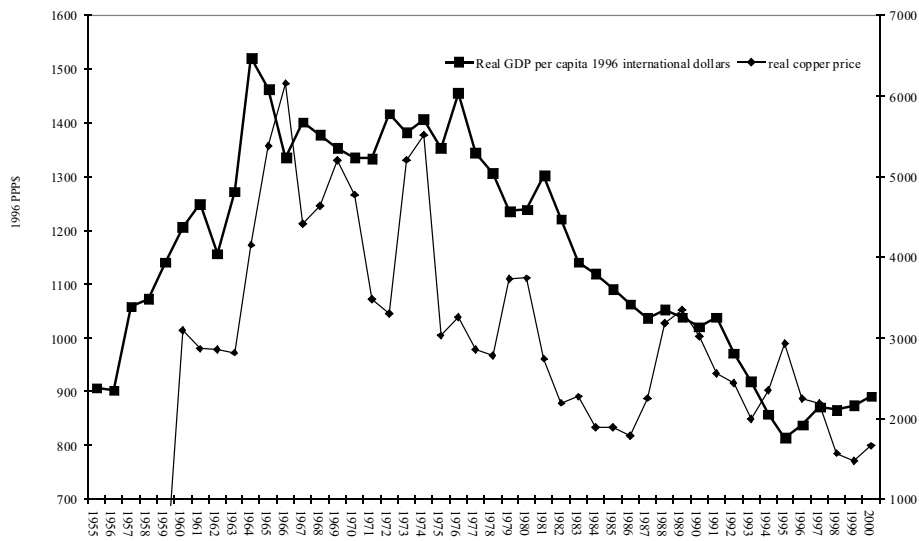
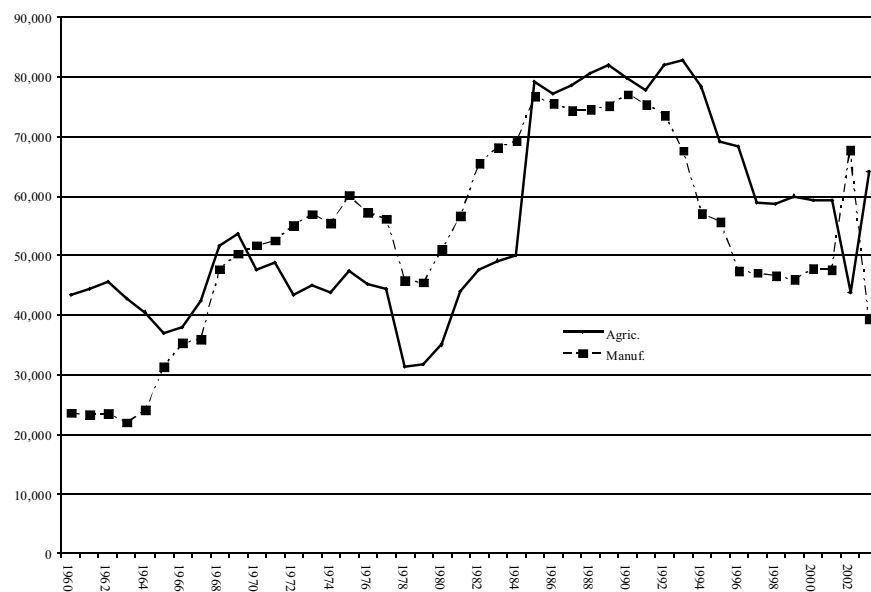


Figure 3.2: Formal sector employment in agriculture and manufacturing, 1960-2000



Annex

3A.1 Methodology and Data

Consumption-based poverty estimates

The household surveys since 1991 resulted in a number of reports and publications with quantitative and qualitative analysis (GRZ 1997; GRZ 1999, GRZ 2004, McCulloch et al. 2001, Thurlow and Wobst 2004, Miti et al. 1997, Kapungwe 2004; Milimo et al. 2002).⁶³ There are problems in using evidence from different surveys in order to assess differences in profiles and incidence trends, which raise the question whether the data and statistics based on them should be considered reliable information. Strictly speaking only the surveys 1991-1996-1998 are statistically comparable for trends. The 1993 survey was carried out immediately after the major annual harvest, while the other three surveys were undertaken during the so-called 'hungry season', well before the major harvest. Since expenditure estimates derive from one-month and two-week recalls by informants, and expenditures are strongly seasonal, comparing the hungry season with the post-harvest is likely to generate systematic errors. The 2003 survey collected representative information for three of the quarters, and the poverty head-count ratios that result differ significantly among quarters, as Table 3A.1 shows (see also Table 3A.2). The implication is that surveys organized in different periods may well yield different poverty estimates that merely reflect seasonality of consumption rather than real trends.

Most poverty indicators used by the government and by others are based on reported consumption expenditure and income. There is a vast literature on the relative merits of these welfare indicators, which will not be discussed here. It is sufficient to note that consumption expenditure, while it varies less over time than income, is affected by seasonal fluctuations that may not be randomly distributed across households. Qualitative evidence shows that one of the most important coping

strategies of poorer households is to reduce and change the pattern of food consumption. Thus, in some seasons, particular groups of households will display significantly lower consumption levels than the annual average. One of the most important problems with consumption estimates is that they normally rely on the memory of respondents for items that are very difficult to recall. Extrapolations can yield significant measurement errors, the magnitude and bias of which are difficult if not impossible to calculate. As a result, poverty analysis increasingly uses asset-based indices to rank wealth, which seem consistent and often more reliable than current consumption information, because information on asset ownership (radio, TV, bicycle, farm implements, housing conditions) are easier to collect and verify. For example, demographic and health surveys (DHS) have used this method in recent years, permitting a disaggregated analysis of health and other social indicators by wealth quintiles.⁶⁴

Data from DHS thus provided a consistent and reliable disaggregation of information for Zambia in 1996 and 2002. Conversely, there have been some significant anomalies in consumption estimates in a number of household surveys, particularly the base survey of 1991, in which estimates for the bottom of the distribution seem biased and unreliable.

Another problem in the calculation of poverty measures is the choice of the time period and spatial price indices. Despite household surveys collecting information on local prices through parallel surveys in local markets for average prices of items, unit prices may vary considerably. Especially in a liberalised context in which local prices, particularly for food, fluctuate; assumptions about relevant prices for each household are frequently arbitrary. The construction of price indices then becomes an imprecise and biased exercise. In any case, the poverty survey and LCMS surveys in the 1990s did

not collect the price information required to adjust for differences in the cost of living across regions (GRZ 2004, 153). Whether one adjusts consumption estimates by spatial or temporal price fluctuations makes a considerable difference. Miti et al. (1997) re-calculated poverty measures for the 1993 and 1996 surveys with the use of alternative price indices. Although trends did not change dramatically, overall levels of poverty incidence, depth and severity were substantially reduced. Moreover, the ranking of provinces by poverty indicators was affected, and estimates for two provinces changed remarkably (Northern and Central).

A further problem, particularly for the comparison of surveys, lies in sampling procedures. Surveys during the 1990s used the Census 1990 as the sampling frame. However, the surveys six and eight years later almost certainly contained errors due to the out-of-date sampling base. Given that the 1990s was a period of recession and upheavals, one would expect that people became more mobile. This is confirmed by the high incidence of migration found in the various survey reports (GRZ 1994a); In this context of rural-rural and urban-urban movements, the 1990 Census may have been inadequate as a sampling frame, particularly for 1998. Thus the reliability of sampling weights used in later surveys (1996 and 1998) may also be questioned.

Moreover, the surveys mentioned varied in coverage, so the representativeness of the samples also varied. There were significant improvements in sample coverage both in 1998 and 2003 compared to previous surveys, in particular the availability of sampling frames at district levels (Kapungwe 2004, 484 and Table 3A.2).

As mentioned above, the seasonality of consumption was not captured in the same way across the five surveys (Table 3A.2). The LCMS III report states the problem clearly (GRZ 2004, 4):

Since 1991, the country has been utilizing cross-sectional sample data to monitor the well-being of the Zambian population, as was the case with

the 1996 and 1998 LCMS surveys. However, these surveys have had limitations in that the survey design does not capture changes in welfare due to seasonal variations. The LCMS surveys were conducted during the last 2 months of the fourth quarter of the year when the majority of households become food insecure. Furthermore, the previous LCMS surveys captured household expenditure data using the recall method, which is prone to omissions resulting from memory lapses.

The shortcomings of surveys of the 1990s prompted the CSO and the World Bank (WB) to undertake an Integrated LCMSIII Survey, conducted over twelve months between November 2002 and October 2003 (GRZ 2004, 156). The resulting LCMS 2003 was thus designed to take seasonality into account. The apparent drop in poverty by five percentage points could be due to the survey improvements and the effect of seasonal patterns inadequately treated in previous surveys. It is worth comparing the results in LCMS III with those of LCMS II for the same season. In 2003 poverty incidence for the last quarter was seventy-one percent, while the annualised estimate was sixty-seven percent, showing a drop in poverty from 1998. However, if one only considers the estimate for the last quarter there is virtually no fall in poverty incidence in the same period, seventy-three compared to seventy-one percent.

Tables 3A.1 and 3A.2 are illustrative of the problems encountered when comparing surveys of different design and period of implementation. Most researchers using poverty data completely ignore this crucial aspect. The percentage for the 'extremely poor' grew in the last quarter, which coincides with the 'hungry season', or plating period, during which food stocks are depleted and cash income low. Different households were sampled in each period implying that these seasonal patterns may also carry errors of sample specificity; i.e. there may be statistically significant differences between household groups other than for consumption seasonality if, for example, richer farmers were interviewed in the first

quarter compared to other quarters. Other problems that make comparisons difficult between expenditure results in 1991 and 2003 are the following: 1) questions were not asked in the same way; 2) there was a difference in the items included in different expenditure groups in 1991 and 1998 (Thurlow and Wobst 2004; and GRZ 2004, 162); 3) the 1991 survey results contained a substantial number of urban and rural households with implausibly low food consumption levels, which would lead to an overestimation of improvements between both surveys (McCulloch et al. 2001, 16); 4) the sample coverage was different and the survey period not exactly the same for the same areas across surveys; 5) comparisons among surveys in the 1990s were based on a common food basket established in 1991, and other evidence suggests that consumption patterns changed during this decade. The 2002/03 report points out that the 1991 basket was biased towards consumption patterns in urban areas, which may explain some of the extreme values obtained from rural areas (GRZ 2004, 161).

In summary, the effects of altering parameters in the databases, excluding extreme cases, using different consumption equivalence scales, and the application or omission of regional price indices can have significant effects on poverty measures making comparisons very problematic.⁶⁵ Estimating the quantitative effect of different sampling and questionnaire designs on the various poverty measures is beyond the scope of this report. Some of this work has been done elsewhere for 1991 and 1998 surveys (McCulloch et al., 2001). The vast literature on poverty has drawn attention to these methodological issues and the care one needs to take when deducing poverty trends from different surveys (see Howes and Lanjow 1997; Lanjow and Ravallion 1996).

Alternative measures of poverty trends

Another useful indicator of long-term material welfare is ownership of some basic and luxury assets, usually consumer durables

(TV, radio, bicycle, motor vehicle) or means of production (plough, canoes, carts, tractor). In a situation of deep recession one could expect divestiture in some cases, i.e. a decreasing proportion of households owning particular assets. Otherwise, over time one expects ownership of basic assets usually to increase especially when initial levels are low or when availability of these goods was limited in the past. A glance at the data for 1993, 1996, 1998, and 2003 shows a mixed picture. Overall, there is some improvement between 1993 and 1998 and a deterioration, or reduction, in asset ownership between 1998 and 2003, which seems to counter consumption-based evidence. For rural areas it appears that ownership of most assets increases until 1998, notably for bicycles, but then it decreases. This is true for different population strata, including the 'ultra-poor', whose ownership of bicycles increased from twenty-three to thirty-three percent between 1993 and 1998 (and that of radios too from twenty-three to thirty percent). However, ownership of a basic and important farm implement such as a plough has reduced consistently between 1993 and 2003, which is a sign of crisis among a large number of rural households. Moreover, there is no systematic evidence on the availability of oxen in rural areas, a basic asset for agricultural activities; but, other sources point to an alarming and growing scarcity since the late 1980s, partly because of the drought, and partly because of the role of animal sales as a coping strategy for the poor (Milimo et al. 2002; Deininger and Olinto 2000).

Reductions also apply to canoe ownership, another item that is more typical of poorer rural households in certain areas of the country. Data on assets from the various household surveys also confirm the high levels of inequality discussed in this chapter, both between urban and rural areas and within rural areas.

Finally, qualitative and participatory research has overwhelmingly shown that households, both in urban and rural areas

generally perceive a marked deterioration of their living conditions (GRZ 2004; Milimo et al. 2002; Larmer 2005). Only medium-scale rural farmers seem to acknowledge a recent improvement in their living conditions (Table 13.10 in GRZ 2004, 174). Thus, perceptions on poverty status and its causes vary between rural and urban areas in 2003. In the former, households are particularly concerned about the lack of farm implements and cattle/draught animals. In the latter, low wages and pensions and lack of employment opportunities are often cited as reasons for poverty. If we compare between different surveys (1991, 1996, 1998 and 2003), there is evidence that the proportion of households reporting having resorted to 'coping strategies' in situation of distress increased in the same period. For example, the reporting of 'reducing food intake or number of meals' increased from fifty-nine percent in 1996 to seventy-five in 2003 as well as the reporting of 'piecework on farms' and 'other piecework' from twenty-eight and twenty-two percent respectively in 1996 to thirty-seven in both cases in 2003. Between 1991 and 1996 similar increases had been reported. These trends were also consistent with systematic increases in the proportion of expenditure on food, especially among the poorest strata of the population, as reported in successive poverty profiles (GRZ 1997 and 1999).

Formal employment statistics

Employment modules in LSMS surveys are constrained by methodological choices that do not allow a more disaggregated and context-specific picture of labour market patterns and changes. In fact, the reliance on 7-day recall questions for employment status and occupation, and on the dubious notion of 'main' and 'secondary' activity in a highly heterogeneous context, characterised by multiplicity of occupations, irregularity and seasonality of most non-formal regulated activities, and by variable levels of remuneration, is unconvincing if one is seriously interested in analysing labour mar-

ket trends.⁶⁶ Moreover, information about recorded 'formal sector' employment derived from quarterly registered firm-level surveys and LCMS also presents inconsistencies as discrepancies exist among different sources of employment data (CSO Quarterly Digest and LCMS). In fact, not all the nearly 600,000 people who are reported as 'formal sector' employed in the latest 2002 /03 LCMS appear in the labour statistics. The latest figure available (2003) from Quarterly Employment and Earnings Inquiry is 416,000 people. Part of the discrepancy may come from the fact that LCMS III classifies 144,000 small-scale farmers and 6500 medium-scale farmers as pertaining to the 'formal sector', while the other source only accounts for 64,000 agricultural employees, surely wage workers in large- and medium-scale commercial farms. Besides, the Quarterly Inquiry collects data from registered companies included in the CSO list, which may exclude some that are captured by the latest household surveys, which is not designed to discriminate between establishments, if not in terms of size, for the purposes of the formal/informal dichotomy. These discrepancies may be unsurprising, given the problems and differences in employment reporting systems and the resulting inconsistencies, but the margin of error is still quite large.

The 'informal' economy

In line with much of the work on the informal economy we argue that its heterogeneity prevents any generalisation about trends and any stark contrast between organised (and regulated) and unorganised (unregulated) economies in Zambia as in any other developing country.

A growing literature on the heterogeneity of the informal sector as a source of employment is available (Breman 1980, Maloney 2004).⁶⁷ Notwithstanding this heterogeneity, Milimo et al (2002, 23) among other authors (Kamya 1994, for example), argue that the informal employment in Zambia, especially in urban areas,

can be considered rather a second-best or last resort survival strategy than a true accumulation-driven choice for the majority of households and individuals involved.⁶⁸

Some patterns of participation in informal activities are shaped by age and gender. Women are more likely to engage in beer brewing, knitting, hairdressing and pottery whereas adult men often get casual jobs in brick laying and thatching (Milimo et al 2002, 23). Given the size and significance of the informal (unorganised) sector, more micro-level information is needed to distinguish between those pockets that show signs of dynamic accumulation and profitability with positive employment implications and those pockets most typically associated with deprivation and marginalisation. According to some sources, individuals with previous wage employment in formal establishments or beneficiaries of retrenchment packages have managed to succeed in sustaining petty businesses more than others (Kamya 1994; Milimo et al. 2002; PAG 1999).

3A.2 Technical Aspects of Poverty And Inequality

Density functions and growth incidence curves

As suggested in this chapter, the literature on poverty trends in Zambia relies much on comparisons between cumulative density functions (CDF) of consumption expenditure. A CDF represents (definition) the cumulative distribution of ranked expenditure values from poorest to richest. The vertical axis displays the proportion of the population with PAE expenditure below the value given on the horizontal axis. In this graph poverty lines can be plotted as vertical lines from the expenditure-equivalent of the poverty line.

The analysis of poverty trends with CDF by McCulloch et al. (2001) took out 552 households of about 9800 households, or slightly less than five percent of the original sample. Thurlow and Wobst (2004) use the McCulloch database, also excluding

these low values on the grounds that their implied food consumption levels were implausibly low. When the latter estimate growth incidence, curves drop a further 7.7 percent from the McCulloch sample by eliminating households whose PAE expenditure was ten percent below the lower poverty line. Given that the lower poverty line states the minimum food basket, ten percent was a low figure and one could plausibly assume that people at lower consumption levels were effectively starving to death.

On the basis of the original 1991 sample (not the McCulloch clean version) we applied the same rule (below ten percent of the extreme poverty line) and as a result 941 households would be dropped, i.e. 9.6 percent of the original sample (see Figure 3A.1 and 3A.2). We do the same for the 1998 PAE expenditure distribution but the number of households dropped is far smaller than in 1991 (only two percent of the original sample). After dropping these bottom end outliers, the CDF curves look somewhat different and they cross each other at a much lower level of PAE expenditure, around the thirty percent of population cumulative distribution. In fact, the initially observed effect of an improvement for the bottom third of the population becomes an improvement for a much smaller proportion, around one fifth.

Growth incidence curves become flatter, suggesting a less markedly pro-poor growth/recession. For the rest of the distribution, real PAE expenditure levels were lower than in 1991, so households suffered from an absolute recession in consumption levels. With the 'clean' samples, poverty more unambiguously increases between 1991 and 1998 and inequality is only reduced from 0.57 to 0.55 (instead of from 0.61 to 0.55 with the original samples). In other words, by dropping these very implausible outliers the overall situation seems relatively worse in 1998, even if a small proportion of the very poorest manage to improve their living standards, albeit from an extremely low base (i.e. PAE expenditure levels that are a frac-

tion of the extreme poverty line). If the CDF for one year (1998) lie above the CDF for the other year (1991) this shows a deterioration of conditions (lower mean expenditure levels) for the part of the population concerned. If a CDF for one year is always above or to the left of the CDF for another year this means that poverty will be higher for that year independently from the poverty measure chosen (in monetary terms). If the two CDFs cross one another, this means that mean expenditures have gone in opposite directions for different groups of people.

Another way of viewing poverty trends is with growth incidence curves. These graphically pair average growth rates of per capita (PAE) consumption (from two or more data points) with ranked percentiles of the population (from poorest to richest) thereby showing the pattern of growth associated with poverty levels. In Figure 3A.3 below, the impact of low outliers is very dramatic. Dropping outliers makes the curve flatter and less relatively pro-poor. Note that from this curve we can also observe that from the third decile of ranked population average growth is negative indicating that at least seventy percent of the population suffered from absolute real consumption expenditure reductions in the 1991-98 period.

Lorenz curve

The Lorenz curve illustrates the shape of income or consumption distribution by plotting the ranked cumulative population with consumption/income values. It shows the proportion of the total expenditure on the vertical axis spent by the proportion of the population on the horizontal axis. The graph displays a 45° line that represents perfect equality (all individuals have the same expenditure). The more distant the Lorenz curve is from this line the greater the level of inequality. Two Lorenz curves can be compared by plotting and superposing them on the same graph, so that changes in distribution can be observed

independently from the mean expenditure. If they do not cross each other and one (1998) lies everywhere above the other (1991), it may be concluded that 1998 distribution is less unequal (more equal) than 1991 distribution. When lines cross, this means that distribution has improved for one part of the population while it has worsened for the other. The chart below shows a very slight improvement in consumption distribution between 1991 and 1998 although levels of inequality remain quite high.

63 There is also a series of studies supported by the Zambia Social Investment Fund based on analysis of official household survey data or on other micro-level topic-specific surveys such as Miti et al. (1997) and Milimo et al. (2002).

64 On the advantages of asset-based poverty measures and the problems with consumption expenditure data collection and analysis see, for example, Sabn and Stijel (2004), Filmer and Pritchett (1998), Gwatkin et al. (2000), and Sender (2003).

65 See Table 3.1 for different poverty estimates from the same databases and Miti et al. (1997).

66 See Standing et al. (1996) on some of the methodological problems in data collection for employment/labour market information in low income, especially SSA countries.

67 On the heterogeneity of the urban informal sector in Zambia and formal-informal employment linkages, see Kamya (1994).

68 The most frequent activities reported (street vending, hawking, backyard farming, and some 'illegal' occupations like prostitution or petty crime) and the generally bad perceptions that respondents attach to them suggest they are not real choices. The most frequent activities reported (street vending, hawking, backyard farming, and some 'illegal' occupations like prostitution or petty crime) and the generally bad perceptions that respondents attach to them suggest they are not real choices.

Table 3A.1: Incidence of poverty by survey quarters and poverty status, Zambia, 2002/2003

Categories	Categories (figures in % total population)			
	Extremely poor	Moderately poor	Total poor	Non poor
Annual average quarters	46	21	67	33
First	40	22	62	38
Second	41	24	65	35
Third	46	22	68	32
Fourth	52	19	71	29

Source: GRZ, CSO (2004)

Table 3A.2. Living Conditions Monitoring Survey, periods covered

Survey	Period	Sample size	District coverage	Poverty incidence
SDA priority survey I 1991	October-November	9950 (9886)	57	69.7
SDA priority survey II 1993	April-June	10200 (10212)	57	73.8
LCMS I 1996	September-November	11800 (11752)	57	69.2
LCMS II 1998	November-December	16800	72	72.9
LCMS III 2002/03	Year round		72	67

Source: Author's elaboration from GRZ [CSO] 2004, 1998, 1997 and 1993

Figure 3A.1: CDF consumption 1991 and 1998, original sample

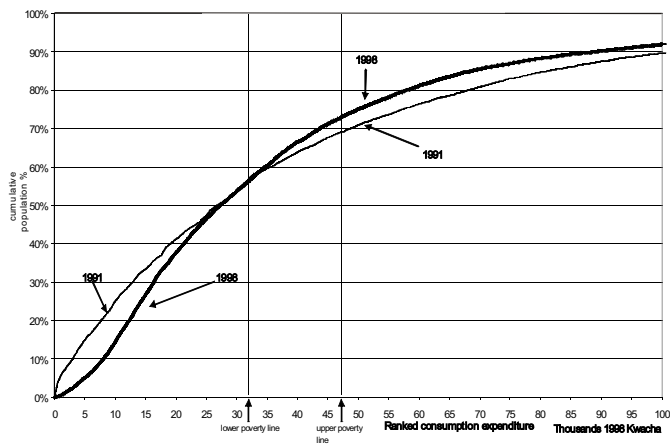


Figure 3A.2: CDF consumption 1991 and 1998, 'clean' sample

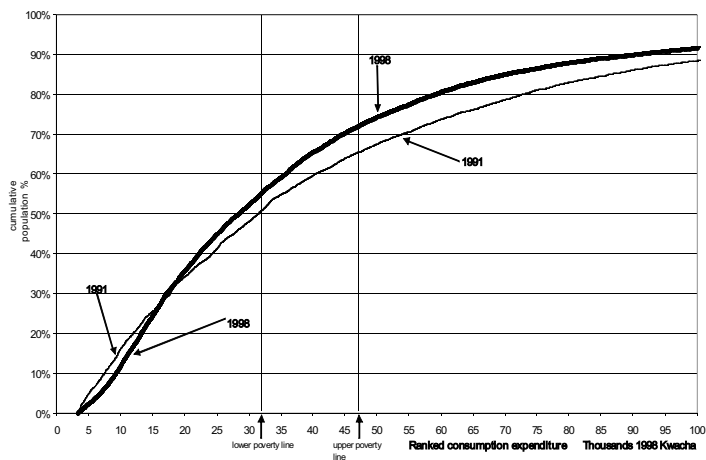


Figure 3A.3: Growth incidence curves 1991-98, with and without low outliers

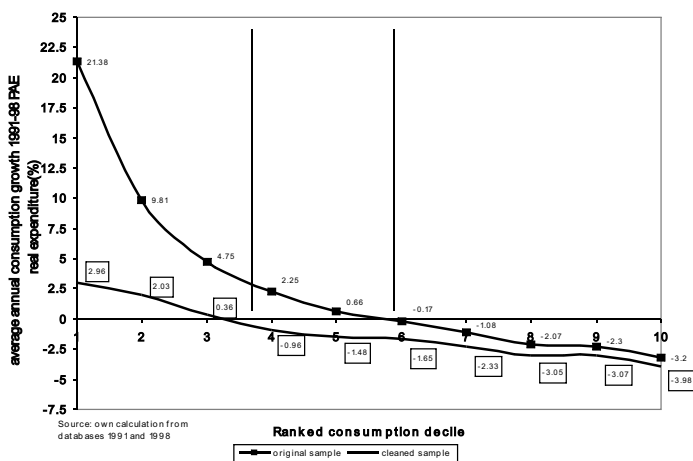
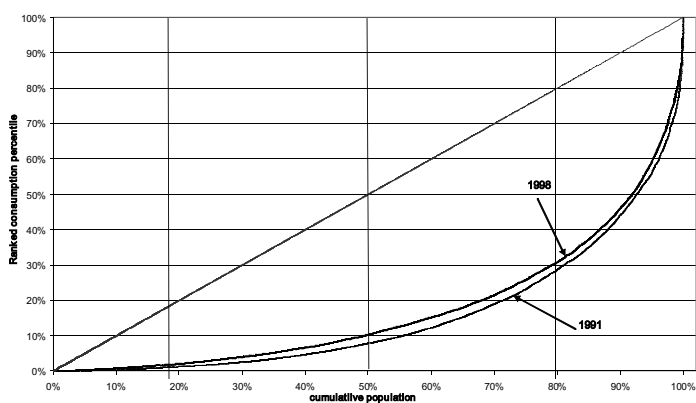


Figure 3A.4. Inequality compared: Lorenz curves 1991-98: clean sample (low outliers dropped)



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