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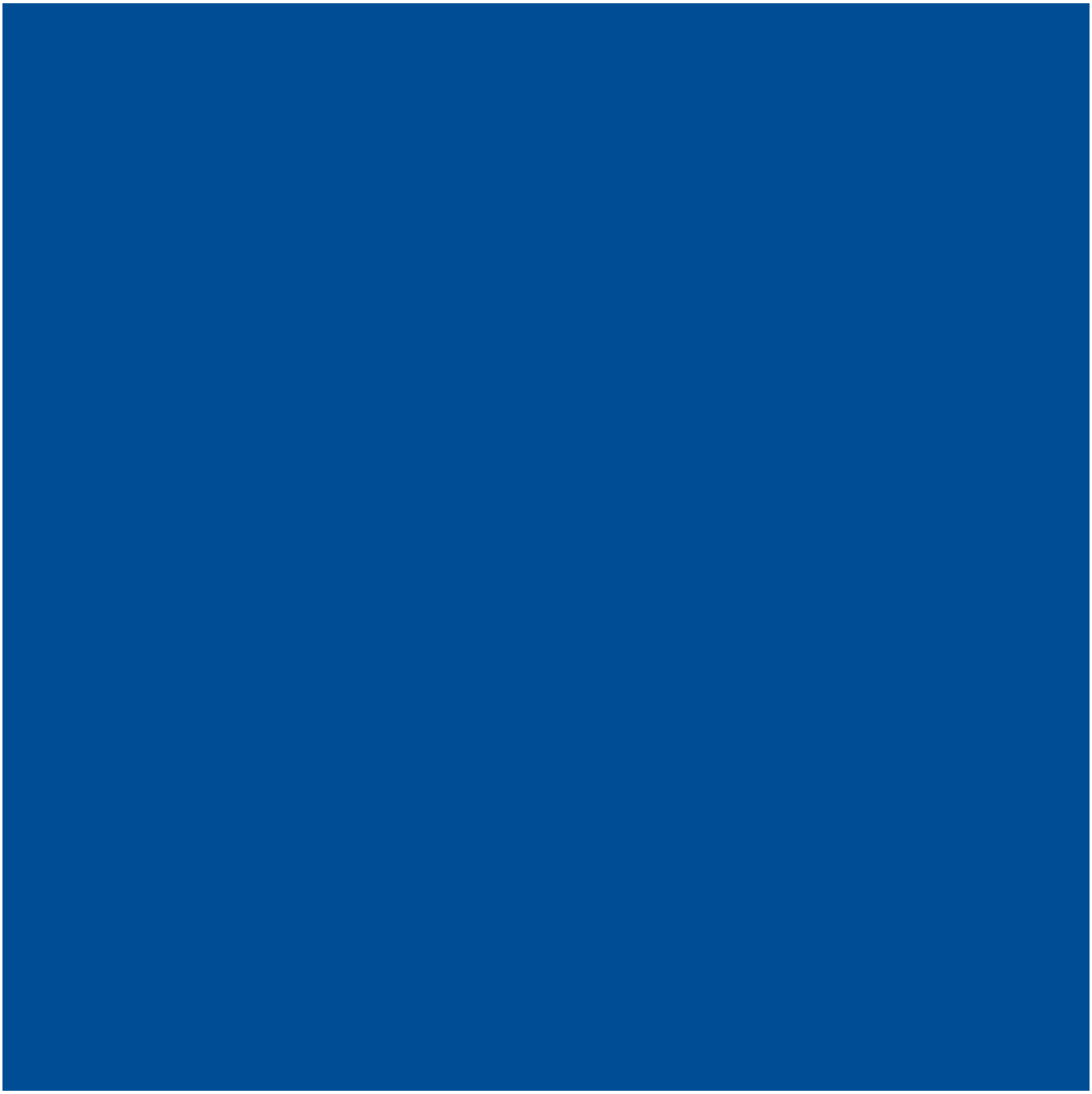
Country Economic Report 2008:4

Prospects for Poverty Reduction in Zambia



Foreword

This country economic report on prospects for poverty reduction in Zambia is part of a series of studies, undertaken by various Swedish universities and academic research institutes in collaboration with Sida. The main purpose of the studies is to enhance our knowledge and understanding of current economic and political development processes and challenges in Sweden's main partner countries for development co-operation. In addition, the ambition is that they will have a broader academic interest and that the collaboration will serve to strengthen the Swedish academic resource base in the field of development economics.

The study examines poverty development in Zambia, in light of the recent resource boom. Poverty has indeed declined, particularly in rural areas, but remains severe by any standard. The report presents own estimates of income diversification and shows that diversification is a very important route out of poverty for the rural poor. As for policy implications, the report points to the Zambian government's largely sensible private sector policies, which are, however, often poorly implemented. Tax collection has not kept pace with GDP growth, and the government needs to speed up financial management reform in order to realise its expenditure plans. Improving infrastructure and securing property rights, as well as expanding education and health services for the poor, are more important measures than focussing on subsidy schemes. A possibility for donors might be to shift to some form of governance conditionality, i.e. to concentrate on transparent and accountable processes, rather than specific policy decisions. The study was undertaken by Arne Bigsten and Sven Tengstam at the Department of Economics at Göteborg University.

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1. Introduction

The Zambian economy is currently growing relatively fast, and per capita incomes are increasing after a long period of stagnation or decline. Zambia has experienced strong improvements in terms of trade, and some observers even believe that this is part of a "super-cycle" that will last for a long period of time due to the strong growth in Asia. Realistically one would probably expect copper prices to decline but not collapse over the medium term, and this means that export revenues should remain quite buoyant during the next few years.[2] A key question is whether Zambia can handle or has handled this boom effectively. Countries have generally found it difficult to handle commodity booms (Collier and Gunning, 1999, O'Connell and Ndulu, 2006), and Zambia has previously had problems handling resource incomes in an effective manner (Bigsten, 2001). The government is currently faced with two challenges. First, the Zambian Kwacha has appreciated strongly due to the copper boom (plus debt reduction, increased aid and portfolio inflows[3]), and ways to handle this macroeconomic stabilisation problem have been extensively discussed also in the case of Zambia (Venables, 2006, Weeks et al., 2006). Second, the country also faces the challenge of using the resources effectively to improve the welfare of the population and reduce poverty. This study addresses the second issue, while acknowledging that the first one is also extremely important for poverty reduction. We discuss public sector effectiveness (including tax revenue collection, financial management, transparency, accountability, education and health services), private sector development and agriculture. We analyse empirically the incidence of growth 1998–2004 on both urban and rural households and then look at the income diversification of smallholder households during the same period.

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[1] We would like to thank officials of the Zambian government and other institutions for very helpful discussions. We are grateful to Jos Verbeek for useful comments and to Abebe Shimeles for help with the poverty analysis. We would also like to thank Michael Weber and Antony Chapoto for sharing their data on Zambian agriculture with us. Finally, we are grateful for all the help received from Eva Lövgren and other staff at the Swedish Embassy.

[2] Commodity prices are generally volatile and unpredictable. The typical pattern has been a rapid price increase when there is a stockout of the commodity (when stocks fall below some level that is considered acceptable; Collier, 2007). This abrupt increase in the price of a commodity is then generally followed by a slow long-term decline. The pattern one observes is consequently one with short periods of very high prices with slowly falling prices in between. Zambia currently has extremely high copper prices, but experience from other such periods thus seems to suggest that it will be followed by a long period of declining prices.

[3] One consequence of the price boom and subsequent production recovery plus the improved macro economic environment (needed for debt reduction) was that portfolio investment found its way to Zambia as well. The initial appreciation in November 2005 was largely due to additional portfolio inflows.

The focus on poverty reduction in the Zambian policy debate comes against the backdrop of a resource boom. There is a need to strengthen the analysis of the poverty implications of growth in Zambia. It is particularly pertinent since the experience from resource rich African countries is that incomes from natural resources tend to be distributed inequitably (O'Connell and Ndulu, 2006). It has also been hard to sustain growth accelerations in African economies. Since 1994 GDP per capita in Sub-Saharan Africa excluding South Africa ("Africa" from here on) has grown by on average 2.1 percent per year,[4] which is slightly higher than during the last period of good African growth 1964–74. The great policy challenge for Zambia is thus to use the current opportunity to generate broad-based growth with effective poverty reduction as the result.

Zambia has recently launched its Fifth National Development Plan (FNDP) 2006–2010, which is to guide policy formulation and implementation over the plan period. The theme of the plan is broad-based wealth creation through citizen participation and technological advancement. A major weakness in previous plans has been their poor implementation due to poor resource forecasts, weak institutional arrangements and weak monitoring. It is hoped that new public expenditure management (for example the Integrated Financial Management Information System and expenditure programme controls making sure that no investments that do not have a certain minimum internal rate of return are undertaken) and accountability systems will improve the implementation.

In the FNDP (2006, p.1) it is noted that "wealth creation through sustained economic growth constitutes the most important poverty reduction". It is thus acknowledged that sustained and significant poverty reduction cannot be achieved unless the economy grows. It is also pointed out in the plan that growth and equity objectives are not necessarily in conflict, and that the government therefore should seek to pursue a broad-based growth approach.

This report is structured as follows. In Section 2 we provide a short economic history review, while we in Section 3 consider some aspects of the growth-equity trade-off to set the stage. Section 4 provides a review of the recent economic performance and policies. Section 5 shows growth incidence curves for Zambia 1998-2004, while Section 6 provides an analysis of income diversification in rural Zambia and its relation to income growth. Section 7 reviews agricultural policies, while Section 8 discusses the role of donors in the policy processes. Finally, Section 9 summarises and concludes the report.

[4] 1994–2005 World Bank (2007b), 2005–2007 IMF (2007b), 2006–2007 is an estimate.

2. Zambia's Recent Economic History – A Brief Reminder

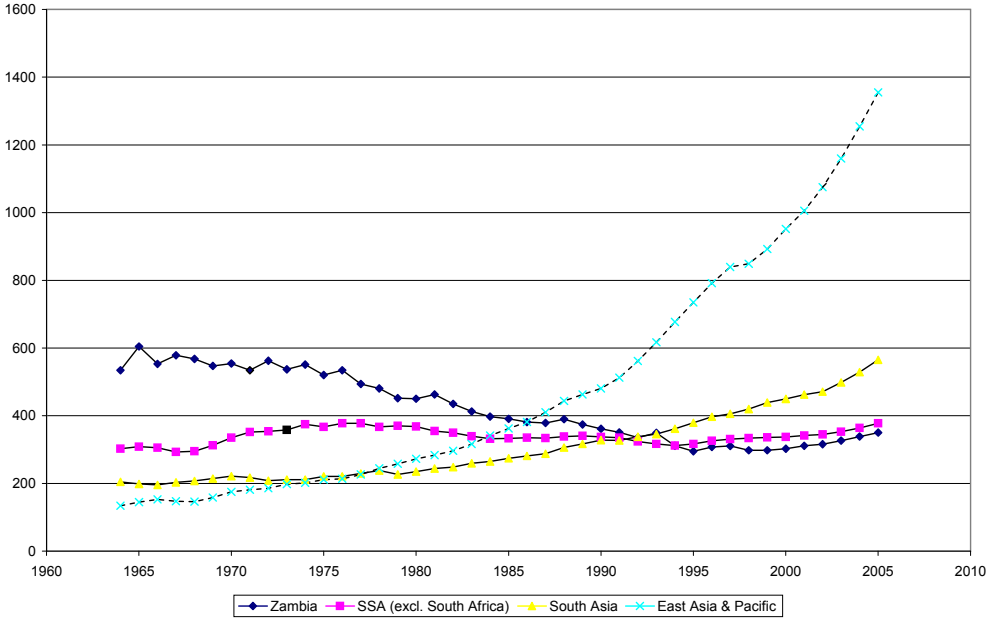
As a background to the discussion it might be useful to remind ourselves of the recent economic history of Zambia. The country started out at independence as one of the richest of the newly independent developing countries, with a per capita income that was 75 percent above the African average and about four times that of East Asia (see Diagram 1).[5] Currently, the per capita income is a bit below the African average and about a quarter of that in East Asia.

During the first decade of independence (1964–74), GDP per capita changed little while it increased by 24 percent in Africa. Still, Zambia saw progress in social outcomes during this period (life expectancy, child mortality, education and under-nourishment) that was similar to that of other developing countries (see Appendix Diagrams). However, from the oil crisis in 1973–1974 and up to the mid-1990s there were severe economic problems and declines in Africa with declining per capita incomes and tightening government budgets. This situation was compounded further by the debt crisis.[6] Life expectancy in Africa started to decline around 1985 (even before AIDS), and there were only small reductions in child mortality and undernourishment.

[5] The initial differences are somewhat smaller in PPP adjusted constant 2000 international $: Zambia 1390, Africa 990, South Asia 1010 and East Asia and Pacific 530 (authors' own calculations and World Bank, 2007b).

[6] In the early 1980s the international community throttled the inflow of loan money to less than debt service levels (net flows became negative). This contributed to cutbacks in government expenditures and lower investments both in the social sectors and in infrastructure.

Diagram 1: GDP per capita (constant 2000 USD)

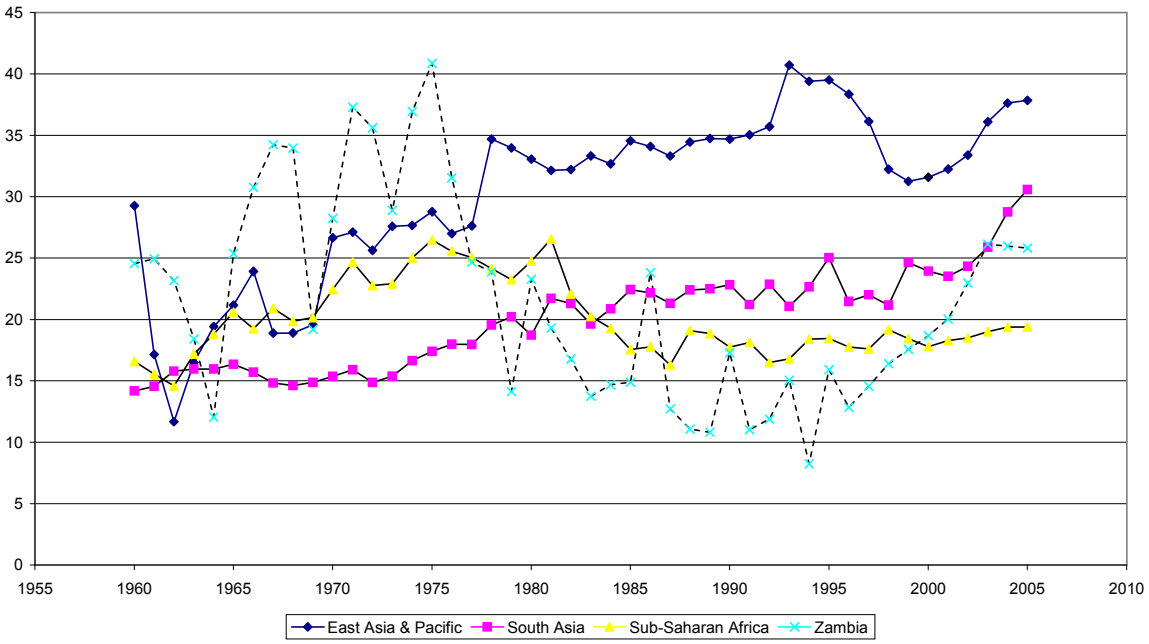


Source: World Bank (2007b), authors' own calculations.

Except for education, Zambia's economic and social development 1974–1994 was considerably worse than the African average (see Appendix Diagrams), and even more so compared to the developing world in general. The Zambian per capita incomes almost halved during the period, and life expectancy started to fall already in 1977 and has declined continuously ever since. Child mortality rose substantially during the 1980s. The magnitude of the decline becomes clear if one looks at the under-nutrition rate, which went from 29 percent to 48 percent between 1981 and 1992. However, it has stayed more or less the same since then. Something went terribly wrong in Zambia. Since the mid-1990s there has been some recovery, and Zambia presently seems to grow at about the same pace as Africa (and shows slightly improved social indicators).

Investment is the most classical growth determinant. Diagram 2 shows that investments were high until 1975 with an average of 28 percent of GDP, which was higher than in East Asia at that time. But then they fell rapidly, and 1979–97 the average investment rate was as low as 14.8 percent. The investment rate has gradually grown stronger since the mid-1990s and is now around 25 percent. FDI has started to increase from a low level and is projected to reach 480 million USD in 2007, which can be compared to the average 120 million USD per year in the early part of this decade.

Diagram 2: Gross capital formation (percent of GDP)



Source: World Bank (2007b)

Zambia has in the literature been used as an example of how high aid is not in itself a guarantee for rapid growth. For example, Easterly (2002) computed what per capita incomes in Zambia would have been had all aid gone into investment with normal returns, and arrived at a value of 20,000 USD.[7] In reality, however, the country saw drastically falling per capita incomes, which shows that the available resources were not effectively allocated or used. During the last decade there have been some improvements though, which are to some extent due to the terms of trade gains, but there have also been some improvements in the policy environment.

Mwanawina and Mulungushi (2002) wrote the Zambian contribution to the AERC growth project. They applied a growth accounting approach to analyse the period 1960–2000, and found that capital per worker started to decrease in 1975 and that TFP (Total Factor Productivity) growth was slow throughout. Moreover, when decomposing the growth shortfall in Zambia relative to the rest of the world for the period 1960–2000, they found that capital per worker accounted for 1.96 percentage points, education only 0.01 percentage points, and TFP 0.86 percentage points.

But what explains the low levels of investment and the poor TFP development? While the 1974 oil crisis and general slowdown in the world economy are correlated with the negative development in Zambia, other countries were hit as hard as Zambia, so there must be more fundamental explanations. A major political change had occurred in 1968 when Zambia started a transformation from a free market economy with multiparty democracy into economic nationalisation. The reforms culminated in the one party state (2nd republic) in 1972. "The parastatal

[7] "I start with a comparison of what Zambian's actual average income to what would have been, $2 billion of aid later, if filling the financing gap has worked as predicted () . Zambia today would be an industrialized country with a per capita income of $20,000, instead of its actual condition as one of the poorest countries in the world with a per capita income of $600 (which is one third lower than at independence). Zambia is one of the worst cases for the financing gap approach, because it already had a high investment rate before aid and it got a lot of aid. But Zambia's investment rate went down, not up, as the aid increased, and the investment in a case did not yield growth" (Easterly, 2002, p. 42).

sector soon was confronted with political inference, inefficiency, capacity under utilisation, lack of accountability and dependency on government subsidies" (Mwanawina, Mulungushi, 2002, p. 2). It was also costly for Zambia to engage in helping neighbouring countries in their struggle for independences. Falling copper prices and capital flight contributed to a serious foreign exchange constraint, which led to capacity under-utilisation. The first stabilisation and structural adjustment programme began in 1985, but was followed by a period of policy reversals. Zambia started to reinstate the market economy and multiparty democracy in 1991 although initially with mixed success. Poor sequencing of the reforms, poor institutions and poor governance meant that the environment remained hostile to investment.

Mwanawina and Mulungushi (2002) also undertook an econometric analysis trying to estimate the relative contributions of different factors to Zambia's growth failure in 1960–97.[8] Direct policies captured by the black market premium and the size of government spending explain 1.8 percent of the growth shortfall. The deeper variables of age dependency ratio[9] and life expectancy explain another 2.4 percent. Finally, being landlocked explains 0.9 percent.[10] It is notable that the terms of trade effect does not have any significant effect. Finally, there was a positive residual of 0.6 percent. These are underlying variables that influence investments in physical capital as well as TFP.

Overall, Zambia's economic development during most of Kaunda's era (1964–1991) in power was very poor, so there is certainly no basis for any yearning for a return to Kaunda-like policies. The policy changes in recent years have not been perfect, but they have at least been in the right direction.

[8] The black market premium was around 100 percent, which lowered the annual growth by 0.7 percent. Had the size of the government sector been 20 percent instead of around 30 percent of GDP, growth would have been 1.1 percent higher. Being landlocked lowered growth by 0.9 percent. The age dependency ratio has been around 100 percent, but if this had been 70 percent as in e.g. India in the 1980s, growth would have been 1.5 percent higher. Had life expectancy been 60 years instead of 50, then growth would have been 0.9 percent higher.

[9] Controlled for difference between growth of working age population and total population.

[10] Geography is important (Sachs and Warner, 1997, and Bloom and Sachs, 1998) as it could either undermine the health of workers or impose high transactions costs.

3. The Growth-Equity Trade-off

Bigsten and Shimeles (2007) analysed the growth-redistribution trade-off for various African countries, and found that Zambia would need to achieve an annual increase in per capita incomes of 4.0 percent between 2001 and 2015 to reduce poverty by half, assuming an unchanged income distribution (Gini-coefficient). Bigsten and Shimeles also calculated how much the Gini-coefficient in Zambia would have to change to halve poverty if there was no increase in per capita incomes, and found that it would require an annual reduction of the Gini by 2.5percent or a total reduction to 0.17 by 2015. This is of course impossible to achieve, but the calculation at least shows the shape of the trade-off. In the case of Zambia with current growth largely based on a natural resource boom, there is instead a high risk of increasing inequality unless policies are in place to manage the distributional consequences of the boom. The challenge for poverty reduction is to achieve a good distributional outcome without jeopardising long-term growth.

The *World Development Report 2006: Equity and Development* deals with the role of income distribution policy in poverty reduction strategies, and implicitly takes the view that there is not mainly a trade off between equity and growth, but that inequality instead in various ways is an obstacle to growth that needs to be removed. The focus of the report is not generally on the inequality of outcomes but rather on the inequality of opportunities, and the key recommendation is that a level playing field should be created so that opportunities are equalised. Zambia has for example done this by investing in education. Although this is desirable for reasons of fairness and efficiency there may still be tradeoffs, and we need to understand how actual policies affect both growth and equity.

There is a risk of policy errors if the policy process focuses too much on policies that have short-term poverty-reducing effects. The optimal development path from a poverty reduction perspective would probably best be defined as one that minimises the discounted sum of future poverty. A policy package that achieves this would be different from one that minimises poverty in the short term. There are many policies that increase consumption today at the expense of consumption tomorrow. At the same time there are policies aimed to finance investments in infrastructure (e.g., taxation) that generate growth and poverty reduction in the longer term, while they may have negligible or even negative effects on the consumption of the poor today. Redistribution from the future to the present and from the currently non-poor to the poor can reduce poverty in the short term, but the question that needs to be addressed is how it affects future poverty.

4. Economic Performance, Structural Change, and the Budget

After 25 years of mostly declining real income, Zambia has achieved positive per capita income growth rates in all years since the turn of the century, and starting in 2003 they have consistently been above 2.5 percent (see Table 1).[11] This means that the Zambian economy has seen a gradual recovery. However, the per capita income level in 2007 will still only be back to where it was in the late 1980s. The recovery started a couple of years before the copper boom in 2004, which has accelerated growth further. The growth objective in the FNDP is to achieve a growth rate of at least 7 percent and to ensure that it is broad based and rapid in the sectors where the poor are mostly engaged (p 26). According to current projections, Zambia does not seem to be able to achieve the growth objective. We also note that according to the estimates presented in the previous section, Zambia would have needed to grow by about 6.5 percent per year between 2001 and 2015 to be able to reach MDG1 (reduction of poverty by half). Since the growth rate has so far been below 6.5 percent since 2001, the rate of GDP growth from now until 2015 required to achieve MDG1 is about 7.7 percent per year (assuming an unchanged Gini-coefficient).

[11] IMF (2006b) estimates the annual population growth to 2.4 percent, but World Bank (2007b) reports an average rate of 1.9 percent for the period.

Table 1: Basic macro variables

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Real GDP (annual% change)	3.6	4.9	3.3	5.1	5.4	5.2	6.2	6.2	6.5
Real per capita GDP growth (%)[12]	1.4	2.5	0.9	2.7	2.9	2.7	3.5	3.5	3.5
Population growth (%)	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Inflation (%)	26.0	21.4	22.2	21.4	18.0	18.3	9.1	8.0	
Current account balance (% of GDP)									
–excl. official transfers	-19.2	-20.8	-17.3	-15.9	-10.7	-9.6	-7.9	-9.0	-9.7
–incl. official transfers	-13.5	-13.9	-9.2	-9.3	-5.5	-3.8	-3.8	-5.1	-5.9
Real effective exchange rate (2000=100)	100	112.0	110.9	101.7	107.8	134.7	176.4		
Terms of Trade (% Change)	-4.2	-1.7	-6.7	4.4	21.4	5.5	18.3	-9.7	-7.0
Copper export volume (000' tons)	234	297	330	353	393	423	476	555	610
Population, million	10.5	10.7	10.9	11.1	11.3	11.5			
GDP (Kwacha, trillions)	10.07	13.13	16.26	20.48	25.92	32.45	39.30	44.14	48.29
Gov. rev. (excl. grants),% of GDP	19.4	19.1	17.9	18.0	18.2	17.4	16.8	17.5	17.9
Gov. exp. (excl. interest)% of GDP	27.9	29.7	27.2	27.1	23.2	23.1	21.5	22.1	22.5
Gov. overall balance, cash basis	-7.0	-8.1	-6.3	-6.6	-1.7	-2.6	13.5	-2.1	-2.0

Note: 2005 is preliminary and 2006-2008 are projections
Source: IMF (2007b) Real effective exchange rate. World Bank (2007b) and IMF (2007b) consumer prices. IMF (2007b) and own calculations of real per capita GDP growth. IMF (2006a) population growth 2001–2008. IMF (2007b) population growth 2000. IMF (2007a) Average period exchange rate. None of these figures are prognoses, preliminaries or projections. Real GDP (annual% change) and population growth are projections for 2005–2008. The GDP deflator is preliminary for 2005 and projected for 2006–2008. Bank of Zambia (2007) Exchange rates for 2006 and 2007 Jan–March. World Bank (2007b) for population. IMF (2006a, 2006b)) for the rest.

The growth improvement involves most sectors with Mining and quarrying, Manufacturing, Construction, Wholesale and retail trade, and Real estate and business services as driving sectors (see Table 2). Agricultural output has at least expended reasonably well since the 1990s.[13] Historically the share of mining and quarrying has fallen dramatically (see Appendix Table A1), but during the last few years it has grown fast.

Table 2: Percentage change in GDP by kind of economic activity (const. 1994 prices)

	1998–2001 average	2002	2003	2004	2005	2006
Agriculture, forestry and fishing	1.0	-1.7	5.0	4.3	-0.6	2.3
Mining and quarrying	6.7	16.4	3.4	13.9	7.9	11.8
Primary sector	**2.3**	**3.8**	**4.5**	**7.5**	**2.5**	**5.9**
Manufacturing	3.5	5.7	7.6	4.7	2.9	3.3
Electricity, gas and water	4.2	-5.2	0.4	-1.7	5.4	11.3
Construction	8.2	17.4	21.6	20.5	21.2	9.0
Secondary sector	**4.7**	**7.2**	**10.8**	**9.1**	**10.0**	**6.6**
Wholesale and Retail trade	4.0	5.0	6.1	5.0	2.4	3.9
Restaurants, bars and hotels	8.3	4.8	6.9	6.4	11.7	10.0
Transport, storage and communications	3.8	1.8	4.8	6.4	11.0	13.4

[12] This might be too low, since it is calculated from the population growth reported by IMF (2007b), which is high. Note that IMF and World Bank (2007b) in general have the same figures for Zambia 2000-2005 for real GDP growth, but IMF on average reports 0.6 percentage points higher population growth rates, and 0.6 percentage points lower GDP per capita growth rates.

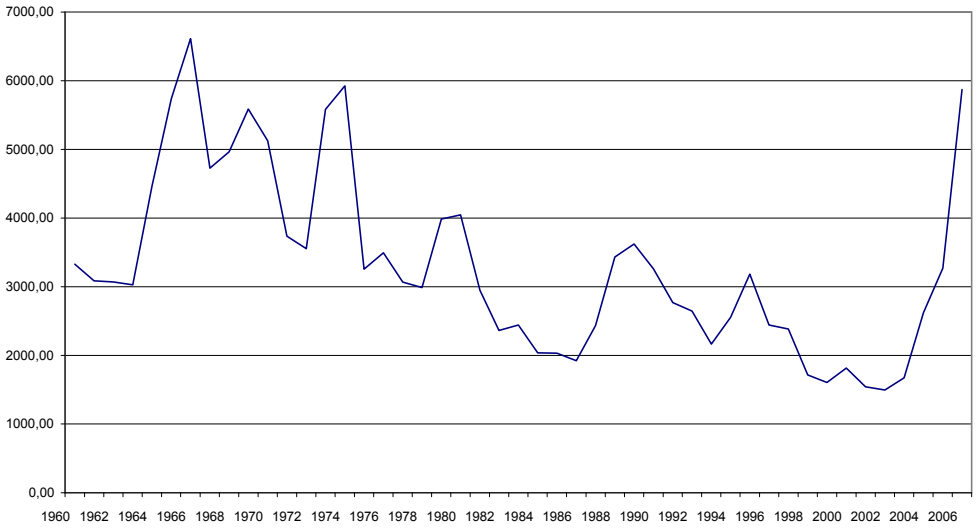
[13] The total gross value of agricultural output rose by over 50 percent between the mid-90s and 2001–2004 (Jayne et. al., 2007), and grew annually by 3.8 percent 2003–2006 (Republic of Zambia, 2006a and 2006b).

Financial intermediates and insurance	0.5	3.5	3.5	3.5	3.3	4.0
Real estate and business services	11.9	4.4	4.0	4.0	3.2	3.2
Community, social and personal services	2.3	1.6	1.6	0.6	11.4	12.4
Tertiary sector	**4.0**	**1.9**	**4.5**	**4.2**	**5.4**	**6.5**
Total GDP at market prices	2.4	3.3	5.1	5.4	5.2	5.8
excluding mining and quarrying			5.3	4.7	4.5	5.0

Note: 2006 is preliminary.
Source: FNDP for 1998–2002. Republic of Zambia (2006a) for 2003. Republic of Zambia (2006b) for 2004–2006

Copper was historically the totally dominating exports. Copper production exceeded 400 000 tonnes annually in the late 1950s, reached a peak of 700 000 tonnes between 1969 and 1976 before beginning a progressive decline, and in 2000 it was as low as 257 000 (Republic of Zambia, 2007, and DFID, 2006). The copper price fell in real terms until the early 2000s when it was one-third of the 1960–80 price, but has increased dramatically in the last few years and is now about the same as at the 1967 peak level (see Diagram 3).

Diagram 3: Copper prices per tonne, constant 2000 USD



Source: IMF (2007a)

The exported quantity of copper has doubled during the last five years, which in combination with the dramatic price hikes means that export revenues from copper have increased rapidly (Table 3). However, also non-traditional exports have increased substantially in recent years (Table 4), with copper wire and electrical cables having the biggest volumes but also sugar and tobacco doing well. While the current account balance including grants is negative, the overall balance has been positive during the last few years due to substantial inflows of private net capital (449 million USD in 2006), and IMF projects it to rise even further (see Table 3).

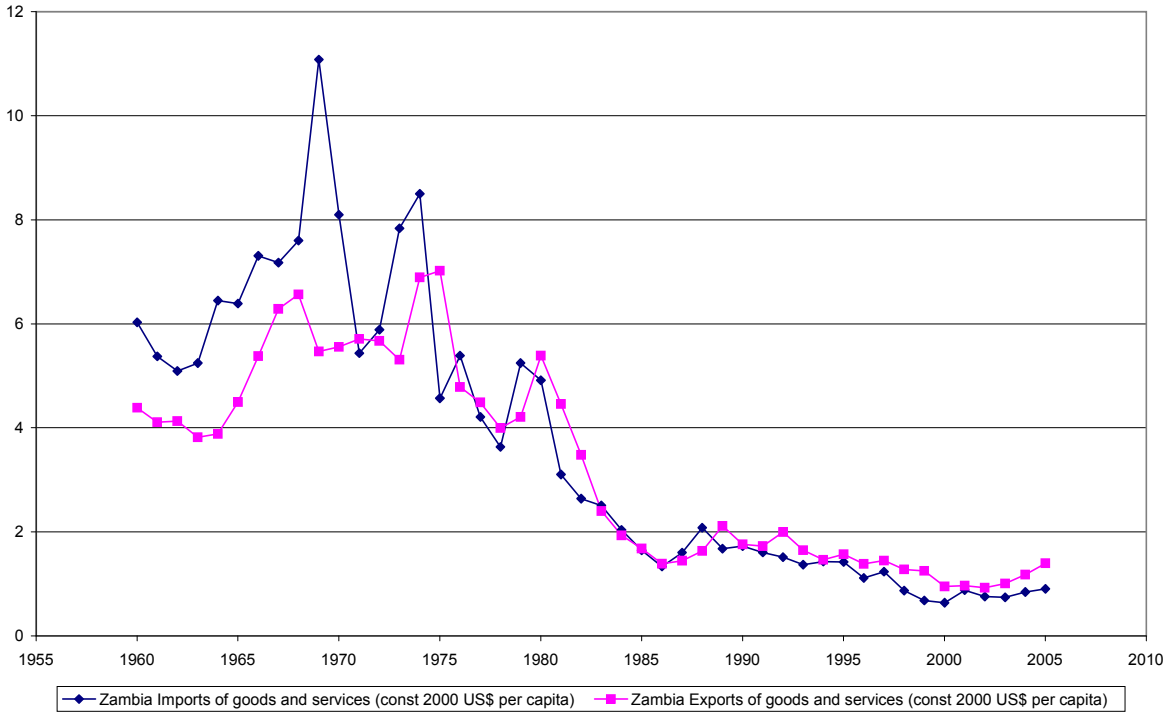
Table 3: Balance of Payments (in millions of USD unless otherwise indicated)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Current account balance	**-622**	**-758**	**-652**	**-686**	**-581**	**-696**	**-872**	**-1095**	**-1287**
–excl. official transfers (project grants and programme support grants) –incl. official transfers	**-438**	**-506**	**-348**	**-400**	**-298**	**-278**	**-465**	**-668**	**-829**
Exports, f.o.b.	746	884	916	1 061	1 779	2 161	3341	3 177	2 906
Of which metals	497	590	560	669	1 322	1 616	2 700	2 521	2 239
Imports, f.o.b.	978	1 253	1 204	1 393	1 727	2 161	2 739	3 089	3 391
Income (net)	-158	-168	-155	-143	-424	-466	-1067	-781	-474
Of which official interest payments	-155	-144	-137	-126	-121	-110	-24	-17	-20
SWAP grants	0	0	0	0	0	0	87	83	82
Capital and financial accounts	202	466	238	411	238	766	1454	1115	1326
Project grants	153	222	236	240	239	287	311	327	353
Capital transfers: debt cancelled and debt stock reduction	0	0	0	0	0	1 793	2 403	0	0
Official loan disbursement (net)	-140	-96	-122	-141	-221	-1882	-1722	106	101
Private capital (net)	278	301	178	264	310	477	449	674	870
FDI	122	72	178	347	364	380	438	479	525
Private borrowing (net)	156	229	0	-83	-54	97	11	194	345
Overall balance	-420	-292	-414	-275	-343	70	582	20	39
Errors and omissions, **Short term capital**	111	-107	31	-46	58	-354	0	0	0
Financing	309	399	383	321	285	284	-582	-20	-39
Debt relief	217	436	437	389	264	480	0	0	0
Programme support Grants	32	31	69	45	44	131	95	100	105
Programme support Loans	154	44	69	10	21	24	14	6	5
Memorandum items:									
Terms of Trade (% Change)	-4.2	-1.7	-6.7	4.4	21.4	5.5	18.3	-9.7	-7.0
Copper export volume (thousands of tonnes)	234	297	330	353	393	423	476	555	610
Exports f.o.b. (% change)	2.3	19.4	2.4	16.2	62.6	20.8	48.3	-4.0	-7.2
Imports (% change) f.o.b.	12.8	23.3	-2.5	13.3	21.1	22.8	29.6	10.0	6.1
Current account balance (% of GDP)	-19.2	-20.8	-17.3	-15.9	-10.7	-9.6	-7.9	-9.0	-9.7
-excl. official transfers	-13.5	-13.9	-9.2	-9.3	-5.5	-3.8	-3.8	-5.1	-5.9
-incl. official transfers									

Note: 2005 is preliminary and 2006–2008 are projections
Sources: Bank of Zambia (2007) for copper export volume (thousands of tonnes) in 2006. IMF (2006a, 2006b)) for the rest.

Total exports in dollars have increased fourfold since 2000, reaching 3.3 billion USD in 2006. This equals approximately 250 (constant 2000) USD per capita, which is back at the per capita level of the early 1980s but still just half of the average 1960–80 levels (see Table 3 and Diagram 4).

Diagram 4: Zambian imports and exports of goods and services (constant 2000 USD per capita, hundreds)



Source: World Bank (2007b)

Table 4: Ten major non-traditional exports (C.I.F.), USD million

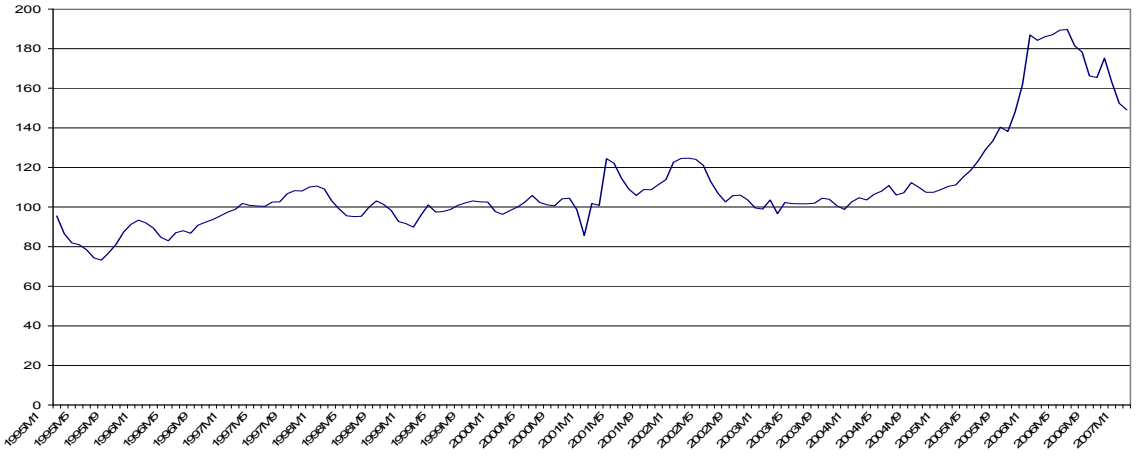
	2004	2005	2006
Copper wire	58.5	106.5	175.0
White spoon sugar	33.4	67.8	54.3
Burley tobacco	43.3	60.3	70.5
Cotton Lint	51.4	55.9	62.3
Electrical cables	32.7	48.5	103.7
Fresh flowers	25.5	32.1	34.7
Cotton yarn	23.9	24.1	18.9
Fresh fruit/Vegetables	23.2	21.3	25.3
Gemstones	16.2	19.5	18.1
Gas oil	24.3	9.8	10.3
Electricity	4.8	3.8	7.0
Total	**337.2**	**449.6**	**580.1**
Total NTE	**458**	**534.3**	**701.4**

Source: Republic of Zambia (2006b)

During the period 1995–2003 the Kwacha depreciated not only against the USD but also against a basket of currencies, although the real exchange rate was quite stable. However, from January 2004 to January 2007 the Kwacha/USD appreciated from 4767 to 4221 (it peaked in May 2006 at 3185). Even if prices increased by 30 percent more in

Zambia than in the US (World Bank, 2007b), the real effective exchange rate (REER) went up by 42 percent (see Diagram 5). The exchange rate peaked because of a combination of rocketing copper prices, restrictive money supply by the Bank of Zambia to get inflation down, radical debt reduction, and portfolio inflows.[14]

Diagram 5: Real effective exchange rate (REER)



Note: Real effective exchange rate index (2000 = 100): Real effective exchange rate is the nominal effective exchange rate divided by a price deflator or index of costs.
Source: IMF (2007a)

The macroeconomic stabilisation problem has eased somewhat since the peak. Generally, when faced with an appreciating exchange rate the government needs to think of ways to pursue policies that benefit the survival of the tradables sector. An example of this could be to use the new revenue to reduce exporter costs, such as investment in transport and energy. The impact of the resource rents on the real exchange rate can also be contained by increasing imports, where the major tool of course is trade liberalisation. Policy changes like these of course have distributional consequences that need to be considered.

Zambia is largely on track with regard to the PRGF, although the IMF is unimpressed by the pace of structural reforms and the lack of progress with regard to the privatisation of ZESCO and ZAMTEL.[15] The country meets most quantitative conditions, but not the qualitative ones. The current PRGF was extended to September 2007, and is expected to be followed by a low-access agreement with little money involved or a PSI with just the programme and advice.

Although real GDP increased by 34 percent between 2000 and 2006, government revenue collection (excluding grants) went up by only 16 percent. This means that revenues as a percentage of GDP slipped from 19.4 percent in 2000 to 16.8 percent in 2006. This is to some extent explained by the Kwacha appreciation resulting in a lower Kwacha value of the VAT on imports and customs duty (0.7 percent of GDP). But the difficulty of bringing especially the agricultural sector and the informal sector into the tax net is a problem. Also, the whole fiscal regime for

[14] A debt management system is under way with the help of the IMF and the World Bank. Maybe large new loans will have to pass the Parliament. The country is more creditworthy again, but for the time being the government is not in any shape to start taking large new loans.

[15] However, both these companies have serious problems. ZESCO is unable to generate profits because its tariffs are set below cost recovery levels. ZAMTEL seems to work much less efficiently than the private mobile phone companies. In reforming the sector one must make sure to establish competition so that one monopoly is not simply replaced by another. The same applies to the electricity sector.

minerals is too generous to the existing mining houses. The planned increase in royalties will give the Treasury some extra funds, but what is required is a combination of measures such as increased royalties, increased corporate income tax and withholding tax on dividends. The new fiscal regime still does not include a form of windfall tax, which would allow Zambia to get a fair share of the current windfall revenues. We have also seen a piecemeal approach to tax policy in the past, and it is important to expedite the comprehensive review of the tax system (IMF, 2006b).

At the same time, government expenditures as a percentage of GDP have been falling. It is about the same in real terms now as in the beginning of the decade. The overall budget deficit has been kept around 2 percent since 2004. Budget discipline is of course a positive factor, but expenditures have mainly been kept low due to failures to carry out the budget plans. A key concern with regard to Zambian governance is budget implementation and in particular its consequences for the poverty reduction strategy. There has been some progress with regard to domestic resource mobilisation (Zambia Revenue Authority), and at the same time Zambia receives increasing amounts of budget support. However, much work remains to be done to extend the tax coverage and even more so with regard to the implementation of the existing tax legislation.

It is important to achieve a budget allocation that is relevant for poverty reduction and that strikes a sensible balance between short-term and long-term effects on poverty. In the recent development plan there is an increased emphasis on growth issues that are good for poverty reduction in the longer term, but it is also important that the programmes which can have a more immediate impact are functioning well. There seems to be high levels of inefficiency in the ways the government works, and considerable budget resources have not been spent in recent years. In 2006, 8665 billion Kwacha was spent out of the 9942 billion Kwacha in the approved budget. 757 billion Kwacha of the difference is explained by shortfalls in total revenues and grants relative to the targets. However, another 521billion Kwacha was unspent, and only 59 percent of the approved budget for capital expenditures was used. In 2004 and 2005 the amount not spent was even higher (Republic of Zambia, 2006b).

In this context one might note that the country has an absurdly misaligned budget cycle. The budget decision is taken in Parliament in March, while the budget year starts in January. This means that many activities are put on hold – something that surely makes it harder to meet expenditure and activity targets. However, addressing this problem requires a constitutional amendment which seems to be buried in the slow process to revise the full constitution.

Since we are here concerned with poverty reduction, we need to consider the implication of the fact that the economic expansion is driven by the copper sector. This means that there is relatively limited expansion of formal sector employment, which in turn means that the informal sector has to continue to absorb the bulk of the labour that keeps leaving agriculture. This implies that most of the new migrants will probably earn very low incomes. The CSO (2005) reports that there were approximately 6.7 million persons aged 12 and above in 2004. Fifty-nine percent of these were employed and 6 percent were unemployed; hence 65 percent of this age group constitute the labour force. Almost all of those outside the labour force are reported as full-time students or full-time homemakers. Eighty-one percent of the employed persons were engaged

in the informal sector[16] (see Table 5), up from 79 percent in 1998. In rural areas this proportion was unchanged at 91 percent, but the proportion in the urban areas increased from 48 percent to 57 percent. The increase in informal employment could partly be explained by the fact that 5 percent of the population aged 12 and above reported themselves as unpaid family workers in 2004, while less than 1 percent did so in 1998. Consequently, a new group has been added to the employed. However, the fact that the total number of persons employed in the formal sector has gone up from 740 000 to only 780 000 over the same period shows that the formal sector is not keeping up with population growth.

Another serious problem with regard to poverty reduction is that the government does not collect much tax revenue (directly) from the copper sector (obviously the government is not able to collect significant revenues from the informal sector either), because the firms that bought the copper companies at the bottom of the crisis at the turn of the century were given extremely favourable terms with extensive tax exemptions. The government is now trying to renegotiate the copper contracts, and hopefully something beneficial will come out of this.

Table 5: Proportion of the employed who were employed in the informal sector by sex and rural/urban stratum, Zambia, 1998 and 2004

Residence	1998				2004			
	Both sexes	Male	Female	Total number of persons employed ('000)	Both Sexes	Male	Female	Total number of persons employed
All Zambia	79	71	89	3,514	81	74	90	4,123,043
Rural/urban								
Rural	91	86	95	2,524	91	88	96	2,883,261
Urban	48	39	64	990	57	46	71	1,239,782
Stratum								
Rural Small Scale	92	88	96	2,300	94	90	96	2,624,278
Rural Medium Scale	83	80	87	83	86	84	89	135,551
Rural Large Scale	56	48	72	3	65	56	77	12,718
Fish farming	–	–	–	–	90	86	93	5,455
Rural Non Agric	72	63	86	145	67	59	80	105,539
Urban Low Cost	54	44	73	661	62	52	78	877,696
Urban Medium Cost	34	26	48	110	47	36	61	230,969
Urban High Cost	28	23	35	127	37	32	45	130,837
Province								
Central	79	73	86	331	84	79	91	422,317
Copperbelt	58	47	78	449	60	50	75	465,262
Eastern	93	88	97	665	90	84	95	663,642
Luapula	91	88	94	270	95	93	98	380,670
Lusaka	50	44	62	392	54	45	67	462,103
Northern	91	86	97	443	90	86	95	615,498
North-Western	93	89	97	214	88	83	93	238,750
Southern	73	66	81	384	80	73	89	517,964
Western	92	89	96	276	92	90	94	356,837

Source: CSO (2005)

[16] Informal sector employment is defined as employment where the employed persons are not entitled to paid leave, pension, gratuity and social security, and work in an establishment employing five persons or less.

Although the government certainly could do more with a larger budget, it is still very important to improve the efficiency in terms of how the existing money is handled and spent. The process of reforming public financial management has been ongoing for a long time, but progress seems to be exceedingly slow. Zambia is introducing an integrated financial management information system (IFMIS) within the PEMFA programme to strengthen the system. To get a modern financial management system in place to track expenditures is a central dimension in the reform process. There is not yet a single treasury account, and the cash management still seems to be inefficient.

The government has difficulties both implementing performance assessment indicators and terminating inefficient programmes. Decentralisation efforts are ongoing, although this seems to be a challenging task. The Auditor General supplies reports with critical information to the Public Accounts Committee, but the actions are decided by the executive. Still, this is done in camera and people are becoming more aware. Large-scale corruption involving for example former President Chiluba is being tackled, but small scale corruption does not seem to be declining according to some observers. The Corruption Perception Index (Transparency International, 2008) has not changed at all since the turn of the century.

9.

5. Poverty and Inequality Outcomes

Zambia is unusually urbanised for being an African country, with an urban population share of 39 percent. Yet, the country does not have an unusually large share of the labour force in formal sector employment (19 percent of the employed or 17 percent of the labour force), since the bulk (66 percent) of the urban labour force is in the informal sector or unemployed (CSO, 2005). This needs to be taken into account when formulating poverty reduction policy. Still, there has certainly not been any overemphasis on the poor rural inhabitants in the case of Zambia, and reaching those groups will remain the key challenge.

Zambia has conducted at least six countrywide surveys since 1991 to measure the living standards of its people (CSO, 2005). The 2002/03 Living Condition Monitoring Survey III (LCMS III) was an Integrated Household Budget survey; a diary method was used and a 12-month period was covered. The other five were Indicator Monitoring Surveys, one-spot (single interview) surveys. It is therefore not completely appropriate to compare the results from LCMS III with the results from the other surveys. The poverty lines in the Indicator Monitoring Surveys (see Appendix) were originally derived from a 1981 ILO/JASPA basic needs mission to Zambia. The Zambian poverty lines have been based on the Food-Energy Intake approach, and in 1991 the cost of the food basket (the poverty line) was updated.[17] The poverty lines were then again updated in subsequent surveys by the change in the CPI (Situmbeko, n. d.) In all of them the calorie requirements per adult equivalent was set at 2721; not at 2450 as recommended by the WHO (CSO, 2004). This of course means that the estimated level of poverty is higher than if the WHO recommendation had been used.

The surveys collected data on household consumption expenditures. Two poverty lines are used by the CSO: The extreme poverty line is the food poverty line, which was 78 223 Kwacha (1.02 PPP adjusted international 2000 USD/day) in 2004. The moderate poverty line also includes consumption of "some minimum basic non-food items such as health, shelter and education". This part is assumed to make up 30percent of the consumption bundle of the poor. Thus, the moderate poverty line can simply be constructed as 1/(1-0.3) times the food poverty line, or 111 747 Kwacha (1.45 PPP adjusted international 2000 USD/day). This can be compared with the World Bank poverty line of 1.22 PPP adjusted inter-

[17] By the National Food and Nutrition Commission, and the Price and Incomes Commission.

national 2000 USD/day (World Bank, 2007b). The World Bank has 28 percent non-food in the basket defining the poverty line.

The levels of poverty recorded for Zambia by the CSO are significantly higher than those of other African countries at a similar income level. The World Bank (2007a) argues in their analysis of poverty in 2002/03 that the poverty line used by the CSO is too high. While CSO's moderate poverty line for 2002/03 was estimated to be 92 185 Kwacha, the World Bank estimated it to be 73 394 Kwacha. Their respective estimates of the incidence of poverty were 67 percent and 56 percent.

The methodologies used by the World Bank and the CSO to estimate the level of poverty for 2002/03 are similar, but the assumptions underlying the estimations differ in several respects. The first difference between the two poverty line estimates is that CSO sets the calorie requirement per adult equivalent to 2721, while the World Bank uses the WHO (1985) recommendation of 2464 calories. Secondly, there is a difference in how the consumption basket of the poor is constructed. CSO uses Lusaka prices from the first of the ten cycles in the survey as reference prices, while the World Bank uses national median prices. To determine the food basket underlying the poverty line, CSO calculates quantities by dividing national average expenditure shares by Lusaka cycle one prices. This means that the CSO basket has less of foods that are expensive in Lusaka relative to the national representative food basket. Then both institutions compute district poverty lines using district prices relative to the baseline prices. There are furthermore some small differences between the two estimates in how the price index is constructed. The discussion of the CSO and the World Bank is of some importance with regard to the poverty discussion within Zambia, but it is mainly with regard to international comparisons that it is important to keep measurements consistent across countries. The CSO-estimated poverty line seems quite high, so the World Bank estimate gives a more internationally comparable estimate of the level of poverty in Zambia. However, with regard to changes over time, the level of the poverty line matters less. Here it is important that the procedures to compute the poverty line do not change over time. We will stick to the CSO line in our estimates below for 1998-2004, although we do find that the World Bank line is preferable for some uses.

The 1998 food poverty line was K32 861 per adult equivalent. The CPI adjusted poverty lines from 1993, 1996 and 1998 are updated versions of the 1991 line using CPI (CSO, 2005:112). However, it seems that the 2004 poverty line was not updated accordingly; instead it was updated (with CPI) based on the 2002/03 line, which was calculated from scratch. The increase of the poverty line between 1998 and 2004 is smaller than the CPI increase, suggesting that the 2002/03 computations probably were done based on food prices (which makes sense given the way the poverty line is constructed).

The CSO-estimated poverty levels are shown in Table 6. According to these, national poverty was virtually the same in 2004 as in 1991: The rural level of poverty declined from 88 percent to 78 percent, while the urban poverty level increased from 49 percent to 53 percent. However, both urban and rural poverty declined from 1998 to 2004.[18]

[18] Poverty levels generally change with the seasons. The 1993 survey was conducted April-June, which is a season when the poverty level is approximately three percentage points lower than the yearly average. The other four surveys (except 2002/03) were conducted when poverty levels were in general 3-5 percentage points higher than the yearly average (World Bank, 2007a:54).

Table 6: Historical development of moderate poverty levels according to CSO

	1991	1993[19]	1996	1998	2004
Poverty level	70	74	69	73	68
Rural	88	92	82	83	78
Urban	49	45	46	56	53

Source: CSO (2005)

The poverty levels in 1998 and 2004 are estimated using the standard FGT index, which is given as

$$P_\alpha = 1/n \sum_{i=1}^{q} \left[\frac{(z - y_i)}{z} \right]^\alpha$$

where n is the total number of households, q is the number of households below the poverty line, z is the poverty line and yi is the consumption of household i. For =0, the FGT index reduces to the head-count ratio H; for =1, it is the poverty-gap or depth of poverty; and for =2 the FGT index has been interpreted as indicating the severity of poverty.

Table 7: FGT-indices of moderate poverty for total, rural and urban households

	Total		Rural		Urban	
	1998	2004	1998	2004	1998	2004
Head count	72.93	67.56	83.45	77.47	55.05	52.12
Depth	40.05	35.22	49.94	44.10	23.74	22.00
Severity	26.71	22.73	34.82	29.86	13.20	11.98

Source: Authors' own calculations

We see that poverty is much more widespread and severe in rural areas. The positive news is that the rural depth of poverty fell from 0.72 in 1991 to 0.50 in 1998, and then finally to 0.44 in 2004.

Next we take a closer look at how the poverty changes have been brought about, using the approach of Datt and Ravallion (1992). They devised a simple decomposition algorithm able to decompose the change in poverty between two points in time into one part due to per capita income change and one part due to inequality change plus a residual. If we apply this approach on the change in poverty from 1998 to 2004, the basic formula is

$$P_{04} - P_{98} = G(98,04) + D(98,04) + R(98,04) .$$

The growth component G and the redistribution component D are given by

$$G(98,04) = P(z_{04} / \mu 04_{04}, L_{98}) - P(z_{98} / \mu_{98}, L_{98})$$

$$D(98,04) = P(z_{98} / \mu_{98}, L_{04}) - P(z_{98} / \mu_{98}, L_{98}) ,$$

where e.g. is the poverty level that Zambia would have had in 2004 with a 1998 income distribution and a 2004 per capita income level. Since the poverty measures used are not additively separable, we get a residual component R.

[19] The extra high poverty levels this year when taking the underestimation into account are probably explained to a large extent by drought.

We have used this method to decompose the change in moderate poverty from 1998 to 2004. This decomposition is based on the official poverty lines, even though we have some concerns about them as discussed above. Our consumption expenditure per adult equivalent based Gini coefficients are 0.533 for 1998 and 0.544 for 2004, indicating that there was a slight increase in the Gini coefficient over this period.[20] Tables 8–10 report our results.

Table 8: Decomposition of changes in total moderate poverty

Period	Growth component	Redistribution Component	Residual	Total change in poverty
Head count (P0)				
1998 to 2004	–6.62	1.24	0.01	–5.37
Depth (P1)				
1998 to 2004	–5.41	0.68	–0.10	–4.83
Severity P(2)				
1998 to 2004	–4.27	0.39	–0.10	–3.98

Source: Authors' own calculations.

Table 9: Decomposition of changes in rural moderate poverty

Period	Growth component	Redistribution Component	Residual	Total change in poverty
Head count (P0)				
1998 to 2004	–6.53	0.21	0.34	–5.98
Depth (P1)				
1998 to 2004	–7	1	0.16	–5.84
Severity P(2)				
1998 to 2004	–6.06	1.1	0	–4.96

Source: Authors' own calculations.

Table 10: Decomposition of changes in urban moderate poverty

Period	Growth component	Redistribution component	Residual	Total change in poverty
Head count (P0)				
1998 to 2004	–5.9	2.85	0.12	–2.93
Depth (P1)				
1998 to 2004	–3.45	1.84	–0.13	–1.74
Severity P(2)				
1998 to 2004	–2.28	1.2	–0.14	–1.22

Source: Authors' own calculations.

The results for changes in moderate poverty show that growth contributed significantly to poverty reduction in 1998–2004, both in urban and rural areas. Although there was a modest poverty increasing effect from the inequality increase, overall poverty still declined substantially. Since Zambia is a very unequal society with a Gini coefficient almost as high as that of South Africa, there is an underutilised poverty reduction potential from policies aimed at decreasing inequality. We see that the

[20] The Gini coefficient for income is estimated by CSO to be 0.57 (Zambia, 2006c, p. 16). Our estimate of the Gini coefficient for the distribution of per adult equivalent consumption is slightly lower at 0.544. Consumption distributions tend to be more equal than income distributions.

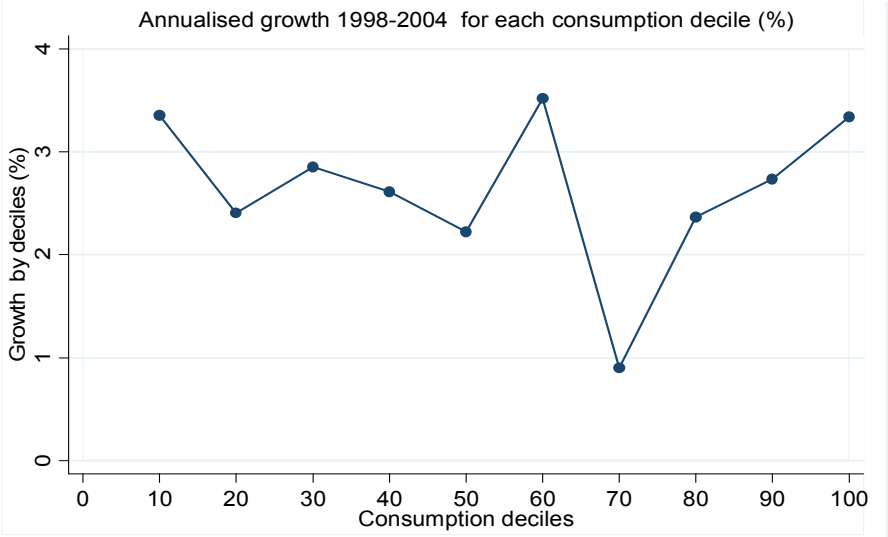
negative effect of income distribution change on poverty is somewhat more pronounced in urban areas than in rural areas. We repeated the same calculations for extreme poverty for the period 1998–2004, and found the same pattern there.

Poverty is clearly more severe in rural areas, but we also note that income growth has been somewhat better there than in urban areas. The incidence as measured by the head count is of course much higher, but the urban-rural differences are even larger when comparing the depth and the severity of poverty. The results are in line with indicators such as life expectancy, undernutrition and child mortality, where Zambia has been scoring worse than Africa in general since around 1990 (see Appendix Diagrams). Hence, even if poverty is being urbanised in Africa, it is still overwhelmingly rural.

To characterise the growth pattern further we have constructed growth incidence curves for total, rural and urban Zambia. These curves show how consumption growth varies across deciles of the population, and how average real household consumption increased from 1998 to 2004. The curves are deflated by the poverty line.

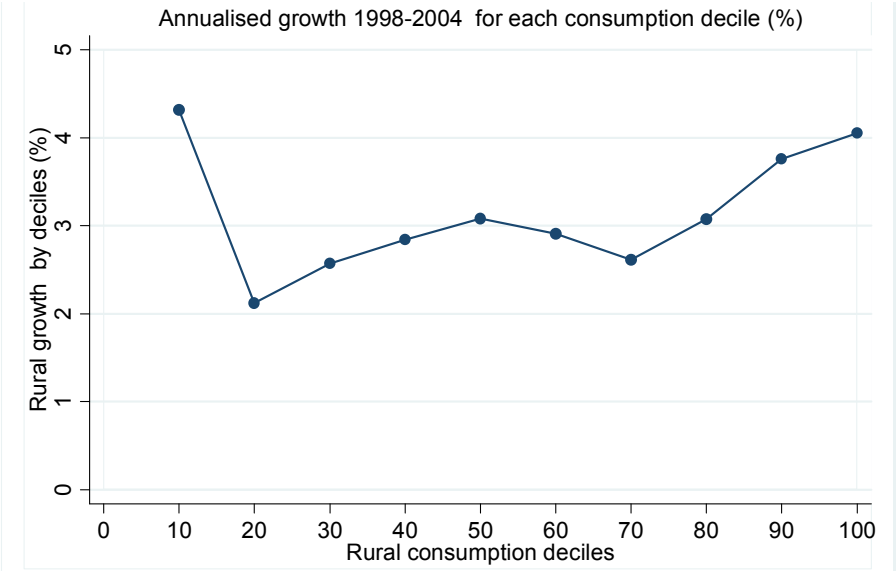
For total Zambia we can see that all deciles experienced positive growth during the period (Diagram 6). There is no clear pattern of differences across income levels. The results for rural Zambia shown in Diagram 7 indicate that the bottom decile has done really well, but one needs to be cautious not to read into this too much, since measuring there is problematic. These are households with very low incomes. Apart from the bottom decile, the curve slopes generally upward, indicating that the better-off farmers on the whole did somewhat better than their poorer colleagues. When it comes to the urban growth incidence curve (Diagram 8), we see that the bottom of the distribution has done slightly better than the intermediate range, while the richest urban decile in particular was successful. It is perhaps not surprising that the better off in particular benefit when there is acceleration in the growth of the economy.

Diagram 6: Total growth incidence curve



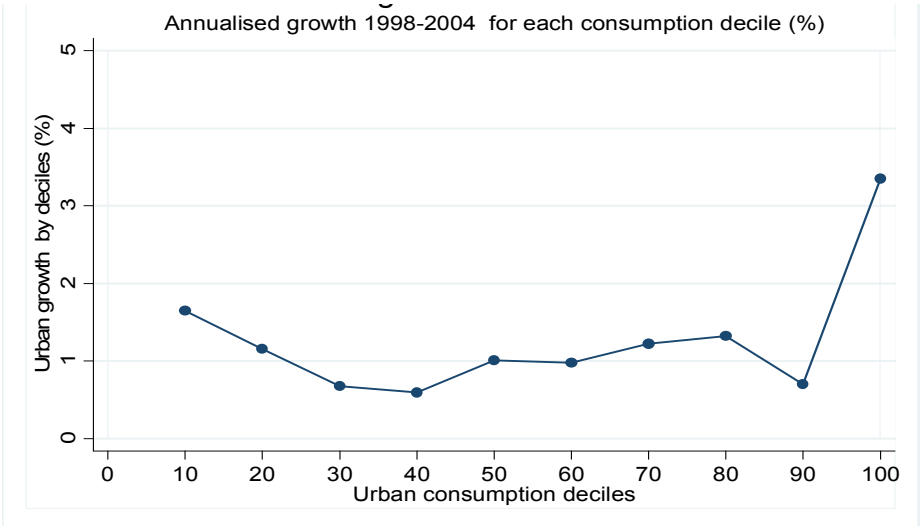
Source: Own calculations

Diagram 7: Rural growth incidence curve



Source: Own calculations

Diagram 8: Urban growth incidence curve



Source: Own calculations

6. Rural Income Diversification and Poverty Reduction

6.1. Introduction

African development policy has since the beginning of the millennium been governed by poverty reduction strategies (PRSs), but the first generation of the PRSs generally under-played the importance of economic growth for long-term poverty-reduction (Bigsten, Shimeles, 2007). The emphasis of the first generation PRSs was mainly on the social expenditure side, while the link to economic growth was mainly made via macroeconomic stability and human capital investment.

We saw in the previous section that poverty is more extensive in rural than urban areas, and identified rural smallholders as the key group for poverty reduction in Zambia. This is therefore the group we focus on in this section. The poverty of a smallholder household can be reduced both via higher incomes within given activities and by shifting of labour and other resources to more lucrative activities.[21] We will use household data from 2001 and 2004 to analyse how movements out of poverty during that period related to income diversification. Although this is a rather short period of time to analyse structural changes, these are the only data sets that are detailed enough for our purposes. We hope that an analysis even over this short spell will provide some policy-relevant insights.

6.2. Theoretical Review

Structural change is an integral part of economic development. Typically the agricultural sector share shrinks while industry and services expand. This can be analysed at the macro-level, but the structural change also takes place at the household level. Smallholders in Africa were originally almost exclusively farmers, but over time they have shifted into production for the market and to non-agricultural activities as well. Hence, the process of structural change in Africa occurs also within households. This structural change or income diversification at the household level in Zambia is what we will analyse in this section.

Income diversification is a result of households' allocation of their assets across different income-generating activities. Households seek to achieve an optimal balance between expected returns and risks in

[21] Overall economic growth can also enhance the welfare of households by giving the public sector higher tax income which allows more social expenditure.

different activities given the constraints they face (Barrett et al., 2006).[22] Since households are different in many respects, income patterns vary according to assets and constraints. After all, not all households have access to the same set of income opportunities, and there is certainly a large variation across households in terms of constraints. There are spatial variations in transaction costs, market prices etc, and there are variations in households in the quality of factors determining their allocation of resources across activities. Barrett et al. (2006) analyse how income sources and diversification vary among and within Kenya, Cote d'Ivoire and Rwanda, but since they only had access to cross-section information, no actual changes over time could be observed. The challenge in the analysis of diversification is to find good enough disaggregated income data. With access to panel data there is a better chance of establishing a causality pattern than with just a cross-section. We have panel data for Zambia covering two years, 2001 and 2004, and are able to analyse changes over time for individual households. However, the analysis within this report is limited to some tabulation exercises.

Again, constraints differ across households in terms of, e.g., property rights, labour availability and access to credit or other forms of liquidity. There are also considerable start-up costs ín some activities; one has to enter at a reasonably large scale to be able to enter at all.[23] This means that households that do not possess sufficient human and financial resources do not have access to some potentially lucrative activities. As noted by Barrett et al. (2006), constraints may force households to choose low-return activities.

The endowments are of course a key determinant of smallholders' activity choices.[24] To be a full time farmer you need reasonable access to land. The bigger the labour force of the household, the more land is required. Consequently, the labour/land ratio of the household is one key determinant of its desire to move into off-farm activities. The human capital endowment or education of the members of the household is also a key factor determining activity choices. In addition it is of course easier to diversify out of agriculture if the household has good access to a thriving off-farm sector, which often means being close to an urban market. Access may also vary by region; some areas have more diversified economies. So, overall we would say that the main factors behind allocation choices are differences in endowments, differences in access to markets, and access to finance.

It has also been observed in the literature that the character of smallholder income diversification varies. The most common pattern seems to be one where households gradually develop their economy and improve their lot thorough diversification. Reardon (1997) found in his survey of the income diversification literature that non-farm income generally is regressively distributed. This means that households with the highest

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[22] Barrett et al. (2006) write that "households choose an activity allocation vector for asset endowments that yield an uncertain income return from among a feasible set defined by the intersection of a non-tradable inputs availability constraint equal to one's endowment level of the input (e.g. land) and a budget constraint equal to one's current cash income plus access to liquid capital through savings or credit. Because income is a function of activity choice, it is an endogenous function of the prevailing (shadow) price distributions for all factors, goods and services. So observed income patterns can be understood as a function of the constraints – including ex ante asset endowments – faced by the household and its preferences."

[23] (Barrett et al. (2006) write that "entry into lower-return niches (e.g. petty commerce at weekly rural markets) is low cost and widespread, but movement within the sub-sector in the higher return niches requiring partially irreversible investment in fixed capital is sharply limited by liquidity constraints, social networks necessary to stabilize, monitor, and enforce contracts etc."

[24] Assets are of course endogenous variables, and to understand the dynamics one also needs to understand the process of factor accumulation.

farm income also have the highest level of income and share of income from non-farm activities. Barrett et al. (2006) found that the poor are more likely to rely on income from their own farm. This suggests that diversification generally is a way up the income scale. However, there is also the opposite pattern of distress diversification, where households in a poor situation seek to add to their meagre agricultural incomes (Barrett, 1998).[25] Here we are interested in finding to what extent income diversification in Zambia is of one or of the other of these two types.

Typically one would assume that cash crop and livestock incomes are related to higher income levels and to the better-off farm households. The poor tend to rely more on farm wage labour, while the richer households rely more on cash crops, livestock income and non-farm income. Most households pursue strategies with several income components, but we will try to identify the most common activity combinations and try to see whether there is a pattern of mobility among them and whether some routes of diversification are more successful than others.

6.3. The Data

The data comes from the Food Security Research Project (FSRP) of the Agricultural Consultative Forum, the Ministry of Agriculture and Cooperatives, and Michigan State University. Policy makers in Zambia have access to the Crop Forecast and the Post-Harvest Survey (PHS), conducted annually by the Central Statistics Office (CSO), when deciding upon how to promote small farmer welfare (Zulu et al., 2007). These surveys were complemented by two recent surveys that provide a more complete assessment of smallholder conditions since more information is collected.

In April/May 2001 and June/July 2004 these nationally representative supplemental surveys were carried out, collecting data for the 99/00 and 02/03 cropping seasons and the 00/01 and 03/04 marketing seasons, and covering the same sample of roughly 7000 households as the 1999/00 PHS. A sampling frame of smallholder farmers (cultivating less than 20 hectares) was used.

The Food Security Research Project (Jayne et. al., 2007) reports that rural poverty has been falling. Agricultural growth has been positive and real staple food prices for consumers have declined by 20 percent over the past decade. The total gross value of agricultural output rose by over 50 percent between the mid-90s and 2001–2004. The worst performers in terms of output growth are the staples grains and beans. As much as 90 percent of all fertilizers used by smallholders have been used on maize, which has been stagnant. Cassava, sweet potatoes, cotton and groundnuts have performed well. One out of every five small farmers grew cotton in 2002/03, and 45 percent and 17 percent of smallholder households derived income from the sale of animal products and horticultural products (fresh fruits and vegetables etc.), respectively. The value of animal products and horticulture sales are almost as high as for maize, and there has been export-led growth in cotton and tobacco.

Looking specifically at our years in question, we find that neither year was exceptional in terms of the conditions for agricultural production (Jayne et al., 2007), so we can be reasonably confident that our data sets are representative for the trend in average rural incomes.

[25] Ethiopia with a very undifferentiated countryside would be a case of distress diversification. There the households that diversify out of agriculture tend to be poorer than the non-diversified (Bigsten et al., 2003).

6.4. The Income Concept

The data collected on smallholder incomes is not quite complete. Smallholder income is broadly made up of on-farm agricultural income and off-farm income. While the latter is well measured, the former lacks some components on the income side and also lacks some costs. This means that we mismeasure incomes to some extent.

The ideal income concept includes all current incomes of the household (revenue minus costs) plus asset valuation changes. The latter component is difficult to gather, but for a smallholder household one would have liked to have at least stock valuation changes (changes in livestock assets). This we do not have in this data set, so we are confined to looking at current incomes during a year. However, this data also has some shortcomings as we indicate in the presentation of the income components we use. The time gap between the cropping and the marketing seasons is also a problem, although hopefully not a serious one.

Agricultural income

1. *Own consumption of crops* – This is gross output/income from crops produced without deduction of costs less crops sold. Errors here will therefore be overestimates.
2. *Crop sales* – This is the value of the part of gross production that is sold. It is overestimated to the extent that there were input costs related to the production of crops sold.
3. *Vegetable sales* – This is the value of vegetables sold. This income is overestimated to the extent that there were input costs related to the production of vegetables, but it is underestimated to the extent that the household itself consumes vegetables.
4. *Livestock income* – This is total incomes from livestock activities; i.e. the value of sales of animals (live and slaughtered animals), milk and eggs. Here we underestimate household income by ignoring own consumption of livestock products or overestimate by ignoring the cost of livestock inputs.

Off-farm income

5. *Own business income* – This is net income, i.e., gross income less costs, so here there are no conceptual problems. The precision in measurements is probably rather low since it is difficult for people to remember all costs and revenue for a whole year. To compute annual income, the questionnaire therefore asks for data for a good month and data for a bad month and then about the number of such months. Although this is an ingenious way of computing this difficult income category, it is still a mere approximation.
6. *Wage incomes* – This category is quite straightforward to measure. However, it may include income from work on other people's farms, which means that it does not have to be non-agricultural income. In future work it will be useful to divide this income category into farm wage income and other wage income.
7. *Remittances* – This is remittances received by the household. While households of course may also remit out, that is considered to be a part of household expenditures and should hence not be deducted.

6.5. Analysis

The question discussed here concerns how patterns of diversification relate to income growth. Within the confines of this report we will not do any econometrical analysis and therefore we will not be able to say with confidence very much about causality. However, we will at least show some correlations which we think are suggestive and which can serve as a starting point for a more profound analysis.

First let us look at the sample we have at our disposal. Table 11 shows summary statistics for the population represented by the sample.

Table 11: The population represented by the sample

Millions	2001	2004	% Change
Households	1 126 921	1 267 145	12.4
Small farmer population	6 636 315	7 468 861	12.5
Small farmer Adult eq.	5 132 182	6 188 836	20.6

Source: Authors' own calculations

Tables 12–15 show how income diversification among smallholders in Zambia changed from 2001 to 2004. We report estimates for the whole aggregate and by quintile. What is reported in these tables could be related to some basic figures: in 2004 GDP per capita was 2.29 million Kwacha and the food poverty line was approximately 900 000 Kwacha.[26] As can be seen in Table 12, the average per adult equivalent income of smallholders is way below the food poverty line. Even if incomes may be underestimated, this suggests that severe poverty is quite widespread among Zambian smallholders.

Table 12: Overall income diversification, in percent and in 2004 Kwacha[27]

	Percent		Per a.e. (1000')		Per capita		Total (billions)	
Year	2001	2004	2001	2004	2001	2004	2001	2004
Crops, own cons,	29.2	28.6	125	150	96.9	124	640	928
Crops, sales	11.6	17.6	49.9	92.6	38.6	76.7	255	572
Vegetables, sales	5.5	5.2	23.7	27.5	18.4	22.8	121	170
Livestock, income	2.8	4.9	12.0	25.7	9.3	21.3	61.3	159
Wage income	22.3	18.7	95.8	98.3	74.1	81.5	489	608
Remittances	2.1	1.1	8.8	5.6	6.8	4.6	45.1	34.5
Own business income	26.5	23.8	113.8	125	88.0	104	581	773
Sum	100	100	429.5	524.8	332.2	435	2190	3240

Source: Authors' own calculations

Although the level of incomes is exceedingly low, Table 12 at least shows that all income categories except remittances increased in absolute terms. The percentage coming from sales of crops and from livestock increased, while the percentage coming from off-farm decreased. Overall, the dependence on subsistence income declined slightly.

[26] The exchange rate was about 5000 Kwacha/USD.

[27] Based on CPI for April/May 2001 and June/July 2004, the discount factor 1.7619 is used (IMF, 2007a).

Tables 13–15 show how income diversification varied by quintiles.[28] The overall picture that emerges from Table 13 is that the higher the quintile, the lower the own consumption of crops. That growth in incomes is associated with declines in subsistence dependence is natural, of course. For the higher quintiles we also observe higher sales of crops and vegetables, higher wage incomes (probably most non-farm labour wage incomes) and higher own business income, but lower remittances.

Table 13: Income diversification per quintile, percent

Quintile	1		2		3		4		5	
Year	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**
Crops, own cons.	73.8	73.2	65.6	64.9	56.1	53.9	41.0	42.9	15.2	16.3
Crops, sales	7.0	8.4	9.7	13.8	14.4	16.4	15.4	20.6	10.3	17.7
Vegetables, sales	2.6	1.9	3.2	2.0	4.8	4.0	5.6	4.4	6.0	6.1
Livestock, income	2.4	5.6	2.9	5.0	3.7	6.4	3.9	6.5	2.3	4.2
Wage income	2.7	4.4	3.9	4.3	5.6	6.6	13.7	10.3	30.6	24.6
Remittances	5.0	2.4	4.4	1.8	3.3	1.7	2.8	1.3	1.3	0.8
Own business income	6.5	4.0	10.3	8.1	12.1	11.0	17.7	14.0	34.3	30.4
Sum	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Authors' own calculations

Table 14: Income diversification per quintile, 2004 Kwacha per adult equivalents. 1000'

Quintile	1		2		3		4		5	
Year	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**
Crops, own cons.	41.9	44.3	86.4	97.4	130	138.9	167.3	192.7	200.5	275.2
Crops, sales	4.0	5.1	12.8	20.8	33.3	42.1	62.9	92.7	136.2	299.5
Vegetables, sales	1.5	1.2	4.2	2.9	11.1	10.2	22.7	19.5	79.0	102.6
Livestock, income	1.4	3.4	3.8	7.5	8.5	16.6	15.8	29.1	30.4	71.5
Wage income	1.5	2.7	5.1	6.5	13.0	16.9	55.9	46.4	402.9	415.5
Remittances	2.9	1.5	5.8	2.7	7.6	4.4	11.2	5.8	16.6	13.5
Own business income	3.7	2.4	13.6	12.2	28.1	28.3	72.0	62.8	450.9	514.5
Sum	**56.8**	**60.5**	**131.7**	**150.1**	**231.7**	**257.5**	**407.8**	**449.1**	**1316.4**	**1692.4**

Source: Authors' own calculations

Table 15: Income diversification per quintile, 2004 Kwacha per capita. 1000'

Quintile	1		2		3		4		5	
Year	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**	**2001**	**2004**
Crops, own cons.	32.4	36.5	66.4	80.6	100.6	114.7	130.0	160.0	155.2	229.7
Crops, sales	3.1	4.2	9.8	17.2	25.8	34.8	48.9	77.0	105.4	250.0
Vegetables, sales	1.1	1.0	3.2	2.4	8.6	8.5	17.7	16.3	61.1	85.7
Livestock, income	1.1	2.8	2.9	6.2	6.6	13.7	12.3	24.2	23.5	59.7
Wage income	1.2	2.2	3.9	5.4	10.1	14.0	43.4	38.5	311.9	346.8
Remittances	2.2	1.2	4.5	2.2	5.9	3.7	8.7	4.8	12.9	11.2
Own business income	2.9	2.0	10.4	10.1	21.7	23.4	56.0	52.2	349.1	429.4
Sum	**43.9**	**49.9**	**101.3**	**124.2**	**179.2**	**212.6**	**317.1**	**372.9**	**1019.1**	**1412.5**

Source: Authors' own calculations

[28] There are the same number of persons in each quintile, so for 2004 it is the poorest 1500 000 persons (not adult equivalents) in quintile 1. "Poor" means belonging to a household with low income per adult equivalents (not capita).

Tables 14 and 15 show income per adult equivalents and income per capita by quintile. From a welfare perspective income per adult equivalents is the most appropriate measure. As seen, incomes per adult equivalent for the lowest quintile grew by only 6.5 percent. Crops harvests for this quintile developed less favourably giving only a modest increase in own consumption and sales of crops, and own business income fell. Wage income almost doubled. This is in line with the notion that the wage income option is mainly used by the poor to supplement their income when other sources give too little. The three middle quintiles saw their income grow by a bit more than 10 percent. Compared to the overall figures in Table 12, these households had a less favourable development of crops and own business. Finally, quintile five incomes per adult equivalents grew by 29 percent. This is mostly due to increases from crops sold and own business income.

To be able to identify some distinct livelihood strategies, we classify households according to which sources they derive income from. To simplify, we aggregate sales of crops and vegetables and livestock income into one activity denoted "sales", and we do not take remittances into account (this is just 1-2 percent of total income). This leaves us with 16 potential activity combinations if we include those who did not report any income at all.

Tables 16 and 17 present the activity combinations for 2001 and 2004 respectively.[29]

Table 16: Income by activity combinations, 2001 (in 2004 Kwacha)

Activity comb.	Own cons Crops	Sales	wages	Own business	Total income	Adult Eq.	population	Activity freq	Income Per ae	Income Per cap
	Billions					000'		%	000'	
C	45.70	0.00	0.00	0.00	45.70	434.93	563.14	11.34	105.12	81.19
CS	233.00	184.00	0.00	0.00	417.00	1532.08	1974.86	39.78	272.48	211.38
C W	10.90	0.00	63.10	0.00	74.00	142.25	182.13	3.67	520.23	406.33
CB	20.60	0.00	0.00	59.50	80.10	227.42	296.77	5.98	352.02	269.76
CWB	4.49	0.00	17.40	12.20	34.00	65.34	85.00	1.71	521.00	400.52
CSW	46.40	50.40	154.00	0.00	251.00	382.33	489.99	9.87	657.19	512.78
CSB	101.00	86.00	0.00	261.00	448.00	751.34	973.82	19.62	595.74	459.64
CSWB	29.90	24.30	67.00	62.70	184.00	227.99	293.86	5.92	806.16	625.44
B	0.00	0.00	0.00	17.40	17.40	22.57	30.22	0.61	768.75	574.26
–	0.00	0.00	0.00	0.00	0.00	19.35	26.02	0.52	0.00	0.00
S	0.00	0.46	0.00	0.00	0.46	7.36	9.30	0.19	62.51	49.48
SW	0.00	1.15	6.45	0.00	7.61	4.77	5.98	0.12	1595.46	1272.65
SB	0.00	0.11	0.00	2.57	2.68	6.35	8.43	0.17	422.60	318.37
SWB	0.00	0.22	1.26	0.84	2.33	4.71	5.65	0.11	494.33	411.97
W	0.00	0.00	9.72	0.00	9.72	11.34	14.07	0.28	857.20	690.78
WB	0.00	0.00	1.51	0.50	2.00	4.10	5.09	0.10	489.31	393.83
Sum	**491.99**	**346.65**	**320.44**	**416.71**	**1576.00**	**3844.23**	**4964.31**	**100.00**	**409.97**	**317.47**

NB: C= Own Crops Consumption, S=Sales, W=Wages, and B=Own business. Activity frequency is based on population, and not on households.

[29] This is done on the panel data set; that is those observations that are in the dataset for both years. Megill (2005:14) writes, "…at the national level the 2001 SS represents 94.2 percent of the 99/00 PHS frame, while the corresponding percent for the 2004 SS is 79.4. That is, it is estimated that slightly more than 20 percent of the rural households moved or were dissolved between the 99/00 PHS and the 2000 SS." However, we only use those households that are in both SSs, so our dataset represents 79.4 percent of the 99/00 PHS frame; that is, "the projected total number of rural agricultural households for the reference date of May 1, 2000".

Table 17: Income by activity combinations, 2004

Activity comb.	Own cons Crops	Sales	Wages	Own business	Total income	Adult Equival	Popula-tion	Activity Freq	Income Per ae	Income Per cap
	billions					000'		%	000'	
C	56.30	0.00	0.00	0.00	56.30	467.11	569.34	11.50	120.51	98.87
CS	298.00	307.00	0.00	0.00	605.00	1730.65	2082.19	42.06	349.65	290.62
W	14.20	0.00	75.80	0.00	90.00	140.29	167.33	3.38	641.53	537.86
CB	20.40	0.00	0.00	34.00	54.40	171.10	210.57	4.25	317.96	258.37
CWB	5.94	0.00	16.60	8.12	30.70	54.95	65.49	1.32	558.89	468.96
CSW	73.80	82.70	188.00	0.00	344.00	493.09	591.67	11.95	698.31	581.97
CSB	114.00	163.00	0.00	279.00	557.00	690.45	839.75	16.96	806.74	663.31
CSWB	39.60	39.70	81.30	91.20	252.00	260.88	312.50	6.31	965.00	805.58
B	0.00	0.00	0.00	10.80	10.80	14.08	17.51	0.35	767.25	616.92
–	0.00	0.00	0.00	0.00	0.00	20.88	25.49	0.51	0.00	0.00
S	0.00	1.75	0.00	0.00	1.75	14.58	17.84	0.36	119.71	97.84
SW	0.00	1.21	2.44	0.00	3.65	8.90	10.63	0.21	409.88	343.18
SB	0.00	1.08	0.00	1.80	2.88	13.52	16.36	0.33	213.06	176.07
SWB	0.00	0.17	0.28	1.15	1.60	2.74	3.17	0.06	585.31	506.00
W	0.00	0.00	4.90	0.00	4.90	12.77	15.74	0.32	383.90	311.47
WB	0.00	0.00	3.55	1.44	4.99	4.26	5.52	0.11	1170.07	903.48
Sum	622.24	596.61	372.87	427.51	2019.97	4100.26	4951.08	100.00	492.64	407.99

NB: C= Own Crops Consumption, S=Sales, W=Wages, and B=Own business. Activity frequency is based on population, and not on households.

If we do not consider those activity combinations that have no own consumption of crops (all of them have an activity frequency lower than 1 percent), we see that the overall pattern changes little between Tables 16 and 17. Households that are not engaged in any off-farm activities at all have clearly the lowest incomes (generally less than half of what those engaged in off-farm activities have). Comparing the incomes of those engaged in off-farm activities with that of those not engaged, we see for both groups, that those not selling anything have about half of the income of those selling. In a nutshell one can say that the more diversified the better. There is indeed a strong correlation.

Comparing Tables 16 and 17 one can see how the activity frequencies for the activity combinations developed. The four activity combinations including own consumption of crops and sales of crops (CS, CSW, CSB and CSWB) generally have increased on the expense of those including own consumption but not sales (C, CW, CB and CWB). This can be explained by sales in general having increased, partly since crops harvests have developed very strongly. The incomes from activity combinations including own business generally decreased, while those including wage work generally increased. The poor development of own business is somewhat worrying, but to be able to explain this further we would need to know more about the kinds of businesses generating the income.

Table 18 reports paths from one type of combination in 2001 to another in 2004.

Table 18: Percentage moving from one activity combination 2001 to another 2004.

01 \ 04	C	CS	CW	CB	CWB	CSW	CSB	CSWB	B	–	S	SW	SB	SWB	W	WB	sum
C	26.73	39.97	3.96	5.38	1.15	7.02	11.02	1.81	0.16	1.28	0.96	0.24	0.31	0.00	0.00	0.00	100.00
CS	12.40	57.20	1.35	2.17	0.74	7.77	13.55	3.27	0.20	0.58	0.44	0.10	0.08	0.01	0.09	0.05	100.00
CW	11.74	19.87	14.29	2.27	4.64	24.84	6.13	9.57	1.21	0.59	0.98	1.00	0.00	0.44	2.10	0.31	100.00
CB	20.59	20.53	3.49	14.84	2.72	6.16	24.88	3.08	1.95	0.72	0.00	0.27	0.24	0.25	0.27	0.00	100.00
CWB	20.02	17.51	7.43	1.14	2.11	13.52	12.17	18.22	0.00	5.78	0.00	0.00	0.00	0.00	2.10	0.00	100.00
CSW	8.81	29.79	9.26	1.24	1.73	28.39	9.48	9.42	0.00	0.52	0.00	0.43	0.00	0.22	0.43	0.27	100.00
CSB	8.40	41.47	1.53	0.97	0.70	7.86	29.78	6.47	0.53	0.92	0.30	0.02	0.74	0.00	0.33	0.00	100.00
CSWB	8.12	25.57	5.88	5.89	1.02	18.71	14.87	15.25	0.39	0.70	0.50	0.81	0.95	0.00	0.97	0.37	100.00
B	7.38	14.81	0.00	32.86	0.00	0.00	21.67	15.34	4.19	3.76	0.00	0.00	0.00	0.00	0.00	0.00	100.00
–	30.55	30.77	3.71	0.00	0.00	11.06	8.59	0.00	5.73	6.28	3.32	0.00	0.00	0.00	0.00	0.00	100.00
S	14.30	35.84	0.00	7.74	9.80	0.00	32.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
SW	0.00	0.00	0.00	9.36	17.95	72.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
SB	32.19	7.62	0.00	18.49	0.00	0.00	9.28	25.87	0.84	5.71	0.00	0.00	0.00	0.00	0.00	0.00	100.00
SWB	0.00	0.00	0.00	0.00	0.00	49.25	24.36	26.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
W	10.09	16.13	19.13	0.00	4.43	7.39	6.31	4.56	9.92	0.00	0.00	10.95	0.00	0.00	5.63	5.47	100.00
WB	0.00	1.52	0.00	92.09	0.00	2.84	0.00	2.02	1.36	0.00	0.00	0.00	0.00	0.00	0.18	0.00	100.00

NB: C= Own Crops Consumption, S=Sales, W=Wages, and B=Own business. Percentage is based on population, and not on households.

Looking at Table 18 we see that over 70 percent of those depending completely on own consumption in 2001 had diversified in 2004, mostly into sales or sales and business. Thus, subsistence production is not generally a permanent feature of smallholder production in Zambia, but still around 11 percent of smallholders reported no other income in 2004 (Table 17). Most of the households that were getting their income from own consumption and sales in 2001 had the same activity combination in 2004, but 24 percent had diversified further into wage work and/or business. Only 13 percent became less diversified. Clearly there are considerable fluctuations in incomes and income structures in rural Zambia. For those households that derived income from two sources, Consumption and Wage or Business, becoming more diversified was more common than becoming less diversified. Of those earning income from three sources in 2001, about half were less diversified in 2004, earning income from only one or two income sources. Of those deriving income from four income sources in 2001, 85 percent were less diversified in 2004, deriving income from only 1–3 income sources.

The pattern we see is that households generally diversify out of agriculture into non-agricultural activities, but also increasingly market their agricultural produce. This is a natural first step in a household's attempt to increase its income. However, this also may entail decreasing specialisation, which may be a concern in the longer term. Yet, we can also note that among the most diversified there is a pattern of concentration. We clearly need to pursue the issue of benefits of diversification versus the benefits of specialisation further.

Our first attempt to get a grip on the data has given us some insights. Income diversification is occurring among Zambian smallholders, and it seems to be associated with higher incomes. Still, before we make too strong of a claim about causality and major driving forces behind this change, we will have to undertake econometric analyses, and also try some other breakdowns of the income structures. However, this will not be done within this report.

7. Agricultural Policies

In the 1980s, up to 17 percent of the national budget was devoted to maize and fertilizer policies, but these were then scaled back. However, in recent years as much as 70 percent of the Ministry of Agriculture budget has gone to fertilizer subsidies and maize marketing and stock-holding programmes. Only 20 percent of small farmers use fertilizers in Zambia. The farmers' effective demand for fertilizers must be built up by making it profitable to use, which includes developing output markets and regional trade patterns. Jayne et al. (2007) argue that "sustained investment in crop science, effective extension programs, physical infra-structure and a stable and supportive policy environment" is where public sector resources can make the best use. Targeted assistance to vulnerable households is important but should not interfere with the long-term development of agricultural markets.

Since the bulk of the poor in Zambia still are found in rural areas, it is of course vitally important to develop agriculture and other rural economic activities. Development of agriculture is also important to bring about the structural change required for long-term growth. Still, the introduction of a complex set of subsidy programmes via local governments and cooperatives does not seem to be the most efficient route to improve rural incomes. This has meant that the private network sellers of fertilizers are in trouble, and many do not even hold fertilizer stocks any more since their market has been taken away. Local traders and network sellers need a predictable environment to get incentives for a long-term engagement in the sector. The recent huge government maize purchase is a signal pointing in the wrong direction. The private traders who had entered the business are squeezed.

The Food Reserve Agency should be just that and not a last resort buyer. The policy in this area was rather straightforward until the last election when the purchase of the Food Reserve Agency shot up from 50 to 400 thousand tonnes. The surplus was supposed to be exported but that has still not happened. Instead there seems to be a high risk that much of it will be wasted. The government seems to have had a roadmap for private sector growth in agriculture, but now there seems to be a move of policy thinking towards more state interventions and subsidy schemes. Now subsidised fertilizers are sold through farmers unions and the like, and the well-connected people end up getting access. There are suggestions that there are very extensive rent-seeking activities going on, where the elite get the cheap fertilizer and then sell it on.

Hence, the introduction of these subsidy schemes is problematic not only from an efficiency perspective but also from a distributional point of view. Since 75 percent of farmers do not sell maize at all and a small 2 percent minority sell half of it, the distributional impact of these subsidies is skewed. The subsidy scheme has also had other distortionary effects. Since the guaranteed prices are higher than in neighbouring countries, it seems obvious that maize is carried over the border and sold into the Zambian reserves. There are at least four places along the borders where the buying stations have bought much more than the local farmers sold (so-called ghost sales).

There is high variation within districts in terms of land ownership, and land ownership is a key income determining factor. The issue of land ownership has not yet been sorted out. In areas under traditional tenure (94 percent of the land), the chief decides on allocation of land. Everyone is supposed to have land according to capability, but this is of course a flexible concept. Influence seems to matter a lot as well. Local allocation of land in fairer ways seems highly important. Insecurity of tenure may have significant effects on the willingness of farmers to invest and on their ability to use land as collateral for loans to finance investments.

The analysis in the previous section showed that smallholders in Zambia are dependent on a whole range of off-farm incomes, and that it therefore is important not to look at rural policies as only those that concern agriculture. Paving the way for diversification is also a key in a package of poverty-reduction policies. Infrastructure that facilitates activities other than agriculture of course includes many things that are also beneficial for agriculture, e.g. a good transport infrastructure. The diversification route to higher incomes for rural households requires a well-functioning economic environment and general policies that make it possible for new activities to emerge.

8. Donors and Governance

We have argued in this report that the formulation of policies and probably even more the implementation of those policies is a key challenge for Zambian development. We conclude with a brief discussion of what this implies for donors.

The donors have developed a Joint Assistance Strategy for Zambia (JASZ), which is related to the Fifth National Development Plan. This is to provide an analysis and a basis for the collaboration. JAS has a lead donor concept, which is almost fully implemented. Also, the coordination of donors is a complicated process. The Zambian aid policy is now approved. The aid department (ETC) is working more or less as it did 20 years ago, but is currently revising their structure to allow for the donor coordination efforts. The Fifth National Development Plan is generally sensible in terms of overall policy direction, but the challenge is to implement the policies especially since governance in Zambia remains weak. This is or should be the key concern from a donor point of view with regard to development cooperation with Zambia.

Collier (2006) discusses aid collaboration in Africa and notes that the resource-rich countries often have had large and corrupt government sectors, since they have been able to earn sizeable resource rents which accrue to the government. Although the resource rents accruing to the Zambian government today are very much reduced compared to the initial decades after independence, the current system nevertheless emerged under those circumstances. Collier argues that the appropriate strategy towards countries in this category is to find ways to improve the efficiency by which they spend public money, through knowledge transfers and governance conditionality trying to make the government more accountable to its citizens. For rents (and aid money which also can be seen as a sort of rent) to be effectively used it is probably necessary that power is more widely diffused. The development of good systems of public spending can be supported by appropriate technical assistance. There is a strong need for proper project evaluation techniques to be incorporated in the PEM systems in Zambia. Transparency and accountability mechanisms are certainly important, but one must not forget that bad policies will have poor impacts and results even if they are implemented transparently and with full accountability.

Policy conditionality was not very successful in dealing with the problems of elite capture. The alternative of governance conditionality aimed at weakening the dominance of the governing elite was proposed

by Collier (2006) as a better alternative.[30] Unfortunately there is a knowledge gap about how to implement governance conditionality. A parallel constraint is the lack of administrative capacity in the civil service, which needs to be developed by various forms of technical assistance. Technical assistance needs to be aligned with the new paradigm of ownership and control.

Democracy has two dimensions: electoral competition and checks and balances. Particularly resource rich countries need democracy to avoid elite capture of rents. They also need checks and balances to prevent elections from being converted into corrupt patronage games financed by the resource rents. One needs system scrutiny to achieve honesty and other systems to achieve efficiency. Since scrutiny is a public good it is subject to collective action problems, and donors could possibly take a role to stimulate peer group evaluations. The donors could help improve the information to the principals (citizens) and build up their capacity to analyse it, and help promote incentives for government agents to act in accordance with the wishes of the principals. Audit systems and parliamentary scrutiny are key areas of intervention, and these are both part of the PEMFA programme.

A key aim of donors in Zambia should be to improve governance and implementation capacity. This may require governance conditionality combined with technical assistance to build up systems that can handle government resources in a transparent and accountable way. Zambia has reformed economic policies extensively and the current FNDP seems reasonable. How well the government will succeed in achieving growth and poverty reduction will depend on the amount of resources it can mobilise, but it is also crucially important that the government is able to implement policies effectively.

[30] Currently partners in Poverty Reduction Budget Support to Zambia monitor progress against agreed benchmarks drawn from the Zambian FNDP.. Partners could consider withdrawing aid when the recipient moves away from commitments to poverty reduction, human rights and other international obligations, or sound financial management.

9. Concluding Remarks

This report started with a discussion of Zambia's economic development up to the present phase which is characterised by a resource boom. We discussed current economic policies, and provided our own empirical estimates of changes in poverty, mainly from 1998 to 2004. Against this background we considered the appropriateness of economic policies for poverty reduction. The focus in this report has not been on the macroeconomic issues which have been dealt with extensively by others, but instead on micro and structural issues.

We found that poverty as measured by the head count index declined by about 5.4 percentage points. We decomposed this change into a 6.6 percentage point reduction due to growth and a 1.2 percentage point increase due to a slight change in inequality. We also looked at the growth incidence across consumption deciles. According to our estimates all deciles experienced an increase in consumption between the two years. Overall the increase seems to have been somewhat larger in rural areas, with the exception of the top urban decile which experienced a rapid consumption increase. Still, poverty remains much more severe in the rural areas than in the urban areas. We also note that poverty leads to undernutrition, that life expectancy in Zambia is among the lowest in the world, and that under-5 child mortality is very high.

We saw in our analysis of the pattern of smallholder income growth that diversification is a very important route out of poverty for the rural poor in Zambia. Policy makers should thus keep in mind that rural household incomes are not from agriculture alone. A major focus should be on measures that strive to facilitate the diversification process. Typically, these are policies that develop the overall economic environment and help smallholders get better market access. Agriculture is a major part of the private sector in Zambia, and should receive higher priority in policy.

The government often has sensible private sector development policies, but according to several observers they are implemented poorly, slowly and reluctantly. This is the classical Zambian problem of a disjoint between sensible policy analyses and the capacity and willingness to implement the policies. Policy is often inconsistent as to what to do with the private sector. It seems as if the government likes interventions to be specific rather than general. The reluctance to move away from ad hoc government interventions may in part be due to the lingering Kaunda romanticism.

So what are our policy conclusions?

First, we saw from the review that tax revenue collection has not kept pace with GDP growth, one reason being that the copper boom generates little direct tax revenue. Another reason is that most employment is within the informal sector, where hardly any tax is collected. Still, the poor tax buoyancy is a concern from a poverty reduction perspective, because collecting tax revenues and using them for poverty reducing expenditures would have been one of the main ways to channel resources from the boom to the poor.

Second, we noted that the government is very inefficient in realising its expenditure plans. This is a reflection of the generally low level of efficiency in the public sector, and it is absolutely essential that the financial management reforms are speeded up. Smooth and transparent reporting is key for domestic accountability and also for development cooperation. An important reform to undertake would be to change the budget cycle. It certainly seems absurd to decide on the budget in the Parliament in March when the budget year starts in January!

Third, we noted that improved public sector efficiency is crucial if reforms are to function properly. We discussed various issues relating to transparency and accountability, and the importance of monitoring by the electorate, the donors and by government institutions such as the Auditor General.

Fourth, it is clear that the focus of poverty oriented policies will largely have to be on the rural sector and agriculture, since rural poverty is much more extensive than urban poverty. Since Zambia is a very unequal society with a high Gini coefficient, poverty levels could also be reduced via a lowering of inequality. But since the average income and consumption is extremely low, growth is crucial for poverty reduction. To make agriculture more efficient and to reduce rural poverty, resources should be used in line with the FNDP to improve infrastructure such as roads and electricity, extension services and education rather than for subsidy schemes. More than half of the Ministry of Agriculture budget has gone to fertilizer subsidies (mostly for maize) and maize programmes. However, there has been diversification and in recent years it is for example cassava, sweet potatoes and livestock production that have performed well. Secure property rights are of course also a crucial determinant of rural investment. While the FNDP emphasises the measures just mentioned, implementation in these areas seems to be slow.

Fifth, there are some good intentions in the private sector development strategy, but implementation again seems to be inefficient. The government still seems to focus too much on the need to control and intervene in details, while it would be more efficient to do away with excessive interventions. If Zambia is to be able to reach an economic take-off, the country must be an attractive destination for both foreign and domestic private investors. Apart from a better business environment the infrastructure must be improved (particularly since Zambia is landlocked), and the country needs a successful completion of a new trading arrangement with the EU.

Sixth, even if there is a need for policies towards the productive sectors, the very important areas of poverty relevant social services such as health and education remain vital. The health sector needs to be strengthened both because it has an immediate effect on welfare and

because it helps build and protect human capital that is essential for long-term growth.[31]

Seventh, social protection might have a role to play, but it is probably not possible to expand this fast. It might be possible to use schools for channelling resources to the poor. By having e.g. free school lunches and school uniforms, a certain amount of "child support" would be provided and school attendance would be encouraged at the same time. There are also some interesting but small-scale experiments of social protection done with donor support. For example, the Ministry of Community Development is currently experimenting with a cash transfer scheme in the South that seems to hold some promise.[32] There is of course a concern as to the ability of the system to upscale this, and the cost implications of that have not yet been analysed.

Eighth, we have repeatedly noted that improved governance is the key to successful development, An idea that has been floated is that donors should shift to some form of governance conditionality. This would mean a concentration on achieving a transparent and accountable process rather than on achieving specific decisions.

[31] The per capita 2006 spending on health was US$ 16.7 (Kwacha 51 500) or 1.5 percent of GDP, so the consumption of (publicly provided) health is very low. The AIDS situation in Zambia is extremely serious; apart from the human suffering it causes shortages of essential labour. The missing staff must be replaced, which probably leads to higher wages. This is an area where the need for increased intervention is obvious, and here for example the Zambian Government, the Global Fund and PEPFAR provides resources covering ARVs for infected persons. Since the costs of drugs are covered by the donor this does not seriously crowd out other government projects, although there are administrative burdens in association with the administering of the project.

[32] The largest social protection scheme in the country is the World Food Programme, which provides food for 10-15M$ every year reaching 300-400 thousand people/children.

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Appendix 1
Tables

Table A1: Sectoral shares of GDP (%), 1965–2000

	Agricult., Forestry andFishing	Mining And Quarr.	Manuf.	Electricity, Gas and Water	Constr.	Wholesale and Retail Trade	Restaur., Bars and Hotels	Transp. storage and comm..	Financial Instit. and insurance	Real Estate and Business Services	Community, Social and Personal Services	Less: FISIM
1965	13.7	41.0	6.8	0.8	5.8	11.3	0.6	4.6	1.5	3.0	9.0	0.0
1966	12.6	44.8	8.1	0.9	0.0	8.8	0.6	3.9	1.3	2.8	8.3	0.0
1967	11.5	39.8	9.0	0.9	5.9	10.8	0.5	5.2	1.7	3.3	9.8	0.0
1968	10.7	38.9	10.0	1.2	5.9	11.7	0.5	4.6	1.8	3.3	9.6	0.0
1969	9.0	48.7	8.7	1.1	5.1	7.0	0.9	3.4	2.3	3.5	8.2	0.0
1970	10.2	35.8	0.0	1.2	6.4	9.2	0.8	4.0	3.2	4.2	11.2	-1.3
1971	12.3	24.6	11.6	1.5	7.3	9.3	1.0	5.4	3.3	4.5	14.3	-1.7
1972	12.5	23.6	13.2	2.2	7.3	9.3	1.4	4.6	3.2	4.3	14.1	-0.9
1973	11.0	31.6	12.0	2.0	6.3	8.6	1.1	4.0	3.3	4.1	12.6	-1.1
1974	10.3	31.8	12.3	2.1	6.6	8.7	1.1	3.9	3.2	3.7	12.1	-1.1
1975	12.7	13.3	15.4	2.7	9.3	8.2	1.5	5.5	4.2	5.6	16.6	-1.2
1976	14.3	17.8	14.4	2.5	6.1	8.1	1.6	6.2	4.1	5.3	16.1	-1.1
1977	16.0	11.5	17.4	2.3	5.6	9.3	1.7	6.5	4.0	5.9	16.2	-1.1
1978	15.8	12.5	18.7	2.5	4.9	9.5	1.8	5.5	3.7	6.0	15.8	-1.0
1979	14.6	17.3	17.9	2.2	0.0	9.1	1.5	5.5	3.8	5.7	14.8	-1.1
1980	13.9	16.1	18.1	2.0	4.4	9.6	1.9	5.2	3.5	5.8	15.0	-1.0
1981	15.6	13.7	19.3	1.9	3.1	9.2	2.3	4.8	3.4	5.8	16.5	-0.9
1982	13.4	10.8	20.2	2.0	3.5	9.7	2.7	5.3	3.7	6.2	18.1	-1.1
1983	13.9	15.0	19.4	1.6	3.1	9.4	2.9	5.3	3.7	5.8	16.6	-1.1

1984	14.3	13.4	20.1	1.4	3.0	10.4	2.5	5.0	3.4	6.8	15.9	-1.0
1985	12.8	15.3	22.5	1.0	2.5	10.6	2.5	4.8	3.2	6.3	13.0	-0.9
1986	11.9	17.8	22.2	1.3	2.2	12.4	2.0	4.5	3.4	5.7	8.8	-0.9
1987	10.8	13.3	27.5	1.2	2.0	13.8	2.1	4.2	3.6	5.7	7.4	-1.0
1988	16.5	10.3	31.0	1.0	2.0	11.3	2.4	3.9	3.5	4.8	7.1	-1.0
1989	18.8	13.7	30.4	0.7	1.6	9.1	2.4	5.1	3.2	3.7	4.8	-0.9
1990	19.6	9.7	34.2	0.6	4.2	10.3	2.8	5.2	3.0	4.6	6.7	-0.9
1991	17.6	12.4	25.4	1.2	4.5	13.7	2.7	6.1	4.9	5.6	7.5	-1.6
1992	15.8	15.2	18.6	2.3	4.4	16.6	2.4	6.6	7.2	6.1	7.7	-2.6
1993	14.6	16.8	13.6	4.0	4.0	18.7	2.0	6.8	0.0	9.9	7.4	-8.5
1994	13.5	16.7	9.8	3.2	5.0	14.8	1.6	6.0	8.2	5.0	8.0	-4.7
1995	16.2	14.4	9.9	3.1	4.1	14.6	1.7	6.0	10.3	5.2	8.4	-5.9
1996	15.5	12.1	11.8	3.3	3.5	17.5	2.2	5.9	8.8	5.6	7.1	-5.1
1997	16.4	9.9	11.6	2.5	4.4	16.6	2.2	5.3	1.8	8.8	5.7	-5.0
1998	18.7	6.3	11.5	3.7	4.4	17.4	2.2	5.7	9.1	6.3	8.5	-5.2
1999	21.6	3.8	10.8	3.3	4.3	18.5	1.9	5.7	9.0	6.6	8.9	0.0
2000	19.9	4.1	10.2	3.3	5.0	18.7	2.1	6.3	9.7	6.6	9.0	0.0

Notes: 1965-1993 total GDP at factor price, 1994–2000 total GDP at market price. (due to lack of data). 1994–2000 Financial intermediates replace financial institutions. Financial intermediation services indirectly measured (FISIM)
Source: Zambiainfo

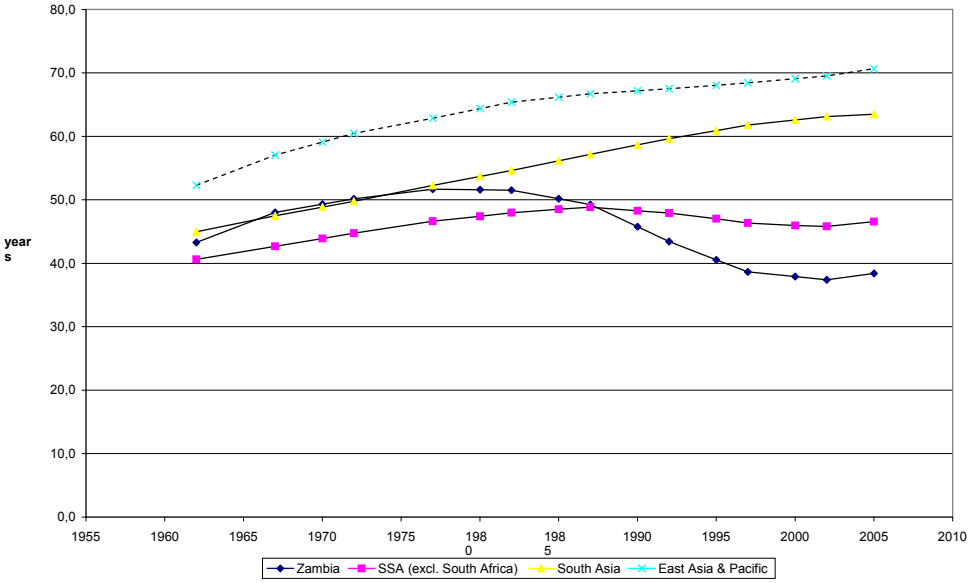
Table A2: Poverty Lines: 1981–2004.

Year of Survey (ending month)	Poverty lines	
	Food Poverty	**Moderately**
1981 ILO/JASP	K60	K105.94
1991 PSI (nov)	K961	K1,380
1993 PSII (june)	K5,910	K8,480
1996 LCMSI (sept)	K20,181	K28,979
1998 LCMSII (dec)	K32,861	K47,187
2002/3 LCMSIII (oct)	K64,530	K92,185
2004 LCMSIV (jan 05)	K78,223	K111,747

Source: CSO (2005)

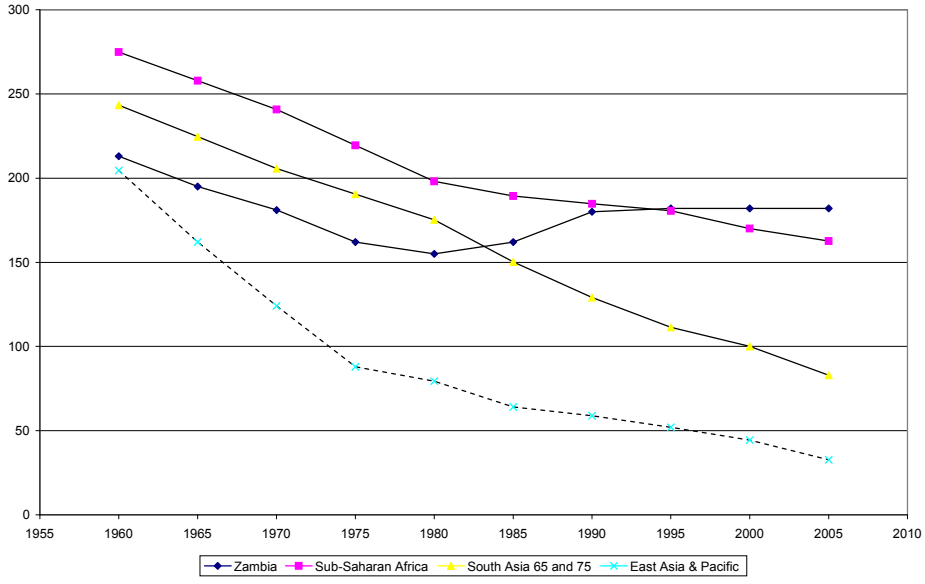
Appendix 2
Diagrams

Diagram A1 Life expectancy at birth, total (years)



Source: World Bank (2007b), authors' own calculations.

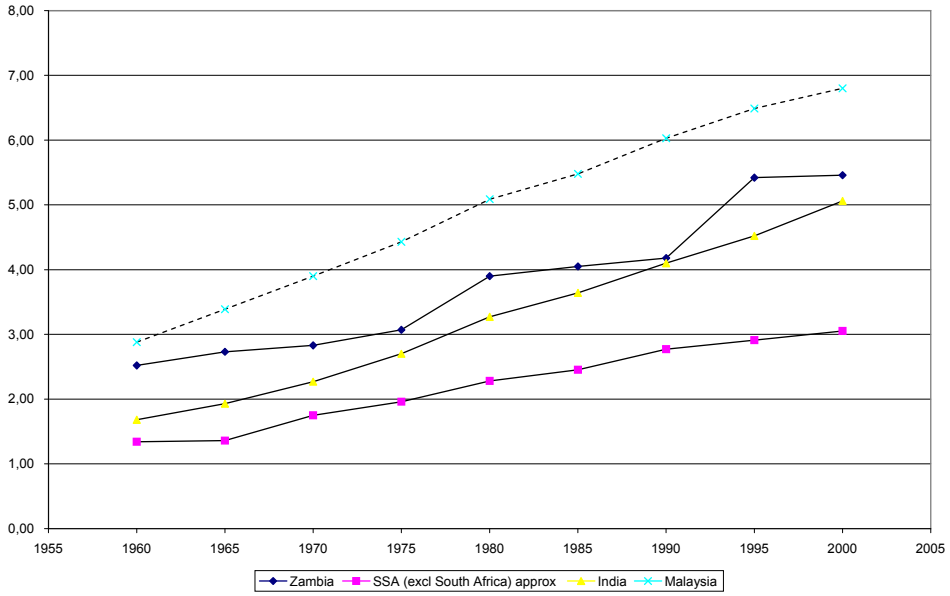
Diagram A2: Mortality rate under-5 (per 1000)



Note: The 1965 and 1975 values for SSA and South Asia and Pacific are authors" estimations, due to lack of data. Sub Saharan Africa (incl. South Africa) is used due to lack of data.

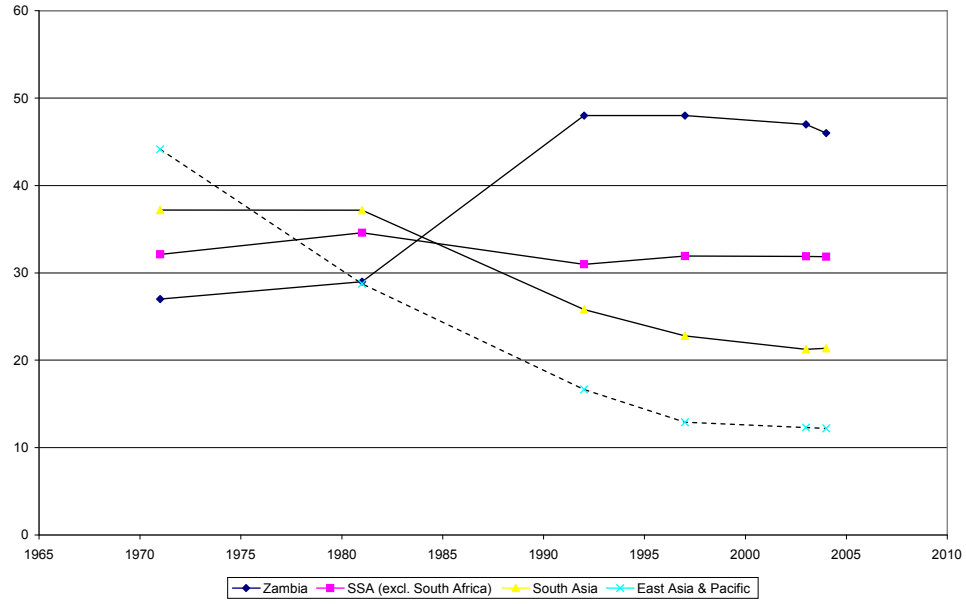
Source: World Bank (2007b).

Diagram A3: Average years of schooling



Note: Since no data is available for SSA, South Asia or East Asia; average of Ghana, Kenya, Senegal, Sierra Leone, Sudan, Tanzania, Uganda and DRC is used for SSA, India is used for South Asia and Malaysia is used for East Asia. They are fairly representative for respectively country-group (please note that data for China is not available).
Source: Barro and Lee (2000).

Diagram A4: Prevalence of undernourishment (%)



Source: World Bank (2007b), authors' own calculations.

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Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.

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