The production of the constraints analyses posted on this website was led by the partner governments, and was used in the development of a Millennium Challenge Compact or threshold program. Although the preparation of the constraints analysis is a collaborative process, posting of the constraints analyses on this website does not constitute an endorsement by MCC of the content presented therein.

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

MINISTRY OF FINANCE AND NATIONAL PLANNING

AN ANALYSIS OF CONSTRAINTS TO INCLUSIVE GROWTH IN ZAMBIA

MILLENNIUM CHALLENGE ACCOUNT-ZAMBIA

AN ANALYSIS OF CONSTRAINTS TO INCLUSIVE GROWTH IN ZAMBIA

MILLENNIUM
CHALLENGE ACCOUNT
Z A M B I A
Supported By The American People

Authored by:
Pamela Kasese Bwalya, Dennis Chiwele, Susan Siyunyi, Caesar Cheelo, Claire Harris, Eric White

Edited by:
Pamela Kasese Bwalya

Proofread by:
Kerry Postlewhite and Masuka Mutenda

Design and Layout by:
Masuzyo Mtawali

Printed and Bound by:
Printech, Lusaka

Published by:
Millennium Challenge Account-Zambia
www.mcaz.gov.zm

ISBN number 978-9982-22-435-2

ACKNOWLEDGEMENTS

This report was prepared by the Millennium Challenge Account–Zambia (MCA-Zambia), a unit set up under the Ministry of Finance and National Planning to develop the Millennium Challenge Account Compact for Zambia. It was prepared to fulfil a requirement of Millennium Challenge Corporation (MCC) Compact funding for which Zambia became eligible on 12th December 2008 and as an input for the Sixth National Development Plan, currently under preparation.

Mrs. Pamela Kasese Bwalya, Deputy National Coordinator, MCA-Zambia led the team preparing the report, under the guidance of Mr. Robert Liebenthal, National Coordinator MCA-Zambia. The team comprised Mr. Caesar Cheelo, Dr. Dennis Chiwele, Ms. Clare Harris and Ms. Susan Siyunyi. Mr. Eric White assisted the team in applying the Hausmann-Rodrik-Velasco Growth Diagnostic Framework, which forms the underlying methodology used in this report. The report was peer-reviewed by Professor Oliver Saasa and Dr. Fredrick Mutesa, whose comments were gratefully received.

We further acknowledge the valuable comments of more than three hundred participants in consultative meetings on the Constraints Analysis (CA) with Sector Advisory Groups, as well as with the chairpersons of selected committees of the National Assembly and representatives of the House of Chiefs. The MCA-Zambia Steering Committee chaired by the Secretary to the Treasury, Mr. Likolo Ndalamei, helped guide the report, as well as commenting on the draft.

We also acknowledge comments and information provided by cooperating partners which enriched the analysis. We would like to thank the United Kingdom Department for International Development for making Ms. Clare Harris available to be part of the team that drafted the CA. We also thank the World Bank for giving us permission to draw heavily on its report 'What are the constraints to inclusive growth in Zambia?' Finally, we wish to thank the staff of the MCC, most notably Mr. Steve Anderson, for comments and guidance during the preparation of the report.

Lusaka, Zambia, 28th February, 2010

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF BOXES

ACRONYMS

AFDB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
BOZ	Bank of Zambia
CA	Constraints Analysis
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
EAC	East African Community
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
FNDP	Fifth National Development Plan
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GWh	Gigawatt hour
GRZ	Government of the Republic of Zambia
GTZ	German Technical Cooperation
HIV	Human Immunodeficiency Virus
HRV	Hausmann-Rodrick-Velasco
IAS	Institute for African Studies
ICA	Investment Climate Assessment
ICT	Information and Communication Technology
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
IG	Inclusive Growth
IMF	International Monetary Fund
IRWR	Internal Renewable Water Resources
LCMS	Living Conditions Monitoring Survey
LFS	Labour Force Survey
LICs	Low Income Countries
MCA-Z	Millennium Challenge Account–Zambia
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goal
MFI	Micro-Finance Institution
MOE	Ministry of Education
MOFNP	Ministry of Finance and National Planning
MOH	Ministry of Health
MSME	Micro, Small and Medium Enterprise
MW	Mega Watts
NER	Net Enrolment Ratio
NTE	Non-Traditional Exports
OECD	Organisation for Economic Cooperation and Development

PACRO	Patents and Company Registration Office
PRGF	Poverty Reduction and Growth Facility
RSZ	Railway Systems of Zambia
SADC	Southern Africa Development Community
SAG	Sector Advisory Group
SAPP	Southern African Power Pool
SHEMP	Smallholder Enterprise Marketing Programme
SNDP	Sixth National Development Plan
SSA	Sub-Saharan Africa
TAZARA	Tanzania-Zambia Railway System
UNCTAD	United Nations Centre for Trade and Development
UNZA	University of Zambia
VAT	Value Added Tax
VOC	Vehicle Operating Cost
VoIP	Voice Over Internet Protocol
WDI	World Development Indicators
WTO	World Trade Organisation
ZAMTEL	Zambia Telecommunications Limited
ZANACO	Zambia National Commercial Bank
ZBS	Zambia Business Survey
ZDA	Zambia Development Agency
ZESCO	Zambia Electricity Supply Corporation
ZNFU	Zambia National Farmers Union
ZRA	Zambia Revenue Authority
ZRL	Zambia Railways Limited

GLOSSARY

Business environment analysis	Analysis of returns to economic activity broken down into two components: social returns -whether a country has the necessary endowments to support private investments; and private appropriability - whether the necessary environment for profitable private business operations exists.
Compact	Large-scale five-year grants for countries that pass MCC eligibility criteria. Eligibility criteria are based on 17 indicators in three policy categories: ruling justly, investing in people and economic freedom.
Constraints Analysis	Identifying potential obstacles to economic growth
EXPY	Measures the country's export sophistication or the value-addition of country's exports.
Co-ordination failures	Exists when a country fails to provide sufficient non-traded inputs of complementary goods needed by enterprises to innovate, market their products successfully and make a profit.
Information failures	Arise when information about economic opportunities has the potential to benefit many investors, but is costly to gather. As a result, no single potential investor gathers the necessary information. Examples include marketing, research and product quality information.
PRODY	Income content number assigned to each product a country exports
Syndromes	Root causes.

EXECUTIVE SUMMARY

This Constraints Analysis (CA) fulfils a requirement of the Millennium Challenge Corporation (MCC) for Compact-Funding for which Zambia became eligible on 12th December 2008. Before a country prepares investment proposals for funding by the MCC, a CA needs to be undertaken that identifies the core obstacles to economic growth within a country's specific context. This is to ensure that investments supported by the MCC are directed at areas that would produce significant positive economic growth impact if the constraints were relaxed.

The CA is therefore a growth diagnostic that identifies the key binding constraints to economic growth. This CA utilises the framework provided by Hausmann, Rodrik and Velasco (HRV) (2005) as modified by the World Bank in its 2008 study – *What are the Constraints to Inclusive Growth in Zambia?* The HRV framework, through the business environment analysis, is used to identify the constraints preventing firms from investing in the economy to generate growth or to accelerate growth where this is occurring at a rate deemed lower than perceived potential.

The Inclusive Growth (IG) framework adopts the HRV framework with some important additions. It includes an analysis of individuals rather than firms alone and therefore consists of both the Business Environment Analysis (as in the HRV framework) and an Employability Analysis. The Employability Analysis is a diagnosis of the productivity attributes of individuals either as wage earners or as self-employed workers. The IG framework thus goes beyond the factors preventing growth to also ascertain whether growth translates into increased household incomes and, ultimately, reduced levels of poverty. One of the shortcomings of this methodology, however, is the difficulty involved in analyzing non-economic factors - implementation capacity issues for example - which are very important and a major concern for many Zambians. These issues were therefore not analysed.

Zambia was fortunate to already have the Bank's IG available at the time of her qualification for Compact-funding. The IG study approach had the advantage over the traditional CA approach that it attempted to uncover why, despite strong growth in Zambia over the past decade, this had not translated into significant poverty reduction. This is a key question in the Zambian situation. The IG study had to be further augmented with a more detailed Business Environment and Employability Analysis using more recent data. This CA therefore updates the materials contained in the World Bank's IG Study.

Past Growth and Poverty Reduction Trends

After a long period of decline and stagnation, Zambia's economy has been growing strongly at about 5% per annum over the past decade. Although the mining boom has helped to propel this growth, especially after 2004 when copper prices and output increased significantly, there are indications that the economy is breaking away from the past downward and negative trends in growth. Growth in the past decade has also been accompanied by total factor productivity improvements and a more diversified export base. There has also been a significant increase in FDI flows as well as gross investment as a percentage of GDP. Gross investment has risen steadily over the last ten years to over 20% of GDP. The benefits of almost twenty years of structural policies are beginning to pay off.

However, despite this strong performance, GDP per capita remains below the historical highs of the early years of Zambia's independence. It declined continually until 2000 when it started to rise again, but only recovered to its 1985 level in 2008. Zambians were therefore, on average, poorer in 2008 than they had been in the years prior to 1985. The Fifth National Development Plan (FNDP) (2006 – 2010) projected that a growth rate in excess of 7% was necessary to make a sufficient dent on poverty.

Poverty levels on the whole have fallen slowly from 73% in 1998 to 64% in 2006, with Zambia far from attaining the Millennium Development Goal (MDG) on poverty despite recent strong economic performance. Rural poverty lies at the heart of the problem. Whilst the poverty head count in urban areas dropped from 53% in 2004 to 34% in 2006, rural poverty rose from 78% to 80%. This would suggest that the benefits of the last decade of economic progress have completely bypassed the rural population. The main reason for this lack of inclusive growth lies in the underperformance of the agriculture sector which employs most rural dwellers.

This CA therefore focused on two key questions:

1. Why has Zambia's GDP per capita not accelerated and attained the levels achieved in the first ten years of independence? and

2. What is constraining more inclusive growth and significant poverty reduction?

Binding Constraints to Accelerated and Inclusive Growth in Zambia

This CA found many reasons why growth has neither been inclusive nor has occurred at the rate anticipated in the FNDP. Four of these reasons are adjudged to be binding constraints. The HRV framework lists a number of criteria to use to identify a binding constraint. This CA relied mainly on the use of shadow pricing to determine the relative importance of the different constraints.

Low Quality of Human Capital - This is at the root of the low levels of employability of the Zambian population and is one of the main explanations for the lack of inclusive growth seen in the last ten years. The poor have limited access to secondary and tertiary education. As a result, they are unable to benefit from the higher wages that are the outcome of higher levels of education. Studies show that wage earnings are positively and significantly influenced by educational attainment and, to a lesser extent, on-the-job training. Skills shortages at all levels limit economic growth.

The poor state of health of the population, the high cost of disease and productivity losses associated with ill-health combine to impose binding growth constraints on the economy. Health indicators such as child mortality, life expectancy, maternal mortality and the prevalence of HIV and AIDS show that Zambia's health status is worse on average than in the rest of SSA. It is estimated that Zambia forfeits 2.9% to 3.5% of GDP growth per year as a result of poor health. HIV and AIDS costs alone are in the range of 1% to 1.8% of GDP.

The incomes of poor Zambians are low because of low returns to self-employment, particularly in agriculture, and because the limited number of wage-paying jobs in the economy are hard to access. Labour productivity in industry and services is much higher than in agriculture. This means that the bulk of the labour force (70% of Zambians are estimated to work in agriculture) has been participating in a sector with very low levels of labour productivity.

Poor Infrastructure Services - Despite progress in extending infrastructure services, these still fall far below the level required to promote accelerated economic and inclusive growth in Zambia. Poor infrastructure is undermining the country's export competitiveness and constraining both growth and job creation. Zambian firms bear high levels of 'indirect' costs at 22% of gross value added- twice the share of labour costs. Zambia has a lower-than-average per capita GDP contribution attributable to increases in the stock and quality of infrastructure, estimated at a meagre 0.6% for the period 2001-2005 compared to 1.01% for other SADC countries, 99% for Africa as a whole, 3.59% for South Africa and Mauritius, and 8.49% for the Asian Tigers. As a result, access to critical infrastructure such as electricity and water and sanitation has declined over the past one and half decades.

Low levels of access to electricity are a binding constraint to growth. Wood provides about 70% of the nation's energy needs(a key driver of deforestation). Fossil fuels, most notably petroleum, are presently all imported. Access to electricity in Zambia has in fact declined from 23% in the 1990s to 13% in the 2000s, a decline of a higher magnitude than experienced elsewhere in Southern Africa. Despite a capacity of 1,680 MW, access to electricity for non-mining activities is declining, largely as a result of resurgence in mining activity. At the same time, electricity infrastructure has been deteriorating. The quality of Zambia's international transit routes has improved. Overall the percentage of paved roads in Zambia is higher than the average for SSA. However, poor road quality and the uneven distribution of the domestic road network are constraints to the growth of rural economic activities. Only a few districts in the whole country have roads of fairly good quality and this impacts negatively on commercial agriculture, gemstone mining and tourism.

A further transport-related constraint, particularly for the country's exports, is the state of Zambia's rail infrastructure. The total amount of traffic carried by Zambia's railways has fallen from more than 6 million tonnes of freight in 1975, to 4.5 million in 1988, to less than 1.5 million in 1998 and to around 1.3 million in 2008. The decline in rail traffic volume is partly due to the perception that rail transport is unreliable due to derailments, low wagon availability, and longer shipping times.

Access to water supply and sanitation is a binding constraint for rural and peri-urban areas. A 2006 appraisal report

by UNCTAD found that the average consumption of water for drinking and other domestic use per rural household was about 20 litres per day (approximately 5 litres per person per day), well below the average amount required for a clean, disease-free environment. Poor water supply and sanitation services in peri-urban areas have caused annual outbreaks of waterborne diseases during the rainy season. This not only places a heavy economic burden on already impoverished communities, but also on public health services. On average, the distance on foot from home to a source of water is estimated to be between one and three kilometres – a 30 minute walking time. This compares unfavourably to the recommended national target of 500 metres and is said to have increased in recent years due to increased pressure on water points leading to longer waiting times.

Coordination Failures - Despite export diversification, Zambia still suffers from low levels of export sophistication – an indicator of coordination failure. This suggests that the value-added of the country's basket of export goods does not match that of other countries with a similar per capita income and is worse than a number of other SSA countries. The country is therefore failing to provide sufficient non-traded inputs or complementary goods and services to enable enterprises to innovate, market their products successfully, and generate profit. Complementary goods and services link the producer-consumer supply chain and require simultaneous large-scale investments in various sectors of the economy. Obvious examples would be infrastructure, education, health services and ensuring a healthy and well-educated workforce available to investors.

There is also evidence of coordination failure in the tourism sector where operators cite the poor condition of rail and road infrastructure, consumers' lack of awareness of Zambia as a tourist destination, the poor quality of airport infrastructure and uncompetitive flight costs as contributors to the inability of the tourism sector to attain its potential.

Agriculture is the most obvious example of coordination failures; high indirect costs attributable to infrastructure; service-related inputs that result in low and declining crop yields, poor market linkages, few intermediary channels between multiple smallholder farmers and food processing firms. Food processing firms end up working below capacity. Added to these failures are the difficulties encountered in breaking into developed countries' agriculture as a result of the lack of infrastructure necessary to provide quality assurance facilities. Farm-level productivity data in Zambia show how maize and cotton productivity are negatively correlated with weak service performance measured by the Investment Climate Surveys.

It is also important to note that the binding constraints described do not operate in isolation but are linked and mutually reinforcing. Together with many other constraints, they are symptoms of some underlying characteristics which constitute syndromes in the HRV Framework. Using a matrix that looks at the hierarchy of problem situations, this Growth Diagnostic concludes that Zambia can be characterised as an under-investing state. This means that the country is not providing the complementary investments required to relax the employability and business environment constraints identified above. There are low investments in the social sectors as well as in infrastructure that are constraining a much more significant rise in the returns to economic activity from private investments. Linked to this are two further syndromes: Zambia is an under-educated state (resulting in the poor human capital characteristics seen above) and an under-innovating state (hence low export sophistication). What all this means is that Zambia must raise substantially both the quantity and quality of complementary services in order to accelerate growth and make it more inclusive.

CHAPTER 1
INTRODUCTION

Zambia became eligible for Compact Funding from the MCC on 12th December 2008 after meeting the MCC eligibility criteria. MCC assesses country eligibility based on progress in three broad areas: ruling justly, investing in people and economic freedom. It makes its assessment based on 17 indicators developed by "third party" agencies. Eligible countries must exceed the median of their peer group, whether low- or lower middle-income countries. Thus eligibility is competitive.

Following Zambia's qualification for Compact Funding, she must now develop a package of investment proposals to be submitted to the MCC by end January 2010 for consideration. The first step in the proposal development process is for countries to undertake a critical assessment of the conditions in the domestic economy that limit growth and poverty reduction – this is referred to as a Constraints Analysis (CA) – and ensures that funds are devoted to projects that reduce poverty through economic growth. The CA is not intended to dictate specific economic sectors or development projects, but rather to point to key binding constraints that are national in scope and impede investment and income growth in many sectors. While the number of core impediments to growth will vary by country, it has been suggested that the CA report focuses on the three to six most important binding constraints.

Against this background, this CA report was prepared by the MCA-Z to fulfil this requirement. The results of the CA served as the basis for a public consultation on the Compact with 16 Sector Advisory Groups (SAGs) and other relevant stakeholders including chiefs and chairpersons of selected Parliamentary Committees. The results of the CA were also used as an input into the SNDP by helping shape strategic focus over the plan period.

In conducting a CA, the MCC encourages and accepts the use of existing studies and national initiatives so that there is no re-invention of wheels. In this regard, the MCA-Zambia CA team adopted the World Bank study on "What are the Constraints to Inclusive Growth in Zambia?" as the key reference document because it uses a refined version of the HRV framework recommended by the MCC. This was found more suited for Zambia because it tracks both the binding constraints to accelerated growth and why, despite ten years of uninterrupted growth, poverty remains widespread in the country, especially in rural areas. This is a concern of many Zambians.

This report is organised as follows: chapter two outlines the methodology; chapter three tells Zambia's growth story; chapter four begins with the discussion of binding constraints by focusing on the employability analysis; chapters five and six continue with the analyses of binding constraints concentrating on the cost of finance and returns to economic activity; and chapter eight discusses the root causes of the constraints outlined in previous chapters.

CHAPTER 2
METHODOLOGY

IG FRAMEWORK

This chapter outlines the methodology applied in conducting the CA for Zambia. It adopts an Inclusive Growth Diagnostics framework, a variant of the HRV framework, which advances the case for productive employment as the main instrument for sustainable and inclusive growth. The framework looks at ways of strengthening the individual's productive resources and capacity on the labour supply side as well as ways of opening up opportunities for productive employment on the labour demand side (Figure 2.1).

Box 2.1: A constraint is binding if:

1. The (shadow) price is high
2. Movements in the constraint produce significant movements in the objective function
3. Agents in the economy are attempting to overcome or bypass the constraint
4. Agents less intensive in a binding constraint are more likely to survive and thrive and vice-versa" (Hausmann et al, 2008, pp.32)

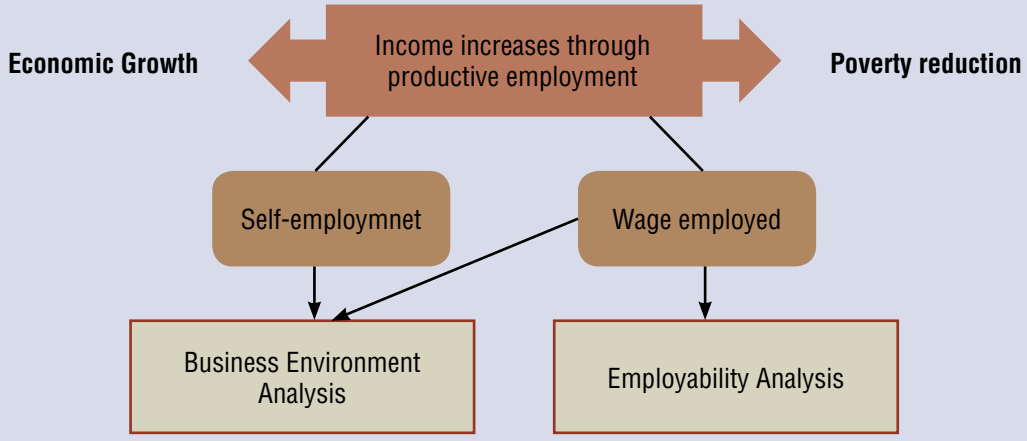
The labour-supply (employability) analysis focuses on the resources of the individual, for example, her education, her health and any other productivity attributes she brings to a job. On the demand-side, the analysis uses the HRV approach to shed light on the bottlenecks in the business environment. The HRV framework attempts to identify the principal obstacles to economic growth. In particular, the approach aims to identify those constraints most binding to growth, that is, the ones with the highest (shadow) prices, the relaxation of which will have the largest impact on growth. In this framework, economic growth is a function of the returns to asset accumulation, the extent to which they are privately appropriated less the cost of financing this accumulation (Figure 2.2). According to the HRV framework, growth can be constrained by:

1. Low social returns caused by a lack of complementary factors such as infrastructure, human capital, total factor productivity or by unfavourable externalities;

2. Poor appropriability through high taxation, inadequate property rights, weak contract enforcement, labour conflicts, incomplete information and other market failures; and

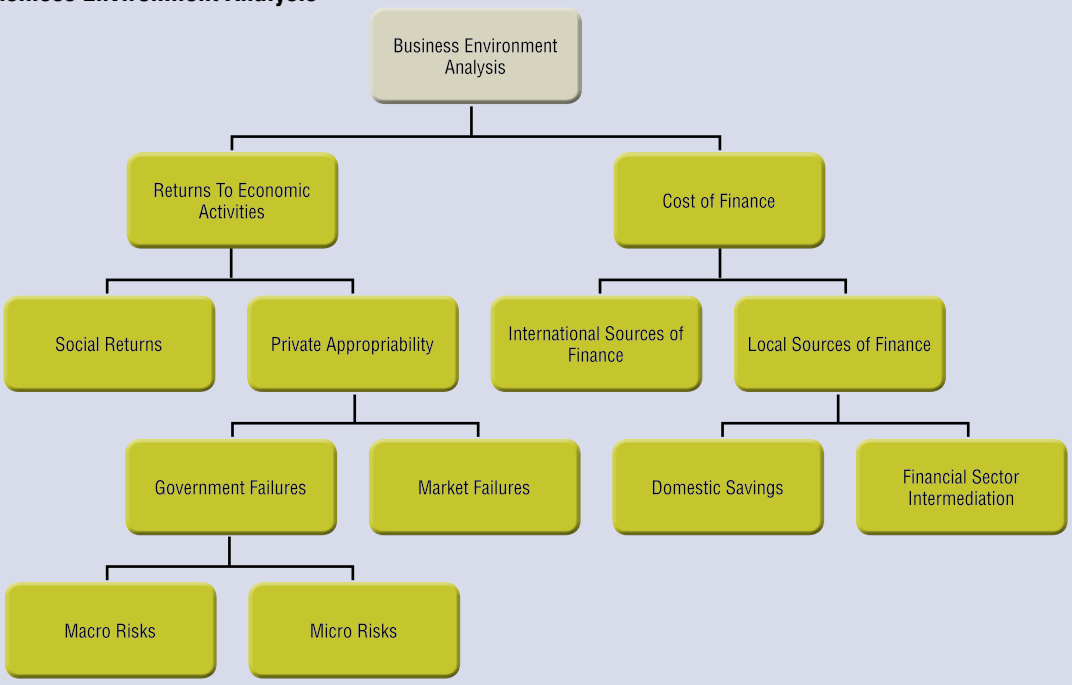
3. High cost of capital through domestic financial markets or external ones.

Figure 2.1: Inclusive Growth Analytics



Source: Adapted from Hausmann, Rodrik and Velasco (2005)

Figure 2.2: Business Environment Analysis



Source: Adapted from Hausmann, Rodrik and Velasco (2005)

2.2 INCLUSIVE GROWTH DIAGNOSTICS

The following steps are involved in conducting the Inclusive Growth diagnostic.

1. **Describing the growth story and postulating the growth question**- This involves a background analysis, including an understanding of the major factors explaining the country's past growth and poverty reduction trends and trend-breaks, overall productivity and employment dynamics, major challenges and opportunities, and possibilities for economic transformation and diversification.

2. **Putting together the profile of economic actors** - Paying attention to excluded groups and including a description of the income-earning activities of self- or wage-employed people, distinguished by sector, size of firm, geographical area (rural, urban), sub-national unit (provincial, state and others), type (formal or informal), and other relevant characteristics. With the findings from these two stages it is possible to get a picture of the activities specific groups are engaged in; to what extent these activities have the potential for growth and whether migration to other sectors is possible – in the short and the long run. This is covered in the growth story.

3. **Finding the binding constraints to inclusive growth** - Based on the framework presented in Figures 2.1 and 2.2 to identify binding constraints from the perspective of different economic actors. A constraint is binding if it meets the criteria highlighted in Text Box 2.1. This process assists in the prioritisation of constraints, a value-addition of this particular methodology.

4. **Characterising constraints to growth –** Identifying the possible root causes (syndromes) for the binding constraints.

5. **Searching** for further signals that would substantiate the root causes of the constraints identified.

6. **Iteration** of stages four and five until there is convergence on the root causes.

Although the methodology provides criteria for selecting binding constraints, applying the methodology is difficult in practice because of the impossibility of estimating shadow prices and the challenge posed by rejecting some constraints as not binding. As a result, the binding constraints identified in the report have not been prioritized. Further, the methodology does not allow for sector-specific analysis because it is undertaken at an aggregate level. In addition, the analysis is difficult to undertake for non-economic factors like implementation difficulties and corruption, which as well as being potentially important in general, may also have varying significance for different sectors. These factors have therefore not been analysed.

As indicated in Chapter 1, the team draws heavily on the World Bank study, "What are the Constraints to Inclusive Growth in Zambia?" This study used both direct and indirect evidence to identify bottlenecks to inclusive growth. Macro-data, as well as industry and firm-level data, firm and household surveys were used. Cross-country comparisons to benchmark Zambia's performance were also relied upon extensively. The set of comparator countries was carefully chosen, in many instances comparing Zambia to countries in Southern Africa and/or landlocked, resource-rich economies in the developing world.

The value-addition to the World Bank IG study by the MCA-Zambia was to update the data where possible and deal with the shortcomings that were identified.

CHAPTER 3

ZAMBIA'S GROWTH STORY

This chapter describes Zambia's economic and social developments since independence and sets the stage for the inclusive diagnostic analysis for Zambia that follows in subsequent chapters. It is a country-specific analysis of the major factors behind the country's past growth, employment, poverty and social development trends.

Since independence, real GDP growth in Zambia has largely been driven by developments in the international price of copper and its impact on the mining sector. Prior to 2000, growth declined steadily and even fell below zero for some of this time. In the last ten years, however, Zambia has experienced uninterrupted real GDP growth at an average rate of 5% with positive per capita growth recorded. It should be noted though, that these rates still fall short of the targets set in the Fifth National Development Plan (FNDP) and the per capita GDP levels attained in the first ten years of independence (1964-1974).

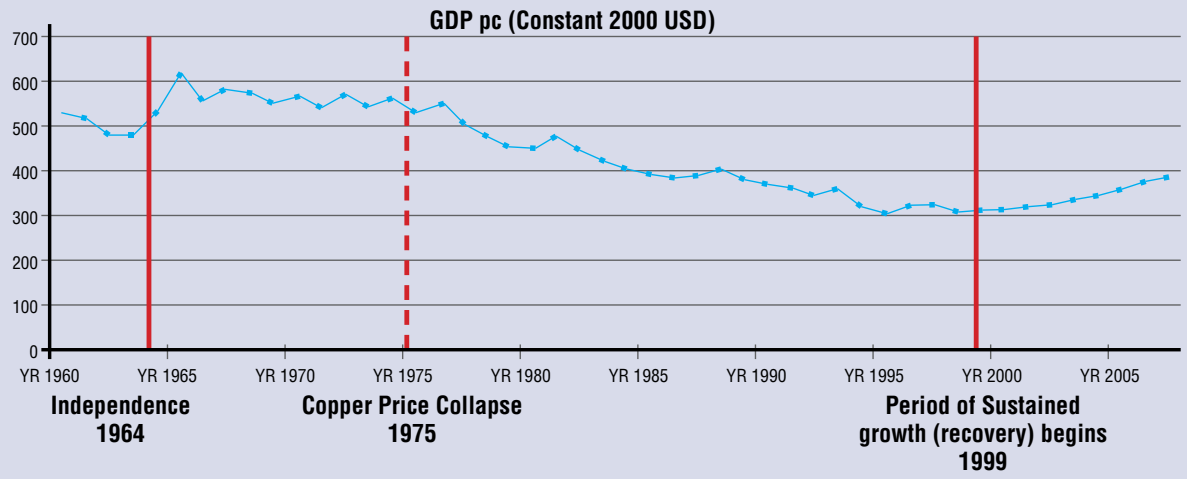
Current growth has been underpinned by an improved macroeconomic environment and structural reforms that spurred private sector investment, especially in the mining sector. At the same time, Zambia's diversification drive began to bear fruit, capitalising on the country's advantage in land-intensive primary goods. However, the IG diagnostic process finds that Zambia's export sophistication remains low for her level of development. Despite strong and robust growth and some improvements in social indicators (education and health), aggregate poverty rates in Zambia have declined only slightly and poverty remains widespread. Inequality in Zambia also remains high relative to some of its neighbouring countries.

Against this backdrop the CA tackles two questions: firstly, why has Zambia's GDP per capita not accelerated and attained the levels achieved in the first ten years of independence? And secondly, what is constraining current growth from being more inclusive and making a serious dent on poverty?

3.1 ECONOMIC DEVELOPMENTS

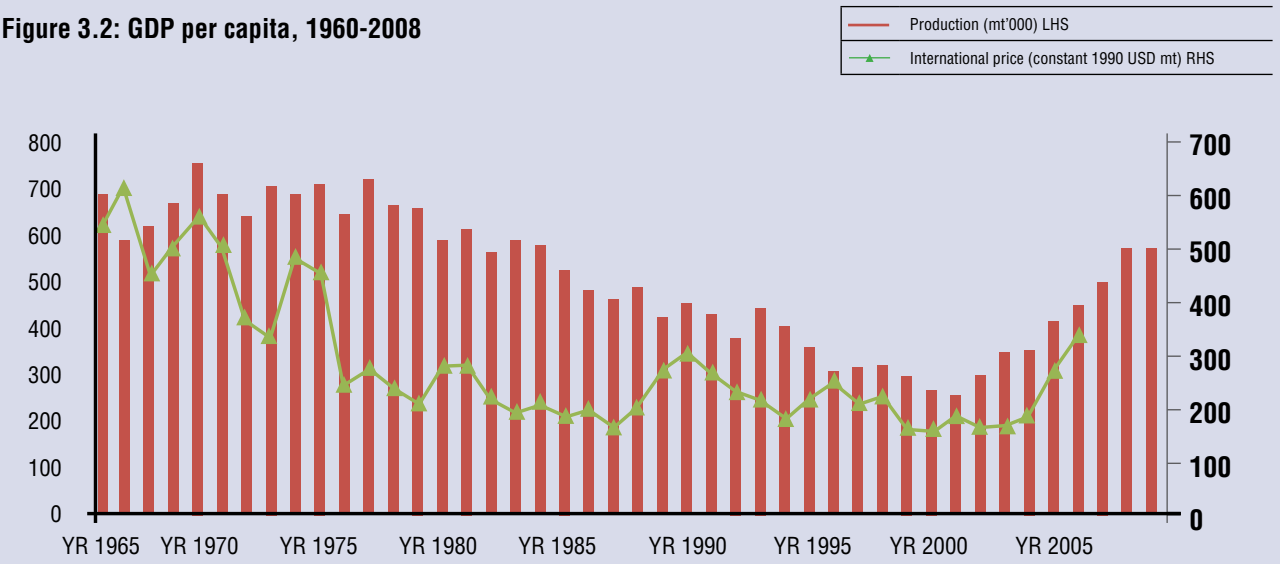
Beginning in the late 1990s, Zambia's economy started to grow and per capita incomes started to rise after decades of decline (*see* Figure 3.1). Copper price movements generally explain real GDP growth in Zambia over the period 1965 and 2008 (*see* Figures 3.1 and 3.2), however, recent positive and stable growth has, since 2002, been accompanied by total factor productivity improvements (Figure 3.3). This presents a distinct break with the declining per capita GDP of the past which was linked largely to developments in the mining sector.

Figure 3.1: GDP per capita, 1960-2008



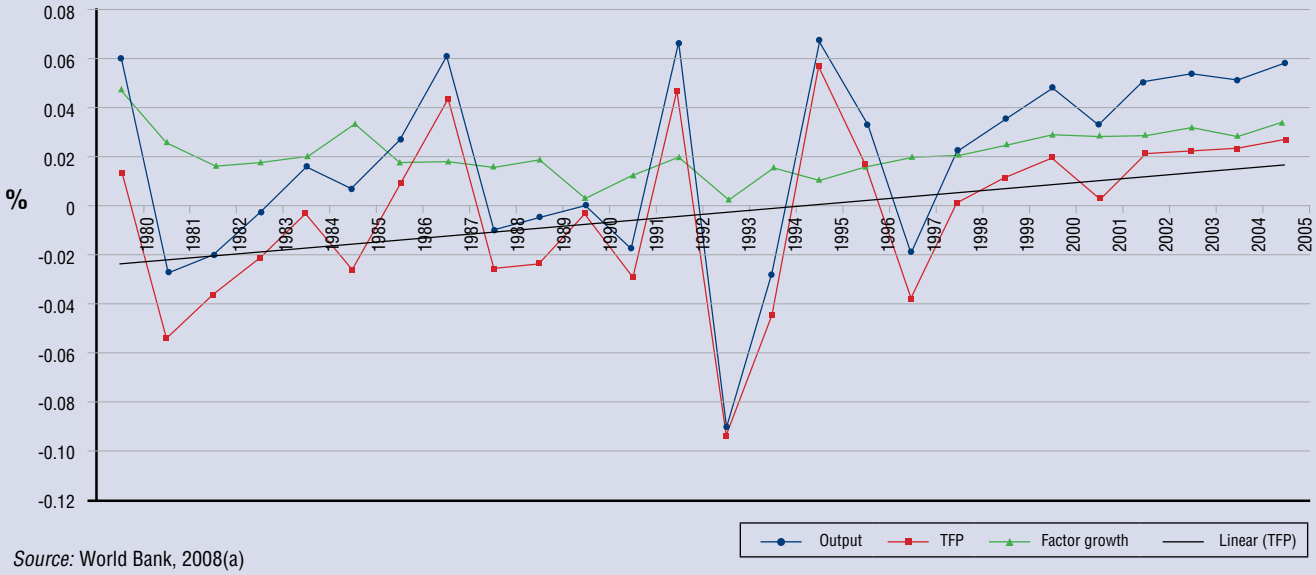
Source: Author's construction

Figure 3.2: GDP per capita, 1960-2008



Source: World Bank, 2008(a)

Figure 3.3: Growth Accounting Decomposition for Zambia



Source: World Bank, 2008(a)

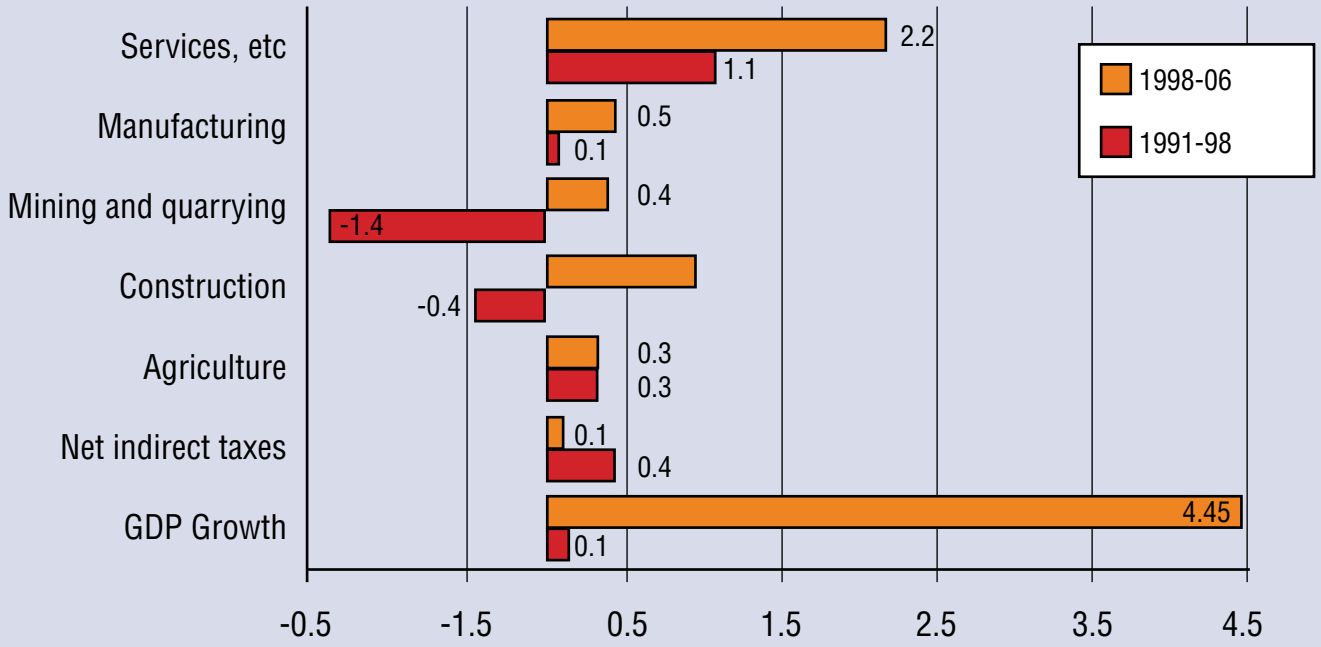
There was strong economic growth during the period 1999 to 2008 with real GDP growth averaging 5% per annum. Today, Zambia seems to be on a sustained growth path with the growth rate projected to stay above 5% for the medium-term. Compared to benchmark countries, Zambia's average growth rate over the last ten years has been respectable, higher than Ghana and South Africa for example, countries generally considered good performers. Whilst Zambia's growth rates have not been remarkable, the consistency of the growth rate, particularly over the last five years, is noteworthy. Zambia weathered the global economic crisis with only a mild shock to growth which fell from 6% to 5%. Whilst this growth pattern seems sustainable, questions remain as to why Zambia's growth is not accelerating to the 7% levels required to achieve Vision 2030, (GRZ, FNDP), the Government's plan to achieve middle-income country status by 2030.

These positive growth rates are largely due to remarkable improvements in the macroeconomic environment, structural reforms and the copper boom. According to preliminary data, copper production has been steadily increasing, reaching 615,000 metric tonnes in 2009 from a low of 257,000 metric tonnes in 2000. Robust increases in foreign direct investment (FDI) flows and favourable copper prices since 2004, boosted growth in the mining sector. Similarly, gross investment as a percentage of GDP increased steadily over the last decade and has been over 20% of GDP for the last five years.

In addition to mining, growth drivers in the last ten years have been an expansion in services, in construction, and to a lesser degree in manufacturing: average growth rates increased by 4.4% between 1991 and 2008, made up of 1.8% from mining, 1.1% from services, 1.4% from construction, and only 0.5% from manufacturing (Figure 3.4). Growth within services was mainly driven by growth in community and social services, real estate and business services and wholesale and retail services. These sectors are more often an "employer of last resort" unlike tourism, transport and communication, and finance and insurance, which tend to reflect broader economic dynamism.

Zambia has managed to broaden her export base somewhat. In the period 1980-2004, the country nearly doubled the number of products exported and halved her Herfindahl index, breaking away from the group of least-diversified economies in SSA.

Figure 3.4: Changes in Real Growth Rates (%)



Source: World Bank, 2008(a)

At independence, Zambia was one of the most prosperous countries in SSA. Between 1965 and 1972, real GDP grew at an average rate of 4% aided by high international prices (World Bank, 2004(a)). Value-added from mining accounted for almost half of formal sector GDP. This growth was complemented by relatively favourable political and economic policies. Huge earnings from copper exports were used to increase the country's capital stock significantly with about a third of GDP spent on investments which, together with government consumption, were the fastest-growing GDP components at 6.4% and 3.3%, respectively.

The economy started contracting following oil price increases in 1973 and the drop in copper prices in 1975. Average real GDP growth fell to 1.5 % a year in the 1970s, then to 1.4 % in the 1980s and 0.3 % in the 1990s (World Bank 2004b). This decline is largely explained by the country's poor response to the large terms-of-trade shock. Zambia resorted to heavy borrowing to finance consumption and investment in capital-intensive, import substitution industries and relied heavily on price controls, subsidies, high tariffs and a large protected parastatal sector. Government was unwilling to devalue the Kwacha in response to negative term-of-trade shocks and as foreign financing dried up, resorted to domestic money creation, which created inflationary pressures. The combined effect of these developments was to keep real GDP growth depressed.

3.2 POVERTY TRENDS

Recent growth has not translated into a significant decline in poverty especially in rural areas. Inequality increased in both rural and urban areas during the years 1996 to 2006. The 2006 Living Conditions and Monitoring Survey (LCMS) revealed that 64% of the population was living below the national poverty line. Although an improvement from 68% in 2004 and 73% in 1998, poverty levels in rural areas remained high at 77% in 2006 (Figure 3.5) and the Gini coefficient actually increased from 40.8 in 1996 to 43.5 in 2006. For the two most urbanized provinces, Copperbelt and Lusaka, where economic activity has increased, the incidence of poverty was below the 2006 national poverty line. The Gini coefficient in both provinces also declined between 2004 and 2006 (Figure 3.6 and Table 3.1). This seems to suggest that when inequality is high to start with, it acts to reduce the impact of growth on poverty reduction.

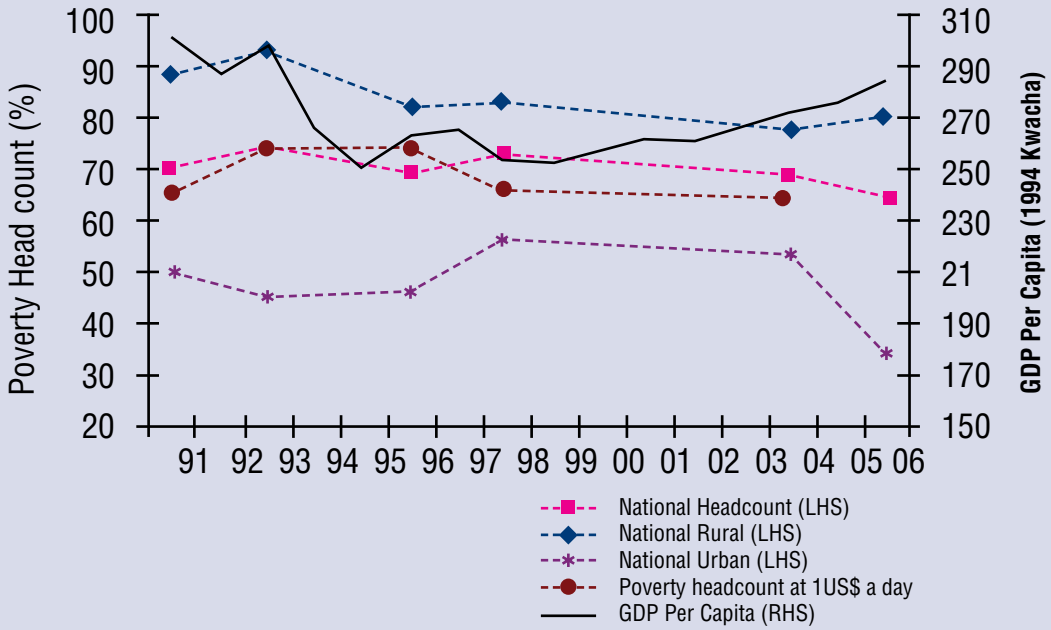
Table 3.1: Trends in Inequality, 1996-2006

	1996	1998	2004	2006
Zambia	47.4	48.8	52.7	52.6
Rural	40.8	41.4	45.7	43.5
Urban	42.2	44.5	46.6	46.8
Central	40.9	49.6	47.3	46.5
Copperbelt	41.2	44.8	48.8	48.4
Eastern	43.9	40.2	46.9	44.4
Luapula	38.9	41.7	41.7	43.6
Lusaka	42.8	47.1	48.4	47.7
Northern	38.9	39.3	47.8	47.4
North-Western	39.3	39.9	47.5	43.0
Southern	42.5	46.0	51.6	49.3
Western	44.4	44.4	46.5	47.5

Source: CSO forthcoming. Note: Gini inequality is based on expenditure per adult equivalent

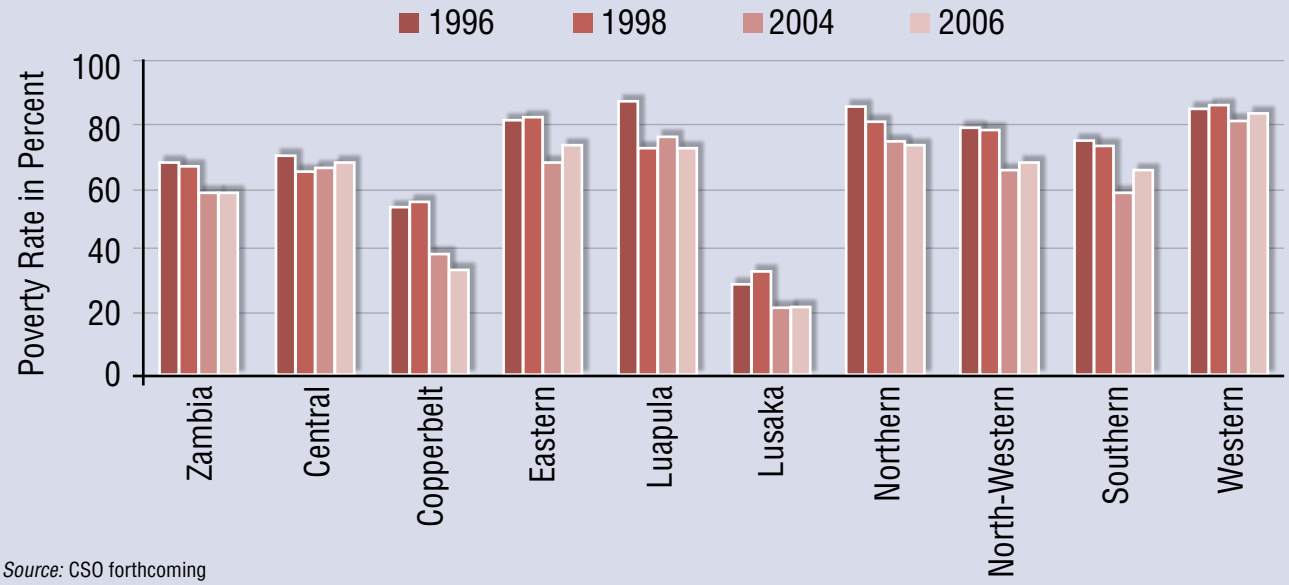
At 64%, poverty in female-headed households is higher than in male-headed households at 58.1%. The majority of female-headed households are vulnerable to poverty and food insecurity often as a result of the loss of their spouse via death or divorce. This intermittent loss of labour capacity and income eventually increases the household's susceptibility to poverty. A closer look at the sources of income of rural, mostly self-employed, household heads, suggests that only 10% of farmers' income comes from farm sales. The majority of farm output is used for subsistence (Table 3.2). Few rural households have sufficient resources to hire poorer neighbours or provide loans. Richer rural households tend to rely more on wage employment and less on subsistence farming than poorer rural households (Table 3.2).

Figure 3.5: Poverty Rates in Rural and Urban Areas, 1991-2006



Source: World Bank, 2008(a)

Figure 3.6: Total Poverty – Province Trends, 1996-2006



Source: CSO forthcoming

Table 3.2: Mean Shares of Household Income by Source, Income Quintile, Rural Areas

	Quintile of National Distribution					
	All	Poorest 20%	2	3	4	Richest 20%
Food crop sales	6	7	6	6	6	5
Non-food crop sales	2	1	2	3	2	2
Non-farm business	10	11	10	10	13	11
Livestock and other farm income	2	2	2	3	2	3
Salary	6	3	5	6	7	11
Remittances	6	7	6	6	7	5
Pension	0	0	0	0	0	0
Non-agricultural rent	0	0	0	0	0	0
Other income	11	13	12	12	11	9
Consumption of own production	55	57	55	54	55	52

Source: World Bank, 2008(a).

In urban areas, the poor reside in informal settlements which are home to an estimated 50-80% of the urban population. The urban poor are typically self-employed.[1]The self-employed in urban centres are part of the large, urban, informal sector in which 56% of Zambia's urban workers earned their living in 2002- 2003. Employed in a variety of informal economic activities ranging from producing and selling building materials, to trading petty commodities, farming, and letting real estate, the urban poor derive a much larger share of their income from wages than the rural poor (Table 3.3). In comparison to the urban rich they rely much less on income from wages and have far fewer years of schooling. Incomes and food intake are supplemented by cultivating undeveloped urban or peri-urban land.

Box 3.1: Zambia's Poor: Some Stylized Facts

1. The poor have low returns to their labour
2. The poor have inadequate human resources
3. The poor are highly vulnerable to shocks and health risks such as droughts, floods, HIV&AIDS, Malaria

Table 3.3: Mean Shares of Household Income by Source, Income Quintile, Urban Areas

	Quintile of National Distribution					
	All	Poorest 20%	2	3	4	Richest 20%
Non-farm business	24	25	27	27	26	19
Salary	50	38	40	46	50	60
Remittances	6	8	6	5	6	5
Other income	15	20	19	16	14	13
Consumption of own production	5	9	7	7	4	3
	100	100	100	100	100	100

Source World Bank, 2008(a).

In the last few years, whilst urban poverty has declined, rural poverty has increased slightly. These trends are a result of expansion in some industrial and service activities which have been drivers of growth in Zambia (Tables 3.4 and 3.5), accounting for 86% of GDP in 2006 and located mostly in urban centres. Over the past decade, the most effective pathway out of poverty has been migration to urban low-cost and medium-cost areas where the number of jobs has increased and productivity has been higher than in the rural economy.

1 Among individuals aged 20 and over, 18 % of those in the bottom quintile were unemployed according to the Living Conditions and Monitoring Survey 2002-03.

Table 3.4: Shares in Total Value Added in Zambia (%)

Sector	2000	2001	2002	2003	2004	2005	2006	Average
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Agriculture	18.3	17.1	16.1	15.9	15.7	15.2	14.6	16.1
Industry	23.3	24.2	25.9	26.8	28.3	28.9	29.5	26.7
Construction	5.3	5.6	6.3	7.3	8.2	9.3	10.0	7.4
Mining	6.8	7.5	8.3	8.1	8.7	8.5	8.5	8.1
Manufacturing	11.2	11.1	11.3	11.5	11.3	11.1	11.0	11.2
Services	58.4	58.7	58.0	57.2	56.1	55.9	55.9	57.2
Banking	8.7	8.4	8.3	8.1	7.9	7.7	7.5	8.1
Utilities	3.1	3.3	3.0	2.9	2.7	2.7	2.8	2.9
Other services	2.1	2.4	2.5	2.5	2.5	2.6	2.9	2.5
Real estate	10.1	10.0	10.0	9.9	9.7	9.5	9.2	9.8
Public administration	8.2	8.3	8.1	7.8	7.4	7.2	7.4	7.8
Transport	6.7	6.6	6.4	6.4	6.4	6.6	7.5	6.7
Trade	19.4	19.6	19.7	19.8	19.6	19.6	18.7	19.5

Source: World Bank, 2008(a)

Table 3.5: Industries' Contribution to Real Growth in Zambia (%)

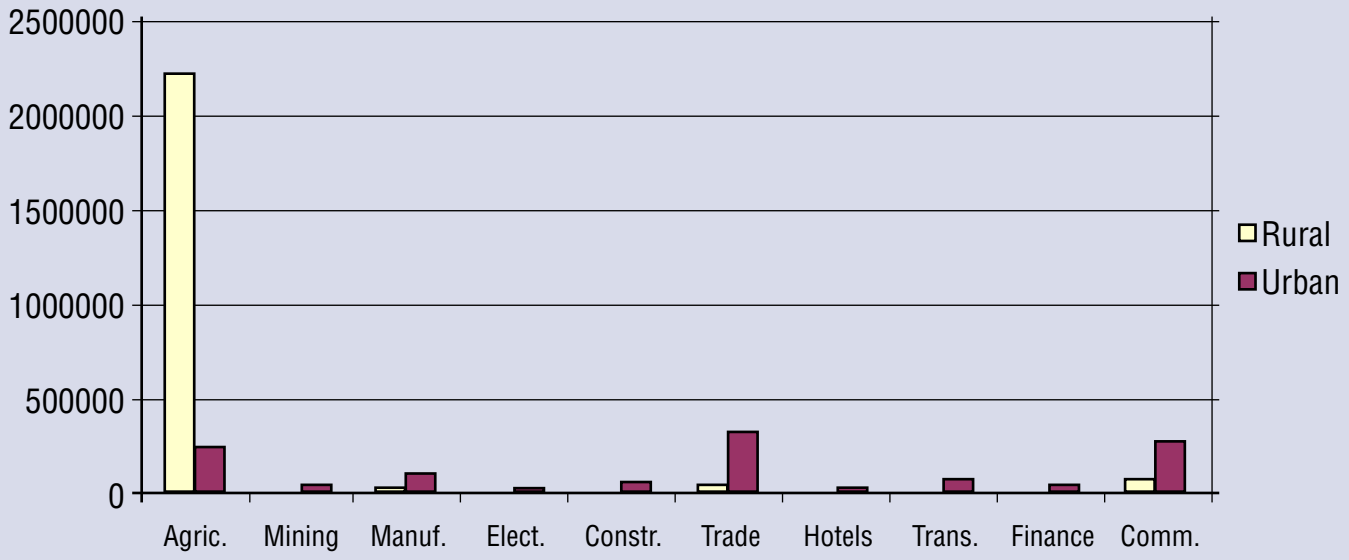
Sector	2001	2002	2003	2004	2005	2006	Average
Total	**4.5**	**4.5**	**5.8**	**6.1**	**5.8**	**6.7**	**5.6**
Agriculture	-0.5	-0.3	0.8	0.7	0.4	0.3	0.3
Industry	2.0	2.8	2.5	3.2	2.3	2.6	2.6
Construction	0.6	1.0	1.4	1.5	1.6	1.3	1.2
Mining	1.0	1.2	0.3	1.1	0.2	0.6	0.7
Manufacturing	0.5	0.6	0.9	0.5	0.4	0.6	0.6
Services	3.0	1.9	2.5	2.2	3.1	3.8	2.8
Banking	0.0	0.3	0.3	0.3	0.3	0.3	0.2
Utilities	0.4	-0.2	0.0	0.0	0.1	0.3	0.1
Other services	0.5	0.1	0.2	0.2	0.3	0.4	0.3
Real estate	0.4	0.4	0.4	0.4	0.4	0.3	0.4
Public administration	0.5	0.1	0.1	0.0	0.3	0.6	0.3
Transport	0.2	0.1	0.3	0.4	0.5	1.4	0.5
Trade	1.0	1.0	1.2	1.0	1.2	0.4	1.0

Source: World Bank, 2008(a).

Levels of labour productivity in agriculture, the sector in which most people are employed, are low. The gap between productivity in farm and non-farm (mostly urban) employment (*see* Section 4.3) has negative implications for inclusive growth as well as pointing to a very inefficient utilisation of labour.

Despite the higher level of productivity, the distribution of employment by industry (Figure 3.7) seems to imply that even a sizeable percentage increase in employment in urban industries will not result in a significant increase in the number of urban jobs in the near term. Furthermore, despite increases in investment flows to the mining sector, the number of jobs being created does not seem to be sufficient to lift a significant share of people out of poverty.

Figure 3.7: Number of People Employed by Sector in the Rural and Urban Areas, 2004



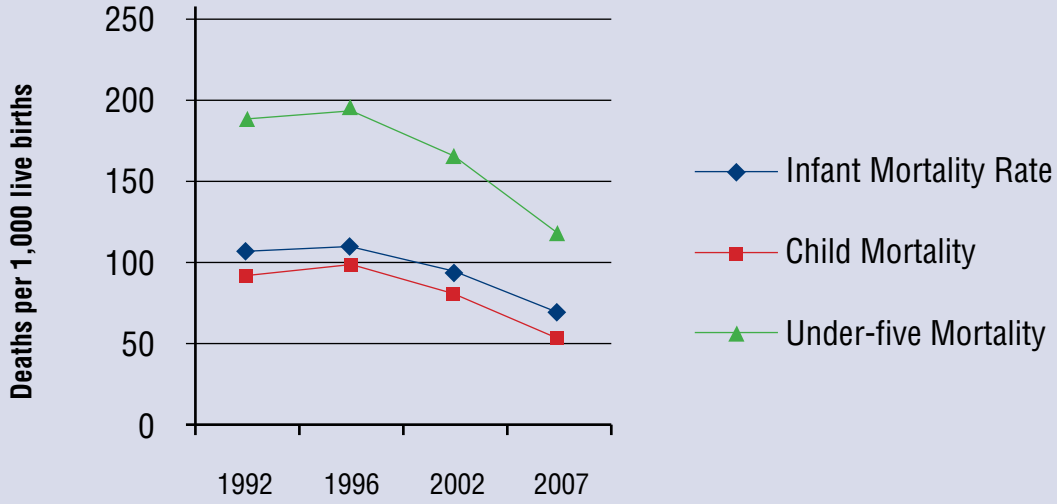
Source: World Bank, 2008(a)

3.3 SOCIAL DEVELOPMENTS

In the last decade, Zambia has begun to recover much of the progress made in the early 1960s and 1970s in school enrolments, maternal mortality and infant, child and under-five mortality. Gains in social indicators achieved after independence in 1964 were reversed during the 1970s and 1980s, in part due to a decline in public revenues. Between 1964 and 1985, enrolments in primary schools increased four-fold, growing at 5.5% a year and secondary school enrolments increased more than twelve-fold at 10.5% annually (World Bank, 1994). After 1985, however, the quality of primary education deteriorated significantly. Much of the increase in enrolment had been the result of increased class sizes and double, triple and quadruple shifts. Not only did this put undue stress on physical facilities, it also reduced the number of hours of contact students had with their instructors.

Education indicators have been improving over recent years. For instance, gross enrolment ratios (GER) for grades 1-9 rose from 75.1% in 2000 to 104.6% in 2005, while net enrolment ratios (NER) rose from 68.1% to 97.3%. Similarly, the completion rate increased from 63.6% in 2000 to 94.7% in 2008. These improvements partly reflect the introduction of free primary schooling in 2002. Favourable developments notwithstanding, there are major concerns about the quality of education. The pupil teacher ratio for basic primary education continues to be high averaging 46.4 pupils to one teacher. For grades 1-4, the ratio is 71.8 pupils to one teacher. This negative development puts at risk the future quality of human capital. There is a positive relationship between educational attainment and the quality of the workforce.

Figure 3.8: Trends in Infant, Child and Under-Five Mortality



Source: GRZ, 2009(a)

Zambia's overall health indicators have improved considerably since independence, especially in the last twenty years. Infant, child and maternal mortality indicators have improved substantially. There has been a slight drop in the HIV and AIDS prevalence rate for the adult population aged 15-49 to 14.3 % in 2007 from 16% in 2002.

In the years following independence, performance across a number of health indicators improved substantially with a fall in crude death rates, a rise in life expectancy and a fall in infant mortality rates (259 per 1000 births in 1950 to 97 in 1990). At the same time, health service delivery also improved. Between 1964 and 1981, the number of hospital and health centre beds doubled and 75% % of the population lived within 12 kilometres of a health facility. However, the 1990s saw a deterioration in some indicators. Access to improved water dropped from 49% of households in the early 1990s to around 34% in the early 2000s. Similarly, access to improved sanitation dropped from 27% of households to 18%. This has increased the number of people vulnerable to water-borne and other infectious diseases such as cholera. In 1978 there were fewer than 2000 reported cases of cholera; this figure had risen to roughly 12,000 by 1991. Immunisation rates, although good in comparison with the rest of Africa, appear to be declining. The percentage of children fully immunised in 2007 was 49.1 compared to 66.6, 78.3 and 70 in 1992, 1996 and 2001 respectively (GRZ 2006, GRZ 2009).

This chapter tells Zambia's growth story. It is a story of sustained real GDP growth in the last ten years, growth, however, that still falls short of the targets set in the FNDP, has not reached the levels set in the ten years following independence and is insufficient to make a serious dent in the country's high poverty levels. Hence the two key questions arising from this growth story are (1) why has Zambia's GDP per capita growth not accelerated and attained levels achieved in the first ten years of independence? (2) What is constraining current growth from being more inclusive and making a serious dent on poverty?

The remainder of his report therefore attempts to answer these questions by identifying the principal factors in the economy that have contributed to the status quo/ equilibrium position using the IG diagnostic framework described in Chapter 2.

CHAPTER 4
EMPLOYABILITY ANALYSIS

In this chapter, the factors determining the qualitative supply of labour are examined. These factors, particularly education and health, determine the prospects of the poor to seize opportunities in the business environment in the long term. The chapter also explores whether the quality of human capital is a constraint on current labour employment out turns and on prospects for employment in the future.

The study concludes that broadly, the state of human capital in Zambia is a binding constraint on growth and particularly on inclusive growth. Levels of educational attainment are only not binding at primary school level. At secondary and tertiary school levels, the poor have limited access to education, restricting their chances of gaining from the higher wages associated with higher educational attainment. The poor state of health of the general population, the high costs associated with contending with disease and the productivity losses arising from ill health combine to impose binding growth constraints on the economy. The economy also faces considerable shortages of certain labour skills in professions such as banking and construction for example. These shortages have imposed far reaching constraints that have limited the extent of the country's growth.

4.1 EDUCATION

Over the long term, the quality of human capital is a positive function of educational attainment. Zambia has relatively high levels of educational attainment at lower levels of schooling. Primary school completion rates and girl-to-boy ratios for primary and secondary education combined were above the average for SSA and Low Income Countries (LICs) over the period 2000-2007 (Annex I). However, gross secondary school enrolment rates for 2002-2004 were lower than the average for SSA and much lower than the average for LICs.

In 2004, only 24% of Zambians attended secondary school and only 18% completed the full 12 years of schooling. There is no major difference between rural and urban areas in terms of access to primary schools but with respect to secondary school access, the difference is clear. There are more boys than girls in education at both primary and secondary school (Annex 1), although Zambia's performance in this regard is better on average than its peers in SSA and in the LICs.

Table 4.1: Increment in Earnings to Human Capital Relative to Earnings of Workers with no Formal Education and no On-The-Job Training (%)

Variable	Coefficient
Education	
Primary completers	43
Secondary completers	90
University completers	209
Age	
Primary completers	
Age	0.07
Age square	-0.0008
Secondary completers	
Age	0.14
Age square	-0.001
University completers	
Age	0.23
Age square	-0.003

Source: World Bank, 2004b

As a proxy of returns to education, the World Bank (2004a)[2] presents estimates of the relative earnings scales by educational attainment and level of on-the-job training in Zambia's manufacturing sector in 1993-1995 (Table 4.1). For manufacturing, this was calculated using a Mincerian wage equation which uses data on the share of the workforce in a particular industry that has completed each educational level; measures of the average years of on-the-job training experienced by different segments of the manufacturing labour force; and the average ages and earning levels of the different educational segments of the workforce. The relationship between an increment in earnings and an increment in education and on-the-job training is estimated (Table 4.1) against the sub-group in the industry having never received any form of education.

The analysis reveals two main points. Firstly, as far back as 1995, labour (wage) earnings were positively and significantly influenced by increases in both educational attainment and on-the-job training; and secondly, the effects of education attainment are relatively more substantial than those of on-the-job training. These findings support the assertion that there are important returns to developing human capital through higher levels of education and training.

Education beyond primary level is a major constraint to successful self-employment and employment in the formal sector for the poor in Zambia. Although there is no major difference in mean years of education between richer and poorer household-heads in rural areas (see Table 4.2), this difference is more marked in urban centres. In 2002 -2003, household-heads in the richest urban deciles had nearly twice the mean years of schooling than household-heads in the poorest urban deciles (Table 4.2). At all ages, children from households in the top quintiles are more likely to be in school than those in the poorest quintile. Because the poor typically start school later, the greatest difference is at young ages.

Table 4.2: Mean Years of Schooling of Household Head in 2002/03

	All	Poorest 20%	Richest 20%
Rural	5.3	4.4	6.2
Urban	9.3	6.6	11.1

Source: World Bank, 2008(a)

Despite improvements in school infrastructure, there are major concerns about the quality of education and about inputs (particularly human resources) in education. Capacity does not currently meet the needs of the country. Fees are still charged for education after grade seven and there is a shortage of places in middle and high schools. The pyramid narrows even further at the level of tertiary education. Tertiary education, essential for most jobs in large companies and the public sector, reaches just a little over 2% of the population. Tertiary education is a function of household income. Disparities in education therefore pose a key constraint for inclusive growth.

Box 4.1: Quality of Education Indicators

- Exam Pass Rate (EPR, Grade 9): 48.6%
- Exam Pass Rate (EPR, Grade 12): 61.0%
- Pupil Teacher Ratio (PTR, Grade 1-7): 51.62
- Pupil Teacher Ratio (PTR, Grade 8-9): 32.35
- Pupil Class Ratio (PCR, Grade 1-7): 37.60
- Pupil Class Ratio (PCR, Grade 1-9): 43.43
- Pupil Class Ratio (PCR, Grade 10-12): 39.86

Source: MOE (2008)

Various indicators suggest that Zambia is not doing well in providing equality education services (see Box 4.1). The main challenge is the limited financing available to the sector. Zambia spends an average of about 3.2% of GDP on education and training (including technical and vocational training), a funding level that is still much lower than the average government expenditure on education in Kenya, Uganda, and Malawi at 5.3% of GDP. These comparator countries devote at least 25% of their domestic discretionary budgets to education, compared to Zambia's 20% (GRZ, 2007).

As a consequence, the quality of education has remained relatively low, resulting in loss of confidence in the value of education among parents, firms and communities. This partly explains the reluctance of some firms and industries to hire Zambian- trained professionals.

Zambia has made little progress in technical and vocational training since independence. At independence, the country inherited an industrial apprenticeship system focused on hands-on skills development instead of on the analytical skills development necessary for high-level advancement of science and technology. Although after independence the Government invested heavily in human resource development, under-funding, inadequate policy focus on sci-

2 Both references are somewhat out of date, but are the best available works in Zambia on this subject matter.

ence and technology, limited integration of curricula in training institutions and the world of work, and insufficient investment by the private sector in innovative ideas since then has meant that these achievements have not been consolidated (GRZ 2006).

Zambia's failure to make progress in tertiary and technical and vocational training is evident in several informative indicators, including research and development expenditures as a percentage of GNP, number of scientists and engineers per million population, number of patent applications, percentage of exports with high technology content,and total manufacturing exports. In 2006, Zambia spent an insignificant proportion of its GDP on research and development (R&D), had only about 1,000 scientists and engineers per million population engaged in research and development (approximately 1 scientist/engineer per 1,000 Zambians, an insignificant ratio), and just 28 Zambian patents (GRZ, 2006a). These indicators suggest that science and technology is relatively underdeveloped in Zambia.

Workers' skills are not perceived to be a major obstacle to private sector growth in Zambia but the picture in reality is perhaps more nuanced and specific to different economic sectors than the study shows. For instance, the section of this report dealing with the cost of finance documents that the high spreads in the banking sector are determined largely by high overhead costs, which, in turn, are driven by the scarcity of certain skilled financial sector professionals in the Zambian market.

Moreover, there are anecdotal indications and expert opinions currently that point to significant numbers of unemployed and under-employed engineers, doctors and teachers for example. This would suggest that there may be a significant amount of under-utilisation and under-rewarding of human capital in the country. Jobs for doctors and teachers in the public sector are generally not properly remunerated. Pay reform in Zambia is needed to tackle two important issues, namely: improving salary levels that are too low to attract and retain essential technical, professional and managerial staff; and fixing a distorted payment system in which an array of allowances can boost basic salary by up to 200 % (encouraging many public servants to focus on chasing allowances) (World Bank, 2003; GTZ, 2009). Even though a new pay policy with higher basic salaries and fewer allowances was approved by the Cabinet in 2003, it has not been implemented. After a long delay, a fresh pay policy was drafted in 2009 and is due to be submitted to the Cabinet soon (GRZ, 2009).

4.2 HEALTH

Health is another important dimension of employability. Overall in Zambia, over 80% of health services are provided by the public sector. About 95 % of households were, as of 2006, located within 5 kilometres of a public health facility. (96.2% of urban households and 94.4% of rural households), and therefore had relatively easy access to health services (GRZ forthcoming). Some progress was made in service delivery in areas such Antiretroviral Therapy (ART), and malaria and other services over the period 2000-2007. The Zambia Demographic and Health Survey for 2007 (GRZ, 2009) shows notable improvements in maternal and child health mortality outcomes and in enrolment for HIV and AIDS treatment compared to 2002.

Despite these improvements, the status of health in the country is poor and is a constraint to productive employment for many people, especially the poor. Compared to rates in both SSA and LICs, child mortality is still higher in Zambia (Annex I). Life expectancy has been improving slowly but is still among the lowest in SSA and LICs. Maternal mortality and morbidity remain major concerns in the country. The prevalence of HIV and AIDS is among the highest in SSA, the region that itself has the highest incidence.

The major causes of mortality and morbidity in Zambia are HIV and AIDS, malaria and tuberculosis. Estimates of the costs related to health in Zambia are in the range of 2.9% to 3.5% of GDP per year (Table 4.3). HIV and AIDS costs are in the range of 1% to 1.8% of GDP. The variations are largely due to differences over time in the extent of the scale of health interventions, especially HIV and AIDS. The World Bank (2004(a)) stresses the growth constraints of HIV and AIDS particularly, estimating that everything else held constant, the HIV and AIDS epidemic has lowered the annual growth rate of real GDP on average by 0.3 % since 1992.

The FNDP estimates that health-related costs amounting to 3% of GDP annually can be covered by indicative commitments from Government and donors in 2006. A health care financing gap relative to the upper estimate of health costs of about 0.5% of GDP is implied in the FNDP financing. These financing gaps, among other things, result in weak healthcare systems with constraints on human resources, weak supply chains and logistics management systems, and poor and limited infrastructure (GRZ, 2009(b)).

Table 4.3: Range of Cost Estimates of Health MDGs

Goal/Target Definition	Total cost (2005-2015) ($ million)	Average. annual cost ($ million)	Per capita annual cost ($)	% of Avgas Annual GDP (FNDP projections)
(I)	(II)	(III)	(IV)	(V)
Total Health est.:				
a) Health (incl. Child Mortality exc. Malaria, HIV&AIDS & Maternal Mort.) (Mphuka)*	2,512.9	228.4	16.6	1.7
b) Alternative Health cost (CBOH)**	2,684.5	244	22.7	1.8
Components of Health est.				
c) Child Mortality (minimum costs) (Mphuka)*	127.7	11.6	n.a.	0.1
d) Maternal Mortality (Mphuka)*	167.4	15.2	1.3	0.1
e) Malaria only (Mphuka)*	630.7	57.3	4.8	0.4
f) HIV&AIDS costs (Mphuka)*	1,092.6	99.4	7.4	0.7
g) Alt. HIV costs 1 (NAC)***	2,684	244	18.5	1.8
h) Alt. HIV costs 2 (Kombe & Smith)****	1,760	160	15	1.2
Total Health Cost ests., recalc'd (adjusted to FNDP):				
j) Total Health (CBoH + Kombe & Smith:) (b)+(h)	4,444.9	404	31.1	2.9
k) Total Health Cost (Mphuka): (a)+(d)+(e)+(f)	4,403.6	400.3	30.8	2.9
l) Total BHCP Costs (CBoH + NAC): (b)+(g)	5,369.1	488	37.5	3.5
Total Health Cost est. in FNDP:				
m) Total Health Costs based on Core Costs	4,578.8	416.2	32.0	3.0

Notes:

*Mphuka (2005) "The Cost of Meeting the MDGs in Zambia". Research commissioned by CSPR, JCTR and CCJDP; Lusaka: October. The study costs all the MDGs, but only the health MDGs are reflected here.

**CBoH, UNZA and IHE (2004) "Costs of a Basic Health Care Package for 1st, 2nd and 3rd Levels of Referral in Zambia", Lusaka: November. The total (2005-2015) cost projection and health-to-GDP ratio calculation are innovations not in the CBoH study.

*** NAC (2006) "The Zambia HIV and AIDS Strategic Framework 2006-2010", Lusaka: February. Only costs of treatment, assuming as scaled up programme, were extracted and used. Total (2005-2015) cost projection and health-to-GDP ratios were calculated separately (not part of the original exercise).

****Kombe, G., and O. Smith (2003) "The Costs of Anti-Retroviral Treatment in Zambia", PHR*plus*, Abt Associates, October. The total (2005-2015) cost projection and health to GDP ratio calculation are authors' estimates based on that study.

Source: Cheelo et al (2009; forthcoming)

As well as resource gaps, there is also the fact that households spend considerable amounts of their incomes on health services. Zambia's total expenditure on health from 1995 to 2006 was funded from the following sources: out-of-pocket payments by households (32%), Government taxes and other revenues (29%), donors (26%) and other financiers (12%) (GRZ 2009b). This shows that the brunt of health payments falls on households. The bulk of household out-of-pocket expenditures are used to pay for medicines, consultations and other health facility costs. The health system, though largely (over 80%) public, transfers significant cost burdens to households.

The high prevalence of disease, coupled with weak health systems and poor socio-economic conditions, affects income growth negatively because the stock of available labour and labour productivity, and incentives for investments in future consumption (physical as well as human capital investments) are undermined. Recent work also shows that socio-economic factors (income, nutrition, water and sanitation, housing, education, culture and employment), and infrastructure (transport networks and the rural-urban divide) are more significant determinants of health than the availability of health care per se (Cheelo et al, 2009; GRZ, 2009b).

Health constraints in Zambia appear to be binding on inclusive growth as the burden of health payments falls on households and disproportionately more on the poor. The costs of alleviating the constraints in health are substantial.

4.3 LABOUR MARKETS

Over the period 2001-2007, the average growth of both Zambia's population and its labour force was lower than that of SSA and other LICs (Table 4.4). The results of the 2005 Labour Force Survey (LFS) show that the size of the labour force grew from 2.4 million in 1986 to 4.9 million in 2005. Employment levels remained above 80% in both the 1986 and 2005 LFS. The 2005 LFS results show that 16% of people in the labour force were unemployed.

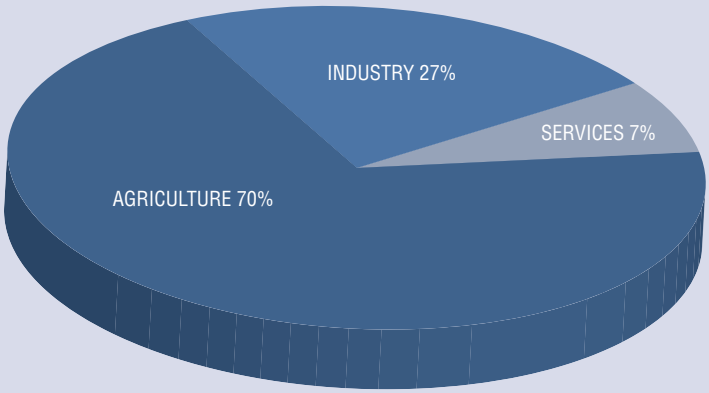
Table 4.4: Population Average Annual Growth (2001-07)

	Zambia	Sub-Saharan Africa	LICs
Population growth *(%)*	1.9	2.5	2.2
Labour force growth *(%)*	1.8	2.6	2.7

Source: Authors' construction

According to the preliminary results of the 2006 Living Conditions Monitoring Survey (LCMS), the labour force participation rate was about 65% of the total economically active population; 59% in urban areas and 69% in rural areas. At the national level there were obvious gender and location divides, with females and the rural economically active sub-populations disadvantaged in terms of employment. The distribution of labour force participation by sector is illustrated in Figure 4.1. The bulk of the labour force (70%) is in agriculture and the smallest group in the services sector (7%).

Figure 4.1: Distribution of Labour by Sector (% of total labour force)

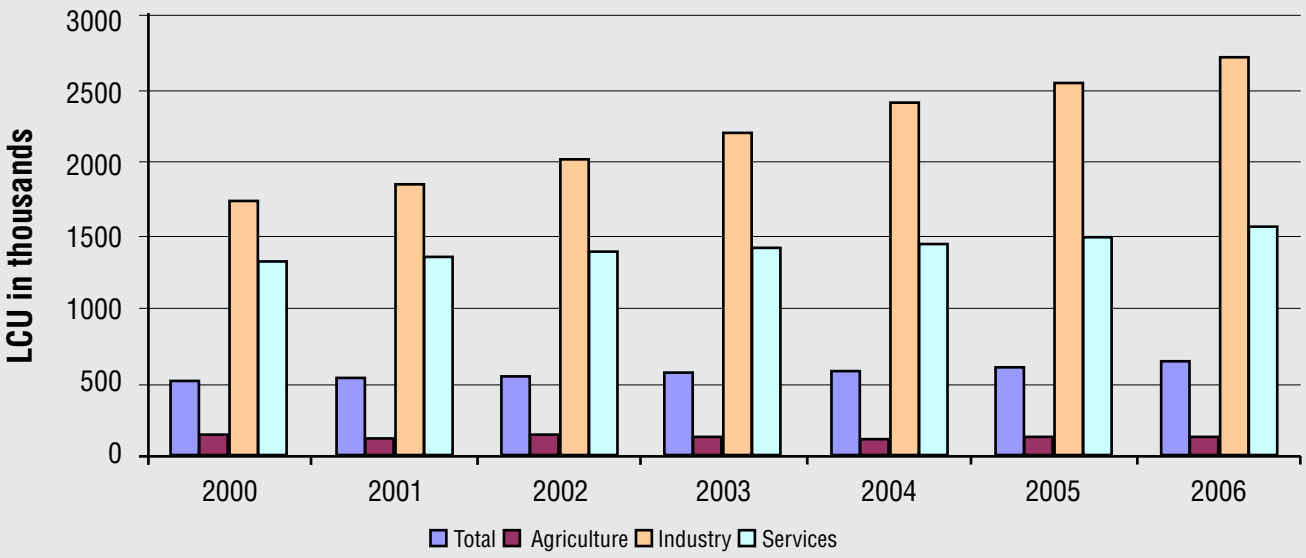


Source: Authors construction

In stark contrast to the labour force profile proportions (70% in agriculture), labour productivity in industry and services is much higher than in agriculture (Figure 4.2). The real value added per worker in agriculture is marginal compared to industry and services. Moreover, the share of agriculture's value added in total value added has been declining over time (Figure 4.3) and unsurprisingly, with an annual average contribution of 0.3% of total real growth during 2001-2006, the agriculture sector's real input has been rather low (compared to contributions of 2.6% and 2.8% for industry and services, respectively over the same period). In essence, the growth sectors have not created much labour employment, and the bulk of the labour force has been participating in a sector with low labour productivity.

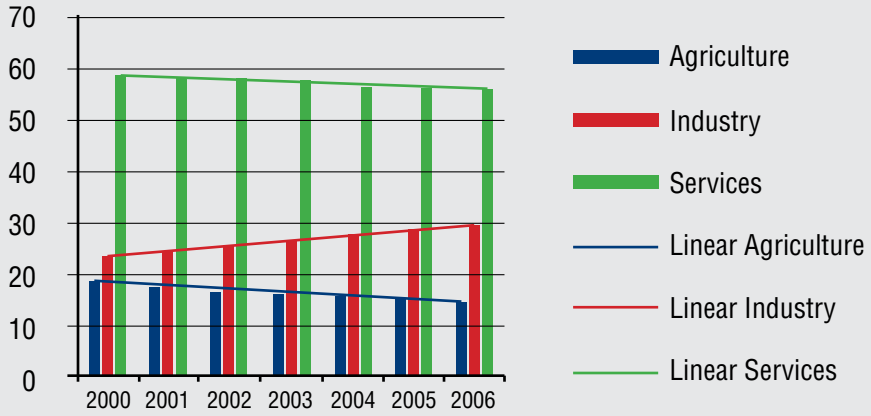
Agriculture is a sector of special interest in Zambia. The majority of people in Zambia, especially the poor, are employed in, and derive their income from, farming. But is there potential in this sector for productivity improvements in the future? Can agriculture provide a potential path out of poverty? This sector has a dual structure: on the one hand, there are a small number of export-oriented commercial farmers who boast productivity levels similar to those of developed countries and on the other hand, a large number of small-scale, subsistence farms with relatively low skills and productivity levels typical of SSA. There are also hybrids, medium-sized and emergent farm operations that produce for both commercial and subsistence purposes.

Figure 4.2: Real Value Added per Worker in Zambia



Source: Estimates based on data from GRZ and World Bank.

Figure 4.3: Sector Value Added Shares (% of Total Value Added)



Source: World Bank, DDP (modified)

The employment and income implications of past commercial agriculture expansion in Zambia reflect important lessons for the sector in general. It is estimated that expanding irrigated commercial agriculture would create the potential to generate, for example, two full- time jobs per hectare in coffee production, half a job in wheat/soya, one in fodder crops, two in local horticulture and as many as 25 in floriculture. The expected wage would be between $3.60 and $4.50 a day, much higher than the average daily return of $1.20 for a small-scale cotton farmer, $0.30 for a small-scale maize farmer without fertiliser subsidies, and $1.30 for a small-scale commercial maize farmer with 50% fertiliser subsidies. This wage differential reflects productivity differentials. The main reasons for the low income growth of the poor in Zambia are low returns to self-employment, particularly in agriculture, and limited growth of and/or access to wage employment. So what are the main factors limiting returns to labour and job creation in Zambia?

Low productivity in rural areas stems partly from the many years of neglect in developing the agriculture sector. During the 1990s, major reforms were carried out within the sector and including market-determined prices and a reduction of producer subsidies. The nature of these reforms meant that large-scale firms and firms with market access benefited, while many small-scale farmers struggled to access markets, inputs and information. Continued government interventions in agricultural markets led to the misallocation of resources and to higher indirect costs. Indirect costs to agriculture, including direct taxes and macroeconomic and other distortions, have diminished substantially in most countries, but not in Zambia. These costs, created by the economic structure in Zambia, are high compared to other African countries and have even increased since the beginning of the 1980s.

Any expansion in commercial agriculture in Zambia will take place mainly along the extensive margins as yields are already comparable to those in developed countries. There are opportunities for medium and small-scale farms, however, to increase output both at the intensive and extensive margins.

Another important thing to consider in the labour market is the extent of mismatches between labour supply and labour demand. It can be argued that labour is not a constraint to business growth. Workers' skills and education rank tenth in a list of 17 obstacles to business operations in Zambia (World Bank, 2004b) which suggests that there is no mismatch between the skills demanded by an average firm and the skills workers provide. In the near term, the supply of different types of efficient labour is unlikely to constrain formal job creation.

Another way to analyse excess demand for or excess supply of labour is to look at international migration patterns. The so-called brain-drain can have a huge negative effect on growth in a country with limited human capital and limited education infrastructure and resources. Overall migration rates are generally lower in Africa relative to the rest of the world, and Zambia's rates are low even by African standards. Only 0.1% of those with primary school education migrated from Zambia in 2000 compared to regional averages of 0.3% in Southern Africa, 2.8% in Northern Africa and 0.5% in South-Central Asia. For those with secondary education, the migration rate is 0.3% which is also very low compared to other developing countries. At the tertiary level, the rate increases to 10% but is also low compared to other countries and the small pool of people with a tertiary education.

At the aggregate level, there are few signs of major imbalances between the demand and supply of skilled labour. However, this does not mean that there are not imbalances in specific skills such as managers, technical engineers, and other highly trained professionals. These imbalances exist, in the financial sector for example, and, as the Business Environment Analysis shows, result in high overhead costs. Moreover, given the time lag for changes in the level, quality or focus of education and the actual supply of skills, strategies are needed to address ways of meeting potential skill constraints in the future, particularly as this relates to more specialised skills.

CHAPTER 5

BUSINESS ENVIRONMENT ANALYSIS: COST OF FINANCE

This chapter goes through the diagnostic decision tree developed in the HRV model. This is the second leg of the Inclusive Growth model which looks at supporting economic progress; the first leg being employability (Chapter 4). The business environment analysis, in turn, has two components: an analysis of access to and demand for finance; and, an analysis of the factors determining returns to economic activity.

Chapter 5 addresses issues related to the cost of finance and Chapters 6 and 7 consider returns to economic activity. The growth diagnosis in this section asks whether supply of capital is a binding constraint to growth. To tackle this question, Chapter 5 considers the supply and demand sides of banking, credit and other financial services in Zambia. The section ultimately finds that access to finance and the cost of financing are important challenges for the country, but are not binding constraints on growth.

5.1 ACCESS TO FINANCIAL SERVICES

In the financial sector in Zambia, both the high cost of finance and limited access to finance have been identified as major constraints to growth (World Bank, 2007b; World Bank, 2004b; Bank Of Zambia, 2009). The extent to which these constraints are binding on inclusive growth is still widely debated. The high cost of finance is the main impediment to credit (and other financial services growth), and is reflected in large interest rate spreads, driven by high overhead costs (due mainly to the small scale of the banking system), high human capital costs, and deficiencies in the banking environment.

The main supply-side reason for poor access to and the high cost of finance for small and micro-firms appears to be poor financial intermediation rather than low levels of domestic savings or poor international finance. Improvements in both have been noted: for instance, domestic saving as a share of GDP climbed from just 6% in the 1990s to 16.5% in the 2000s. In 2006, Zambia's domestic saving as a share of GDP surpassed the corresponding average for SSA. Foreign direct investment (FDI) and aid were higher than the averages for SSA and LICs both in the 1990s and the first part of the 2000s, showing that at the macro level at least, the relative availability of alternative financing options in Zambia (see Table 5.1).

Table 5.1: Investment and Saving Indicators

	1991-1999	2000-2005	Latest year*
Gross Capital Formation (% of GDP)			
Zambia	13.7	23.8	25.8 (2006)
Sub-Saharan Africa	17.8	18.9	19.2 (2006)
Low income countries	21.4	25.0	28.8 (2005)
Gross Capital Formation (Annual % Growth)			
Zambia	11.1	7.9	13.1 (2006)
Sub-Saharan Africa	3.1	7.1	13.0 (2006)
Low income countries	5.6	8.4	15.9 (2005)
Aid (% of Gross Capital Formation)			
Zambia	193.4	72.8	50.3 (2005)
Sub-Saharan Africa	30.0	25.6	26.7 (2005)
Low income countries	16.2	10.5	9.9 (2005)
FDI, Net Inflows (% of Gross Capital Formation)			
Zambia	27.6	14.3	13.8 (2005)
Sub-Saharan Africa	8.4	16.1	13.9 (2005)
Low income countries	5.0	5.8	5.1 (2005)
FDI, Net Inflows (% of GDP)			
Zambia	4.0	3.3	3.6 (2005)
Sub-Saharan Africa	1.5	3.0	2.7 (2005)
Low income countries	1.1	1.4	1.5 (2005)
Gross Domestic Savings (% of GDP)			
Zambia	6.0	16.5	18.1 (2006)
Sub-Saharan Africa	16.2	18.0	16.2 (2006)
Low income countries	18.6	22.5	25.1 (2005)

*Latest year shown in parenthesis

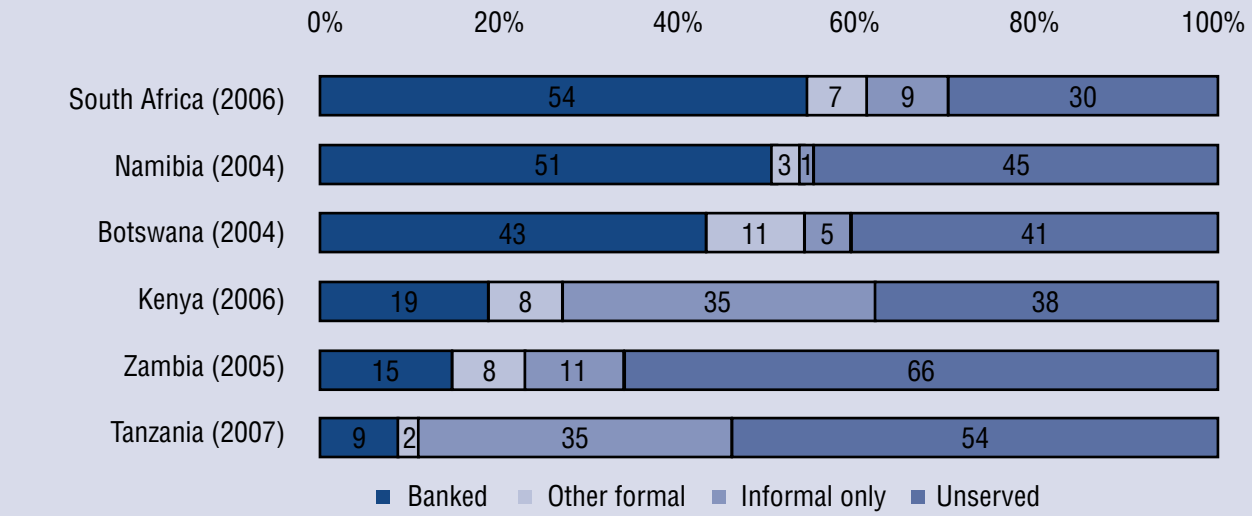
Source: World Bank DDP data.

Financial intermediation is limited both by the small size (and coverage) of the banking sector, its volatility, and an inadequate supporting financial infrastructure (for example a young and challenged credit reference bureau).[3] At less than 5% of the population, the percentage of people with a bank account is much lower than that in other African countries, suggesting that the depth of Zambia's financial sector is very low (Figure 5.1). Moreover, only 14.6% of the adult population has access to formal banking services, of whom 61% are male and 39% are female. About 19% have access to other formal and informal financial services while 66% of adult Zambians have no access to any financial service (BOZ, 2009). This means that, as seen in the 2005 FinScope data, two thirds of Zambians were served by neither formal nor informal financial institutions and only 5% of adults and 8% of business owners used micro-finance[4] (FinTrust, 2006).

3 The Zambian credit reference bureau, which commenced full operations in February, 2008, has to date, achieved insufficient market penetration. Lack of sufficient historical data, high usage fees, and difficulties faced by banks in getting consent forms from existing customers due to privacy laws are some of the factors inhibiting the effective usage of credit reference services (BOZ, 2009).

4 The demand for banking and other financial services (for example, reasons for such small proportions of the adult population in Zambia being non-banked) is considered further below.

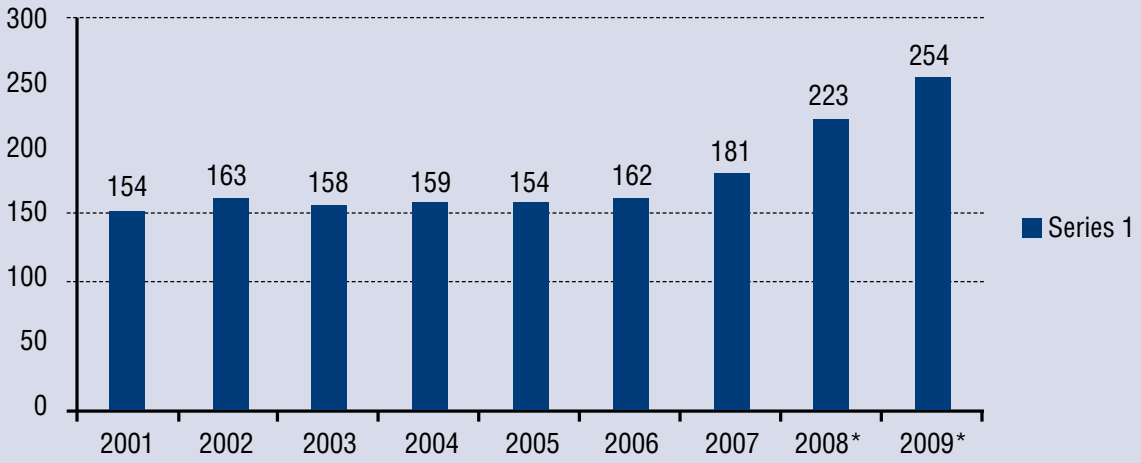
Figure 5.1: Financial Access Strand in Selected Countries



Source: IMF and World Bank, 2008

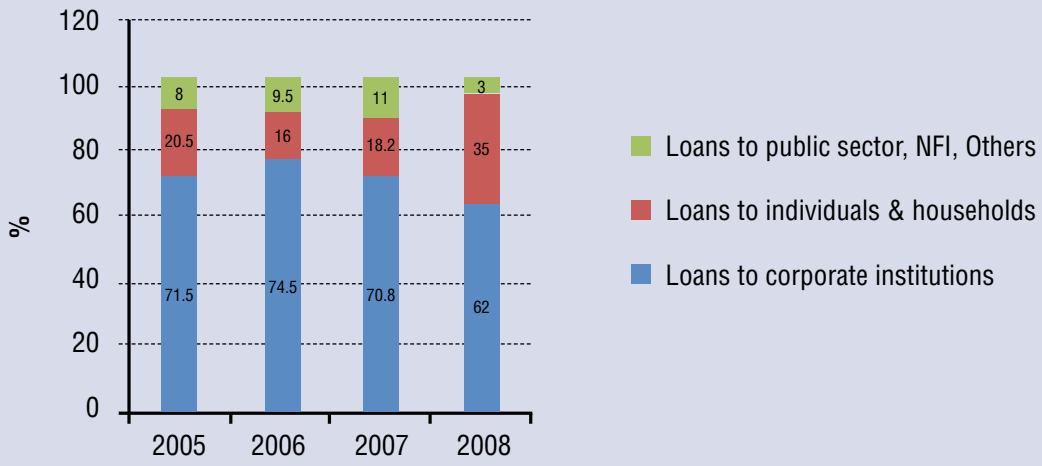
Some positive trends in financial intermediation have been observed in recent times. The number of commercial bank branches grew rapidly in the period 2006-2009, reaching 264 branches representing 17 banks as of September 2009 (Figure 5.2). This represents annual growth rates in the number of branches of 12%, 23% and 14% in 2007, 2008 and 2009 respectively. The number of Automatic Telling Machines (ATMs) increased from 54 to 295 over the period 2004-2008. The ratio of domestic credit to the private sector to GDP increased from 18.7% at the end of 2005 to 43% at the end of 2007 (Kalyalya, 2008). Banking sector loans to individuals and corporate institutions have expanded (Figure 5.3) and the interest rate spread (dominated by overhead costs) though still relatively high, has been declining since 2005 (Figure 5.4)

Figure 5.2: Number of Commercial Banks' Branches



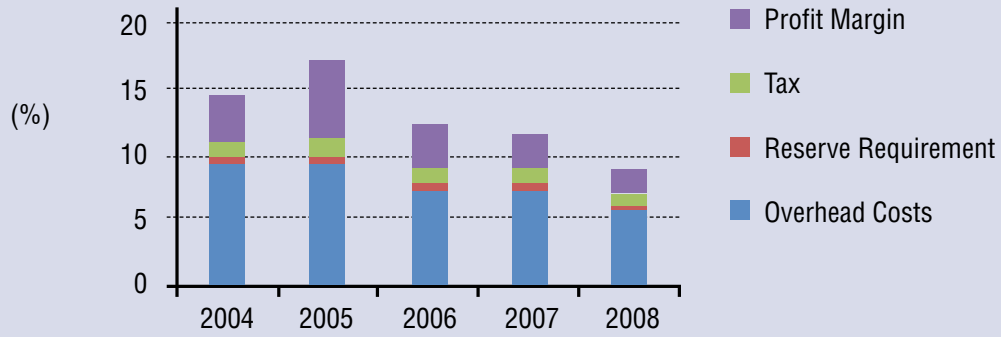
Updated using www.boz.zm

Figure 5.3: Loan Composition of the Banking Sector



Source: constructed from BOZ (2009) and (www.boz.zm)

Figure 5.4: Decomposition of Interest Rate Spread in Zambia (2004-2008)



Source: constructed from BOZ (2009) and (www.boz.zm)

Despite these improvements, financial intermediation is still a major concern and is a particularly severe constraint in rural and peri-urban areas. The banking sector is currently also subject to high overhead costs[5]. Staff costs make up a large share of these overhead costs for banks in Zambia, in part because of the scarcity of financial sector professionals with key skills in the Zambian market. Rigidities in the labour market – restrictive labour legislation, immigration procedures and limited training programmes for banking professionals – have also been cited as a factor impeding bank restructuring for further efficiency gains and cost reduction (BOZ, 2009). The highly localised nature of the increase in the number of bank branches brings the possibility of greater competition for scarce skills among banks which could lead to a further escalation of the operating cost problem.

While outreach to salaried workers has increased substantially, in large part due to the recent entry of commercial micro-lenders, transaction products and deposit services, accounts are scarce and costly. Micro, small and medium enterprise (MSME) finance continues to lag behind peer countries, driven partly by the predominantly informal status of these enterprises; banking taking up about 80% of the financial system's assets and formal micro-financing being but a small part of the bank and non-bank balance sheet (Table 5.2).

5 Diagnostic work in the context of the 2008 FSAP update has shown that the high spreads in the banking sector in Zambia are determined in a large part by high overhead costs.

Table 5.2: Bank and Non-Bank Financial Institutions Balance Sheet, in K'Billion, unless otherwise stated

	2007						2008					
	Assets (K billion)	% of total	Loans	% of total	Deposits	% of total	Assets	% of total	Loans	% of total	Deposits	% of total
Commercial Banks	11,066.9	92.6	4,065.7	89.0	4,065.7	94.0	14,465.0	92.7	5,973.8	88.7	9,970.3	97.1
Leasing and Finance Companies	260.1	2.2	178.3	3.9	37.1	0.9	195.4	1.3	156.8	2.3	28.0	0.3
Building Societies	167.5	1.4	42.6	0.9	105.3	2.4	256.6	1.6	122.6	1.8	120.2	1.2
Savings and Credit banks	109.1	0.9	57.3	1.3	98.0	2.3	168.4	1.1	79.2	1.2	127.2	1.2
Development Finance Institutions	170.1	1.4	59.6	1.3	0.0	0.0	165.0	1.1	90.0	1.3	N/a	N/a
Microfinance Institutions	180.2	1.5	166.9	3.7	17.8	0.4	351.7	2.3	308.8	4.6	27.5	0.3
Total	11,953.8	100.0	4,570.5	100.0	4,323.9	100.0	15,602.2	100.0	6,731.3	100.0	10,273.2	100.0

Source: Fundanga (2007); Kalyalya, 2008 (www.boz.zm)

FinTrust (2006) data also demonstrates that only 1% of business owners have micro-credit loans. Of the other 99%, only 17% say they do have access to credit but do not need it because they have own funds. The majority of business owners with no access to micro credit cannot afford it (63%) or are too poor (23%). However, a significant proportion of business owners remain unaware of micro-credit opportunities (32%).

5.2 DEMAND FOR FINANCIAL SERVICES

Before drawing final conclusions about the extent to which the cost of or access to capital is a binding constraint on inclusive growth, it is important to ask why people (households) and firms are not using financial services. The distribution of commercial bank branches and micro-finance institutions (MFIs) provides an indication that the main problem might be low demand. Most commercial bank branches (40%) are situated in and around the capital city, Lusaka, while a further 20% are in mining towns in the Copperbelt province. The rest are scattered around other commercial hubs and border areas. The recent proliferation of banks seems therefore to be largely restricted to commercial urban areas, targeting the medium to high end of the market.

The Zambia Business Survey (ZBS) (Melzer et al, 2009) cites a recent Bank of Zambia presentation, illustrating the limited presence of MFIs in provinces aside from the Copperbelt (34.9% of MFI branches) and Lusaka (28.6%); these two provinces alone jointly account for 63.5% of all MFI branches countrywide. Like banking, micro-financing is localised in urban areas, targeting for the most part salaried workers and other elements at the medium to high end of the financial market.

Figure 5.6: Microfinance Institutions Branch Distribution by Province as at 31st December 2008

Lusaka
Bayport (5), Blue (2)
Microfin (2), Nedfin (5)
Cetzam (3), Butala (1)
Meanwood (3), Elpe (1)
Unity Finance (2)
Finca (1), Letshego (1)
Mtawila (1),
Microbankers (1)
Royal MFI (1), Pulse (1)
Yakabutal (1) Pelton (1)

North Western
Bayport (1)
Blue (1)
Microfin (1)
Nedfin (1)

Western
Bayport (1)
Blue (1)
Microfin (1)

Northern
Bayport (1)
Blue (2)

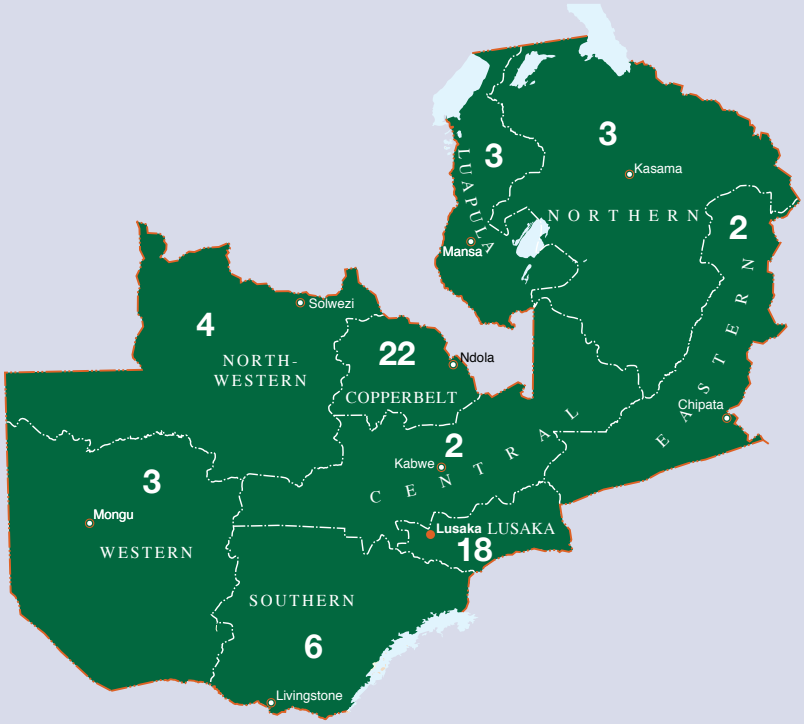
Copperbelt
Bayport (5), Blue (2)
Microfin (2), Nedfin (5)
Cetzam (3)
Meanwood (3)
Unity Finance (2)

Southern
Bayport (2)
Blue (2)
Cetzam (1)
Elpe Finance (1)

Central
Blue (1)
Unity Finance (1)

Eastern
Bayport (1)
Microfin (1)

Luapula
Bayport (1)
Blue (1)
Microfin (1)

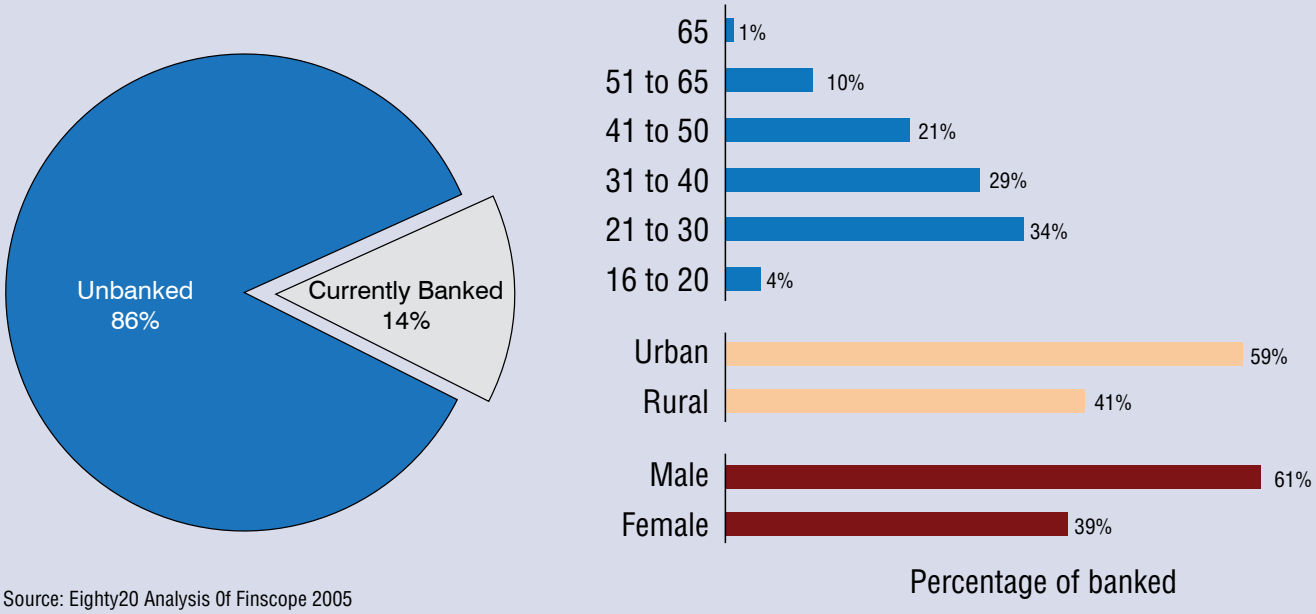


Source: Melzer et al (2009)

Although both commercial banks and MFIs have been expanding their coverage, this is targeted mainly at the high end of the market - in itself an indication that financial services and infrastructure are responding to new economic opportunities. This points to the fact that supply of and access to finance may not be a major constraint for all categories.

The characteristics of Zambia's adult banking population are summarised in Figure 5.7. As elaborated below, one of the top reasons people give for not having a bank account is that their incomes are too low and irregular. This reason outweighs questions of physical access or high fixed costs and therefore indicates that above and beyond the issue of access to savings institutions, constraints to income growth are crucial for shared growth at present. A similar picture emerges when one looks at the reasons why enterprises are not making use of micro-credit.

Figure 5.7: Characteristics of Adults with Bank Accounts in Zambia



Source: Eighty20 Analysis Of Finscope 2005

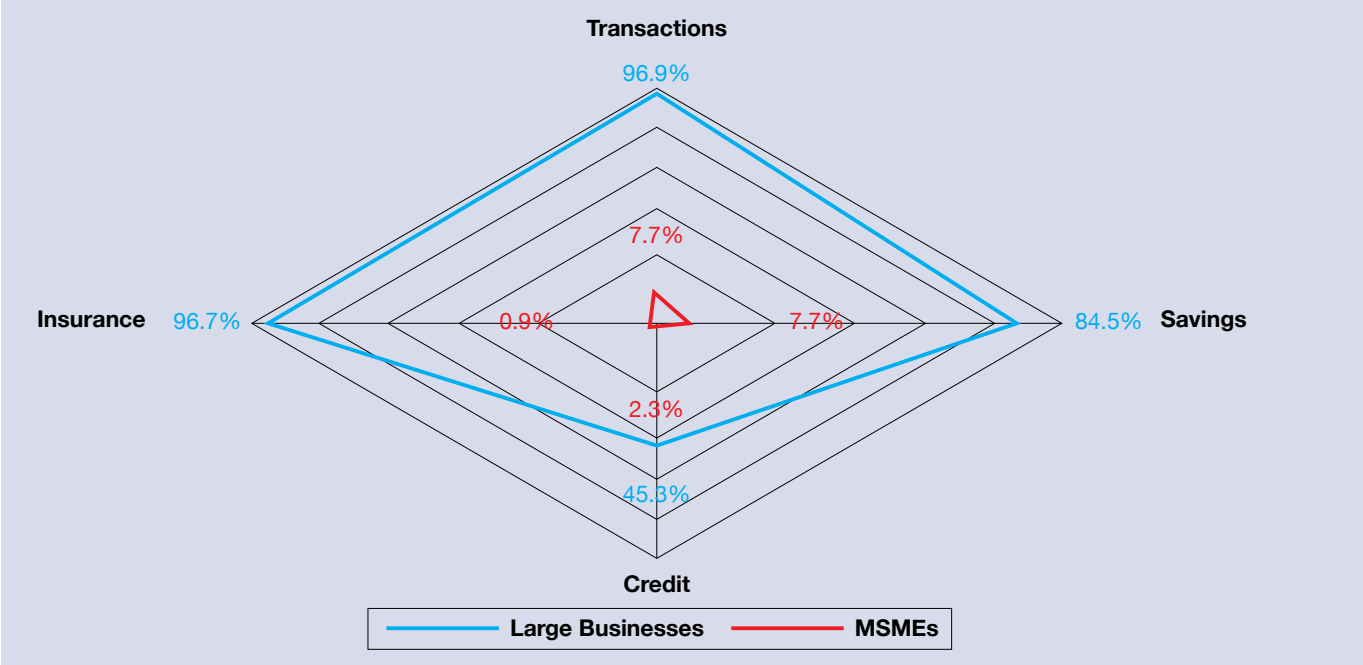
Another important observation in this respect is that in 2006, access to agricultural inputs and low wages, not the high cost of capital, were cited by the majority of poor people as reasons for poverty in both rural and urban areas. Lack of capital or credit to extend or start a business was perceived as the main reason for poverty by 14% of people in rural areas and 19% in urban areas. There is therefore an important intricate link between the demand and supply side of credit and other financial services.

Of course the most important constraints facing businesses or firms are rather different from those facing individuals and households. Bearing in mind also that there is a distinction between the characteristics of MSMEs and large businesses, the Melzer et al (2009) study offers useful insights into how these divergent characteristics manifest in glaringly different finance profiles for the two groups in practice. Figure 5.8 summarises take-up of four product types - transaction products (including bank accounts and money transfer services), savings products (including bank accounts and other savings products), and credit and insurance products (including asset and life insurance). As the take-up of financial products is so high among large firms, they are excluded from detailed analysis by Melzer et al (2009).

Credit products are those least-used by large firms, underpinned by the fact that the cost of credit is still high in Zambia. In the FinScope survey (FinTrust, 2006) the main obstacles identified by large businesses are, in order of severity, electricity supply, macroeconomic instability, the cost of finance and then tax rates. The cost of finance is therefore ranked as the third largest obstacle by large businesses. The fact, however, that the majority of large firms are able to access and make use of financial services, would suggest that this particular obstacle is not a binding constraint for this group of enterprises. Indeed, all (100%) of the large enterprises surveyed have at least one formal banking relationship.

Among MSMEs on the other hand, access to finance and the cost of finance are serious constraints, although this report will demonstrate that this has more to do with the characteristics of the MSMEs than with the supply-side (access and cost) factors. Before considering these important MSME characteristics, their use of and access to financial services is examined. Figure 5.8 shows that the financial products most widely used by MSMEs are transaction products although by only 11.2% of the firms surveyed; the least-used category of products is insurance.

Figure 5.8: Financial Product Usage: Enterprises in Zambia



Source: Melzer et al (2009)

Melzer et al (2009) highlight access to finance, then transportation and then land as the most significant constraints for MSMEs. Banking is a useful proxy for access to finance. Overall, using the most liberal definition of banking access, no more than 10% of the 3.88 million MSMEs in Zambia have bank accounts.

There are clear discrepancies between urban and rural MSMEs. Approximately 28% of MSMEs in urban areas have either a bank account or use some other formal financial product compared to only 10% in rural areas. Banking status also varies according to gender, paid employment status and some other factors although these apply likewise to both large and small firms (Table 5.3).

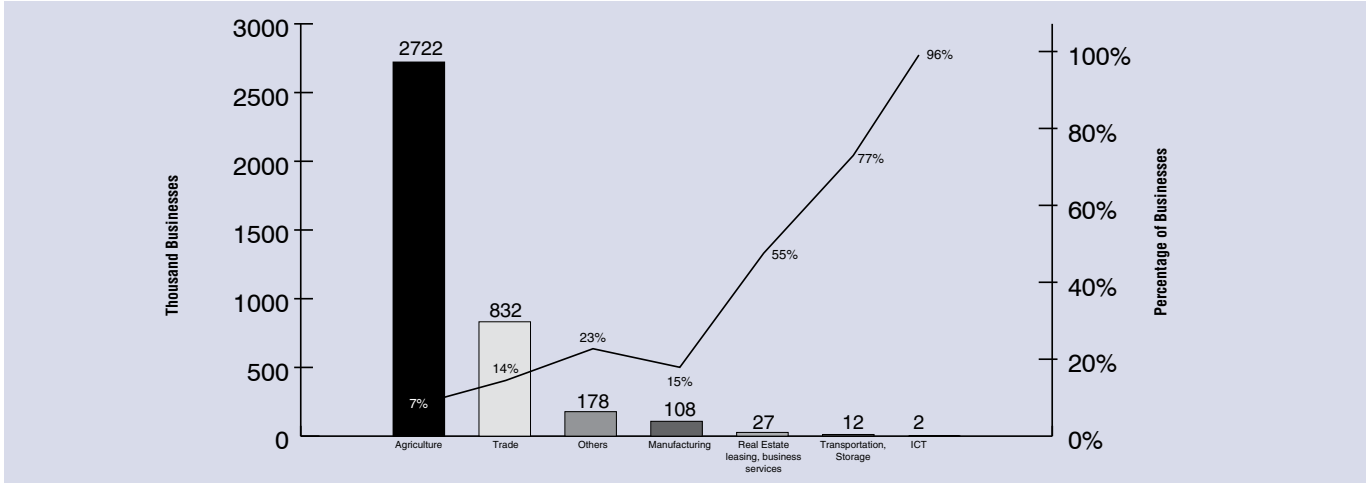
Table 5.3: Banked and Unbanked Businesses in Zambia

	Banked Large	Banked MSME	Unbanked MSME
Paid Employees			
Single person	0%	48%	83%
Multiple person	100%	52%	17%
Sector		48%	73%
Agriculture	14%	30%	20%
Trade	9%	22%	7%
Other	76%		
Location			
Urban	88%	51%	15%
Rural	12%	49%	85%
Monthly sale:			
Lessthan K300,000	0%	19%	52%
(K300,000, K1,000,000)	0%	23%	18%
K1 Million and above	83%	37%	9%
Don't know/refuse	17%	21%	21%
Cell phone			
Cell phone access		86%	40%
No Cell phone access		14%	60%
Gender			
Male	81%	75%	66%
Female	19%	25%	34%
Registration	99%	21%	2%
Fromal registration (PACRO/Other)	1%	79%	98%
No formal registration			
Single size (n)/Weighted population	161	654 (378,893)	4,147 (3,501,753)

Source: Melzer et al (2009)

Other than business size and location, there are noticeable differences in the penetration of banking and other financial services across economic sectors. According to the ZBS, 70% of MSMEs are involved in agricultural production yet banking penetration in this sector, at 7%, is extremely low (Figure 5.9) and although banking penetration differs noticeably within the agriculture sector depending on the primary agricultural activity of the MSME, it is low (4.5%) even for the 407,000 MSMEs that grow high value crops such as cotton, sunflowers, tobacco, sugar and coffee. Location and size would appear therefore to be important co-factors in limiting banking access.

Figure 5.9 Banking Penetration by Sector

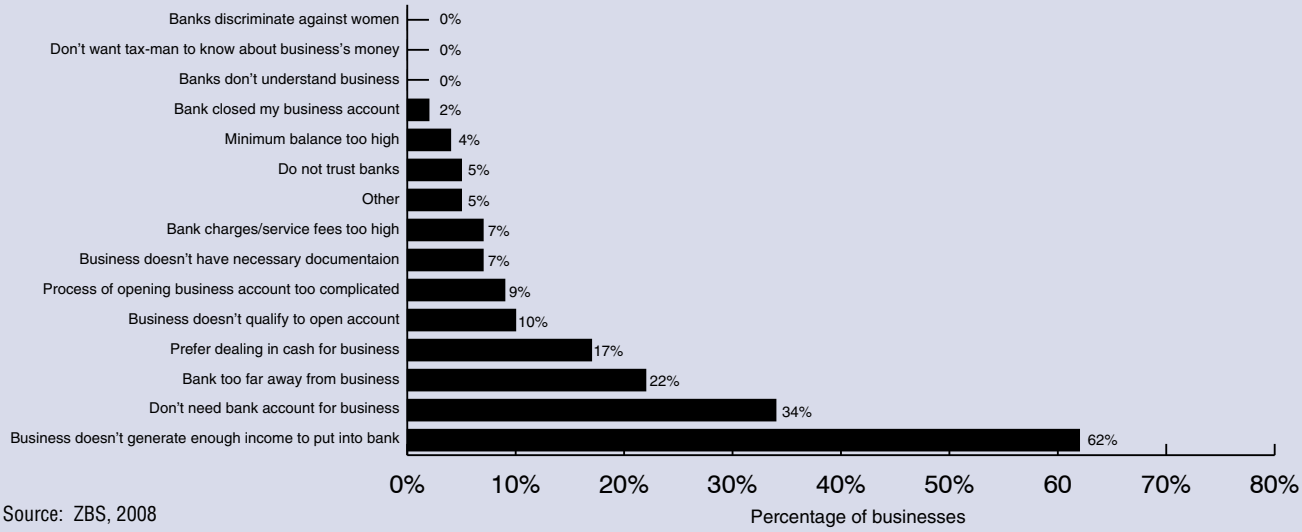


Source: Melzer et al (2009)

It is important to understand why MSMEs are not using business and financial services. Is it predominantly because these services are inaccessible and very costly or is it because of some underlying characteristics of the MSMEs themselves?

Sixty-two percent of unbanked MSMEs cite limited income as a reason for not having a bank account (Figure 5.10). Access to finance,plays a lesser role in the decision about whether or not to have a bank account. The majority of MSMEs have monthly sales turnovers of less than K100,000 (approximately US$20) and as a result,73% indicate that they cannot afford even the cheapest monthly banking services (ZANACO offers an account costing K7,700 a month). Just 7% of MSME owners say they pay themselves a salary; 15% operate from home and 56% say they employ family members. The MSME group comprises of very small establishments that are: "better described as household-based enterprises as opposed to self-standing entities" (ZBS, 2009 p.9).

Figure 5.10: Reasons Businesses do not have a Bank Account: Unbanked MSMEs



Source: ZBS, 2008

Ultimately, even in the best case scenario, 85% of MSMEs cannot access banking products. The majority of this group, about 3.3 million establishments, lies beyond the reach of the market mechanism because they are too poor. According to Melzer et al (2009), individuals in this group typically require non-market interventions such as subsidies, to enable them to access finance. Other interventions could include: improvements in input sourcing (including financial input); improvements in the value chains, and improvements in market organisation. These aspects go well beyond simply improving access to finance or lowering the cost of finance.

CHAPTER 6
RETURNS TO ECONOMIC ACTIVITY: SOCIAL RETURNS

The second element of this business environment analysis is an analysis of returns to economic activity which in turn is also made up of two components: social returns analysis (whether a country has the necessary endowments to support private investments) and private appropriability (whether the necessary environment for profitable private business operations exists).Two important aspects of social returns are considered – infrastructure and natural capital – without which there can be no adequate returns to private sector investments and without which economic growth is constrained. Chapter 6 deals with social returns while private appropriability is analysed in Chapter 7.

6.1 INFRASTRUCTURE

Zambia has made substantial progress in extending some infrastructure services, especially telecommunications and international transit routes. Delivery in other areas, however, such as electricity, feeder roads, rail and air transport, and water supply and sanitation has been poor (World Bank 2008d). Central to this is Zambia's failure to attract the resources required by the ailing sub-sectors through a Public Private Partnerships strategy. This section concludes that while all infrastructure services are key to inclusive growth, the most binding constraints for Zambia lie in the areas of power, roads, and water supply.

6.1.1 Infrastructure and growth in Zambia

Despite economic progress and Government awareness that sustaining the high growth needed to attain the Millennium Development Goals is not possible without the efficient and effective delivery of infrastructure, the growth of infrastructure over the past decade has been mixed. The Government recognizes that infrastructure growth cannot be achieved by the public sector alone. Accordingly, the FNDP seeks to encourage Private Public Partnership investments in infrastructure.

The World Bank (2008c) found that very little of the country's growth since 2001 can be accounted for by infrastructure development; any that is can be attributed to improvements in quality rather than to increases in stock. Calderon (2007) shows that most of the improvements in growth performance come from the mobile telecommunications sector followed by the road sector; the contribution of the electricity sector was on the whole, negative. In addition, the contribution to the revival of growth through improvements in both stocks and quality of infrastructure is lower than the SADC and Africa averages. According to the World Bank (2008e), Zambia is an extreme case, reporting negative growth rates for piped water, flush toilets and electricity. The contribution of infrastructure development to Zambia's per capita GDP growth was estimated at just 0.6% for the period 2001-2005. Similar calculations over the same period were estimated at 1.01% for other SADC countries and 0.99% for Africa, 3.59% for South Africa and Mauritius (Africa's top-ranked) and 8.49% for the Asian Tigers.

Access to infrastructure has declined: According to the World Bank (2008e), access to water and sanitation and electricity infrastructure services has deteriorated over the last 15 years. Access to mobile phone communications has been the positive exemption. In the early 2000s, access to electricity stood at only 13% nationwide, down from over 20% in the late 1980s. This compares unfavourably to the rest of SSA where access over the same period was well over 30%. Recent estimates suggest that the situation in Zambia had improved to 20% by 2007. This holds true for access to improved water and sanitation too -access declined over the same period by 15% and 9% respectively. Access is clearly skewed in favour of Zambia's urban areas and people with relatively high incomes.

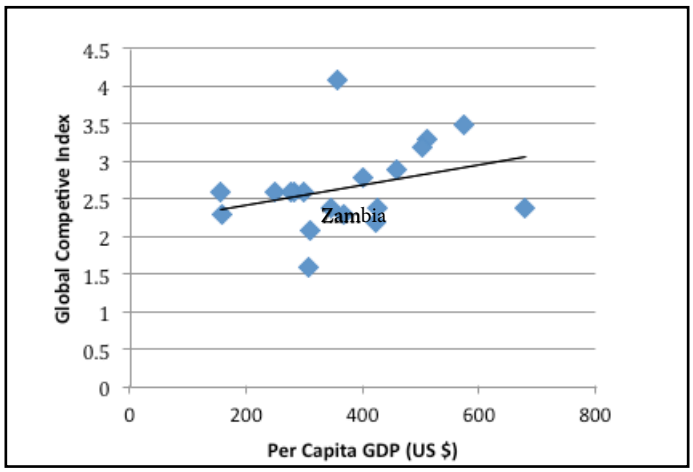
One possible explanation for the country's poor performance is that in Zambia, tariffs for both water and electricity are kept at much lower levels compared to peer countries, making it difficult to undertake new investments. Because housing and urban development programmes for the poor have been virtually non-existent over the last two decades, the practice of keeping tariffs at such low levels has benefited only the upper echelons of society.

Poor transport links are a binding constraint to business and rural integration: Being a landlocked country with its main economic centres lying at least 1,400km from the nearest seaport, the efficiency and cost of cross-border transport services matter a great deal to Zambia. The lack of transport connections outside the international transit

routes and the provincial centres has impeded the expansion of production potential in agriculture, manufacturing, tourism and mining has also resulted in the non-integration of rural communities into the national, regional and global economies.

Various business surveys show that inadequate infrastructure and poor quality, expensive basic services are perceived to be major constraints by business owners. A study by Eifert et al (2005) based on Investment Climate Surveys; found that in comparison with similar countries, Zambian firms have the second-highest share of "indirect" costs, most of which are attributable to the service-related inputs used in production (energy, transport, telecommunications, water, insurance, marketing, travel, independent professionals and accounting). In Zambia, the share of indirect costs averages 22% of gross value added, twice the share of labour costs. The Eifert study found that the high level of indirect costs attributable to the high price of services is likely to have undermined the competitiveness of Zambian firms in export markets slowing down job creation.

Figure 6.1: Quality of infrastructure in Selected African Countries



Source: Compiled by Author from Global Competitiveness Index and WDI

With the exception of road transport services, the quality of infrastructure has declined over the years. Figure 6.1 shows that the general quality of infrastructure in Zambia is below that of its peers. Firms and households often resort to poor substitutes such as generators or charcoal and an increasing number of households have drilled boreholes and wells on their premises to avoid water shortages. This poses a revenue-generation challenge to the utility companies. Most of the utilities are unable to generate sufficient revenues to cover their operating costs let alone invest in rehabilitation and expansion.

6.1.2 Cross-cutting Issues in Infrastructure

Inequitable access to infrastructure services has major ramifications for the environment. Wood fuels are the main source of energy for the poor and meet 70% of the national energy needs. The lack of other energy sources for households contributes significantly to the problems of deforestation and land degradation.

Rural households are engaged in a number of social economic actives that involve considerable travel time, mostly on foot.

Table 6.1 Findings from Studies Carried out in Ghana, Tanzania, and Zambia (Bamberger and Maramba, 2001).

Average one-way travel time for different social and economic activities in selected African countries							
Survey Location	Water	Firewood	Cultivated Land	Dispensary	Hospital	Grinding Mill	Market
Tanzania	23 min	98 min	65 min	96 min	5h 40 min	1h 42 min	3h 18 min
Zambia	5 min	92 min	1h 7 min	5h 20 min	5h 20 min	50 min	5h 20 min
Ghana	25 min	43 min	48 min	1h 40 min	2h 38 min	28 min	2h 8 min

Source: Doran Intermediate Technology Publications in association with UNIFEM, 1996. Energy and Environment Technology Source Books: Rural Transport, p.10

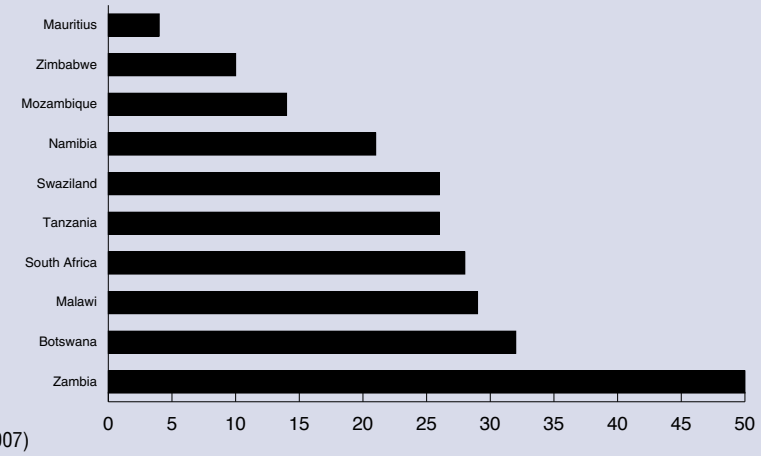
6.1.3 Information Communications Technology Infrastructure

Access to telecommunications may not be a binding constraint: With only three lines per 100 people, Zambia's fixed-line teledensity remains at half the regional average in SSA. The fixed line network has grown only slowly, from 76,000 lines in 1995 to 91,000 in 2007 for a population of more than 11 million people. Nearly 80% of fixed lines are located in Lusaka and the Copperbelt (where 30% of the population resides) while only 0.3% of Zambia's rural households (where 65% of the population resides) owns a telephone, (WTO, 2006: 219).

It is however clear that Zambia has made great strides in widening access to telecommunication services in the mobile voice segment of the market with 46% of the population within range of a mobile signal in 2006. Even though significant progress has been made in this segment in the last few years, the average is still well below the 57% recorded for Africa as a whole. In 2006, 14 out of 100 inhabitants had a mobile phone subscription; up from only 9 in 2000. It is also clear that in the fixed line segment, little or no investment has taken place and consequently, no increase in access has materialised (OECD and AfDB, 2009).

State monopolistic tendencies lead to high costs and low quality of service in information and communication technologies (ICTs): Though private and foreign ownership are permitted, due to prohibitively high license fees, the state-owned operator ZAMTEL is the only provider of fixed lines in Zambia. In addition, in the fixed-line sector, call-back services and voice over internet protocol (VoIP) are illegal, and access charges for call termination through the incumbent are high. According to the World Bank, the prices of local fixed-line telecommunication services in Zambia are kept artificially low by cross-subsidies from international calls. Thus international calls are amongst the most expensive in the region, despite the poor quality. Investors frequently cite this as contributing to the high cost of doing business in Zambia. This situation is compounded by the requirement that all international calls must be routed through the less-than-efficient ZAMTEL international gateway. The effects on all segments of the sector have been adverse.

Figure 6.2: Mobile Rates per Minute in Selected African Countries



Source: Mattoo and Payton (2007)

Since 2002, despite competition in mobile and internet services, Zambia has continued to fall behind regional standards in terms of providing access to telecommunications services to its citizens and businesses and in terms of competitive prices for key services. A comparison of mobile phone rates in 2007 revealed that Zambia has one of the highest rates in Africa (Figure 6.2). The Government has recognized that the ICT sector in Zambia has the potential to make significant contributions to economic growth and is now taking steps to promote Zambia's international competitiveness by removing barriers to entry in the sector,notably by reducing international gateway license fees to regional averages.

6.1.4 Energy Infrastructure

Zambia is yet to make the transition to low-carbon, and efficient sources of energy in key areas such as household consumption, industry and transport (Figure 6.3). Woodland and forests cover about 66% of total land area and wood fuel provides some 70% of the nation's energy needs. Although Zambia imports petroleum, it has abundant hydroelectric resources and historically has met most of its electricity needs from its own hydroelectric stations operated by

the state-owned Zambia Electricity Supply Corporation (ZESCO). Table 6.2 shows that access to electricity in Zambia has declined from 23% in the 1990s to 13% in the 2000s. Southern Africa as a whole has witnessed some decline but at a much slower rate than Zambia.

Figure 6.3: Energy Use and Consumption in Zambia in 2006

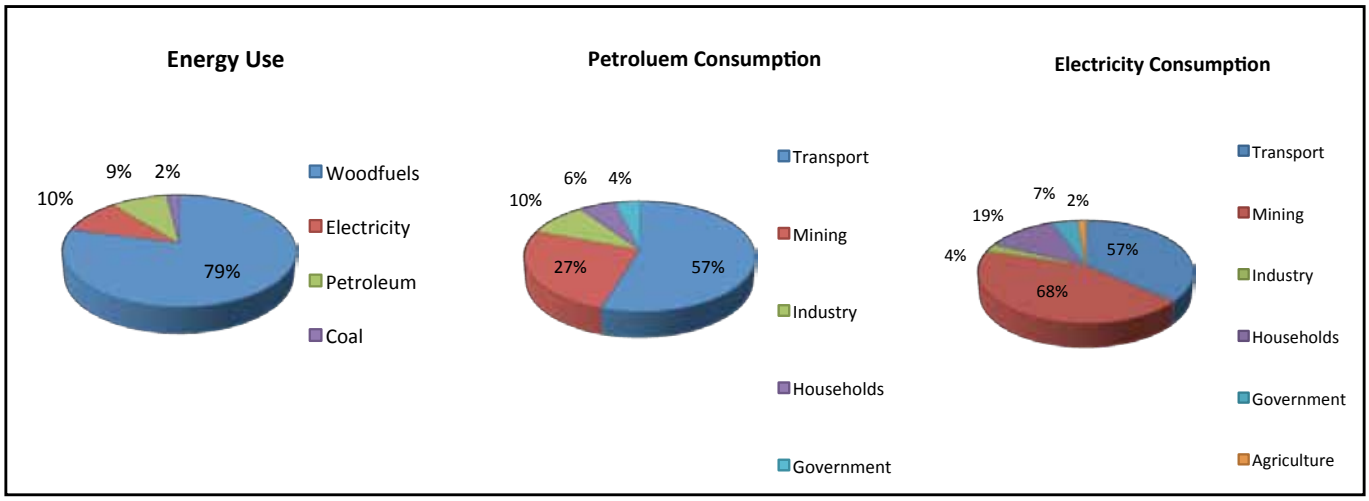


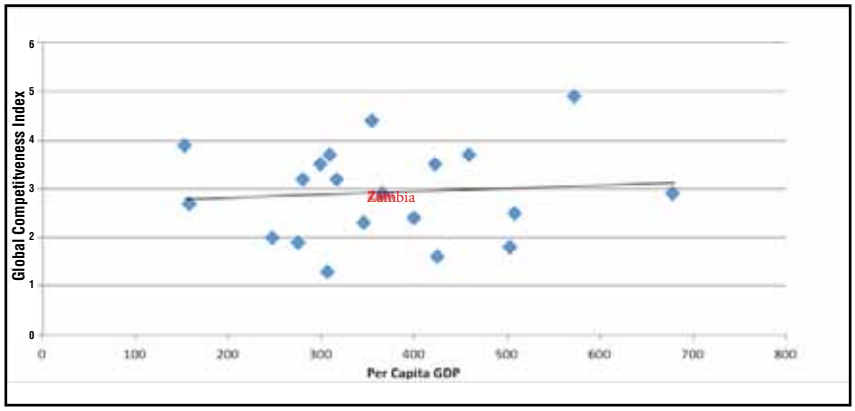
Table 6.2: Access to Electricity by Households/Cross Country Comparison

	As percentage of households						Income distribution				
		Early 1990s	Late 1990s	Early 2000s	Rural	Urban	Q1	Q2	Q3	Q4	Q5
Electricity	Zambia	23	20	13	3	45	0	0	0	15	84
	MIC	59	55	52	15	72	2	16	34	68	91
	High Urbanisation	37	47	51	30	82	9	33	38	76	92
	Southern Africa	36	37	33	13	69	3	14	28	45	79
	Africa Overall	23	28	29	12	71	4	14	20	38	72

Source: World Bank, 2008d

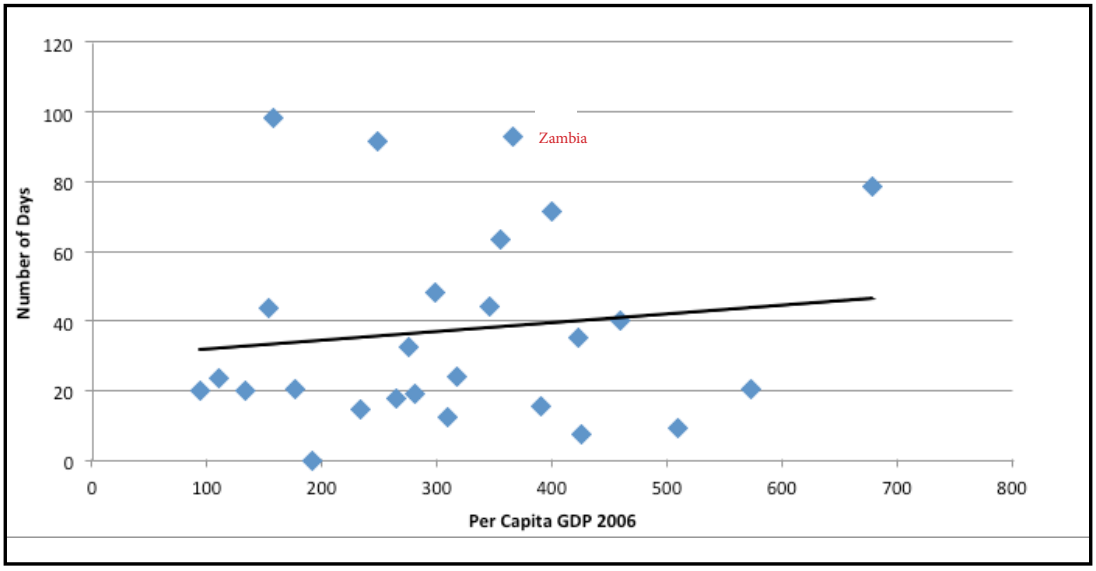
The quality of electricity is a binding constraint: The quality of Zambia's consumption of electricity is average for countries at the same level of development (Figure 6.4). However, Zambian firms experience some of the longest delays in obtaining an electricity connection (Figure 6.5). There are big variations in quality of and access to electricity supply in different parts of the country. In some areas in North-Western province for example there is no supply of electricity while firms in towns like Ndola and Kabwe for example suffer frequent power outages.

Figure 6.4: Quality of Electricity in Selected SSA Countries



Source: Compiled by author from Global Competitiveness Report and WDI 2009

Figure 6.5: Delay in Obtaining an Electrical Connection in Selected SSA Countries



Source: Compiled by author from Global Competitiveness Report and WDI 2009

Looming shortage of electricity is a binding constraint to inclusive growth: Zambia used to be a large regional electricity exporter, but in 2005, ZESCO was forced to suspend exports as generation capacity fell owing to the start of rehabilitation work on the ageing hydroelectric power stations. This power rehabilitation programme necessitated the import of electricity from South Africa and the Democratic Republic of Congo (DRC) (WTO: 2008). Even though the rehabilitation works have since been completed, their impact has been minimal (Energy Master Plan).

Currently, Zambia has got very few options in terms of importing electricity from its neighbours. A recent World Bank study estimates that the Southern African Power Pool (SAPP), of which Zambia is a member, requires significant investments in order to develop 31.3GW of new capacity and refurbish the existing 28GW needed to meet demand growth and reduce power outages. Hydro projects under consideration in Zambia include Itezhi Tezhi, Kariba North, and Lower Kafue Gorge.

Total installed capacity in Zambia is 1,680 MW, dominated by hydro generations, yet power shortages remain a common feature in the country. In 2007, the rehabilitation programme temporarily cut capacity by about 400-500 MW of the 1,680 MW total. Peak demand at the time was 1,607 MW and shortages resulted. Much of the existing hydroelectric power production is geared towards serving copper mining needs. Zambia's connection delay of 93 days is one of the highest in the region.

The situation is likely to get worse if copper production meets its potential to grow. Significant growth in the consumption of petroleum products has been noted in the recent past; for instance, the consumption of diesel grew from an average of 900m^3 per day in 2006 to 1,500m^3 in 2007. This growth has been attributed mainly to increased demand from mining. In 2008, Zambia's fuel consumption rose sharply as the copper mines coped with a power deficit by buying diesel (Reuters, 2008). It is anticipated that electricity shortages will intensify over coming years which will mean that Zambia will increasingly have to depend on imports from its neighbours, especially the DRC.

Table 6.3: Electricity Generation and Consumption in Zambia GWh

	2002	2003	2004	2005	2006	2007*	2008*	2009*
Total generated electricity	9,168	8,289	8,448	8,255	8,906	N/A	N/A	11,022
Major hydros	9,117	8,230	8,383	8,192	8,855	N/A	N/A	N/A
Mini hydros	34	42	50	48	39	N/A	N/A	N/A
Diesel	17	17	15	15	12	N/A	N/A	N/A
Domestic consumption	6,096	6,617	7,039	7,452	7,198			9,184
Bulk purchases 2/ (CEC)	3,519	3,707	3,870	3,932	3,809	4,002	4,024	3,206
Retail domestic electricity consumed	2,578	2,909	3,168	3,520	3,389	2,018	2,144	2,256
Industrial	97	137	137	139	790	1,470	1,656	1,759
Agriculture	73	83	119	107	158	N/A	N/A	N/A
Construction	3	5	3	2	21	N/A	N/A	N/A
Manufacturing	21	23	25	30	611	N/A	N/A	N/A
Mining and quarrying	22	26	24	23	186	561	1300	2,121
Other	2,460	2,772	2,998	3,358	2,414	N/A	N/A	N/A
Implied exported electricity	2,778	1,383	1,148	539	1,386	N/A	N/A	N/A
Transmission losses	293	290	262	264	322	N/A	N/A	331

Source: Ministry of Energy and Water Development and Japan International Corporation Agency. Forthcoming

High-cost and low-quality electricity services increase the production costs of some products more than others. Combined with other poor infrastructure conditions, this affects both the type of goods Zambia exports and the extent to which it undertakes downstream processing of the basic commodities produced. Most of the products in which Zambia has comparative advantage are high to medium electricity intensity products so, because of poor access to electricity it is impossible to realize most of the growth potential (Table 6.4).

Table 6.4 :Electricity Intensity of Production and Export Share of Sub-Saharan Africa

SSA share of global exports	High Electricity Intensity of Production	Medium Electricity Intensity of Production	Low Electricity Intensity of Production
High	• Nonferrous metals** • Ferrous metals* • Miscellaneous minerals** • Coal • Plant-based fibres* • Sugar cane* and beet	• Sugar**, manufactured • Fruits and vegetables* • Wool • Miscellaneous crops* • Miscellaneous food products*	• Crude petroleum • Forestry products
Medium	• Petroleum and coal products	• Meat products* • Vegetable oils and fats* • Natural gas	• Fisheries products • Beverages and tobacco** • Apparel*
Low	• Wheat • Manufactured mineral products • Chemicals, rubber, plastics • Paper and pulp • Textiles*	• Fabricated metals* • Processed rice • Milk*	• Motor vehicles • Electronics • Industrial machinery • Other transport equipment

Note: ** Produced in Zambia * Potential exports from Zambia
Source: Adapted from USITC 2009

6.1.5 Land Transport Infrastructure

Zambia's land transport infrastructure is ranked as one of the poorest in the world. According to the Global Competitiveness Index, Zambia's domestic transport is ranked bottom of the list of 124 countries (Table 6.5).

Table 6.5: Zambia's Ground transport infrastructure Global Ranking

Type of Infrastructure	Rank/124 Countries
Domestic transport network	124
Port infrastructure	110
Road infrastructure	107
Railroad infrastructure	93

Sources World Bank, World Development Indicators Online Database (December 2006)

Road transport is the dominant transport mode in Zambia with a share of about 71% of Zambia's trade in volume terms; 24% is carried by rail and most of the remainder consists of oil imports by pipeline from Dar es Salaam. The main products transported by road within Zambia are mining products (ores, concentrates, metals, sulphur, sulphuric acid, coal); agricultural products (sugar, tobacco, and cotton); fuels (diesel and petrol) and food (bulk grain). High value mining and agricultural goods (cobalt and fresh/frozen products) are generally transported by air. The lack of adequate domestic road and rail transport services is a major source of complaint by exporting firms as this contributes to Zambia's high transport costs.

Access to international transit routes is not a binding constraint: While Zambia is among the most distant landlocked countries it nevertheless benefits from competitive road transport services on its international transit routes illustrating the impact of regional liberalisation on the efficiency of trucking companies. Compared to most developing landlocked countries in Africa, Zambia is particularly well serviced in terms of international road and rail infrastructure. There are several alternative road and rail connections from Zambia's main economic centres along the North-South and Tazara Corridors to regional ports (Table 6.6). However the role of rail transport has been declining on these routes over the years.

Although it is neither the cheapest nor the closest (Table 6.7), the preferred port is Durban with Dar es Salaam and Beira providing a certain level of transport flexibility. However, all the routes are long (3,000 km), with lengthy transit times (up to ten days by road and 25 days by rail; Table 6.8) and are relatively expensive, averaging US$50-160/tonne (Giersing et al 2008). The Zambia-South Africa road corridor through Zimbabwe is the most important transport route for Zambia and passes through Beit Bridge, Chirundu, and Kasumbulesa to the DRC.

Table 6.6: Value of Exports by Major Ports of Exit* (K' Millions)

Port Office	Exports		Imports	
	Value	% Share	Value	% Share
Kitwe Port Office	677,117	46.5	33,400	2.2
Chingola	268,464	18.4	14,995	1.0
Kapiri Mposhi	125,397	8.6		
Livingstone Port Office	109,609	7.5	276,662	18.0
Ndola Port Office	92,046	6.3	22,272	1.4
Chirundu	81,658	5.6	726,152	47.3
Kasumbalesa	45,580	3.1	19,499	1.3
Lusaka International Airport	17,302	1.2	99,839	6.5
Lusaka Port Office			63,672	4.1
Nakonde	16,497	1.1	143,612	9.3
Kazungula	10,426	0.7	72,288	4.7
Other port offices	12,973	0.9	64,260	4.2
TOTAL	**1,457,071**	**100.0**	**1,536,650**	**100.0**

Note: * Preliminary figures
Source: GRZ, November 2007

Table 6.7: Indicative Transport Tariffs

Corridor	Distance (km)	Freight Flow Import/Export %		Tariff US$/t		Tariff US$/TEU11	
		Import	Export	Import	Export	Import	Export
Ndola, Zambia Dar es Salaam	1970	65	35	80	50	1,800	1,400
Durban	3000	50	50	120	120	2,040	2,040
Beira	1400	80	20	100	100	1,700	1,700
Walvis Bay	2300	80	20	160	160	2,700	2,700

Source: Giersing et al 2008

Table 6.8: Estimated Volume of Traffic/Transit Time on Main Transport Routes

To / From Ndola	Mode	Estimated volume (in million tonnes per year, in both directions)	Estimated transit time (days)
Dar es Salaam	Road	0.48 (including DRC)	8.5
Dar es Salaam	Rail	0.21 (including DRC)	18
Dar es Salaam	Road/rail multimodal	Included in 0.21 above	19
Harare	Road	0.3	2 – 3
Gauteng / Durban	Road	1.58	7 - 9
Zimbabwe / Gauteng / Durban	Rail	0.82	21
Beira	Road	Not significant	4
Walvis Bay	Road	Not significant	4 - 5

Source: Giersing et al 2008

COMESA and SADC, the regional groupings of which Zambia is a member, have focused on liberalizing market access for the carriage of international road freight and harmonizing rules to ensure interoperability in member states. Competition in trucking services contributes to lower transport tariffs and increases transport quality. The tariffs are all deregulated with road and railway tariffs largely similar, and influenced by the demand and the existence (or lack of) competition between operators and transport modes (Giersing et al 2008). The resulting trade flow by transport mode is indicated in Table 6.9.

Table 6.9: Total Trade Volumes

	Imports 2.3 mtpa		Exports 1.6 mtpa		
Oil POL by pipeline 0.20 mtpa Dar es Salaam	Rail	Road	Rail	Road	
	0.60	1.70 (74%)	0.53	1.07 (67%)	
Origin / Destination	Rail	Road	Rail	Road	
South Africa	0.320	1.065	Nom	0.455	44.9%
Zimbabwe	0.13	0.060	Nom.	0.245	7.5%
Tanzania	0.025	0.090	0.010	0.01	3.3%
DRC	0.015	0.120	0.020	0.20	8.6%
Namibia	0	Nom	0	Nom	0%
Transit DRC (est)	0.11	0.275	0.05	0.075	
International via Gauteng / Durban	0.15	0.151	0.18	0.143	15.2 %
Dar es Salaam	0.04	0.236	0.17	0.148	19.4%
Beira	0	0.028	0	0.019	1.1%

Source: Giersing et al 2008

Table 6.10: Access to Transport By Country, 2000-2004

Country	Road	
	Total Net Work (Km)	Paved (% of Total)
Botswana	24,455	36
Congo (DRC)	153,497	2
Madagascar	…	…
Malawi	15,451	45
Mozambique	…	19
South Africa	364,131	17
Tanzania	8,891	9
Tunisia	19,232	661
Zambia	91,440	22
Zimbabwe	97,267	19

Source : AfDB, OECD, UNECA, 2009

Access to the feeder road network is a binding constraint: Zambia has an estimated 40,000km of roads; about 6,600km of which are tarred. The road network is characterised by the Government as "generally bad". Zambia is a vast country and requires an extensive road network to keep all key areas connected. A poor quality and unevenly distributed domestic road network is a constraint to the growth of rural economic activities, including commercial agriculture, new mining activities, and tourism. Because Zambia is an important transit route for the region, the quality of domestic roads on transit routes has improved in recent years. The percentage of paved roads is higher in Zambia than the average for SSA. However, only a few districts in the whole country have roads classified as being of "fairly good quality" (Table 6.10).

Road usage is one of the lowest in the region for both people and vehicles. Almost 80% of roads are made of gravel or earth and the poor road system contributes considerably to reducing Zambia's attractiveness as a location for FDI. Despite Zambia's privileged access to regional markets therefore, the country is still constrained by the poor quality of roads to rural areas.

The World Bank (2007a) reports that in 2002-2003 half of rural households were more than nine kilometres from the nearest food market, and over 25 kilometres from the nearest agricultural input markets for fertilizers and seeds. Poor market access has a negative effect on returns to farming. More remote households have less land under cultivation, lower returns per household member and lower returns to land. Alwang and Siegel (2003) show that net returns are roughly 10% lower for remote households.

Land transport and travel costs are binding constraints: Zambia has a highly liberalised transport sector and this helps to keep competition high, thereby maintaining quality of service. Consequently, Zambian firms experience fewer losses from shipping at less than 1% of sales, below the regression line for the region. However, rail transport services are poor and therefore not widely used in Zambia. The speed limit is just 20km/ hour to avoid derailments; a reduction from about 50km/hour at the end of the 1980s. This creates problems for the export of bulky products such as copper, sugar and cement. In addition, over-reliance on the busy road routes is raising a number of road safety concerns. Statistics show that road traffic accidents increased by 14% between 2006 and 2007 for the country as a whole,with increases above 30% in the Central, Copperbelt and North Western Provinces. Congestion on urban roads is also on the increase and is quite noticeable on some parts of the North-South corridor, causing noise and air pollution. In addition, though Zambia's high value exports -copper, cobalt and coal -provide some buffer against being a net oil importer, Zambia's less valuable exports such as beverages, tobacco, and animal and vegetable oils will become progressively more difficult to export if transport costs become too prohibitive, particularly in regions dominated by road transport (ATTIC 2009). Greater consideration therefore needs to be given to facilitating trade across shorter distances, especially with neighbouring countries such as the DRC.

One of the main quantifiable benefits of road projects is the saving made in Vehicle Operation Costs (VOCs). These

accrue initially to the owners of the vehicle, but generally lead more broadly to lower transport costs for agriculture, industry and trade. In Zambia, VOCs are high because fuel and maintenance costs are more expensive than elsewhere and contribute in excess of 50% to the costs of transportation. Overall, Zambian cross-border transport service providers are more competitive than South African providers because they circumvent the cost constraints by using second hand vehicles, incurring lower financing, depreciation and insurance costs. Maintenance and fuel costs, however, are higher in Zambia. By contrast, domestic transport service providers are less competitive than South African providers despite employing the same tactic of using second-hand vehicles.

6.1.6 Railway Infrastructure

The Zambian railway network consists of two systems: Zambia Railways Limited (ZRL), which signed a concession agreement with Railway Systems of Zambia (RSZ) in 2003, and the Tanzania-Zambia Railway System (Tazara). Zambia's policy of extending private-sector involvement to the rail network is already far advanced and is set to continue.

Access to rail infrastructure is a binding constraint for exports. The total amount of traffic carried by Zambia's railways has fallen from more than 6 million tonnes of freight per year in 1975, to 4.5 million in 1988, to under 1.5 million in 1998 and to around 1.3 million by 2008. This fall in rail traffic is due partly to the perception that rail transport is unreliable because of derailments, low wagon availability, and longer shipping times. Rail transport is less competitive for low volumes as the railway tariffs required to achieve financially viable operations are higher than the equivalent road tariffs.

Because Zambia is landlocked, her ability to export bulky low-value products (some agricultural products for example) is affected by the poor performance of her railways. The extra cost of getting such products to ports, in most cases using imperfect substitutes, roads and air, has to be compensated for by producing more effectively than coastal countries. Indeed, more and more of Zambia's agricultural products are now exported by air – a shift that requires a focus on high-value, low-weight and low-volume products. Improved access to air transport is, however, probably not sustainable in the long run.

RSZ has a rail network of 1,100km of track. The RSZ management concession, owned by a consortium of two South African companies, has performed below expectations, with regular complaints raised regarding poor service and lack of improvement. RSZ has committed itself to invest US $60 million during the duration of the concession, of which US$40 million is to be invested in the first five years. The money will be spent mainly on rehabilitating the existing network and rolling stock. RSZ is paying a US $1.5 million concession fee per year.

A joint COMESA-EAC-SADC study, made the following comments on the performance of RSZ:

1. Concessioning of Zambia Railways Limited (ZRL) to RSZ has successfully halted the deterioration of Zambia's railway infrastructure and equipment.

2. The government has been freed of meeting the investment capital needs of the railway, although disagreements continue over the level of investment made by the concessionaire. The World Bank (2008d) advises that some level of public investment is still required.

3. Freight service over the long-haul corridor has improved significantly and the concessionaire is investing in improvements in infrastructure and railway rolling stock, although the average speed is still rather too slow at 20km/hour.

4. Passenger services are operating, albeit not at the level desired by government. The government has, though, been freed of the operating cost of the passenger service.

5. Disagreements continue over contract language and there is no effective regulator.

RSZ *de facto* abandoned the inter-mine short haul services that supported the copper industry services, a primary goal of the concession. The absence of a clear contract setting out the obligation to continue these services and the lack of a railway regulator made this possible. Limited inter-mine services have now been resumed but the volume of inter-mine traffic remains well below the volume at the time the concession was awarded.

TAZARA is jointly owned by the governments of Zambia and Tanzania, and was initially financed by China in 1975. It is the main route for the transport of Zambia's copper cathode to Europe, China and the United States via the port

of Dar es Salaam, but has recently been losing market share to Beira and Durban. The decline in trade through Dar es Salaam has put pressure on TAZARA. TAZARA is a classic parastatal, experiencing a lot of operational inefficiencies which have resulted in poor service delivery. Currently, the Government is exploring the identification of a strategic private partner to improve Tazara's performance (WTO 2008, p. 147). The corridor currently provides the shortest distance by rail from the resource-rich Copperbelt and the DRC to a port. Promisingly, the corridor also extends across some of the most fertile land in southern Tanzania and northern Zambia, and has potential to propel agriculture, tourism, mining, forestry and fishing production.

Rail offers the most sustainable solution to the current inadequacy of land transport and provides a framework for alternative development infrastructure. A recent analysis by AITIC (2009) argues that in view of rising fuel prices, those countries (especially landlocked ones[6]) that are investing in rail infrastructure, will benefit from rail's generally accepted two to one fuel efficiency advantage over trucking per tonne kilometre.

6.1.7 Air Transport

Table 6.11: Access to Air Transport

Country	Freight (Million tons / km)	Passengers carried (000)	Registered carrier departures worldwide
Botswana	…	230	8,181
Congo (DRC)	444	7	5,200
Madagascar	15	575	17,911
Malawi	1	132	5,446
Mozambique	5	347	9,768
South Africa	923	11,845	148,146
Tanzania	1,196	2,263	659
Zambia	…	54	5,965
Zimbabwe	22	243	4410

Source : OECD and AfDB, 2009

Zambia's aviation market is one of the smallest in the Southern African region. Currently, there are 144 airports/air strips in Zambia. The state-owned National Airports Corporation manages the four major airports: Lusaka, Ndola, Livingstone and Mfuwe. Lusaka accounts for about 60% of all passenger movements, Livingstone 23%, Ndola 11%, and Mfuwe 3%. Flight services have increased in recent years, particularly through Ndola, reflecting the revival in copper mining.

Table 6.12: Zambia's Global Competitiveness Ranking out of 124 Countries

Air transport infrastructure	
Available seat kilometres	105
Departures per 1,000 population	91
Number of operating airlines	91
Quality of air transport infrastructure	58
International air transport network	56

Sources World Bank, World Development Indicators Online Database (December 2006)

Passenger movements at these four airports amounted to 1.2 million in 2008, 78% was international arrivals. Traffic at Zambian airports grew by 12% between 2007 and 2008. The air cargo market plays a significant role for the country's exports of perishable products (cut flowers and vegetables) mostly destined for Europe. Lately this market has witnessed a decline as a consequence of the high cost of aviation fuel. Zambia's level of access to air transport compared to some other selected African countries is shown in Table 6.11. Zambia's access to air transport is still well below the level expected given her GDP per capita. There is evidence that as some firms have suspended horticultural exports

6 Ability to utilise rail transport explains why Mongolia's copper is more competitive than Zambia's.

to Europe, the frequency of flights has decreased thereby raising air-freight costs for those remaining in the market.

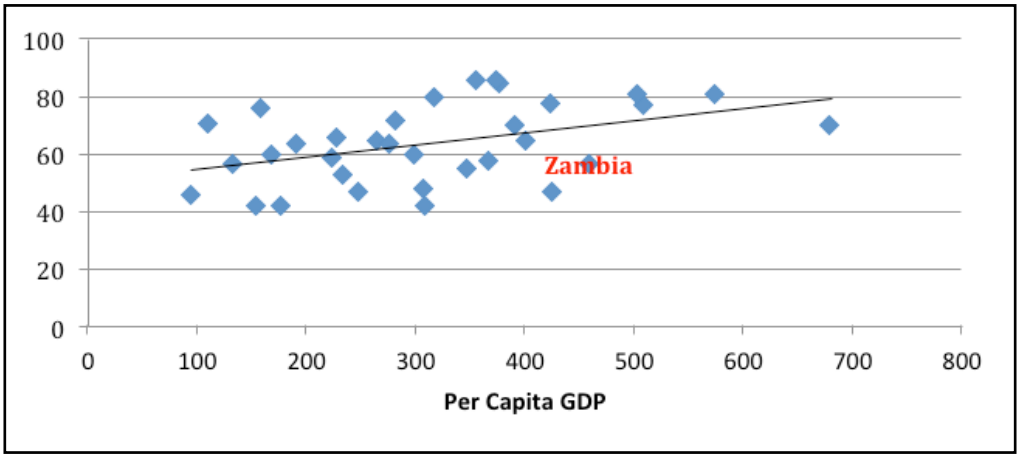
Ranked 58th out of 124 countries, Zambia's air transport infrastructure is globally competitive but under-utilized. This is illustrated by its poor ranking in terms of available seats, departures per 1,000 of population and the number of airlines operating in the country. Therefore, although the state of air travel in Zambia leaves a lot to be desired, the problems cannot be attributed to the state of infrastructure.

6.1.8 Water Supply and Sanitation

Without a substantial increase in the amount of resources dedicated to water and sanitation, it is unlikely that Zambia will meet the Millennium Development Goal that aims to reduce by half the proportion of people without sustainable access to safe drinking water (World Bank, 2008e). This means that valuable resources will continue to be devoted to fighting avoidable waterborne diseases such as cholera and malaria. At 58% water supply coverage, Zambia is below the regression line for the region, suggesting that water supply levels are inadequate to meet the country's level of development.

Access to water supply and sanitation is a binding constraint for rural areas: There has been an overall decline in access to both piped and improved water since the 1990s in Africa (Table 6.13). Zambia's decline has been more rapid than most. Zambia's provision of water is also less equitable than in many other countries when measured both in terms of the rural-urban divide and distribution by income.

Figure 6.6: Water Supply Coverage in Selected SSA Countries (%) 2006



Source: Compiled by author from Global Competiveness Index and WDI 2009

According to an UNCTAD Appraisal Report (2006), the average consumption of water for drinking and other domestic use per rural household is about 20 litres a day (approximately five litres per person per day), well below the average amount required for achieving a clean, disease-free environment. In Zambia, the average walking distance to a source of water is estimated to be between one and three kilometres, more than the national recommended target maximum-walking-distance of 500 metres. Increased pressure on water points has led to longer waiting times, increasing the amount of time spent going to collect water. The burden of collecting, transporting, and storing water on foot falls mainly on women and children whereas collection by animal or vehicle is performed more often by men. Inadequate water supply and sanitation services in poor urban areas have caused annual outbreaks of waterborne diseases during the rainy season. This not only puts a heavy economic burden on already impoverished communities, but also places a strain on public health services.

Table 6.13: Access To Water By Households/Cross Country Comparison

		As percentage of households						Income Distribution				
		Early 1990s	Late 1990s	Early 2000s	Rural	Urban	Q1	Q2	Q3	Q4	Q5	
Water	Piped water	Zambia	31	21	18	3	46	0	0	0	15	77
		MIC	50	45	42	17	69	2	16	47	69	86
		High Urbanisation	7	8	22	7	39	1	6	17	32	49
		Southern Africa	34	34	29	38	65	1	10	26	42	67
		Africa Overall	18	17	17	4	38	0	3	7	18	46
	Improved water	Zambia	49	37	34	7	83	0	3	14	60	94
		MIC	74	67	63	41	90	24	53	72	87	95
		High Urbanisation	41	40	38	19	58	11	25	33	49	62
		Southern Africa	53	53	46	22	87	13	30	39	62	89
		Africa Overall	32	32	32	14	63	6	13	21	38	69

Source: World Bank 2008

Lack of piped or improved water is a binding constraint for industry: In order to expand the country's manufacturing base and enhance national competitiveness, the Government established industrial parks and extended tax incentives under the Zambia Development Agency (ZDA) Act to developers of and investors in, Multi-Facility Economic Zones and industrial parks. The 2009 GRZ budget specified that developers will only qualify for these incentives if, among other things, water and electricity supply were provided. Most towns, including Lusaka, currently experience serious water shortages and at least 14% of the firms in Zambia, particularly medium-sized firms, rate water shortages as a binding constraint. Detailed plans to improve the situation in urban areas are not yet available (World Bank, 2000d). Lusaka in particular, needs a second pipeline from the Kafue River, as well as a treatment plant.

Water for irrigated agriculture is a binding constraint: While solutions to sanitation, hygiene, and potable supply problems generally call for an expansion of services, the agricultural water/irrigation problem requires drastic improvements in existing services. Agriculture is now the world's largest consumer of water, swallowing 80–90% of annual utilised supplies and providing livelihoods for most of the world's poor.

Water is a vital resource for agricultural production and many developing countries have promoted the development of water resources over the last five decades to improve social outcomes. Huge investments have been made in water resources to achieve such broad objectives as economic growth, rural and agricultural development, national food security, famine protection, and land-use intensification. Africa, however, lags behind most of the developing world and Zambia's share of irrigated land as a percentage of agricultural land is below the SSA average (Table 6.15).

Table 6.14: Access to Irrigated Agricultural Land in Selected Countries

Country	Irrigated Land / Total (1000 ha)			Agricultural Land Total (1000 ha)			Irrigated Land % of Agricultural Land		
	1990	2000	2003	1990	2000	2003	1990	2000	2003
Ghana	30	31	31	4,200	6,100	6,385	0.7	0.5	0.5
Kenya	54	85	103	4,700	5,060	5,212	1.1	1.7	2
Malawi	20	55	56	1,930	2,240	2,590	1.0	2.5	2.2
Mozambique	105	115	118	3,680	4,135	4,580	2.9	2.8	2.6
Senegal	94	104	120	2,350	2,400	2,507	4.0	4.3	4.8
South Africa	1,200	1,498	1,498	14,300	15,712	15,712	8.4	9.5	9.5
Tanzania	144	160	184	4,400	5,000	5,100	3.3	3.2	3.6
Uganda	9	9	9	6,850	7,160	7,350	0.1	0.1	0.1
Zimbabwe	109	174	174	3,010	3,350	3,350	3.6	5.2	5.2
Zambia	30	140	156	5,268	5,287	5,289	0.6	2.6	2.9
SSA Average	212	251	263	3,928	4,1878	4,350	4.1	4.4	4.3
Africa	10,989	13,150	13,358	197,781	217,115	225,361	5.6	6.1	5.9

Source: World Bank 2008e

Sanitation is a binding constraint: Access to improved sanitation has declined in Zambia from 29% in the 1990s to 20% in the 2000s (Table 6.16). This may be a binding constraint for the development of cities, for the environment, and for schools and hospitals that play an intensive role in human development. However, access to flush toilets appears not to be a binding constraint to growth. According to the 2006 LCMS, pit latrines are the most widely-used toilet facility in Zambia. The survey shows that about seven in every ten households use pit latrines as their main toilet facility in both rural (76.8%) and urban areas (59.8%).

Table 6.15: Access to Sanitation by Households/Cross Country Comparison

		As percentage of households						Income Distribution				
		Early 1990s	Late 1990s	Early 2000s	Rural	Urban	Q1	Q2	Q3	Q4	Q5	
Sanitation	Improved sanitation	Zambia	29	21	20	3	49	0	0	2	18	78
		MIC	40	41	39	9	71	0	3	30	79	93
		High Urbanisation	21	27	26	9	50	1	5	15	38	74
		Southern Africa	34	32	33	15	66	1	8	30	56	75
		Africa Overall	16	17	20	8	40	0	3	10	23	53
	Flush toilet	Zambia	27	21	18	2	47	0	0	1	14	76
		MIC	38	33	31	4	58	0	2	22	61	78
		High Urbanisation	17	18	19	5	38	0	1	9	25	61
		Southern Africa	27	27	22	2	57	0	3	13	39	59
		Africa Overall	9	9	10	2	25	0	1	4	12	34

Source: World Bank 2008e

There is a close correlation between the infant mortality rate and poor access to safe water and sanitation in Zambia. Health statistics indicate that infant mortality rates are on the decline (Annex I) whereas, some diseases associated with lack of access to clean water and sanitation, cholera for example, continue to rise.

6.2 NATURAL CAPITAL

6.2.1 Size and Location

Zambia is a landlocked country in Southern Africa, 752,000km^2 in size. When the last population census was conducted in 2000, population density was 13.1km^2. Some 40% of the population is concentrated along the line of rail, a narrow strip of land that runs from the Copperbelt in the north to Livingstone in Southern Province. Population outside the line of rail is concentrated in provincial centres. There are large parts of the country that are so sparsely populated that they are unlikely to attract viable and economically feasible investments.

Her status makes it harder for Zambia to reach export markets, realise economies of scale, and access cheap imports. On the other hand, being landlocked may serve to protect domestic importers. When it comes to regional trade, Zambia's landlocked position has proved to be an advantage. Zambia borders eight other countries and is the beginning, destination or transit country for five of the 18 major transit corridors in SSA. Regional and international transit-infrastructure costs are relatively low in Zambia. All five transit routes have unit costs below the regional average. Low transport costs on the main transit corridors have facilitated regional trade and shifted Zambia's exports to SADC and COMESA countries and away from the European Union and the United States (World Bank, 2007b). Transit routes notwithstanding, Zambian exporters continue to face significantly higher obstacles to trade than exporters in other countries in terms of the time it takes to import and export goods (World Bank, 2008c).

Although some problems may be caused by Zambia's low population density and her landlocked status, these are not a binding constraint to growth.

6.2.2 Natural Resource Endowment

Zambia is richly endowed in natural resources relative to other countries in Southern Africa (Table 6.17). Many economic activities such as agriculture, fisheries, forestry, wildlife and tourism, hydro-energy and mining can be well supported by Zambia's rich natural resource base, significantly contributing to growth. The country does, though, face some challenges in using these resources sustainably.

6.2.3 Terrain Endowment

Of Zambia's total area of 75 million hectares (752,000 km^2), 58% is classified as having medium to high potential for agricultural production yet only about 14% of that land is currently under cultivation. While poor farming practices are degrading the soils in the country's midlands and the soils of the northern parts tend to be acidic on account of high rainfall, soil fertility is on the whole good enough to grow a wide range of crops. Most land is able to support livestock rearing. Terrain endowment is therefore not a constraint to growth in Zambia.

However, despite the fact that access to land and the quality of land are not constraints to growth, land productivity in the smallholder agriculture sector is low. There are a number of reasons for this. At least four factors emerge from the numerous studies carried out on this topic. The first of these factors is the difficulty small farmers, the bulk of the sector, faced in adapting to the liberalised agricultural sector ushered in by the policy reforms of the early 1990s. The failure of the private sector to fill the vacuum left by the marketing and rural finance institutions that served farmers before liberalisation contributed to their difficulties (Chiwele, et al, 1996; UNZA/IAS, 1996). High transaction costs meant that farming bulk commodities such as maize became sub-economical. Inadequate on-farm storage meant that farmers were unable to take advantage of the better prices available later in the marketing season. Limited access to market information compounded the farmers' problems. Unfortunately most farmers failed to master the commercial approach to farming required for success in the increasingly liberal environment (SHEMP, 2008).

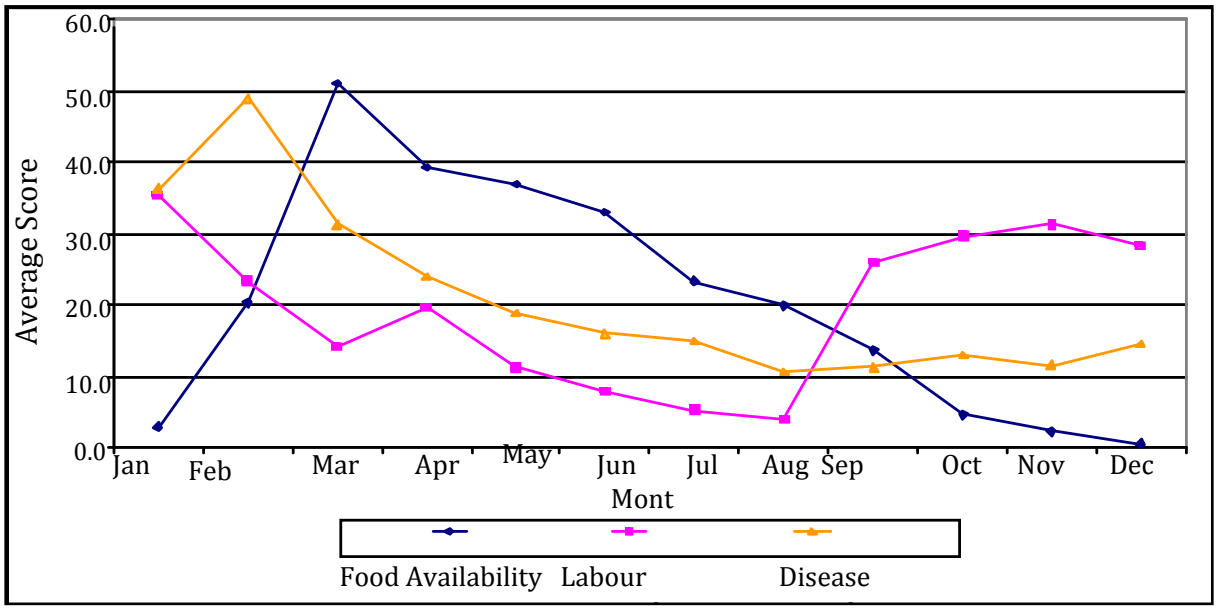
The second factor is climate – both climatic variability and adaptation to climate change. Crop yields have varied significantly from one year to another on account of changes in weather. Farmers do not have access to the supplementary irrigation needed to mitigate lack of rainfall nor do they practice moist conservation techniques at critical times of the growing season. Compounding the problem of climatic shock is the decline in soil fertility due to constant cultivation in areas which have been historically the most productive.

The third factor relates to the labour constraints experienced at peak times in the agricultural season. Armed with only a hoe for cultivation, the Zambian farmer has to wait for the first rains before s/he can start to prepare the land but very quickly after that has to start planting and weeding – all very labour-intensive tasks that have to take place simultaneously.

Low levels of mechanisation are a constraining factor on increased agricultural productivity. In the 1990s, the problem was aggravated by the high occurrence of animal losses (UNZA/IAS, 1996) that resulted from poor animal husbandry, inadequate access to veterinary services and droughts.

This situation has been worsened by the devastating impact of the HIV and AIDS epidemic (McEwan, May 2003). In HIV and AIDS-affected households, labour constraints, already a problem, have deteriorated leading to a reduction in the area of land cultivated and falling yields as the quality of farm management diminishes further. As Figure 6.7 shows, labour is also constrained by the fact that demand peaks at the same time as the incidence of disease is peaking and when food stocks are very low. Seasonal variations in the incidence of disease, in demand for labour, and in food availability are mutually reinforcing. In most rural communities, food runs out by September just as households are preparing to cultivate their fields. The prevalence of disease is also highest in the rainy season when labour demand is at its peak. Hunger and vulnerability increase; the ability of farmers to cultivate sufficient amounts of land and manage their crops decreases. This means that the farmers are unable to increase labour and land productivity and eventually to produce enough food to last for the coming year. This cycle of hunger, disease and food insecurity is thus likely to repeat itself year after year.

Figure 6.7: Monthly Food Availability, Labour Demand and Disease Burden as Perceived by Women in Kafue Flats



Source: Scott Wilson Pielsold, 2003

The fourth factor identified is the challenge that small-scale farmers have getting hold of modern farm inputs. In the 1990s, the number of farm households using fertiliser declined from 31.4% in 1990-91 to 17.8% in 1997-98. The figure rose to 29.4% in 2008 with the introduction of the GRZ Fertiliser Support Programme but was still lower than the proportion of farm households that used fertiliser in the early 1990s[7] . The share of farmers using improved seeds also dropped from 43.6% in 1990-91 to 17.4% in 1997-98 before rising again to 37.1% in 2000 (Kane Consult and Rural Net Associates Limited, 2002). Inadequate investment in farm improvements caused by a land tenure system that does not provide enough security to encourage permanent improvements aggravates the situation. Land accessed under the traditional land tenure system, the only land at the disposal of most small farmers, is not titled thereby inducing a greater sense of insecurity. Gender discrimination means that women find it much more difficult to improve their levels of production and food security as well as to participate meaningfully in markets.

6.2.4 Forest and Woodlands

Zambia is one of the best forested countries in Southern Africa with forest cover in 2000 at 42% of her total land area, third only to Angola and Zimbabwe (Tables 6.17 and 6.18). Zambia accounts for only 6.7% of the total land area in Southern Africa but is home to 17.1% of the region's forest cover area. Zambia does not do as well when it comes to forest plantations, ranking 7th in Southern Africa. The high rate of depletion of forest resources is a risk to future growth (Table 6.18). In 2000, Zambia's forests were being depleted at a rate of 2.4%, the highest, alongside Malawi, in Southern African and the eighth highest rate of forest depletion in the whole of Africa.

7 Unpublished data supplied by the Food Security Research Project

Table 6.17: Country Comparison of Some Natural Resource Endowments

	Annual Renewable Water Resources(km^3), 2000	Forest Coverage (1,000 ha) 1995	Nationally Protected Areas (1,000 ha) 1999
Zambia	80	31,355	6,366
Zimbabwe	14	8,626	3,071
Malawi	18	3,213	1,059
Mozambique	100	16,834	4,779
South Africa	45	7,204	6,619
Namibia	6	12,374	10,616
Tanzania	80	1,224	13,817

Source: African Development Indicators (2000)

Table 6.17: Forest and Woodlands Cover in 2000

	Total Area ('000 ha)	Forest Cover in 2000 ('000 ha)	Land area (%)	Total forest plantation ('000 ha)	Forest Annual Rate of Change (%)
Angola	124,670	69,756	56.0	141	-0.2
Botswana	566,673	12,427	21.9	1	-0.9
Lesotho	3,035	14	0.5	14	n.s.
Malawi	9,408	2,562	27.2	112	-2.4
Mozambique	79,409	30,601	39.0	50	-0.2
Namibia	82,329	8,040	9.8		-0.9
South Africa	122,704	8,917	7.3	1,554	-0.1
Swaziland	1,720	522	30.3	161	-1.2
Zambia	74,339	31,246	42.0	75	-2.4
Zimbabwe	38,667	19,040	49.2	141	-1.5
Southern Africa	1,102,954	183,125	283.2	2,249	

Source: The Encyclopaedia of the Earth (www.eoearth.org) based on FAO Data

6.2.5 Wildlife and Tourism

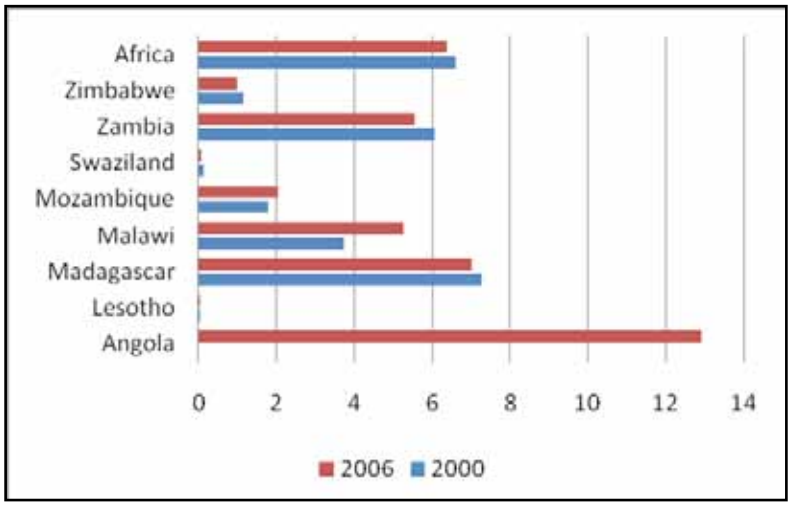
Wildlife and tourism resources have long been recognised as having great potential to contribute to growth. Of the country's land area, 30% is designated to 19 national parks covering 6.6 million hectares and 34 game management areas covering 16.6 million hectares. The number of tourists arriving in Zambia has been on the increase, rising from 457,411 in 2000 to 668,886 in 2005 (United Nations World Tourism Organisation). Data from the Ministry of Tourism, Environment and Natural Resources show that tourist arrivals reached 805,059 in 2007 (GRZ, 2008, Table 9.1). Zambia is on course to reach its planned target of one million tourist arrivals by 2011.

Wildlife and tourism can help to accelerate growth and job creation. They are labour-intensive activities, uniquely placed to create jobs for relatively unskilled workers. In 2007, there were 22,776 relatively unskilled permanent workers in the sector (GRZ, 2008, Table 9.2). It is said that every 12 tourist arrivals create one job. Extrapolating from Zambia's 2007 tourist arrival figures, this should mean as many as 67,088 permanent and non-permanent employees in tourism. At one million tourist arrivals per year, Zambia could expect to see the number of jobs in tourism rise to over 80,000.

6.2.6 Fisheries

Fisheries are another natural resource with great potential to help stimulate growth. Although Zambia is a landlocked country, she has rich fisheries in her 11.5 million hectares of open water, swamps and flooded areas. About 65,000 tonnes of fish were produced in 2006, slightly down from 66,671 tonnes in 2000 (2006 FAO Yearbook Fishery and Aquaculture Statistics). The decrease was attributable to over-exploitation and bad fishing methods. Per capita fish production fell from 6.1 kilograms in 2000 to 5.3 kilograms in 2006 (Figure 6.8). In the 1970s and 80s, per capita fish production was estimated to have been as high as 12 kilograms (UNDP, 2000). Under-funding of the Fisheries Department makes it difficult to stem the problem of over-exploitation. In addition, some of the main fisheries are found in shared bodies of water requiring cross-border coordination and cooperation, not easy in some cases. Aquaculture production in the 1970s and 80s rose from 4,240 tonnes to 5,125 tonnes. Despite the decline in Zambia's per capita production of fish, levels compare favourably with other countries in Africa, especially as Zambia has no coastline.

Figure 6.8: Fish Production (kg/capita), Africa and Southern African Countries



Source: 2006 FAO Yearbook, Fishery and Aquaculture Statistics

In 2007, fishery production contributed 2.3% to GDP, the equivalent of K79.9 billion, about US$20.8 million. This compares to agriculture (crops and livestock) which contributed 6.1% and forestry at 5.1%. These figures become even more significant given as there are only about 25,000 artisanal fishers compared to over 800,000 farmers. Productivity is much higher among fishers than farmers. Where possible, fishing is preferred in rural areas to farming as earnings are higher. Conservative estimates suggest that Zambia should be able to raise her fish production to about 120,000 tonnes (ACF/FSRP, April 2009), doubling the sub-sector's contribution to GDP, everything remaining constant.

6.2.7 Mineral Resources Endowment

Zambia's growth is not constrained by a lack of mineral resources. The country's rich mineral resources comprise base metals (copper, manganese, nickel, and cobalt), industrial minerals (gemstones) and mineral fuels (coal). Recently there have been indications that there may be petroleum oil in Zambezi in North-Western Province but the extent to which this can be commercially exploited is yet to be determined. Zambia is a leading producer of copper and cobalt in the world. Rich deposits of uranium have been confirmed at Lumwana but no decision has yet been made to start mining. In recent years, a lot of exploration licenses have been issued and commercially viable deposits are being announced for various minerals in different parts of the country.

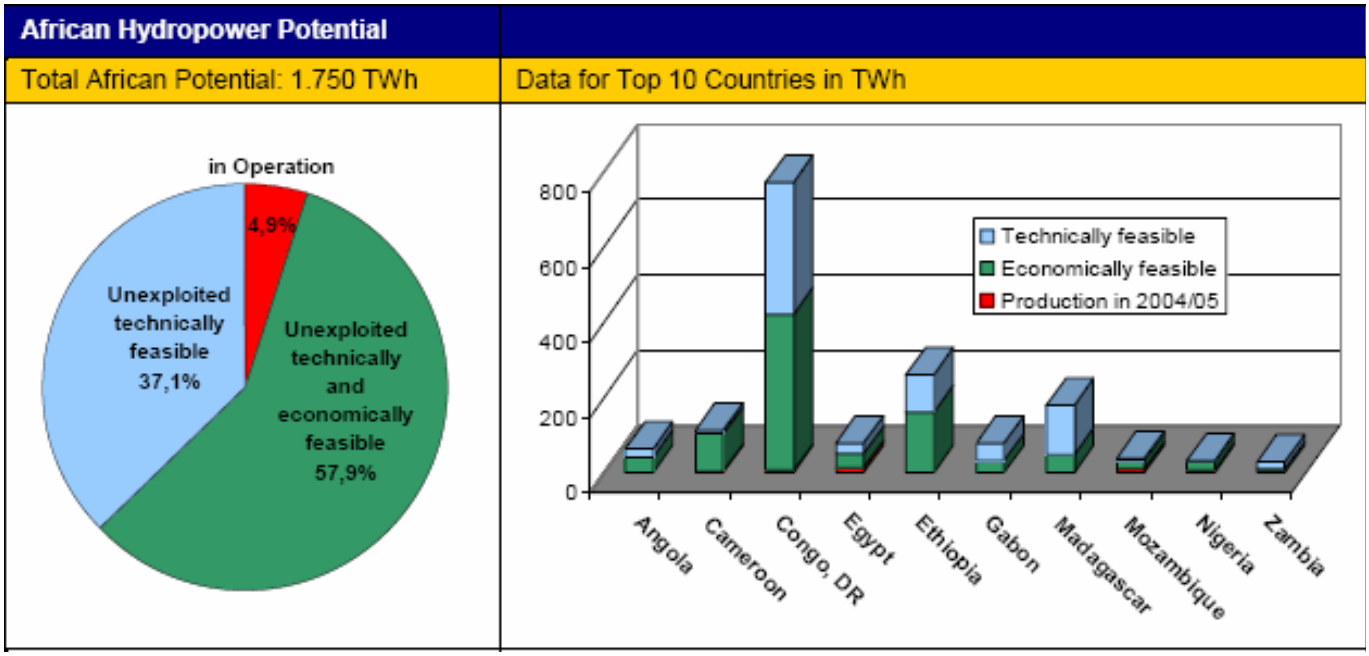
Copper production peaked in the mid-1970s at 700,000 metric tonnes per year but slumped to 222,767 in 1999 because of low international prices, rising production costs and a lack of reinvestment, reducing the efficiency with which copper was being exploited. After the privatisation of the mines in the late 1990s, there was a rise once more in copper production to 523,435 metric tonnes in 2007. It is expected that production will reach one million metric tonnes within the next few years based on the new investments that are coming on stream.

6.2.8 Hydropower Endowment

The last natural resource highlighted here is the country's potential to produce hydropower (Figure 6.9). Zambia

is among the top ten countries in Africa with great potential for hydropower production. According to the Energy Regulation Board, Zambia has the potential to produce up to 6,000 MW of hydropower but currently has an installed generation capacity of only 1,680 MW. Demand for electricity is estimated at 1,300 MW. In good years, therefore, Zambia has been able to export electricity to other SADC countries but does experience intermittent power shortages due to breakdowns at power installations.

Figure 6.9: African Hydropower Potential



Source: FAO, 2008.

6.2.9 Climate Conditions and Internal Water Resources

Zambia's climate is conducive for many economic activities including agriculture. Annual rainfall decreases from an average of 1,000mm in the north to an average of 600mm in the south. The country is divided into three major agro-ecological zones or regions. Rainfall and soil quality differ between these zones. The harshest climatic conditions are found in zone I where rainfall averages less than 800mm. Zone 1 is fortunately the smallest of Zambia's agro-ecological zones accounting for only 12% of the total land area. Zone II receives between 800 to 1000mm of rainfall annually and constitutes 42% of total land. Region III receives between 1,000mm and 1,500mm of rainfall annually and, at 46% of the country's total land area, is the largest of the three regions.

Zambia generally faces none of the serious water constraints that are beginning to confront other Southern African countries (Table 6.19). There is a fairly dense river network, dams, lakes, dambos (shallow wetlands) and underground water aquifers yielding very high Internal Renewable Water Resources (IRWR). In 2001 IRWR were estimated at 7,377 m^3 per capita, more than SSA's average of 5,705. In Southern Africa, Zambia was second only to Angola which had IRWR per capita of 13,203m^3. Adding flows from other countries, total renewable water resources came to 9,676m^3. At 2%, withdrawals as a share of total renewable water resources are higher for Zambia than Angola, Botswana, Mozambique and Namibia but are still very low.

Table 6.18: Renewable Water Resources in Southern Africa, 2001 and 2002

	Internal Renewable Water Resources per capita (m^3) 2001	Natural Renewable Water Resources per capita (m^3) – including flows from other countries, 2002	Withdrawals as share of actual renewable water resources (%)
Angola	13,203	13,203	0.4
Botswana	1,855	9,209	0.9
Lesotho	2,519	1,456	2.2
Malawi	1,365	1,461	6.5
Mozambique	5,214	11,382	0.4
Namibia	3,387	9,865	1.8
South Africa	1,014	1,131	32.3
Swaziland	2,785	2,785	42.0
Zambia	7,377	9,676	2.0
Zimbabwe	1,078	1,530	8.6

Source: http://earthtrends.wri.org

Climate variability, however, has been found to be a major constraint on the country's economic growth and ability to reduce poverty. According to a study by IFPRI (Thurlow et al, 2008), climate variability "*reduces Zambia's GDP growth rate by 0.4 percentage points per year, which costs the country US$4.3 billion over a 10-year period. These losses reach as high as US$7.1 billion under Zambia's worst rainfall scenario*". The authors arrive at this conclusion by developing a Compatible General Equilibrium (CGE) model based on historical climate data and a hydro-crop model to estimate the impact of climate variability on crop yields over the past three decades. Agriculture is found to be particularly vulnerable, losing on average 1% in GDP growth due to climate variability. This loss climbs to 2% under the worst rainfall scenarios like those experienced between 1985 and 1995 when the country suffered recurrent droughts. Overall, climate variability is forecast to keep 300,000 people in poverty by 2016, a number that would rise severely if 1985-1995 rainfall conditions were to reoccur.

There is considerable uncertainty about any the effect climate change may have on future rainfall. However, were rainfall levels to fall by 15%, climate change would enhance "*the negative effects of climate variability by a factor of 1.5, pushing 30,000 more people into poverty over a 10-year period*"(Thurlow et al, 2008). Although future projects remain uncertain, there are already indications that unless Zambia takes critical mitigation and adaptation measures, the livelihoods of many people could be in peril. Floods and droughts are already devastating crops, livestock and wildlife and are interfering with power generation. The human capital implications are also obvious. Occurrence of diseases like malaria, diarrhoea, dysentery, cholera, eye infections and respiratory diseases which are sensitive to climatic variability may start to rise. A study carried out in Lusaka between 2003 and 2006 associated the rise in the incidence of cholera with an increase in rainfall and temperatures (The Medical News, 23 April, 2009). It is therefore concluded that the availability of water for production is not a binding constraint for growth in Zambia. However, climatic conditions, and specifically climate variability, are a binding constraint on growth, especially on agriculture production. Zambia could be in a position, however, to use its considerable availability of water resources to mitigate and adapt not only to climate variability, but to climate change effects were the possible worst scenarios to materialise.

On the whole, Zambia's natural capital endowment is not currently a constraint to growth. However, the unsustainable exploitation of natural capital does give grounds for concern. A situational analysis of the environment conducted in 2005 found a systemic failure of environmental and natural resource management manifested in "*… widespread desertification, depleted fisheries and wildlife resources, deterioration of national heritage, polluted water and inadequate sanitation and degraded lands*" (Robert Douthwaite et al, May 2005, p.viii). This means that even if natural capital endowment is not a binding constraint at the moment, it is likely to be in future unless the necessary steps are taken to introduce sustainable natural resource exploitation in Zambia.

CHAPTER 7

RETURNS TO ECONOMIC ACTIVITY: PRIVATE APPROPRIABILITY ANALYSIS

This analysis of private appropriability attempts to diagnose whether government or market failures are constraining social returns from being translated into private returns. In situations where appropriability is low, the business environment is unattractive to both foreign and local private investments and is thus a serious constraint to growth and poverty reduction. Government failures relates to both macro risks (bad policy and poor institutional environment) and micro risks (policies and regulations determining business climate). Market failures, on the other hand, refer to information and coordination externalities constraining private investments and the adoption of new technologies.

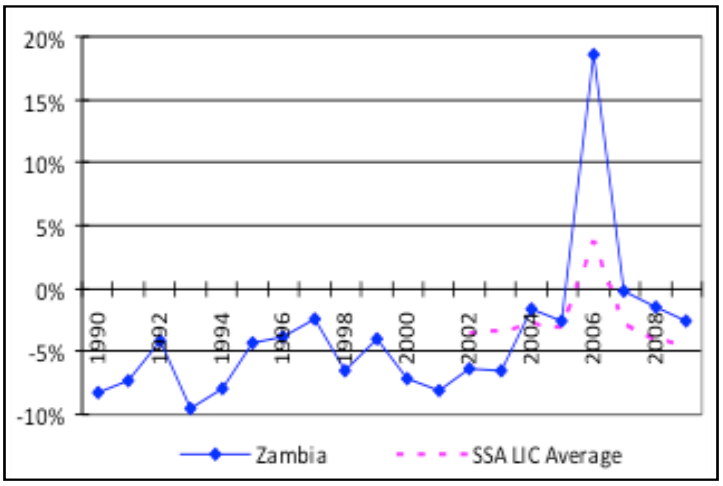
7.1 GOVERNMENT FAILURES

7.1.1 Macroeconomic Risks

Zambia's macroeconomic environment has improved dramatically in recent years with the current Government placing macroeconomic stability as a top priority. However, key challenges still exist that are less within the control of Government to fix. The exchange rate is one such issue. Zambia's market-based exchange rate is one of the most volatile in the world. This excessive volatility, along with periods of significant and rapid real appreciation linked to copper prospects, causes serious problems for businesses. Inflation may also become an issue. Remaining low for the last few years, inflation crept up again to almost 13% in 2009. More long-term risks exist in relation to public finance sustainability.

Fiscal management: Zambia's recent growth can be explained by both the positive external environment for copper and measures taken by the Government to achieve macroeconomic stability. Prior to 2003, the Government sustained budget deficits of over 5%. Since then, fiscal management has improved dramatically (Figure 7.1). Sound economic management was fundamental in Zambia reaching the HIPC debt relief completion point in 2006. Zambia's relationship with the International Monetary Fund (IMF) has never been better and its existing PRGF programme was recently augmented.

Figure 7.1: Overall Fiscal Balance (% GDP)



Source:IMF

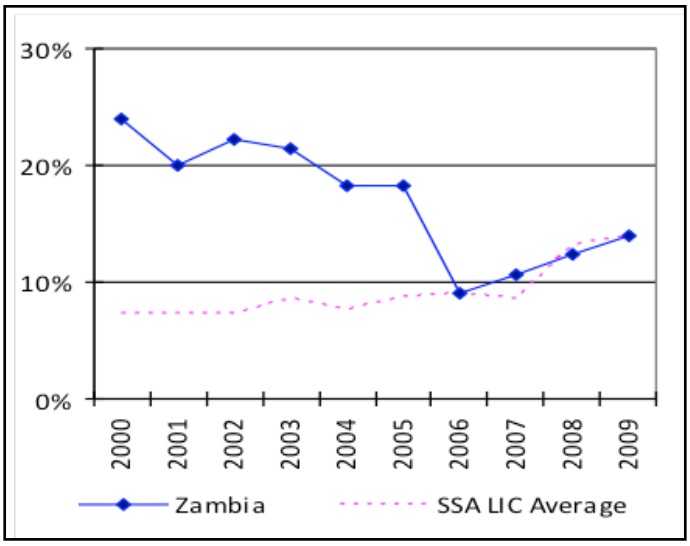
Table 7.1: Inflation, 2008 (Annual Average, % change)

Mozambique	10.3
Malawi	8.7
Ghana	16.5
Tanzania	10.3
Uganda	7.3
Zambia	12.4
Ethiopia	25.30
SSA LIC Average	13.1

Source: African Economic Outlook, 2009

Inflation: After dropping dramatically in 2005, inflation reached single-digits in 2006, but has since risen slightly with the current projection for 2009 at 12% (Figure 7.2). Despite the rise since 2006, the current inflation rate is still healthy compared to Zambia's past and in line with the regional average for low-income countries (Table 7.1). The ZBS seems to suggest that increased concern over the macro-economy amongst firms is related to exchange rate volatility rather than inflation. The data shows that importing and exporting firms were more likely to report macroeconomic instability as a constraint in 2008 which suggests that concerns are related more to exchange rate volatility than inflation (which would likely affect all firms in similar ways).

Figure 7.2: Inflation, Consumer Prices (Average Annual % change)



Source:IMF

Headline inflation in Zambia is largely driven by food prices which surged globally in early 2008 at the same time as a poor domestic harvest. Despite a strong harvest for 2009 and lower global prices, domestic food prices are yet to drop. Inflation is also linked to the exchange rate (the dramatic fall in inflation in 2005 was clearly linked to the real appreciation of the Kwacha). Therefore, the massive exchange rate depreciation linked to the global economic crisis in late 2008/early 2009 will also have put pressure on inflation as imported goods became more expensive. Whilst potential inflationary risks exist in the future – such as a poor maize harvest and the size of the public sector wage bill – this report concludes that inflation is not a significant constraint on growth and certainly not a binding constraint.

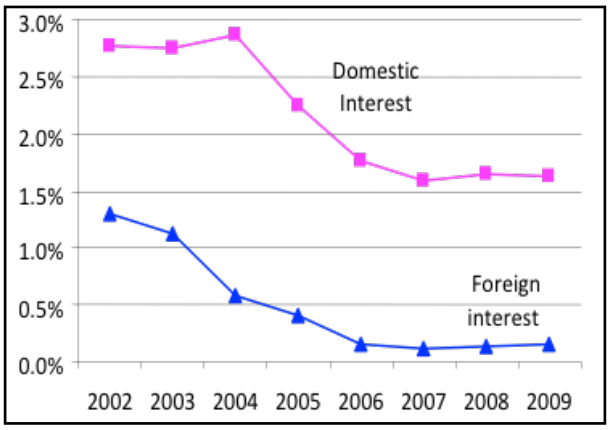
External position: Zambia's trade position has also strengthened over the last decade due to a marked improvement in the terms of trade (largely because of the high world copper price). Fortunately the increased copper price coincided with the privatisation of the copper mines which has driven massive investments in mining operations and efficiency gains. In addition to high copper prices, Zambia has therefore seen at least a doubling of copper production volumes over the last decade. As a consequence, Zambia's trade balance was transformed with the current account recording a surplus of 3% GDP in 2006. Zambia's external position, particularly linked to the mining sector, has weathered the

global financial crisis well and future projections are once again strong. With mining volume increasing and the recovery of the copper price, the outlook for Zambia's current account is favourable.

However, continued reliance on a strong mining sector is clearly not desirable and will leave Zambia as vulnerable as ever to future global shocks. The mining sector is thought to have weak backward and forward linkages through the economy. With new technologies the sector is also becoming less and less labour intensive and therefore is not a significant prospect for job creation. Diversification of exports and the real economy remain a top economic policy priority in national development planning.

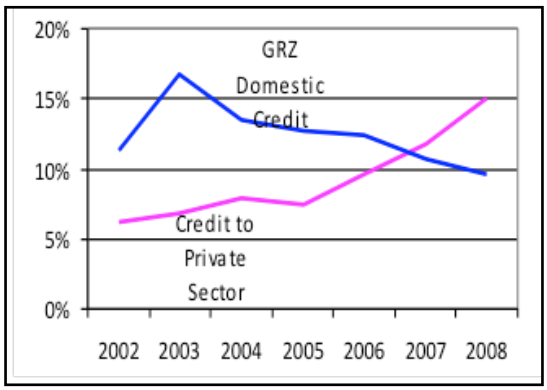
Public finances and domestic debt: A combination of reduced fiscal deficits since 2004 and economic growth has enabled Zambia to bring the domestic debt-to-GDP ratio down to 13%. This, along with HIPC and MDRI debt relief, substantially reduced the Government's interest bill and increased credit to the private sector (Figures 7.3 and 7.4). Prior to the global economic downturn, these positive trends were projected to continue with the onset of additional tax revenue from mining of around $1 billion each year.

Figure 7.3: Domestic and Foreign Interest as % of GDP



Source: A Whitworth, Zambia Fiscal Performance (2002-2008)

Figure 7.4: Government and Private Sector Debt as % of GDP



Source: A Whitworth, Zambia Fiscal Performance (2002-2008)

In 2005, FDI inflows increased by 166%, compared to only 2% in 2004. Credit to the private sector as a percentage of GDP increased significantly, indicating domestic private activity (Figure 7.4). Private investment in particular, has risen dramatically since the late 1990s and now significantly exceeds public investments. Private investment peaked at 20% of GDP in 2007. Peaking at 11.9% of GDP in 2001, public investment dropped-off significantly. Much of this was explained by changes in the patterns of aid and the shift away from projects to budgetary support.

Prior to 2005, the Government had limited domestic revenues left over for public investment after paying interest and wages. The majority of public investment in Zambia over the last two decades has been donor funded. In 2003 donor-funded capital expenditure was worth 8.9% of GDP, comprising the bulk of public investment but has declined rapidly over the last five years and only started to be compensated for by domestically- funded capital expenditure in 2006.

The global economic downturn has impacted Zambia's fiscal position and projections through reduced revenue, in particular from lower import VAT receipts linked to the currency depreciation. The Government also decided to scrap the mining windfall tax introduced in 2008 before the global recession. In response to the revenue shortfall, the Government expanded the fiscal deficit to around 3% of GDP to ensure the budget could be fully executed. This was financed by additional IMF support and by expanding net domestic financing to 1.2% of GDP in 2008 and 1.9% of GDP in 2009.

According to the IMF, despite increased domestic borrowing compared to 2008 plans, the stock of public debt is projected to continue to fall over the next few years to 10.4% of GDP in 2011. So from a macroeconomic perspective the increased domestic borrowing due to the crisis is not a major risk. Is it impacting on credit available to the private sector or on interest rates? The rapid growth seen in credit to the private sector between 2005-2008 looks to have tailed off in 2009 – but it is still expected to grow by 16% in 2009 and as a share of GDP. This slowing-down of credit growth could be due to crowding-out from additional public sector borrowing but is also likely to be due to a tightening of credit conditions following the global financial crisis.

Another key concern to the sustainability of public finance is the public sector wage bill which is relatively high at 8% of GDP compared to other countries in the region. Although this is not a binding constraint at the moment, the high recurrent budget may be crowding-out much needed domestic investment if financed by domestic borrowing.

7.1.2 Firm perceptions of the macroeconomic environment

The improved macroeconomic environment is evident in recent business surveys. The latest Investment Climate Assessment (World Bank, 2008c) shows a significant reduction in the percentage of firms reporting macroeconomic instability as a major or severe obstacle to business operations in Zambia from 74% in 2003 to around 25% in 2008. The ICA also shows improvements relative to other business constraints – with macroeconomic stability ranked second in the list of constraints in 2003, compared to 7th in 2008.

The ZBS shows that enterprise managers rank macroeconomic instability as the 7th largest impediment to their business operations with around 25% of firms reporting it as a serious obstacle and only about 4% of firms reporting it as the most serious obstacle. Managers of large enterprises were more likely to say that macroeconomic instability was a serious obstacle – only second to electricity. Also firms in urban areas were 14% more likely to say that macroeconomic instability was a serious constraint, possibly due to the fact that urban businesses are more likely to be monetised and dependent on imports/exports.

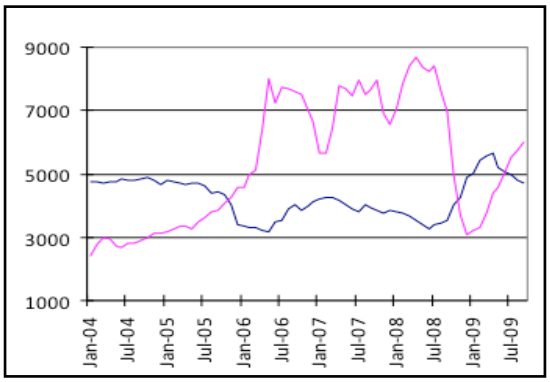
The global economic downturn has impacted on Zambia's macro-economy, most notably through a sharp depreciation of the exchange rate at the end of 2008. The impact of this on businesses can be seen clearly in results of surveys of business opinion between 2007 and 2008. One of the most significant differences in the 2007 Enterprise Survey and 2008 ZBS was that firms were far more likely to say that macroeconomic instability was a major constraint to doing business in 2008. This is most likely to be due to the extreme exchange rate volatility experienced in the latter half of 2008 and early 2009 and general uncertainly in the global economy. This would suggest that whilst there have been major improvements in the macroeconomic environment over the last decade this could be slipping back, although largely due to factors outside Zambia's control.

7.1.3 Is exchange rate volatility and real appreciation binding on growth?

Despite the overall dramatic improvements in the macroeconomic environment in recent years, exchange rate volatility remains a major issue. Deeper analysis is required to determine whether the level and volatility of the exchange rate is a binding constraint on growth.

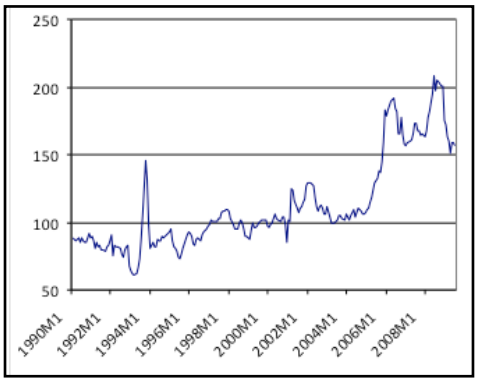
Whilst a snap-shot of Zambia's external position looks healthy, heavy dependence on a single export means that global copper price fluctuations remain a continued cause of volatility in the nominal and real exchange rates. Zambia's real exchange rate has experienced rapid bursts of real appreciation, most notably in 2005-2006 (Figures 7.5 and 7.6) with an appreciation of around 100% in just a few months.

Figure 7.5: Exchange Rate (ZMK/$) and Copper Price ($/mt)



Source: IMF

Figure 7.6: Real Effective Exchange Rate (2000=100)



Source: IMF

Table 7.2: Projected Impact of a Kwacha Appreciation From K4,500 to K3,500 per USD on Zambian Agriculture

	Current Scale		Anticipated Reduction	
	Production ($ millions)	Employment (thousands)	Net exports ($ millions)	Employment (thousands)
Export Crops	277	463	106	190
Domestic Staples	281	511	75	30
Total	557	975	181	220

Source: Zambia National Farmers' Union, 2006

Exchange rate volatility is a result of Zambia's economic dependence on copper exports and `associated vulnerability to external price movements. The impact of the exchange rate volatility on firms is significant. In 2008, when the currency depreciated sharply due to the global downturn, Zambian firms were much more likely to report macroeconomic instability as a constraint to business than in 2007 (ZBS). So are expected future currency fluctuations constraining growth? On the whole, growth does not seem to have responded to changes in the exchange rate – staying at around 5%. From 2005 to 2006, the economic growth rose as the currency appreciated, but it seems likely that both the growth and the appreciation were the result of the high copper price. Growth also seem to have held up well to the exchange rate volatility seen in late 2008/early 2009 linked to the global downturn – with growth doing much better than expected. This may lead to the conclusion that it is not a constraint. However, a number of firms complained severely about macro fluctuations, so it is something that should be investigated.

Real appreciation in particular also hurts exporters. Real exchange rate appreciation, when it happens, is a particular constraint to investment and to the growth of non-traditional exporters. The appreciation of the real exchange rate

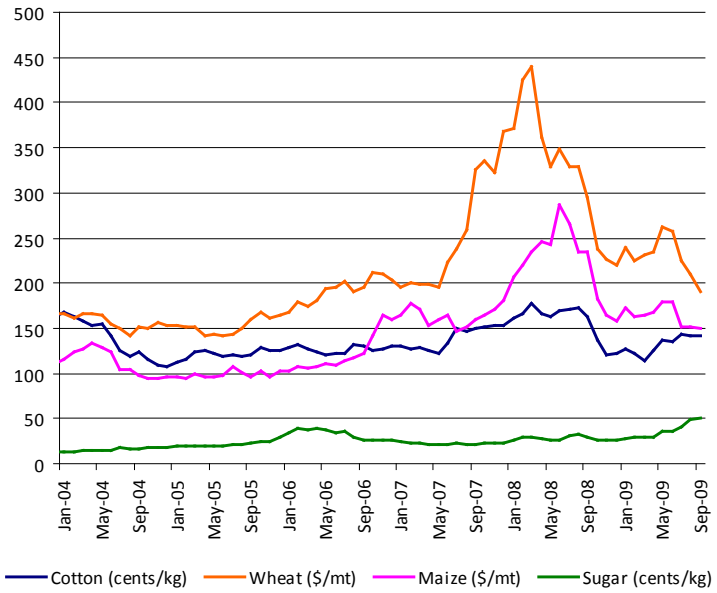
between 2005 and 2008 had a severe impact on some sectors, especially agricultural exports which showed a decline from 2005. There are knock-on effects in terms of a reduction in agricultural jobs that also have an impact on poverty. In 2006 the ZNFU analysed the potential impacts of appreciation on production of domestic staples and export crops (cotton, tobacco, sugar and floriculture) and associated employment. Agricultural exports had been growing dramatically between 1995 and 2005 prior to the appreciation. The study projected that an appreciation of around 25% (from a dollar rate of K4,500 to K,3500) would reduce the production of export crops by almost 40% in value terms from the current rate of US $277m to US $171m and 190,000 jobs would be lost.

So is the exchange rate a binding constraint to growth? The ZNFU study suggests exchange rate appreciation would definitely be a binding constraint to the growth of non-traditional exports. How do exchange rates relate to the growth driver, total non-copper exports? Surprisingly, total non-copper exports either grew or remained roughly the same in the face of the appreciation.

The main impact seems to be in terms of the composition of the export basket which shifted away from agriculture, as projected by the ZNFU study.

Agricultural exports fell during the 2005-2006 appreciation and not all have recovered. Most food exports recovered quickly after the depreciation, but non-food products did not – it seems there may be more reluctance now to planting non-food crops as a result. This may be linked to developments in the global markets as, at the time, global food prices were rising quite dramatically. In contrast, prices for non-food crops had been reducing or remaining flat. The resistance to planting non-food crops seems to be the major lasting effect of the appreciation, a logical reaction to low expected returns – which could relate to the expected price. Figure 7.7 shows the contrast in price developments between wheat, maize and sugar which roughly doubled in price between 2005 and 2007 and cotton which fell to below the 2004 levels several times during the same period.

Figure 7.7: Selected World Agricultural Prices (2004-2009)



Source: Zambia National Farmers Union

Is exchange rate policy helping to address volatility and appreciation?: Existing exchange rate policy has been to smoothen excess volatility but not intervene to manage the real value of the Kwacha. Many argue that given the dramatic impact on agricultural diversification (the heart of Zambia's poverty reduction strategy) the current policy stance is not sufficient and the Government should be targeting an undervalued Kwacha to counter Dutch-disease effects. The ZNFU study recommended active management of the exchange rate to avoid excessive volatility and sterilisation of foreign exchange earnings to avoid appreciation.

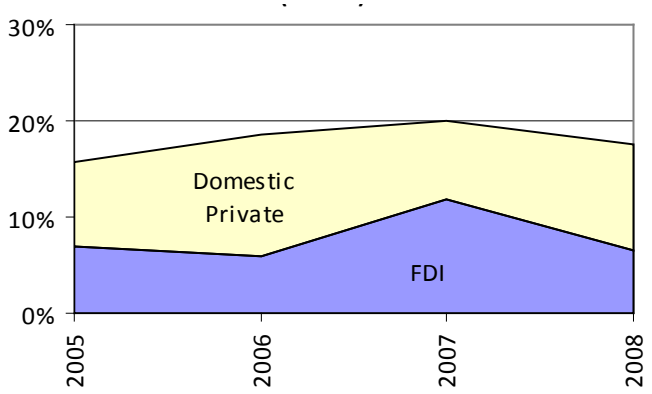
Arguments against managing the actual value of the Kwacha include the risk of increased inflation. Research in 2008 by the School of Oriental and African Studies (SOAS) questions, however, whether this is in fact the case for Zambia

and suggests that managing the exchange rate in 2005-2006 could have forestalled the real appreciation without having a significant impact on inflation. This research supports the general proposition that in developing countries (such as Zambia), exchange rate management could be an effective tool for safeguarding export competitiveness without inducing inflationary pressures.

Although the downturn has reversed some of the real appreciation (and most of the nominal appreciation), there is an obvious risk of a return to further sudden real appreciations as the copper price and global economy recover. This would have significant effects on non-traditional export competitiveness and on import-competing firms. Increased aid flows and the large special drawing rights (SDR) allocation from the IMF could also cause appreciation pressure if not managed well.

7.1.4 Investment and Business Climate

Figure 7.8: Private Investment: Foreign and Domestic (%GDP)



Source: IMF

The Zambian climate for investment and doing business has improved dramatically since the move to a market-based economy almost twodecades ago. Compared to other countries in the region, Zambia is a relatively easy country to do business and invest in; ranked 6th in SSA on the World Bank's 2010 Ease of Doing Business Index. The Zambian Government is continuing to implement reforms to improve the business environment and progress is evident from Zambia's improved position in global indices. However there remains significant room for improvement in some critical areas where Zambia performs badly: time and cost to export, import across borders and the high costs of licensing businesses.

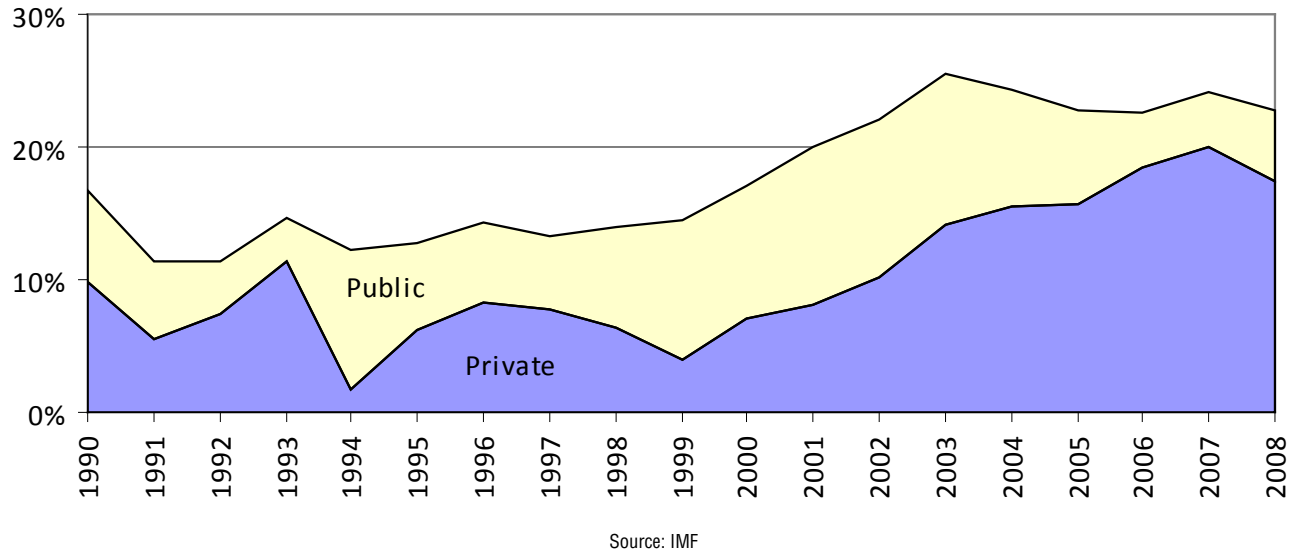
Table 7.3: Foreign Direct Investment, US $m (2002-2007 Cumulative)

	Total	$pc
South Africa	$14,914	$0.30
Zambia	$2,971	$0.24
Tanzania	$2,716	$0.06
Ghana	$1,940	$0.08
Uganda	$1,830	$0.06
Malawi	$301	$0.02

Source: African Economic Outlook 2009

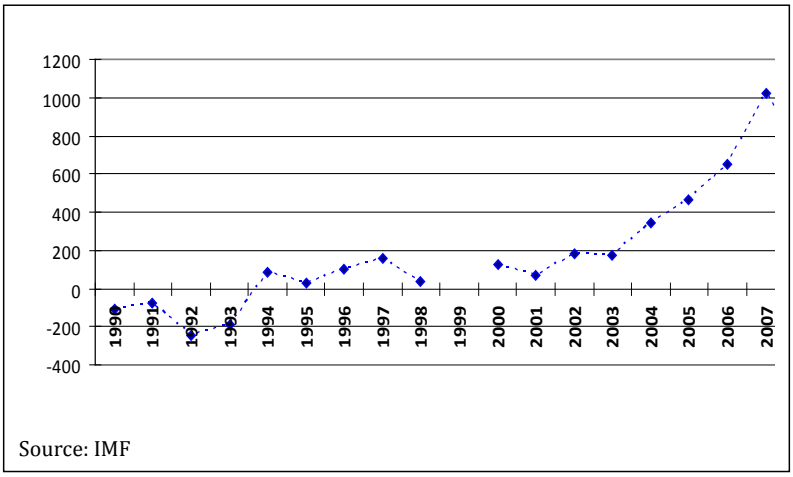
Investment Trends: Zambia's total investment rate has been increasing steadily over the last decade and has been over 20% of GDP for the last five years. Private investment, in particular has risen dramatically since the late 1990s and now significantly exceeds public investment. Just under half of private investment in Zambia is foreign investment (Figure 7.8). Private investment peaked at 20% of GDP in 2007 (Figure 7.9). FDI into Zambia is high relative to comparator countries, both in terms of total inflows and in terms of dollar per capita where Zambia is roughly on a par with South Africa (Table 7.3). FDI increased significantly over the last decade (since the privatisation of the mining sector), peaking at over $1 billion in 2007(Figure 7.10).

Figure 7.9: Gross Investment (% GDP)



Source: IMF

Figure 7.10: Foreign Direct and Portfolio Investment (US $ Millions)



Source: IMF

FDI is predominantly directed towards the mining sector and linked to the massive investment needs following privatisation, high copper prices and the favourable tax incentives given to investors. It is estimated that around 75% of FDI into Zambia is mining-related. According to a recent report for the ZDA, 27 FDI projects were undertaken in the metals sector between 2003 and 2009. The next most important sectors by number of projects were energy, communications, and financial services each with four projects over the same period. In terms of the value of FDI, significant levels have been invested by foreign banks in the financial sector.

Conditions for doing business: Overall, Zambia performs relatively very well in global rankings for the business environment. As of the 2010 report, Zambia is ranked 90th (out of 183) overall on the World Bank's Doing Business Index (Table 7.4). Zambia's overall global ranking has improved by 26 places in the last two years. Zambia has been consistently in the top ten for the region over the last five years and has also been improving, moving up to 6th for 2010 and overtaking both Kenya and Ghana (Table 7.5). Zambia is now above the median on most of the Doing Business indicators, performing particularly well on *Getting Credit* and *Paying Taxes*, but very poorly on *Dealing with Licences* and *Trading across Borders*.

Encouraged by Zambia's recent progress up the rankings, the Government has set a target of reaching an overall ranking of 50 in the next five years. Led by the Government's Private Sector Development Reform Programme Unit, technical working groups have been established to look specifically at how Zambia can improve the worst- performing Doing Business indicators.

Table 7.4: 2010 Doing Business Index in Zambia

	Global Ranking	Regional Ranking
Overall Ease of Doing Business	90	6
Starting a Business	94	10
Dealing with Licenses	151	30
Employing Workers	116	19
Registering Property	94	12
Getting Credit	30	4
Protecting Investors	73	12
Paying Taxes	36	6
Trading Across Borders	157	30
Enforcing Contracts	87	16
Closing a Business	83	12

Source: IFC, 2010

Table 7.5: Ease of Doing Business Rank

Top-10 in Sub-Saharan Africa (global ranking in brackets)		
2007	2009	2010
1. Mauritius (27)	1. Mauritius (24)	1. Mauritius (17)
2. South Africa (35)	2. South Africa (32)	2. South Africa (34)
3. Namibia (43)	3. Botswana (39)	3. Botswana (45)
4. Botswana (51)	4. Namibia (54)	4. Namibia (66)
5. Kenya (72)	5. Kenya (84)	5. Rwanda (67)
6. Ghana (87)	6. Ghana (87)	6. Zambia (90)
7. Seychelles (90)	7. Zambia (99)	7. Ghana (92)
8. Ethiopia (102)	8. Seychelles (105)	8. Kenya (95)
9. Zambia (116)	9. Uganda (106)	9. Ethiopia (107)
10. Uganda (118)	10. Ethiopia (111)	10. Seychelles (111)

Source: IFC, 2010

A ZBS which surveyed a nationally representative sample of 4,800 MSMEs (fewer than 50 employees) and 160 large enterprises, was conducted in 2008. The ZBS shows that the constraints most important to smaller businesses are quite different from those experienced by large businesses. Large businesses were more likely to rank electricity (38%), macroeconomic instability (34%), and the cost of finance (34%) and tax rates (23%) as serious constraints to doing businesses. For MSMEs, the most serious obstacles reported were access to finance (55%), transportation (39%) and access to land (34%).

The ZBS also reveals that formalisation of the private sector is a key issue for domestic MSMEs. The survey found that only 10% of MSMEs operate from formal premises and only 5% reported being registered with the Patents and Company Registration Office (PACRO), Zambian Revenue Authority (ZRA) or local government agencies. When asked why they were not registered, the answers given suggested that the high cost of registering a business and a lack of information on registering were barriers to formalisation. Of 4,801 firms surveyed, only 234 were registered with PACRO.

Starting and licensing a business: At 18 days and 28% of per capita income the time and cost required to start a business in Zambia are not excessively high. Since 2004 the time taken to open a business has more than halved whilst the cost has stayed the same. Zambia made significant improvements in the starting a business indicator in 2007 partly due to the modernisation and computerisation of the PACRO. In Lusaka, the time taken to register with PACRO has

now been reduced to three to five days from 35 days in 2006. However, the 2010 DB report shows that Zambia cannot afford to stand still whilst other countries are continuing to improve – in 2010 Zambia slipped down the rankings considerably (dropping 22 places).

Obtaining business licenses, and the particularly high associated compliance costs, are thought to be a more serious constraint than starting a business. The heavy burden of licensing is evident as large firms pay to circumvent the problem by hiring firms to handle all licenses (large hotels for example). GRZ has put in place a Business Licensing Reform programme which was approved by Cabinet in 2009 with the intention of reducing compliance costs by 30% in 2009 through the scrapping of 170 licences and streamlining of others.

Tax policy and administration is not a binding constraint: The World Bank's Inclusive Growth Study concluded that "taxes, although on the high side, are not excessively high nor out of line compared to other countries". The DB Index for *Paying Taxes* puts Zambia at 36th globally and 6th in the region. The DB report calculates a total tax rate of 16.1% of profits, significantly lower than both the regional average of nearly 70% and the OECD average of 45%. Whilst at 37 the number of payments required is high, this is in line with the regional average and the time taken to pay taxes at 132 hours per year compared to 306 hours is considerably better than the regional average.

The fact that tax rates and administration do not seem to be a major constraint may be linked to Zambia's tax base being particularly narrow, with large firms facing higher tax rates than MSMEs. This is evident in the ZBS, where 23% of large firms reported tax rates as a serious obstacle to business operations, compared to less than 10% of MSMEs.

It is not evident from the ZBS that tax rates or burdens create disincentives to enter the formal sector. When unregistered firms were asked why they were not registered, very few mentioned tax as the reason. Some elements of the tax system could even favour large businesses, particularly in agriculture where the tax system could disfavour MSMEs. The sales level for VAT registration is $40,000 so only large farmers can take advantage of the significant VAT exemptions in the sector. There is also a 3% turnover tax on small agricultural producers. Similarly, the tourism sector is seldom part of tax incentive schemes provided to other non-traditional exports. Some large (foreign-owned) tourism providers negotiate special deals – distorting competition in the industry and disadvantaging small local tourism enterprises.

Firms report a number of problems around the high frequency of unexplained or unjustified changes in tax policy and tax uncertainty is an issue that is rising up the agenda – particularly in the mining sector. The Government has made significant changes to mining tax regime over the last 18 months. The tourism industry has also been affected by ad-hoc changes to tourist visa fees which were more than doubled for British and American tourists in 2008 and subsequently reversed later in the year.

Governance and corruption: Zambia ranks around average globally and regionally on the DB indicators relating to *protecting investors* and *enforcing contracts*. The time taken to enforce a contract in Zambia is 471 days which is just slightly above the average for OECD countries. Around one quarter of firms questioned for the ZBS said that corruption was a major or severe obstacle to doing businesses; very few firms said corruption was the most serious obstacle. Large firms were less likely than MSMEs to report corruption as a serious constraint – with fewer than 20% of large firms saying corruption was a major or severe obstacle.

According to the World Bank Governance Indicators, Zambia scores relatively well on political stability but low on control of corruption and government effectiveness. The World Bank's IG Study also found that in a cross-country comparison, given its GDP level, Zambia scores higher than estimated on most governance indicators. Trends in indicators show that Government effectiveness has been improving which is a sign of effective reforms. The IG study was inconclusive on whether weak governance was a binding constraint, given that most of the governance indicators are low. The ZBS would suggest that corruption is not the most binding constraint; however it may be that firms are finding ways to circumvent the problem of corruption, so, whilst it may be a cost to their business, it may not be preventing investment.

Trading across borders is not a binding constraint: Zambia has one of the most open trade regimes in Africa according to the IMF's Trade Restrictiveness Index and average tariffs are lower than other SSA countries. Despite this, very few Zambian firms export products or services overseas: of 4,801 firms surveyed in the ZBS 2009, only 15 reported to be exporters. Why are Zambian firms not looking outward to the regional markets in the eight bordering countries? When Zambia's domestic market is so small there are significant opportunities for growth from exporting to more populous neighbours such as DRC and Zimbabwe.

One part of the answer is likely to be burdensome and costly border procedures. The DB indicators show that the number of documents and the time required to import and export goods to and from Zambia are excessively high globally and within the region. The trade indicator is where Zambia performs worst on the DB index – ranking at 157th of 183 countries, so in the bottom 15% globally. This is partly linked to Zambia being landlocked and the sub-indicators reveal that the major problem is the time taken to export and import at 53 and 64 days respectively. However, the indicator also shows that the bulk of the total time is actually taken up preparing the required documentation – a factor which is not related to being landlocked and well within Zambia's control to improve. Given the significant room for improvement, this is one area where a DB Technical Working Group has recently been established.

Improvements at Zambia's main border (Zambia-Zimbabwe-Chirundu border) have been underway for the last three years with Chirundu set to become a One-Stop Border Post in 2010. Investments have involved new immigration and customs facilities, computerisation and mobile truck scanners which cut down on physical inspections from 80% to just 20% in 2008 (GRZ 2008, PAF Performance Report). ZRA has also introduced a Client Accredited Programme where a small number of large exporters and importers can be accredited to self-value their goods, not requiring customs officers to calculate duties or search trucks at the border. The programme was rolled out to 16 large businesses in 2008 and has had a significant impact on the border-crossing times for these companies. However this programme has not improved the situation for the many small business that are still required to use clearing agents to help prepare documentation and have significant waiting times.

Table 7.5: Redundancy Costs

(Weeks of Salary)	
Zambia	178
Tanzania	18
Malawi	84
Mozambique	134
Ghana	178
Uganda	13
Rwanda	26
SSA Average	67.6

Source: IFC Doing Business 2010

Labour regulation is excessively high: Labour costs are considered to be high in Zambia and labour productivity low. Zambia ranks 116th on the DB *employing workers* indicator and performs averagely on most of the sub-indicators. Where Zambia performs particularly poorly in global comparison is on *redundancy costs* which are unusually high at 178 weeks of wages, around three times the SSA regional average (Table 7.6). The excessively high costs are reported anecdotally by firms as a major issue resulting in inflexibility in the labour market and worker productivity.

Excessive labour regulation clearly discourages permanent employment and formality. However, the ZBS reveals that very few firms reported labour regulation as a serious obstacle to doing business and large firms were even less likely than MSMEs to complain about labour laws. This may be due to the fact that informal firms would not encounter labour regulation and that large formal firms have found ways of getting round the problem, using casual or contract workers for example.

Land rights are not a binding constraint: Zambia performs relatively well on the DB indicator for *registering property*. In Zambia, it takes on average 39 days to register property; about half of the 80 day regional average. The World Bank's IG study concluded that access to land is not a binding constraint on inclusive growth. Whilst only between 6 and 15% of total land allows for ownership rights, despite the dominance of customary land holding, the land system is not perceived as a binding constraint largely because land is abundant with only 40% of arable land under cultivation. Lack of available land is not mentioned as a constraint to small- scale farmers who also do not complain that land cannot be used as collateral for loans. However, in the more recent ZBS, Zambian businesses overall rated access to land as the 4th most serious obstacle to their businesses and 14% of firms say it is the most serious obstacle. Large firms are much less likely to say that access to land is a serious constraint possibly because they are more likely to have full title on their land. Rural MSMEs were slightly more likely than urban businesses to say that access to land was a serious obstacle.

Lack of land rights may be a constraint from a long-run perspective as it creates risk for future returns. Real constraint is the lack of serviced and accessible land which means that rural infrastructure is a binding constraint to farm operations. There is also a backlog of land registrations which indicates inefficiencies in the administrative system.

7.2 MARKET FAILURES

7.2.1 Innovation

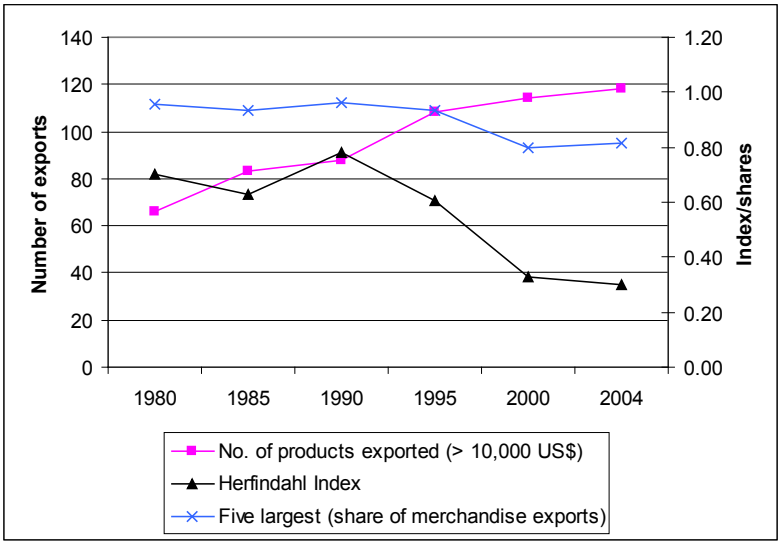
For entrepreneurs to devote their time and money to innovation, they need some kind of monopolistic advantage over their inventions for a period of time in order to recoup their investment costs and make profit. Where they are unable to appropriate the gains from their invention because their competitors imitate them at low or no cost at all, entrepreneurs will have no incentive to innovate. One way of seeing whether a country has a problem of low appropriability or not is to check whether innovation is taking place.

But how can it be determined that a country is innovating? In developed countries innovation is often about pushing technological frontiers leading to the invention of new products. In developing countries such as Zambia, however, innovation is more the successful diversification of the economy by, for example, imitating existing products and producing them at lower cost, developing new varieties, and increasing the number of exports and the export destinations. Checking the extent of a country's export diversification, the sophistication of the products that it exports and the range of countries to which it exports are useful ways to learn whether the country is innovating.

Using various measures, it can be concluded that Zambia has diversified her exports but export sophistication remains low for her level of development. Is this low level of export sophistication due to market failures – negative information and coordination externalities?

Over the past few decades, Zambia has managed to broaden her export base. In the period 1980-2004 the country nearly doubled the number of products exported (Figure 7.11)and halved its Herfindahl index[8] breaking away from the group of least diversified economies in SSA (Figure 7.12). In 1980, the five largest Zambian exports accounted for 96% of exports yet by 2004, they made up about 80%.[9]The number of exports increased from 501 in 1998 to 704 in 2005.[10] A large share of these exports – between 74% and 80%– was exported again the following year. The number of countries buying Zambian products expanded from 68 in 1997 to 105 in 1999, before falling down to 82 in 2003, and rising again to 95 in 2005. Non-traditional exports (NTEs) have increased, although they continue to make up only a small share of exports. Since the main NTEs are farm products, scaling-up these activities is bound to have a positive effect on the income of the rural poor.

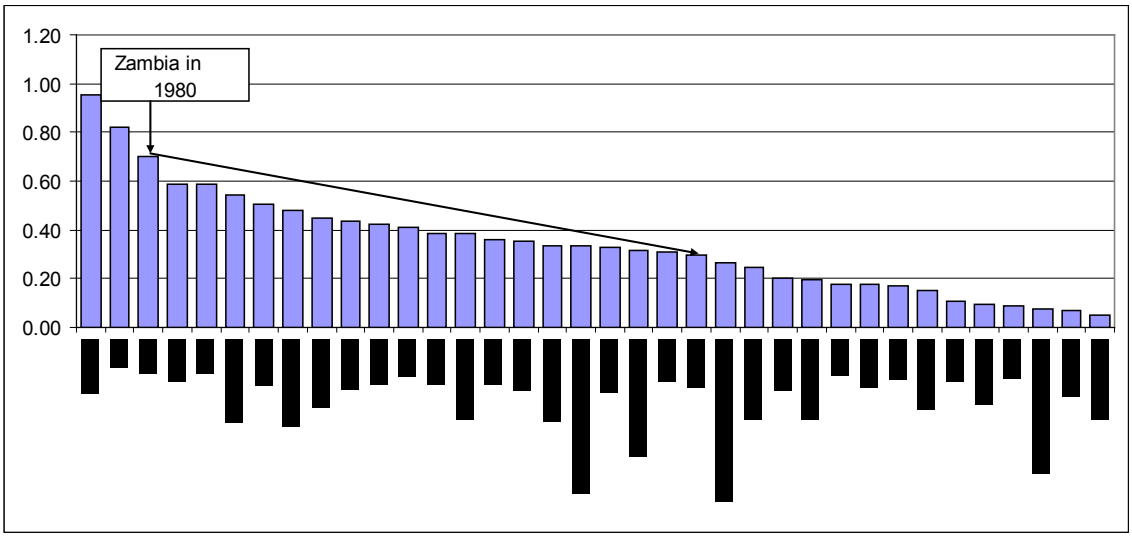
Figure 7.11 Degree of Export Diversification, Zambia



Source: World Bank, Export diversification data, PRMED

8 The Herfindahl index measures the degree of export diversification. The higher the Herfindahl index, the lower the degree of diversification.
9 Although the economy has grown rapidly and trade has expanded in absolute terms, it is declining in relative terms.
10 Source: World Bank (2007b).

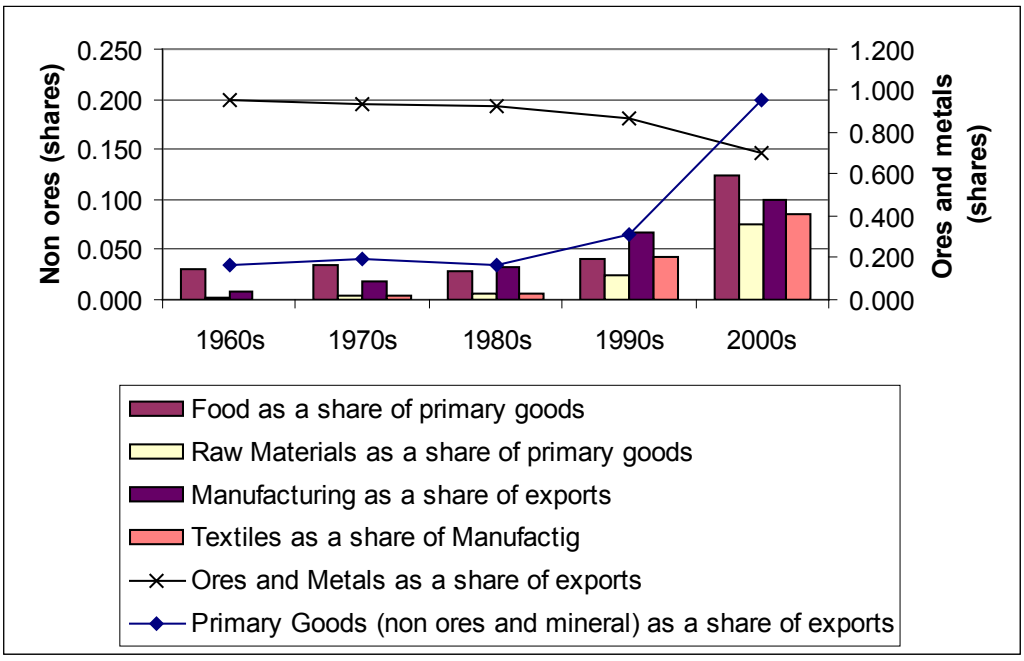
Figure 7.12: Non-oil Herfindahl Index for Countries in SSA, 2004



Source: World Bank, Export diversification data, PRMED.

Zambia has diversified by capitalising on her advantage in land-intensive primary goods (Figure 7.12). Mining products still dominate merchandise exports, but while in the three decades after independence Zambia relied exclusively on exports of ores and metals, in the last 17 years agricultural exports, including non-traditional farm exports, have started playing a much more prominent role.[11]Zambia's share of food and other farm products in total exports increased from 4%in the 1980s to 20% in the early 2000s. Even small-scale farmers have diversified – by 2002-2003, one out of five grew cotton, and 45% derived income from animal products and 17% from horticulture.

Figure 7.13: Composition of Exports in Zambia



Source: World Bank, Export diversification data

The decline in the export share of mining hides important trends in the mining sector itself which has diversified away from copper into other base metals and precious stones. In 1995 other base metals were fifth on the list of Zambia's top five exports, and they accounted for less than 2% of total exports. By 2002 other base metals moved to the second spot

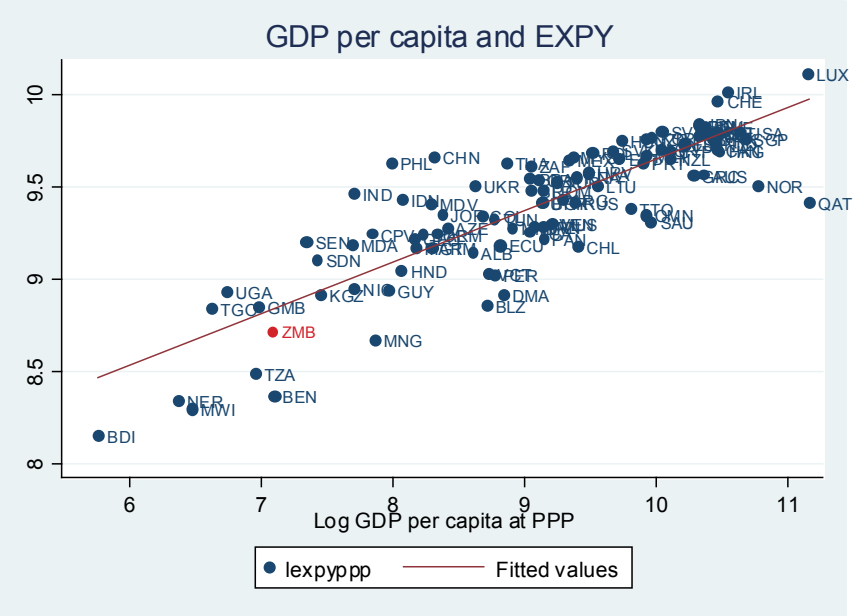
11 The total gross value of agricultural output rose by over 50% between the mid-1990s and 2001-2004. Cotton and tobacco have contributed to export-led growth. Cassava, sweet potato, cotton and groundnut production have increased.

and represented 15% of Zambia's merchandise exports. Precious stones, which were not on the top five list in 1998, represented nearly 4% of total exports.

It should be noted that, while acknowledging the obvious diversification in Zambia's exports, this may be somewhat overstated. There are a growing number of exports that require the same capabilities as copper processing. It is common for a country to innovate and diversify by utilising the capabilities it has acquired in the production of its main exports but a detailed examination of what is happening shows that some of these are mere re-exports. Inorganic acids growth is entirely attributable to sulphuric acid, a primary input in copper refinement, with over US $20 million in exports in 2008. Of the sulphuric acid exports, 99.6% went to the DRC. It is noted that 100% of the sulphuric acid exported to the DRC had been imported that same year. Parts are not broken down further but it is likely that these included spare parts for mining equipment. In 2008, Zambia imported US $99 million worth of parts, and exported US $16 million, US $11 million of them to the DRC.

Based on Figure 7.13, the conclusion regarding export sophistication is less ambigous. It graphs the EXPY of different countries relative to their GDP per capita. EXPY is a measure of the country's export sophistication. Put simply, it tries to capture the extent of value addition of a country's exports. EXPY is derived in two stages. First, is the computation of PRODY which assigns an income content number to each product exported by a country.[12] Second, EXPY is derived by aggregating the PRODY for all goods exported by a country. EXPY therefore tries to answer the question, to what extent does the export basket of a country show the value addition matching the level that could be expected from its level of income[13]? In Figure 7.14, Zambia's presence below the best-fit line indicates the low sophistication of its export basket. Among SSA countries with a similar GDP per capita, Zambia fared better than only Tanzania, Benin and Malawi while Uganda, Togo, Gambia and Senegal had a higher EXPY.

Figure 7.14: GDP Per Capita and EXPY



Source: Harvard Center for International Development; Note: Data are for 2005.

So, although Zambia may be diversifying her export basket and export destinations, her export sophistication remains low for her level of development. On one hand, Zambia's EXPY may be considered overstated because it gets a big boost from the PRODY of copper - the other main producers of which (Chile, USA, Peru, China, Australia, Indonesia, Russia and Canada) have a much higher GDP per capita than Zambia's. On the other hand, the presence of a copper industry with the capabilities that accompany a well developed mining industry could be viewed as a basis for developing a more sophisticated export basket.

12 The income content being a proxy for R&D. Accurately, therefore, this is a measure of revealed export sophistication rather than export sophistication itself.

13 Within the Growth Diagnostic HRV literature, this is what is referred to as export sophistication.

7.2.2 Coordination and Information Failures

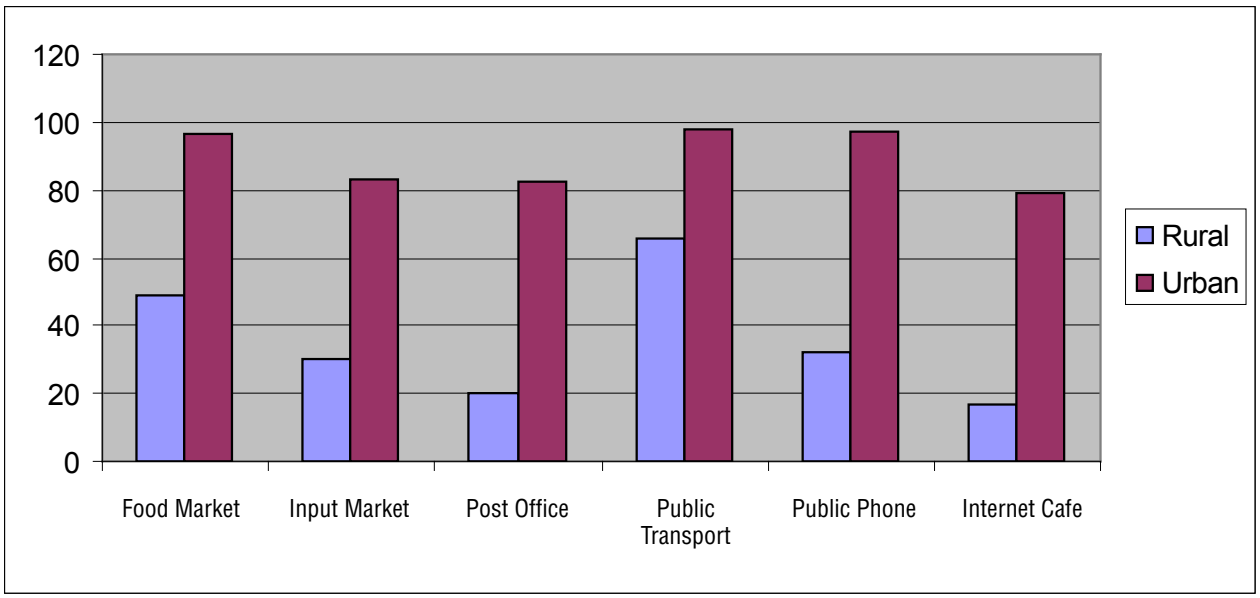
Zambia's low level of export sophistication is symptomatic of the coordination and information failures that constitute market failures. Market failures exist when the market malfunctions and fails to bring about economic efficiency. Coordination and information externalities are contributing in various ways to low export sophistication. Examples in agriculture, manufacturing and tourism show that coordination and information externalities are a huge drag on Zambia's growth and market failures in general are a binding constraint to growth.

Coordination failures exist when a country fails to provide sufficient non-traded inputs or complementary goods needed by enterprises to innovate, market their products successfully, and make a profit. These services link the supply chain between producers and consumers, and require simultaneous, large-scale investments in various sectors of the economy (Rodrik, 2004). They include the provision of infrastructure and institutions linking the different steps in the production chain, access to markets, and basic services such as irrigation, electricity and water. Information failures on the other hand may arise when information about economic opportunities has the potential to benefit many investors, but is costly to gather. As a result, no single potential investor gathers the necessary information. Examples include marketing, research and product quality information.

The incentive to establish these kinds of services is limited for an individual entrepreneur due to small market size in the case of private services, and due to non-exclusiveness in the case of public services. Hence coordination and information failures should be described as the failure of the market to respond to potential investors' demands for a diverse set of services. This potential problem is especially common in sparsely populated countries such as Zambia, and implies that the government needs to focus their public investments on pockets of growth rather than country-wide investments, and may need to make initial investment in certain private services that would have been provided by the market had economic activity reached a certain level.

Arnold *et al.* (2006) analyse the relationship between the performance of local service providers and the productivity of firms in downstream industries, using Investment Climate Surveys with panel data from 1,185 firms in ten SSA countries. After controlling for systematic differences at the country, industry and firm level, the study for example predicts that Zambian firms would be 13% more productive if they enjoyed the same access to telecommunications as South African firms, and 6% more productive in the case of access to banking services. Were Zambian firms to have this level of access, the impact on the country's GDP growth would be significant. Rural areas are at a disadvantage to urban areas when it comes to the very basic facilities needed for a functioning market (Figure 7.14).

Figure 7.15: Number of Households with Access to Facilities within Five Kilometres



Source: CSO (forthcoming)

There are cases of coordination failures and specific industry cases where pockets of private sector growth have been achieved when supported by crucial services and thus satisfy the second principle of differential diagnosis: "*If a con-*

straint is binding, then movement in the constraint should produce significant movement in the objective function"[14]

Agriculture is a good example for learning about the existence of the coordination and information externalities that might be holding back innovation. It is the sector in which the majority of Zambians earn their living, meaning that even small increases in productivity would have a very big impact on the country's growth. But because Zambia's smallholder farmers do not have access to fertiliser, chemicals, the right seeds, and irrigation and do not have the information they need to use these things properly,yields per hectare and productivity remain low. Although higher than the yields in SSA, average cereal yields in Zambia are much lower than those in the rest of the world and than yields were in Zambia in the early 1980s[15]. Food security remains an issue as the volatility in domestic cereal production is much higher than the average for SSA and the world. These outcomes are not surprising considering the use of irrigation and fertilisers in Zambia. The percentage of irrigated cropland in Zambia in the period 1999-2001 was less than 1%, compared to nearly 4% in SSA and 18% in the rest of the world. In 1999, the average annual fertiliser use was not only nearly ten times less than the use of fertilisers in the rest of the world, but was below the use in SSA.

Table 7.6: Agricultural Production and Yields

	Zambia	SSA	World
Cereal, 1999-2001			
Average crop yield (kg per hectare)	1437	1221	3096
Percentage change since 1979-81	-14%	9%	41%
Agricultural land			
Hectares of cropland per 1,000 population, 1999	518	274	251
Per cent of cropland that is irrigated	0.9%	3.8%	18.3%
Agricultural inputs			
Average annual fertiliser use, 1999 (kg per ha)	10	12	94
Food security			
Volatility in domestic cereal production, 1992-2001	24.6%	6.5%	3.5%
(average per cent variation from mean)			
Net cereal imports and food aid as a per cent of total	17.7%	13.5%	n.a.
Consumption, 1998-2000			

Source: World Resource Institute (http://earthtrends.wri.org)

Farmers' market access problems caused by poor road networks are augmented by the fact that there are very few channels between multiple smallholder farmers and food processing firms. As a result, agro-processing firms operate at low rates of capacity utilisation, making economies of scale difficult to achieve and acting as an obstacle to the expansion of the agro-processing industry. The food processing industry in turn lacks access to information on modern food processing, packaging and labelling facilities. Modern food research, testing and product development facilities are absent or inadequate, limiting the ability of firms to expand exports, especially to developed country markets.

Bramilla and Porto (2006) collected farm level productivity data from several districts in Zambia, making it possible to show how maize and cotton productivity are negatively correlated with weak service performance as measured by the Investment Climate Surveys (Table 7.10). In the cotton sector, the firm-productivity rank of Zambian districts is 90% correlated to the rank of availability of phone lines in the same district, 90% correlated to the rank of reliability of transport services, and 87% correlated to the rank of the cost of finance. In the maize sector, the firm productivity rank of Zambian districts is 77% correlated to the rank of availability of phone lines, while the correlation to reliability of transport services and cost of finance could not be statistically confirmed.

14 (Hausmann, Klinger and Wagner, September 2008, Table 5, p.32).

15 Agriculture market liberalisation initiated by the new government in 1992, which led to a significant decline in smallholder farmers' access to improved farm inputs, explains much of this fall in yields.

Table 7.7: Spearman Rank Correlation between Farm Yields per Hectare and Services Performance in Zambian Districts

	Maize	Cotton
Local availability of phone line (no of days to get a new landline connection)	-0.77**	-0.99**
Local availability of reliable transport services (no of days per year with transport failures)	-0.4	-0.90**
Local cost of finance (perceived difficulty of local firms)	-0.15	-0.87*

Source: Mattoo and Payton (2007); Bramilla and Porto (2006); World Bank (2002)

Note: The hypothesis of independence between the two rank orderings can be rejected at the 90%(*) or 95% (**) confidence levels.

The lack of middlemen and information is especially severe in sparsely populated, remote rural areas. Agricultural extension services provided by the government, NGOs, donor-funded projects or churches may fill that need to some extent. However, extension services provided by the government were more common before the 1991 reforms began. The purpose of these reforms was to help farmers in identifying markets, adopting new techniques, reducing fertiliser costs, and reducing livestock diseases. In a study of Zambia it was found that households with access to extension services had higher levels of productivity than those without (Balat and Porto, 2005). Poor small-scale farmers were the ones most affected by the decline in extension services as the large-scale farmers were able to absorb more easily the fixed cost of finding the knowledge or accessing alternative information channels.

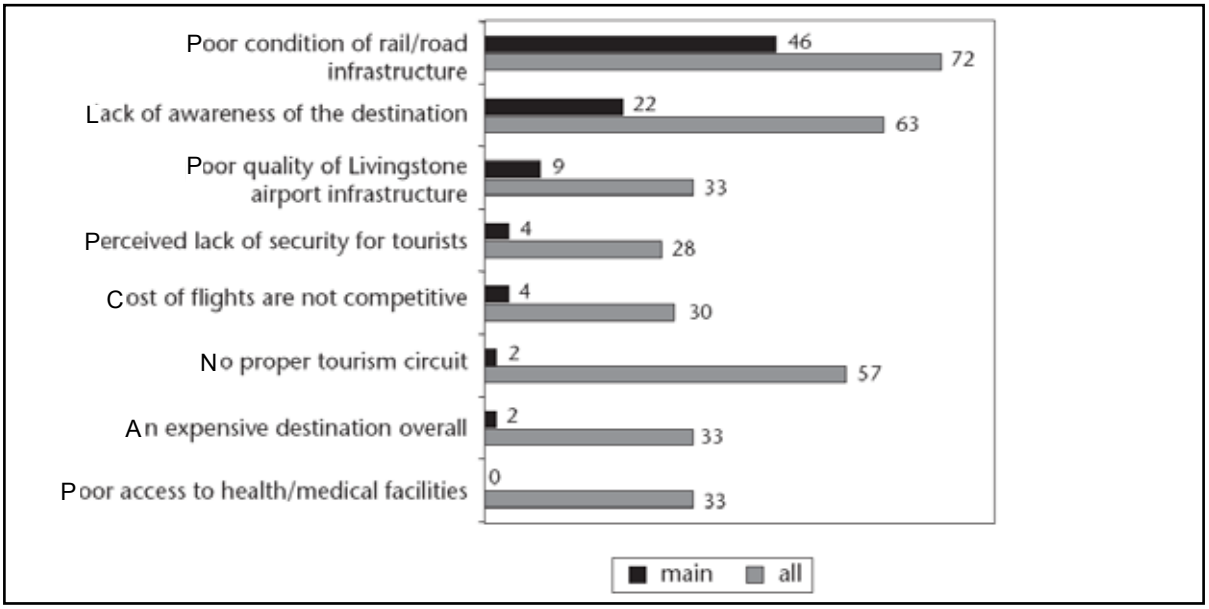
The deterioration in extension services has encouraged some alternative methods of information transmission, for example technical assistance combined with credits under out-grower schemes. Under these schemes, an entrepreneur contracts a smallholder to produce a commercial crop which is then later marketed by the entrepreneur. The entrepreneur provides the necessary technical assistance to reach the agreed production levels and guarantees a certain level of market outlet.

These schemes have been very successful and indicate that overcoming coordination failures may ignite growth in the agricultural sector. National production of cotton tripled between 2000 and 2003, and credit repayment improved from 65% to more than 90% with the introduction of a refined out-grower arrangement (World Bank, 2008a). Currently about one-third of Zambia's smallholders participate in some form of out-grower scheme arrangement, of whom 85% are engaged in cotton production.

Zambia's cotton sector is another success story, documented in Ellis and Freeman (2005). Cotton production grew rapidly in the mid-1990s but growth was interrupted by problems with credit recovery as new entrants into the sector encouraged increased side-selling by producers. The world's largest cotton trader, Dunavant, which operated one of the two major cotton operations in Zambia, responded to this challenge by implementing the so-called 'distributor' system whereby extension agents are transformed into self-employed contractors, who on-lend and provide extension support to producers. The 'distributors' are paid by the cotton companies on the basis of seed cotton volume-delivered and the level of loan recovery achieved. Although the system is still in its infancy, yields have been gradually increasing in recent years, production has surpassed its mid-1990s peak, and credit recovery has improved substantially.

Examples of coordination externalities are abundant in manufacturing and services. In tourism, supply chains and distribution channels are dominated by international firms that have access to global reservation systems. In addition, the consolidation of transport, hotels and tour operators makes it hard for small operators to compete. The coordination failure problems within the tourism sector are also confirmed through perception survey data: business people in the sector were asked whether a range of potential problems were constraints on business and which of them might be binding constraints (Figure 7.16).

Figure 7.16: Constraints to Tourism Growth as identified by the Hospitality Sector in Zambia



Source: Government of the Republic of Zambia (2006a)

The gemstone mining sector is another industry with untapped potential that offers an example of the obstacles posed by inadequate infrastructure and basic service provision. A precondition for investment in the gemstone sector is access to usually remote mining areas. According to a World Bank survey, the large gemstone firms cite lack of infrastructure as the main constraint to investment in the sector. The most important mines are 70km from an all- weather road, 51km from electricity and up to 55km from water. Of the 891 enterprises with licenses, only one company mines year round. Other firms work only half a year.

CHAPTER 8

CHARACTERISING CONSTRAINTS TO INCLUSIVE GROWTH

The inclusive growth diagnostic for Zambia has thus far looked at the various constraints in isolation from each other. To move from here to an analysis of policy implications, however, requires bringing the constraints together to identify any emerging patterns. It is easy to be overwhelmed by the long list of constraints that an analysis like this one uncovers. For policies and their interventions to be effective, the root causes of the symptoms that have been identified must be understood. Resources to resolve the problems are scarce and should therefore be targeted at leveraging key points of the growth problem tree, areas producing the greatest impact at minimal cost.

8.1 DECISION TREE FOR ZAMBIA: ATTAINING ACCELERATED AND INCLUSIVE GROWTH

The inclusive growth decision tree is an expanded version of the tree proposed in the HRV Growth Diagnostics and summarises the contents of this report. Figure 8.1 provides the overall picture of the constraints to growth. Its message is that Zambia is failing to achieve accelerated and inclusive growth because of two main problems: the employability of human capital and the business environment. Both arms of the problem tree must be addressed to tackle the question of inclusive growth. It is possible to accelerate growth by resolving the constraints on the right arm of the tree but this growth will not be inclusive if the constraints on the left arm are not also resolved. In other words, taking action to improve the supportiveness of the business environment may promote growth but without simultaneous action to address the general employability of the population, growth will not be inclusive and pro-poor.

Figure 8.1: Inadequate Inclusive Growth

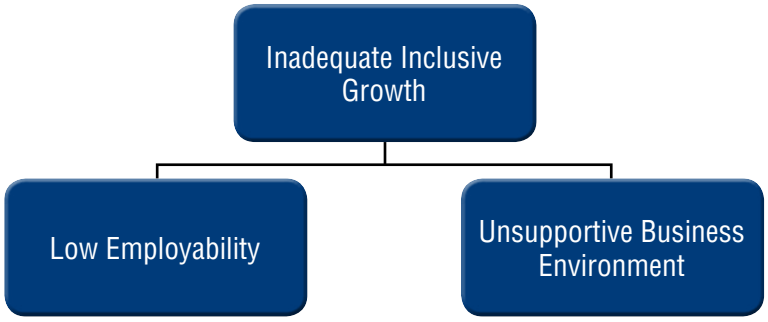


Figure 8.1 is unsurprising and needs to be unpacked to see what lies below both of these conditions. Figure 8.2 shows the hierarchy of key constraints to employability. Low employability results from two main causes - low productivity and poor health. Because low productivity manifests more plainly in sectors where the majority of the poor are concentrated, notably the agriculture sector, the result is the economy's restricted capacity to create jobs and reduce poverty. Low productivity is in turn due to Zambia's low education status which, for the poor, is a result of the high cost of post-primary school education, limited secondary school places and insufficient opportunities for tertiary education. The situation is not helped by the low quality of education at all levels which has been deteriorating over time despite improvements in enrolment. Poor health is a symptom of the high prevalence of diseases such as HIV and AIDS, malaria and tuberculosis.

8.2 ROOT CAUSE ANALYSIS

Figure 8.2 outlines the constraints related to low employability in a neat hierarchy, showing how one cause leads to another high order cause, although in reality these constraints are mutually reinforcing. Poor health due to chronic diseases such as HIV and AIDS is a major cause of low productivity for example. Chapter 4 demonstrates how in rural areas, the burden of disease mounts during the rainy season when labour demand for agriculture activities is also high and when hunger is at its peak because food stocks are at their lowest. Unless the complexity and dynamics of this

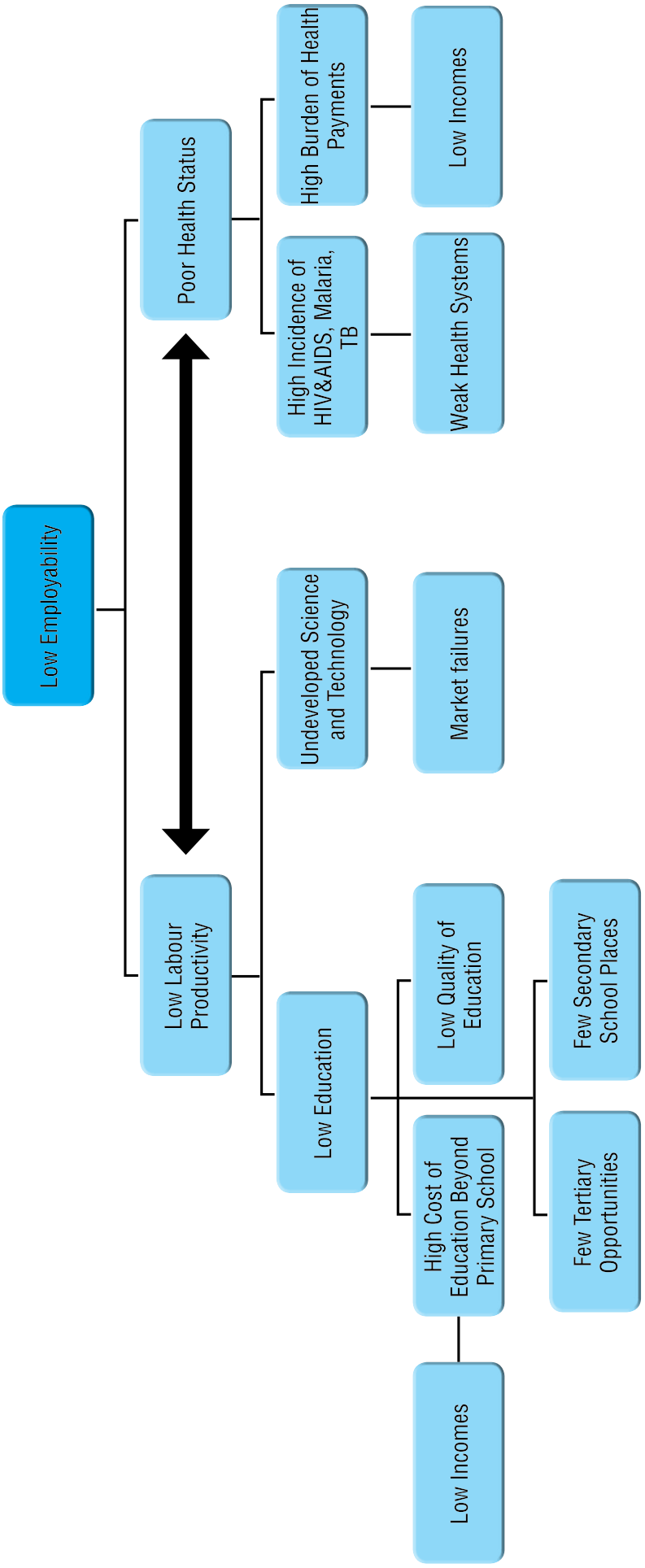


Figure 8.2: Low Employability Problem Tree

problem are appreciated, initiatives to relax the constraint of low employability may not amount to much.

The problem of the poor business environment also arises from two binding constraints: low levels of access to finance for the small and medium enterprises and low returns to economic activity (Figure 8.3). Before using the problem tree to summarise what is leading to these two problem situations, it is worth once again emphasising the mutually reinforcing nature of the constraints identified – low levels of access to finance for SMEs is a major cause of low returns to economic activity. Separating these constraints in the hierarchy is simply a matter of ease of presentation.

Access to finance is generally not a problem for large enterprises, although access to credit and other financial services and the high costs associated with them are still major constraints in Zambia for SMEs, a segment of the economy that has great potential to boost economic growth and reduce poverty. The main reasons for this are large interest rates spreads which result from high overhead costs driven by a scarcity of critical skills, fuelling the high cost of human capital in the financial sector. Signs of improvement can however be found in both empirical and perception data, indicating that financial services and infrastructure are responding to new economic opportunities. A main reason for poor financial intermediation in Zambia, particularly in rural areas, is low demand for financial services as a result of low incomes.

Inclusive Growth Diagnostics found Zambia's macro environment after 2002 improved and overall not a risk to growth. Nevertheless two main risks remain that need to be tackled. The first is the exchange rate volatility connected to swings in copper prices and the actions of portfolio investors. The Kwacha appreciation of 2005 and 2006 hit the country's export diversification progress hard, particularly agriculture exports. The second is public finance sustainability as a result of the narrow tax base explained largely by the significant tax exemptions enjoyed by some investors and the insufficiently developed tax administration apparatus. This results in considerable challenges for Government in providing the necessary complementary services to private sector investment such as infrastructure. In the case of low returns to economic activity, low private appropriability and low social returns are the main underlying factors. Underlying low appropriability are government failures and Zambia's low export sophistication. The Inclusive Growth Diagnostics of the expected key government actions include those targeted at ensuring that private sector activities are not constrained by an unsupportive investment and business climate. Thankfully, the investment and business climate in Zambia has improved dramatically over the last five years and is clearly not on the whole a binding constraint on growth. Compared to other countries in the region Zambia is a relatively easy country to do business and invest in, ranked at 6th in SSA on the World Bank's 2010 Ease of Doing Business Index. The Zambian Government is continuing to implement reforms to improve the business environment and progress is evident from Zambia's improved position in global indexes. However, there remains significant room for improvement in some critical areas where Zambia performs badly: time and cost to export and import across borders, high costs of licensing businesses and unusually high redundancy costs. The high costs associated with trading goods, particularly for SMEs, are a binding constraint on the growth of exports.

Low export sophistication is characteristic of coordination and information failures such as poor access to domestic and international markets, inputs, extension services and information. High indirect costs arising from these failures – most of which are attributable to infrastructure service-related inputs into production including power, transport, water, but also insurance, marketing and professional services – undermine Zambia's ability to innovate and become more competitive in world markets, limit job creation and therefore serve as a major constraint to growth. Coordination failures are especially severe for the poor who cannot afford the fixed cost associated with finding alternative sources for inputs, marketing, information and other types of services. The creation of positive coordination externalities will demand a delicate cluster strategy given the limited public resources in this sparsely-populated, large, low-income country.

In terms of social returns, Zambia's natural resource base is not binding to growth although there are concerns about the unsustainable utilisation of these resources. If this continues, the environment may begin to constrain growth and poverty reduction efforts. Nevertheless, it is found that climate variability, particularly given its negative effect on agriculture, is a binding constraint to accelerated and inclusive growth. Estimates suggest that climate variability is reducing Zambia's growth by 0.4% per annum which translates into US $4.3 billion over a ten-year period which could rise to US$7.1 billion were harsher conditions such as the droughts of 1985 and 1995 to reoccur. As many as 300,000 people live in poverty because of climate variability.

The fact that infrastructure is a binding constraint to Zambia's inclusive development is evidenced by Zambia's poor standing relative to countries on the same level of development in Southern Africa and SSA. Upgrading infrastructure

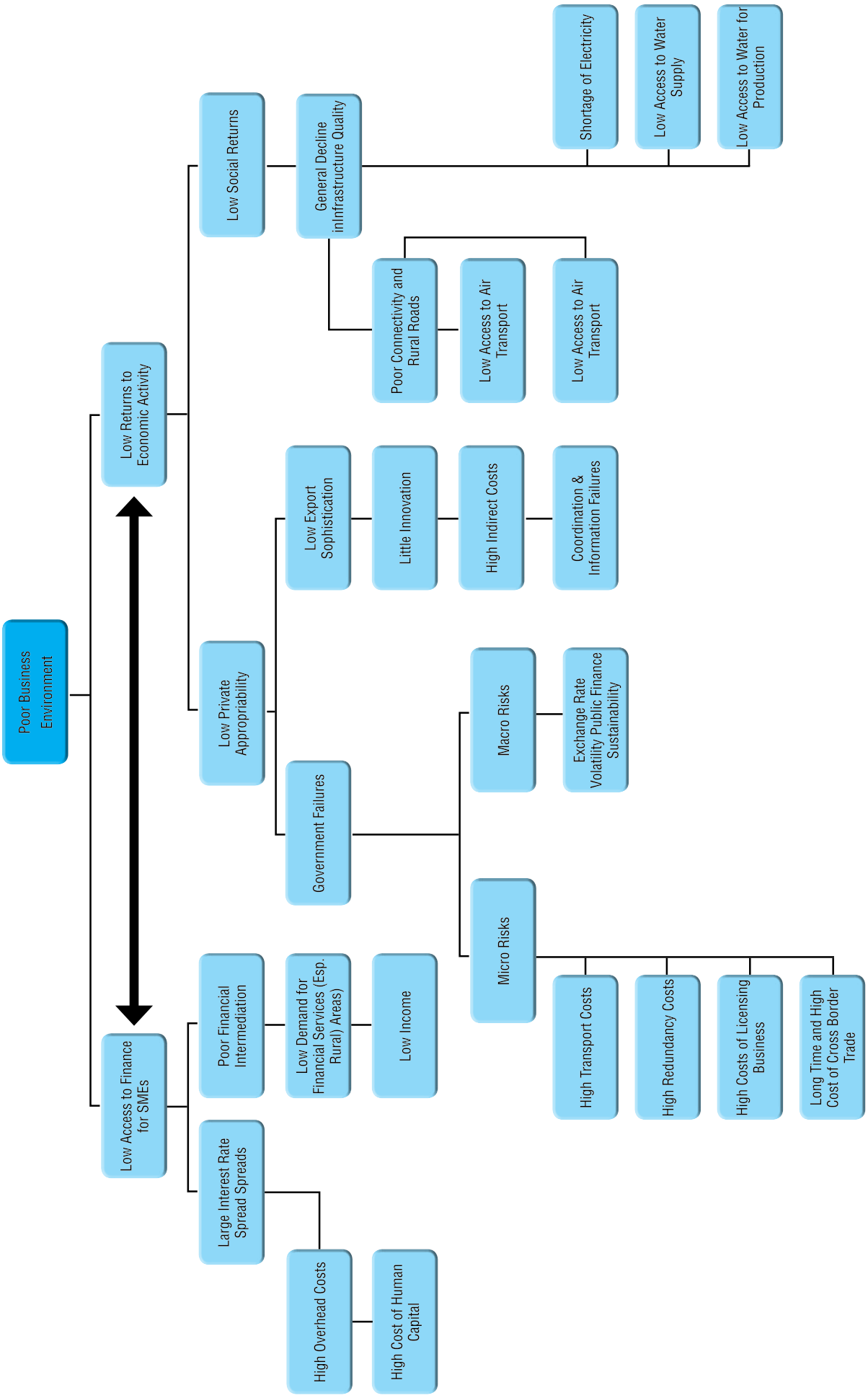


Figure 8.3: Unsupportive Business Environment Problem Tree

can help maintain if not accelerate Zambia's economic growth. According to the World Bank (2008d), large investments in excess of 10% of GDP annually are necessary over the next three to five years to increase the provision of infrastructure. In view of Zambia's fiscal constraint even after factoring increased mining revenues, additional resources have to be tapped from the private sector. Other than in the area of ICTs, viable Public Private Partnerships are yet to be worked out.

An extension of the rural road network and other public utilities in rural and urban informal settlement areas is a necessary complement to all other investments and reforms to foster shared growth in Zambia. Most critical in the short term are electricity supply, water supply and sanitation and feeder roads. However in view of Zambia's landlocked position and status as an exporter of bulky mining products and of the vast potential for agriculture growth, railway transport requires attention sooner rather than later. Studies make it clear that in all these cases, neither the public sector nor the private sector alone will be able to finance the required investments. However, these investments need to be managed carefully and positioned strategically to foster positive externalities for as many households and industries as possible. Therefore, improvements need to be made in the regulatory environment to attract foreign investors.

8.3 FROM CONSTRAINTS TO ROOT CAUSES

The binding constraints to accelerated and inclusive growth can be summarised as follows:

1. Low levels of skilled human capital are at the root of the low employability of the Zambian population;
2. Poor infrastructure services, especially electricity, road connectivity, rail infrastructure and water supply and sanitation in rural and peri-urban areas; and,
3. Coordination failures, as the country fails to provide sufficient non-traded inputs or complementary goods and services to help private investors to be profitable and competitive.

However, this summary does not yet sufficiently crystallize the underlying picture. These constraints are actually just symptoms. The key question to address is why these symptoms recur in different places. According to Table 8.1, Zambia is mostly characterised by three syndromes which lie at the core of the binding and non-binding constraints discussed in the CA. The core syndrome is under-investment. Zambia is an under-investing state. Linked to the core syndrome, the other two key syndromes are under-education and under-innovation. Zambia is an under-invested and an under-educated state. What are the implications of these three related syndromes?

Table 8.1: From Constraints to Syndromes

Syndrome	Failure to Achieve Accelerated and Inclusive Growth						
	Binding Employability		Binding Business Environment				
	Low labour productivity						
	Scarcity of skills in some sectors	Poor health status	Binding Finance	Low Returns to Economic Activity			
			Low access to Finance for SMEs	Low Social Returns	Low Private Appropriability		
			Large interest rates spreads	Poor Infrastructure	Government Failures		Coordination Failures
					Macro Risks	Micro Risks	
The Over-borrowing state			X		X	X	
The Under-investing state	XX	XX		XX	XX	XX	XX
The Under-protecting state						X	
The Under-educated state	XX	X	XX		XX		
The Under-innovating state	XX				XX	XX	
The Under-protecting state						X	

Note: The number of crosses shows the strength of the link between the constraint and the syndrome. Therefore: X means that the link between the syndrome and the constraint is low while XX shows a strong link.

Zambia is an under-investing state - this means mean that Government is not providing the complementary investments required to relax the employability and business environment constraints identified above. This syndrome manifests directly in low investment in the social sectors to create a more employable population and infrastructure to help boost returns to economic activity from private investments. Indirectly, the state of under-investing underlines macro-risks because, among other things, it constrains export diversification and sophistication which makes the economy extremely sensitive to movements in the price of copper. It also indirectly makes private entrepreneurs wary of investing in, for example, research and development to increase competitiveness. Many loops constraining economic growth can be identified. The crucial point however, is that Zambia must raise the quantity and quality of complementary services in order to accelerate growth and make it more inclusive.

Being an under-educated state is in part a product of under-investment but should be examined separately because of the nature of the constraints it imposes on growth. Inclusive Growth Diagnostics has identified that the country's low education status is the primary reason for low productivity and income. Public investments aimed at supporting higher productivity do not achieve their intention because of this. For example, investing in research and extension in agriculture does not produce the desired results because farmers are unable to process the information they receive sufficiently to increase their productivity. Low education status also causes a scarcity of critical skills in the financial sector which, as a result, can only be secured at a very high cost. The results are high overhead costs and large interest rates spreads. Small and medium enterprises are hit most. Low education status is also a great contributor to weak institutions which in turn underlie macro and micro risks and coordination failures (and back to education and health) through a weak public sector.

Zambia is an under-innovating state because, most directly, it has a low level of export sophistication for its level of development. It is linked to Zambia's inability to create and diffuse technology because little is spent on R&D as a proportion of GDP. Zambia has an insignificant number of scientists (1 per 1,000 Zambians), for example.

Enterprises are not making up for this deficit, a source of micro risks, such that Zambia has only a very small number of locally generated patents registered with PACRO. Table 8.1 does not show the link between poor infrastructure and under-innovation because the direction of causality is the other way round; in other words, it is the absence of complementary inputs that causes low innovation. Nevertheless the link should be acknowledged.

REFERENCES

Agency for International Trade Information and Cooperation (AITIC) (2008); The Rising Tide Of Transport Fuel Costs: Can Landlocked Developing Countries Stay Afloat, Note 14

Agricultural Consultative Forum/Food Security Research Programme, (April 2009); "The Status of Fish Population in Zambia's Water Bodies", ACF/FSRP, Lusaka

Alwang and Siegel (2003); *Poverty Reducing Potential of Smallholder Agriculture in Zambia: Opportunities and Constraints.* Africa Region Working Paper Series No 85, The World Bank. Washington, DC.

Arnold, J, A. Mattoo and G. Narciso (2006); *Services Matter for Productivity: Firm-Level Evidence from Sub-Saharan Africa*. World Bank Policy Research Paper 4048. World Bank, Washington, D.C.

Balat, J. and G. Porto (2005); *Globalization and Complementary Policies: Poverty Impacts in Rural Zambia*. NBER Working Paper 11175, National Bureau of Economic Research. Cambridge, MA. March.

Bamberger Michael and Petronella Maramba *(2001)*; A Gender Responsive Monitoring And Evaluation System For Rural Travel And Transport Programmes In Africa: *A Handbook For Planners, Managers And Evaluators World Bank.*

Bank of Zambia(2009); Draft Project Proposal on a Proposed Grant In The Amount Of US$7.31 Million (K38 Billion) to the Development Partners of the Republic of Zambia for the Financial Sector Development Plan (FSDP) – Phase II. Lusaka, Financial Sector Development Plan (FSDP) Secretariat, September.

Barro, R and J-W. Lee (2000); *International Data on Educational Attainment: Updates and Implications*. Center for International Development Working Paper No 42, Center for International Development at Harvard University, Cambridge, MA.

Bigsten A. and S. Tengstam (September 2007); *Prospect for Poverty Reduction in Zambia*, Draft for Sida Country Economic Report. Gothenburg University, Gothenburg.

Bigsten, A. and A. Shimeles (2007); *Can Africa Reduce Poverty by half by 2015?* Development Policy Review 25(2).

Bramilla, B. and G. Porto (2006); *Farm Productivity and Market Structure: Evidence from Cotton Reforms in Zambia*. World Bank Research Paper 3904, World Bank, Washington, D.C.

Calderón, C. Servén, L. (2004); The effects of infrastructure development on growth and income distribution. Central Bank of Chile. Working Papers No., 270. Pretoria

Calderon, C. Serven, L.(2007); Infrastructure and Growth in Africa, World Bank Working Paper Series.

Cheelo C, Chama C, Kansembe H.P., Jonsson D, Xu K. (2009); Measuring the Distribution of Health Payments and Catastrophic Effects of Health Spending in Zambia: An Analysis of Household-Level Survey Data. Lusaka: Department of Economics – University of Zambia, WHO and Ministry of Health, September

Chiwele, Dennis K., Pumulo Muyatwa-Sipula and Henrietta Kalinda, (1996); "Private Sector Response to Agricultural Marketing Liberalisation in Zambia: A Case Study of Eastern Province Maize Markets" *Research Report No. 107*, Nordiska Afrikainstitute, Uppsala

COMESA-EAC-SADC (2008); North-South Corridor Pilot Aid for Trade Programme Status Report DFID. *http://www.rtfp.org*

Doran Intermediate Technology Publications in association with UNIFEM, (1996);*Energy and Environment Technology Source Books: Rural Transport*

Economic Commission for Africa (2007); Economic Report on Africa: accelerating Africa's growth through diversification. *http://www.uneca.org/era2007/Keyfacts.htm*

Economic Commission for Africa (2008); Report on Africa 2008. *http://www.uneca.org/era2008/*

Eifert, B., A. Gelb and V. Ramachandran (2005); *Business Environment and Comparative Advantage in Africa: Evidence from the Investment Climate Data*. Working Paper no 56, Center for Global Development, Washington, DC.

Ellis, F. and H. Freeman (eds.) (2005); *Rural Livelihoods and Poverty Reduction Policies*, Routledge.

FDI Markets.com (2009); Cross Border Investment Monitor, May 2009

FinMark Trust (2006); *Access to Financial Services in Zambia – analysis based on FinScope data from 2005*. Data from http://www.finscope.co.za/zambia.html

Fischer Diete (2000); NGO Implementation of IFAD Programmes in Zambia: A Case Study, IFAD, Rome, April

Food Agriculture Organization, (2008); Ministerial Conference on Water for Agriculture and Energy in Africa: The Challenges of Climate Change, Sirte, Libyan Arab Jamahiriya, December 2008

Fundanga C.M. (2007); Zambia's Economic and Financial Growth Strategy: the Role of the Financial Service Industry. Bank of Zambia Governor's presentation to the UNISA International Banking Conference, Sun City, South Africa, 8 – 11 October

Fundanga C.M. (2009); Financial Sector Development and Poverty Reduction, Presentation to the Zambia UN Country Team Annual Retreat By The Governor - Bank of Zambia, 23 January, Siavonga.

Giersing Bo, Charles Kunaka, and Gaël Raballand (2008); The Impact of Regional Liberalization and Harmonization in Road Transport Services: A Focus on Zambia and Lessons for Landlocked Countries. Policy Research Working Paper No. 4482. World Bank

Government of the Republic of Zambia (1996); *Living Conditions Monitoring Survey 1996*, Central Statistical Office, Government of Zambia, Lusaka.

Government of the Republic of Zambia (1998); *Living Conditions in Zambia (1998)*, Central Statistical Office, Republic of Zambia, Lusaka.

Government of the Republic of Zambia (2000); *Agriculture Bulletin 2000*. Ministry of Agriculture and Cooperatives, Lusaka.

Government of the Republic of Zambia (2004); *Living Conditions Monitoring Survey Report 2002-03*, Central Statistical Office, Republic of Zambia, Lusaka.

Government of the Republic of Zambia (2006); *Fifth National Development Plan 2006-2010*, Ministry of Finance and National Planning,Lusaka.

Government of the Republic of Zambia (2006); *Livingstone Tourism Survey*, Ministry of Tourism, Environment and Natural Resources, Lusaka March 2006.

Government of the Republic of Zambia (2006); *Fact Sheet (vaccinations),* Central Statistical Office, Lusaka.

Government of the Republic of Zambia (2007); *Education Sector National Implementation Framework 2008-2010: Implementing the Fifth National Development Plan.* Ministry of Education, October

Government of the Republic of Zambia (2007); Monthly Statistics November, Central Statistical Office , Lusaka

Government of the Republic of Zambia (2008); 2008 Educational Statistical Bulletin. Lusaka, Ministry of Education, April

Government of the Republic of Zambia (2008a); *Living Conditions Monitoring Survey Report 2006*. Central Statistical Office, Lusaka, March

Government of the Republic of Zambia (2008b); *Economic Report 2007*, Ministry of Finance and National Planning, Lusaka

Government of the Republic of Zambia (2009); *Action Plan 2009.* Ministry of Health, Lusaka

Government of the Republic of Zambia (2009); *Economic Report 2008,* Ministry of Finance and National Planning, Lusaka

Government of the Republic of Zambia (2009); *National Health Accounts 2003, 2005 and 2006*. Ministry of Health, Lusaka:

Government of the Republic of Zambia (2009); *Out-growers Support Programme Status Report,* Ministry of Agriculture and Cooperatives, Lusaka

Government of the Republic of Zambia (2009); *Public Expenditure Management and Financial Accountability.* Ministry of Finance and National Planning, www.mofnp.gov.zm

Government of the Republic of Zambia (2009); *Zambia Demographic and Health Survey, 2007,* Central Statistical Office, Lusaka,

Government of the Republic of Zambia (2009); *Mid-Term Review Fifth National Development Plan,* Ministry of Finance and National Planning, Lusaka

Government of the Republic of Zambia (forthcoming); *Living Conditions Monitoring Survey 2006*, Central Statistical Office, Republic of Zambia, Lusaka.

Government of the Republic of Zambia (various); Monthly Reports, (2005, 2007, 2008); Central Statistical Office, Lusaka

Government of the Republic of Zambia, (forthcoming); *"The Study of Power System Development Master Plan".* Ministry of Energy and Water Development and Japan International Corporation Agency

GTZ (2009); Fuel Prices 6th Edition. Data Preview

Haggblade, Steven and M. Nyembe (2007); *"Commercial Dynamics in Zambia's Cassava Value Chain."* Cassava Transformation in Southern Africa (CATISA); Start-up Task 3. Report on Zambia's Cassava Value Chain. Food Security Research Project Lusaka, Zambia; Publisher? December

Hausmann, Klinger and Wagner (September 2008); *"Doing a Growth Diagnostics in Practice: A Mind Book", CID Working Paper No. 177,* Center for International Development at Harvard University

Hausmann, R., D. Rodrik and A. Velasco (2005); *Growth Diagnostics*. Cambridge, MAL John F. Kennedy School of Government. March 2005.

International Finance Corporation (2010); *Pony Business Report 2010*

International Monetary Fund (2008); *World Economic Outlook Database. April 2008, www.imf.org*

International Monetary Fund (2009); *Regional Economic Outlook, Sub-Saharan Africa*, IMF, Washington D.C.

International Monetary Fund (January 2008); *Zambia Statistical Appendix,* IMF, Washington, D.C.

International Monetary Fund and the World Bank (2008); *Financial Sector Assessment Programme – Update Zambia: Aide-Memoire – Ad Referendum*. IMF, Monetary and Capital Markets Department and World Bank, Financial and Private Sector Development, African Region.

Jayne, T. S., J. Govereh, P. Chilonda, N. Mason, A. Chapoto and H. Haantuba (2007); *Trends in agricultural and rural development indicators in Zambia*. Working paper 24, Food Security Research Project, Lusaka.

Jorgensen, Steen Lau and Zlatina Loudjeva (2005); *A Poverty and Social Impact Analysis of Three Reforms in Zambia: Land, Fertilizer and Infrastructure*. Social Development Papers, Social Analysis, No 49, The World bank, Washington DC. January.

Kalyalya D.H. (2008); *"Financial Access and Sustainability of Financial Services in Zambia".* Bank of Zambia Deputy Governor's paper presented at the Zambia Institute of Chartered Accountants Annual Business Conference, Livingstone, Zambia August 7-8.

Kaufmann, D., A. Kraay, and M. Mastruzzi (2007); *Governance Matter VI: Governance Indicators for 1996-2006*. The World Bank, Washington, D.C.

Martínez, J. de L. (2006); *Access to Financial Services in Zambia*. World Bank Policy Research Working Paper 4061, November.

Mattoo and Payton, ed. (2007); *Services Trade and Development: The Experience of Zambia*. Palgrave McMillan and The World Bank: Washington, DC.

McEwan, Margaret, (May 2003); *Changing Landscapes and the Outliers: Macro and Micro Factors Influencing Livelihood Trends in Zambia Over the Last Thirty Years: Literature Review,* Care Southern and Western Africa Regional Management Unit.

Melzer I, Agasi R, Botha H.,(2009); *Zambia Business Survey 2009: "Demand Side Analysis of Access to Financial Services for Businesses in Zambia* – Final Draft – June 2009". Prepared for FinMark Trust Zambia, the World bank and Zambia Business Forum, June.

Mwape, F. (2004); *Institutional Analysis of Fertilizer in Zambia*. Background Report for Zambia PSIA, Prepared for Social Development. The World bank, Washington, D.C., mimeo.

Organization for Economic Cooperation and Development and African Development Bank (2008); *African Economic Outlook.* OECD publishing. Paris

Organization for Economic Cooperation and Development and African Development Bank (2008); *African Economic Outlook.* OECD Publishing. Paris.

Republic of Moldova (2009); *Final Analysis of Constraints to Economic Growth*

Reuters (2008); *"Zambia Copper Mines Increase Use of Diesel,"* Agnes Crane (Edt.)

Scott Wilson Piesold, (2003); *Strategic Environmental Impact Assessment of the Kafue River Basin*, Ministry of Energy and Water Development.

SIDA (2006); *Integrated Economic Analysis for Pro-Poor Growth: A Methodological Approach. Method Document,* Sida, Stockholm.

Simler, K. (2007); *"Micro-Level Estimates of Poverty in Zambia." Working Paper,* International Food Policy Research Institute, Washington, D.C., April 2007

Smallholder Enterprise and Marketing Programme (2008); *"Lessons Learnt Report", SHEMP,* Lusaka

Smith, R. (2001); Land Tenure, Title Deeds, and Farm Productivity in the Southern Province of Zambia: Preliminary Research Findings (Outline). Presented at the University of Zambia, 19 September 2001.

Standard Bank. (2008); *African Infrastructure Survey – Harnessing Local Opinion and Insight.* Research Economics

Thurlow, James, Tingju Zhu and Xinshen Diao, (August 2008); *"The Impact of Climate Variability and Change, an Economic Growth and Poverty in Zambia", IFPRI Discussion Paper 00890,* International Food Policy Research Institute, Washington D.C.

United Nations Conference on Trade and Development, (2006); *Investment Policy Review: Zambia United Nations New York and Geneva,* (Advance copy)

United States International Trade Commission Sub-Saharan Africa (2009); *Effects of Infrastructure Conditions on Export Competitiveness,* Investigation No. 332-477 USITC Publication 4071 April 2009 Third Annual Report

United States International Trade Commission Sub-Saharan Africa(2009); *Effects of Infrastructure Conditions on Export Competitiveness, Investigation No. 332-477 USITC Publication 4071*,ThirdAnnualReport, April

University of Zambia Institute for African Studies (1996); *Zambia, Agriculture Performance Analysis.* Lusaka, Institute for African Studies

Venables, T. (2006); *Notes on the Zambian Economic Situation*. DFID, London, mimeo

Weeks, J. (2008); *The Reduction of Fiscal Space in Zambia – Dutch Disease and Tight-Money Conditionalities*. Country Study No 14, International Poverty Centre. Brasilia. January.

World Bank (1994); *Zambia Poverty Assessment,* World Bank, Washington, D.C.

World Bank (2003); *Zambia: Public Expenditure Management and Financial Accountability Review. Poverty Reduction and Economic Management 1,* Southern Africa, Report No. 26162-ZA, November.

World Bank (2004a); *Zambia: An Assessment of the Investment Climate*. Report No. 29741-ZM. Private Sector Unit, Africa Region. Washington, D.C.: World Bank. May, 2004.

World Bank (2004b); *Zambia Country Economic Memorandum: Policies for Growth and Diversification*. Report No. 28069-ZA. Poverty Reduction and Economic Management I, Southern Africa, Africa Region. Washington, D.C.: World Bank. October

World Bank(2004b); *Zambia: An Assessment of the Investment Climate. Report No. 29741-ZM. Private Sector Unit, Africa Region.* Washington, D.C.: World Bank. May, 2004.

World Bank(2007); *The African Competitiveness Report 2007. World Economic Forum.* Geneva.

World Bank(2004c); *Zambia Country Economic Memorandum: Policies for Growth and Diversification.* Volume II, Poverty Reduction and Economic Management, Southern Africa, October

World Bank (2007a); *Zambia Poverty and Vulnerability Assessment Report No. 32573-ZM.* Human Development I, Poverty Reduction and Economic Management I, Africa Region. Washington D.C.

World Bank (2007b); *Zambia Growth Diagnostics Study,* Mimeo.

World Bank (2007c); *Market Opportunities and Constraints.* Background paper prepared for the Zambia Commercial Agriculture Development Project (CADP), Identification mission, Annex 3. World Bank, Washington, D.C.

World Bank (2008a); *What are the Constraints to Inclusive Growth in Zambia,* Elena Ianchovichina and Susanna Lundstrom

World Bank (2008b); *World Development Report 2008: Agriculture and Development.* Washington, D.C.: World Bank.

World Bank (2008c); *Doing Business Report 2008*. Washington

World Bank. (2008d); *Zambia Growth, Infrastructure, and Investment: A Role for Public Private Partnership Report No. AAA34-ZM*

World Bank. (2008e); *Project Appraisal on Increased Access to Electricity Services Project, Report No: 41308 – ZM*

World Energy Council (WEC)(2007); *How to make the Grand Inga Hydroelectric Project happen for Africa.* World Energy Council. March 2007.

World Trade Organization(2008); *World Trade Report 2008*

ANNEXES

Annex I: Human Capital, Indicators of Development

	2000	2005	2007
Population, total (millions)			
Zambia	10.47	11.74	12.31
Sub-Saharan Africa (SSA)	670.82	760.30	798.17
Low Income Countries (LICs)	819.89	913.30	952.65
Life expectancy at birth, total (years)			
Zambia	42.0	44.0	45.0
Sub-Saharan Africa (SSA)	50.0	51.0	52.0
Low Income Countries (LICs)	56.0	58.0	59.0
Fertility rate, total (births per woman)			
Zambia	6.10	6.0	5.90
Sub-Saharan Africa (SSA)	5.60	5.20	5.10
Low Income Countries (LICs)	4.40	4.10	4.0
Adolescent fertility rate (births per 1,000 women ages 15-19)			
Zambia	153.0	149.0	142.0
Sub-Saharan Africa (SSA)	130.0	122.0	118.0
Low Income Countries (LICs)	103.0	94.0	90.0
Contraceptive prevalence (% of women ages 15-49)			
Zambia	..	..	41.0
Sub-Saharan Africa (SSA)	..	..	22.0
Low Income Countries (LICs)	..	..	37.0
Births attended by skilled health staff (% of total)			
Zambia	..	..	47.0
Sub-Saharan Africa (SSA)	..	..	45.0
Low Income Countries (LICs)	..	..	43.0
Child mortality rate, under-5 (per 1,000)			
Zambia	178.0	174.0	170.0
Sub-Saharan Africa (SSA)	164.0	151.0	146.0
Low Income Countries (LICs)	137.0	124.0	120.0
Immunization, measles (% of children ages 12-23 months)			
Zambia	85.0	85.0	85.0
Sub-Saharan Africa (SSA)	55.0	69.0	73.0

Low Income Countries (LICs)	66.0	75.0	78.0
Primary completion rate, total (% of relevant age group)			
Zambia	60.0	83.0	88.0
Sub-Saharan Africa (SSA)	50.0	59.0	63.0
Low Income Countries (LICs)	56.0	62.0	65.0
Ratio of girls to boys in primary and secondary education (%)			
Zambia	91.0	93.0	96.0
Sub-Saharan Africa (SSA)	84.0	86.0	88.0
Low Income Countries (LICs)	88.0	90.0	91.0
Prevalence of HIV, total (% of population ages 15-49)			
Zambia	15.5	15.0	15.2
Sub-Saharan Africa (SSA)	5.5	5.1	5.0
Low Income Countries (LICs)	3.4	2.4	2.3

Source: World Development Indicators database, April 2009 (www.worldbank.org)

2nd Floor, Mpile Office Park
74 Independence Avenue
P.O. Box 50062
Lusaka, Zambia