Zambia Human Development Report **2016**

Industrialisation and Human Development

Poverty Reduction Through Wealth and Employment Creation

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Foreword

Since the founding of our nation, the promise of economic opportunities has been a central component of Zambia's development vision. The Zambian economy has grown at an average of 7 per cent over the past decade, one of the fastest in Sub-Saharan Africa. Yet, the benefits of growth have been unevenly distributed, a reflection of regional differences in factor endowments and, most importantly, of the economy's over-reliance on a single commodity to a single market. The Government is firmly committed to the diversification of Zambia's economy through increased participation of other sectors in growth generation.

Modernisation of the economy, upgrading of skills and institutions as well as development of social infrastructure have long been recognised as some of the necessary conditions for overall industrialisation. Experiences of other countries have shown that a thriving manufacturing sector can be a core driver of economic growth and human development. The strategic importance of industrialisation is an undisputed fact. It is, therefore, timely that this report is dedicated to the nexus between industralisation and human development.

To achieve the objective of industrialisation, we must create value – value for Zambians – through innovative strength and value addition that will generate jobs and increase people's incomes. We must also create value that contributes towards the expansion of individual choices. This is one of the keys to establishing inclusive growth and achieve human development. We have already reached a number of milestones in human development, highlighted by the fact that between 1980 and 2014, Zambia's Human Development Index (HDI) value increased from 0.418 to 0.586, an increase of 40.1 per cent which put the country in the medium human development category.

However, we recognise that we are part of an increasingly integrated global economy, society and environment. As we have recently seen, Zambia is particularly exposed to factors beyond our control: low demand and prices for our copper which fuelled sharp currency depreciation, compounded by one of the worst energy crisis seen by our country due to an over-reliance on large hydro sources for electricity generation.

The Report concludes that the core of our economic development strategy should be a set of interlinked and integrated policies, ranging from human and educational development through to microeconomic and infrastructural support; all designed to steadily grow the economy's industrial base and in turn reduce the dependence on copper production and revenue.

Government shares these conclusions and the Ministry of Commerce, Trade and Industry is in the process of finalising its Industrial Policy. Indeed, much of the work that led to the development of this Report has contributed to the policy. The Policy, among other objectives, seeks to create venture clusters in all provinces in line with comparative advantage of the area to promote value addition. Government is also implementing multi-facility economic zones as a way of promoting growth of the manufacturing sector. Similarly, in recognition of the interlinkages, Government has directed the 7th National Development Plan (NDP), led by the Vice-President and Minister of

National Development Planning, to use the integrated approach with priorities in order to coordinate national development efforts and maximise impact.

I would like to express my gratitude to UNDP Zambia for its support in preparing the National Human Development Reports (NHDRs), which are important instruments for inspiring Government, as well as the scientific and political circles to discuss topical issues that are crucial for the development of all the people of our country.

Margaret D Mwanakatwe, MP
Minister of Commerce
Trade and Industry

Preface

On 25 September 2015, world leaders adopted seventeen Sustainable Development Goals (SDGs) to replace the Millennium Development Goals (MDGs) from January 2016. The 17 SDGs are universal, indivisible and transformative. They aim to eliminate extreme poverty and to leave no one behind. The 2016 Zambia Human Development Report (ZHDR) entitled, Industrialisation and Human Development: Poverty Reduction through Wealth and Employment Creation speaks in particular to SDG 9 which aims "to promote inclusive and sustainable industrialisation and foster innovation."

Industrialisation plays a dominant role in the economic development of any country or region. It can also diversify the economy and increase productivity and labour while helping the private sector to increase and sustain economic output through value creation. It can generate direct or indirect employment if there are strong forward and backward linkages with other sectors of the economy to ensure that growth translates into sustainable development. But there can be numerous obstacles to growth and other factors that limit the social impact of industrialisation on economic development.

The purpose of National Human Development Reports is to generate debate, instigate change and catalyse action for national development. This Report is intended as just such a contribution to the industrialisation debate in Zambia. It presents quantitative and qualitative data that define Zambia's current place on the industrialisation map.

The Report notes that for industrialisation to be effective and sustainable, several other factors must support it. These include effective and efficient public institutions, efficient and functional product and service markets, an adequately educated and skilled labour force, and advances in infrastructure and technology.

The Report argues that investing in local Micro, Small and Medium Enterprises (MSME) technological capabilities, fostering deliberate Foreign Direct Investment and MSME linkages, and accelerating the implementation of local content policies in mining, manufacturing, and agriculture, can effectively transfer technology and integrate domestic firms into global value chains.

The Report concludes that future industrial policy should, therefore, focus on accelerated investments in research and development and human capital accumulation, with particular emphasis on science and technology skills. In this manner, labour can contribute to the development of Zambia's value-added sectors, as well as provide the basis for exploring profitable opportunities in new markets. Also, the expansion of secondary industry in Zambia requires strong, transparent, and efficient institutions within a supportive regulatory environment.

Under the auspices of this report, some of Zambia's foremost experts on a variety of topics were able to come together and articulate the nexus between industrialisation and human development. This report is, therefore, a valuable source of information for policy makers, academia, and captains of industry and, indeed, anyone interested in Zambia's development. I hope that it will stimulate further debate and more policy studies and analysis as well as generation of timely data. This is particularly important as

the government develops the 7th National Development Plan, which will also include Zambia's national SDG targets.

Let me extend my appreciation to the team of Zambian academics and practitioners, the University of Cape Town, the NHDR Advisory Committee and stakeholders, technical reviewers and language editors who helped to put this Report together. I also recognise the efforts of my colleagues and development partners, the UN in general and the UNDP in particular, who worked tirelessly to coordinate and support the process.

Janet Rogan
UN Resident Coordinator and
UNDP Resident Representative

Acknowledgements

The 2016 ZHDR is a product of the advice, contributions and support of various institutions and individuals. The Report was formulated through an inclusive and participatory process that included representatives of the government, the private sector, civil society, academia, UN agencies and other cooperating partners. UNDP would like to use this opportunity to express its gratitude to all who contributed either directly or indirectly in producing the Report.

First and foremost, UNDP wishes to acknowledge the valuable contributions of the National Human Development Report Advisory Committee under the leadership of Dr. Jacob Lushinga, the Managing Director of the Development Bank of Zambia, who guided the process from the choice of theme to launch. The NHDR Advisory Committee also included Mr. Likando Mukumbuta (CEEC), Ms. Agatha Siwale (PMRC), Dr. Mushiba Nyamazana (INESOR), Mr. Saidi Mlewa (Rubicon Management Consultants), Professor Francis Tembo (NISR), Ms. Naomi Lintini (ILO), Mr. Amos Mumba (MCTI), Mr. Billy Malijani (MCTI), Mr. Tiyaonse Kabwe (UNZA), Dr. Pamela Kabaso (ZIPAR), Ms. Prisca Chikwashi (ZACCI), Dr. Chrispin Mphuka (EAZ), and Ms. Viola Morgan (former UNDP Country Director).The preparation of the Report was coordinated by the Strategy and Policy Unit team comprising Ms. Colleen Zamba, the UNDP Economic Advisor, Ms. Elda Chirwa, Mr. Alphart Lungu, and Mr George Lwanda, former UNDP Economic Advisor.

The report also benefited from a series of reviews and comments from various national stakeholders from the University of Zambia, Institute of Economic and Social Research, the Economics Association of Zambia, Zambia Chambers of Commerce and Industry, and Zambia Association of Manufacturers. Others included the Zambia Chamber of Small and Medium Business Associations, Zambia Bureau of Standards, Zambia Competition and Consumer Protection Commission; Zambia Citizen Economic Empowerment Commission; Bank of Zambia; Zambia Development Agency; Civil Society for Poverty Reduction; Policy Monitoring and Research Centre; and Zambia Institute for Policy Analysis and Research. The Report benefitted from the input of several ministries. These included the Ministry of Finance, Ministry of Commerce, Trade and Industry; Ministry of Mines, Energy and Water Development; Ministry of Agriculture; Ministry of Transport, Works, Supply and Communication; Ministry of Education; Ministry of Health; Ministry of Gender and Child Development; Ministry of Labour and Social Security; the Ministry of Lands, Natural Resources and Environmental Protection, and the Ministry of National Development Planning. Many thanks also go to the Central Statistical Office, which provided data series to the consultants.

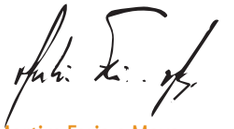
The efforts of the team of consultants comprising Mr. Augustine Mkandawire, Mr. Mbonsonge Mwenechanya, and Mr. William Mbuta, who worked on the initial draft of the Report, are well recognized. And so is the work of Mr. Shebo Nalishebo, who computed the human development indices. Our appreciation is especially due to Dr. Haroon Bhorat, Benjamin Jourdan, Arabo Ewinyu from the Development Policy Research Unit (DPRU), School of Economics, University of Cape Town, who provided an in-depth technical review and analysis of the Report.

I would like to thank the external peer reviewers from the Zambia Institute of Policy Analysis and Research and the African Development Bank, Zambia Field Office. Their valuable inputs helped to further sharpen the analysis and enhance the quality of the Report.

I would also like to acknowledge the

leadership and guidance provided by the UN Resident Coordinator and UNDP Resident Representative, Ms. Janet Rogan. Special thanks are extended to all the UNDP Zambia staff members, including Mike Soko, Winnie Musonda, Ian Milimo, Andson Nsune, Michael Kaira, and Elizabeth Bwalya, among others, who contributed in one way or another towards making the production of the report possible. We are also grateful for the work of the editor, Mr. Patrick Edebor, who saw to the reader-friendliness of the Report.

Finally, it is our sincere hope that this edition of the Zambia Human Development Report will further contribute towards critical and constructive thinking about some of the most fundamental challenges facing Zambia today. We also hope that the human development paradigm and its focus on the expansion of individual choices will remain central as ever in key national dialogues and debates.



Martim Faria e Maya
Country Director
UNDP

Acronyms & Abbreviations

AAF-SAP	African Alternative Framework for Structural Adjustment Programmes
AAI	Alliance for Africa's Industrialisation
AfDB	African Development Bank
AGOA	African Growth and Opportunity Act
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Programme
CEEC	Citizens Economic Empowerment Commission
COMESA	Common Market for Eastern and Southern Africa
CSO	Central Statistical Office
DRC	Democratic Republic of Congo
DBZ	Development Bank of Zambia
EAC	East African Community
ECA	Economic Commission for Africa
ECI	Economic Complexity Index
EPZ	Export Processing Zones
FDI	Foreign Direct investment
FINDECO	Finance and Development Corporation
FISP	Farmer Input Support Programme
FRA	Food Reserve Agency
GDI	Gender Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GII	Gender Inequality Index
GNI	Gross National Income
HDI	Human Development Index
HDR	Human Development Report
HIV & AIDS	Human Immunodeficiency Virus & Acquired Immune Deficiency Syndrome
HPI	Human Poverty Index
IDDA	UN Industrial Development Decade for Africa
ICT	Information and Communication Technology
IHDI	Inequality-adjusted Human Development Index
ILO	International Labour Organisation

IMF	International Monetary Fund
INESOR	Institute of Economic and Social Research
INDECO	Industrial Development Corporation
INERP	Interim New Economic Recovery Programme
ISI	Import Substitution Industrialisation
LCMS	Living Conditions Monitoring Survey
LTM	Low-Tech Manufactures
MCTI	Ministry of Commerce, Trade and Industry
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MFEZs	Multi-Facility Economic Zones
MHT	Medium-to-High-Tech Manufactures
MINDECO	Mining Development Corporation
MMD	Movement for Multiparty Democracy
MPI	Multidimensional Poverty Index
MSMEs	Micro, Small and Medium Enterprises
MSTVT	Ministry of Science, Technology and Vocational Training
MVA	Manufacturing Value-Added
NAFSIP	National Agricultural and Food Security Investment Plan
NISR	National Institute of Scientific Research
NCZ	Nitrogen Chemicals of Zambia
NDPs	National Development Plans
NRI	Networked Readiness Index
PACOs	Provincial Agricultural Co-ordination Offices
PMRC	Policy Monitoring and Research Centre
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
PSDRP	Private Sector Development Reform Programme
RDA	Road Development Agency
R&D	Research and Development
RSZ	Railway Systems of Zambia
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SADC	Southern African Development Community
SAPs	Structural Adjustment Programmes
SIOA	Small Industrial Organisation Act
SIDO	Small Industry Development Organisation

SSA	Sub-Saharan Africa
TAZARA	Tanzania and Zambia Railway Authority
TEVETA	Technical Education, Vocational and Entrepreneurship Training Authority
TFTA	Tripartite Free Trade Area
UBZ	United Bus Company of Zambia
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UNIP	United National Independence Party
UNSSIA	UN System-Wide Special Initiative for Africa
UNZA	University of Zambia
VIS	Village Industries Services
ZACCI	Zambia Chambers of Commerce and Industry
ZCCM	Zambia Consolidated Copper Mines
ZDAA	Zambia Development Agency Act
ZESCO	Zambia Electricity Supply Corporation
ZHDR	Zambia Human Development Report
ZIMCO	Zambia Industrial and Mining Corporation
ZIPAR	Zambia Institute for Policy Analysis and Research
ZPA	Zambia Privatisation Agency

Overview

Both theoretical foundations and empirical analysis demonstrate a direct but more intricate relationship between industrialisation and human development. Human development is defined as the process of expanding individual freedoms to live long, healthy and creative lives; to advance towards other goals that they have reason to value; and to engage actively in shaping equitable and sustainable development on a shared planet. Fundamental to enlarging peoples' choices is the building of human capacities – the range of things that people can do or be in life. Investing in people will enable growth and empower people, thus developing human capacities. Employment, either through self-employment or wage employment, is the primary means through which individual capabilities are used to earn income. This income can then be diversified into productive assets, including human capital. When average incomes increase, overall consumption increases, savings accelerate and investments in technological advancement, physical assets, education, and skills also expand.

An analysis of the priorities of the poor in Zambia reveals that, beyond income, individuals value a broad range of things. They require adequate food and nutrition, safe and accessible water supply, better medical services, good quality education at all levels, affordable transport services, adequate shelter, secure livelihoods and productive and satisfying jobs (Republic of Zambia, 2002; UNDP, 1996).

Correspondingly, the *2014 Global Human Development Report* states that real progress in human development is not limited to enlarging people's critical choices, but also their ability to be educated, be healthy, have a reasonable standard of living, and feel safe. It is also a matter of how secure these achievements are and whether the prevailing conditions are sufficient for sustained human development (UNDP, 2014). In the Zambian context, these components and their security have been volatile due to the unstable economic environment. Thus, an account of the human development achievement in Zambia will be incomplete without assessing the vulnerability of the economy. It is common knowledge that developing countries that typically have undiversified economies and a limited policy space are more vulnerable to economic shocks and stagnation in human development.

Industrialisation diversifies the economy and increases productivity of capital and labour, while helping the private sector to increase and sustain economic output through value creation. It also provides more and higher paying jobs which broaden opportunities for households to increase consumption and savings. As the economy becomes more resilient throughout the path of industrialisation, investment opportunities expand for foreign and domestic investors, leading to improvements in the quality of education, health, nutrition, and overall standard of living.

For industrialisation to be effective, however, several other factors must support it. These include effective and efficient public institutions; efficient and functional product and services markets; an adequately educated and skilled workforce; quality economic and social infrastructure; reliable supply of raw materials; and technology and technological capabilities. Moreover, an enabling policy and a legal, regulatory and macroeconomic environment to strategically guide the process is essential to making industrial growth and development inclusive.

Industrialisation, therefore, requires a strong and developmental state, rather than a passive one. To sustain growth rates, create wealth, and reduce poverty, Zambia has to transform the current structure of its economy and equally prioritise its manufacturing and agricultural sectors. These sectors have created productive employment at a much faster pace than mining, and are also sectors where the majority of the poor work. Thus, increasing productivity in these sectors is likely to lead to a path of inclusive development and poverty reduction.

Consequently, investing in local MSME technological capabilities, fostering deliberate FDI and MSME linkages, and

accelerating the implementation of local content policies in mining, manufacturing, and agriculture, can effectively transfer technology and integrate domestic firms into global value chains. If these objectives are achieved, opportunities for productive jobs will expand and incomes will increase as economic output grows. This will lead to progressive and substantive reductions in poverty and deprivation. The ultimate outcome will be a more inclusive development trajectory where men and women, in rural and urban areas, enjoy a relatively equal standard of living.

History of Industrial Policy

Overall, while the industrial policy for Zambia has aimed at sufficient diversity since independence in 1964, continued dependence on copper mining has resulted in sub-optimal economic and human development outcomes. In the first four years after independence, the country pursued a largely colonialist-driven economic development path. However, as a result of Zimbabwe's Unilateral Declaration of Independence, which cut-off trade relations between Zambia and various other Southern African countries, Zambia's growing import bill and lack of non-foreign financial and human capital led it onto a path of import substitution industrialisation. By acquiring a majority share of many companies, including those in the mining industry, the government sought to provide subsidies and capital to agricultural and manufacturing sectors.

However, the dual oil crises of the 1970s brought copper prices down, sent the country into a debt crisis, increased poverty among households, and halved the national income per capita levels. The situation was exacerbated by the failed structural adjustment initiatives facilitated by the World Bank and IMF in the 1980s. The structural adjustment programme aimed to establish macroeconomic, trade, exchange rate, and institutional liberalisation measures with the expectation that these would unleash countries' comparative advantages and export potential. What subsequently happened in Zambia, however, had a collapse in its manufacturing output combined with a regression in most human development indicators. Expectedly, the country tried to chart a sustainable course away from the economic challenges and the growing number of the poor in urban and rural communities around the country. From 2001 to the present, the country has focused on export-oriented industrialisation as its core industrial policy. With the establishment of Multi-Facility Economic Zones, Zambia is currently seeking to grow and expand its manufacturing base.

While growth has been high in the last few years, this has been a result of the country's copper production and high copper prices – not from progress in industrialisation or a structural change in the macroeconomy. Thus, growth has not translated into substantial poverty reduction; hence human development has continued to stagnate in the country.

Human Development

Zambia's HDI value increased from 0.422 in 1980 to 0.586 in 2014, a 40.2per cent gain, placing the country in the medium human development range, as specified by the UNDP. However, decreased fiscal expenditure in health, education and social protections, and weak access to rural health and education amenities, have together placed Zambia in the bottom quartile of the world's human development rankings – ranking 139th out of 188 economies.

Zambia's highest inequalities in life expectancy, education and skills, and incomes differentiated by sex and geographical location, have also contributed to the country's relatively poor progress in promoting ongoing human development. These inequalities are highest in the income dimensions, due to the significantly large level of vulnerable employment, particularly in rural provinces where there are limited opportunities to earn an income.

Gender inequality is still a major issue in Zambia, despite making progress over the last

few years. Women seldom hold political and decision-making roles in the country, and poor employment generation for women relative to men, together with limited education and health infrastructure delivery, have left few opportunities for women to empower themselves.

The analytical overview discussed in the report suggests that the conversion rate from high economic growth rates towards welfare gains to the poor has been inadequate. In particular, current statistics shows that income inequality levels have risen. In all categories of the HDI, unequal outcomes appear to have affected the economy's human development progress. However, in the multi-dimensional poverty space, the results suggest an even greater challenge for the Zambian economy. Current estimates in the report suggest that on the basis of a concentrated index of improvement in health and educational outcomes – as well as access to a variety of services such as water, electricity and housing – the average Zambian household has, in fact, not experienced much progress. Instead, the results suggest that the incidence and depth of multi-dimensional poverty have increased between 2006 and 2010 in Zambia.

Constraints to Value-Added in Manufacturing

The constraints in potentially increasing value-added to sectors are clear: limited access to credit, energy, transport infrastructure, as well as domestic and regional markets. Also, government incentives have constrained their ability to grow, particularly the MSMEs. Furthermore, growing value-added sectors requires adequate and complementary investments in skills and technology. Also, access to raw materials remains a key challenge in agriculture, wood and wood product, fabricated metal products, and textile and garments. The inability to grow value-added sectors in manufacturing means that the bulk of the population is still working in unproductive activities which do not generate sufficient income on a regular basis. Without a strong foundation of productive employment leading to the opportunity to earn a living wage, efforts channelled towards poverty reduction and human development will still remain feeble.

Concerning the constraints in the Zambian economy, field work has suggested that local content policies and clear strategies for targeting value-added industries must be explored. In some cases, it may require policies that constrain undue competition from foreign investments especially in areas where there are adequate local skills and capacity to invest.

Trade

Regional integration can accelerate the country's rate of structural transformation if, for instance, it commercialises agriculture and expands opportunities for manufactured exports. It can also enhance the competitiveness of the economy, especially of the private sector and its ability to export, add value, and create jobs. Conversely, regional trade can worsen an economy's balance of payments position if the economy increasingly becomes import-dependent. Also, when the legal, regulatory, and institutional frameworks required to promote and counter the excesses of foreign trade are weak, regional trade can dampen opportunities for wealth and employment creation by making it difficult for an economy to add value to its raw materials.

Zambia is less likely to expand its export presence in the regional markets without any deliberate strategy to diversify its products into more finished and capital goods, because copper is not readily consumed within the regional markets. In addition, Zambian exports are found to be of low ubiquity. To effectively exploit this market, the country must focus and increasingly shift to the production of goods that can be consumed by industry and households in these markets.

While regional trade directly impacts on industrialisation and human development, Zambia's experience has been one in which increased trade has coincided with shrinking value-added in the manufacturing sector.

Similarly, serious distributional effects occur across varying levels of worker skills, sectors, and gender, which call for strong rather than weak policies and regulatory institutions. Given the current context, it is suggested that government needs to invest in upgrading technical capacities of the trade ministries and their agencies, and focus on improving the efficiency of customs administration, metrology and quality infrastructure, rural-energy and market infrastructure, and regional power pooling. Upgrading the efficiency of domestic enterprises and maintaining a stable exchange rate regime, investing in skills upgrading and easing access to long-term and affordable finance, can significantly improve the export trade competitiveness of the Zambian private sector.

Employment

The Zambian economy is still dominated by subsistence agriculture and has not undergone significant structural transformation. Other key industries serving as employment sources are the wholesale and retail trade industry, and the community, social and personal services industry. The latter would account mainly for public sector employment. A key challenge for Zambia's government is, therefore, to generate a large quantity of low wage manufacturing jobs that can fuel pro-poor, inclusive growth.

There are employment opportunities in chemicals, rubber and plastics, food, beverages and tobacco, paper and paper products, fabricated metal products, and non-metallic products sub-sectors. These manufacturing sub-sectors have driven value addition in the last decade but are characterised by incomplete value chains, due to lack of resources at the input level, inadequate technology at the processing level, or unsupportive regulation in local markets. Similarly, sub-sectors like textiles and leather, wood and wood products, and basic metal products, have high potential despite the fact that they have shrunk over the years due to lack of technology, raw materials, skills, infrastructure, and lack of access to affordable long-term credit to boost their working capital. Importantly, these sub-sectors are often based in rural areas where the bulk of the employed are, in fact, marginally employed and require productive employment to improve their standard of living. New investments in technology and other production processes, together with an integrated set of industrial policies designed to grow these sub-sectors, remain essential.

Enablers of Industrialisation

This report has established certain enablers required to promote industrialisation in terms of infrastructure, regulation, and policy frameworks that need to be adapted. Improvements in road and railway networks, ICT, energy, skills training, and trade facilitation, are crucial to ensuring access to markets and also for easing the cost of doing business. Key structural constraints in expanding value-added sectors such as processed foods, textile and clothing, mineral processing and leather and leather products are identified. The report completes the discussion on potential value-added sectors by reflecting on some of the matching investments required to ensure that increasing output can be rolled out in such a manner that producers benefit from economies of scale. This can be done through increasing the quality and network of roads to ensure that farmers and producers quickly access markets. Also needing to be addressed is the quality of skills attained through Zambia's education system. This presents a serious challenge to industrial development.

Action Plan

A clear theme developed throughout the report is that while Zambia's economic growth rates have been among the highest in the developing world and in Africa, its reliance on copper is unlikely to be sustainable given the volatility of the external price of the metal – and its implicit low employment generation trajectory.

However, the costs of not diversifying production and more productively engaging

the fast-growing cohort of underemployed Zambian workers are arguably higher in terms of the foregone levels of higher human development outcomes. Specifically, a large part of the working population will still remain in poverty, which is correlated with poor health, low levels of education, and malnutrition. Absorbing this cohort of the population into more productive, sustainable, and higher value-added forms of wage employment, remains critical to the pursuit of a long-run, more inclusive economic growth path for Zambia.

Future industrial policy should, therefore, focus on accelerated investments in Research and Development (R&D) and human capital accumulation, with a particular emphasis on science and technology skills. In this manner, labour can contribute to the development of Zambia's value-added sectors, as well as providing the basis for exploring profitable opportunities in new markets. In addition, the expansion of secondary industry in Zambia requires strong, transparent, and efficient institutions within a supportive regulatory environment.

Ultimately, though, at the core of this economic development strategy in Zambia, should be a set of inter-linked and integrated policies, ranging from human and educational development, through to microeconomic and infrastructural support; all designed to steadily grow the economy's industrial base and, in turn, reduce its dependence on copper production and revenue. Failure to do so will confine the Zambian economy to a long-run path of slow progress in the pursuit of human development. Detailed action plans are provided for health, skills development, MSMEs, agriculture and the non-agricultural sectors.

Industrialisation and Human Development

1

The theme of this year's Human Development Report summarises the hope of the country and the aspirations of its citizens. Entitled *Industrialisation and Human Development: Poverty Reduction through Wealth and Employment Creation*, the report presents quantitative and qualitative data that define Zambia's place on the industrialisation map. The data sets were gathered mostly through desk reviews and supplemented with the interview of key stakeholders in the Zambian industrial and human development sectors. One of the core arguments of this report is that the various outcomes recorded in the human development efforts of the country are partly a function of the relationship between manufacturing output and growth, on the one hand, and the generation of a sufficient quantity of wage employment, on the other.

As the experiences of many developed countries have shown, a thriving manufacturing sector can be a core driver of economic growth and human development. What these countries did was simply to build a strong industrial base and protect it with a supportive policy environment. It is also instructive to note that, throughout history, high-income economies have generally seen a change in their sectoral contribution to Gross Domestic Product (GDP). From an initial domination by subsistence agriculture, the dominance then shifted to a combination of heavy and light industry, and then to services and high-tech industry – culminating eventually in a post-industrialisation phase (Lin, 2009). This transition provides the basis for an understanding of economic development as:

1. Continuous technical innovation leading to improved quality and lower production costs of the same goods; and
2. A dynamic industrial upgrading and structural change that helps to produce new and different goods and services continuously (Lin, 2009).

This theory of "structural change", made famous by Arthur Lewis (1954) and recently expounded upon by McMillan and Rodrik (2011), shows that as new industries emerge and expand, they create more jobs, and move labour from the traditional (agricultural) industries to modern ones (manufacturing). The manufacturing sector is known to be more productive, efficient and to pay higher wages. Also, they enhance government's capacity to more easily provide basic services and invest in education, health, and transportation infrastructure as the structural change progresses. Decisively, therefore, these components of structural transformation are key to human development as they enable the poor to access basic necessities such as healthcare, education and other things that improve their standard of living.

After half a century of its journey as an independent nation, Zambia needs to devote considerable energy into establishing policies that promote industrialisation. Since its independence in 1964, the country has pursued a wide range of industrial strategies but has remained a monocultural economy nonetheless. The country continues to depend on its copper mining industry, leaving its agricultural sector largely undeveloped and its manufacturing sector untransformed. Arising from this undiversified economy, the country's growth trajectory has been tied almost exclusively to the world copper prices. This has created an unsustainable macroeconomic environment that is highly vulnerable to exogenous shocks and FDI withdrawals. Consequently, despite its high growth over the past decade due to favourable copper prices, the country continues to struggle with widespread poverty as well as poor health, education and transportation infrastructure.

The country must address several issues

comprehensively to put its industrial sector on a sound footing. Among these issues are effective and efficient public institutions, proficient and functional products and services markets, an adequately educated and skilled workforce, quality economic and social infrastructure, reliable supply of raw materials, and technology and technological capabilities. Moreover, an enabling policy, legal, regulatory and macroeconomic environment to strategically guide the industrialisation process is essential to providing inclusive growth and development. This requires the government to increasingly play the role of a developmental state by channelling the nation's economic resources appropriately and ensuring that the benefits are shared equitably among its citizens.

This report seeks to share key lessons from emerging analyses to guide policy-makers and the private sector on the prospects of industrialisation and human development in Zambia. The remainder of this chapter provides a conceptual framework that links industrialisation to human development, and details how natural resource dependency in Zambia can frustrate industrialisation and human development. Chapter 2 discusses key historical and policy developments since Zambia's independence and the role that industrial policy has played in shaping human development. Long-term trends in development and structural change are examined using current measures and general indicators of human and economic development. Chapter 3 presents long-term trends in Zambia's human development, as measured by the Human Development Index and other indices of human development introduced in 2010. These include the Inequality-adjusted Human Development Index (IHDI), the Gender Inequality Index (GII), and the Multidimensional Poverty Index (MPI). The

BOX 1.1

Role of a Developmental State

Although the term "Developmental State" has been used to refer to state-led economic planning, as experienced in some East Asian countries and elsewhere since the 1970s, serious attempts at conceptualising it only began in the 1980s with the work of Chalmers Johnson. Therefore, the developmental state model is defined as an ideological orientation that promotes the ideal agenda of developmentalism and its institutional arrangements in the formulation and implementation of policies and programmes.

A developmental state is one with sufficient organisation and power to achieve its goals, that is, the ability to provide consistent economic guidance and rational and efficient organisation and the power to back up its long-range economic policies. The standard description also maintains that such a state has the will to resist external demands and internal resistance. This requires the state to have the capacity to control domestic infighting and build consensus among the populace on the national development agenda by drawing attention to the long-term benefits to all. Ideally, therefore, a developmental state needs to be a persuasive state with the competence to mobilise people and resources around its development plan, especially if it is to become a democratic state.

The developmental state is also referred to as an emphatic state, a "hard state", one that is relatively autonomous and with a decidedly interventionist bent, seeking not only to regulate, guide and shape but also to monitor and control the economy. This "state development capitalism", as the developmental state is also called, is one that nurtures and thrives on state-led macroeconomic planning. In this regard, it can even be viewed as a model of capitalism that differs nonetheless from a minimalist state or other species of interventionist state such as the regulatory state and the welfare state. In the literature, it is also contrasted with weak states (that bow to the pressure mounted on them by the business or political elite) or predatory states (that tend to be extractive and exploitative of public resources for private purposes). A developmental state, in simple terms, is a state that is and seeks to be a strong player in the economy of a nation with a view to enhancing economic development. It sets economic development as the top priority of government policy, and is able to design effective instruments to promote such a goal.

indices were compiled using data from various national surveys on poverty conducted by the Central Statistical Office.

The rest of the report devotes a chapter each to the nature of manufacturing, the dynamics of harnessing regional trade, employment and the general business environment, and structural industrial drivers and constraints in Zambia. Key dimensions of industrialisation are addressed, namely, utilisation of natural resources to leverage forward and backward linkages in industrial supply chains; economic and human development through the theory of structural change, as measured by the transition from an agricultural-based economy to a manufacturing- and services-based economy; and diversification of the economy to hedge shocks that threaten progress in the economy as well as in human development. The report ends with a presentation of general conclusions and policy recommendations to support industrialisation and human development for future action.

Understanding Human Development

Human development is the process of expanding individual freedoms to live long, healthy and creative lives; to advance towards other goals that people have reason to value; and to engage actively in shaping equitable and sustainable development on a shared planet. As individuals and groups, people are the beneficiaries and drivers of human development. This definition hinges on the philosophical premise that people generally desire to enjoy well-being, security, empowerment, justice and freedom (UNDP, 2010). Fundamental to enlarging their choices, therefore, is the building of human capacities – the range of things that people can do or become to achieve their greatest potentials in life. Investing in people will enable growth and empower people, thus developing human capacities. Engagement, either through self-employment or wage employment, is the primary means by which people use their capabilities to earn an income. This income can then be diversified into productive assets, including human capital. When average incomes increase, overall consumption increases, savings accelerate and investments in technological advancement, physical assets, education, and skills also expand.

An analysis of the poverty in Zambia shows that people's needs transcend mere income. They require adequate food and nutrition, safe and accessible water, good medical services, greater access to quality education, affordable transport, adequate shelter, secure livelihoods and productive and satisfying jobs (Republic of Zambia, 2002; UNDP, 1996).

Correspondingly, the 2014 Global Human Development Report states that real progress of human development is not only a matter of enlarging people's critical choices, but also their ability to become educated, healthy, have a reasonable standard of living, and feel safe. It is also about how secure the people feel in the provision of these needs and whether the conditions are sufficient for sustained human development (UNDP, 2014). The existing situation in Zambia has been somewhat volatile because of the unstable economic environment. Thus, any assessment of the progress achieved in human development in the country must factor in the vulnerability of the economy. In the development literature, vulnerability is traditionally used to describe exposure to risk and risk management, including insuring against shocks and diversifying assets and income.[1] Therefore, developing countries that typically have undiversified economies and a limited policy space are more vulnerable to economic shocks and stagnation in human development.

In January 2013, the UN High-Level Panel on the Post-2015 Development Agenda held a meeting which focused on addressing vulnerabilities and building resilience in low- to middle-income economies. This meeting, which had economic transformation as its theme, identified six key areas of transformative agenda, including the need to:

i. Create equal opportunities for all;
ii. Pursue inclusive growth and, thereby, reduce inequality;
iii. Change production and consumption patterns to protect the ecosystem;
iv. Create and strengthen fair and transparent institutions;
v. Promote economic diversification and value addition; and
vi. Create a stable and enabling environment for the private sector and free enterprise to flourish.

Economic diversification suggests that industrialisation is central to addressing vulnerabilities and building resilience (United Nations, 2013).

Understanding Industrialisation

There are strong arguments in favour of industrialisation as the main engine of economic growth, diversification and development.

Industrialisation represents a marked departure from a subsistence agrarian economy towards a more mechanised system of production that involves more efficient and highly technical exploitation of natural resources in a highly formal and commercialised setting. Regarding the use of industrialisation to address economic vulnerabilities and build resilience, there are strong empirical and theoretical arguments to show that industrialisation is the main engine needed to achieve growth and economic diversification (Szirmai, Naude, & Alcorta, 2013). The arguments in support of this view can be distilled into eight main points. One, there is an empirical correlation between the degree of industrialisation and the per capita income of developing countries (Chenery, 1982). In other words, economies with a high level of industrialisation tend to have a highly educated labour force that put their skills to use in high-paying, innovative, and technological fields.

Two, productivity is higher in the manufacturing sector than in the agricultural. The transfer of resources from agriculture to manufacturing provides a structural change bonus. A dynamic version of the structural change bonus argument is that manufacturing has higher rates of productivity growth than other sectors (Fulginiti & Perrin, 1998).

Three, the transfer of resources from manufacturing to services provides a structural change burden in the form of the "cost disease". The argument here is that technologically stagnant sectors experience above average cost and price increases, take a rising share of national output, and slow aggregate productivity growth. As the share of the service sector increases, aggregate per capita growth will tend to slow down. This reality has been especially true for Zambia, as the services sector has grown substantially since independence, while output has plateaued (Schettkat & Yocarini, 2006).

Four, compared to agriculture, the manufacturing sector offers exceptional opportunities for capital accumulation. Obviously, capital accumulation can be more easily realised in spatially concentrated manufacturing than in spatially dispersed agriculture. This is one of the reasons why the manufacturing sector has to emerge to spur growth and development. Capital intensity is high in mining, manufacturing, utilities and transport, but much lower in agriculture and services. Therefore, since capital accumulation is one of the aggregate sources of growth, an increase in the share of manufacturing will contribute to aggregate growth (Howitt & Aghion, 1998).

Five, manufacturing offers special opportunities for economies of scale, which are less available in agriculture or services (Pratten, 1972). This is because manufactured products, especially technology, are most productively applied in large-scale production (Szirmai, 2009). Expansion of such production also enlarges the scope of learning and innovation (Fagerberg & Verspagen, 2007).

Six, the manufacturing sector offers unique opportunities for both embodied and disembodied technological progress (Cornwall, 1977). Technological advancement originates in the manufacturing sector and diffuses from there to other economic sectors such as the service sector.

Seven, economic diversification from linkage and spillover effects is stronger in manufacturing than in agriculture or mining. Linkage effects refer to the direct backward and forward integration between different sectors. Linkage effects also create positive externalities to investments in given sectors. Spillover effects, on the other hand, refer to the disembodied knowledge flows between sectors. Spillover effects are a special case of externalities which refer to the externalities of investment in knowledge and technology. Linkage and spillover effects are presumed to be stronger in manufacturing than in other sectors. Linkage and spillover effects between manufacturing and other sectors such as services or agriculture are also very powerful (Szirmai, Naude, & Alcorta, 2013).

Eight, as per capita incomes rise, the proportion of agricultural expenditure in total expenditure declines, while the share of expenditures on manufactured goods increases. Therefore, countries specialising in agricultural and primary production do not profit from expanding world markets for manufacturing goods (Szirmai, Naude, & Alcorta, 2013).

Linking Industrialisation and Human Development

Industrialising and actively promoting human development at the same time in Zambia fulfil two of the most important aspirations of the country and reflect a fundamental commitment to promoting the well being and dignity of its people. This underlies the need to view industry and human development as mutually supportive.

The real challenge lies actually in building synergy and strengthening linkages between industrialisation and human development to make the two mutually reinforcing. In recent times, the industrial development paradigm has yielded new methods of linking industrialisation with sustainable human development. The key elements for attaining this objective address the following themes:

- Building ecologically sustainable industrialisation
- Building trust and social capital
- Strategically positioning the country in the global economy
- Taking advantage of information and knowledge networks
- Promoting people-centred development

The attainment of these industrial and human development capabilities calls for a consensus on how to maintain a proper balance between the preservation and exploitation of natural resources. Indeed, the enhancement of social capital helps the ability of people to work together for a common purpose either as groups or as members of an organisation. It must be understood, however, that it takes trust to build effective partnerships and networks. Distrust breeds high transactions cost and leads to monopolies or unscrupulous interest groups controlling trade – thus inhibiting development and reinforcing poverty.

Trust and social capital affect industrialisation and the policy environment, especially in the way they make the state, culture, and the civil society to interact. Given this understanding of social capital and trust, it can be said that successful forms of industrialisation are those that combine progress with the needs of the people. Globalisation, on the other hand, creates new challenges where only countries and communities that have built the requisite human capabilities and industrial capacities will be able to reap the benefits.

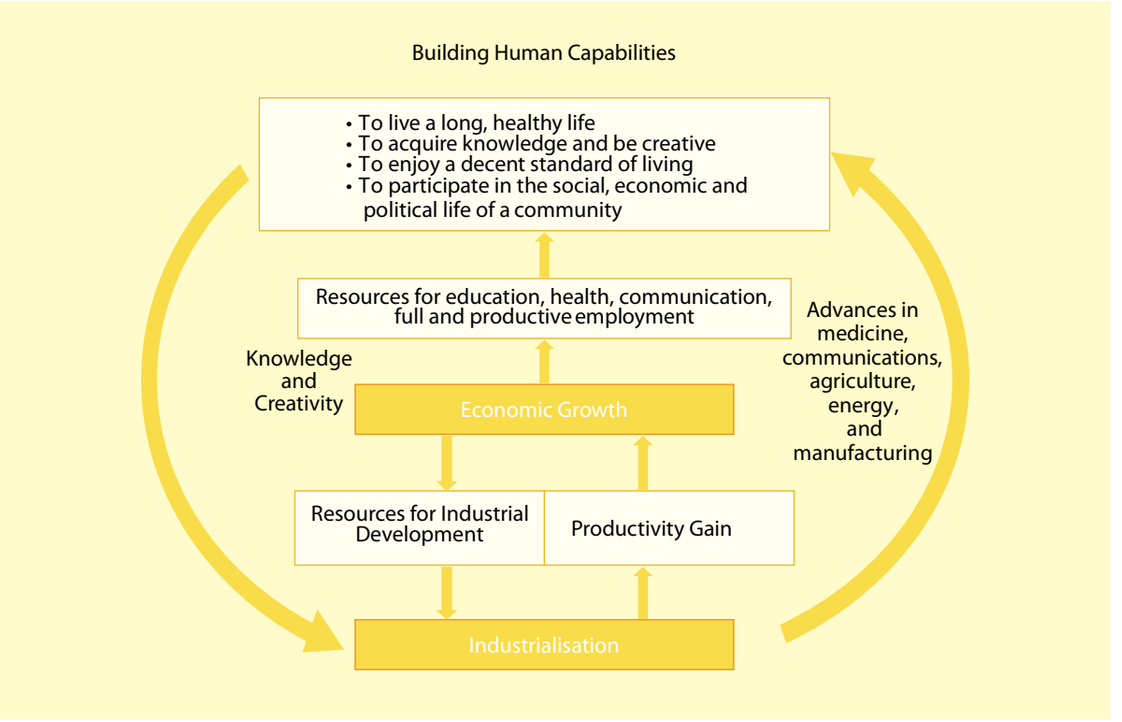
Industrialisation and human development are mutually reinforcing; hence government must forge effective linkages between them.

As a people-centred development, industrialisation endeavours to restore and enhance basic human capabilities and freedoms by improving their organisational and managerial skills, and empowering them to take control of their lives, irrespective of their social standing. Fig. 1.1 captures the links between industrialisation and human development, highlighting the cyclical effect between industrialisation, economic growth, and the building of human capabilities.

Figure 1.1 tells the story of how industrialisation allows for productivity gains which

FIGURE1.1

Linking Industrialisation and Human Development



Source : Adopted with modifications from *Global Human Development Report 2001*.

stimulate economic growth in a country. This economic growth then provides more resources to further re-invest into the production process as well as into education, health, communication, and employment. The development of education, health, communication, and employment makes people to live productive lives, which allow them to plough acquired knowledge and creativity back into the industrialisation process. This feedback loop then allows a country to make advances in all fields of human endeavour and improve the citizens' quality of life. Thus, human development is itself critical to the sustainability of the industrialisation process.

Impediments to Industrialisation in Zambia : The Dutch Disease

Despite an apparent link between industrialisation and human development, many developing countries find themselves not only trapped but struggling to achieve sustainable development – Zambia being one of them. These countries are stagnated because they depend on natural resources to grow their economies. Owing to increasing demand in commodities during the last decade, the natural resource-dependent countries, particularly of Africa, posted substantial economic growth. This dependence is, however, problematic in that it generates, over the long-run, what has come to be known colloquially as the "resource curse". The resource curse typifies countries with a wealth of natural resources which tend to have less economic development outcomes than those with fewer natural resources. Frankel (2010) proffers five lines of argument to explain this paradox:

i. Over-dependence on commodity exports can expose an economy to volatility in international prices which could create macroeconomic in-

stability and cap long-term growth potential.

ii. Natural resources could be a dead-end sector resulting in the crowding out of the manufacturing sector which offers more dynamic benefits and spillover effects for growth.

iii. Countries where physical command of natural resources (by the government or a hereditary elite) automatically confers wealth on the holders may be less likely to develop the institutions, such as rule of law and decentralisation of decision-making, that are conducive to economic development than in countries where moderate taxation of a thriving market economy is the only way to finance the government.

iv. Natural resource-dependent countries could have a proclivity for armed conflict, which is hostile to economic growth.

v. Commodities are exhaustible and cannot be relied on indefinitely.

Also, many natural resource-dependent countries have experienced what is known as the Dutch Disease.[2] This term refers to the negative impact on an economy when the discovery of a natural resource leads to a rapid increase in foreign currency inflows, causing an appreciation in the value of local currency. The consequence is that non-resource industry exports lose price competitiveness, thereby constraining their growth and potentially resulting in a rise in parallel imports. Accordingly, a long-run resource-dependent growth path will hold back developing countries from progressing up the industrial path toward more competitive, productive, efficient, and value-added manufacturing industries which stimulate growth and build human capabilities.

The growth trajectory that the Zambian economy has taken can hardly be differentiated from the one described here. Since independence, the country has pursued a variety of industrial policies to diversify the economy, yet it continues to be driven by copper mining. Between 2004 and 2013, the Zambian economy grew at an average of 7.7 per cent, faster than the 5 per cent average for sub-Saharan Africa. However, this growth has been concentrated in the copper mining industry and is reflective of high copper prices.

Following the discourse on the link between human development and industrialisation, there are some key trends that are relevant from the Zambian experience. First, copper mining can generate high and rapid economic growth but will not sustain productive jobs and human development. This is because this sector's growth is determined by the volatile world copper prices and inconsistent FDI inflows – both of which are exogenous factors out of the control of the Zambian government.

Second, mining employs 1.8 per cent of all working persons, and is essentially a capital-intensive sector. This means that large swathes of jobs will not be generated from copper mining. This low job intensity of copper should be compared with the agricultural sector that accounts for 57 per cent of the labour force. Additionally, though 81 per cent of the working population in agriculture are in vulnerable employment, about 60 per cent of smallholder farmers in this sector are extremely poor, lacking the necessary education, skills and financial endowments to increase productivity. The industrial policy in Zambia seems to have given undue priority to copper mining at the expense of agricultural and manufacturing sectors.

Third, while investments in mining have led to the growth of construction, energy, transport and communication sectors since the early 2000s, it lacks a two-way dynamic linkage with sectors like agriculture and manufacturing. This limits the extent to which the sector can share spillover effects with the rest of the economy to create jobs, increase people's incomes, and reduce poverty.

Four, the absence of supply chain linkages and foreign direct investment in the

agricultural and manufacturing sectors has constrained value-added industrial development. The fact that 57 per cent of the labour force is employed in the agricultural sector which contributes only 9 per cent of GDP shows the lack of productive employment generated in the economy. Moreover, as a land-locked country, the lack of financial capital needed to build physical infrastructure to lower supply chain costs for manufacturing and agriculture has created a further barrier for the country to grow these sectors.

Five, although Zambia has succeeded in attracting FDI to the mining sector, it has not been very successful in leveraging FDI to strengthen local enterprises, especially, the micro, small and medium enterprises (MSMEs). For example, the share of domestic firms in the mining sector market, which is estimated at over US$ 2.5 billion a year, is less than 4 per cent. Of this total, the market share of indigenous firms is just about 1 per cent. The experiences of Taiwan, Malaysia, Chile and Singapore demonstrate that fostering FDI to support local technological capabilities and MSMEs as linkages throughout the supply chains can become effective strategies for industrialisation and economic growth.

Owing to these trends, economic growth in Zambia has not translated into sustained industrialisation, thus keeping poverty levels high and human development low in the country. Just over 60 per cent of the population lives below the national poverty line, while education and health infrastructure are sparse and difficult to access.

To use industrialisation as a tool for advancing human development going forward, the government must establish supportive policies that create greater complementarity between agriculture, manufacturing and mining, while ensuring fair distribution of the effects of growth. Such a strategy requires policy leadership and comprehensive and coordinated actions in several areas. These areas include macroeconomic stabilisation; trade and investment in manufacturing; private sector and MSMEs development; agriculture and rural industrialisation; education and skills development; and access to healthcare. Helping micro, small- and medium-scale agricultural and manufacturing enterprises to increase productivity, develop technological capabilities, enter global markets, and survive competition will be critical factors towards improving opportunities for higher wages and self-employment, which expand human development.

Conclusion

Both theoretical foundations and empirical analysis demonstrate a direct but more intricate relationship between industrialisation and human development. Industrialisation diversifies the economy and increases the productivity of capital and labour while helping the private sector to increase and sustain economic output through value creation. It also provides more and higher paying jobs which broaden opportunities for households to increase consumption and savings. As the economy becomes more resilient through industrialisation, investment opportunities expand for foreign and domestic investors, leading to improvements in the quality of education, health, nutrition, and overall standard of living.

To make the industrialisation process effective, several other factors must support it. These include effective and efficient public institutions; functional product and services markets; an adequately educated and skilled workforce; quality economic and social infrastructure; reliable supply of raw materials; and technology and technological capabilities. Moreover, it is essential to create an enabling policy, legal, regulatory and macroeconomic environment to strategically guide industrialisation to make growth and development inclusive.

In the absence of these factors, unemployment and certain measured poverty indicators can potentially increase, despite high and rapid economic growth. This has been the case in Zambia where growth has occurred in the capital-intensive copper mining which is poorly integrated with other sectors and

domestic MSMEs in the country. Subsequently, the agricultural and manufacturing sectors have yet to be fully developed, thus inhibiting productivity growth and opportunities for value addition.

Industrialisation, thus, requires a strong and developmental state, rather than a passive one. To sustain growth rates, create wealth, and reduce poverty, Zambia has to transform the current structure of the economy and equally prioritise its manufacturing and agricultural sectors. These sectors have created productive employment at a much faster pace than mining, and their absorptive capacity has created room for the majority of the poor to work. Thus, increasing productivity in these sectors is likely to lead to a path of inclusive development and poverty reduction.

Consequently, investing in local MSME technological capabilities, fostering deliberate FDI and MSME linkages, and accelerating the implementation of local content policies in mining, manufacturing, and agriculture, can actually transfer technology and integrate domestic firms into global value chains. If these objectives are achieved, opportunities for productive jobs will expand and incomes will increase as economic output grows. This will lead to progressive and substantive reductions in poverty and deprivation. The ultimate outcome will be a more inclusive development trajectory where men and women in rural and urban areas enjoy a relatively equal standard of living.

Zambia's Industrialisation Experience

2

Cross-country evidence of successful transitions from low-income to high-income country status strongly suggests that the steady rise in the level of economic and human development is unlikely to occur without a significant measure of industrialisation. Complementary interventions include a stable macroeconomic policy framework and well-targeted microeconomic policies within a stable institutional and political environment. To successfully operate in today's increasingly global environment, countries must undertake a baseline review of their economy's strength to determine their comparative advantage and markets which dictate trade, investment, and industrialisation patterns that enable it to thrive.

These considerations are among the critical factors that determine how industrialisation has progressed in Zambia over the past 50 years. Copper has dominated Zambia's economic and industrial path since 1928, when the first commercial mine was opened in Roan Antelope (now Luanshya). The Copperbelt region, where one of the world's largest sources of copper ore is found, overlaps the border between Zambia and the Democratic Republic of the Congo. Under British colonial rule, Northern Rhodesia (now Zambia) was exploited for its mineral wealth to support much more significant industrial, social, educational and government infrastructure in South Africa and Southern Rhodesia (now Zimbabwe) (Fraser & Lungu, 2007).

When Zambia obtained independence in 1964, it inherited a fragile and non-diversified economy that was disproportionately dependent on copper extraction and prone to external shocks from economic and political activity in Southern Rhodesia and South Africa. The colonial government's primary interest in the extractive industries inevitably led it to place little emphasis on growing and investing in Zambia's manufacturing and agricultural sectors. Data shows that manufacturing value added only contributed about 7 per cent of Zambia's GDP in 1965 (World Bank, 2015).

The country began to build its industrial sector shortly after independence through the direct establishment of state-owned enterprises, nationalisation of mines and other financial and investment organs of state, coupled with the promotion of an import substitution industrialisation strategy. This period is viewed by many as the most successful phase of Zambia's industrialisation as human capital and industrial output grew simultaneously. Ten years after independence, however, a combination of two oil price shocks in the 1970s and the rapid fall in the world copper prices led to a dramatic fall in the economy's growth. By the mid-1980s, under high debt levels, dwindling access to external debt and a growing poor population, Zambia participated in the Structural Adjustment Programmes (SAPs) of the IMF and World Bank. This was characterised by massive macroeconomic, trade, and institutional liberalisation, as well as the privatisation of state-owned enterprises that followed in the 1990s. SAP took away protection from the subsidised industries and produced little economic or human development. The 2000s ushered in an industrial policy strategy that placed more emphasis on the development of a vibrant private sector, focusing on creating horizontal and vertical linkages with a particular focus on export-oriented industrialisation and copper mining beneficiation. This strategy has also seen growth in the cotton ginning and food processing sector, which is driven almost exclusively by the private sector.

This development trajectory in Zambia is partly reflected in Table 2.1, which measures the contribution to GDP of agriculture,

A decline in the contribution of agriculture to GDP was not accompanied by an increase in the share of manufacturing.

TABLE 2.1

Value Added by Economic Activity, at Constant US$ 2005 Prices (% of GDP)

Sector	1970	1980	1990	2000	2010	2013
Agriculture						
Agriculture, hunting, forestry, fishing (ISIC A-B)	16.1	13.8	19.5	25.4	18.5	16.2
Industry						
Mining, Manufacturing, Utilities (ISIC C-E)	34.0	32.9	25.5	15.4	16.6	15.0
of which Manufacturing (ISIC D)	7.8	8.1	10.7	10.6	9.3	9.4
Construction (ISIC F)	16.0	10.2	6.8	5.5	13.0	14.7
Services						
Wholesale, retail trade, restaurants and hotels (ISIC G-H)	7.2	10.6	16.1	20.5	17.9	16.9
Transport, storage and communication (ISIC I)	2.9	3.3	3.9	4.2	6.6	8.1
Other Activities (ISIC J-P)	9.1	17.6	20.2	25.0	23.0	24.3

Source: United Nations, Department of Economic and Social Affairs, Statistics Division (2014).

industry, manufacturing and the services sector from 1970 to 2013. The country's economy grew from US$2.8 billion in 1970 to about US$16.2 billion in 2014 (in 2005 constant prices). Despite this real growth in the economy, Table 2.1 shows that there was no sectoral heterogeneity in this growth path. In particular, the decline in the contribution of agriculture to GDP from 25.4 per cent in 2000 to 16.2 per cent in 2013 reflects an overall shift from a primary-sector-based economy to one with greater levels of value-added in its production profile. The first two decades after independence was accompanied by a slight increase in the contribution of manufacturing and a substantial increase in the contribution of services value-added to GDP. Industrial policy shifts following this period contributed to a declining manufacturing share of GDP. Hence, the diminishing contribution of agriculture was not always accompanied by an increase in the role played by manufacturing. Indeed, the key long-run growth constraint to the Zambian economy lies in the inability of the manufacturing sector to grow and expand.

While the share of industry as a percentage of GDP has declined since independence, copper mining continues to shape the fortunes of the Zambian economy. For one, copper extraction dominates the economy's trade profile, accounting for over 70 per cent of the country's foreign exchange earnings (African Development Bank Group, 2015). Also, other industrial sector activities such as construction, electricity, water, and gas mostly have a direct link to mining production. The decline in the manufacturing's share of GDP is further demonstrated by the rapid growth of the services sector. This sector's share of GDP has more than doubled over the last 50 years. This provisional evidence is suggestive of an economic development indicating a decline in agriculture's contribution to GDP as well as industry's partial contribution to the same. Nevertheless, this structural transformation has not given way to a dynamic, fast-growing manufacturing sector. Instead, the sector has stagnated while the low value-added, non-tradeable services sector has grown dramatically.

The immediate welfare consequences of this lack of structural transformation and industrialisation are apparent in the current poverty and unemployment figures for the economy For example, Poverty Headcount in 2010 was 61 per cent while the Gini coefficient was 0.65. In the same year, close to 80 per cent of all Zambian workers continued

to be employed in Agriculture (LCMS, 2010). It is instructive to examine more closely the industrial policies that have shaped these socio-economic and human development outcomes.

The Colonial Capitalist Model (1964-1968)

At independence in 1964, Zambia was one of the most prosperous countries in sub-Saharan Africa – having the highest per capita income in the sample of Southern African economies (Carmody, 2009). Owing to the substantial agricultural and mineral wealth that the country controlled, the economy had the potential for a dynamic growth and development. Within the first four years of independence, Zambia pursued a largely market-driven industrial path with little public involvement, which was reminiscent of its colonial past. This period was accompanied by booming economic prospects, as the copper industry accounted for over 90 per cent of export revenues and world copper prices were favourable (Jansen, 1988). Conversely, the level of industrial development was weak as manufacturing accounted for only 6.9 per cent of GDP value added (World Bank, 2015).

The White Paper Outline of the Zambian government's Industrial Policy (1964, 1966) and the First Development Plan (1966-1970), were among the country's first industrialisation guidelines. Moreover, the 1964/6 industrial plans developed by the Ministry of Commerce Trade and Industry outlined the objectives and guidelines of industrialisation to include the following:

- Development and diversification of the economy;
- Reduction of imports and improvement in the saving of foreign exchange;
- Placement of emphasis on labour-intensive industries and promotion of employment;
- Development of linkage effects;
- Production of surplus for exports; and
- Dispersion outside the main (urban) production centres (Mudenda, 2010).

While the industrial policies during this period were quite ambitious and focused on growing the country's industry, they were pursued without significantly altering the inherited colonial forms of accumulation and growth. Consequently, the nation's economic growth floundered as domestic consumer and capital markets remained thin, amidst a poorly educated workforce and a lack of indigenous entrepreneurship. The country was thus forced into continued reliance on foreign private entrepreneurs to supply capital, technology and management, and to drive Zambia's growth ambitions. For an economy that had newly emerged from colonialism, this development option ultimately proved to be politically unfeasible and economically undesirable. Driven by this anti-colonial sentiment, the Zambian government began a process of inward, state-led industrialisation.

The prospects for human development during this period appeared bright due to the nation's abundant natural resources. However, the government was faced with multiple challenges, including diversifying the economy to sufficiently redress inequalities between the rural and urban populations. There were also the problems of high unemployment levels and low supply of quality services such as health and education. Consequently, the government invested heavily in education and health infrastructure. That was how the University of Zambia and thousands of schools, colleges and district hospitals that did not exist during the colonial era came into being. These facilities opened up socio-economic opportunities for many previously disadvantaged Zambians (UNDP, 2003).

Nationalisation and Import Substitution Industrialisation (1968-1991)

In 1968, the President of Zambia, and leader of the United National Independence Party (UNIP), Dr. Kenneth Kaunda, nationalised all private retail, transport, and manufacturing

firms in the country, through what came to be known as the Mulungushi Reforms. The reforms imposed on government the responsibility to manage its newly acquired assets and run the factories; hence the substantial investment in import substitution industrialisation (ISI). It was the only way to make the Mulungushi Reforms work. The government embarked on these reforms for three main reasons:

i. The 1965 Unilateral Declaration of Independence by Southern Rhodesia (now Zimbabwe) cut off communication and commerce between Zambia and its southern neighbouring countries, leaving the country with virtually no trading partners.
ii. After independence, Zambia struggled to generate sufficient foreign exchange to maintain its import bill.
iii. Foreigners possessed high levels of ownership and managerial control on the Zambian economy. The reforms of this era, including state acquisition of majority shares in the industrial sector of the economy, are regarded by many as the most successful of Zambia's history.

The reforms of this era, including state acquisition of majority shares in the industrial sector of the economy, are regarded by many as the most successful of Zambia's history.

In furtherance of its nationalisation objectives, the government established the Industrial Development Corporation (INDECO), through which it acquired at least 51 per cent share in most companies. A year later, in 1969, the Matero Reforms were announced, which resulted in the government purchasing majority shares from existing mining companies. This led to the partial nationalisation of the copper industry under a new parastatal, the Mining Development Corporation (MINDECO). Further nationalisation reforms in 1970 were extended to insurance companies and building societies which were brought under another parastatal, the Finance and Development Corporation (FINDECO). Notably, banks successfully resisted state takeover. In 1971, INDECO, MINDECO, and FINDECO were merged into a new parastatal, the Zambia Industrial and Mining Corporation (ZIMCO), creating one of the largest parastatals in Sub-Saharan Africa. Overall, these cumulative reforms led to state control of 80 per cent of the economy, encompassing the mining, energy, transport, tourism, finance, agriculture, services, commerce, trade, manufacturing, and construction sectors (Turok, 1989).

The philosophy of "Zambian humanism" provided the basis for the country's industrial policies at the time. Given that, at independence, less than 0.5 per cent of the Zambian population had completed primary school and only 107 university graduates resided in the entire country (Government of Zambia, 1996), creating a strong industrial base along with the requisite education and health infrastructure was a top priority of government.

A series of highly ambitious five-year National Development Plans and protectionist trade policies, including high tariffs[1] and strict import licencing, allowed manufacturing output to gain wide acceptance. State-controlled enterprises received additional support through cross-subsidisation as and when required. Moreover, profits from the nationalised copper mines were used to create new industries to diversify the economy, build hospitals, schools and universities, and to provide subsidies to domestic manufacturers, entrepreneurs,[2] and consumers. Many consumption commodities, especially those in agriculture, were also subsidised as the state required commercial banks to give preferential interest rates on loans to agricultural enterprises (Simatele, 2006b). The objective of this was to provide food to nourish the burgeoning urban population.

Even the mining conglomerate, the Zambia Consolidated Copper Mines (ZCCM), which materialised from the nationalised Roan Selection Trust and Anglo-American Corporation mines, became a major player in the country's industrial and human development. ZCCM mirrored the country's developmental philosophy and supplied social amenities much wider in scope than those offered during the colonial period. This

included free education for miners' children and subsidised housing, food, electricity, water and transport. ZCCM literally operated a "cradle to grave" welfare policy, even subsidising burial arrangements for the deceased (Fraser and Lungu, 2007).

At that time, parastatals also subsidised their services heavily in order to help the Zambian poor. For example, the United Bus Company of Zambia (UBZ) offered cheap transport throughout the country – even to the remotest parts – where private firms were not willing to operate. Other companies like the Nitrogen Chemicals of Zambia (NCZ) produced fertiliser and sold it at concessionary rates to farmers, while the Zambia Electricity Supply Corporation (ZESCO) took over from the private firms, and began an electrification programme that extended to all parts of the country. Parastatals were engaged in crucial initiatives that the private sector was not willing to pursue, or which they deemed "unprofitable" (Noyoo, 2010).

Overall, there were reasonable growth rates in the 1960s and early 1970s (Republic of Zambia, 1979), primarily due to high copper production and its concomitant international prices, as well as the steady increases in maize and manufacturing output. Real GDP consequently expanded at an average annualised rate of 2.3 per cent within the decade after independence (Rakner, 2003). Zambia ran consistently positive trade balances and met shortfalls in food supply easily through increased imports (Simatele, 2006a). This period has been described by many as the most successful attempt at industrialisation. Three factors, among several others, made this possible.They included significant foreign reserves, increasing investment in education and skills development, and a nationalistic fervour that independence brought.

However, by the mid-1970s, both the nationalisation and import-substitution industrialisation options had become unsustainable. When copper prices fell by 40 per cent as a result of the 1973 oil crisis and world recession, domestic economic conditions in Zambia deteriorated rapidly (World Bank, 1981). Government's inability to properly diversify the economy away from mining created a domino effect. Manufacturing sub-sectors, including chemicals, plastics, rubber, and metal products, accounted for about 40 per cent of manufacturing output at the time, but were all highly dependent on imported inputs and directly linked to growth in the mining sector (Karmiloff, 1987). Moreover, the manufacturing sector produced very limited exports due to the high rates of trade protection that made the domestic market more profitable than the foreign sales. Manufactured exports consisted of cement, sugar and molasses, copper cable, menswear, crushed stone and lime, and explosives. These products only accounted for 1.3 per cent of total exports in 1977, and 0.7 per cent in 1984 (Mudenda, 2010).

Thus, tax revenues from mining activities dropped to insignificant levels and mining companies ceased paying out dividends (Karmiloff, 1987). The country's trade deficit became unsustainable, and as the industrial sector was unable to afford imported inputs, the Zambian economy plunged into crisis. New investment into the country ceased, and there were no offsetting sectoral opportunities to stimulate the economy. Metal products absorbed over 70 per cent of fixed capital formation during the copper boom years, but no less than 45 per cent for most of the 1975-85 decade (Karmiloff, 1987). Even as the copper prices continued to fall, industrial diversification was discouraged due to the expensive local currency and the stringency of price and foreign exchange controls.

Believing the collapse in copper prices to be temporary, the Zambian government borrowed in an attempt to deficit-finance its way out of the recession. Unfortunately, after a second oil crisis in 1979, world interest rates increased drastically and Zambia found itself in a severe debt crisis (Fraser & Larmer, 2010). As Figures 2.1 and 2.2 indicate, the result of the twin oil crises was both a steady

FIGURE 2.1

Copper Production in Zambia (Tonnes)

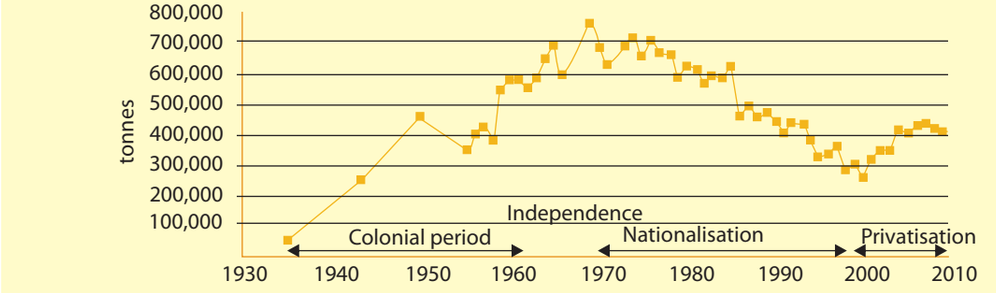
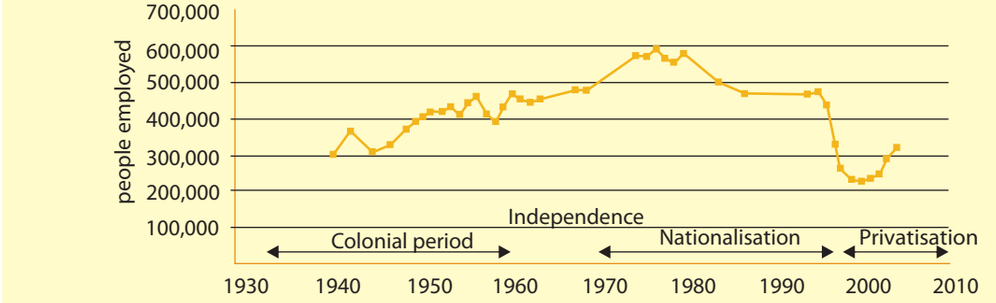


FIGURE 2.2

Employment in the Zambian Copperbelt Mines



decline in copper production, as well as a parallel drop in employment levels on the Copperbelt mines.

Indeed, this twin decline in copper production and employment was to continue for close to three decades. The damage done to the economy in terms of growth and employment outcomes, as well as undermining the long-run industrialisation plans of the economy was enormous.

In 1981, government passed the Small Industrial Organisation Act (SIOA) in an attempt to spark growth from private MSMEs, a previously ignored sector of the economy. The Act provided for the establishment of the Small Industry Development Organisation, Development Bank of Zambia, and Village Industries Services to oversee and manage the development of MSMEs in the country. However, the initiative failed due to poor strategy, under-funding, poor management, and passive state intervention in the operations of private enterprises (Mudenda, 2010).

By 1983, Zambia's economy was in shambles, thus it had little option when the Bretton Woods Institutions introduced the Structural Adjustment Programme (SAP). Zambia adopted SAP, just like many other African countries in dire straits. The World Bank and IMF provided the Zambian government

external funds, with the contingency that a fundamental policy shift from previous attempts at economic reform was to be implemented in the country. The SAP conditionalities included, among other things, devaluation of the currency, limiting public sector wage increases to 5 per cent, removal of price controls on essential commodities, and the ending of subsidies on maize and fertilisers (Simutanyi, 1996).

As part of the comprehensive economic adjustment programme, a foreign exchange auction system was adopted in 1985. The auction system aimed at restructuring the foreign exchange allocative mechanism and, in particular, eliminating the import licensing system previously used. Additional measures included the liberalisation of agricultural marketing, public sector reform, and a reduction in civil service employment (Simutanyi, 1996). The general impact of the auction system was the devaluation of the Kwacha and an increase in the cost of living of urban wage earners. Subsequently, living conditions of workers deteriorated and essential commodity prices increased dramatically. Workers began to agitate for higher wages nationwide. When government removed the maize subsidy in 1986, civil unrest erupted.

In response, President Kaunda rescinded the maize liberalisation policy and cancelled the IMF and World Bank agreements. This sparked widespread dissatisfaction with the economic reform. The exchange rate auction system and other aspects of the economic reform package ignited many protests by unions demanding higher wages, complaints from manufacturers, and hostile statements by UNIP leaders.

To replace the IMF programme, the Zambian government implemented the Interim New Economic Recovery Programme (INERP), which re-instituted pre-1982 measures. Such measures included, among others, fixing the exchange rate at K8 to US$1 (from the previous of K21 to US$1), re-imposing prices controls, limiting debt service to 10 per cent of foreign export receipts, and nationalising the private milling companies which the government held responsible for the 1985 food riots. In describing the IMF programme, President Kaunda said, “It had brought pain, malnutrition and death to the people of Zambia” (Simutanyi, 1996). Thus, the use of local resources was to be the basis of the new programme.

Despite a remarkable growth rate of 6.2 per cent in 1988, the INERP was widely regarded as an unsustainable industrial path. Coupled with this, international institutions and donor countries continued to deny Zambia much needed financial resources. The country eventually became starved of external finances as the majority of the developed world would not give the country a loan if it had no formal relationship with the IMF. As the economy began to worsen, the Zambian government had no choice but to re-open negotiations with the IMF.

To qualify for a loan from the IMF in 1989, Zambia implemented a number of economic measures that liberalised some price controls on consumer goods, excluding maize. Thus, with the assistance of the IMF in 1990, the Zambian government drew up a Policy Framework Paper which outlined the economic policies the government would pursue from 1990 to 1993. To receive funds to support its balance of payments, Zambia phased out maize subsidies and reduced its government social expenditure to lessen government budget deficits (Simutanyi, 1996).

In June 1990, the government revoked a massive price control on high grade maize which increased its price by over 100 per cent. Rioting subsequently broke out in the capital city of Lusaka and in Copperbelt towns. At the end of the rioting, 27 people were killed by security forces, hundreds were injured and several other hundreds were arrested. Unlike in 1986, Kaunda decided not to rescind the decision to increase the price of maize as a way of reducing maize subsidies. Therefore, in March 1991, normal relations with the World

Bank resumed, and in the following month the IMF's Rights Accumulation Programme began, allowing Zambia to reschedule its debts to the IMF. However, the demands for the re-introduction of a multiparty system, and government's agreement to hold elections in 1991, affected the commitment of the government to meeting the requirements of the IMF loans. In June 1991, the government requested the IMF to allow it to delay a planned reduction in the subsidies of maize meal to avoid potential rioting during the election period. The IMF refused and froze all forms of financial disbursement to the country. Consequently, hyperinflation set in – reaching 129 per cent in 1991 – as the government printed money to meet the 100 per cent increases in civil servants' salaries and to finance the deficit (Simutanyi, 1996)

Overall, the government faced uncontrollable debt servicing, severe foreign exchange shortages, high budget deficits which averaged 10 per cent of GDP, hyperinflation, weak industrialisation, eroded social and physical infrastructure, and a decline in formal sector employment. Per capita GDP decreased from US$946 in 1970 to US$576 in 1991 (World Bank, 2015); infant mortality which had fallen from 147 in 1969 to 79 per 1000 live births in 1977-78, rose to 107 during 1987-91; and a higher percentage of under-5 children were stunted in 1990/91 than in 1970/71 (McCulloch, Baulch, & Robson-Cherel, 2000). After this steady decline in economic and human development, Zambia was re-designated a "least developed country" by the United Nations.

Structural Adjustment and Market Liberalisation Industrialisation (1991-2000)

The impact of inflation on the poor, the middle class, and business eroded public support for the government's reform policies, and by mid-1991, economic restructuring had become politically and economically unavoidable. The UNIP was defeated in the October 1991 elections, and the Movement for Multiparty Democracy (MMD) government took over, agreeing to continue reforms agreed upon between UNIP and the World Bank and IMF in 1990 (Simutanyi, 1996).

Three major groups of development strategies have influenced national development initiatives since import substitution industrialisation was abandoned in the country. The first consists of strategies adopted and promoted by UN agencies. These include: the UN Industrial Development Decade for Africa (IDDA I&II, 1980 and 2000), UN System-Wide Special Initiative for Africa (UNSSIA), and the Alliance for Africa's Industrialisation initiated by UNIDO in 1996. The second group comprises regional initiatives promoted by the Economic Commission for Africa (ECA) and the African Union (AU) which include: the Lagos Plan of Action 1980, African Alternative Framework for Structural Adjustment Programmes (AAF-SAP) 1989, and the Treaty for African Economic Community, 1991. The third group has been the Bretton Woods Institutions' interventions in economic policy-making in most African countries, including Zambia (McCulloch, Baulch, & Robson-Cherel, 2000).

Overall, the new government focused on three key areas of reform to improve industrialisation and human development of the country. Among these were:

- Macroeconomic Stabilisation
- Economic Liberalisation
- Institutional Reform

When the MMD came to power, the macroeconomy was immensely unstable. GDP had fallen to around two-thirds of what it was in the late 1960s, after two decades of erratic and mostly unsuccessful attempts at industrial policy reform (McCulloch, Baulch, & Robson-Cherel, 2000). Inflation went out of control and government budget deficit climbed to 7.3 per cent of GDP (Republic of Zambia, 1993). External debt amounted to US$6.8 billion, and scheduled debt service was 61 per cent of export earnings (IMF,

1999). By re-implementing the IMF's Rights Accumulation Programme, the government decided to meet specific objectives including: (a) Placing limits on reserve money and domestic credit extensions; (b) Meeting various financial targets in a timely manner, including decreasing debt arrears; and (c) Shifting policies to liberalise the foreign exchange and credit markets (White & Estrand, 1998).

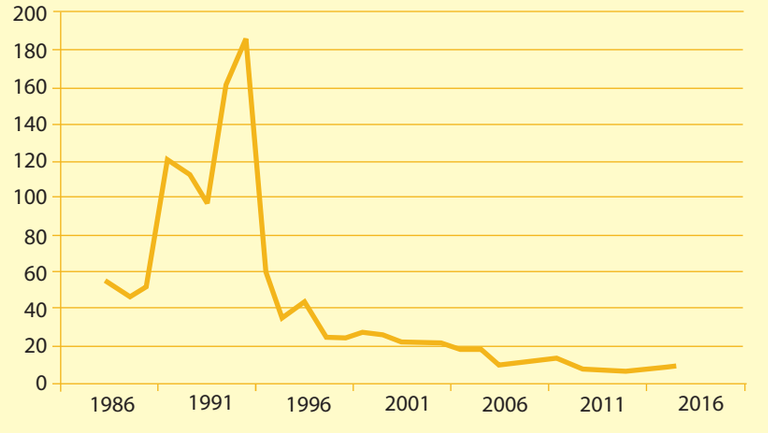
Compliance with these objectives was mostly successful, especially in the foreign exchange liberalisation component. However, adherence to the objectives became progressively more difficult as the government increasingly relied on printing money to meet local expenditure commitments. Excessive wages for public servants and large, unplanned and unbudgeted transfers to Zambian Airways resulted in government's overuse of the banking system to finance its growing deficit. The drought of 1992 made matters worse, sending food prices skyrocketing, with inflation rising to 191 per cent by the end of the year. In an attempt to curb inflation, controls on borrowing and lending rates were lifted in October 1992 and the Treasury Bill was introduced as a less inflationary form of deficit financing (Republic of Zambia, 1993).

Early in 1993, the government also introduced a cash budgeting system in which government expenditures could only be made if funds were available. Combined with the liberalisation of commercial banking loan rates, growth in the reserve ratio and the active issue of treasury bills were successful in reducing inflation to 55 per cent in 1994 (McCulloch, Baulch, & Robson-Cherel, 2000). Real interest rates increased substantially, with the annualised yield on 91-day treasury bills rising to almost 200 per cent in July 1993. Inflation fell along with interest from 1994 onwards, but moderate positive real interest rates prevailed in most years. As Figure 2.3 illustrates, continued tight monetary policy over the latter half of the 1990s and 2000s reduced inflation from its heady heights of close to 200 per cent in the early 1990s to around 6 per cent by 2012.

This radical macroeconomic stabilisation in prices was not without its costs. The high returns available from government debt caused formal sector finance to change to the purchase of treasury bills, severely restraining the availability of credit to the private sector. In turn, high real interest rates curtailed foreign and domestic investment (World Bank, 1994).

FIGURE 2.3

Inflation in Zambia (Annual Averages in %), 1986 - 2015



Source: Central Statistical Office, The Monthly, December 2015.

Linked to macroeconomic stabilisation were various liberalisation initiatives. In the main, these measures included exchange rate and trade liberalisation. Before 1991, Zambia's exchange rate was mostly set through government intervention. After concerns about the government's rising debt, a bureau de change market was introduced to determine the market exchange rate, and by 1993, most foreign exchange controls on current transactions were removed. Consequently, the Zambian kwacha depreciated relative to the US dollar due to drought and weak copper prices until 2004, when a commodities super-cycle benefitted numerous African economies. The short-lived appreciation of the currency lasted until 2006 when copper prices started to drop again.

Trade liberalisation in Zambia after 1991 had a harsher effect on the growth potential of the country's manufacturing sector. Over a five-year period, all licensing and quantitative restrictions on imports and exports were eliminated. Tariffs were decreased and the arrangement of trade barriers was streamlined. Customs duties ranged between 0 and 100 per cent in 1991, with 11 tariff bands. By 1996, the duties ranged from 0 to 25 per cent with only four bands (Rakner, 2003).

These reforms were initiated with the hopes of improving productivity and competitiveness of the manufacturing sector to grow exports and employment. It was expected that short-term adjustment costs would force some individuals and households into poverty (World Bank 1994a), but what transpired was considerably more dramatic – as the manufacturing sector collapsed. Companies that were protected by trade and price control policies were unable to withstand the shocks of liberalisation. Employment in formal manufacturing fell by over 40 per cent from 1991 to 1998 (The Republic of Zambia, 1994; The Republic of Zambia, 1999). The impact had been especially destructive in the textile industry, which almost fully collapsed. By December 1993, 8,500 workers had lost their jobs in the textile industry alone, and 47 clothing manufacturing firms in Livingstone closed down due to competition from imported textile products and second-hand clothing suppliers (Simutanyi, 1996). Liberalisation policies had a mixed impact on local and export industries as well as on overall human development levels.

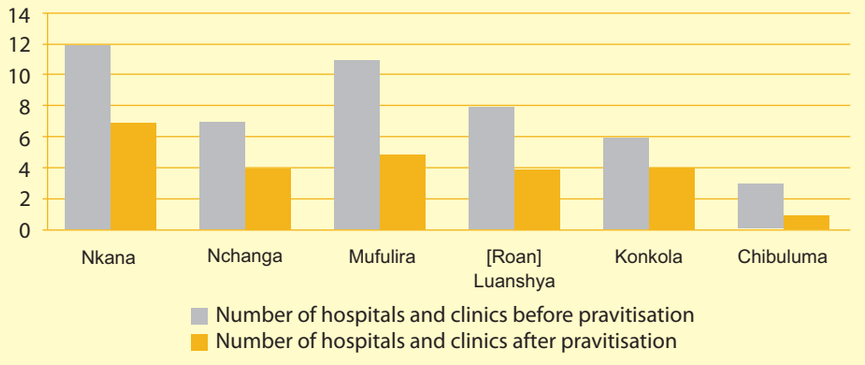
Liberalisation policies had a mixed impact on local and export industries as well as on overall human development levels.

In theory, just as import substituting industries were expected to be hurt during trade liberalisation, export industries were expected to grow as the relative price of exportables to importables rises. Unfortunately, export performance was mixed in the 1990s. Total exports fell by 30 per cent between 1990 and 1998, and that mainly due to the collapse of metal exports for over half of this period. Even copper, the country's largest and most important export, dropped in value from over US$ 1 billion in 1990 to US$ 431 million in 1998. This decreased the volume of copper exports by more than 30 per cent during the same period. However, cobalt prices tripled between 1990 and 1997, and the value of cobalt exports doubled between 1990 and 1998. The value of non-metal exports also tripled from 1991 to 1998, which seemed to give way to the decline in heavy industry and growth of more competitive exports (IMF, 1999). However, the commodity boom in the early 2000s reversed this structural shift back to primarily focusing on copper mining exports.

The final component of government reform during this period was institutional. The privatisation of the parastatal sector was one of the MMD government's key policy objectives. This was driven partly by worries that the sector had become enormously inefficient and uncompetitive due to many years of development behind high protective barriers, as well as a desire to remove the considerable fiscal cost of the losses of the sector (McCulloch, Baulch, & Robson-Cherel, 2000). The Privatisation Act was passed in June 1993, and the Zambia Privatisation Agency was formed to implement the privatisation process (Chiwele & Chinganya, 1997). Progress was initially sluggish – only 15 parastatals were sold two years after the Act was signed. However, the

FIGURE 2.4

Number of Hospitals and Clinics in the Copperbelt Mining Towns before and after Privatisation



Source: (Lungu & Malenga, 2005)

liquidation of ZIMCO in March 1995 accelerated the process. By 1997, 224 companies of a total of 275 parastatals laid out for sale had been privatised (Rakner, 2003). However, political opposition to privatisation of the mines postponed the sale of ZCCM. As a result, donors suspended balance-of-payments financing for three years. In 2000, a bid by Anglo-American Co-operation was finally accepted by the Zambian authorities.

While the sale of ZCCM was seen to be a progressive step toward a market economy, towns near the Copperbelt experienced poor educational and health outcomes. Following the privatisation of the mines, most of the education and health infrastructure that ZCCM had provided was sold to private entities, handed over to government, or closed. As noted in Figure 2.4, the number of healthcare facilities at each mine fell. Moreover, the cost of healthcare at mining hospitals increased substantially after privatisation (Lungu, 2008).

Overall, from 1991 to 2000, the government implemented a rash of economic policies and passed several legislations aimed at liberalising and accelerating economic growth. However, neither the outcomes of growth nor of welfare were encouraging. The decade averaged an annual growth rate of 1.5 per cent. In 1990, manufacturing value added as a portion of GDP peaked at 36 per cent due to the high trade protectionist and ISI strategies implemented. However, from the macroeconomic and institutional reforms implemented during the 1990s, the manufacturing sector struggled to support itself, and by 2000, manufacturing value added had fallen to about 10 per cent of GDP. Moreover, the poverty headcount for the country during the 1991-1996 period rose from 69 per cent to 81 per cent, before falling to 72 per cent by the end of the decade. Rural poverty during the time peaked at 90 per cent in 1996 due to the withdrawal of government subsidies.

Export-Oriented Industrialisation Policy (2001 to Date)

From the 2000s onwards, the Zambian government initiated an industrial policy strategy that placed more emphasis on private sector development and focused especially on export-oriented industrialisation and copper mining beneficiation. Domestically, the 2001 Export Processing Zones (EPZ) Act;[3] the Fifth National Development Plan (2006-2010); the 2006 Zambia Development Agency Act; the Vision 2030 Paper; the 2008 Commercial, Trade and Industrial Policy; the Sixth National Development Plan (2011-

2015); and the 2012 Strategy Paper on Industrialisation and Job Creation were all established to support this industrial strategy. Internationally, the United States initiated the African Growth and Opportunity Act (AGOA) in 2000 to liberalise trade between Sub-Saharan Africa and the USA. The Act has had a substantial positive impact on the region's agricultural sector growth.

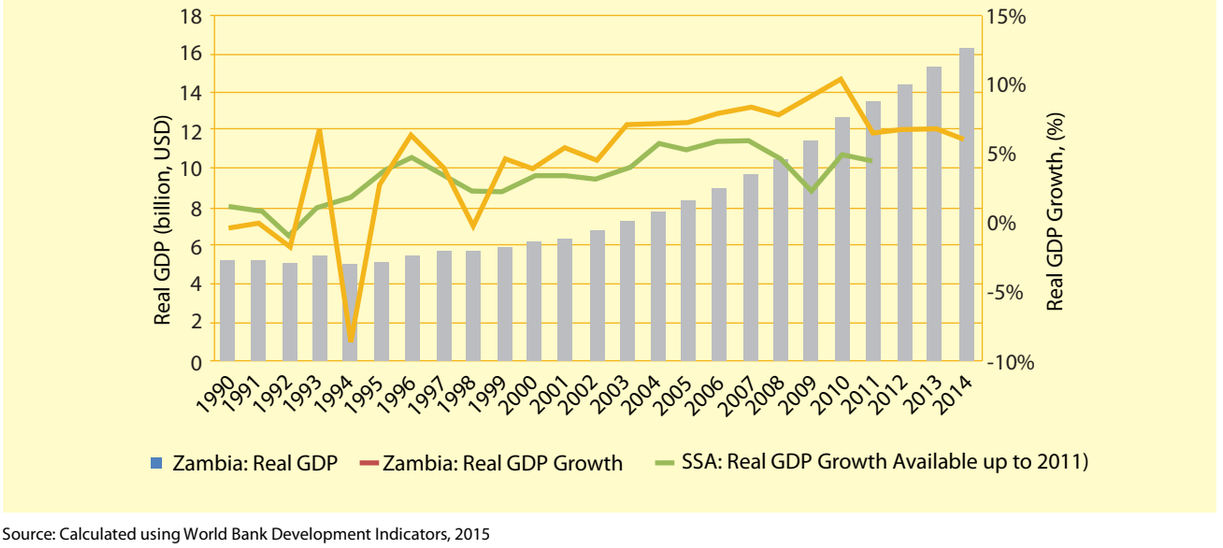
Most responsively, the government has pursued the Multi-Facility Economic Zones initiative via the 2006 Zambia Development Agency Act with an intent to increase manufacturing's share of GDP past its historically low levels. These zones are proposed to blend the best features of free trade zones, export processing zones, and industrial parks while creating the administrative infrastructure, rules, and regulations to support both export and domestic-oriented industries. The government also designed zones to support firm clusters that can benefit from spatial proximity all through the various industrial processes, from primary production, processing, marketing and sales and, ultimately, distribution.

So far, two of the six MFEZs being developed have become operational. The others are still in the early stages of development. The zones are located in the Copperbelt, North-Western, and Lusaka regions. The Chambishi MFEZ in the Copperbelt focuses mainly on the copper supply chain, and houses both heavy and light industries, including copper smelting, manufacture of copper wire and cables, household appliances such as stoves, motor parts, and agro-processing. More than 10 enterprises from this organisation have been established, creating over 3,500 jobs. The Lusaka East MFEZ is located adjacent to the Lusaka International Airport whose construction work was launched on 14 January 2009 as an extension of the Chambishi MFEZ. This one is designed to focus on light manufacturing activities and services such as the provision of conference facilities, and hotel accommodation, among other things. The Lusaka South MFEZ is currently under construction with ZESCO installing a 300 transmission line and a 30 KV power substation.[4] Unfortunately, the development of these MFEZs has been slow due to poor road infrastructure and unreliable and undeveloped power and water supply (Rasmussen, Munkoni, & Lwanda, 2014).

In 2006, government instituted the Private Sector Development Reform Programme (PSDRP) to improve the business

FIGURE 2.5

Real GDP and GDP Growth, 1990-2012



Source: Calculated using World Bank Development Indicators, 2015

environment and reduce the overall cost of doing business. The objective of this policy is to accelerate private sector reforms in some sectors, resulting in a competitive business environment. The programme has resulted in the development of policy papers in several areas. Among these are ICT, energy, Public Private Partnership (PPP), and MSME. Already, the overall complexity in and duration of business registration have reduced considerably. Also, an online search tool has been created for business name registration while a single-stop shop has been established at the border post at Chirundu. Despite this progress, however, the programme has been criticised for not consulting widely with the different stakeholders and for being driven largely by government. Apparently, the critics do not want it to be a government programme.

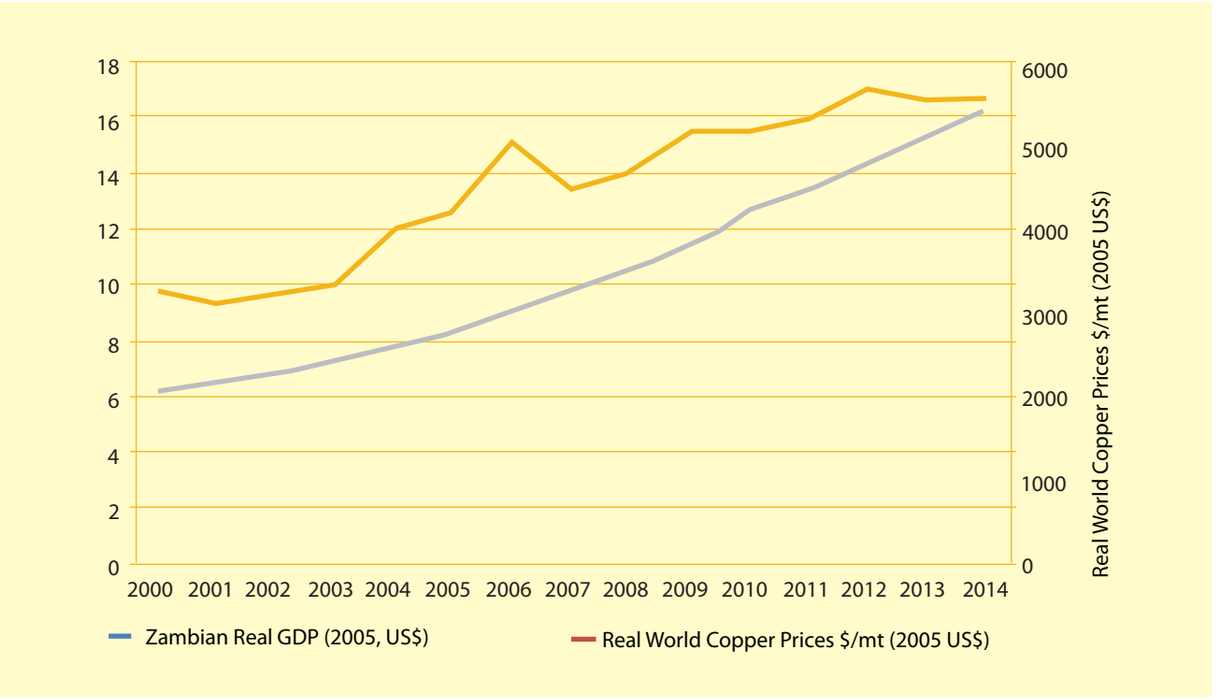
Current Economic Outlook

Over the last ten years, Zambia's economy has grown at an annual average of just over 7.5 per cent. This is marginally above the Sub-Saharan average of 5 per cent, resulting in an economy with a net worth of US$16.2 billion as at 2014. The growth outlook remains strong as the economy has been projected to grow at 7.5 per cent per year up to 2017. This growth path is almost at par with that of Tanzania, but much faster than that of Uganda, which grew at a faster pace in the 1990s.

However, the country continues to be dependent mainly on its copper industry. Copper output increased steadily from 2004, due to higher copper prices and foreign investment, but weakened in 2014, when Zambia was overtaken as Africa's largest copper producer by the Democratic Republic of Congo (Rasmussen, Munkoni, & Lwanda, 2014). Zambia's dependency on this product continues to make it vulnerable to commodity price fluctuations, though record high copper prices and a large maize crop in 2010 helped Zambia rebound quickly from the world economic slowdown that started in 2008. The economic growth has been particularly rapid since 2002, with an average of 7.3 per cent,

FIGURE 2.6

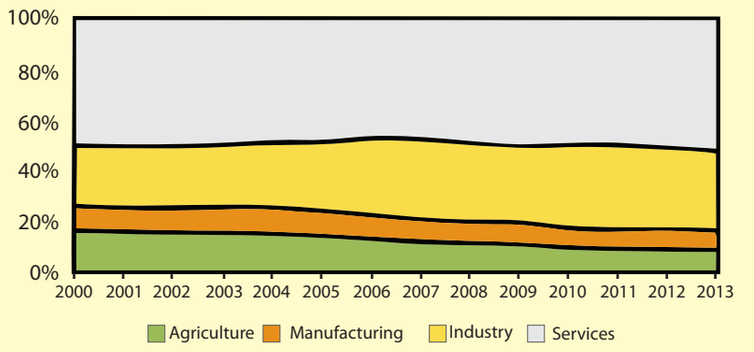
Zambian GDP and World Copper Prices, 2000-2014[5]



Source: World Bank Development Indicators, 2015 & World Bank Commodity Markets Pink Sheet,

FIGURE 2.7

Value Added by Sector (% of GDP), 2000-2013



Note: Manufacturing was netted out of industry and reported in a separate sub-group to provide a clear understanding of manufacturing's decline in the country, while other components of industry (ISIC divisions 10-14 and 38-45), including mining, construction, electricity, water, and gas, remained incorporated.
Source: World Bank Development Indicators (2015).

driven in part by the rapid rise in the world price of copper (Figure 2.6). In 2009, the copper price dropped as a result of the global financial crisis, but picked up again in 2010.

Despite the post-2000 policy initiatives to diversify the economy by building stronger manufacturing and agricultural sectors, these two sectors still contribute the least to GDP. In 2000, agricultural value-added as a proportion to GDP was 18 per cent, while manufacturing was 10 per cent (Figure 2.7). By 2013, agriculture and manufacturing value-added as a proportion of GDP had declined to 9.5 per cent and 8 per cent, respectively (World Bank, 2015).

Zambia's economy still remains largely undiversified, and copper continues to be its major export.

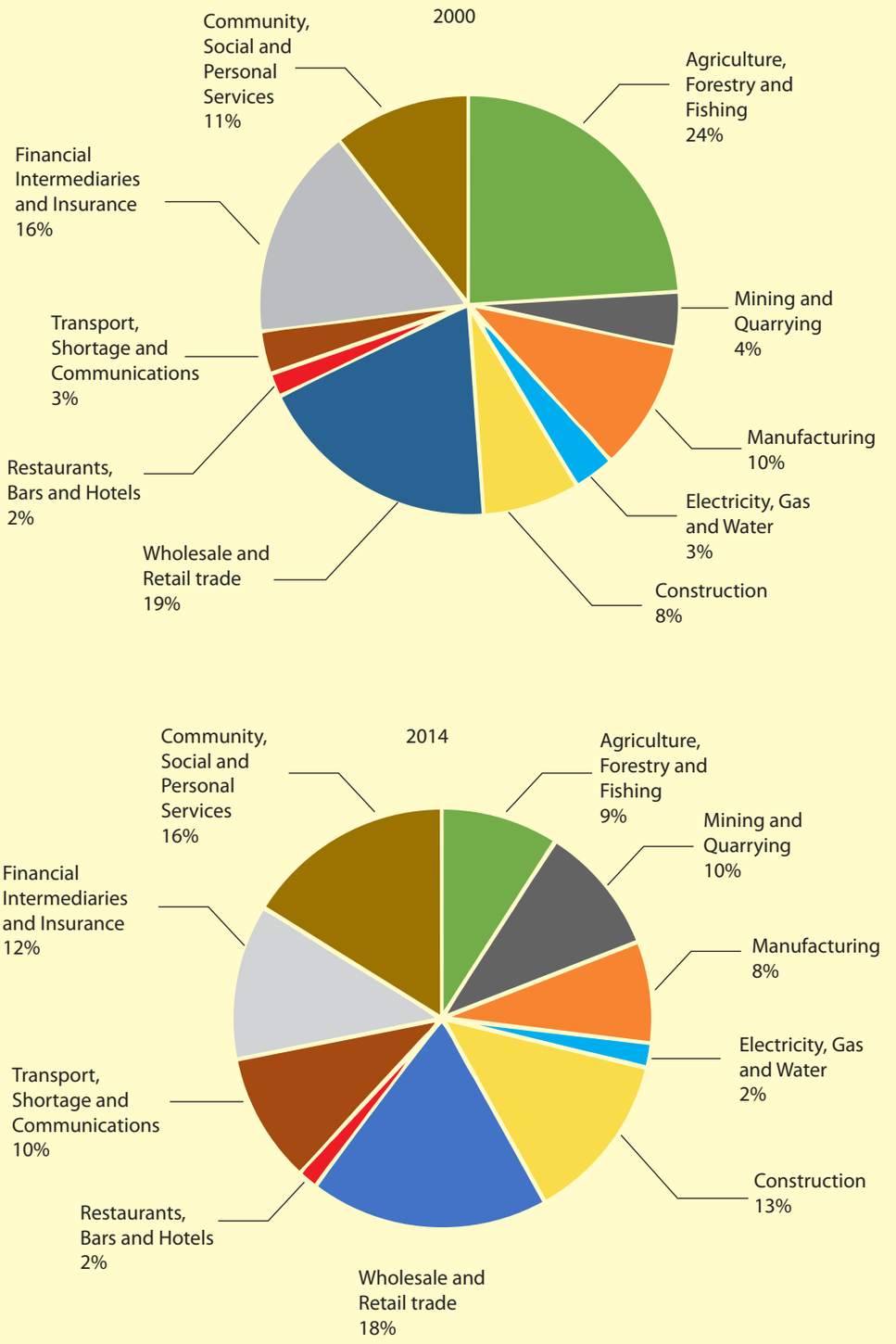
Figure 2.8 adds further context to this by indicating the shares of GDP by sector for years 2000 and 2014. Consistently, the tertiary sector contributes at least half of GDP in both years, with a slight increase in 2014. In particular, the figure suggests a distinct shift in the shares of GDP attributable to agriculture and mining. While agriculture yielded positive growth rates over the 2001 to 2014 period, the sector's contribution to GDP declined from 24 per cent in 2000 to 9 per cent in 2014. On the other hand, the share of mining doubled from 4 per cent to 9 per cent between 2000 and 2014. Mining and agriculture thus contribute the same proportion to Zambia's GDP, at about 10 per cent each.

The data sets in the secondary sectors show that the construction sector's contribution to GDP increased (by 5 per cent) while that of transport, storage and communication increased from 3 to 10 per cent of GDP. Over this period of growth and, indeed, while the economy graduated to a middle-income country level, the manufacturing sector failed to increase its contribution to the economy's GDP. Instead of increasing, it actually declined from 10 per cent in 2000, to 8 per cent in 2014. The absence of a dynamic, fast-growing manufacturing sector that is creating jobs must be one of the key development challenges facing the economy. This may also be a contributing factor to the poor progress made in reducing both income and multi-dimensional poverty.

Despite strong economic growth and its status as a lower middle-income economy, widespread and extreme rural poverty and high unemployment levels remain significant challenges in Zambia. The high birth rate, a relatively high HIV & AIDS burden, and market-distorting agricultural policies did much to exacerbate the problem. Data for

FIGURE 2.8

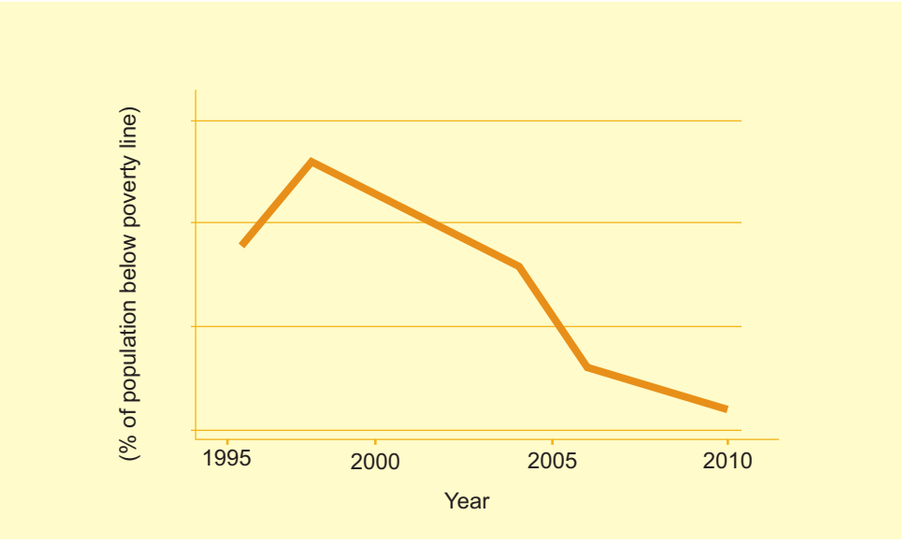
Structure of Real GDP by Sectoral Contribution, 2000 and 2014



Source: African Development Bank Group (2015).

FIGURE 2.9

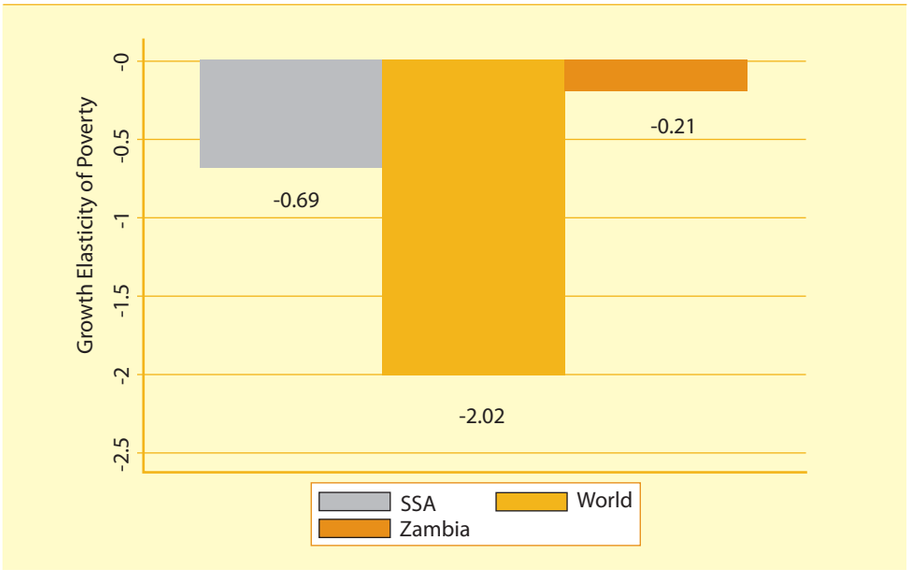
Incidence of Poverty in Zambia, 1995 - 2010



Sources: LCMS 1996. 1998, 2004, 2006, 2010

FIGURE 2.10

Growth Elasticity of Poverty: Global, SSA and Zambia



Sources: Bhorat & Naidoo, Unpublished; World Bank (2013); based on Christiaensen, Chuhan-Pole, & Sanoh (2013); and own graph

1995-2010, however, indicate some progress in reducing poverty levels. Hence, as Figure 2.9 shows, poverty levels in the country have been declining steadily, if not spectacularly. Hence, in 1996, the headcount ratio of population below the poverty line was 69 per cent, declining to 61 per cent in 2010.

Regardless of this declining trend in poverty levels in the country, the real difference was almost nil. Thus, over a 15-year period, only 0.53 per cent reduction per annum was recorded. It is helpful to nuance this further by assessing this poverty reduction relative to the economy's growth rate.

Figure 2.10 estimates the country's growth-poverty elasticity, compared to the global and SSA average. The evidence shows that Zambia's growth-poverty elasticity for the period was -0.21. This means that for every 1 per cent increase in real GDP over the 1996-2010 period, poverty in Zambia fell by only 0.21 per cent.

Notably, this elasticity was one third of the average for SSA, and close to ten times below the global mean. Zambia's low elasticity is clearly indicative of the significant challenges the economy faced in ensuring that patterns of economic growth translated into raising the living standards of all Zambians.

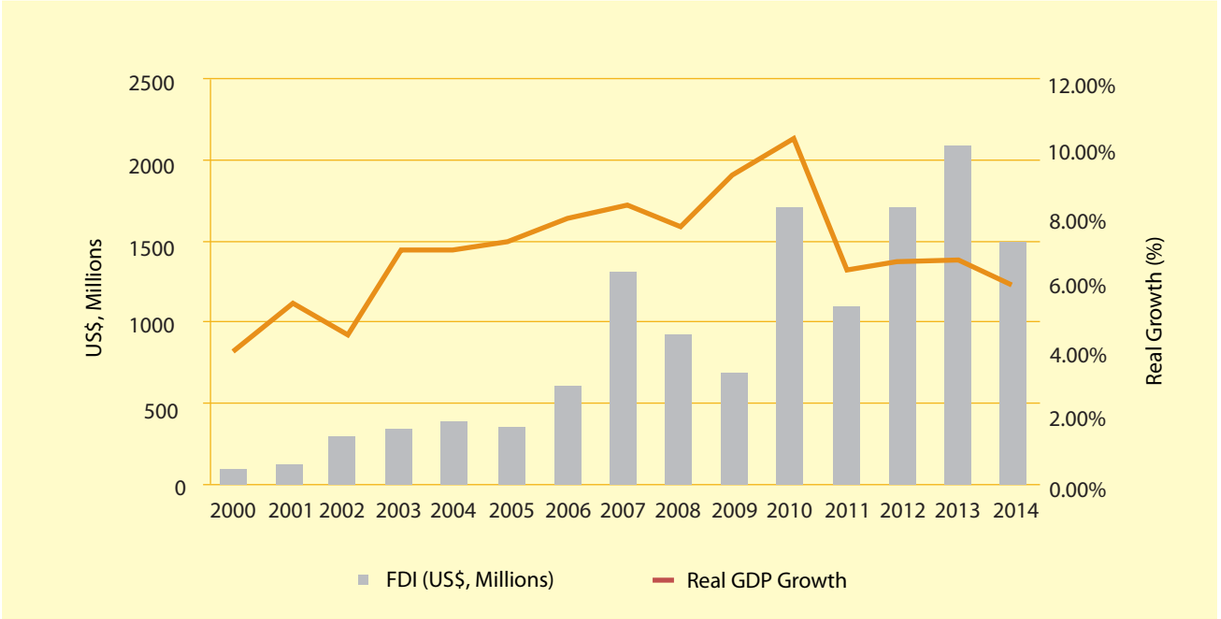
Economic policy discrepancy and poor budget allocation and implementation in recent years has hindered the economy and contributed to the weakning of the Kwacha, which has been Africa's worst performing currency during the past year. Zambia raised US$1.75 billion from international investors by supplying separate sovereign bonds in September 2012 and April 2014 and an additional US$1.25 billion in 2015, considerably growing the country's public debt as a share of GDP. A new mineral royalty tax system introduced on 1 January 2015 intensely increased mining taxes, leading to an economic stalemate between the government and the mines with threats of mine closures and several job losses (Central Intelligence Agency, 2015). On 20 April 2015 the government announced another tax regime based solely on company profits and royalties. By this, all mines would be liable to pay the following taxes: 9 per cent mining royalty, 30 per cent corporate income tax and a variable profit tax that ranges between 15 per cent and a maximum 50 per cent. The proposed changes took effect from July 2015 following parliamentary approval.

Foreign Direct Investment in Zambia

Zambia has seen significant FDI growth over the last two decades. Hence, from 1995 to 2004, the country received an annual average of US$ 208 million in FDI. From 2005 to 2014, the figure averaged US$ 1.2 billion annually (Figure 2.11). In 2014, FDI reached US$ 1.5 billion (World Bank, 2015). Over the last two decades, Zambia has increasingly

FIGURE 2.11

Trends in Foreign Direct Investment and Real GDP Growth Rates, 2000- 2014



Source: World Bank Development Indicators, 2015

integrated its economy into the global market by removing foreign exchange controls, reducing import duties, abolishing export bans, and introducing export incentives, as well as removing price controls (UNDP, 2013).

While private sector foreign direct investment is crucial to growing and sustaining industrialisation in many developing countries, some macroeconomic factors can adversely influence its inflow and dynamism. Among the factors that have affected FDI inflows into the Zambian economy are monetary policy, commodity prices, and overconcentration within sectors.

Monetary policy. Through monetary policy, the government has limited the use of foreign currency locally, mandating the use of the kwacha in all domestic business transactions. The government also introduced other policies designed to monitor foreign exchange transactions. These actions limited capital flows and, therefore, overall FDI levels before they were eventually revoked.

Commodity prices. The falling prices of copper in the global market can lead directly to a sharp withdrawal in FDI. This was what happened in Zambia between 2007 and 2009 when copper prices fell by 28 per cent, leading to a corresponding FDI fall by 47 per cent.

Overconcentration within sectors. FDI in resource-rich countries is concentrated in natural resources, and investments in such industries tend not to generate positive spillovers (e.g. technological transfers, employment creation, and skills development) often associated with FDI flows. Following the same trend, FDI flows into Zambia remain highly concentrated in the copper mining sector. Since 2000, five mining firms accounted for nearly 100 per cent of the FDI inflows into the country.[6,7] Manufacturing and agriculture sectors, which create and sustain productive employment, received negligible investments as will be seen in greater detail in the following chapters.

This concentration of FDI in the copper mining sector has crowded out the manufacturing and agricultural sectors which create more jobs and add value to the economy. This path-dependency in mining-dominated FDI means that private sector investors are unlikely to invest in those strategic sectors that are most likely to structurally transform the local economy and sustain human development. For example, investment in rail and road infrastructure remains crucial for the industrialisation of a country, as they provide a mechanism for optimally transporting products to trade partners. However, they possess very low returns and are subsequently unlikely to attract foreign direct investment. State-led investment in these types of sectors is crucial to long-run economic development, and thus needs to become integral to a government's broader economic development policy.

Overconcentration also inhibits industrialisation, as the quarrying and mining sectors typically have very low market value-added per capita. Growth in this sector thus tends to isolate the rural poor due to the sector's low spillover effects. This leads to higher income inequality within a country facing the challenge of trying to generate a more inclusive growth path.

Conclusion

Overall, while the industrial policy for Zambia has aimed at diversification since it became independent in 1964, continued dependence on copper mining has resulted in sub-optimal economic and human development outcomes. In the first four years after independence, the country pursued a largely colonialist-driven economic development path. However, as a result of Zimbabwe's Unilateral Declaration of Independence, which cut-off trade relations between Zambia and various other southern African countries, Zambia's growing import bill and lack of non-foreign financial and human capital led it to adopt import substitution industrialisation. By acquiring a majority share of many companies, including those in the mining

industry, the government sought to provide subsidies and capital to agricultural and manufacturing sectors.

However, the dual oil crises of the 1970s sent copper prices falling and pressed the country into a debt crisis. Predictably, the crises increased poverty among households and halved national income per capita levels. This was exacerbated by failed structural adjustment initiatives facilitated by the World Bank and IMF in the 1980s. These programmes aimed to establish macroeconomic, trade, exchange rate balance, and promote institutional liberalisation measures, with a view to unleashing the nation's comparative advantage and export potential. What subsequently happened in Zambia was, however, a collapse in manufacturing output combined with a regression in most human development indicators. From 2001 to the present, the country has focused on export-oriented industrialisation as its core industrial policy. With the establishment of Multi-Facility Economic Zones, Zambia is currently seeking to grow and expand its manufacturing base.

Although the economy has improved in the last few years, neveertheless, the high growth recorded has been the result of the country's copper production and high copper prices and not from progress in industrialisation or structural change. Therefore, the growth has not translated into substantial poverty reduction; hence progress in human development has been slow. The economy simply does not have a dynamic, fast-growing manufacturing sector to create the jobs required for a substantive and faster reduction in poverty and inequality levels. In addition to investing in manufacturing capabilities, future progress in industrialisation will require incorporation of the agricultural industry into the supply chains, improvement of trade routes and administration, access to dependable and sustainable electricity, development of road infrastructure between urban and rural areas, and development of skilled labour. The discourse will turn sequentially to a number of these issues in the following chapters.

The State of Human Development in Zambia

3

Human development is strongly associated with growth or decline in economic output, productive jobs and income. As noted in Chapter 1, as countries industrialise, transiting from a low-income agricultural economy to one dominated by manufacturing and high-technology services, more productive and high-paying jobs for workers are both required and supplied. The increased wage income enable workers to invest in nutrition, education, healthcare, and other needs that make for steady improvements in their quality of life and the economy. Positive feedback loops are also created when human development improves and more educated and healthier citizens engage in more productive work, and are able to innovate and establish new enterprises.

Thus, as policymakers strategise to grow the economy, they must focus policy attention simultaneously on its human development. Hitherto, the country's human development record has been characterised by slippages associated with:

- Stagnating per capita incomes which have kept poverty levels high;
- Decreased fiscal expenditure in health, education, and social protection;
- Declining life expectancy exacerbated by HIV & AIDs and inadequate access to social services in the 1990s; and
- Drought which has constrained incomes of the majority of the country's workers in the agricultural sector.

However, education and health indicators performed relatively better through improved school enrolment rates and higher life expectancy between 1980 and 2010 (UNDP, 2011). These improvements are traditionally expressed through a number of measures, namely, the Human Development Index (HDI), Human Poverty Index (HPI), Gender-related Development Index (GDI), and Gender Empowerment Measure (GEM). The HDI value for a country shows how far that country has succeeded in achieving an average life expectancy of 85 years. It also shows improvements in access to education for all and a decent standard of living. The GDI and GEM trace developments in gender equality and female empowerment, while the HPI monitors different aspects of deprivation in quality of life, as related to vulnerability to an early death, exclusion from the world of knowledge, and deprivations in overall provisioning. The HDI and GDI values range from 0 to 1, where 1 indicates the highest attainment in human development. With the advent of strong monitoring and evaluation (M&E) requirements for informing policy and planning, these indices provide powerful lead monitoring instruments for re-directing policies and actions within the Poverty Reduction Strategy Paper (PRSP), National Development Plans and the Millennium Development Goals (MDGs) environments. These indices and their implications are discussed below.

There is a positive and mutually reinforcing relationship between economic development and human development.

Human Development Index

The HDI is derived from a simple average of three components: longevity, educational attainment (or level of knowledge), and decent standard of living. Longevity is represented by life expectancy at birth, while knowledge is measured by adult literacy rates and combined enrolment rates. The decent standard of living sub-indicator is measured by Gross National Income (GNI) per capita income. The HDI facilitates the evaluation of progress in expanding human capabilities over time and across countries and regions. It also helps to determine priorities for policy intervention. Although a country's HDI is helpful in assessing overall performance, it can conceal regional disparity in human development. If data is available, the HDI can be disaggregated to assess progress at regional

and district levels, including different groups and classes in society. Disaggregated HDI values are arrived at by using sub-national or class-specific data. Using such disaggregated HDIs can help highlight significant disparities and gaps.

Zambia is classified as a Medium Human Development nation and ranked 139th out of 188 countries globally.

Zambia's HDI value for 2014 was 0.586, which placed the country in the medium human development category, and ranked it 139th out of 188 countries and territories. Overall, Zambia's HDI increased by 40.2 per cent from 1980 to 2014 (Table 3.1). The indicators that supported this growth included citizens' life expectancy at birth, years of schooling and GNI per capita. Though, in the 1990s, HIV & AIDS epidemic brought the life expectancy at birth down to 42 years in 1995, it has since rebounded to 60 years (in 2014). Expected years of schooling has also increased substantially since 2000, and the mean years of schooling almost doubled in 2014 from its 1980 figure. Per capita GNI increased by 69.3 per cent between 1980 and 2014.

On provincial HDI trends, Table 3.2 shows that Lusaka, Copperbelt, North-Western, and Southern provinces, can be considered medium human development regions, while the rest of the provinces would be classified as low human development areas. With an HDI index of 0.603, Lusaka ranks the highest within Zambia on human development, followed by the North Western Province (0.601), and the Copperbelt (0.598). This prominence of North Western Province is due to the relatively higher GNI index, owing to the recent developments in the mining sector. Specifically, the North Western Province is home to two of the largest copper mines in Zambia that are increasingly becoming important in terms of revenue generation and employment. The lowest ranked provinces are Northern, Western, and Muchinga provinces, which are rural farming areas of the country with large numbers of poor households who have limited access to education and health services.

When assessed against other similar economies and the Sub-Saharan African region as a whole, Zambia's HDI is above the mean. Botswana's high GNI per capita and Namibia's life expectancy place these

TABLE 3.1

Zambia's Global HDI Trends, 1980-2014

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1980	51.50	7.50	3.40	2205	0.42
1985	48.70	8.20	4.00	1720	0.41
1990	44.30	7.90	4.70	2205	0.40
1995	42.10	9.20	6.00	1978	0.41
2000	43.50	10.40	5.90	2116	0.43
2005	49.50	11.70	6.30	2436	0.49
2010	56.40	13.00	6.60	3221	0.56
2011	57.50	13.20	6.60	3384	0.57
2012	58.40	13.50	6.60	3630	0.58
2013	59.30	13.50	6.60	3640	0.58
2014	60.10	13.50	6.60	3734	0.59
% change	16.70	80.00	94.12	69.34	40.19
Average (1980 -1995)	46.65	8.20	4.53	2027.00	0.41
Average (2000 - 2013)	54.96	12.69	6.46	3165.86	0.54

Source: UNDP (2015).

TABLE 3.2

Trends in Provincial HDI, 2006 - 2014

Country/Region	2006	2014	Population (2014)	Population share (2014)	% change
Lusaka	0.569	0.603	2 669 249	18	5.98
North-Western	0.55	0.601	811 706	5	9.27
Copperbelt	0.6	0.598	2 305 258	15	0.33
Southern	0.499	0.58	1 799 885	12	16.23
Central	0.462	0.501	1 474 093	10	8.44
Luapula	0.408	0.447	1 099 151	7	9.56
Eastern	0.358	0.398	1 766 300	12	11.17
Muchinga		0.383	858 179	6	0.00
Western	0.282	0.353	975 282	6	25.18
Northern	0.208	0.347	1 264 212	8	66.83
Zambia	0.511	0.551	15 203 315	100	7.83

Notes: HDI figures above 0.5 indicate medium, those below 0.5 indicate low HDI.
Source: Calculated using Central Statistical Office Census data, Living Conditions Monitoring Survey 2006 and 2010

TABLE 3.3

Zambia's HDI Indicators for 2014 Relative to Selected Countries and Groups

	HDI value	HDI rank	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (PPP US$)
Botswana	0.698	106	64.5	12.5	8.9	16,646
Namibia	0.628	126	64.8	11.3	6.2	9,418
Zambia	0.586	139	60.1	13.5	6.6	3,734
Angola	0.532	149	52.3	11.4	4.7	6,822
Uganda	0.483	163	58.5	9.8	5.4	1,613
Malawi	0.445	173	62.8	10.8	4.3	747
Sub -Saharan Africa	0.518	—	58.5	9.6	5.2	3,363
Medium HDI	0.630	—	68.6	11.8	6.2	6,353

Source: UNDP (2015)

countries just above Zambia on the human development scale. Uganda and Malawi's low GNI per capita contribute to their relatively low HDI value. Overall, however, Zambia's HDI is lower than other medium human development countries, mostly due to a relatively low GNI per capita and life expectancy.

From Sub-Saharan Africa, countries which were close to Zambia in the 2013 HDI ranking (and to some extent in population size) were Angola and Malawi, which were ranked 149 and 173, respectively. While the sub-indices yielded the expected trends, there were a few unusual results. For example, despite having a higher level of expected and mean years of schooling than the sample of Medium HDI

countries, Zambia recorded a lower HDI value than the countries in this cohort.

Inequality-Adjusted HDI (IHDI)

The HDI is an average measure of basic human development progress in a country. Like all averages, the HDI masks inequality in the distribution of human development across the population at the national level. The 2010 HDR introduced the Inequality-Adjusted HDI (IHDI), which attempts to take account of inequality in all three dimensions of the HDI by "discounting" each dimension's average value according to its level of inequality. The IHDI is basically the HDI discounted for by the underlying levels of sub-group inequality. The "loss" in human development due to inequality is given by the difference between the HDI and the IHDI, and can be expressed as a percentage. As inequality in a country increases, the loss in human development also increases. We also present the coefficient of human inequality as a direct measure of inequality, which is an unweighted average of inequality in its three dimensions.

As earlier indicated, Zambia's HDI for 2014 was 0.586. However, when the value is discounted for inequality, the HDI falls to 0.384, a loss of 34 per cent due to existing levels of inequality in the distribution of the dimension indices. By way of comparison, Angola and Malawi show losses due to inequality of 37.0 per cent and 33 per cent, respectively. Surprisingly, Botswana has the highest income inequality out of all the comparative economies, yet still carries the highest IHDI value.

The average loss due to inequality in medium HDI countries is 25.8 per cent, and for Sub-Saharan Africa, it is 33.3 per cent. This suggests that Zambia's inequality-induced losses to human development are larger than that for Sub-Saharan Africa and other countries at similar levels of human development. The more detailed results suggest that, across indicators such as life expectancy outcomes, human inequality, and household incomes, inequality continues to be a constraint in the pursuit of improvements in human development in Zambia.

When looking at the HDI and IHDI by province for 2013, it is clear that inequalities are highest in the income dimension due to the contrast between urban and rural areas, and between copper mining and rural agricultural areas (Figure 3.1). The Lusaka province has the highest level of intra-provincial inequality being the economic livewire of the country, thus reflecting the

TABLE 3.4

Zambia's IHDI for 2014 Relative to Selected Countries and Groups

	IHDI value	Overall loss (%)	Human inequality coefficient (%)	Inequality in life expectancy at birth (%)	Inequality in education (%)	Inequality in income (%)
Botswana	0.431	38.2	36.5	21.9	32.1	55.5
Ghana	0.387	33.1	33.1	30.8	36.7	31.7
Zambia	0.384	34.4	33.9	37.2	21.7	42.6
Angola	0.335	37.0	36.6	46.2	34.6	28.9
Uganda	0.337	30.2	30.2	33.8	29.4	27.3
Malawi	0.299	32.9	32.6	40.0	30.2	27.7
Sub-Saharan Africa	0.345	33.3	33.1	36.6	35.3	27.5
Medium HDI	0.468	25.8	25.5	21.9	34.7	19.8

Source: UNDP 2015

generic pattern of unequal growth in the economy. The North Western and Copperbelt provinces also show that inequality considerably affects human development. This inequality is due in large part to the presence of copper mining, and little else in the form of wage-based economic activity – thus driving a wedge between a few high-earning mining employees, on the one hand, and a larger number of low-earning farm workers on the other. The Southern Province covers the country's biggest tourist attraction, Victoria Falls, which has in turn also engendered small industries that have driven differences in income in relation to farmers in the area. Furthermore, agriculture in this province is more diversified with a significant proportion of farmers being involved in commercial cattle rearing which has higher value added opportunities. Lastly, the Central, Luapula, Eastern, Muchinga, Western, and Northern provinces have scant industrial activity and rely primarily on agriculture. The latter has resulted in low levels of inequality in these provinces, but also a low overall HDI.

In addition to the above, and reinforcing the threat of inequality to human development in Zambia, Fig. 3.2 presents a more standardised measure of income inequality, namely, the Gini coefficient, for Zambia over the period 1996-2010.

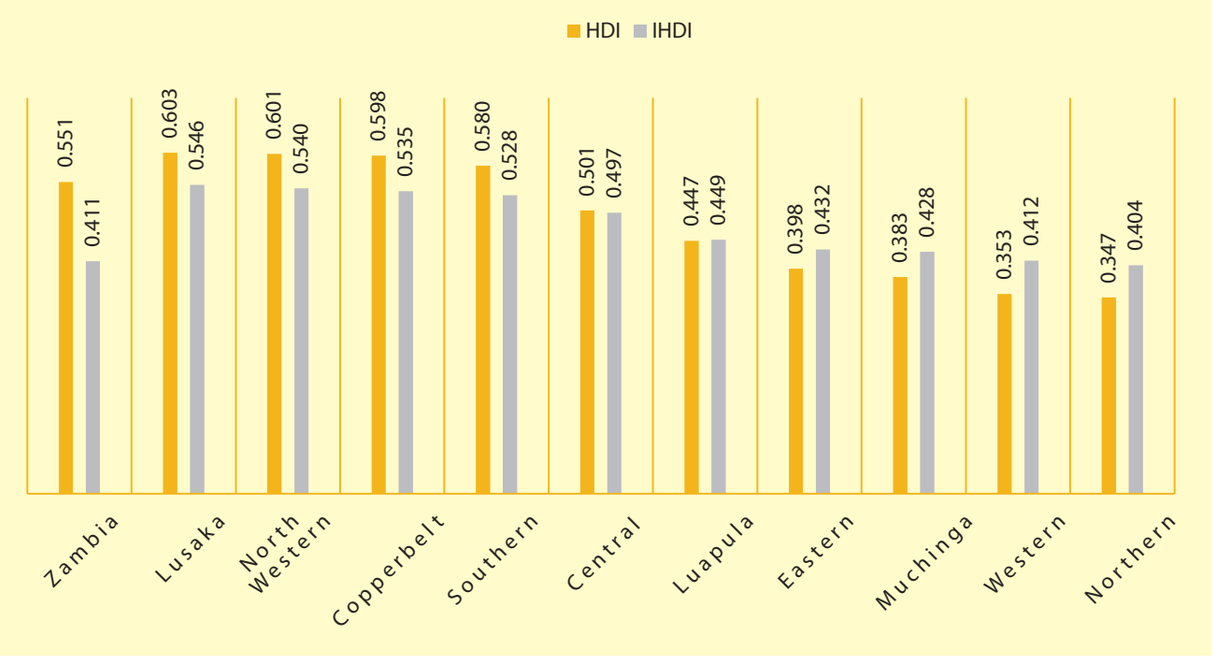
Figure 3.2 shows that the Gini coefficient was higher in 2010 (0.65) than it was in 1996 (0.61), which means that not only have high levels of inequality been persistent in Zambia but that, by the Gini coefficient, inequality levels kept rising as the economy grew. These rising income inequality levels suggest, as we have alluded to in the previous chapter, that economic growth has been unevenly spread across the different sectors of the economy. Ultimately, the growth rates of these various sectors, coupled with their employment generation (or lack thereof), feed into the distributional outcomes observed above.

Gender Inequality Index

The Gender Inequality Index (GII) reflects gender-based inequalities in three dimen-

FIGURE 3.1

HDI and IHDI by Province, 2013



Sources: Calculated using census data from the Central Statistical Office as well as data sets from the Living Conditions Monitoring Survey 2006 and 2010.

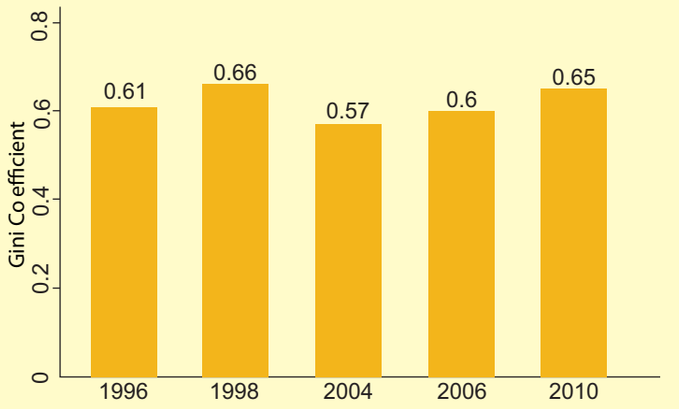
Limited economic opportunities and few women at decision-making levels contribute to inequitable gender-based outcomes.

sions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labour market participation rate for women and men. The GII can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions.

Zambia has a GII value of 0.587, ranking it 132nd out of 155 countries in the 2014 index (Table 3.5). This low ranking is because only 12.7 per cent of parliamentary seats in Zambia are held by women, and that only 25.8 per cent of adult women have achieved some level of secondary schooling – compared with 44.0 per cent of their male counterparts. Moreover, for every 100,000 live births, 280 women die from pregnancy related causes, while the adolescent birth rate is 125.4 births per 1000 live births. Female participation in the labour market is also lower among women (73.1 per cent) compared to men (85.6 per cent). Arising from these factors, Zambia has a higher gender inequality than the average in Sub-Saharan Africa and other medium human development countries. Despite an improvement in this index over the decade, it is obvious that Zambia remains highly inequitable in its gender-based achievements.

FIGURE 3.2

Gini Coefficient, Zambia: 1996 - 2010



Source: CSO Living Conditions Monitoring Survey (1996, 1998, 2004, 2006, 2010)

TABLE 3.5

Zambia's GII Relative to Sub - Saharan Africa and Medium HDI, 2014

	GII Value	GII Rank	Maternal mortality ratio	Adolescent birth rate	Female seats in parliament (%)	Population with at least some secondary education (%)		Labour force participation rate (%)	
						Female	Male	Female	Male
Zambia	0.587	132	280	125.4	12.7	25.8	44.0	73.1	85.6
Sub - Saharan Africa	0.575	—	506	109.7	22.5	22.1	31.5	65.4	76.6
Medium HDI	0.310	—	41	28.8	20.6	60.6	69.5	57.0	77.2

Source: UNDP (2015).

Provincially, Lusaka and Copperbelt provinces yield the lowest levels of gender inequality when compared with the Northern and Luapula provinces, which are the most gender unequal regions in Zambia (Table 3.6). Gender inequality in the latter provinces is primarily a result of limited economic opportunities, which further erode prospects for investments in health and education.

The level of non-agricultural formal employment is also among the lowest in these provinces, while Luapula also has a much higher level of unemployment relative to the national rural average. In turn, cross-country studies have shown that where economic opportunities are less diversified and concentrated in economic enclaves, gender inequality tends to be higher than in areas that are largely diversified.

Ultimately, though, Zambia is not appropriately and productively exploiting its human capital. The lack of women in decision-making positions appears to have marginalised the female population toward obtaining an education and higher incomes. Without a doubt, this serves as a key constraint to Zambia achieving its human and economic development goals.

Gender Development Index (GDI)

In the 2014 HDR, a new measure was introduced, namely, the Gender Development Index (GDI), based on the gender-differentiated Human Development Index. The GDI is defined as the ratio of female HDI to male HDI. The GDI measures gender inequalities in achievement in three basic dimensions of human development: health (measured by female and male life expectancy at birth); education (measured by female and male expected years of schooling for children and mean years for adults aged 25 years and above); and command over economic resources (measured by female and male estimated GNI per capita). Country rankings are based on the absolute deviation from gender parity in HDI.

The GDI is calculated for 168 countries. The

TABLE 3.6

GII Values for Zambia and Provinces, 2006 - 2014

Country/Region	2006	2014	Average annual growth rate
Zambia	0.621	0.586	1:0
Central	0.645	0.612	0:7
Copperbelt	0.555	0.531	0:6
Eastern	0.626	0.585	0:8
Luapula	0.678	0.628	1:0
Lusaka	0.512	0.494	0:4
Muchinga	---	0.585	---
Northern	0.646	0.616	0:6
North Western	0.664	0.567	2:0
Southern	0.687	0.569	2:3
Western	0.637	0.595	0:8

Source: Calculated using CSO Census data (2010); LCMS (2006 - 2010); and ZDHS (2013 - 2014).

Gender variations occur along provincial regions as the more productive regions have narrower variations compared to the more under-developed.

2014 female HDI value for Zambia is 0.558, in contrast with 0.609 for males, resulting in a GDI value of 0.917 (Table 3.7). This table shows that the gender gaps are most prominent in educational attainment and income. Males in Zambia attend school for about two years longer than females. Men also earn, on average, 47 per cent more income than women in Zambia. When compared with the estimates for Sub-Saharan Africa and other medium human development countries, Zambia has a narrower gender gap. However, it is important to note, as shown above, that while gender differences in human development are low, this is within a context of overall low HDI levels for Zambia.

The Gender Development Index across the provinces follows the same trend as the HDI (Figure 3.3). Hence, as economic centres, the Lusaka, North-Western, Southern and Copperbelt provinces have the highest GDI values. In the more marginalised Northern, Western, and Muchinga provinces, GDI values are somewhat lower. This would suggest that, in these areas, available job opportunities are channelled disproportionately to men rather than women.

The results of a simple Spearman rank correlation (estimated at 0.536) show that Zambia's HDI and GDI have a moderately positive relationship, implying that a higher HDI may be associated with narrower gender gaps. Thus, it is possible that under certain circumstances, provinces with higher HDI values also possess higher GDI values. This is potentially a function of the relatively higher levels of gender-neutral employment generation and delivery of education and health infrastructure in these provinces compared to the more marginal, rural provinces.

Multidimensional Poverty Index (MPI)

Human poverty, or poverty of lives and opportunities, is multidimensional in character and diverse, rather than uniform, in content. Over the years, the concept of poverty has been defined in different ways. Poverty, in the human development approach, draws on each of these perspectives, but particularly on the capability perspective. In the capability concept, the poverty of a life not only lies in the impoverished state in which the person lives, but also in the lack of real opportunity – due to social constraints as well as social circumstances – to lead valuable and valued lives (Sen, 1999) .

The World Bank estimated in 2013 that 74.3 per cent of the Zambian population live on or below US$ 1.25 a day. Poverty incidence in rural Zambia stands at around 80 per cent, compared with 34 per cent in urban areas (Chapoto, Banda, Haggblade, & Hamukwala, 2011). Rural poverty is more prevalent in remote provinces and is especially severe in remote districts within a province. The rural poor engage in agricultural activities – primarily semi-subsistence farming – and rely

TABLE 3.7

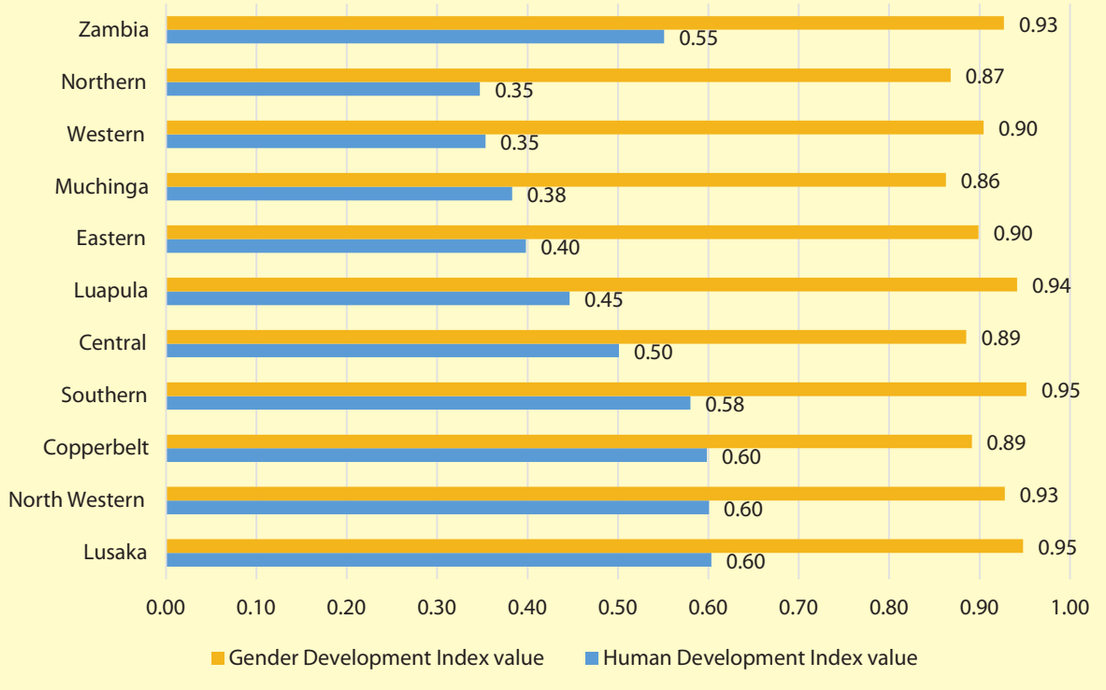
Zambia's GDI Value and Its Components Relative to Selected Groups

	Life expectancy at birth		Expected years of schooling		Mean years of schooling		GNI per capita		HDI values		F-M ratio
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	GDI value
Zambia	62.0	58.2	13.0	13.9	5.8	7.3	3 019	4 452	0.558	0.609	0.917
Sub - Saharan Africa	59.7	57.1	9.1	10.3	4.2	6.0	2 626	4 148	0.480	0.550	0.872
Medium HDI	70.6	66.8	11.5	11.8	4.9	7.3	3 333	9 257	0.574	0.667	0.861

Source: UNDP (2015).

FIGURE 3.3

GDI and HDI in Zambia, 2014



Source: OECD (2015).

BOX 3.1

Three Perspectives on Poverty

Income perspective. A person is poor if, and only if, their income level is below a defined poverty line. Many countries adopt income poverty lines to monitor progress in reducing poverty incidence. Often, the cut-off poverty line is defined in terms of having enough income for a specified amount of food.

Basic needs perspective. Poverty is deprivation of material requirements for a minimally acceptable fulfilment of human needs, including food. This concept of deprivation goes well beyond lack of private income: it includes the need for basic health, education, and essential services that have to be provided by the community to prevent people from falling into the poverty trap. It also recognises the need for employment and participation.

Capability perspective. Poverty represents the absence of some basic capability to function – a person lacking the opportunity capabilities. The functioning relevant to this analysis can vary from physical (such as being well to achieve a minimally acceptable level of functioning across these nourished, adequately clothed and sheltered and avoiding preventable morbidity), to complex social achievements such as partaking in the life of the community. The capability approach reconciles the notions of absolute and relative poverty, since the relative deprivation in incomes and commodities can lead to an absolute deprivation in minimum capabilities.

Source: UNDP (2005).

mostly on family labour for agricultural production. Households with high poverty rates are, on average, larger, female-headed, and have high effective dependency ratios. Although the rural poor are less dependent than the urban poor on market-purchased food, the highest proportion of their household budget is spent on food.

The poverty incidence in Zambia is much higher in the rural areas than in the urban. The rural poor fall back on their family's labour on the farms for survival.

The prevalence of urban poverty was insignificant in the late 1970s, but it increased to just under 50 per cent in the 1990s, before declining in the mid-2000s. Urban poverty is not concentrated in any one place; it is scattered across space. Most urban poor live in unplanned squatter settlements on the periphery of cities, where the lack of legal status and service provision constrain their productivity. As the formal sector continues to shrink, the majority of the urban poor occupy themselves with informal sector activities.

The 2010 Human Development Report introduced the Multidimensional Poverty Index (MPI), which identifies multiple household deprivations in education, health, and living standards. The education and health dimensions are each based on two indicators while the standard of living dimension is based on six indicators. All the indicators needed to construct the MPI for a household are taken from the same household survey. The indicators are weighted to create deprivation scores which are computed for each household in the survey. A deprivation score of 33.3 per cent (one-third of the weighted indicators) is used to distinguish between the poor and non-poor. If the household deprivation score is 33.3 per cent or greater, the household (and everyone in it) is classed as multi-dimensionally poor. Households with a deprivation score greater than or equal to 20 per cent, but less than 33.3 per cent, are in near multi-dimensional poverty.

Table 3.8 shows the results of the MPI calculations for 2006 and 2010. They indicate that 65.1 per cent of the Zambian population lived in poor households in 2010, compared with 57.5 per cent in 2006. The average poor person was deprived of about a third of the weighted indicators both in 2006 and 2010. Additionally, the share of the population that is multi-dimensionally poor (adjusted by the intensity of the deprivations suffered) increased from 18.7 per cent in 2006 to 22.2 per cent in 2010.

The breadth of deprivation (intensity) in Zambia, which is the average of deprivation scores experienced by people in multidimensional poverty, is 48.6 per cent. The MPI, which is the share of the population that is multi-dimensionally poor, adjusted by the intensity of the deprivations, is 0.264.

Provincially, the poverty headcount and intensity increased substantially between 2006 and 2010, throughout. This can be attributed to dropping copper prices in 2009 due to the financial crisis. This shows how deeply dependent Zambia is on the copper mining sector, and its subsequent impact on poverty. The poverty headcount almost doubled in the Lusaka province from 2006 to 2010, despite it having the lowest MPI value out of all of the other provinces. In 2010, the Luapula province had the highest poverty headcount, while the Eastern province had the highest poverty intensity. As with the theme of the previous development indices, the latter mentioned provinces are in rural agricultural areas with weak local economies, and poor infrastructure and social services delivery.

There is a key insight provided in the MPI estimates in Table 3.9. They suggest that there can often be a series of underlying changes in the multi-dimensional welfare and capabilities space, which standard measures of income poverty will omit. Indeed, the results presented in the table suggest that household income poverty levels have declined in Zambia over the last decade. These results, however, caution against this optimism, in that they allude to a deteriorating picture of multi-dimensional poverty over a four-year period (Central Statistics Office, 2012). Hence, when measured against a more representative basket of welfare indicators, the average household in Zambia, unfortunately, saw its level and intensity of multi-dimensional indigence increase over this 2006-2010 period.

Finally, Table 3.9 compares the components factored into creating the MPI for Zambia and several countries and groups for the most recent year, 2014. We can see that Zambia's

MPI value is lower than Malawi's (0.332), because of the latter country's relatively high poverty headcount. Ghana's MPI (0.139) is lower than Zambia's due to the country's low poverty headcount, despite the intensity of poverty in Ghana being equally as severe as in Zambia.

Overall, the MPI for Zambia is lower than the Sub-Saharan African average (0.338), due to the country's lower poverty intensity and the population near and below the income poverty lines. Conversely, Zambia's MPI is much higher than the medium human development average (0.108), due to the country's relatively high values on all indicators; except for the proportion of the population below the income poverty line.

Conclusion

Zambia's HDI value increased from 0.418 in

TABLE 3.8

Multidimensional Poverty in Zambia, 2006 and 2010

	Headcount		Intensity		MPI	
Province	2006	2010	2006	2010	2006	2010
Central	0.585	0.597	0.327	0.334	0.191	0.199
Copperbelt	0.385	0.552	0.331	0.268	0.128	0.148
Eastern	0.623	0.759	0.327	0.416	0.204	0.315
Luapula	0.822	0.815	0.328	0.393	0.27	0.32
Lusaka	0.27	0.509	0.33	0.24	0.089	0.122
Northern	0.748	0.763	0.324	0.373	0.242	0.284
North -Western	0.749	0.631	0.316	0.321	0.237	0.202
Southern	0.48	0.648	0.309	0.35	0.148	0.227
Western	0.803	0.664	0.338	0.328	0.272	0.218
Zambia	0.575	0.651	0.325	0.332	0.187	0.222

Source: Calculated using CSO Census data (2010); LCMS (2006 - 2010); and ZDHS (2013 - 2014).

TABLE 3.9

The Most Recent MPI for Zambia Relative to Selected Countries and Subgroups (2014)

						Population share (%)		
	Survey year	$1.25/day	MPI value	Head count (%)	Intensity of deprivations (%)	Near poverty	In severe poverty	Below income poverty line
Zambia	2013	74.3	0.264	54.4	48.6	23.1	22.5	60.5
Malawi	2010	72.2	0.332	66.7	49.8	24.5	29.8	50.7
Ghana	2011	28.6	0.139	30.5	47.3	18.7	12.1	24.2
Sub - Saharan Africa	2014	46.55	0.338	61.85	52.86	16.56	36.57	49.06
Medium HDI	2014	18.44	0.108	23.27	43.56	16.28	8.61	32.57

Source: UNDP (2015)

1980 to 0.586 in 2014, a 40.1 per cent gain, placing the country in the medium human development range, as specified in the UNDP 2015 HDR. However, several factors have placed Zambia in the bottom quartile of the world's human development rankings – ranking 139th out of 188 economies. These include stunted per capita incomes (US$ 3,734 in 2014) which have kept poverty levels high, consistent fiscal expenditure in health (5 per cent of GDP), education and social protection, and weak access to rural health and education amenities.

Zambia's highest inequalities in life expectancy, education and skills and incomes, differentiated by sex and geographical location, have also contributed to the country's relatively poor progress in promoting ongoing human development. These inequalities are highest in the income dimensions, due to the significantly large level of vulnerable employment, particularly in rural provinces where there are limited opportunities to earn income. The latter, in turn, is arguably a function of an unbalanced and uneven pattern of economic growth – defined by a capital-intensive mining industry, an uninspiring manufacturing sector, and a residual employment sector in the form of low productivity agricultural activities and urban self-employment. Growth-driven inequality levels also remain high at the provincial level, where the country's human development in rural areas is significantly lower than in urban or mining areas.

Gender inequality is still a major issue in Zambia, despite making progress over the last few years. Women seldom hold political and decision-making roles in the country, and poor employment generation for women relative to men, together with limited education and health infrastructure delivery, have left few opportunities for women to empower themselves in the country.

Ultimately, though, this systematic overview suggests that despite a period of steady and positive economic growth over the last decade in Zambia, the conversion rate regarding welfare gains to the poor has been inadequate. In particular, it is observed that income inequality levels, depending on the period chosen, have either risen gradually or remained stubbornly high in Zambia. In turn, while household income poverty levels have declined, this has not been sufficiently large given the positive economic growth rates recorded by the economy. The inequality-dissipating effect of growth on poverty – shown in part by the low growth-poverty elasticities in Figure 2.10 in Chapter 2 – is reinforced in the IHDI results noted above. Hence, in all categories of the HDI, unequal outcomes have retarded the economy's human development progress. However, in the multi-dimensional space, the results suggest an even greater challenge for the Zambian economy. The estimates here suggest that based on a complete index of improvement in health and educational outcomes – as well as access to a variety of services such as water, electricity and housing – the average Zambian household has, in fact, not experienced progress. Instead, the result of the multi-dimensional measure of poverty suggests that the incidence and depth of multi-dimensional poverty have increased between 2006 and 2010 in Zambia.

The Nature of Manufacturing in Zambia

4

Overall, Zambia still has low levels of innovation and learning in the manufacturing sector, which means its capacity to produce and export manufactured goods and generate employment is significantly low. This becomes more evident when the economy's level of value-added is compared with comparator middle- and low-income countries. For example, the country's manufacturing value-added (MVA) per capita is about 10 per cent that of Chile, South Africa, Brazil and Swaziland. It is also about 34 per cent the MVA per capita of Botswana. While Zambia's share of industry in GDP is similar to those of its peers (at around 38 per cent), yet it remains overly dependent on copper mining and exports for its short- and longer-run growth prospects.[1]

Industrialisation in Zambia also has a geographic element. The capital city, Lusaka, benefits from rapid growth in the construction, transportation and service sectors, which is fuelled by both the domestic and foreign investment as well as the relatively large presence of the public sector. Lusaka, Copperbelt, and the Southern Province have MVA per capita values that are far above the national average of US$79. While Lusaka's MVA per capita is 248 per cent that of the national average, the Copperbelt and Southern provinces are 205 per cent and 133 per cent, respectively, of the national mean. The remaining provinces exhibit low value-added compared to the national average ranging from 2.6 per cent for Luapula; 2.9 per cent for Western; 3.8 per cent for Northern; 6.5 per cent for North-Western; 6.7 per cent for Eastern; and 19 per cent for Central province.[2] Ultimately, industrialisation and current economic activity remain concentrated in three provinces in Zambia.

Luapula, Western, Northern, and Eastern provinces, which have the lowest MVA per capita, also yield remarkably lower values of GNI per capita and a higher concentration of informal employment compared with the national average. Specifically, Luapula remains isolated and its economy is characterised by low productivity subsistence farming. As noted above, low-value production explains why these provinces have relatively higher levels of income poverty, and lower levels of human development overall. Relatively more industrialised and economically diversified provinces (Southern Provinces, Lusaka) have a larger share of productive, and predominantly non-agricultural, employment. Productive employment, preferably in large numbers in the manufacturing sector, generates higher levels of individual and household income. This could create the basis for a virtuous cycle of growth, human development, and steady declines in multi-dimensional poverty.

Zambia's Business Environment

Improving the level of value-added production in a country requires new businesses to start, or established businesses to diversify their production. The starting point, though, is a steady growth in domestic private sector investment. However, investors are often deterred by the structural constraints of inadequate infrastructure, interrupted energy supply, low levels of ICT and skills, as well as poor quality institutions. These factors increase the cost of doing business in a country. To get a better sense of this scenario in Zambia, the World Bank Cost of Doing Business Survey which has cross-country data on the regulatory, monetary, and time costs associated with doing business in an economy came in handy.

Industrialisation in Zambia varies significantly across provinces.

Figure 4.1 shows the global percentile distributions for the aggregate "ease of doing business index"; and for "starting a business" and "getting credit". "Starting a business" considers the number of procedures involved, minimum capital amount and number of days required, as well as initial costs. "Getting

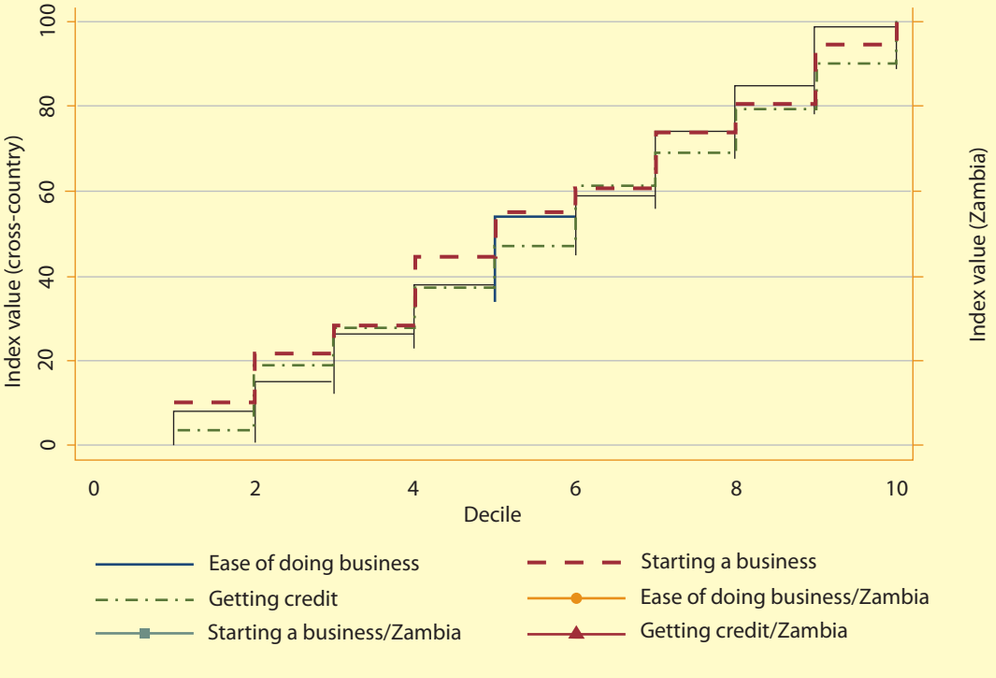
Zambia's efforts at collecting exhaustive credit data as well as information from credit bureau saw a significant improvement on this indicator of the World Bank Survey.

credit" considers the strength of legal rights and the depth of credit information available. A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. Clearly, in terms of the ease of doing business ranking, the regulatory environment in Zambia is not conducive to starting and operating a local firm, as the economy is ranked 111th out of 189 countries, and the 70th percentile on the global cross-country distribution. This aggregate result for Zambia is biased downwards by low sub-index rankings in terms of trading across borders (177th out of 189), registering a property (152nd out of 189), as well as gaining access to electricity (126th out of 189). For example, on gaining electricity access, data shows that it takes an average of four months to finalise connections with the country's energy provider. Even now, the ease of doing business in Zambia has slightly worsened since 2014, as evidenced by the drop in the country's overall ranking from 107th to 111th.

However, improved access to credit resulted in Zambia being ranked 23rd in 2015, and at the 20th percentile of the cross-country distribution. This placement was an advancement of seven positions from the 2014 ranking, mainly due to the expanded scope of information collected and reported by credit bureaus and the registry. In spite of this, the percentage of adults with access to credit information remains particularly low, with less than 10 per cent coverage in 2015. This suggests that credit is fairly secure to those who have access; but a large segment of the population has no access. Zambia is also ranked 68th out of 189 countries regarding the starting a business index, which means that it sits in the middle of the percentile distribution compared to other countries, and lower than the Sub-Saharan Africa average.

FIGURE 4.1

Doing Business Indicators: Cross-Country Decile Distribution and Zambia, 2015[3]



Sources: World Bank Doing Business Survey (2015), - country survey Cross calculations

The following section discusses the particular elements of manufacturing sub-sectors that resulted in the outcomes presented above.

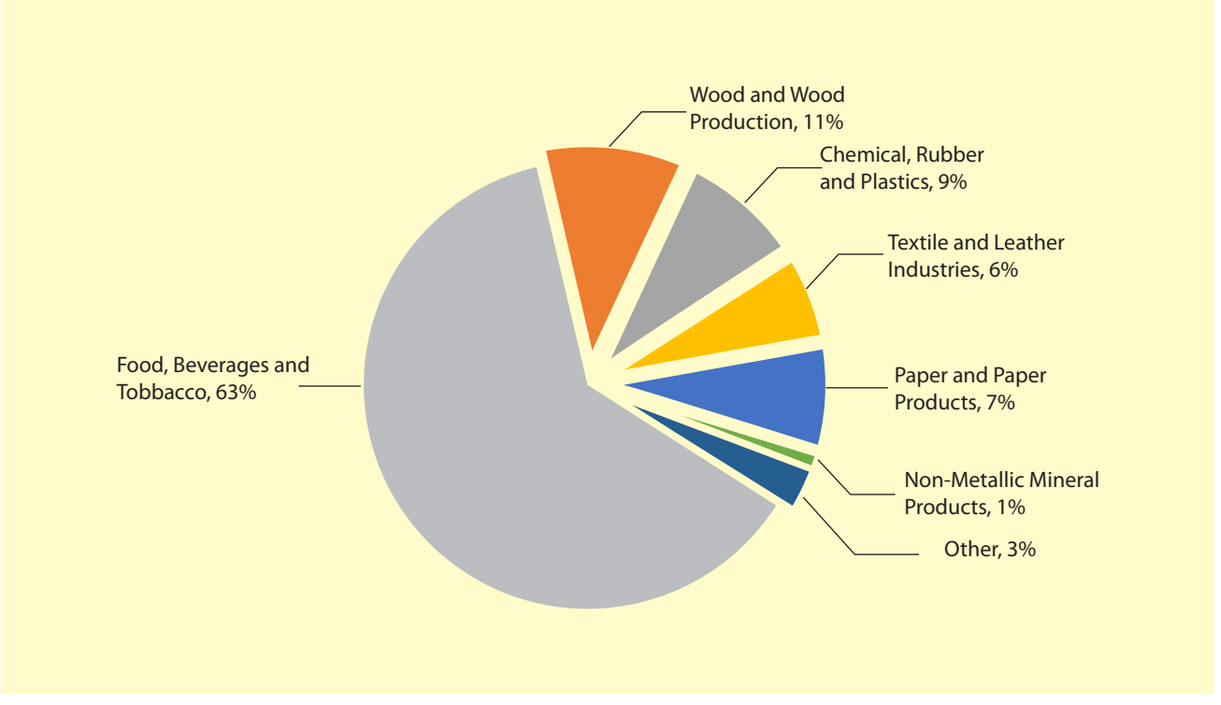
Composition of Manufacturing in Zambia

Figure 4.2 presents the composition of Zambia's manufacturing industry. As depicted in the figure, Zambia has a relatively diversified manufacturing sector, which is concentrated in the food, beverages and tobacco sub-sector, accounting for 63 per cent of manufacturing sector activities. Wood and wood products, which is the second dominant sub-sector, makes up 11 per cent of the manufacturing sector. It is followed by the chemicals, rubber and plastics products, which constitutes 9 per cent of the sector. Among these sub-sectors, food, beverages and tobacco has grown by 11 per cent in real terms, while paper and paper products, and chemical, rubber and plastics has each grown by 8 per cent over the last decade. On the other hand, fabricated metal products and non-metallic mineral products have expanded their output by 2.4 per cent and 2 per cent, respectively.[4]

From a 2014 report commissioned by the Zambian government, the manufacturing sub-sector's annual growth rates were analysed between 2005 and 2010 (Table 4.1) – a period marked by a commodities boom in the earlier half and a world financial crisis in the later half. The leading sub-sector in manufacturing was food, beverages and tobacco, accounting for most of the growth in the manufacturing sector. The growth of the food, beverages and tobacco sub-sector was directly attributable to advances in the agricultural sector and increases in domestic demand and exports to regional markets. There were also comparative advantages of enterprises having easier access to raw materials. The worst performing sub-sector was the textiles and leather industries, which continued to shrink over the period. The performance of the textiles and leather

FIGURE 4.2

Output Shares within Manufacturing in Zambia, 2014



CSO (2014)

industries were negatively affected by increased imports, especially from South East Asian countries, coupled with less trade in value-added and processed products. The importation of duty-free second-hand clothes worsened the situation as duty on these products was negligible (Ministry of Commerce, Trade and Industry - Central Statistics Office, 2014).

The significant increase recorded by the non-metallic metal products (mainly cement, lime and other building materials) was induced primarily by growth in the construction sector and expansion in mining activity. The significant upsurge in the fabricated metal sub-sector is attributed mainly to the increased access of copper cable, wire and rods to the SADC and COMESA markets. While the attainment of an average annual growth of 4 per cent for the manufacturing sector was a positive indication, this growth was weak compared to the minimum of 16 per cent recommended for sustainable sector growth. It was also inadequate to support the country's transition into the middle income status that the government envisions (Ministry of Commerce, Trade and Industry - Central Statistics Office, 2014).

Several key challenges are evident in the high-growth sub-sectors outlined above. These include the lack of complete value-chains, poor quality and low availability of technical and managerial skills, outdated technology in production processes, as well as laws and regulations, partly noted above, which inhibit local value-added. Ultimately, although there has been a decline in manufacturing value-added since the 2000s, much of the decline is attributable to under-capitalisation of the sector, as well as the failure to maintain and repair existing plant and machinery. This series of failure has led to declining productivity in the manufacturing sector with spill-over effects on the rest of the economy. A detailed examination of the experience of some key subsectors of manufacturing providing context to the growth rates noted above would be helpful.

Textiles and Leather Industries

The textiles and leather industry contributed about 6 per cent to total manufacturing GDP in 2014. Products of this sector include cotton yarn, manufacturing cloth, leather goods and garments. While it has been possible to trade in the regional market, primarily South Africa, utilisation of opportunities provided by

TABLE 4.1

Manufacturing Sub - Sector Growth Rates (%), 2005 to 2010

Manufacturing Sub-Sector	2005	2006	2007	2008	2009	2010
Food, Beverages and Tobacco	3.6	8.9	7.6	3.0	4.9	7.4
Textile and Leather Industries	-2.9	-1.3	-19.5	-23.6	-20.0	-56.8
Wood and Wood Products	3.6	0.7	3.7	12.1	2.6	13.4
Paper and Paper Products	10.6	0.3	0.7	29.3	6.2	22.7
Chemicals, Rubber and Plastic Products	3.2	4.6	4.2	5.2	-0.3	2.7
Non-Metallic Mineral Products	7.4	-5.2	2.3	5.0	11.7	13.0
Basic-Metal Products	-2.0	1.9	-4.8	23.0	-4.8	-2.0
Fabricated Metal Products	7.4	5.0	7.8	-2.5	-3.4	12.8

Source: Central Statistics Office, Ministry of Commerce, Trade and Industry (2014)

preferential initiatives such as AGOA has been low. The textile and leather sector is marked by high volatility and decline, especially between 2006 and 2010. Thereafter, the sector experienced exponential growth of 2 per cent in 2011 and 47 per cent in 2012. While the sector is currently experiencing high levels of growth, the absence of local content policies limit the availability of raw materials to support local value-added activities. Another critical issue is protecting the interests of the local farmer in the cotton value chain.

Cotton and Textiles

Foreign entities dominate Zambian cotton and textile production, the large proportion of which they prime for the export market. Until 1992, some 140 cotton and textile companies employed 25,000 workers. Spinning, weaving, knitting, textile, and garment production were done in the Copperbelt, Lusaka, and Southern provinces. The Eastern province in turn has been the country's top producer and exporter of cotton and lint. Since the 1990s, however, the industry has shrunk, as most firms have either shut down or gone into trading due to stiff global competition and policies that fail to protect domestic industries. For example, Ndola which had 35 textile firms in the 1980s currently has only two left. Employment levels in this sub-sector have dwindled to only 10 per cent of the 1990s levels. In addition to the negative liberalisation-induced effects on local firms, obsolete machinery, limited technical and managerial skills, and lack of local technological upgrading limit opportunities for value-added and productive employment. Growth remains hampered by lack of local content policies as well limited availability of raw materials.

Higher value-added activities, such as spinning, weaving, knitting and garment manufacturing, have shrunk in the last decade. Yarn, a critical raw material for value-added processes, is either expensive or not readily available locally. While Zambia produces cotton lint, a large proportion of the produce is owned by multinational companies and is channelled abroad. It, therefore, does not feed into the higher value-added processes locally. Moreover, industrial policy and regulatory measures, such as local content to foster local value-added, do not exist in the country at the moment. Also, the cottonseed sector is currently highly concentrated and not available in the open market to encourage emergent and commercial farmers to participate in the production.

Foreign entities dominate Zambian cotton and textile production, the large proportion of which they prime for the export market.

Nearly all cotton ginners in the country are funded through foreign direct investment and they all export the cotton lint overseas. If they have to sell to local users, they charge cost, insurance and freight (CIF), which increases the local cost of production and lowers overall competitiveness within this sub-sector. To address this challenge, the Zambian government should solve the problem of parity pricing and speed up the implementation of local content regulations to promote local value-added. Another priority then is to review the Cotton Act[5] (Zambian Legal Information Institute, 2005) which seems to have unintentionally provided the basis for a monopoly in seed production and marketing to private companies, at the expense of local farmers.

Cotton and textile production has potential for growth; what limits this growth is lack of consistent access to raw inputs.

Leather

In the leather sector, the value chain starts with a raw cattle hide. The hide is processed into wet blue leather and then refined to the crust stage. Further processing of crust leather transforms the product into finished leather, out of which various leather by-products such as shoes, belts and handbags are made. The price of raw cattle hide in June 2014 was US$ 0.15 per square foot, while that of the finished leather of the same size fetched US$ 0.49. Compared to other manufacturing sectors, leather processing is one of the sectors that extracts the highest level of value-added from raw materials.[6]

Growth remains hampered by lack of local content policies as well limited availability of raw materials.

Despite this potential, much of the leather

Farmers' lack of technical knowledge, smuggling of vital inputs and poor support from the line Ministry are responsible for the leather sector's under-development.

produced in Zambia is smuggled out of the country. Indeed, only about 30 per cent of leather is processed internally. Owing to lack of meat processing plants, most farmers trade in livestock. This means that domestic farmers sell cattle together with their hooves, hides and skins, without processing the latter for leather products. The farmers have no technical knowledge of harvesting hide and skin and this is worsened by the non-availability of agricultural extension services and of hide specialists in the Ministry of Agriculture. They also have no training centre for leather and leather products to provide the firms and individuals with the requisite education and skills.

Basic Metal Products – Non-Ferrous Metal

The engineering products sector accounts for about 9.4 per cent of total non-traditional exports. The major products in this sub-sector include semi-finished and finished non-ferrous metal products (such as copper rods and cables, metal sheets, street and coils); finished metal by-products (such as radiator ingots and metal railway sleepers); and other engineering products such as cans, drums and carbon brushes. The development of mechanical, electrical and electronic industries is essential for the supply of basic equipment and machinery for sectors such as agriculture, construction, energy generation and transmission, mining, transport, and communication. Most of these products are currently imported. The high demand for imports of electronic goods shows a potential for growth in this sector.

The metal fabrication sub-sector has demonstrated a huge potential for value addition. This is attributed to the fact that while bronze scrap metal is acquired at US$1,537.50 per tonne, its by-products in the form of break-shoes, engine cylinder heads, and window frames, among other things, fetch as much as US$4,305 per tonne. In the case of cables manufacturing out of copper cathode supplied by the mines, the value added is estimated to be less than 50 per cent. Higher value addition for copper cathodes has, however, been demonstrated as an alloy to bronze-based metal fabrication; unlike what happens in cable manufacturing.

Raw materials, however, tend to be in limited supply – as people largely export scrap metal. Over the last three years, there has been an increase in the export of scrap metal. As a result, domestic firms may only receive as little as 15 per cent of the raw materials required for bronze and brass production. This has resulted in the decline of company sales in the last two years, primarily due to excess capacity and low productivity. For example, interviews with a local firm suggest that the company operates at between 30 to 50 per cent of its installed capacity with a daily production of 300-500kgs of bronze, instead of 1 metric tonne. However, if the mill ball furnace is working at full capacity, it produces about 1 tonne of bronze metal. Analysts argue that with increasing overheads, excess capacity, declining sales, and a shortage of raw materials, it is nearly impossible to generate more and better employment by adding value to local materials.

Wood and Wood Products

Timber and timber products have high potential for growth, human development, and productive employment. The industry is ecologically friendly and commercially viable when compared with mining, which is subject to external price volatility and demand shocks. Industrial plantations are also, of course, a renewable resource and are more labour intensive than employment generation in mining.

For years, the industrial policy has recognised the importance of the industry, but investment in the sector has been relatively low. Although the employment potential in the sector is very high, and there are sufficient inputs to facilitate production, there is a critical shortage of pine trees from industrial plantations. Most of the trees are old, and, therefore, not very useful as raw materials for

BOX 4.1

Value-added in the Softwood and Hardwood Sub-Sectors

In the softwood sub-sector, the value chain is largely highly concentrated given the number of upstream industries in furniture and mining activities where it serves as a key input. In spite of this concentrated value chain, the softwood sub-sector is unable to increase its gross value added due to dwindling supplies from the only commercial plantation – ZAFFICO. It was reported that since the establishment of the plantation in the late 1960s, investments in the replanting of the pine trees, especially after the 1980s, had significantly declined. In fact, by 2006, harvesting of soft wood began to outstrip replenishment and it was predicted that the situation was likely to worsen in the future.

Similarly, in the hardwood sub-sector, value addition in the manufacturing sector has been marginal, on account of widespread production of sawn timber and the basic low tech and low quality wood products that have continued to fetch low prices in the domestic and export markets. To improve value addition, the government has imposed an export ban on Mukula timber, a rare Zambian tree species. However, apart from eroding even the little value-added that is generated on sawn timber exports, the response towards increased value addition by the manufacturers has been marginal. This is because expanding the value chain requires improved production technology and production capabilities, which very few companies possess. While some firms have exhausted the value chain by producing internationally competitive wood products, their production has been below capacity due to the inadequate supply of sawn timber from the sawmills.

Source: UNDP HDR Field Data (2015)

wood and paper production. Owing to this inadequate raw material supply, firms are compelled to import products, thereby limiting the potential economic growth contribution of the industry. As a result, most firms now operate far below their full capacity, and local production has thus become uncompetitive. This has also resulted in firms employing fewer workers. Apart from the limited supply of raw materials, erratic supply of electricity reduces the sub-sector's ability to update production. Manufacturers in rural areas are worse off and experience frequent power cuts and surges from the public grid. This lowers productivity and increases the costs of production as firms switch to costlier energy supply sources such as diesel-run generators. As a result, some producers have shifted their production units to urban localities where supply appears to be relatively more stable. As value-added activities migrate to urban areas, so does employment, leaving a large number of rural dwellers unemployed and under-employed.

Zambia's transportation network is also inadequate to support this industry and others. Most feeder roads and others in the rural provinces are generally of such low quality that they become impassable in the rainy season, thus hindering proper functioning of the local markets for raw materials. This has largely affected the manufacturers of sawn timber and wood products, rice millers, and other manufacturers depending on agricultural commodities other than maize.

Skills in the wood and wood-processing sector are also in critical supply. Trade schools have closed, although the private provision of business and commerce courses is slowly responding. To develop the industry and accelerate value addition, Zambia requires a significant increase in the availability of technical skills in the areas of saw milling, wood production, processing, curing, and quality finishing of wood products.

Manufacturing – Pharmaceuticals

While several manufacturing and pharmaceutical trading companies in the country produce basic pharmaceutical formulation, the country still imports most of its essential drugs from countries such as India, China, and

South Africa. The five companies currently operating in the pharmaceutical industry in the country are Bax, IDCK, Tejay, Viking, and Pharmanova. Stakeholders in the industry have said there is room for new investments in the pharmaceutical products such as Moringa and Atemisin for the production of Coartem. However, slow product registration and delayed payments from government have made this impossible. Also, inadequate skill in this type of manufacturing, as well as competition with cheap imports, has limited the extent to which the pharmaceutical market can develop.

Agricultural Goods and Manufacturing

Boosting manufacturing within the agro-processing sector is a practical and viable way to diversify away from copper production.

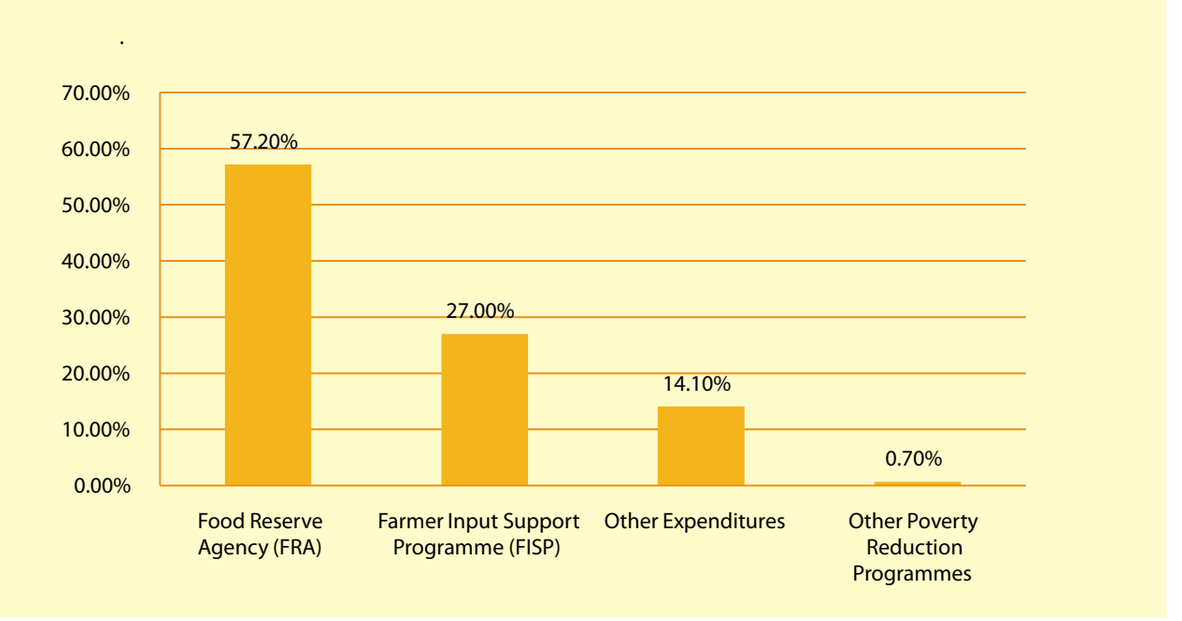
Boosting manufacturing within the agro-processing sector is a practical and viable way to diversify away from copper production. The major challenge for manufacturing within the agricultural sector has been to increase productivity and production. To do this, farmers require strong and efficient extension services, access to resources, and reliable forms of transport. The limited presence of each of these enablers has resulted in the limited growth of medium-scale farming, value-added, and the agro-processing sectors. Provinces such as the Copperbelt possess massive tracts of land and readily available water for irrigation, which lie dormant, even though its towns such as Mufulira, Kitwe, Chingola, and Kalulushi are all capable of supporting vegetable production. The towns collectively have 150 dams, 19 fish culture stations, and about 80,000 cattle that can facilitate wealth and employment opportunities in irrigated agriculture, fish farming, dairy and dairy products, meat and meat products, and the leather and leather products industry. These economic activities can provide a practical and viable mechanism for diversifying away from copper. Besides the dams, Konkola Copper Mines discharges about 270,000 cubic metres of ready-to-drink water into Kafue River every day. The government could potentially harvest this water to expand agriculture irrigation infrastructure and help commercialise activities of emerging local farmers in the province. Mulonga Water can harvest this water, enabling the sewerage company to increase access to clean water and sanitation services for domestic and industrial consumers.

However, the agricultural and industrial potential of the Copperbelt region remains largely untapped. The 19 fish culture stations, like other non-farming programmes, lack funding to the point of being practically abandoned. Figure 4.3 provides a snapshot of typical patterns of government spending by type of programme. While agricultural sector budget has grown considerably since 2002, its growth exclusively benefits two programmes: the Food Reserve Agency (FRA), and Farmer Input Support Programme (FISP). In 2010, for example, FRA and FISP accounted for 84 per cent of agricultural spending, leaving only 16 per cent to be shared across livestock, forestry, fishing, irrigation, agricultural services, and other expenditures.

As a result of limited financial and non-financial support, it has been difficult for non-farming sub-sectors of agriculture to grow and contribute effectively to wealth and employment creation. Also, agriculture, livestock, and veterinary extension services are overstretched. Similarly, funding to Provincial Agricultural Co-ordination Offices (PACOs) has not only been erratic, but also inadequate to support agricultural diversification into fish farming, dairy and dairy products, horticulture, meat processing, and leather and leather products. Furthermore, service delivery to these areas is also poor and payments by the government in the form of soft loans are usually delayed, and when received, farmers tend to have already accrued too much debt. Compared to farming, these activities have higher employment multiplier effects and create better and well-paying jobs. In many senses, then, the government has not provided an integrated and focused set of interventions to support the diversification and upgrading of the agricultural sector.

Figure 4.3

Government Expenditure on Agriculture Programmes



Source: GRZ (2012)

Fish Farming

Fish farming is one sub-sector that has grown over the years but is now stagnant. Reasons for this include lack of credit, lack of support (in the form of incentives) from government, and limited access to fish feed by small-scale farmers. There are only two milling companies, National Milling and Tiger Feed, which produce fish feed at a relatively high price (US$ 22.14 per bag). Because of the high cost of fish feed, it is difficult for small-scale farmers to venture into this activity.

At the moment, 19 fish culture stations have been abandoned owing to lack of fish feed and government funding. Although the Citizens Economic Empowerment Commission (CEEC) has given money to a few individuals to produce fish seed, the lack of transport, personnel, and fuel are still a constraint on production capacity. These challenges have resulted in the consumption of largely imported fish, thus making fish more expensive than chicken. Therefore, most people farm in Zambia to provide food security for themselves and not for profit. There are also broader conservation issues, as the majority of the 150 dams in the Copperbelt province have been overfished; hence the need for restocking for income and employment generation.

Livestock Production

While the livestock market is growing at a significant rate, significant shares of its output are being supplied illegally to the Congo DR market. Also, it is necessary to provide access to land through land reforms and tenure, thereby providing farmers the required platform to meet their needs. Planning in the livestock sector is still a top-down approach as the central government retains control of policy and planning options for the sector. Decentralisation in the Copperbelt province – the key locus for the livestock market – has thus been weak, making it difficult for it to focus on its comparative advantage.

Disease outbreaks are also a major hindrance to increasing livestock productivity. In 2003, for example, Corridor disease wiped out cattle

population in the Southern province, and farmers around Batoka lost their livelihoods. Farmers also lack basic knowledge about the value of cattle skins and hides; but perhaps most crucially, they lack optimal animal husbandry practices necessary to prevent disease outbreaks.

Food and Beverages

The importance of processed food in Zambia shows in its contribution of about 63 per cent to total manufacturing GDP. The sector's importance is also well elaborated in the Commercial, Trade and Industrial Policy of 2007. Regarding the rural populace, 47 per cent depend significantly on livestock for their livelihood; with 39.2 per cent of their income coming from the sector. Processing of grocery products such as meat, biscuits, tinned food, jam, and cheese, have largely been under-exploited. This sub-sector is, of course, directly linked to agriculture where 70 per cent of the Zambian population earn their livelihood. Therefore, like other agricultural-related sectors, value addition in the processed foods sub-sector can significantly contribute to a growth in wage employment and improved human development outcomes – should the sector be placed on a path of fast and dynamic growth.

Mining and Manufacturing

BOX 4.2

Zambia National Farmers Union – Livingstone

Formed in 2010, the Zambia National Farmers Union had a membership of 60 in 2012. By 2013, the number had grown to 1,000 and now it currently has 1,500 members. The farmers organisation is made up of district farmer associations, committees, and facilitators who coordinate programmes. It offers training programmes as one of its most important services. It promotes crop diversification and also offers loan schemes to farmers through the Luna credit schemes which support crops such as maize, sunflowers, rice, sugar beans and soya beans.

The Bunjimi Asset Plus is another scheme that provides farmers with equipment such as tractors, hammer hills, and pumps/ irrigation pipes, as well as equipment for dairy farming. It does this through partnerships with CAMCO, John Deere and Saro Agriculture. It offers an insurance of 4 per cent to farmers on risks such as floods, fire and droughts, upon the deposit of 50 per cent at an annual interest rate of 12 per cent. The farmers pay the remaining 50 per cent and the 12 per cent interest owed after their harvest. The insurance covers the farmers risks and permits them to buy quality seed and as many bags of fertiliser as they require; with a bag of fertiliser going at US$ 16-17.

The NATSAVE Asset Plus is yet another scheme that helps farmers without collaterals to access loans. They help the farmers pool their resources to provide between 30 and 50 per cent of the cost of a tractor and finance the rest. Each beneficiary farmer opens an account and gets a minimum two-year loan or a maximum five-year loan ranging from US$308 – US$18,450. They also offer innovative financing for products such as Honda tractors and oil expellers (sunflower). Their strategy has helped many farmers to set up commercial farms. The majority of beneficiaries are in the Kazungula region, which is within a 175km radius of Livingstone.

Stakeholders would need to collaborate more with the CEEC to identify industrial clusters. The WFP has attempted to incorporate cowpeas on the LIMA Scheme to benefit from the export market for cowpeas in Zimbabwe. However, the low supply of seed has limited the project's success. The major impact of the Zambian National Farmers Scheme has been its expansion on the scope of farming; most maize grown in Kazungula has been funded under the Luna credit scheme.

This Farmers Union has managed to improve the overall cost of production, causing government to view farming as a viable business, which has also shifted individual and household perceptions away from total dependence on the government. It has also slowly increased the number of farmers who are interested in forming the Bunjimi scheme to own an asset: thus building wealth and employment. In addition, most farmers will soon have access to equipment, with the sunflower areas being able to obtain oil expellers and pumps for the vegetable gardens. The Farmers Union has, in turn, committed to finding markets for these farmers.

Source: UNDP HDR Field Data (2015)

BOX 4.3

The Story of Katete

Katete produces a significant amount of agricultural goods, including cotton, oranges, groundnuts, and soya beans. However, there is very little value-added production, meaning that most producers are subsistence farmers involved in low-income-generating activities.

Katete has more than 5,000 orange trees. The district thus has the potential to produce value-added products, but does not have a processing plant. MSMEs don't have the financial ability to invest in processing plants as interest rates on loans are prohibitive. Therefore, this sector is unlikely to generate more employment – as it is unlikely to expand. Similarly, the province produces groundnuts, but there are no processing plants to turn the surplus into value-added products. A business association in the area has said it would be more profitable and "employment-friendly" to do away with subsidies on maize, and rather focus on adding value to maize, groundnuts, soya beans, and oranges, that are abundant in Katete.

Source: UNDP HDR Field Data (2015)

The supply chain of copper mining involves a broad range of goods and services that can be strongly integrated into manufacturing, services, and construction activities. However, mining activities in Zambia are largely confined to the low-value stages of exploration, namely, mining construction, mining, and concentration. As noted above, very little value-added in refining, spares and components, electrical and electronic products, and fabricated metal products take place – despite huge market potential. This makes the sector very vulnerable to price shocks and declining terms of trade.

In principle, while the mining sector is productively linked to manufacturing through the downstream processes, especially with the metal fabrication and iron casting activities, overall value-added remains low due to limited linkages between mining and domestic metal fabrication companies. Scrap metal, which is an important raw material in metal fabrication, remains in critical short supply due to unregulated exports. Ultimately, the contribution to productive employment and poverty reduction through mining and mining-based manufacturing output remains relatively low. Productive jobs are often exported overseas where value-added activities take place. Similarly, opportunities for job creation in other sectors are weakened by weak productive links with the domestic economy.

Conclusion

The constraints in potentially increasing value-added to sectors , such as limited access to credit, energy, transport infrastructure, domestic and regional markets, and government incentives, have constrained their ability to grow, and this particularly affects the MSMEs. Furthermore, growing value-added sectors require adequate and complementary investments in skills and technology. Also, access to raw materials remains a key challenge in agriculture, wood and wood products, fabricated metal products, and textile and garments. The inability to grow value-added sectors in manufacturing means that the bulk of the population is still working in unproductive activities that do not generate sufficient income on a regular basis, which needs to serve ultimately as the basis for poverty reduction and human development.

Local content policies and clear strategies for targeting strategic industries must be explored. In some cases, it may require policies that constrain unfair competition from foreign investments in areas where the local people have adequate skills and capacity to invest. The possible policy options for some these sectors are discussed in Chapter 8.

Trade in Zambia

5

It is widely acknowledged that a sufficient degree of trade openness is strongly associated with economic growth, as well as per capita income growth (Krueger,1998), although the virtues of openness should not be overstated (Rodriguez and Rodrik, 2001). It is also widely accepted that trade increases the technological capacity of a nation through the transfer of scientific information and market expansion, thus spurring technological innovation (Grossman and Helpman, 1991). In the period between 1991 and 2000, Zambia engaged in open trade policies with the objective of liberalising and accelerating economic growth and development. However, the result was dismal as growth and welfare outcomes were dismally low. As a result of the institution and macroeconomic reforms, manufacturing value added fell to about 10 per cent of GDP, accompanied by a rising poverty headcount index over the same period. This outcome suggests that the method of production and the basket of exported goods are critical to growth, development, and international competitiveness (Gallagher et al., 2008).

Similarly, regional trade can boost an economy's balance of payments position and increase its chances of importing new technology, raw materials, and machinery. International trade is, therefore, a mechanism through which people access goods and services, increase consumption, and secure employment. It is also trade that increases the variety of goods and services available on the market.

Besides the market itself, the capacity of an economy to exploit regional trade is influenced by several factors, such as the efficiency of customs administration, the organisation and quality of key socio-economic infrastructure such as road, air, rail, telecommunication, energy and financial services. Others are the quality of metrology and the extent to which the investment climate enables the private sector to invest, take risk, and innovate.

Zambia in Trade Context

Zambia is a member of two sub-regional economic communities – the Common Market for Eastern and Southern Africa (COMESA), and the Southern African Development Community (SADC). Its dual membership in these economic communities have often created confusion due to overlapping trade agreements. Thus Zambia's membership in the recently launched COMESA-SADC-East African Community (EAC) Tripartite Free Trade Area will further consolidate the economic communities and expand Zambia's regional reach. This tripartite agreement follows various initiatives the three regional economic blocs introduced over the years to boost inter-regional trade. The expansion of these trading blocs and Zambia's membership in them provides it an opportunity to diversify its production structure and exports. Based on the findings in the Table 5.1, however, Zambia's share of intra-regional trade has declined in the SADC region over the last two decades, while trade in other blocs has remained fairly consistent.

If trade is to deliver the needed impact on human development levels, the focus of trade and investment policies should then be to assess continuously the relationship between trade, sustained growth, and poverty reduction. Monitoring and evaluation practices should be built into trade policies to establish the extent to which industrialisation is consistent with the objectives of wealth and employment creation, and to refine policy based on collected evidence.

Regionalism and Doing Business Indicators

Based on the regional trade indicators from the World Bank's Doing Business Survey, Table 5.2 shows that Zambia performs poorly.

TABLE 5.1

Trends in Regional GDP Growth and Share of Intra-Regional Trade (1996 - 2013) [1]

Region	Intra-Regional Trade (%)				GDP (US$ million)			
	1996/2000	2001/2006	2007/2011	2013	1996/2000	2001/2006	2007/2011	2013
COMESA	5.1	5.8	6.4	7	185 143	220 045	430 904	2 111 524
SADC	32.3	13.8	12.9	-	189 416	269 324	510 538	499 241
EAC	13.8	13.1	12	-	30 502	39 438	74 155	73 978
Zambia	11.1	8.1	8.5	10.2	5791	7606	11561	15318

Notes: Zambia's 2013 share of intra-regional trade is the 2014 figure.
Source: UN Comtrade, 2015; UNDP, 2014; COMESA, 2015; WDI, 2014

BOX 5.1

Economic Structure of the Tripartite Free Trade Agreement (TFTA)

The TFTA area is made up of 26 member countries with a combined population of 625 million, extending from South Africa to Egypt. Its combined GDP is US$1.2 trillion, representing 58 per cent of Africa's total GDP.

Regional economic cooperation has various benefits. First, regionalism can promote political stability by limiting membership to democratically elected governments. Second, it enables countries to coordinate policies; for example, around metrology and product standardisation, to facilitate trade. Third, regional trade expands the size of the market for exports, making the region more attractive for additional FDI.

The TFTA is of particular importance to Africa because many countries within the region are small in population and income. To achieve economies of scale and attract additional investment, it would be more beneficial to include many countries. However, policy coordination becomes difficult as the number of countries in the bloc increases. Indeed, the difficulty of coordinating and enforcing policies across many countries may become so costly in terms of time and resources as to make regionalism an unfeasible option.

The structure of the economy of this region shows that agriculture is the dominant activity, and there is low intra-regional trade because most members produce export commodities that are not readily consumed in this market. Although the Common External Tariffs within these three trading blocs are structured to promote value-added and exports, especially of capital and intermediate goods that attract between 0 and 10 per cent duty, Zambia's exports consist largely of copper-based intermediate goods with no immediate consumption in the tripartite regional trading bloc.

Source: UNECA (2015)

Hence, in the sub-index on ease of trading across borders, Zambia ranks a lowly 177th out of 189 nations. Not surprisingly, then, the data shows that there has been minimal change in the 2014-2015 period in the financial and regulatory costs, as well as the bureaucratic processes that importers and exporters had to follow. Despite several customs reforms and various modernisation attempts, the administration of customs still lags behind international best practices, resulting in prolonged delays in the release of goods from the border points. This continues to occur in an environment where the real cost of importing and exporting has risen in US dollar terms.

A variety of reasons have been given for the reported trade delay, including multiple goods verification processes by various government agencies at border points, and complex customs clearance processes that often result in disputes over the classification of goods. These delays have, in turn, led to an increase in the costs associated with regional trade, due

to unplanned fees for storage and duty, and potential losses in customs and excise duty where goods are under-declared or misclassified.

Trends in International Trade

Since 2001, Zambia has increased its export and import trade volumes extensively. Indeed, both traditional and non-traditional exports have increased significantly on an annual basis. The contraction of trade in the 2013/14 period is mainly due to the fall in copper prices and the reduction in the value of non-traditional exports, which reduced foreign reserves, and consequently, import levels. In summarising this, Figure 5.1presents the nature of imports and exports, and their relationship to the global price of copper.

While Zambia strategically integrates itself into the regional trade market and can tap into this broader market, the structure of its trade shows that just as exports as a proportion of GDP have grown significantly, so too have

Zambia's trade profile is limited to exporting low-value unrefined products and importing primary capital goods.

TABLE 5.2

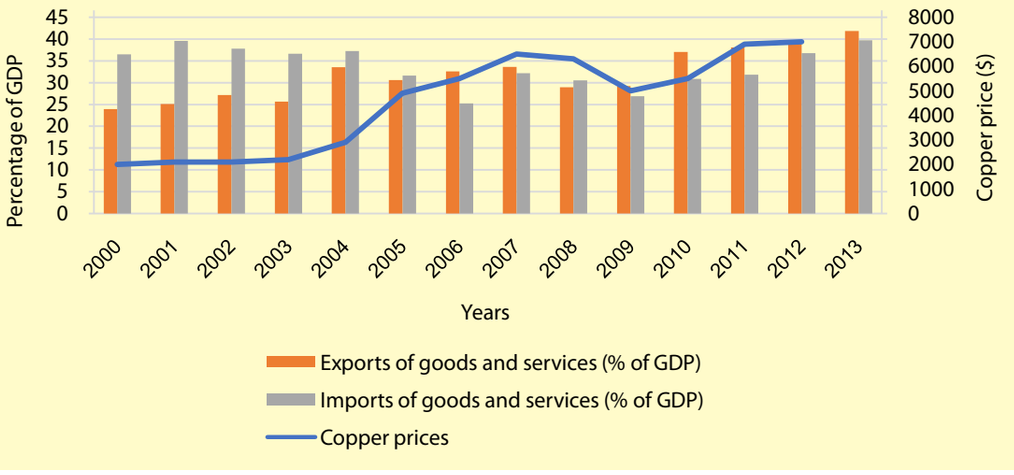
Zambia's Doing Business Indicators – Regional Trade (2014 & 2015)

Factors	2014	2015
Trading across borders	177	177
Documents to export (number)	7	7
Time to export (days)	51	51
Real cost to export (US$ per container)	4,766	5,165
Documents to import (number)	8	8
Time to import (days)	53	53
Real cost to import (US$ per container)	6,789	7,060

Source: World Bank Doing Business Survey (2015)

FIGURE 5.1

Trends in Net Export, Imports and Copper Prices, 2000 -2013



Notes: Copper prices are US$/metric tonnes, constant 2005 US$ prices.
Source: WDI (2014), and ICMM (2014)

imports. Figure 5.2 presents the structure of Zambia's exports in relation to its imports, as well as the proportion of imports and exports to GDP. The country primarily exports raw materials and semi-processed intermediate products rather than finished products and capital goods. In contrast, its imports consist primarily of capital goods, followed by finished goods and intermediate products. This import and export pattern has a bearing on the economy's balance of payments and, in turn, constrains its capacity to honour its debt obligations or import necessary commodities for manufacturing in an environment of a depreciating currency or a rapid outflow of capital.

A positive trade balance enables Zambia to acquire technology, build local capabilities, invest in R&D, and further integrate into the global value chains. Rising exports in commodities with low value-added have reduced the overall MVA by approximately 50 per cent over the last decade. Zambia has a less diversified export structure and, therefore, largely depends on a narrow range of export products. To capitalise on regional trade, Zambia must break its commodity dependency, raise agricultural productivity, and invest significantly in value-addition across mining, agriculture and manufacturing activities. This must be accompanied by expanding access to technology, and the creation of institutions that support industrialisation across sectors and regions. Table 5.3 summarises Zambia's current account position over the period 2010 to 2015.

The country requires an entry and penetration strategy to enter regional markets as most African nations do not require significant volumes of copper.

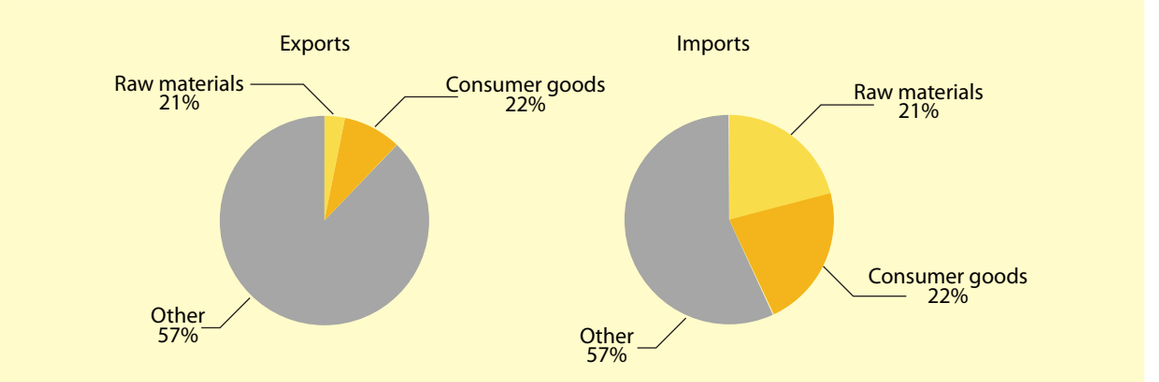
Between 2010 and 2015, Zambia enjoyed a small current account surplus driven largely by the slightly larger positive balances between 2010 and 2012. Similarly, the country had positive trade balances driven by a slight decline in the proportion of exports relative to GDP, and an increase in import levels.

The country's small domestic services sector is reflected in the low contribution of services income to overall GDP that has continued over time. Current transfers represent flows of aid, donations, and other assistance, which have remained low and declining over time. This period coincides with stagnant growth in the economies of traditional donor partners. Factor income, on average, was negative – implying increased capital outflows and/or lower FDI levels.

Between 1996 and 2011, African regional trading blocs witnessed a slight growth (COMESA), or a decline (SADC and EAC), in the volumes of intra-regional trade undertaken. Zambia, however, seems to have successfully increased its volume of trade within African and developing Asian markets: it increased its volume of trade with countries

FIGURE 5.2

Zambia's Import and Export Profile – October 2014



Notes: Included in Other (imports) is Intermediate Goods (18%) and Capital Goods (39%); Included in Other (Exports) is Intermediate Goods (84%) and Capital Goods (4%)
Source: CSO (2012-2014)

TABLE5.3

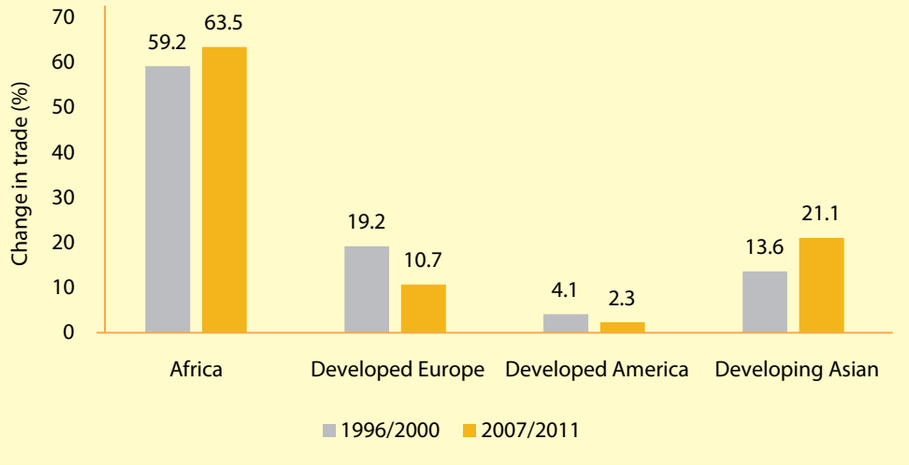
Trends in Current Account Balance 2010 -2015 (as % of GDP)

Indicator	2010	2011	2012	2013	2014	2015*	Average	% change
Trade balance	16.7	11.5	7	4.3	4.8	5.8	8.35	-65.27
Exports of goods (FOB)	45.8	45.1	45.5	43.7	43.5	43.1	44.45	-5.90
Imports of goods (FOB)	29.1	33.6	38.4	39.4	38.6	37.3	36.07	28.18
Services	-3.5	-3.8	-3.7	-2.4	-2	-2.7	-3.02	-22.86
Factor income	-8.4	-6	-3.4	-3.8	-4.1	-5.2	-5.15	-38.10
Current transfers	2.7	2	2.2	2.1	1.9	1.7	2.10	-37.04
Current account balance	7.4	3.7	2.1	0.2	-0.2	-0.4	2.13	-105.41

Note: The 2015 figure is up to January 2015
Source : CSO (2012 -2014) Trade Statistics.

FIGURE 5.3

Percentage Changes in Zambia's Trade with Africa and Other Regions, 1996-2011



Source : UNCTAD (2011).

such as South Africa, Democratic Republic of Congo, Kenya, Thailand, and Saudi Arabia.[2] Figure 5.3 presents a summary of this.

Zambia has harnessed its strong performance in regional markets to attract new trading partners such as Vietnam and Cambodia, two developing Asian nations. This development has been particularly strategic given that trade with Europe and America has declined in the past few years. Further integration, as envisaged in the Tripartite Free Trade Area, presents an important growth opportunity for the country as it consolidates regional trade arrangements, which often creates a confusing mixture of overlapping, and sometimes incompatible, preferential trade regimes. The TFTA is expected to be the launching pad for the establishment of the even more ambitious Continental Free Trade Area that is expected to cover all of Africa. Indeed, Zambia's infrastructure and connectivity problems with the rest of the continent must be solved if the

country wants to harness the full benefits of the TFTA. Furthermore, additional growth in the African markets is likely to be curtailed by the fact that its largest export is copper and other intermediate copper products.

As things stand, the country is not likely to expand its export presence in the regional markets without a deliberate strategy to diversify its products into more finished and capital goods. The reason for this is fairly obvious: demand for copper in the regional markets is low. To effectively exploit this market, Zambia must focus on, and increasingly shift to, the production of goods that can be consumed by industry and households in these markets. Figure 5.4 presents the structure of Zambia's non-traditional exports as at the end of October 2014.

Exports within the non-traditional export category provide Zambia with alternative industrial policy opportunities. By expanding

TABLE5.4

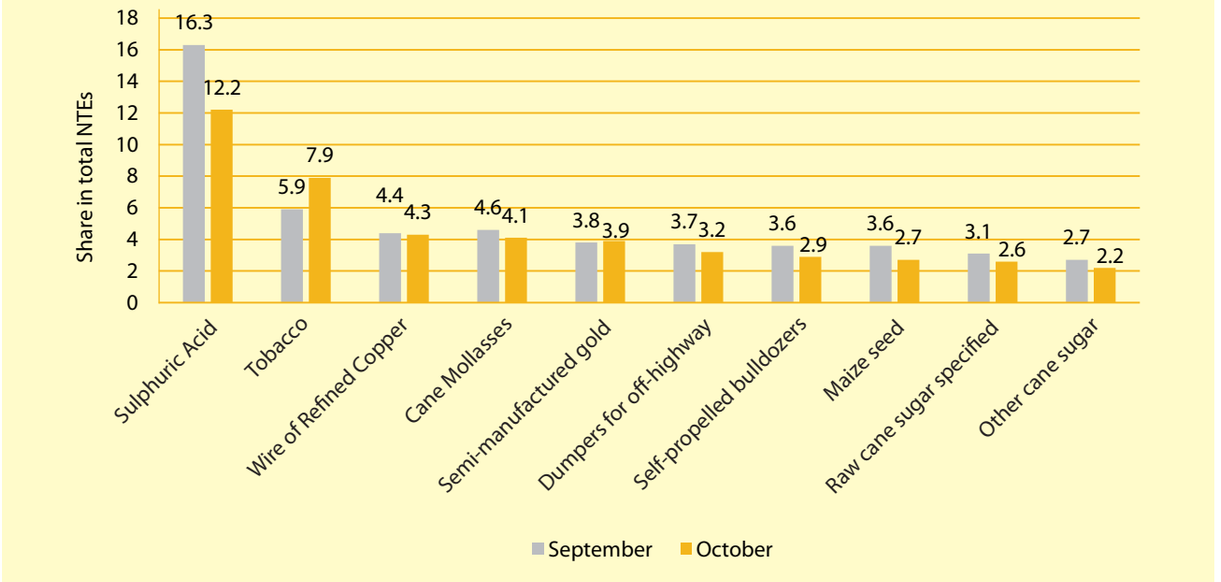
Zambia's Top Five Buyers of Copper Globally (US$)(2012)

Country	Amount (US$)	Share of Zambian copper exports
China	1 063 252 447	45.26%
South Korea	314 505 530	13.39%
Egypt	286 235 008	12.19%
South Africa	246 300 907	10.49%
Italy	200 499 824	8.54%

Source : Observatory of Economic Complexity (2015)

FIGURE 5.4

Zambia's Top Ten Non-Traditional Exports (NTE), 2014[3]



Source: CSO (2014) The monthly volume 139, November 2014.

output within these sectors and then drawing on positive spill-over effects, Zambia could develop other segments of the value chain which could potentially impact positively on employment generation and human development in the economy.

Estimating Economic Complexity

Export diversification has a positive impact on economic growth, as knowledge spillovers lead to increases in productivity. Export diversification also stimulates new industries, while allowing for the expansion of existing ones(located in different places). Furthermore, diversification eases the volatility of export revenue (Lopez-Calix, Walkenhorst and Diop, 2010). Also, recent evidence indicates that the product portfolio of a country impacts on a country's product path dependence. This means that a country's current production affects future production. To determine if this is true of Zambia, the Economic Complexity Index (ECI), developed by Haussmann et al. (2011) and Haussmann, et al. (2014) is applied.

The underlying theory of the ECI is that the more diversified and ubiquitous the export products of a country, the more capabilities the country is likely to have. Exporting a few ubiquitous products indicates a smaller capability. There is, therefore, a negative relationship between the export diversity of a country and the average ubiquity of its products. The ECI allocates to each country a unique number that "measures the productive knowledge of its people". Countries with high ECI values are regarded as "well diversified", exporting, on average, high Product Complexity Index[4] products". Therefore, if a country has a high ECI, it means it exports diversified products, which is an indicator that it has more skills and capabilities . Figure 5.5 thus presents a scatter plot of ECI and the log of real GDP per capita (2005 constant US$) for selected countries.

The positive predictor line indicates that a higher ECI, and hence, increased heterogeneity and complexity in the product profile, is associated with a higher level of economic development. Although Zambia is clustered with other African countries, it has a higher ECI (-0.42) than most of them. It is, however, when you compare Zambia's ECI to those of other middle-income countries that you realise that it is still low. This is because it exports only a few products, which are of relatively high ubiquity but has little export diversity overall. Moreover, these export goods are not very sophisticated (they are mostly exports of raw materials and semi-processed intermediate goods). Furthermore, Zambia's position below the fitted bivariate regression line suggests that its ECI is low compared to its level of GDP per capita. Put differently, given its level of economic development (as measured by GDP per capita), Zambia should be yielding a higher level of economic complexity in the product space than it is currently doing.

Trade for Human Development

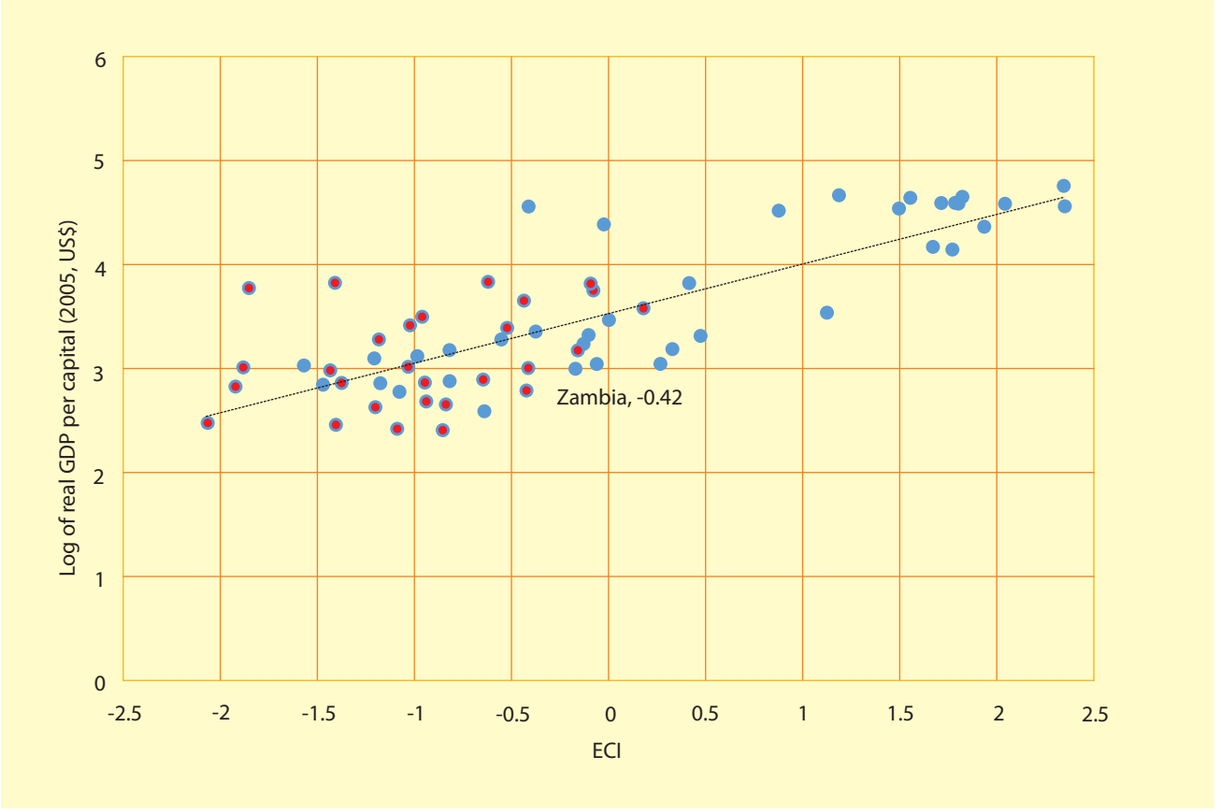
Article 3 of the General Objectives of the Draft Agreement for the Tripartite Free Trade Area of December 2010 lists the importance of trade to human development as follows:

- To promote rapid and socio-economic development of the region through job and wealth creation;
- To contribute to eliminating poverty, hunger and disease through building skills, innovativeness, hard and soft infrastructure; and
- To improve the location of factors for sustainable generation of national, regional and foreign investment and trade opportunities.

Not only would the expansion of trade in manufactured products strengthen the competitiveness of the export sector, it would also ensure the long-term stability of Zambia's balance of payments position. An improved balance of payments position often leads to increased access to newer and improved

FIGURE 5.5

Correlation between ECI and Log of Real GDP Per Capita, 2013



Notes : The sample provided here includes the top ten ECI ranked countries, all the African countries (marked in red), and selected low, middle and advanced economies.
Source : The Atlas of Economic Complexity (2015); WDI (2015).

technology which causes firms to be more competitive, thereby increasing profits and wages. Through increased wages, individuals and households expand investments in health and nutrition, education and skills, as well as improve their standards of living. However, increasing trade and economic growth do not directly lead to improved human development levels; certain complementary measures, such as land tenure policies, increased access to education, and sufficient levels of infrastructure, must accompany it.

Trade and Poverty Reduction

Trade impacts on human development through its influence on poverty, employment, and the structure of production. A UNECA scenario analysis that simulated the impact of trade on human development concluded that expanding trade would decrease poverty where accompanied by strong human development policies that focuses on improving income distribution (Zepeda et al., 2009; UNDP, 2012). The growth in GDP and the resulting improvements in human welfare increase the scope for poverty reduction, and thus inclusive development. Also, a 2012 UNECA study on the implications of the Tripartite Free Trade Area indicates that the overall benefits of regional integration would largely accrue to SADC members, whose export value would expand considerably.[5] Total output is expected to increase significantly in SADC compared to EAC and COMESA countries, primarily due to more liberalised trade environments.

The OECD (2012) finds that regional integration in Africa can boost employment in the non-agricultural sector through increased

access to markets that result in better returns to local producers, and leads to increased flows of labour to productive sectors. The allocation effect, where resources are used more efficiently, could add to the potential growth effect of regional integration. The employment impact of the allocation effect depends directly on the labour intensity in the relevant sectors. Hence, export growth of products that use unskilled labour intensively can have a higher poverty reducing effect than the export growth of capital-intensive products.[6]

UNECA (2013) deduces that the manufacturing sector tends to create more productive employment than other sectors of the economy, and wages also tend to be higher in non-agricultural employment than in agricultural employment.[7] Inter-regional trade, therefore, plays a crucial role in industrial development strategy by accelerating structural development and enhancing the complementarity between agriculture and industry. Similarly, the expansion of non-agricultural outputs results in urbanisation, which shifts resources and labour from rural to urban areas, and contributes to creating more and better-paying jobs.

However, critical distributional issues equally arise with economic integration. For example, the returns to labour are not equally distributed among skilled and unskilled workers, across regions and sectors, or even gender, and this necessitates appropriate policy actions to address issues of equitable distribution and development to ensure that human development levels improve sufficiently.

Opportunities and Constraints

Despite rising domestic production levels and strong performance in domestic and international markets, Zambia still faces major limitations of a technical and institutional nature that threaten to derail their growth and the development of value-added across strategic sub-sectors. Associated with this are high transportation costs, high costs of essential inputs, basic manufacturing technology, low skill endowment levels in key sectors such as agriculture and engineering, and lack of access to finance. This section highlights the potential opportunities to focus on, and the limitations to counter, in order to foster a more rapid industrialisation path for the Zambian economy.

Opportunities

The Africa Growth Opportunity Act 2015. The United States enacted the African Growth and Opportunity Act (AGOA) in 2000, with the aim of creating trade and investment flows between the US and 40 sub-Saharan African countries. The Act has been amended five times since (Leadership Africa USA, 2015; Williams, 2015), and most recently in the first half of 2015. The AGOA Extension and Enhancement Act of 2015 extends the Act to 2025 in order to develop the African textile and apparel industry and support its integration into global supply chains. The Act further allows greater regional integration by allowing the accumulation of direct costs of processing operations to be counted in the required 35 per cent of local value content.

The AGOA, coupled with rapid growth among neighbouring African countries, provides growth opportunities for Zambia.

Also, the United States plans to deepen and expand ties with sub-Saharan African countries through Trade and Investment Framework Agreements, Bilateral Investment Treaties, and Free Trade Agreements (United States Congress, 2015). However, most of Zambia's exports in the clothing and textile sector consist mainly of lint cotton.

This Act also facilitates the entry of Zambia's leather products into the US market under preferential trade terms – a development that would significantly increase the leather workers' production capacity and overall returns. The additional opportunity that arises from this is that the manufacturing footwear and leather products sub-sectors are operating at less than full capacity, which would enable Zambia to expand the quality and quantity of exports by between 50 and 100 per cent.[8]

Focus on growth sectors. Three possible sectors of focus to develop intermediate production are the copper and iron-ore segments of the mining and quarrying sector, as well as the leather products market. Forward integration in copper mining is a feasible strategy for promoting manufacturing, especially as it provides key inputs for the machinery and automotive manufacturing segment. Similarly, horizontal integration within the integrated iron and steel industries can result in the establishment of a vibrant capital goods industry. In the leather and leather products sub-sector, Zambia has significant export potential as, historically, exports of semi-processed leather and hides have been major contributors to Zambia's non-traditional exports.[9] The country has a constant supply of byproducts from the livestock industry in the form of hides and skins that can be processed into finished leather products such as bags, footwear and leather garments. Although most of these hides and skins come from cattle, there is a growing supply of crocodile skins that could be further developed.[10]

Opportunities within the regional markets. Available data in 2011 indicates an increase in Zambia's volume of trade with neighbouring African nations. While impressive, further growth is likely to be curtailed because the nation's main export product is in copper and other intermediate copper products that are largely not consumed within the region. The country, therefore, needs a deliberate strategy to determine the needs of its neighbours and develop its comparative advantage towards meeting them. As a starting point, Zambia should identify markets for the outputs of its identified priority sectors, such as steel production, leather and hides, cotton and textiles, and agro-processing.

Constraints

Rising cost of doing business. In addition to constraints within the value chain, there are also regulatory barriers that hinder the capacity of firms to exploit markets. For example, the organisation and quality of key socio-economic infrastructure like rail and road transport, ICT, energy, and financial services, can either support or hinder local and international trade. While there have been remarkable improvements in the quality of the road transport infrastructure and access to credit, Zambia remains poorly integrated into regional markets by air and railways. Similarly, access to reliable electricity, especially in the rural areas, remains a key barrier to industrialisation.

Export parity pricing within strategic sectors. Cotton and copper are two commodities vital for Zambia's industrialisation that are valued at export-parity pricing, which restricts the local competitiveness of these industries.[11] Consequently, the cotton sector continues to be dominated by multi-national firms that primarily produce cotton seed and lint cotton for export markets, due to low opportunities for local value-added.

Undeveloped value chains. In the copper mining sector, for example, much of the exports happen at the lower end of the value-chain. Very few fabricated products, consumables, electrical, and electronic products are manufactured along the value-chain. Despite producing significant volumes of cotton annually, spinning, twisting, weaving and dyeing, which are important processes in the cotton value chain, and fabric production and textile industry, are undeveloped. Forward and backward integration is limited, with few firms being engaged across multiple segments of the value chain.

Conclusion

Regional integration can accelerate the country's rate of structural transformation through commercialising agriculture and expanding opportunities for manufactured exports. It can also enhance the competitiveness of the economy, especially in the private sector and its ability to export, add value, and create jobs. Conversely, regional trade can

worsen an economy's balance of payments position if the economy increasingly becomes import-dependent. Additionally, when the legal, regulatory, and institutional frameworks required to promote and counter the excesses of foreign trade are weak, regional trade can dampen opportunities for wealth and employment creation by making it difficult for an economy to add value to its raw materials.

While regional trade directly impacts on industrialisation and human development, Zambia's experience has been one where increased trade has coincided with shrinking value-added in the manufacturing sector. Similarly, serious distributional effects occur across varying levels of worker skills, sectors, and gender, which call for strong policies and regulatory institutions. The government needs to invest in upgrading the technical capacities of trade ministries and their agencies and focus on improving the efficiency of customs administration, metrology and quality infrastructure, rural energy and market infrastructure, as well as regional power pooling. Upgrading the efficiency of domestic enterprises and maintaining a stable exchange rate regime, investing in skills upgrade and easing access to long-term and affordable finance, can significantly improve the export trade competitiveness of the Zambian private sector.

Industrialisation and Employment in Zambia

6

Creating productive employment is at the heart of linking industrialisation to human development. It is through increased income that individuals can improve the quality of their lives through access to markets for services and opportunities. However, the government needs to create productive employment to invest in value-added sectors, which, in turn, will become a source of employment. The discussion thus far has noted that Zambia's economic growth path has been led by the copper industry, while other sectors such as agriculture and value-added manufacturing have received far less attention, both in terms of public and private investment, as well as in terms of creating a supportive infrastructural and logistical network that allows these industries to develop at a lower cost. This chapter discusses the impact of this growth path on employment.

In order to contextualise the current state of employment in Zambia, it is necessary to present a segmentation of the labour market using the 2014 Labour Force Survey data. Out of the 5.86 million people employed in the country, 22.3 per cent are paid employees; 28.1 per cent are self-employed; 48.6 per cent are contributing family workers; and the small remainder are apprentices (0.1), interns (0.1), employers (0.4), and volunteers (0.4). The ratio of paid employees to self-employed and contributing family workers suggests that secure jobs in formal institutions are severely limited in Zambia. From this, we already have a sense that a significant part of the labour market is involved in either marginal or semi-productive activities including household economic activities, informal enterprises, and subsistence farming.

In Table 6.1 , it can be seen that 48 per cent of the employees work in agriculture. Moreover, when considering the status of employment, the highest proportions of paid employees, employers, self-employed, and contributing family workers are in agriculture as well – representing 14.4 per cent, 47.7 per cent, 41.3 per cent, and 80.2 per cent of employment, respectively. The high level of self-employed and contributing family workers in agriculture is indicative of the low-level economic activities (and possibly a significant quantum) of subsistence farming. Comparatively, the proportion of employment in manufacturing is 3.8 per cent while that of mining is 1.4 per cent. These industry shares of employment reinforce the analysis in the previous chapters and show their non-involvement in the value-adding sectors. Also, while the mining industry produces the bulk of revenue for Zambia, little employment is created from the sector.

Lastly, the low levels of formalisation of Zambia's labour market (which will be detailed more in Table 6.3) also limit levels of government revenue. Government primarily generates domestic revenue by imposing taxes on corporate revenues, individual incomes, business transactions, and profits. However, the tax base is narrow due to the disproportionate number of working poor, and an increasing number of workers within the informal sector who fall out of the tax net. This affects government's ability to generate domestic revenue necessary to finance the budget and provide welfare-improving services such as health and education to the citizens. The low or substandard employment levels further affect domestic savings and investment levels, as workers are unable to save significantly large portions of their income to finance industrialisation endeavours.

The Growth-Employment Trajectory

Despite Zambia's exceptional growth rate, available statistics clearly shows that a large

TABLE6.1

Employment Segmentation by Industry, 2014

	Total Employed Persons		Status in employment							
	Number	%	Paid employees	Appren-tices	Interns	Employer	Self-emplo-yed	Volunteer	Contributing Family Worker	Not Stated
Total	5,859,225	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry and fishing	2,864,158	48.9	14.4	7.4	-	47.7	41.3	8.7	80.2	88.8
Mining and quarrying	82,725	1.4	5.4	2.1	10.6	0.5	0.4	2.4	0.1	0.0
Manufacturing	223,681	3.8	7.2	4.5	-	5.3	4.9	-	0.5	0.0
Electricity, gas, steam and air conditioning	16,175	0.3	1.1	-	-	-	0.1	-	-	0.0
Water supply; sewerage, waste management and remediation activities	11,283	0.2	0.8	-	-	-	-	4.0	-	0.0
Construction	182,806	3.1	7.8	9.5	5.3	5.7	3.0	10.4	0.1	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	692,078	11.8	10.6	14.8	9.6	22.8	20.7	2.4	2.1	0.2
Transportation and storage	152,052	2.6	9.4	14.5	-	-	1.0	3.4	0.2	0.1
Accommodation and food service activities	72,078	1.2	4.2	6.3	17.6	3.5	0.5	-	0.1	0.0
Information and communication	20,322	0.3	1.2	8.0	0.9	-	0.2	-	0.0	0.0
Financial and insurance activities	17,342	0.3	1.1	-	4.3	2.1	0.1	-	-	0.0
Real estate activities	5,154	0.1	0.0	-	-	-	0.2	-	-	0.0
Professional, scientific and technical activities	13,856	0.2	0.8	6.3	-	-	0.1	-	0.0	0.0
Administrative and support service activities	52,631	0.9	3.9	6.9	-	-	0.0	0.8	-	0.0
Public administration and defence; compulsory social security	72,767	1.2	5.4	-	11.0	4.3	-	2.3	-	0.0
Education	158,617	2.7	11.4	6.7	14.3	3.3	0.1	19.7	0.0	0.0

Human health and social work activities	63,255	1.1	4.0	-	14.1	0.3	0.1	32.1	0.1	0.0
Art, entertainment and recreation	10,163	0.2	0.5	-	12.3	-	0.2	-	-	0.0
Other service activities	107,310	1.8	3.1	4.1	-	4.7	2.5	13.4	0.1	0.0
Activities of households as employers	1,020,054	17.4	7.3	8.9	-	-	24.5	-	15.9	10.3
Activities of extra-territorial organisations and bodies	3,790	0.1	0.3	-	-	-	0.0	0.5	-	0.0
Not elsewhere classified	16,930	0.3	0.1	-	-	-	0.2	-	0.6	0.5

Source: 2014 Labour Force Survey, CSO

segment of its population remains in marginal employment. This suggests that the sectors of high economic growth did not significantly raise the levels of productive employment in the economy. Figure 6.1 shows that while industry (dominated by the mining sector) experienced relatively more rapid growth, this growth was almost employment-neutral, in that it did not generate significant increases in employment in the sector, despite a steady growth in value-added over the 2001-2011 period. At the same time, Zambia has seen a rapid rise in capital formation,[1] which is indicative of high and rising levels of capital intensity in the mining sector.

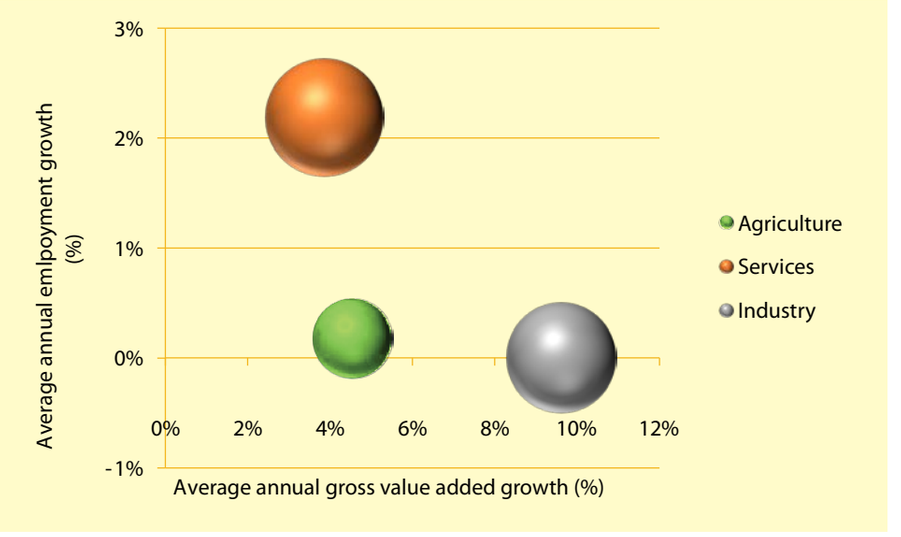
The services sector then, which has grown at an annual average of just under 4 per cent, has seen employment in the sector rise by over 2 per cent per annum on average. Jobs in this sector are concentrated in the informal wholesale, retail and trade sub-sector – the low-paying and predominantly informal jobs – as well as in the formal community services and personal services (CSP) sub-sector, which is known to be dominated by jobs in the public sector (Bhorat and Jacobs, 2012).

Ultimately, though, jobs in the public sector, a "residual employment" sector in informal trading, and a capital-intensive mining industry are inadequate for pursuing a long-run poverty-reducing growth strategy for Zambia. Therefore, the sectors driving economic growth are precisely those that are less able to absorb more labour. Table 6.2 estimates the simple elasticity of employment by sector, thus providing an indication of the sensitivity of job growth to GDP, or the value added per sector. It estimates that for every 1 per cent growth in GDP, employment increased by 0.39 per cent. The agricultural and service sectors have a labour-absorptive rate of 0.44 and 0.57, respectively, both above the aggregate estimate. For industry, however, labour absorption has been neutral.

Table 6.3 examines the trends presented in Figure 6.1 more closely by examining key sectors. Between 2005 and 2014, the employed population increased overall, but the shares of employment between sectors shifted. The share of agricultural and mining employment out of the total employed population declined by 23.4 percentage points and 2.6 percentage points, respectively. This share of employment was mainly replaced by services in trade, wholesale and retail distribution which increased by close to 10 percentage pointst during the period. Manufacturing, construction, and transport and communication contributed to small increases in their respective shares of employment by around 2 to 3 percentage points.

FIGURE 6.1

Gross Value -Added and Employment Growth, by Sector, 2001-2011



Source : Calculated using data from WDI (2013) and Bhorat and Jacobs (2012)

TABLE 6.2

Simple Growth Elasticity of Total Employment, 2001-2011

	Average annual growth (2001-2011)		
	Employment	Value added	Simple elasticity
Total GDP	2.2%	5.7%	0.39
Agriculture	2.0%	4.5%	0.44
Industry	0.04%	9.6%	0.00
Services	2.2%	3.8%	0.57

Source: Calculated using data from WDI (2013) and Bhorat and Jacobs (2012)

Overall, the substantial increase in wholesale and trade suggests that employment is being generated in the informal sector. Thus, while agricultural employment has declined, employment has not increased in a way to suggest that workers are being employed in more productive occupations. The bulk of the employed population may, therefore, be in jobs where they are under-employed, and where wages are unlikely to increase to improve quality of life and levels of human development.

From the data in Table 6.3, there is a clear trend indicating that Zambia's development path to date has witnessed the reallocation of labour from employment in agriculture to employment in the urban informal sector. This is contrary to the more standard transition among many developing countries from jobs in agriculture to those in low-wage manufacturing. Despite many years of solid growth, Zambia's economy has created too few jobs within those sectors that generate a sufficiently high output per worker to offer decent wages and act as a viable labour market mechanism out of poverty. Workers movement from agriculture to other high productivity sectors is generally considered the key avenue through which economic growth, development, and an improved standard of living can occur. However, the growth pattern yielded by Zambia thus far (including, it should be noted, many other sub-Saharan African countries), has not resulted in this structural shift. Instead, a

TABLE 6.3

Employment by Sector, 2005 - 2014[2]

Industry	Employed population (number, % total employment)				Formal employment (number, % sectoral employment)			
	2005	2008	2012	2014	2005	2008	2012	2014
Total	4,131,531 (100)	4,606,846 (100)	5,499,673 (100)	5,859,225 (100)	495,784 (12)	511,338 (11)	847,420 (15)	944,256
Agriculture, Forestry and Fishing	2,983,968 (72.2)	3,284,208 (71)	2,872,331 (52.2)	2,864,158 (48.8)	29,840 (1)	71,888 (2)	87,420 (3)	106,943 (3.7)
Mining and Quarrying	166,143 (4)	92,810 (2)	88,251 (1.6)	82,725 (1.4)	154,513 (93)	62,082 (67)	67,608 (77)	67,002 (80.9)
Manufacturing	55,499 (1.3)	159,194 (3.5)	216,660 (3.9)	223,681 (3.8)	18,870 (34)	36,923 (23)	73,814 (34)	76,470 (34.1)
Construction	33,399 (0.8)	80,255 (1.7)	187,906 (3.4)	182,806 (3.1)	12,692 (38)	13,889 (17)	36,676 (20)	59,085 (32.3)
Trade, Wholesale and Retail Distribution	88,080 (2.1)	425,209 (9.2)	645,571 (11.7)	692,078 (11.8)	9,689 (11)	28,706 (7)	110,365 (17)	110,875 (16)
Transport, storage, information, andcommunica	22,773 (1)	94,800 (2.1)	137,301 (2.5)	172,374 (2.9)	22,773 (56)	29,484 (31)	61,797 (45)	72,297 (41.9)

Source : Fessehaie, das Nair, Ncube & Roberts (2015); and CSO Labour Force Survey (2005, 2008, 2012 , 2014)

growing proportion of the workforce remains trapped in low-productivity, low-wage employment.

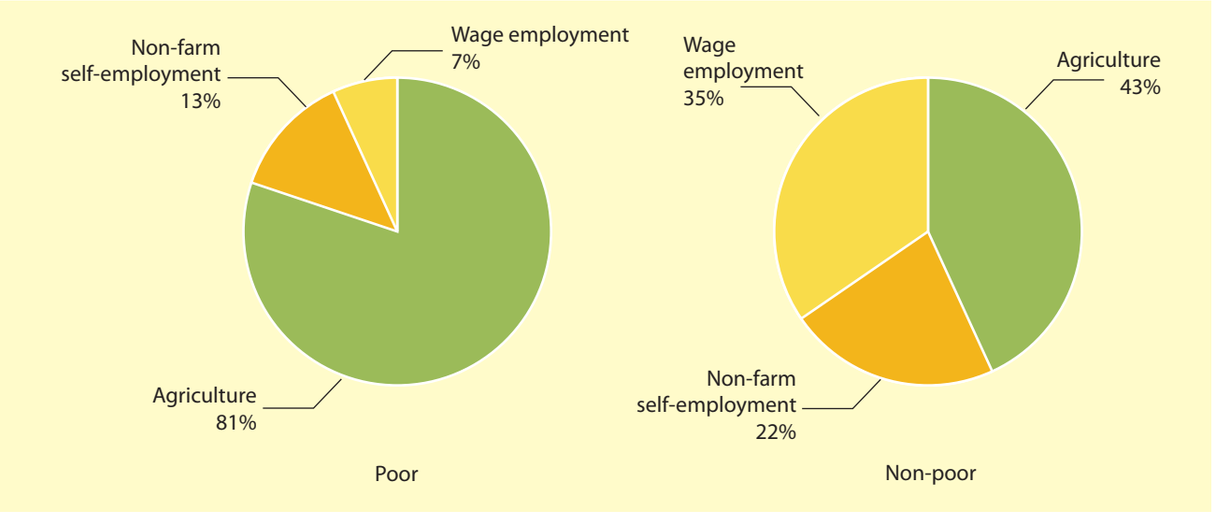
Evidence shows that a large segment of the employed population remains either underemployed or in low productivity forms of employment. The 2014 Labour Force Survey (LFS) shows that 8.3 per cent of those employed nationally are underemployed.[3] In the rural areas, underemployment was even higher at 10.9 per cent compared to 4.8 per cent in urban areas.

Given this segmentation in employment, it is not surprising that a large number of working Zambians are poor, and concentrated in farming activities. In the 36-64 age group, 62 per cent of those working are poor – meaning that in this age group, the number of working poor exceed the number of the unemployed (World Bank, 2013a). Furthermore, the vast majority (81 per cent) of the working poor are concentrated in the agricultural sector. Increased agricultural productivity and the accompanying increase in labour earnings can play a big role in poverty reduction. Other than the individual characteristics of farmers, improvements in other factors of production – better access to input-output markets, improved infrastructure, and better land rights – can affect farmers' labour productivity. These factors can also be crucial for enhancing off-farm jobs, thus diversifying family incomes (World Bank, 2013a).

The mismatch between the contributions to GDP discussed above, as opposed to

FIGURE 6.2

Distribution of Working Poor and Non-Poor by Employment Category -



Source: World Bank (2013a) using data from LCMS (2010).

employment at the sectoral level, lies at the heart of the failure to convert high growth rates into significant reductions in household poverty in Zambia. High growth sectors within industry – mining, construction, and energy – as well as the dominance of public sector jobs within the formal economy, remain elements of a low poverty-reduction and high-inequality growth path for the Zambian economy. Cross-country evidence has shown that growth in labour-intensive sectors, such as agriculture or manufacturing, are typically more poverty-reducing than growth in capital-intensive sectors, such as mining (Ravallion and Datt, 1996; Khan, 1999; Ravallion and Chen, 2007; Loayza and Raddatz, 2010). The growth path of many African economies, and Zambia is no exception here, where resource extractive industries are dominant, would thus explain these low growth-poverty elasticities for the region, and ultimately the struggle to make progress in reducing multi-dimensional poverty and to improve inequality-adjusted human development outcomes.

Skills Shortage in Zambia's Labour Market

Turning attention briefly to the link between employment and education, Figure 6.3 shows that the vast majority of Zambian labour market participants have only primary school education while those with a university degree comprise only 1 per cent of the labour force (Moono and Rankin, 2013).

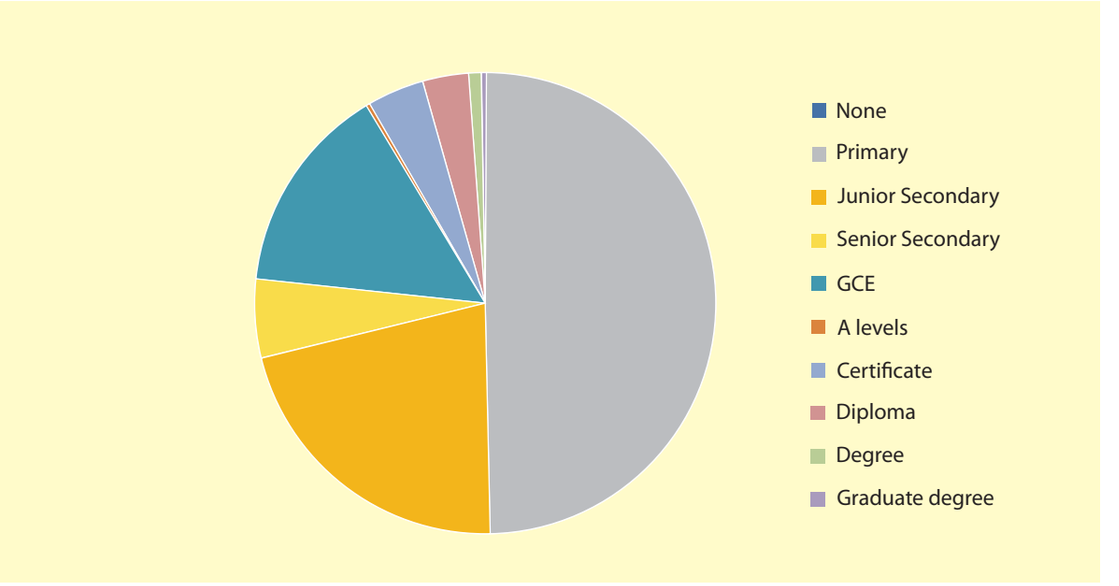
The lack of economic diversification has, to some extent, been constrained by the shortage of technical and professional skills in the domestic labour market. Improving the skill set of the workforce is, of course, critical for improvements in levels of labour and multi-factor productivity. Ongoing barriers to obtaining the requisite education to enter formal sector employment are the lack of resources to complete schooling, an absence of networks, and an inability to access credit. A poorly-skilled workforce remains, of course, one of the key medium- to long-run constraints to the pursuit of a more inclusive economic growth path. These constraints and barriers to improved human capital accumulation form the main subject of the discussion in Chapter 7.

Conclusion

The extent to which subsistence agriculture still dominates the Zambian economy as

FIGURE 6.3

Highest Educational Attainment, Zambia Labour Force



Source: Moono and Rankin (2013)

against manufacturing suggests that the economy has not undergone a sufficiently significant structural transformation.[4] Other key industries serving as employment sources are the wholesale and retail trade industry, and the community, social and personal services industry. The latter would account mainly for public sector employment. Ultimately, this sectoral breakdown in employment does confirm that such a focus and policy approach must be viewed as one element of a broader growth and development strategy for Zambia. Such a strategy would inevitably involve improving the competitiveness and value-added produced in the agricultural sector, and trying to create appropriate conditions for the growth of labour-intensive manufacturing sector in the economy. A key challenge for Zambia's government, therefore, is to generate a large quantity of low-wage manufacturing jobs that can fuel pro-poor, inclusive growth.

Employment opportunities exist in chemicals, rubber and plastics, food, beverages and tobacco, paper and paper products, fabricated metal products, and non-metallic products sub-sectors. These manufacturing sub-sectors have driven value addition in the last decade but are characterised by incomplete value chains due to lack of resources at the input level, low technology at the processing level, or unsupportive regulation in local markets. Similarly, sub-sectors like textiles and leather, wood and wood products, and basic metal products have high potential even though they have shrunk over the years due to lack of technology, raw materials, skills, infrastructure, and lack of access to affordable long-term credit to finance their working capital. Importantly, these sub-sectors are often based in rural areas where the bulk of the employed are, in fact, marginally employed and require productive employment to improve their standard of living. New investments in technology and other production processes, together with an integrated set of industrial policies designed to grow these sub-sectors, remains essential if manufacturing is going to be placed in front and at the centre of Zambia's economic development trajectory.

Industrialisation in Zambia: Structural Constraints

7

Well-balanced strategies, incorporating elements of pro-poor growth and human development-oriented policies, are necessary for a mutually beneficial relationship between growth and human development (Ranis and Stewart, 2005). Establishing a relationship between industrialisation and the various components of human development, including, for example, productive employment, gender equality, education and skills, and MSME development, remains vital to reducing vulnerabilities, building resilience and sustaining inclusive human progress in a society. It is in this regard that industrialisation is seen as a critical enabler of growth, as increasing per capita incomes result in improved livelihoods. However, successful industrial policy requires significant support through infrastructure, energy, and skills. In an economy such as Zambia, where these three elements are not easily available, establishment costs for industrial development are high. The various structural constraints and their impact on industrial development in Zambia will be discussed in greater detail in the sections that follow.

Constraints on Infrastructure

A 2011 World Bank report on infrastructure in Zambia found that improved infrastructure outlays contributed as much as 0.6 per cent to annual per capita GDP growth over the period 2001 to 2011. This emanated largely from the growth in infrastructure investment associated with the ICT sector (Foster & Dominguez, 2011). The strained energy sector, however, lowered this growth rate by 0.1 per cent. Overall, improving the supply and availability of Zambia's infrastructure could improve growth by 2 per cent annually. Localised enterprise surveys conclude that infrastructural gaps place the greatest constraint on the productivity of Zambian firms, followed by unnecessary bureaucratic rigidities, and, then finally, the high incidence of corruption.[1] Owing to the direct linkage between the state of infrastructure and increased production, human development indicators are affected through rising GDP and increased output from selected sectors that result in rising wages.

Despite several reforms since independence, the structure of Zambia's economy has not transformed significantly. This report shows (in Chapter 4) that the share of MVA in GDP dropped significantly from 15 per cent in 1990 to 7.63 per cent in 2014, while the proportion of the manufacturing sector remained at a consistent 10 per cent over the period 2006 to 2011, before dropping to 6 per cent in 2013. Only a few sub-sectors have driven this growth in manufacturing, namely, food, beverages and tobacco, fabricated metal products, and the non-metallic mineral products.[2]

Various factors have inhibited optimal growth in the different manufacturing sub-sectors. These include inadequate infrastructure, mainly regarding roads, rail, energy and ICT. The 2013 Strategy Paper on Industrialisation and Job Creation identifies a number of additional constraints, namely:

- Underutilisation of available capacity in the manufacturing sector (utilisation rates were estimated at 20 per cent in 2013);
- Unfavourable procurement policies by mining companies which limit the supply linkages with domestic producers;
- Limited access to long-term and sustainable financing; and
- Narrow supply of products to the government through preferential access.

The discussion in the following sub-sections explores the constraints on infrastructure in further detail.

Transportation

Zambia is surrounded by Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Angola, Namibia and the Democratic Republic of Congo. As a land-locked country, it is apparent that high transportation costs have a significant bearing on the opportunities for agriculture, trade, and investment. Key production inputs must be transported over land from the ports of Durban in South Africa, or Beira in Mozambique, which raises the cost of production. Rail networks are, therefore, critical for the transportation of bulky freight for this mineral-exporting nation. However, there is a finance gap between adequate levels of funding required to support trade and current or planned projects.

Road

An extensive, high quality, and multi-purpose road infrastructure network plays a vital role in a modern market-based economy. It acts as a conduit for the movement of freight to and from the ports of a country, and the transportation and delivery of goods and services within the country. Zambia boasts a total road network of 67,671 km. Of this, 40,265km constitutes the core network, while only 23 per cent of this core is paved.[3] This percentage seems rather high compared to other low-medium income countries (Foster & Dominguez 2011). In rural areas where the bulk of the population resides and where agriculture occurs, the road network remains significantly poorer in quality. For example, while 70 per cent of Zambians depend on agriculture for their livelihood, only 17 per cent of this population lives within two kilometres of an all-season road — about half the African average (KPMG 2013). With such a vast rural population, Zambia must develop its road network to ease access to markets.

Low transport densities, few operators and low returns to rail networks characterise the Zambian rail industry.

To improve the road network to boost economic growth, the following shift in focus is necessary. First, the Zambian government should increase the collection of revenue and grants to fund the development of the rural Zambian road network, for instance, by expediting the efficient management of user-fee-based interventions such as tolls and concluding public-private partnerships. Costs and benefits should be considered before the final decision. Second, the government should increase the institutional capacity of the Road Development Agency (RDA) (which supervises and coordinates road infrastructure development) to improve contracts execution and accountability.

A key initiative to improving access in the road sector is the Link Zambia 8000 Road project, which is developing and upgrading the road network over three phases at the cost of US$5.46 billion over five years.[4] Related to this is the Pave Zambia 2000 Project, whose objective is to carry out the rehabilitation and construction of 2,000 kms of urban roads using concrete paving block and cobblestone technology, which is expected to be cheaper and more durable than traditional paving methods. Paving equipment has been purchased and distributed to all ten provinces, and it is expected that significant progress will be made on this project in 2016.[5] Significant progress has been recorded over the Lusaka 400 kms project, which has improved the quality of urban roads in the city. In September 2015, Zambia's Road Development Agency awarded a Chinese company US$492 million to construct 406 kms of urban roads in the Copperbelt region.[6]

Rail

Rail is crucially important in the movement of bulk commodities round the country and remains an important conduit for general freight along the country's main transport corridors. The country's rail network has two operators: (i) the Railway Systems of Zambia (RSZ), which serves the north-south corridor and connects with the Zimbabwean rail operator for onward service to the Port of Durban; and (ii) the Tanzania and Zambia Railway Authority (TAZARA), which operates an eastward route from the Kapiri Mposhi into Tanzania and on to Dar es Salaam. Both railway lines are operated directly by the state.[7]

Low traffic densities in Zambia are well below an established viability threshold of at least 2 million tons per kilometre for railways of this kind, making it difficult to recoup revenue levels required to maintain and upgrade rail assets. As a result, much of the cargo and passenger transport most suited for rail is instead carried by road, which further taxes the burdened road transport network (Foster & Dominguez, 2011).

It is also important to note that investment in rail infrastructure, despite its huge economic benefits, has a poor return on investment unless financed using concessional loans, due to the cost associated with obtaining financing capital as well as the potential returns associated with the investment. It is, therefore, incumbent on the government to facilitate this much-needed re-investment into the rail network. As all stakeholders begin to make efforts for improvement, there will be clear gains when the following core projects are finalised, namely, to:

I. Engage with the Tanzanian government to negotiate the terms to refinance or revamp the operations of the TAZARA Railways;
ii. Complete the Chingola-Jimbe, Kafue-Zawi, and Nseluka-Mpulungu lines; and
iii. Operationalise the Mchinji/Chipata line.

Air Transport

Although smaller than the volume of air traffic handled by its neighbouring countries, Zambia's volume of air traffic has consistently been on the rise in the last few years (World Bank, 2011) The National Airports Corporation manages the four major airports situated in Lusaka, Ndola, Livingstone and Mfuwe. Lusaka also has fairly good interconnectivity with other capitals within the region.

Some of the challenges facing air transport in the country include the collapse of the national carrier, Zambian Airways, and an aging fleet of planes that require massive investment to add to. Also, the non-availability of a well-developed air transport to facilitate the quick transportation of perishable goods, such as dairy products, hampers potential growth in the agro-processing sector. In his State of the Nation address, the president indicated his government's plan to start operating a national airline in 2016, coupled with a US$1.7 billion upgrade for the airports.[8]

ICT

The modern economy has come to depend highly on ICT infrastructure as a fundamental driver of economic growth and development. It is not by accident, therefore, that the leading economies in the world today are also the leading ICT-driven economies. The reason why some East Asian countries have managed to escape potential growth traps is because they developed advanced infrastructure in the form of high-speed communications networks and broadband technology (Gill and Kharas, 2008). Therefore, better communication technology facilitates knowledge flows within and across borders. Also, as ICT encourages spatial integration by connecting isolated areas, it thereby allows residents to participate better, both economically and socially, by improving access to information and networks. Secondly, it improves the organisational management of health, education facilities, and other government services. These become better coordinated and more efficiently managed simply by being interconnected through a single network and enabling applications and outcomes to be transmitted electronically, thus lowering operational costs and time. The World Bank estimates that a 10 per cent increase in broadband penetration would yield a 1.21 per cent and 1.38 per cent increase in GDP growth on average, for high-income and low/middle-income countries, respectively.[9]

The government, which started developing an ICT policy in 2001, finalised it in 2005, and began to implement it in 2007 (Souter, 2010).

The goal of the National Information and Communications Technology (ICT) Policy is to create a knowledge economy by 2030, increase public ICT access, develop suitable telecommunications infrastructure, and introduce e-government and e-commerce (Ministry of Communications and Transport, 2009). The government also intends to use the policy to address the inadequate access to online information and serve as the guiding document for the design of relevant legal and regulatory structures.[10] In 2009, the government launched another policy, namely the ICT Bill, which repealed the Telecommunications Act (1994) and focused on technology convergence, innovation, competition and fair play, and consumer rights (Jere, 2009).

Also, in 2009, the government promulgated the Communications Technologies Act, which aimed at enforcing the National ICT Policy of 2006. The government similarly launched the Electronic Communications Act of 2009 with the objective of developing a safe, secure, and effective environment for consumers, businesses and government. This allowed for widespread use of electronic communications, the promotion of legal certainty and confidence, and encouraged investment and innovation in the electronic communication industry.

Table 7.1 summarises Zambia's performance in the ICT sector. It shows that usage of mobile phones is widespread, with 71 out of 100 people reportedly using these appliances. Low access to fixed broadband that was the case prior to expanded mobile networks, has continued; with less than 1 per cent of the population gaining access to fixed landlines. Access to mobile phones has, of course, been central to this shift. Pricing, however, remains a barrier to access and usage of both fixed-line and mobile phone services. In addition, the cost of equipment, such as internet-enabled mobile phones and personal computers, is prohibitively high, as is the cost of accessing services, which has limited growth in the uptake of data services. Growth and development gains that could potentially be achieved through this sector have not been fully utilised. Although below the sub-Saharan African countries' average, similar reasons apply for the low uptake and coverage and for ICT penetration across the continent.

The number of businesses that report using ICT is much higher than individual users, with Zambia ranking quite highly for capacity for innovation (44 on the Networked Readiness Index). The lowest indicator is business-to-consumer internet use (86 on the index), and is the result of low consumer usage figures. In terms of the government, the table indicates that the Zambian government has a strategic vision of using ICT to increase the country's competitiveness. The government performs even better in the successful implementation of ICT promotion (ranked 33 on the index). However, the government is performing poorly with regard to the government online service index, and illustrates the inability of government to successfully deliver online services.

To stimulate the gains in this sector, it is

TABLE 7.1

Zambia's Indicators for the ICT Sector, 2014

Indicator	Zambia (%)	Sub-Saharan Africa Average (%)
Mobile phone usage	71.5	88.6
Fixed/broadband usage	0.09	1.4
Internet usage	15.4	17.1

Note: The Sub -Saharan average is calculated based on the 40 countries included in the ITU Survey.
Source: Global Competitiveness Index (2014 2015); ITU World Telecommunications/ICT Indicators database (2013)

important to build a support base by organising training opportunities for MSMEs in business management, technology adoption, and the impartation of other technical skills. This sector also provides opportunities for the government to work with the private sector for the provision of technology across the country.

Technological Deepening

The level of technological deepening reflects an economy's capability to produce and export manufactured goods. The level of technical sophistication also determines the pace at which an economy can transform from a resource-based to a high-skilled and technologically-driven economy. While Zambia has grown to a middle-income economy, its general level of technology is primarily resource-based. As a result, the bulk of total manufacturing output is produced by 10 per cent of manufacturing firms, while 90 per cent of MSMEs contribute only marginally to national output.

Resource-dependent economies are generally susceptible to external shocks and commodity price volatility. A more "functional" classification of Zambia's manufacturing output shows that 47 per cent of its industrial production is a source-based manufactured product, while 40 per cent comprises low-tech manufactures (LTM). Only 13 per cent of total manufacturing output represents medium-to-high-tech manufactures (MHT). Collectively, resource-based and low-tech manufactures account for 87 per cent of total manufacturing activities in Zambia.[11] This technology profile shows that the Zambian manufacturing sector is still too weak to support sustained growth in economic output, productive jobs, and human development. While the economy should be moving away from growth based on comparative advantage, industrial policy and performance appear to be largely driven by a quest to exploit the comparative advantage, rather than build local industrial capabilities that could potentially sustain the long-run growth in MVA per capita. Available cross-country evidence corroborates this position and suggests that the manufacturing sector is usually at its weakest if resource-based manufacturing has the largest share in total manufactures.[12]

The role of the Ministry of Science, Technology and Vocational Training (MSTVT) is to provide an enabling environment for the participation of both the public and private sectors in the development and application of science and technology and the provision of technical education, as well as vocational and entrepreneurship training. R&D is driven by agencies under the Ministry of Science and Technology, institutions of higher learning,

The level of technological deepening determines the transition rate of a country from resource-based to high-skilled and technologically driven one.

As no industrial policy can succeed without stable power supply, the country must give priority attention to the strategic management and expansion of electricity generation and distribution.

TABLE 7.2

ICTs usage in Zambia, 2015

Networked Readiness Index Pillars	Indicator	Value	Rank (out of 144 countries)
7th pillar: business usage	Firm-level technology absorption*	4.68	67
	Capacity for innovation*	4.05	45
	Business-to-business internet use*	4.76	69
	Business-to-consumer internet use*	4.17	86
8th pillar: government usage	Importance of ICTs to gov't vision*	4.21	50
	Gov't online service index, 0-1 (best)	0.14	125
	Gov't success in ICT promotion*	4.71	33

Notes: *Indicates a range of 1 to 7, where 7 is the best
Source: World Economic Forum, 2015

and public and private research institutes. The current focus is disproportionately within the engineering, technology and agriculture fields with the remaining sectors taking up a small proportion of experts. The research activities are mainly sponsored by external or donor funding. [13]

Energy

Energy is a key enabler as well as the most important pre-condition for improvements in manufacturing. In Zambia, this sector is mainly driven by hydro-electricity[14] and petroleum. Per capita consumption of electricity is estimated at 66 watts, which is below the average for sub-Saharan Africa. The Zambia Electricity Supply Corporation (ZESCO) is the country's only electricity producer, which lowers the overall competitiveness of this sector and the efficiency in the provision of goods and services. Between 1964 and 2005, Zambia had a power surplus with an installed power generation capacity of 1,985MW and a supply cost of US$ 0.04-0.06 per kilowatt hours – one of the lowest in the world.[15] As no industrial policy can succeed without stable power supply, the country must give priority attention to the strategic management and expansion of electricity generation and distribution.

At the moment, electricity demand has outstripped generation capacity and the country has been experiencing surges and outages more frequently since 2009. By 2020, electricity demand is projected at twice the current generation capacity and three times the capacity for generation by 2030. If no timely investments are made to expand generation capacity, inadequate supply would become one of the critical constraints to economic expansion and value-added in mining, manufacturing, and agricultural sectors. This means that Zambia's industrial policy must also give priority attention to the strategic management and expansion of electricity generation and distribution.

To match existing infrastructure in the rest of the developing world, Zambia needed to spend an average of US$1.6 billion per year, between 2006 and 2015. This is the equivalent of 20 per cent of Zambia's GDP, which is nearly double the country's rate of investment in recent years.[16] As part of the strategies to meet these challenges, ZESCO has planned the following projects in collaboration with local and international firms:

i. Investment of US$ 4.7 billion to double installed capacity to 4,203MW by 2020.
ii. Construction of the Kafue Gorge Lower Hydro Project, a joint venture between ZESCO and SINOHYDRO of China, expected to generate 750MW of capacity at a cost of US$ 2 billion. It is scheduled for completion in 2018.[17]

To counter the increasing demand and low supply, it might be necessary for the government to consider increasing investment in alternative energy sources such as solar, wind and other off-grid alternatives. These provide opportunities for the advancement of MSMEs as well as further technological advancements in this area.

Skills Development

As demonstrated by some Asian economies, one of the mechanisms for improving welfare outcomes is through improved human capital accumulation across the educational pipeline. In the view of long-run economic growth currently espoused by Thomas Piketty and others, human capital accumulation is one possible mechanism for overcoming a growth path where the rate of return on capital (r) exceeds the rate of economic growth (g) – $r > g$ (Piketty 2014). To generate an equal growth path, thus equalising r and g, it is argued that the schooling and educational pipeline plays a potentially crucial role in an economy's long-run growth trajectory (Bhorat and Hirsch, 2014). As discussed in Chapters 4 and 5, this remains very crucial for the Zambian economy that faces low productivity, under-employment, and low returns to welfare, stemming from a shortage of highly skilled

workers.

Zambia has made great strides in access to primary and secondary education. The net primary enrolment rate increased by 23 per cent between 2000 and 2012, thus ensuring that the overwhelming majority of young children receive primary education. Although the net secondary enrolment rate remains low at 41 per cent, this is more than double the figure in 2000.

While increasing educational access is a good first step in having an educated workforce, a second key component is to examine progression through the educational system. A succinct way to determine the health of an education system is by examining conversion rates: the proportion of primary school pupils who enter the tertiary education system.

Figure 7.2 shows that while the proportion of primary school pupils is similar, there is a significant divergence in the enrolment for secondary and tertiary education. Furthermore, while there is a substantial decline in the enrolment at primary and secondary schools, it is steeper when looking at the difference in enrolment rates between secondary and tertiary education.

The SADC estimate of 6.2 suggests that for every 100 primary school children, only 6.2 will enroll at a tertiary institution – an exit rate of 94 per cent. In Zambia, this figure is 1.07 – nearly six times below the SADC average, and 19 times below the world average. The high and rapid attrition rate is perhaps the most powerful indictment of the ineffectiveness of the Zambian educational system. The small number of graduates from Zambian universities also suggests that the skills that employers demand will be in short supply.

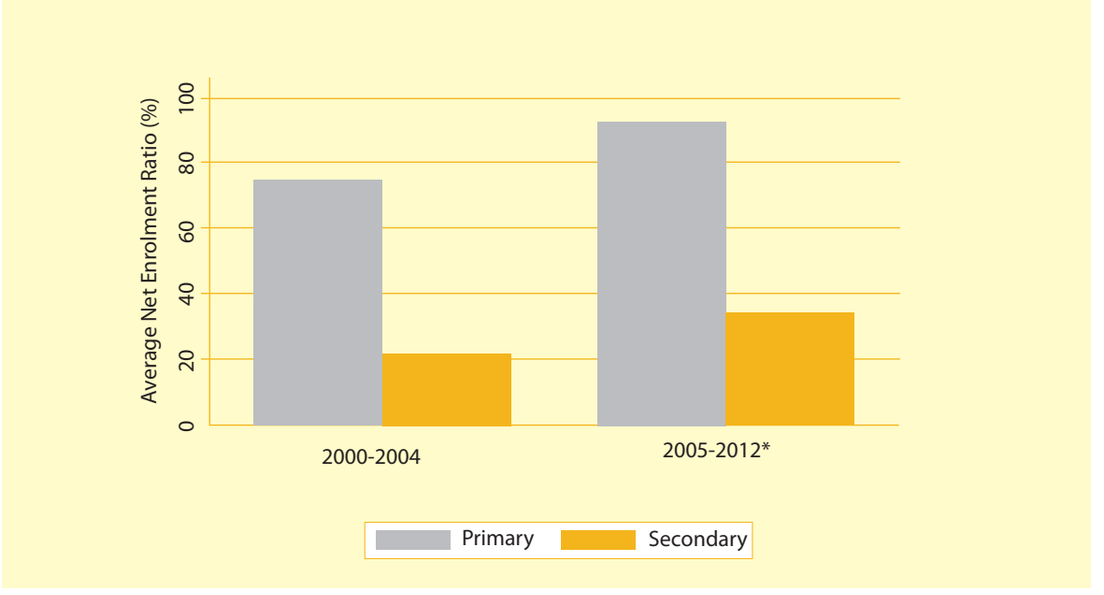
The country suffers from high attrition rates between primary and tertiary education.

Another indication of the poor state of Zambia's education system is the performance of Grade 6 students in the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) tests.

Zambia had the lowest average maths and reading scores from the 15 countries surveyed in 2007. This suggests that even though more students are finishing from primary and secondary school, the education they receive is very poor. Furthermore, the average reading score for Zambia had decreased over time –

FIGURE 7.1

Average Net Primary and Secondary Enrolment Ratios, Zambia: 2000-2012



Net Secondary Enrolment Ratio is for 2005-2007
Sources: SADC Statistical Yearbook (2011), World Development Indicators (2014)

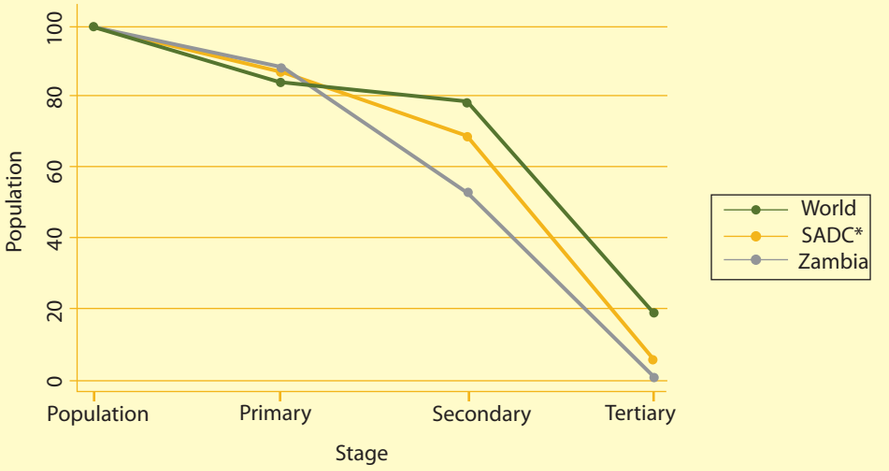
Zambia has the lowest average maths and reading scores among a sample of African countries.

from 477.5 in 1995, to 434.4 in 2007 (Moono and Rankin, 2013). Overall, the poor and declining quality of the Zambian education system suggests that it is currently an ineffective tool for promoting inclusive economic growth in the society. Zambia has the lowest average maths and reading scores among a sample of African countries.

Turning attention to the link between employment and education, the vast majority of Zambian labour market participants have

FIGURE 7.2

Conversion Rates from Primary School to Tertiary Institutions, World, SADC and Zambia

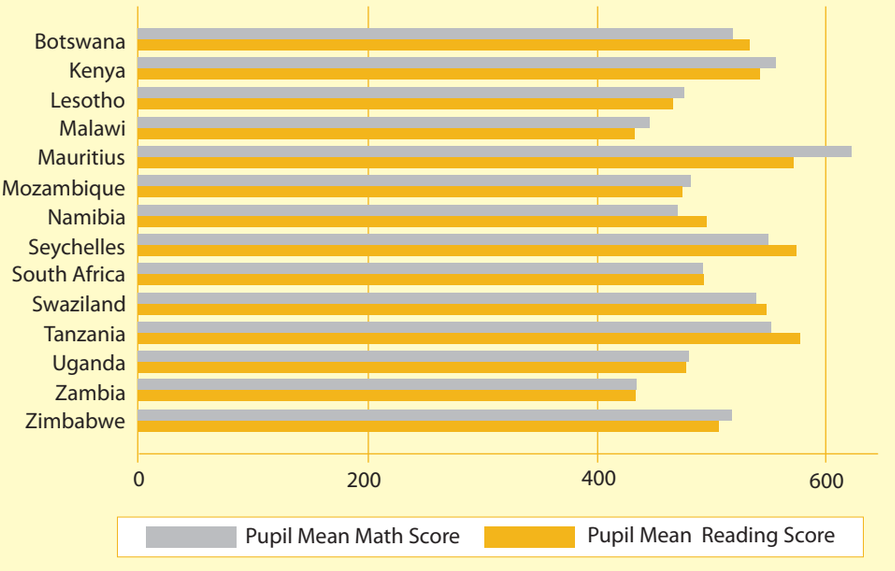


*Complete data does not exist for South Africa and Zimbabwe

Sources: UNESCO Institute for Statistics (2015), World Development Indicators (2014)

FIGURE 7.3

Standardised Test Scores, Southern Africa, 2007



Source: UNESCO International Institute for Educational Planning (2010).

only primary school education, while those with a university degree comprise only 1 per cent of the labour force (Moono and Rankin, 2013).

Figure 7.4 shows the monthly education premia of certain educational levels by type of sector. The estimates were derived from an OLS earnings function, controlling for age and gender and based on the 2010 Living Conditions Monitoring Survey (LCMS) dataset.

It is clear that the more education one receives, the better one's chances of earning higher wages. Interestingly, the highest wage premium in the mining sector is for sub-degree holders (as opposed to graduates), suggesting a skills shortage in this area. This finding supports the notion that Zambia's mining has become more capital intensive, and will continue to be so in the future. Furthermore, there is little benefit in obtaining a Diploma or Certificate in the mining sector, reflecting that the mining industry has a shortage of highly-skilled personnel.

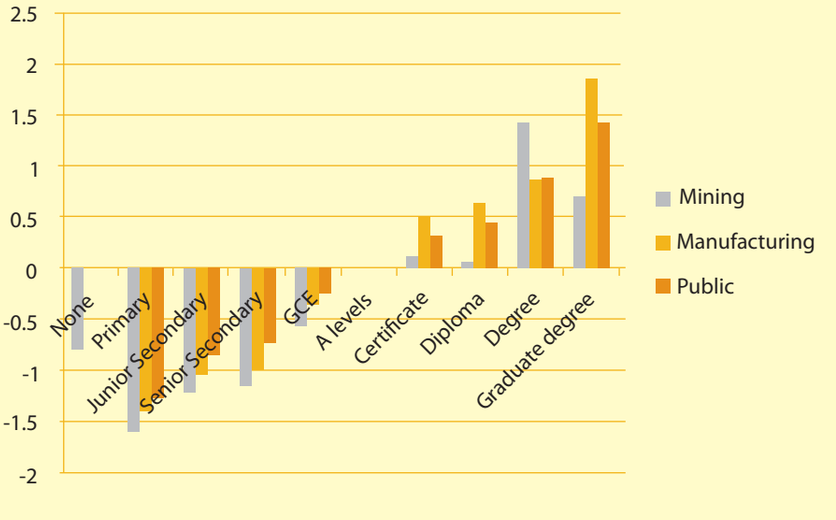
The manufacturing sector has the highest skilled premia for each post-secondary qualification (relative to A-levels), which possibly indicates the shortage of highly-skilled managers in this sector. To correct this, it is necessary to adapt training curriculum, institutional capacity, equipment and machinery and training institutions to current production and technological industry requirements. Previously, a bigger measure of output was throughput numbers and the type of certification received – this should rather shift to the nature of the skills acquired and how prepared graduates are for employment after their studies. The Technical Education, Vocational and Entrepreneurship Training Authority that has historically adopted a small proportion of high school leavers requires further funding to play an increasingly larger role in addressing this skills gap.

In general, the evidence indicates that there are substantial returns to education in Zambia, with people who hold degrees (either undergraduate or graduate) earning the most. This result is consistent with developed and developing country literature showing non-linear returns to education.

It remains unclear, however, whether education can – at least in the short-run – be relied upon as a mechanism to substantially reduce poverty and promote human

FIGURE 7.4

Monthly Education Premia (Relative to A-Levels), Zambia: 2010



Source: Moono and Rankin (2013)

development in Zambia. The country's educational system is in a poor state, as shown in the poor transition rates from lower to higher educational levels and SACMEQ III results. The decrease in average reading scores between 1995 and 2007 suggests then that the system was worsening rather than improving. The increases in completion rates at primary and secondary schools are encouraging, although this may be at the expense of standards.

Moono and Rankin (2013) also interviewed many managers who observed a lack of connectivity between the skills that employers needed, and the skills imparted to students in higher institutions. This means that even the more educated members of the population might not be able to secure jobs, given a combination of quality and skills mismatch problems. This further constrains the ability of education to attenuate inequality.

The lack of technical knowledge accumulation has partly prevented the expansion of production in the pursuit of a more diversified growth path. Industry-relevant technical and managerial skills are in critical short supply, and are not readily available among the available workforce. Skills are particularly low in industrial engineering, mechanical engineering, chemical engineering, metallurgical engineering, electrical and electronics engineering, and mining engineering activities. In metallurgical engineering, 74 per cent of the workers have only certificate or diploma qualifications. This pattern of skills distribution is common in all industrial sectors. The quest for industrialisation, therefore, entails an urgent need to develop a medium- to long-term human resources development plan, and aligning secondary and tertiary education and skills training to respond to the strategic needs of the industrial sector.

Conclusion

This chapter of the report states that to promote industrialisation, which facilitates inclusive economic growth, certain enablers need to be adapted. Among these are infrastructure, regulation, and policy frameworks. Improvements in road and railway networks, ICT, energy, skills training, and trade facilitation are crucial for gaining access to markets and also for easing the cost of doing business. Chapter 4 identified the key structural constraints in expanding value-added sectors such as processed foods, textiles and clothing, mineral processing, engineering and metal works, leather and leather products, pharmaceuticals, and packaging industries. This chapter completes that discussion by reflecting on some of the matching investments required to ensure that increasing output can be rolled out in such a manner that producers will benefit from economies of scale, through, for example, increasing the quality and network of roads to ensure that farmers and producers can quickly access markets. A far-reaching policy discussion, as well as policy-related solutions to these constraints, is the focus of the concluding chapter.

Making Industrialisation Supportive of Human Development

8

Industrial policy requires coordinated multi-sectoral inputs to ensure successful outcomes, particularly in sustainable economic growth and human development. To support some sub-sectors of manufacturing, industrial policy must establish a favourable regulatory environment to encourage the inflow of investments, the growth and development of sustainable businesses of varying sizes, as well as the establishment of necessary institutions. This should, in turn, facilitate investment in infrastructure. Access to stable electricity supply is crucial for ensuring consistent production flows and decreasing production wastage, predominantly for the perishables. Access to good quality water for production and sufficient wastewater treatment is also necessary. Additionally, the linkages between rural primary production areas and urban processing plants are often weak, adding costs to the final product. A framework of reliable feeder roads that connect rural and urban areas is critical.

Successful industrial policy also requires a workforce that has sufficient technical skills to produce higher value goods. Access to local skilled labour is necessary both for productive capacity and to improve the quality and standards of products required in the export markets. Furthermore, to support the welfare of the workforce, industrial policy should coincide with simultaneous public sector investment that improves the quality and access to basic services such as health and education.

An inclusive industrial policy also requires engaging a larger segment of the population to make them enjoy the gains of productive employment. Zambia has a significant number of people in the rural areas who are essentially underemployed, working as unpaid family workers, or in subsistence agriculture. Future industrial policy must address the incorporation of the rural sector into the productive economy. Advancing agro-industry value addition and the supply of goods and materials could be a strategy to achieve this.

This chapter reviews policy in four key areas that support human development in the process of industrialisation. These are agriculture, education, health, and MSME development. The chapter contextualises the current policy environment in these different areas and develops an action plan on how specific interventions could result in improved industrialisation and human development outcomes.

Agriculture

A thriving agricultural sector will promote the development of complementary sub-sectors such as the agro-processing industry. In 2013, the Zambian Government completed the National Agricultural and Food Security Investment Plan under the Comprehensive Africa Agriculture Development Programme (CAADP), which recognises that agriculture can act as an engine of economic growth and poverty reduction as it directly or indirectly employs approximately 70 per cent of the country's population. Further decomposition of the sector shows various challenges, namely, that a large proportion of workers are uneducated; hence, they work as volunteers or in low-wage positions that see many classified as the "working poor". As a result, the agricultural sector is limited in its contribution to poverty eradication.

The CAADP focuses on the following matters:

I. Identifying strategic sub-sectors to focus on, such as fisheries, livestock, sustainable land and water management;
ii. Developing value chain and trading in commodities;
iii. Purchasing and upgrading machinery

and equipment within the agriculture sector; and

iv. Developing and rolling out new technology within this sector.

Since agriculture is strategic to the revival of the economy, the sector must be subjected to a comprehensive reform that would increase annual yield in all the sub-sectors and form a sustainable chain that keeps adding value to the economy as well as providing the food and raw material supply needs of the country.

What is currently not highlighted in the CAADP is the need to diversify funding within the agricultural sector to focus on the highlighted strategic sectors, namely, food processing, and leather and leather products. As discussed in Chapter 4, the limited financial and non-financial support available has curtailed the overall growth of some non-farming sub-sectors of agriculture, which has reduced their overall contribution to wealth and employment creation. Within these sectors as well, it is important to invest in forward and backward integration to increase the value of products exported and the number of jobs created. Furthermore, for certain sub-sectors, such as livestock and wood processing, there is a need to develop the skills endowment levels of the labour force.

In the agricultural sector, the policy focus should be on accelerating the implementation of rural industrial clusters and facilitating their linkages to markets, as well as increasing the levels of FDI to promote business incubation and commercialisation. The dairy and dairy products, food, wood processing, textile, clothing, footwear, and leather sub-sectors have also exhibited high untapped market potential to support wealth and employment creation through value addition in rural agricultural areas. While capital equipment is available in certain cases, raw materials are in short supply. Another significant industrial policy gap is that while meat processing, dairy products, and leather and leather products have higher employment multiplier effects, the emphasis of the current policy (particularly in the agriculture sector) is on dairy milk and livestock sales, which have a comparatively lower impact on employment.

Action Plan

The action plans needed to develop the agricultural sector are as follows:

i. Review the national agriculture policy to prioritise livestock development and fish farming by supporting both production and market infrastructure for value added production within these sub-sectors.

ii. Reform rural agricultural co-operatives into business-oriented entities focused on adding value to agricultural commodities. In particular, this should be done by pooling resources to upgrade or purchase new machinery and technology.[1]

iii. Increase investments to expand rural irrigation infrastructure to lessen smallholder farmer dependency on rain-fed agriculture.

iv. Strengthen agricultural extension and veterinary services. Also, link livestock development research to the smallholder sector to help control animal disease outbreaks and enhance the productivity of this sector.

v. Resolve institutional issues, such as improving the collection levels and supply of quality raw hides and skins, and ensuring that producers earn competitive prices to stimulate growth and counter the rampant smuggling of these vital agricultural inputs.

vi. Improve inter-ministerial coordination across agriculture, industry, trade, and employment, to ensure the development of policies and a regulatory framework that is conducive for sectoral growth and development.

vii. Accelerate the implementation of land reforms, especially under the Customary Tenure. These reforms are critical to guaranteeing land rights which can, in turn, allow for capital investment in land and provision of credit.

viii. Set aside funds or provide an enabling regulatory environment to attract investments in suitable R&D that would enable Zambian manufacturers to gain increasing access to competitive global markets.

ix. Prioritise entrepreneurship development, technical skills, and management training across this sector to

promote productivity gains and accelerate the commercialisation of smallholder agriculture.

x. Realign the agricultural sector budget to give equal emphasis to crop agriculture, horticulture, and livestock development.

Skills Development

As people's knowledge, education, skills and overall creativity increase, they find more innovative and efficient ways of creating wealth and sustaining productive jobs that facilitate a movement out of poverty. Education facilitates equitable distribution of the benefits of growth. For example, in many countries, when access to education and educational outcomes are improved, the high premium given to previously scarce skills is eroded, thus dissipating levels of wage and income inequality in a society.[2]

Three development pathways tend to link industrialisation to human development through an education channel. First, secondary education and vocational skills training facilitate the acquisition of technical skills and managerial capacity. Second, at the tertiary levels, education stimulates the development of basic science, the appropriate selection of technology imports, and the domestic adaptation and development of technologies. Third, tertiary and secondary education provides the key elements that are necessary for the development of key economic and political governance institutions, laws, the financial system, and a well-functioning goods and services market.[3]

Frances et al (1997), observe that primary and secondary education is an important basic requirement for factor-driven economies. At this level of development, countries compete by their factor endowments and availability of cheap labour. Hence, when combined with improved health, primary and secondary education raises the nutritional status of individuals and households. By so doing, education improves the quality of life of workers and increases industrial productivity. Lack of education and gender inequalities in tertiary education also limit the extent to which measures meant to accelerate improved nutrition, and infant and maternal outcomes can effectively deliver benefits. Limited access to primary, secondary and tertiary education is one of the major factors responsible for low economic opportunities in the rural areas. This further explains the high incidence of poverty and low levels of human development in the rural communities.[4]

Several economic and political governance benefits also stem from investments in education, which have a direct bearing on industrialisation. In Brazil, for example, a 10 per cent increase in income has resulted from a 5 to 8 per cent improvement in educational attainment.[5] Education, like health, has been ranked as one of the key determinants of how growth translates into productive wealth and poverty reduction. It is also a key pathway through which an economy develops its system's capacity to borrow or transfer foreign technology.[6] In Zambia, low productivity in the primary sector and low state of value-added in manufacturing stem primarily from low levels of educational attainment and industry-relevant skills.

Ultimately, the Zambian education system is beset by two major problems: The poor quality of education, and the poor conversion rates of primary school leavers into secondary school leavers and graduates of tertiary institutions. If these two challenges are addressed, it is possible, in the long run, to generate a medium where more inequality-reducing growth occurs.

Action Plan

The following action plans are needed to achieve improved skills development:

i. Invest in research that identifies the key skills that are needed to support the economy and advance the cause of human development (e.g., technical skills in higher-end engineering, science, mathematics and technology

Government must realign the agricultural sector budget to give equal emphasis to crop agriculture, horticulture, and livestock development.

skills, lower-end apprenticeship skills such as bricklaying, wood-plying, welding, and so on, and mid-range technical skills).

ii. Harmonise the activities of the Ministries of Education, Finance and Trade, as well as those of private and public sector stakeholders, to ensure that proposed or implemented policy is directly related to the country's overall industrialisation needs.

iii. Subsidise youth training programmes in key sectors so as to promote the upskilling of young people who have no access to higher education. Alternatively, incentives can be introduced to encourage firms to train young potential employees through formalised internship programmes. This, certainly, requires cooperation between the public and private sectors.

Internship programmes are vital for upskilling youths and addressing skills shortage.

iv. Develop an effective technical and vocational education and training system that represents an important mechanism through which to upskill the youth and address the existing skills gaps in the country. This becomes imperative given the need to absorb the large and growing numbers of young people who are unable to complete secondary schooling or attend university.

v. Increase the allocation of government bursaries to industry-related technical and management skills training, re-orient the training curriculum to respond to industry needs, and provide a pipeline of suitably qualified workers in response to chronic skills shortages.

vi. Prioritise the development of tertiary educational infrastructure, regulations and standards to ensure quality delivery and narrow current industry-related technical and management skills gaps, particularly within the engineering sub-sector.

vii. Operationalise the Higher Education Authority and the Teachers Profession Authority to enhance the quality of education facilities and teaching standards in both secondary and tertiary institutions.

Health

Industrialisation is associated with low disease incidence and low mortality. Productive jobs and higher incomes are associated with improved life expectancy at birth, and an overall growth in survival rates. Evidence associates advances in GNI per capita and advances in medicine to high life expectancy, low disease incidence, and, therefore, low worker absenteeism.[7] Access to basic services such as healthcare remains among the key strategies of improving the standard of living of the poor. Also, improving healthcare facilities, however indirectly, remains integral to a more productive labour force.

Studies conducted in Brazil, Chile, Cote d' Ivoire, and Nicaragua, strongly correlate increases in household income with improvements in several child health indicators. In principle, as per capita incomes increase, poverty headcount measures fall due to the expansion in health infrastructure and improved access to quality healthcare. Women's access to income-earning opportunities has also been found to increase the nutritional status of households by at least seven times men's income opportunities.[8] These findings underscore the importance of mainstreaming gender into industrial policy formulation and implementation. However, what appears common in most of these countries is that manufacturing growth played a critical role in sustaining high and rapid economic growth rates.

Between 2006 and 2013, the Zambian health sector recorded significant progress in the main areas of health service delivery, namely, maternal, child, infant, and neonatal mortality rates. During this period as well HIV prevalence rates reduced, while TB and Malaria incidence dropped significantly. Despite these achievements, the sector has continued to face major challenges, including

TABLE 8.1

Shortages in Zambia's Health Professional Sector, 2011 (Estimated)

Health worker category	Number available	Number needed	Estimated shortage	Estimated shortage (%)
Physicians	1 024	2 381	1 357	56
Medical licentiates	67			
Clinical officers	1 328	4 000	2 672	66
Nurses	8 859	16 732	7 873	47
Midwives	2 334	5 600	3 266	58
Laboratory Technologists	743			
Dentists	288	633	345	54

Source: Kamwanga, et al (2013)

a high disease burden, which places significant pressure on the healthcare system. Further challenges include inadequate number of medical staff, weak logistics management in the supply of drugs and medical equipment, and inadequate and inequitable distribution of health infrastructure, equipment and transport. Other challenges relate to health information systems, inadequate financing, and identified weaknesses in the health systems governance. Table 8.1 presents the number of medical professionals in Zambia during 2011 and 2012. While most of the shortages have declined, they remain at high levels.

Table 8.1 shows the severity of medical staff shortage in Zambia, with most of the institutions operating at approximately half capacity. Furthermore, the gap is exacerbated in rural areas where the vacancy rates are even higher (Gow et al., 2011). Medical staff shortages are experienced in both the primary healthcare segment as well as in the more specialised fields such as oncology and cardiology. As a result, public hospitals are stretched to the limits, with reported doctor-patient ratios of 1:14,500,[9] which is much higher than the national target of 1:400.[10] This shortage stems from factors such as poor remuneration, leading to the emigration of healthcare professionals and thus exacerbating the skills shortage. Given that training institutions are poorly equipped and inadequately funded, skills development among medical practitioners is low and attrition rates remain high.

Essentially, Zambia should aim to provide universal, cost-effective, quality health services to improve human development. While certain strides have been made in healthcare, such as the removal of user fees in the rural areas, scaling up services still remains a challenge. It is imperative that current programmes on preventative and managed healthcare be scaled up and provided nationwide. Also, policymakers should prioritise the construction of more rural clinics and hospitals, the training and development of medical practitioners, as well as improvement of the sourcing and provision of key medical inputs and resources.

The severe shortage of medical staff in Zambia has led most hospitals to operate at half their overall capacity. The vacancy rates in the rural areas are predictably higher, thus worsening access for the rural poor.

Action Plan

The action plans needed to improve the quality and scope of health care in the country are enumerated as follows:

I. Improve access to quality health services, especially in the rural areas, by improving the doctor-patient and doctor-population ratios. In light of the skills shortage reported in this chapter, the government must address this through an education policy that seeks to prioritise the development of qualified individuals in priority fields

such as medicine and other healthcare roles.

ii. Establish one tertiary or referral hospital in each province, and intensify health systems strengthening interventions.

iii. Intensify HIV&AIDS prevention and mitigation measures, especially those related to adolescent and maternal health.

iv. Establish joint venture investments in the development of the pharmaceutical industry to support advancements in medicine, necessary to sustain current health outcomes.

MSME Development

MSMEs in growth-oriented sectors are key to Zambia's economic development (ILO, 2010), but require both financial and non-financial support to participate meaningfully in the economy. Despite a significant number of MSMEs in Zambia, they contribute very little to manufacturing output. MSMEs are unable to develop economies of scale and, at present, find themselves constrained by limited access to quality finance, which they need urgently to expand and compete in the product markets.

Since 1991, Zambia has instituted and reformulated various domestic agencies with the specific mandate of financing, coordinating, and supporting MSMEs. Notable among these are the Small Industries Development Organisation (SIDO), the Development Bank of Zambia, and the Village Industries Services. However, constraints still dominate this sector, as established in the 2006 Taskforce on MSMEs which reported on the inadequate policy frameworks and difficulties in filling capacity gaps. The Zambian Development Agency, established in 2006, is mandated to promote and facilitate investments that are far beyond the reach of most MSMEs, because its enabling Act grants incentives only to those investors with qualifying assets of US$ 500,000 and above. Access to credit, which is estimated at 10 per cent, remains too low to spur any meaningful development. The World Bank's Doing Business Survey, as noted above, estimates that while sufficient credit information is collected, the percentage coverage of the credit bureau has reduced significantly. Furthermore, to promote MSME development, Zambia must prioritise investments in technology upgrading and building local capabilities that ease the cost of doing business. With adequate technology, MSMEs can be sources of product sophistication and innovation.

Action Plan

The following action plans are imperative in MSME development:

i. Broaden access to credit for small businesses, as well as establish other business development services.

ii. Create linkages between small industry players and larger enterprises within the value chain to ensure that small producers are able to supply the domestic market.

iii. Expedite the roll-out of ICT nationally, prioritising MSMEs to improve their efficiency and lower operational costs.

iv. Promote innovation among MSMEs.

v. Decentralise the services offered by the statutory bodies in the Ministry of Commerce, Trade and Industry.

Non-Agricultural Economic Diversification

Economic diversification is key to creating productive employment in the Zambian economy, as reflected throughout this report. Specifically, investment flows in the non-agricultural sector should be channelled into developing and growing value chains within the copper, textile and apparel sectors, to increase MVA and overall output. The policy of unblocking barriers to entry and developing institutions is a prerequisite for the growth of these sectors. To increase capacity for value-

added, the Zambian government ought to regulate raw materials required to ensure that input supply does not constrain local producers. Also, banks should become more accessible to small businesses by placing reasonable interest rates on loans to enable companies to finance long-term investment needs. Local financial institutions' interest rates have recently risen dramatically, thus curtailing the capital accumulation and expansion in the small business sector.

Action Plan: Manufacturing Sector

Key action plans needed to grow the manufacturing sector include the following:

i. Accelerate the policy and implementation of the commerce, trade and industrial related policies to prioritise wealth and employment creation through value added manufacturing.
ii. Horizontally diversify the mining activities towards industrial minerals such as iron ore and steel milling, to launch a local capital goods sector. The policy goal should be to accelerate the growth of a vibrant and competitive iron and steel industry to become the anchor of industrial policy. This should support the growth of automotive components, and medium and heavy industry commercial vehicles to support the growth and expansion of mining and mineral beneficiation.
iii. Emphasise downstream processes to copper mining such as supporting R&D for vacuum foundries necessary to launch a local motor parts and assembly industry.
iv. Accelerate investments in industry-related technical and management skills to develop a local technological capability to foster industrialisation.
v. Embark on strategic partnerships and joint ventures with public and private, as well as foreign and domestic investors to provide skills, technical expertise, and technology to target strategic sectors and integrate them into the global value chains.
vi. Prioritise research and development and provide smarter subsidies to accelerate the development of the leather and leather products sub-sector.
vii. Implement a sustainable mechanism for financing industrialisation and human development.
viii. Establish specialised research and training Institutes and technical colleges to provide the necessary technology and local capability to support the development of a competitive agro-industry, textile and clothing, iron and steel, and leather and leather products industry.
ix. Develop local contents policies to promote local value addition to cotton and review the Cotton Act to provide domestic ownership of the sector.
x. Promote deliberate linkages between FDI and the domestic private sector, particularly through MSMEs, to promote manufacturing efficiency and strengthen local technological capability.
xi. Prioritise the development of the forest and forestry sector through consistent funding of tree planting to provide the much-needed raw material to the wood and furniture, and paper and paper products, sub-sectors.
xii. Restructure the National Technology and Business Centre and strengthen it to support the incubation and commercialisation of technological innovations in support of the MSME sector.
xiii. Leverage citizen economic empowerment funds and technical programmes to accelerate the development of rural value chains and rural industrialisation.
xiv. Invest in the expansion of green and energy-saving industries, such as hydroelectricity, solar water heating, concentrated solar power, and improvements in energy efficiency.

Action Plan: Trade

The following action plans are needed to

improve the terms of trade and make the Zambian economy to grow:

i. Accelerate investments in transport infrastructure, such as inter-connector roads, railways, and one-stop border clearing mechanisms, to support the expansion of exports and inter-regional trade.
ii. Establish a public-private sector engagement mechanism to identify and support strategic industries for local contents and infant industry protection through anti-dumping and trade safeguards. This is of particular benefit to the clothing and textile sector that is plagued by cheap imports as well as second-hand clothing.
iii. Mainstream trade into agriculture and industrial policies to expand trade-related capacity building in tertiary training institutions.
iv. Ensure effective implementation of the National Quality Policy and upgrade the metrology and product standards infrastructure to ensure quality conformity and compliance to international markets.

Conclusion

This report has presented a detailed examination of the history of industrial development that has contributed to the current social and economic outcomes in Zambia. A clear theme developed throughout the report is that while Zambia's economic growth rates have been among the highest in the developing world and in Africa, its reliance on copper is unlikely to be sustainable given the volatility of the external price of the metal – and its implicitly low employment-generation trajectory. Thus, the domestic labour market remains largely removed from this resource enclave, as economically active individuals most often find employment in informal and semi-productive rural farming activities. The latter, as an employment and growth trajectory, are very unlikely to support long-run human development progress within the Zambian economy.

As a large segment of the nation's workforce remains poor and without access to markets for both services and better employment opportunities, human development is stunted. Therefore, to support both economic growth and human development, Zambia's industrial trajectory should focus on value-added sectors, particularly in the rural areas where potential opportunities are significant. However, industrialising in this manner requires, among other factors, investment in infrastructure, logistical networks, capital investment in technology for production, a reliable electrical supply, an improved regulatory environment, access to health and education, and institutions that support financing of MSMEs. The constraints on each of these factors have been noted in the report, and, therefore, the setup costs for Zambia to diversify its economy are high.

However, the costs of not diversifying production and more productively engaging the fast-growing underemployed workers are arguably higher in terms of the foregone levels of higher human development outcomes. Specifically, a large part of the working population will remain in poverty, which is correlated with poor health, low levels of education and malnutrition. Absorbing this population into more productive, sustainable, and higher value-added forms of wage employment remains critical to the pursuit of a long-run, more inclusive economic growth path for Zambia.

Future industrial policy should, therefore, focus on accelerated investments in R&D and human capital accumulation, with a particular emphasis on science and technology skills. In this manner, labour can contribute to the development of Zambia's value-added sectors, as well as providing the basis for exploring profitable opportunities in new markets. Finally, the expansion of secondary industry in Zambia requires strong, transparent, and efficient institutions within a supportive regulatory environment.

Ultimately, though, at the core of this economic development strategy in Zambia should be a set of interlinked and integrated policies, ranging from human and educational development, through to microeconomic and infrastructural support; all designed to steadily grow the economy's industrial base and in turn to reduce its dependence on copper production and revenue. Failure to do so will confine the Zambian economy to a long-run path of slow progress in the pursuit of human development.

Notes

Chapter 1

1 See, for example, the World Development Report 2014: Risk and Opportunity—Managing Risk for Development, Washington, DC.
2 *The Economist* coined this term in 1977 to describe the decline of the manufacturing sector in the Netherlands after the discovery of the giant Groningen natural gas field in 1959.

Chapter 2

1 Tariffs varied between 0percentfor intermediate goods and 150per cent for final goods (Mudenda, 2010).
2 The size of entrepreneurs were limited, however, as the government sought to prevent the creation of monopolistic companies in the socialist state by controlling business licencing and reserving geographical and business areas to Zambians only (Mudenda, 2010).
3 The EPZ policy was abandoned in 2002 due to fiscal deficits that jeopardised practical implementation of the policy.
4 Zambia National Broadcasting Corporation "*ZESCO installs MFEZ power*" Source: http//www.znbc.co.zm/?p=22880 Last accessed: 20 October 2015
5 This report re-based the Nominal Metals and Minerals Price Index from the World Bank Commodity Markets Pink Sheet from 2010 to 2005 prices, and then deflated Nominal World Copper Prices by this re-based index to calculate Real World Copper Prices (2005 US$).
6 These companies are Mopani Copper Mines (US$ 1.18 billion); Konkola Copper Mines (US$ 2.9 billion), First Quantum Minerals (US$ 2.23 billion); Lumwana Mines (US$ 2.0 billion); and Kansanshi Mines (US$ 2.54 billion).
7 See Oxford Policy Management (2014), "The ICCM Report on Enhancing the Mining Sector's Contribution to the Zambian Economy and Society", Lusaka: OPM.

Chapter 4

1 ACET (2014), Africa Transformation Report: Growth With Depth. Ghana.
2 Estimations were based on UNIDO and CSO 2010 Economic Census Datasets; provincial MVA per capita was divided by national MVA per capita to calculate the percentages in the text.
3 For this figure, each country's respective indicator rank included in the World Bank's Doing Business Survey were used to create cumulative distributions that were organised into decile – the lower the decile a country is placed, the greater the ease of the respective business indicator.
4 CSO (2013). The Monthly, Volume 127: November 2013. Lusaka.
5 The Cotton Act (No. 21 of 2005). Zambian Legal Information Institute. Available online at http://www.zambialii.org/files/zm/legislation/act/2005/21/ca2005102.pdf (Accessed: 6 August 2015)
6 Leather processing represents value of approximately 320 per cent. The wood and wood products sub-sector has revealed that transforming one cubic metre of sawn timber into furniture generates 80 per cent additional value for soft wood, and 230 per cent for hard wood. In rice milling, value added on unpolished to polished rice is estimated at 180 per cent. In cashew nut production, value added is estimated at 350 per cent and cotton yarn at 290 per cent.

Chapter 5

1 The purpose and objectives of each trading community are different. Thus, even though countries may have dual membership within these trading communities, the demarcation of trade between countries within the region are divided into COMESA, SADC, EAC, etcThe purpose and objectives of each trading community are different. Thus, even though countries may have dual membership within these trading communities, the demarcation of trade between countries within the region are divided into COMESA, SADC, EAC, etc
2 UNCTAD (2011)
3 Seasonality may alter figures, but not substantially. Seasonality may alterfigures, but not substantially.
4 The Product Complexity Index is a number unique to each product that captures how much productive knowledge the product requires.
5 Stephen N. Karingi (2010). "Preliminary Results on the Implications of the Tripartite FTA", Addis Ababa: UNECA.
6 OECD (2012). Regional Integration and Employment Effects in SADC.
7 UNECA (2013), *Making the Most of Africa's Commodities: Industrialising for Growth, Jobs and Economic Transformation,* Addis Ababa: UNECA.
8 2013 Strategy paper on Industrialisation and Job Creation.
9 CSO (2014), The Monthly, vol. 139, Nov. 2014.
10 ZDA (2014). Manufacturing Sector Profile 2014. Lusaka: ZDA.
11 CCAA (2007), Zambia Competitiveness Report, Lusaka: CCAA.

Chapter 6

1 This is suggested to be 14 per cent per annum between 2000 and 2011 (WDI, 2013).
2 This table does not differentiate formal and informal employment but rather has presented overall employment.
3 The underemployment rate refers to the number of employed persons who work for less than 40 hours per week, and were willing to work more hours, expressed as a percentage of total employment.
4 Structural transformation, as defined by Hausmann, Hidalgo, et al. (2011), is the shift from 'poor country goods' (i.e., agricultural products) to 'rich country goods' (i.e., technology-intensive manufactured products).

Chapter 7

1 World Bank (2011), Zambia's infrastructure: A Continental Perspective.
2 GRZ (2013).
3 GRZ (2013).
4 *Zambia Daily Mail* "Lusaka Road Projects Successful Despite Challenges". Available at: https://www.daily-mail.co.zm/?p=46633(Last accessed: 20 October 2015).
5 *Zambia Daily Mail* "K4.9bn spent on roads"Source: https//www.daily-mail.co.zm/?p30711. Accessed on 14 August 2015.
6 *Business Daily* Live "Chinese firm awarded contract to build roads in Zambia's copper belt"Available at: http://www.bdlive.co.za/africa/africanbusiness/2015/09/21/chinese-firm-awarded-contract-to-build-roads-in-zambias-copper-belt. Accessed on 20 September 2015.
7 World Bank (2011), Zambia's infrastructure: A Continental Perspective.
8 *Mail* and *Guardian* (11 October 2015). "Eager new national African airlines plot challenge to the big boys—it could be a masterstroke, or end in tears". Available at: http://mgafrica.com/article/2015-10-09-the-next-generation-eager-new-national-african-airlinesplot-challenge-to-the-big-boys. (Accessed on 20 October 2015).
9 Department of Communications, 2012a, *ICT Colloquium – ICT Investments.*
10 The policy has 13 focus areas, namely, human resources; education, content/access and culture; e-governance; e-commerce; health; agriculture; the legal and regulatory framework; and security.
11 Estimation based on GRZ (2010) Economic Census datasets.
12 WEF (2012). Global Competitiveness Report.
13 Source: http://www.sarua.org/files/publications/ST_country_Zambia.pdf. Accessed on 20 October 2015.
14 Hydropower currently accounts for approximately 95 per cent of Zambia's electricity supply.
15 KPMG (2013), Zambia Country Mining Guide.
16 World Bank (2011). Zambia's Infrastructure: a Continental Perspective.
17 KPMG (2013) Zambia Country Mining Guide

Chapter 8

1 2013 Strategy paper on industrialisation and job creation.
2 See UNDP, 1996, *Human Development Report*, New York: UNDP.
3 Frances Stuart et al, 1997, cited in UNDP *Human Development Report* 1997
4 See UNDP, 1995, *Human Development Report*, New York: UNDP.
5 See UNDP, 1996, *Human Development Report*, New York: UNDP.
6 See Frances Stewart et al., 1997, *Economic Growth and Human Development*: Background Paper, New York: UNDP.
7 UNDP, 2013, *Human Development Report*, New York: UNDP
8 UNDP, 1996, *Human Development Report*, New York: UNDP.
9 Mwale, H., 2009, *Human Resources for Health Innovations in Zambia: A Case Study of the Zambia Health Workers Retention Scheme*, Geneva, Switzerland: World Health Organization.
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Balance Sheet of Human Development

Progress	Challenges
Overall human development	
Zambia's HDI increased by 40.2% between 1980 and 2014. At 0.586, Zambia is ranked as a medium development nation on the Human Development Index (HDI) for 2014.	Human development levels vary across the different provinces.
Income and poverty	
Annual average growth rates of 7.5% over the last 10 years are much higher than the sub-Saharan average of 5%. Projections indicate continued high growth into 2017.	Zambia's growth continues to be dominated by excessive dependence on resource revenues. In 2013, 74.3% of the Zambian population live on or below US$1.25 a day. Poverty incidence in rural Zambia stands at around 78%, compared with 27.5% in urban areas.
Education	
Expected years of schooling have increased substantially by 80% from 7.50 years in 2000 to 13.50 years in 2014. Primary school net enrolment in 2014 stood at 94.3%, with more females (95.4%) than males (93.1%) being registered .	Research activities are mainly sponsored by external or donor funding. For Zambia, it is estimated that for every 100 primary school children, only 6.2 enrol at a tertiary institution. Although substantial efforts have been made to deliver the required inputs for a well-functioning school system, interventions have been insufficient to enable the quality of services to keep up with the growth in enrolment
Gender inequality	
Compared to other sub-Saharan African countries, Zambia has a narrower gender gap	Only 25.8% of adult women have achieved some level of secondary schooling – compared with 44% of their male counterparts. Female participation in the labour market is also lower when compared to men: 73.1% versus 85.6%.
Child mortality	
Under-five mortality declined from 191 deaths per 1000 live births in 1992 to 75 deaths per 1000 live births in 2013/14 Maternal mortality Maternal mortality declined from 649 deaths per 100,000 live births in 1996 to 398 in 2013.	Inequalities in health coverage and socio-economic conditions across geographic areas have led to varying mortality levels. Limited access to family planning, skilled attendance at birth and basicand comprehensive emergency obstetric care, especially in rural areas. Maternal mortality is rooted in gender inequality, which manifests itself as poor education for girls, early marriages, adolescent pregnancies and lack of access to sexual and reproductive health information and services.
HIV and AIDS, malaria and other diseases	
The percentage of people on anti-retroviral treatment (ART) increased from 23.5% in 2005 to 65% in 2013/14.	5% of GDP is spent on healthcare, with 60% of that allocation earmarked for the public sector.

The prevalence of HIV declined from 14.3% in 2007 to 12.6% in 2013/14.	Difficulties in addressing the drivers of new infections: concurrent and multiple sexual partners; low and inconsistent use of condoms; low rates of male circumcision; poor coverage of vulnerable and marginalised groups (sex workers, prisoners and migrants).
The tuberculosis notification rate declined from 334 individuals per 100,000 in 2010 to 280 individuals per 100,000 in 2013/14.	Reduction in the number of active Cooperating Partners providing financial and technical support towards HIV & AIDS, TB and malaria programmes, following Zambia's classification as a middle-income country.
Water and sanitation	
About 65% of the population had access to improved water sources in 2013/14.	Rural areas had lower access to safe drinking water and basic sanitation compared to urban areas. In 2013/14, only 47% of the population in rural areas had access to improved water sources. Nationally, only 27% of the population had access to basic sanitation in 2013/14. In the rural areas, the corresponding figure was 20%.
Equity	
The government paid greater attention to providing social safety nets to the poor.	Growth focused on capital-intensive sectors that had limited linkages with other sectors and MSMEs. Agricultural and manufacturing sectors have yet to be fully developed. This inhibits productivity growth and opportunities for value addition.
Employment and sustainable livelihoods	
Zambia's labour force participation rate for females was 73.1% and 85.6% for males, which were above the average for sub-Saharan Africa at 65.4% and 76.6%, respectively.	Zambia's low levels of innovation and learning in the manufacturing sector limit its ability to increase its production and employment levels. Lack of reliable access to electricity and other energy sources continues to limit overall growth.
Environmental sustainability Equity	
The adoption of the National Policy on Environment is good for addressing environmental issues. The policy provides a framework for environmental protection and management of natural resources on a sustainable basis. It is based on the fact that a country can grow, create jobs and reduce poverty, without doing undue damage to its environment. Controls have been placed on harvesting and trading of the Mukula tree to protect this endangered tree species.	Land covered by forests has been reducing mainly due to over-exploitation and conversion of forests to other uses. Arbitrary tree cuttinggoes on uninhibited in the communities due to non-availability of other affordable energy sources Limited involvement of the private sector and communities in the management of natural resources, Zambia remains very vulnerable to climate change due to its low capacity to respond and adapt. The lack of a reliable database makes it difficult to predict climate variability and provide early warning of related disasters such as flooding, droughts and diseases.
Politics, governance and human rights	
Zambia's ranking on the Mo Ibrahim good governance Index has continued to improve – in 2014, Zambia ranked 13th out of 52 nations and 12th out of 54 in 2015.	Women constitute only 12.7% of total parliamentarians

Statistical Annex

Explanatory Notes

The Human Development Index (HDI), the Inequality adjusted Human Development Index (IHDI), the Gender Inequality Index (GII), the Gender Development Index (GDI) and the Multidimensional Poverty Index (MPI) have been tabulated for the 2016 Zambia Human Development Report. This note explains each of these indices and their data sources.

Goalposts

Minimum and maximum values (goalposts) are set in order to transform the indicators expressed in different units into indices between 0 and 1. These goalposts act as the "natural zeroes" and "aspirational goals", respectively, from which component indicators are standardised. They are set at values shown in Table 1.

All the goalposts used are the same as for the global HDR, except for income: for standard of living, the GNI per capita is set at US$35 instead of the global threshold of US$100. This is because at sub-national level, the income values are lower than this global threshold – values higher than this will produce indices that do not range between 0 and 1, especially for the HDI for 2006. Therefore, to ensure consistency in the trend analysis of the years 2006, 2008, 2010, 2012 and 2014, the minimum value of US$35 is used.

Indicators and sources of information

Human Development Index

The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. The HDI is the geometric mean of normalised indices for each of the three dimensions.

A long and healthy life is measured by life expectancy at birth. The source for this indicator is the 2010 Census of Population and Housing, 2000-2025 Population Projections Report and the 2011-2035 Population Projections Report. The 2000-2025 projections report was used for the 2006 and 2008 data series, while the 2011-2035 projections report was used for the 2012 and 2014 projections. Finally, the 2010 Census Report was used for the 2010 estimates of life expectancy at birth. The Central Statistical Office produced all the three reports.

Access to knowledge is measured by: (i) Mean years of adult education, which is the average number of years of education received in a lifetime by people aged 25 years and above[2]; and (ii) Expected years of schooling for children of school-entrance age, which is the total number of years of schooling a child of school age can expect to receive if prevailing patterns of age-specific enrolment rates stay the same throughout the child's life.

To measure the mean years of schooling, the UNESCO Institute for Statistics (UIS) methodology is used. However, unlike the UIS methodology where one-half of the official duration of primary education is assigned to the proportion with incomplete years of schooling, the incomplete years of schooling is measured directly in this report.

Standard of living is measured by Gross National

TABLE 1

Goalposts for the Human Development Index in this report

Dimension	Indicator	Minimum value	Maximum
Health	Life expectancy (years)	20	85
Education	Expected years of schooling	-	18
	Mean years of schooling	-	15
Standard of living	Gross national income per capita (PPP 2011$)	35	75,000
	Life expectancy at birth		
	Female	22.5	87.5
	Male	17.5	82.5

Income (GNI) per capita in PPP US$, instead of Gross Domestic Product (GDP) per capita in PPP US$. While GDP is a measure of economic output, it does not reflect a country's disposable income – some profits may be repatriated abroad just as some residents receive remittances from abroad; in some cases, inbound aid flows may be sizeable. GNI adjusts the GDP for these factors and is, therefore, a better measure of a country's level of income. The 2014 income values were derived by applying GDP growth rates from the national accounts to the World Bank's 2011 International Comparison Programme for calculating Purchasing Power Parities, which provides the most recent GNI per capita in PPP US$. Owing to the recent rebasing of the GDP in Zambia, an adjustment factor was applied on the ICP income per capita in PPP US$. For example, while the global HDR reported A GNI per capita of US$2, 898 in PPP terms for 2013, the adjusted GNI for 2013, based on the rebased national accounts, is US$3, 287.

A combination of data sources were used for these indicators: the 2012 Labour Force Survey, the 2010 Census of Population and Housing, the 2008 Labour Force Survey, the 2006 Living Conditions Monitoring Survey, and the 2005 Labour Force Survey. All these surveys are consistent as the sampling frames are derived from the Census. Other sources included the World Bank's 2005 and 2011 International Comparison Programme (ICP).

Inequality-adjusted Human Development Index

The HDI is an average measure of basic human development achievements in a country. Like all averages, the HDI masks inequality in the distribution of human development across the population at the country level. The Inequality-adjusted HDI, or IHDI, takes into account inequality in all three dimensions of the HDI by "discounting" each dimension's average value according to its level of inequality. The IHDI is thus a measure of the average level of human development that a country has achieved in the three HDI dimensions, given the existing inequality in the distribution of achievements and the level of aversion to inequality. When there is no inequality in the HDI dimensions or no aversion to inequality, the average level of human development is reflected in the HDI. In this sense, the HDI can be viewed as an index of "potential" human development and the IHDI as an index of actual human development. The "loss" in potential human development due to inequality is given by the difference between the HDI and the IHDI, and can be expressed as a percentage.

Data sources include the 2000 and 2010 abridged life tables, the 2010 Census of Population and Housing, and the 2005, 2008 and 2012 Labour Force Surveys.

Gender Inequality Index

The GII measures gender inequalities in three important aspects of human development – reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status expressed as labour market participation and measured by labour force participation rate of female and male populations aged 15 years and older.

The GII is built on the same framework as the HDI and the IHDI – to better expose the differences in the distribution of achievements between women and men. It measures the human development costs of gender inequality, thus, the higher the GII value, the more disparities exist between females and males.

Sources of data for this index include the 2010 Census of Population and Housing, the 2005, 2008 and 2012 Labour Force Surveys, the 2007 Zambia Demographic Health Survey and the 2006 Living Conditions Monitoring Survey.

Gender Development Index

The new GDI measures gender gap in human development achievements in three basic dimensions of human development, namely, health, measured by female and male life expectancy at birth; education, measured by female and male expected years of schooling for children, and female and male mean years of schooling for adults aged 25 and above; and command over economic resources, measured by female and male estimated earned income.

The index uses the same methodology as in the HDI. The goalposts are also the same except for life expectancy at birth where the minimum and maximum goalposts are varied (minimum of 22.5 years and a maximum of 87.5 years for females; with the corresponding values for males being 17.5 years and 82.5 years. The rationale is to take into account a biological advantage averaging five years of life that females have over males.

Multi-dimensional Poverty Index

Like development, poverty is multi-dimensional. The

MPI complements monetary measures of poverty by considering overlapping deprivations suffered by people at the same time. The MPI identifies multiple deprivations in the same households in education, employment and standard of living. The education and employment dimensions are based on one indicator each while the standard of living dimension is based on six indicators. All the indicators needed to construct the MPI for a household are taken from the 2010 Census of Population and Housing, while the MPI is based on work done by the Zambia Institute for Policy Analysis and Research (ZIPAR). The indicators are weighted, and the deprivation scores are computed for each household in the census. Households deprived in at least four of the eight indicators are considered multi-dimensionally poor.

Data Limitations

The calculated indices are as good as the data used. As earlier indicated, the data used came from different sources. These sources include the 2006 Living Conditions Monitoring Survey, the 2008 and 2012 Labour Force Surveys as well as the 2010 Census of Population and Housing. Though based on the same survey frame, the results of these surveys are not always internally consistent. Other sources of data used are the World Bank and the Zambia Institute for Policy Analysis and Research (ZIPAR). Consequently, the data varied considerably regarding reference periods, definitions of terms and, for ongoing series, the number and frequency of time periods for which data are available.

Concerning economic activities, the labour force surveys use 15 years as the minimum age threshold for those who are economically active, while the Census uses 12 years. For consistency with the labour force surveys, the Census data had to be re-calculated. Conforming to the trend analysis for the years 2006-2014 required the use of varied data sources, especially for the education sub-indices.

The life expectancy projections for the period 2000-2010 have not been re-calibrated to conform to the new projections for the period after 2010. This, therefore, creates a step problem.

For the health dimension of the MPI, the source data from the Living Conditions Monitoring Surveys does not have data on the body mass index for adults. Therefore, only the nutrition data for children were used.

Statistical Tables

TABLE 1

Zambia's HDI, 2006-2014

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (PPP US$)	HDI value
2006	51.9	9.2	7.2	2,402.0	0.511
2008	51.3	9.3	7.3	2,671.0	0.514
2010	51.3	9.9	7.1	3,022.5	0.524
2012	52.8	11.1	7.3	3,175.1	0.547
2014	53.2	11.1	7.3	3,397.6	0.551

Source: Calculated based on the Population Projections Report 2011-2035; Living Conditions Monitoring Survey 2006-2010; Census of Population and Housing 2010; and the Labour Force Survey Report 2008 & 2012;

TABLE 2

Human Development Index (HDI) and its Components by Province, Zambia, 2014

	Life expectancy at birth (years)	Mean years of school-ing	Expected years of schooling	GNI per capita (PPP US$)	Life expectancy index	Mean years of schooling index	Expected years of schooling index	Educ-ation index	GNI index	Human develop-ment index (HDI) value	Rank
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Zambia	53.2	7.3	11.1	3,397.6	0.510	0.485	0.615	0.550	0.597	0.551	
Central	52.8	7.4	12.0	952.6	0.505	0.492	0.664	0.578	0.431	0.501	5
Copperbelt	51.4	8.5	12.3	8,122.4	0.483	0.564	0.686	0.625	0.710	0.598	3
Eastern	51.3	5.8	9.1	330.5	0.482	0.389	0.507	0.448	0.293	0.398	7
Luapula	48.6	6.5	9.7	843.0	0.440	0.434	0.541	0.488	0.415	0.447	6
Lusaka	53.9	8.7	12.0	6,260.9	0.521	0.580	0.666	0.623	0.676	0.603	1
Muchinga	56.6	6.4	10.2	164.8	0.563	0.424	0.565	0.494	0.202	0.383	8
Northern	56.3	6.0	10.2	114.9	0.558	0.400	0.568	0.484	0.155	0.347	10
North Western	56.6	6.5	12.1	7,085.1	0.563	0.437	0.674	0.555	0.692	0.601	2
Southern	58.5	6.8	11.4	3,617.1	0.592	0.454	0.635	0.545	0.605	0.580	4
Western	49.0	6.5	11.1	148.9	0.446	0.433	0.614	0.524	0.189	0.353	9

Source: Calculated based on the Population Projections Report 2011-2035; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2012;and the World Bank 2011 International Comparison Programme.

TABLE 3

Trends in Human Development Index by Province, 2006-2014

	2006	Rank	2008	Rank	2010	Rank	2012	Rank	2014	Rank
Zambia	0.511		0.514		0.524		0.547		0.551	
Central	0.462	5	0.464	5	0.457	5	0.495	5	0.501	5
Copperbelt	0.600	1	0.601	1	0.565	2	0.590	3	0.598	3
Eastern	0.358	7	0.374	7	0.372	7	0.392	7	0.398	7
Luapula	0.408	6	0.411	6	0.408	6	0.440	6	0.447	6
Lusaka	0.569	2	0.567	2	0.577	1	0.598	1	0.603	1
Muchinga					0.357	8	0.381	8	0.383	8
Northern	0.208	9	0.221	9	0.314	10	0.342	10	0.347	10
North Western	0.550	3	0.546	3	0.557	3	0.598	2	0.601	2
Southern	0.499	4	0.503	4	0.550	4	0.579	4	0.580	4
Western	0.282	8	0.302	8	0.315	9	0.344	9	0.353	9

Source: Calculated based on the Population Projections Report 2011-2035; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2008 & 2012;and the World Bank 2011 International Comparison Programme.

TABLE 4

Inequality-Adjusted Human Development Index by Province, Zambia, 2014

	Human Development Index (HDI) value	Inequality Adjusted HDI	Loss due to inequality (%)	Coefficient of human inequality (%)
Zambia	0.551	0.411	25.4	22.6
Central	0.501	0.497	0.8	24.2
Copperbelt	0.598	0.528	11.8	26.2
Eastern	0.398	0.412	-3.6	24.8
Luapula	0.447	0.432	3.3	20.3
Lusaka	0.603	0.546	9.5	20.9
Muchinga	0.383	0.449	-17.2	21.4
Northern	0.347	0.428	-23.2	22.1
North Western	0.601	0.535	10.9	27.2
Southern	0.580	0.540	7.0	21.4
Western	0.353	0.404	-14.4	22.7

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; and the Labour Force Survey Report 2012.

TABLE 5

Trends in Inequality-Adjusted Human Development Index, Zambia, 2006-2014

Year	Human Development Index (HDI) value	Inequality-Adjusted HDI	Loss due to inequality (%)	Coefficient of human inequality (%)
2006	0.511	0.335	34.4	28.6
2008	0.514	0.301	41.4	31.2
2010	0.524	0.374	28.5	24.6
2012	0.547	0.408	25.4	22.6
2014	0.551	0.411	25.4	22.6

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; and the Labour Force Survey Report 2008 & 2012.

TABLE 6

Trends in Inequality-Adjusted Human Development Index, by Province, 2006-2014

	2006	Rank	2008	Rank	2010	Rank	2012	Rank	2014	Rank
Zambia	0.335		0.301		0.374		0.408		0.411	
Central	0.461	4	0.463	4	0.444	5	0.492	5	0.497	5
Copperbelt	0.545	1	0.547	1	0.493	3	0.521	4	0.528	4
Eastern	0.380	7	0.400	6	0.387	8	0.408	9	0.412	9
Luapula	0.391	6	0.395	7	0.387	9	0.426	8	0.432	7
Lusaka	0.510	2	0.506	2	0.517	1	0.542	1	0.546	1
Muchinga					0.416	6	0.450	6	0.449	6
Northern	0.296	9	0.304	9	0.390	7	0.426	7	0.428	8
North Western	0.491	3	0.487	3	0.489	4	0.535	3	0.535	3
Southern	0.449	5	0.455	5	0.509	2	0.541	2	0.540	2
Western	0.340	8	0.365	8	0.363	10	0.398	10	0.404	10

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; and the Labour Force Survey Report 2008 & 2012

TABLE 7

Gender Inequality Index by Province, Zambia, 2014

	Health		Empowerment				Labour market		Gender inequality index	Rank
	Maternal mortality ratio	Adolescent birth rate	Parliamentary representation		Attainment of secondary or higher education		Labour market participation rate			
	(deaths per 100,000 live births)	(birth per 1,000 women aged 15-19)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)		
Zambia	483	80	86.6	13.4	57.9	42.1	75.5	76.3	0.572	
Central	500	86	92.9	7.1	57.5	38.8	70.4	70.5	0.612	3

	Health		Empowerment				Labour market		Gender inequality index	Rank
	Maternal mortality ratio	Adolescent birth rate	Parliamentary representation		Attainment of secondary or higher education		Labour market participation rate			
	(deaths per 100,000 live births)	(birth per 1,000 women aged 15-19)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)		
Copperbelt	474	53	81.8	18.2	73.9	58.0	73.2	67.4	0.531	9
Eastern	442	106	86.7	13.3	38.9	25.3	78.5	84.0	0.585	5
Luapula	573	82	92.9	7.1	46.2	23.1	78.1	81.8	0.628	1
Lusaka	357	53	75.0	25.0	75.4	60.0	76.5	72.6	0.494	10
Muchinga	330	96	90.0	10.0	46.3	24.6	77.2	83.5	0.585	6
Northern	475	98	92.3	7.7	42.8	26.4	80.0	82.1	0.616	2
North Western	423	94	84.6	15.4	54.1	36.1	70.8	76.0	0.567	8
Southern	343	96	89.5	10.5	48.8	38.2	74.1	78.1	0.569	7
Western	786	96	82.4	17.6	42.6	29.9	77.0	83.6	0.595	4

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2012;and the 2013/14 Zambia Demographic Health Survey.

TABLE 8

National Trends of Loss in Human Development Due to Gender Inequality, Zambia, 2006-2014

	Health		Empowerment				Labour market		
	Maternal mortality ratio	Adolescent birthrate	Parliamentary representation		Attainment of secondary or higher education		Labour market participation rate		Gender inequality index
	(deaths per 100,000 live births)	(birth per 1, 000 women aged 15-19)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	
2006	591	146	84.7	15.3	55.0	37.8	86.0	74.0	0.621
2008	591	146	84.7	15.3	57.3	40.5	78.8	70.3	0.618
2010	483	80	84.7	15.3	60.0	42.5	77.2	73.3	0.569
2012	483	80	88.7	11.3	57.9	42.1	75.5	76.3	0.580
2014	483	80	86.6	13.4	57.9	42.1	75.5	76.3	0.572

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2008 & 2012;and the 2013/14 Zambia Demographic Health Survey.

TABLE 9

Provincial trends of Loss in Human Development Due to Gender Inequality, Zambia, 2006-2014

	2006	Rank	2008	Rank	2010	Rank	2012	Rank	2014	Rank
Zambia	0.621		0.618		0.569		0.580		0.572	
Central	0.645	5	0.637	5	0.580	7	0.786	1	0.612	3
Copperbelt	0.555	8	0.556	8	0.539	9	0.531	9	0.531	9
Eastern	0.626	7	0.617	7	0.575	8	0.591	6	0.585	5
Luapula	0.678	2	0.674	2	0.623	1	0.628	2	0.628	1
Lusaka	0.512	9	0.503	9	0.472	10	0.516	10	0.494	10
Muchinga	–	–	–	–	0.584	6	0.585	7	0.585	6
Northern	0.645	4	0.646	4	0.590	5	0.616	3	0.616	2
North Western	0.664	3	0.664	3	0.602	3	0.598	4	0.567	8
Southern	0.683	1	0.687	1	0.610	2	0.569	8	0.569	7
Western	0.637	6	0.636	6	0.598	4	0.595	5	0.595	4

Source: Calculated based on the 2010 Census of Population and Housing; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2008 & 2012;and the 2013/14 Zambia Demographic Health Survey.

TABLE 10

Provincial Trends in Gender Development Index, Zambia, 2006 -2014

	2006	Rank	2008	Rank	2010	Rank	2012	Rank	2014	Rank
Zambia	0.839		0.854		0.886		0.929		0.927	
Central	0.868	2	0.885	3	0.849	6	0.884	8	0.885	8
Copperbelt	0.829	6	0.846	5	0.869	4	0.889	7	0.891	7
Eastern	0.844	3	0.896	1	0.859	5	0.899	6	0.899	6
Luapula	0.807	7	0.845	6	0.830	7	0.943	3	0.941	3
Lusaka	0.832	5	0.842	7	0.928	2	0.950	2	0.948	2
Muchinga					0.807	8	0.863	10	0.863	10
Northern	0.331	9	0.515	9	0.793	9	0.866	9	0.868	9
North Western	0.873	1	0.890	2	0.893	3	0.927	4	0.928	4
Southern	0.839	4	0.856	4	0.945	1	0.959	1	0.952	1
Western	0.694	8	0.718	8	0.771	10	0.902	5	0.904	5

Source: Calculated based on the Population Projections Report 2011 -2035; Living Conditions Monitoring Survey 2006-2010; Labour Force Survey Report 2008 &2012;and the World Bank 2011 International ComparisonProgramme.

TABLE 11

Dimensions, Indicators, Weights and Deprivation Cut Offs for the MPI, Zambia, 2010

Dimension (weight)	Indicator	Deprivation Cut-offs	Weight
Education	1. School attainment	No household member has completed at least six years of schooling.	1/8

	2.	School attendance	A school-age child (up to grade 8) is not attending school (specifically ages 7-14 were used)	1/8
Health	3.	Nutrition	A household member (for whom there is nutrition information) is malnourished, as measured by the height-for-age *z score* for children under age 5.	1/8
	4.	Child mortality	A child (aged less than 5) has died in the household within the five years prior to the survey.	1/8
Economic status (1/3)	5.	Employment status	An economically active household member aged 18 and above who is unemployed or an unpaid family worker	1/4
Living conditions (1/3)	6.	Flooring	Mud/wood (not wooden tiles), other	1/24
	7.	Electricity	Wood, cow dung, charcoal, none	1/24
	8.	Transport assets	No motor vehicle; motor cycle; bicycle; scotch cart, motor boat	1/24
	9.	Communication assets	No communication (radio; TV; mobile phone; landline telephone)	1/24
	10.	Access to clean sources of water	If sources are unprotected boreholes; unprotected wells; rivers; dams; lakes; other	1/24
	11.	Access to sanitation	If bucket, no toilet and shared toilet facilities	1/24

Source: Central Statistical Office, Living Conditions Monitoring Survey 2006-2010

TABLE 12

Multi-Dimensional Poverty Index, Zambia, 2010

2010		Incidence of poverty (Headcount)		Average Intensity across the poor		Multi-dimensional Poverty Index MPI	
			Rank		Rank		Rank
Province	Central	0.597	7	0.334	5	0.199	7
	Copperbelt	0.552	8	0.268	8	0.148	8
	Eastern	0.759	3	0.416	1	0.315	2
	Luapula	0.815	1	0.393	2	0.320	1
	Lusaka	0.509	9	0.240	9	0.122	9
	Northern	0.763	2	0.373	3	0.284	3
	North Western	0.631	6	0.321	7	0.202	6
	Southern	0.648	5	0.350	4	0.227	4
	Western	0.664	4	0.328	6	0.218	5
	Total	*0.651*		*0.332*		*0.222*	

Source: Central Statistical Office, Living Conditions Monitoring Survey 2006 -2010

TABLE 13

Comparative Analysis of Multi-Dimensional Poverty, Zambia, 2006 and 2010

		Headcount		Intensity		MPI	
		2006	2010	2006	2010	2006	2010
Province	Central	0.585	0.597	0.327	0.334	0.191	0.199
	Copperbelt	0.385	0.552	0.331	0.268	0.128	0.148
	Eastern	0.623	0.759	0.327	0.416	0.204	0.315
	Luapula	0.822	0.815	0.328	0.393	0.270	0.320
	Lusaka	0.270	0.509	0.330	0.240	0.089	0.122
	Northern	0.748	0.763	0.324	0.373	0.242	0.284
	NorthWestern	0.749	0.631	0.316	0.321	0.237	0.202
	Sothern	0.480	0.648	0.309	0.350	0.148	0.227
	Western	0.803	0.664	0.338	0.328	0.272	0.218
	Total	*0.575*	*0.651*	*0.325*	*0.332*	*0.187*	*0.222*

Source: Central Statistical Office, Living Conditions Monitoring Survey 2006-2010

TABLE 14

Structure of Real GDP by Sectoral Contribution, 2000 and 2014

	2000 (%)	2014 (%)
Agriculture, Forestry and Fishing	24	9
Mining and Quarrying	4	10
Manufacturing	10	8
Electricity, Gas and Water	3	2
Construction	8	13
Wholesale and Retail Trade	19	18
Restaurants, Bars and Hotels	2	2
Transport, Storage and Communications	3	10
Financial Intermediaries and Insurance	16	12
Community, Social and Personal Services	11	16

Source: African Development Bank Group (2015)

TABLE 15

Trends in Foreign Direct Investment Inflows and Real GDP growth rates, 2000 to 2014

Year	Real GDP Growth (%)	FDI net inflows (US$ M)
2000	3.90	121.7
2001	5.32	145
2002	4.51	298.4
2003	6.94	347
2004	7.03	389
2005	7.24	356.94
2006	7.90	615.8

TABLE 15 CONTINUED

Year	Real GDP Growth (%)	FDI net inflows (US$ M)
2007	8.35	1323.9
2008	7.77	938.62
2009	9.22	694.8
2010	10.30	1729.3
2011	6.34	1108.5
2012	6.73	1731.5
2013	6.71	2099.8
2014	6.00	1507.8

Source: World Bank Development Indicators, 2015

TABLE 16

Zambian GDP and World Copper Prices, 2000-2014

Year	Real GDP (2005 US$)	Real World Copper Prices $/mt (2005 US$)
2000	6.20	3,249.10
2001	6.50	3,145.70
2002	6.80	3,230.70
2003	7.30	3,310.30
2004	7.80	3,985.30
2005	8.30	4,194.60
2006	9.00	5,011.40

TABLE 16 CONTINUED

Year	Real GDP (2005 US$)	Real World Copper Prices $/mt (2005 US$)
2007	9.70	4,511.60
2008	10.50	4,663.20
2009	11.50	5,158.30
2010	12.60	5,163.60
2011	13.40	5,330.80
2012	14.40	5,676.40
2013	15.30	5,533.30
2014	16.20	5,547.30

Source: World Bank Development Indicators, 2015 & World Bank Commodity Markets Pink Sheet, 2015

TABLE 17

Real GDP and GDP Growth, 1990 -2012

Year	Zambia Real GDP Growth (%)	Zambia Real GDP (2005 US$)	SAA Real GDP Growth (%) (until 2011)
1990	-0.50	5.20	1.2
1991	0.00	5.20	0.8
1992	-1.70	5.10	-0.9
1993	6.80	5.50	1.0
1994	-8.60	5.00	1.8
1995	2.90	5.20	3.6
1996	6.20	5.50	4.7
1997	3.80	5.70	3.4
1998	4.00	5.70	2.3
1999	4.70	5.90	2.4
2000	3.90	6.20	3.5
2001	5.32	6.50	3.4
2002	4.51	6.80	3.1
2003	6.94	7.30	3.9
2004	7.03	7.80	5.6
2005	7.24	8.30	5.2
2006	7.90	9.00	5.7
2007	8.35	9.70	5.8
2008	7.77	10.50	4.6
2009	9.22	11.50	2.1
2010	10.30	12.60	4.9
2011	6.34	13.40	4.5

2012	6.73	14.40
2013	6.71	15.30
2014	6.00	16.20

Source: World Bank Development Indicators, 2015

TABLE 18

Inflation in Zambia (% annual average), 1986-2015

Year	Inflation
1986	55.9
1987	47.24
1988	51.08
1989	119.13
1990	113.18
1991	99.34
1992	162.25
1993	185.89
1994	61.93
1995	34.81
1996	43.49
1997	24.79
1998	24.37
1999	26.96
2000	25.93
2001	21.67
2002	22.16
2003	21.53
2004	17.97
2005	18.34
2006	9.06
2007	10.66
2008	12.45
2009	13.4
2010	8.19
2011	6.43
2012	6.58
2013	6.98
2014	7.81
2015	9.45

Source: Central Statistical Office, *The Monthly*, December 2015.

TABLE 19

Percentage Changes in Zambia's Trade with Africa and Other Regions, 1996–2011

Region	1996/2000	2007/2011
Africa	59.2	63.5
Developed Europe	19.2	10.7
Developed America	41.0	23.0
Developing Asian	13.6	21.1

Source: UNCTAD (2011)

TABLE 20

Zambia's Top Ten Non-Traditional Exports (NTE), 2014

	September	October
Sulphuric Acid	16.3	12
Tobacco	5.9	8
Wire of Refined Copper	4.4	4
Cane Molasses	4.6	4
Semi-manufactured Gold	3.8	4
Dumper for off-highway	3.7	3
Self-propelled bulldozers	3.6	3
Maize seed	3.6	3
Raw cane sugar specified	3.1	3
Other cane sugar	2.7	2

Source: CSO (2014) *The Monthly*, Vol. 139, November 2014

TABLE 21

Trends in Net Export, Imports and Copper Prices, 2000-2013

	Exports	Imports	Copper prices
2000	23.9	36.5	2000
2001	25.1	39.6	2100
2002	27.1	37.8	2100
2003	25.7	36.6	2200
2004	33.5	37.3	2900
2005	30.6	31.6	4900
2006	32.6	25.3	5500
2007	33.6	32.2	6500
2008	28.9	30.5	6300
2009	29.3	26.9	5000
2010	37	30.9	5500
2011	38.1	31.8	6900
2012	39.4	36.8	7000
2013	41.9	39.7	

Notes: Copper prices are US$/metric tonnes, constant 2005 US$ prices.
Source: WDI (2014), and ICMM (2014)