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Institutions and Economic Growth: The Case of Zambia



By Jack Jones Zulu

Thesis Presented for the Degree of

DOCTOR OF PHILOSOPHY

In the Faculty of Law, Commerce and Management

UNIVERSITY OF WITWATERSRAND

JUNE 2016

Supervisor: Professor Johannes W. Fedderke

DEDICATION

I dedicate this thesis to my wife Rhoda Zulu and children Michael Jesse, Rabeccah, Joseph Jones Jr. and Blessings.

DECLARATION

I declare that:

INSTITUTIONS AND ECONOMIC GROWTH: THE CASE OF ZAMBIA

Is my own unaided work, and that all the sources used have been appropriately and properly acknowledged by means of full references. It is submitted in fulfillment of the requirements of the Degree of Doctor of Philosophy of the University of the Witwatersrand, Johannesburg, South Africa. It has not been previously submitted by me for examination for any degree at another university.

Jack Jones Zulu

Professor Johannes W. Fedderke

ACKNOWLEDGEMENTS

I could not have achieved this momentous task without the encouragement and direct support of many great minds, friends and academic mentors! In particular, I would like to pay special tribute and thanks to my supervisor Professor Johannes W. Fedderke for his invaluable advice, guidance and timely feedback throughout the drafting stages of the thesis.

Other special thanks go to the following people for their useful suggestions:

- Dr. Chrispin Mphuka (Head of the Economics Department, University of Zambia)
- Professor Venkataraman Seshamani (Senior Lecturer, Department of Economics, University of Zambia)
- Professor Mohamed Salih (Senior Lecturer, Politics of Development, Institute of Social Studies, The Hague, Netherlands)
- Dr. Jean Luc Mastaki Namegabe (Economic Affairs Officer, Economic Commission for Africa)
- Dr. Benjamin Mattondo Banda (Economic Affairs Officer, Economic Commission for Africa)
- Dr. Alfred Latigo (former Senior Economic Affairs Officer, Economic Commission for Africa)

My wife Rhoda and children (Michael Jesse, Rabeccah, Joseph Jones Jr. and Blessings) deserve a special and big “thank you” for their patience and unwavering support during the entire duration of the programme. Finally, I want to thank my God for His unmerited favour and grace upon me throughout my studies. Other special thanks go to Pastor Ronnie Kapisha and the Brethren at Hebron Tabernacle in Lusaka, Zambia for their spiritual encouragement and prayers.

ABSTRACT

Zambia has had impressive economic performance in the last decade and half, however its growth remains unsustainable due to a number of factors that range from poor terms of trade to challenges in macroeconomic management. In addition, the country's weak economic and political institutional framework characterised by insecure property rights and uncertainty in the policy environment pose further challenges to economic growth. Although the country has undertaken a number of economic reforms in recent years to spur growth, their impact has been modest because of weak institutional setups and capacity constraints. Notably, certain key policy reforms and programmes that are critical for enhancing economic performance in Zambia have not been implemented because of institutional and administrative weaknesses underpinned by policy inconsistencies and policy reversals.

Against this background, the main purpose of this study is to investigate the impacts of formal institutions particularly property rights and political instability on economic growth in Zambia. It achieves this by extending Fedderke et al. (2011)'s time series on property rights and political instability measures on Zambia by constructing comparable indices that are later merged with the initial series. The merged series are then used to capture the institutional dimensions on economic output in Zambia from 1965 to 2010. The study uses in its methodology a PSS-F test to determine causality among variables of interest and later applies the VECM estimation procedure to determine cointegration and long-run relationships among the regressors.

Despite the increasing role and influence of formal institutions in economic development, there have been relatively few empirical studies that have specifically examined their impacts at country level. This study is therefore an attempt to partially fill the void by throwing light on the impact of property rights and political instability on Zambia's economic growth over the study period.

The study findings have confirmed the hypothesis that there is a strong and positive relationship between property rights and the level of economic growth. The results have been validated using Zambia as a case study and hence the findings are consistent with empirical evidence and economic theory in new institutional economics (NIE).

Noteworthy is the strong and positive effect of property rights on real GDP—clearly suggesting that potential investors will always take into account a country's institutional environment before investing their resources. This means that a good performance in the rating of the property rights index on the scale between 0 and 100 leads to a corresponding strong economic performance in Zambia.

By implication, a higher rating of the property rights index suggests a well secured regime of property rights. Conversely, a lower rating of the property rights index implies deterioration in the quality and enforcement of property rights in the country and hence adverse to economic growth. Thus, the findings are in line with several similar empirical works that conclude that formal economic institutions (property rights) are the fundamental cause of income differences and long-run growth between and among countries.

As expected, our study also found a strong but negative relationship between political instability and economic performance. This means that perverse political institutions such as violent civil protests, political violence, attempted military coups, labour and/or industrial unrest in Zambia are a disincentive to economic growth as they discourage long-term investments. Investors are generally driven by perceptions, that is, the more politically stable an economy is assumed to be, the higher the chances of attracting foreign direct investments.

Conversely, the stronger the negative perceptions about an economy the less likely will investors bring in their resources—hence the need for political stability. The findings are consistent and

comparable to many other studies that found that political instability was significantly related to economic growth and that an increase in instability, other things being equal, always tends to lower real growth rate over time.

The study also examined the impacts of selected macroeconomic policy variables namely foreign direct investments (FDI), credit to the private sector (CRDTP), trade openness (TROP), capital formation (CALARAT) and human capital (ENROLL) on Zambia's real GDP and found that they had a strong feedback effect on growth performance.

In terms of policy implications, the study recommends that authorities should invest in efforts that strengthen the regime of property rights and the rule of law for strong economic performance in Zambia. More specifically, the authorities should respect and enforce private property rights through impartial courts of law to instil confidence in the investor community. In addition, the government should promote social dialogue and foster an environment of industrial harmony to avoid labour-related unrest and political conflicts (political instability) that have a potential to hurt the business environment by scaring off would-be investors.

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List of Acronyms

ACHPR	African Charter on Human and People's Rights
ADF	Augmented Dickey-Fuller
AfDB	African Development Bank
AIC	Akaike Information Criteria
ARDL	Auto regressive distributed lag model
AU	African Union
BDP	Botswana Democratic Party
BIC	Bayesian Information Criteria
BSAC	British South African Company
BRICs	Brazil, Russia, India and China
CCPC	Competition and Consumer Protection Commission
CEO	Chief Executive Officer
CPI	Corruption Perception Index
CPIA	Country Policy and Institutional Assessment
CSOs	Civil Society Organisations
DF	Dickey-Fuller
DFID	British Department for International Development
DRC	Democratic Republic of the Congo
ECA	Economic Commission for Africa
ECM	Error Correction Model
ESCO	Engineering Services Corporation
FBOs	Faith-Based Organisations
FDI	Foreign Direct Investment
FNB	First National Bank of South Africa
FNDP	Fifth National Development Plan
FSDP	Financial Sector Development Plan
GDP	Gross Domestic Product
GLS	Generalised Least Squares

GMM	Generalised-method-of-moments
GNI	Gross National Income
GRZ	Government of the Republic of Zambia
HIPC	Highly Indebted Poor Country
ICRG	International Country Risk Guide
IDA	International Development Association
IFIs	International Financial Institutions
IIRA	Indian Industrial Relations Association
ILO	International Labour Organisation
IMF	International Monetary Fund
INDECO	Industrial Development Corporation
IPPG	Institutions for Pro-Poor Growth
JCTR	Jesuit Centre for Theological Reflection
LAZ	Law Association of Zambia
LICs	Low Income Countries
MCA	Millennium Challenge Account
MENA	Middle East and North Africa
MIGA	Multilateral Investment Guarantee Agency
MMD	Movement for Multi-Party Democracy
MNCs	Multi-national Corporations
MPs	Members of Parliament
NBER	National Bureau of Economic Research
NEPAD	New Economic Partnership for Africa's Development
NGOs	Non-Governmental Organisations
NIE	New Institutional Economics
NRC	Northern Rhodesia Congress
NSAs	Non-State Actors
OECD	Organisation for Economic Corporation and Development
OLS	Ordinary Least Squares
PACRO	Patents and Companies Registration Office
PPP	Public-Private Partnership

PRSP	Poverty Reduction Strategy Paper
PSDP	Private Sector Development Programme
PSDRP	Private Sector Development Reform Programme
PSS F-test	Pesaran, Shin and Smith F-test
SADC	Southern African Development Community
SMEs	Small, Medium Enterprises
SNDP	Sixth National Development Plan
SOAS	School of Oriental African Studies
TCLC	Tripartite Consultative Labour Council
TFP	Total Factor Productivity
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNIP	United National Independence Party
UPND	United Party for National Development
USA	United States of America
VAR	Vector-Auto Regression
VECM	Vector Error Correction Model
WDI	World Development Indicators
WDR	World Development Report
WLLA	Women's Land Link Africa
ZAMBEEF	Zambia Beef Company
ZDA	Zambia Development Agency
ZIC	Zambia Investment Centre
ZICTA	Zambia Information, Communication and Technology Authority
ZPA	Zambia Privatisation Agency

CHAPTER ONE: Introduction to the Study

1.1 Background and Context

A number of scholars and researchers such as Rodrik (2000); Aron (2000); Acemoglu et al. (2001a); Fedderke et al. (1999, 2001); North (2003); Kapur and Kim (2006); Lipsey (2009); Luiz (2009) and Hall et al. (2010) have all brought to the fore the importance of both institutions and policies as major determinants of economic growth and development. This is in direct contrast to the neo-classical growth models such as those of Solow (1956) where technological change and factor accumulation are taken as exogenous and the critical determinants of economic performance.

In the endogenous growth models presented by Romer (1986, 1990), Arrow (1962) and Aghion and Howitt (1992), differences in per capita incomes across nations are explained mostly in terms of their factor endowments, accumulation of knowledge through invention, technological progress and its characteristics. However, a lot of empirical evidence has emerged in the last few decades to render support to the proposition that economic growth and poverty reduction is greatly influenced by the role and functions of formal (*de jure*) and informal institutions (*de facto*).

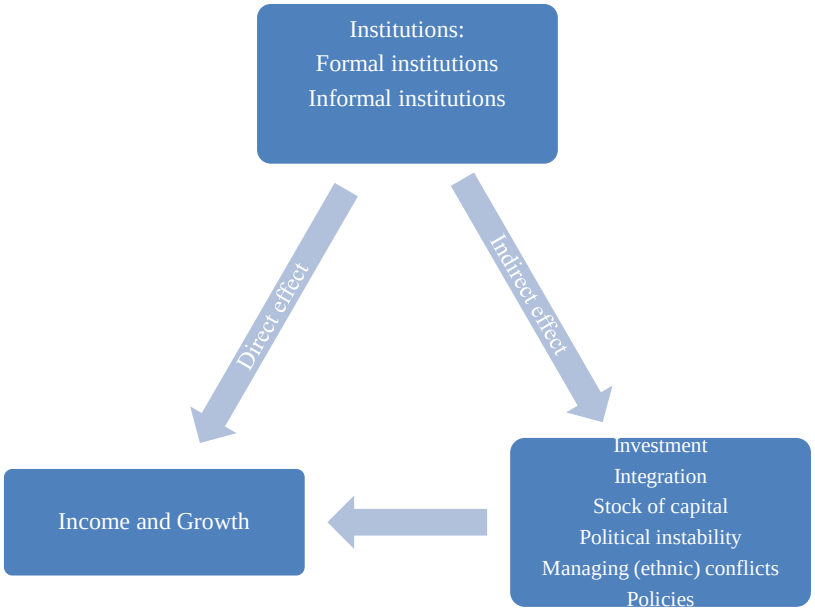
North (1990) has been very instrumental in presenting institutions, defined as the "rules of the game" as the main determinants of economic growth among nations. He states that insitutions have been devised by human beings to create order and reduce uncertainty in economic exchange. In earlier works, North and Thomas (1970,1973) and Knack and Keefer (1995) demonstrate that the economic institutions governing property rights facilitate economic growth mainly through lowering transaction costs and creating certainty among economic agents thereby leading to increased volumes of trade in the economy. It is further postulated that property rights affect

growth indirectly through creating an enabling environment for both domestic and foreign investments.

Indeed, institutional effects on income and growth maybe direct or indirect depending on the economic activity under consideration (see Figure 1). Some studies find strong empirical evidence to link property rights institutions to investment and economic development by explicitly creating a conducive environment for enterpreneurship (Murphy, Shleifer, and Vishny 1991; Johnson, MacMillan, and Woodruff 2002).

Others such as Benjamin (2008) have argued that when property rights in developing countries are both secured and well defined or formally entitled, then the poor can spend their time creating wealth via the process of turning 'formal' ownership into capital, which is crucial for economic development. Literature is replete with examples of the contributions of property rights to economic development through raising income per capita. The work of influential economic historians namely North and Thomas (1973) and Engerman and Sokoloff (1994) have profoundly popularised the policy debates and empirical research on the critical role that institutions play in fostering economic growth across countries and regions.

Figure 1: How Institutions Affect Growth



Adapted from Johannes Jutting, OECD Working Paper No. 210 of 2003

Aron (2000) points out that the role of institutions in promoting growth in developing and emerging economies has sparked renewed interest among development economists. She further notes that several cross-country studies of growth have found that the conventional factors of growth do not fully explain Africa's experience and have turned to an institutional explanation.

Karingi et al. (2006) noted that Africa has undergone two generations of broad reforms in the last two decades. They state that the first reforms centred on macroeconomic prudence and domestic liberalisation while the second reforms focused on institutional strengthening to improve overall governance as a precondition for economic growth and poverty reduction. At the behest of the World Bank and as part of the wider institutional reform agenda, many African countries including Zambia adopted in the 1990s and after 2000 the poverty reduction strategy papers (PRSPs) as blueprints for development.

According to UNCTAD (2002), the PRSPs identified a number of areas for reform, including: anti-corruption measures; improved, more participatory and accountable public administration; transparency in the preparation and monitoring of budgetary expenditures; legal reforms aiming at securing property rights and strengthening institutions that affect private sector activity; reforming procurement systems: rule of law; human rights; or briefly the "architecture of the State". In a similar study, the Southern African Development Community (SADC, 1998) argued that without effective and strong institutions underpinned by tenets of good governance (political, economic, institutional and gender empowerment) sustainable human development was likely to remain elusive in Southern Africa. The SADC report further called for the strengthening of the State's capacity to deliver public services through reinvigoration of institutions[1].

Thus, several empirical studies North (1989;1994); Mauro (1995); Acemoglu (2001;2005a); IMF (2003); Khalil et al. (2007); Rodrik (2009); among others have all shown that dysfunctional institutions cannot be expected to facilitate development nor can they be agents of growth which is critical for economic development. For instance, Tanzi and Davoodi (1998) noted that weak management systems, lack of accountability and transparency, lack of well defined property rights and their enforcement, and endemic corruption levels were an impediment to economic development. They also argued that when corruption is rife in public institutions public investments could end up reducing a country's growth because, even though the share of public investment in gross domestic product (GDP) may have risen, the average productivity of that investment has dropped.

[1]The SADC Human Development Report defines an institutional framework by the presence of independent election commissions; independent judiciary; independent anti-corruption body; independent human rights commissions; gender mainstreaming and implementation structures; and a strong and active civil society

As institutions have been evolving and gaining prominence in the development discourse, many organisations and scholars alike have been motivated to investigate the intricate relationship between institutions and their effect on overall economic performance. There are many factors that have driven organisations and researchers to interrogate the role of institutions in development ranging from economic stagnation in many developing countries; structural problems in the old industrial economies; to the collapse of the economies in the former Soviet Union, Central Asia, and Eastern and Central Europe[2]. More than a decade ago, the World Bank (WDR 2001/2002) stated that action to improve the functioning of state and social institutions improves both growth and equity by reducing bureaucratic and social constraints to economic action and upward mobility.

In another report, the World Bank (2002) observed that tangled laws, corrupt courts, deeply biased credit systems and lengthy business registration requirements-hurt poor people and hinder development. The Bank went on to state that countries that systematically addressed these structural problems and established new institutions suited to local needs could dramatically increase incomes and reduce poverty.

Rodrik[3]postulates that economic growth requires more than eliciting a temporary boost in investment and entrepreneurship. He states that it requires effort to build four types of institutions needed to maintain growth momentum and build resilience to shocks: market-creating institutions; market-regulating institutions; market-stabilising institutions; and market-legitimizing institutions. However, he says that building and solidifying these institutions takes time. Consistent

[2]Tjasa R and Andrej S 2005. The impact of institutions on economic growth: the case of transition economies, Journal of Economic Issues, http://findarticles.com/p/articles/mi_qa5437/is_4_39/ai_n29228482/ 10 Oct 2010

[3]Dani R, After Neo-Liberalism, What? http://www.project-syndicate.org/commentary/rodrik7/English 13 May 2010)

with the analysis of Rodrik, Bhattacharyya (2009) found that strong market creating institutions and market stabilizing institutions are growth enhancing while market regulating institutions matter up to a certain extent and market legitimizing institutions do not seem to matter. Increasingly, a lot of academic and policy debates among the new institutionalists seek to determine the extent and depth to which property rights or quality of formal institutions affect growth. Indeed, the quality of property rights and how they are enforced help to determine and explain income variations between and among countries.

1.2 Political economy and institutional context of Zambia

Beuran et al. (2011) observed that Zambia has had a chequered history of economic development which can only be appreciated by understanding different relations between its political and economic processes such as incentives and the distribution of power between various interest groups that collectively influence the behaviour and development path of the country. They also noted that certain key policy reforms and programmes that are critical for economic growth in Zambia have not been implemented because of political expedience rather than economic considerations.

For example, Beuran and others cite some political considerations that tend to hinder policy reforms in Zambia such as the desire of policymakers to stay in power; to enrich themselves financially; to prevent political opponents from gaining power; and to dispense favours to supporters by preventing the introduction of new technologies, or improvements in the property rights of workers or competitors. Beuran et al. (2011)'s views are well supported by Acemoglu and Robinson (2012) who stated that institutions in any country have to be understood within a given political context of those who wield political power and how they exercise that power in the nation.

Historically, the British Government took over the governance of the then Northern Rhodesia from the British South African Company (BSAC) in 1924 making the country a Protectorate under the Crown. Between 1924 and 1964 the British Crown took over the commanding heights of the Northern Rhodesian economy mainly focusing on the extractive industries (copper and lead mining) and limited agricultural activities. The British imposed the indirect rule governance system where traditional chiefs across the country were used to keep their people in subjection to colonial authorities.

In 1953 the country joined a loose political Federation comprising Southern Rhodesia (Zimbabwe) and Nyasaland (Malawi) with the sole aim of promoting political and economic integration among the three British colonies. However, after 10 years the loose political alliance broke up with individual Member States going their separate ways in 1963. Meanwhile, there was heightened political instability in the early 1960s in both Northern Rhodesia and Nyasaland as the natives agitated for political emancipation from the British Government. Following sustained liberation struggles waged by the local people, Northern Rhodesia gained political independence on 24 October 1964 and changed its name to Zambia[4]. With political independence, came a number of relative freedoms and civil liberties enshrined in the constitution of the newly independent State.

Thus, the political history of Zambia can briefly be classified into four categories namely colonial (1924-1964); the First Republic (1964-1972); the Second Republic (1973-1990); and the Third Republic (1991 to date). The First Republic was characterised by political pluralism with a relatively liberal economy. Under the Second Republic the constitution was amended to introduce a *de jure* one party state led by then first president of Zambia Dr. Kenneth Kaunda and

[4]http://www.bl.uk/reshelp/findhelpregion/africa/zambia/aczambia/index.html (15 March 2012)

subsequently plural politics were outlawed citing civil instability and pockets of sectarian violence that had rocked the country. This move by government to ban plural politics impacted adversely on the freedoms and civil liberties of Zambians as their choices of political association were mostly restricted.

Largely influenced by socialist ideology, Kaunda's government nationalised most firms in the energy, transport, manufacturing and tourism sectors including the copper mines. The nationalisation programme was anchored on the *Mulungushi Reforms* of 1968 which in part, argued that wealth belonged to the people and so the State had a duty to hold it in trust and share it equitably among the citizens. Du Plessis (2006) notes that the Mulungushi Reforms were a precursor to the ambitious nationalisation programme that allowed the State to acquire 51 percent shares in private retail, transport, and manufacturing firms through a parastatal, the Industrial Development Corporation (INDECO).

1.3 Political change and Institutional Reforms in Zambia

Zambia experienced a significant change in its political landscape in the early1990s when Article 4 of the constitution was amended to reintroduce multi-party politics alongside liberalisation of the economy. After nearly 18 years of a one party socialist state, opposition parties were allowed to exercise their political freedom. Civil society organisations (CSOs) whose presence before the reintroduction of liberal democracy was almost non-existent were also allowed to register and operate in different spheres of human development. Media reforms were instituted which led to a number of private radio and television stations as well as several private newspapers and magazines taking centre stage in the new democracy. Collectively, the opposition parties, trade unions, CSOs, faith-based organisations (FBOs), professional associations and the private media working as watchdogs have provided increased checks and balances to the government.

Other changes that were promulgated in the 1990s involved the separation of powers among the executive, legislature and the judiciary. However, the executive has remained dominant over the other wings of government as the President has continued to appoint and demand allegiance from the heads of the judiciary and many state-owned statutory bodies.

At parliamentary level, several institutional reforms were introduced which led to the formation of various committees to look at different affairs of the House. For example, under the donor supported capacity building component of Parliamentary Reforms Programme Phase III which started in 2008, the Zambian Parliament is expected, among other things, to increase autonomy and transparency of the Legislature, including its capacity in Bill drafting, budgeting and legislative oversight and foresight[5]. Other parliamentary reforms included the introduction of a parliamentary radio station which covers live proceedings of the House from an initial radius of 20 kilometres to 50 kilometres from the capital city.

According to the GRZ (2009), further reforms involved the establishment of the small claims court and the transformation of the Legal Aid Department into a Board in 2008 aimed at improving the delivery of legal services particularly to poor people. In a bid to fight graft, the AfDB (2011) states that the national anti-corruption policy and implementation plan were introduced in 2009 with major measures being the formulation of legislation to protect whistle blowers when they report the vice.

Thus, taking institutions as a point of reference for Zambia, the country has elaborate laws, rules, courts, and enforcement agencies. Worth noting is the fact that since the early 1990s when Zambia reverted to liberal democracy, the country as Taylor (2010) argues, has experienced new economic

[5]http://www.parliament.gov.zm/index.php?option=com_content&task=view&id=354&Itemid=105 (15 December 2011)

institutional adaptations such as market-based economic models and private sector-led development. However, the country's formal institutions are predominantly weak due to an implementation gap and numerous other factors. More specifically, the country's institutional weaknesses arise from archaic legislation in some sectors and the inability of government ministries and agencies to effectively implement numerous laws and reforms due to insufficient human capital and financial resources particularly at provincial and district levels.

For instance, the Zambian Minister of Trade and Commerce, Felix Mutati observed in 2010 that 'currently, the licences we have are too many and the requirements to get them are cumbersome, time-consuming and do not assist businesses to go ahead. Some of them are as old as 1935 and we took a decision to eliminate all the unnecessary licences and so far 23 have already been eliminated, one has been reclassified, and 40 Bills have been drafted to incorporate business licensing reform recommendations'[6].

From the investment perspective, Zambia is perceived to be a high cost destination in terms of doing business[7]. Taylor (2010) has identified three main binding impediments to Zambia's business and investment competitiveness namely institutional, political and social constraints. He argues that these factors impose both direct and indirect limits on efficiency and productivity but he also admits that these are not the only factors that hinder business competitiveness in Zambia.

[6]Honourable Felix Mutati, Zambian Minister of Commerce, Trade and Industry (Post Newspaper, *Government abolishes capital requirement*, 14 May 2010).

[7]While Zambia scores relatively well with respect to the overall ease of doing business, it ranks as one of the costliest countries for terminating employment (IMF Country Report No. 06/39, January 2006)

Table 1: Corruption Perception Index (CPI)*: 2007-2010

Country	2007		2008		2009		2010	
	Rank/179	Index	Rank/180	Index	Rank/180	Index	Rank/180	Index
Angola	84	3	99	3.2	92	2.8	111	2.9
Botswana	37	5.4	38	5.8	36	5.6	37	5.8
DRC	156	1.9	168	1.7	171	1.9	162	2.2
Lesotho	84	3.3	92	3.2	89	3.3	78	3.5
Madagascar	97	2.8	84	3.1	94	3.2	94	3.4
Malawi	118	2.7	115	2.8	89	3.3	85	3.4
Mauritius	53	5.5	41	5.4	42	5.4	39	5.1
Mozambique	111	2.8	126	2.6	130	2.5	116	2.7
Namibia	57	4.5	61	4.5	56	4.5	56	4.4
Seychelles	57	4.5	55	4.8	54	4.8	49	4.8
South Africa	53	5.1	54	4.9	55	4.7	54	4.5
Swaziland	84	3.3	72	3.6	79	3.6	91	3.2
Tanzania	94	3.2	102	3	126	2.6	116	2.7
Zambia	123	2.6	115	2.8	99	3	101	3
Zimbabwe	150	2.1	166	1.8	146	2.2	134	2.4

Source: Transparency International:http://www.transparency.org.

Note:* CPI Index Score relates to the perceptions of the degree of corruption as seen by business people and country analysts, ranges between 10 (highly clean) and 0 (highly corrupt).

The country has also been grappling with high corruption levels in both the public and private sectors over the years. Between 2007 and 2010 Zambia was one of the worst performers in the SADC region on the corruption perception index computed by the Transparency International with an average index of 2.8 (see Tables 1 and 2). For example, in 2007 the percentage of firms expected to pay bribes to public officials to get things done in Zambia was 14.33 percent while the percentage of firms expected to give gifts to secure a government contract was as high as 27.39 percent (Africa Development Indicators, 2010).

Table 2: Selected High-Profile Cases of Corruption in 2010 in Zambia

Sector		Type of Case	Level of People	Amount[8]
Public	Ministry of Works	Theft by servant	High (CEO)	US$40 million
Public	Defence	Abuse of authority	High (Commander)	US$40 million
Public	Ministry of Mines	Abuse of authority	High (Director)	US$15 million
Public	Law enforcement	Theft	High (Commissioner)	US$35 million
Public	Local Government	Abuse and theft	High (Council Chairman)	US$6 million
Public	Ministry of Works Supply (roads)	Abuse of authority and fraud (false claim)	Middle (Regional) Engineer)	US$400 million

Source: Anti- Corruption Commission of Zambia, 2011

In terms of the development framework, several reviews of Zambia's plans by the IMF and the World Bank reveal serious constraints in public institutions that tend to hinder economic performance. The GRZ (2006) notes that the country's major weakness of development planning has been the poor implementation that stems largely from poor resource forecasts, weak institutional arrangements and weak monitoring mechanisms for the Plans.

In 2010, the IMF reported that the Zambian government had embarked on the second phase of implementation of the Financial Sector Development Plan (FSDP II), whose three main pillars were, (i) enhancing market infrastructure; (ii) increasing competition; and (iii) increasing access to finance. According to the IMF, the FSDP Phase II is envisaged to deal with outstanding and long-term issues including the harmonization of financial sector laws, enhancement of financial education and the formal financial safety net (through development of a Deposit Protection

[8] Amounts based on the May 2016 official exchange rate of US$1≡ K10

Scheme), establishment of the sovereign credit rating, as well as the implementation of a national switch.

In an earlier progress report, the IMF (2005a) identified the need for structural reforms in the areas of public sector management, civil service, financial sector policies and institutions, and legal and regulatory frameworks that affect the private sector. The focus of the reforms was on (i) improving public expenditure management and financial accountability; (ii) strengthening human resource management and rationalizing the size of the civil service; and (iii) articulating a strategy for decentralization. In order to spur growth, the Zambian Government launched in 2005 the Private Sector Development Programme (PSDP) whose aim was 'promoting investment in the private business sector'[9] by removing all policy and institutional bottlenecks through appropriate reforms. The thrust of the PSDP was to address a large number of issues that stunt business growth and discourage investment in the country.

Similar reforms were reported by the World Bank (2010) which noted that Zambia had in recent years taken a number of reforms to foster a friendly business environment by improving contract enforcement by introducing an electronic case management in the courts that provides electronic references of cases, a database of laws, real-time court reporting and public access to court cases[10]. The country had also eased trade by implementing a one-stop border post with Zimbabwe, launching web-based submission of customs declarations and introducing scanning machines at border posts (see Table 5).

[9] http://psdp.org.zm/95-about-psdp . Some of the private sector development programme (PSDP) successes include reducing the amount of time it takes to register a company, speeding up the border clearance time, and a large reduction in the number of licenses required to start and operate a business in Zambia. (3 February 2011)

[10] http://www.doingbusiness.org/reforms (Business Reforms--Doing Business--World Bank Group). *World Bank Doing Business Report*. 2010. (2 March 2011)

Despite these seemingly far-reaching reforms, their impact on economic development in Zambia has been modest because of slow implementation arising from weak capacity of public institutions. In many of these reforms the architects did not pay sufficient attention to the need for embedding institutions in the local realities defined in terms of cultural beliefs[11], social norms, and incentives for promoting domestic confidence and broad ownership of the reforms. To illustrate the influence of cultural norms on an economy, Taylor (2010) observes that there is a distrust of both state and markets among some ethonoregional groups in the southern and western parts of Zambia that contributes to the maintenance of traditional practices. He cites an example of small-scale farmers in the two regions who believe that "*wealth is on the hoof*" and so maintains cattle as wealth, a practice that hinders the growth of the formal economy and limits the competitiveness of the Zambian beef sector. This is why Rodrik[12] argues that 'designing appropriate institutional arrangements requires both local knowledge and creativity'—two elements missing in some of the reforms that have been carried out in Zambia.

1.4 Problem Statement

Lee and Kim (2009) have argued that there are different factors in different countries that determine economic growth. They found that new policy variables such as technology and tertiary education, as well as institutions, matter as the determinants of long-run economic growth. Others such as Narayan et al. (2010) found strong correlation between democracy and growth in a number

[11]In February 2010, the Zambian Government was forced to withdraw land initially offered to Chita Lodge for development because it was alleged that the said land was a burial site of the Soli ancestors in Lusaka. Lusaka Deputy Permanent Secretary Mr. Chinjili Zulu said that the government had similar controversies in Paramount Chief Mpezeni's area in Eastern Province and in North Western Province. "We withdrew because the number one in this country is the royal establishment," said Zulu. Senior chieftainess Nkomeshya Mukamambo II and her subjects objected to the National Heritage Conservation Commission's leasing of the controversial land to Chita Lodge (Govt offers Chita Lodge alternative land, Post Newspaper, 4 February, 2011)

[12]Dani R, Getting Governance Right, http://www.project-syndicate.org/commentary/rodrik19/English 13 May 2010

of Sub-Saharan African countries while Doucouliagos and Ulubasoglu (2005) established a positive indirect association between economic freedom and growth. Nelson (2007) emphasised the relationships between institutions and institutional change and technological advance as being critical for growth and indeed others such as the IMF (2003) have stressed the importance of both policies and institutions as major determinants of long-run growth. Mauro (1995) argued that countries with "best" institutions tended to attract more investments for growth compared to those with bad or worst institutions while Kormendi and Meguire (1985) noted the positive effects of civil liberty (freedoms) and found a marginal effect on growth and a dramatic effect on investment levels.

Although Zambia has a wide range of formal laws, the country is plagued by weak economic institutions particularly property rights. For example, while there has been a general improvement in the level of economic freedom as compiled by the *Fraser Institute*[13] (see Figure 2), Zambia has low scores on judicial independence; impartial courts and legal enforcement of contracts and has a moderate score on protection of property rights[14].

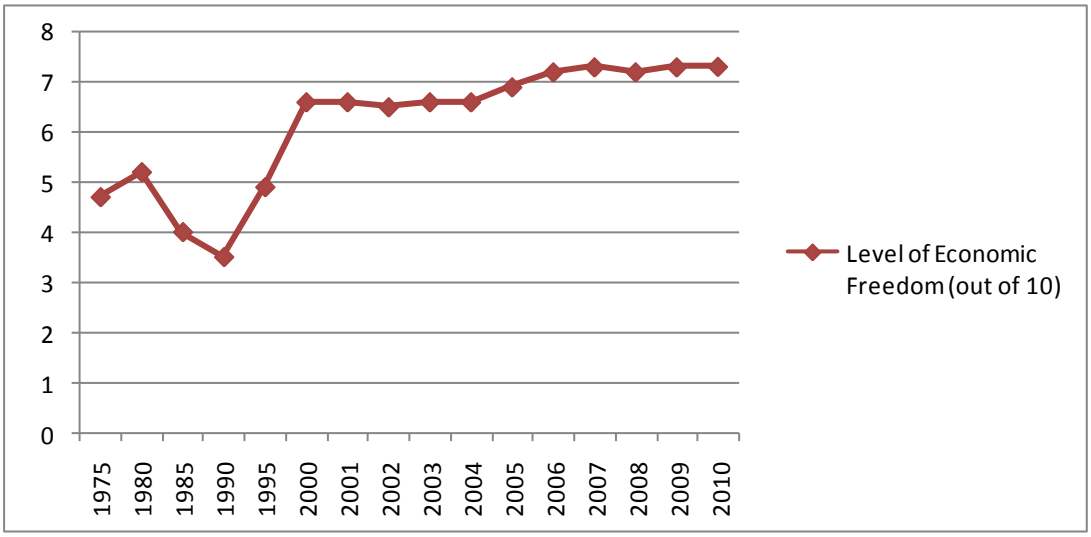
As regards to the rule of law, UNCTAD (2006) observed that the commercial justice sector in Zambia was failing to adequately serve the interests of investors due to continued adjournments by the courts. In addition, UNCTAD noted that many of the current commercial or business related laws in the country were outdated and some modern business practices were not even covered by current laws.

The country also suffers from governance challenges that have a potential bearing on overall economic performance (see Table 3). For instance, in 2007/8 Zambia scored 55.3 out of 100 on

[13] http://www.freetheworld.com/2011/reports/world/EFW2011_chap2.pdf (18 January 2012)
[14] http://www.moibrahimfoundation.org/en/media/get/20111009_2011-Southern-Africa.pdf (18 Oct 2011)

the *Mo Ibrahim Index* of African Governance and was ranked 18th out of 53 countries in Africa while in 2011 the country had marginally improved its score to 57 with a rank of 16[15]. Furthermore, Zambia suffers from challenges of low accountability regarding the rule of law, participation in human rights, and is prone to political instability before and during general elections. From the foregoing, a strong case can be made on how institutions affect economic performance and in turn how economic performance affects private investments across countries and Zambia in particular and hence the need to pay attention to these dynamics.

Figure 2: Economic Freedom in Zambia



Source:Based on the data fromhttp://www.freetheworld.com/countrydata.php?country=C139 (18 January 2012)

More specifically, this study is motivated by the fact that despite a number of empirical studies having been undertaken on the linkages between institutions and growth in Southern Africa, as yet none of them comprehensively and specifically looks at Zambia as a case study in capturing the impact of institutional dimensions particularly property rights (de jure institutions) and political

[15]Ibid

instability (de facto) on the country's economic performance. Recently Fedderke et al. (2011) have provided insights by presenting new institutional measures for Zambia focusing on political rights and freedoms, property rights, and political instability.

However, Fedderke et al. (2011) focused mainly on the construction of reliable indicators of property and political rights including political instability, rather than testing for the institutional dimensions on potential economic and social outcomes. Therefore, this study attempts to fill the void by specifically testing the long-run relationship between property rights and political instability on one hand and economic growth on the other. Overall, this study proceeds from the assumption that institutions are highly dependent on local settings; therefore it is necessary to devote attention to specific spatial and institutional features of a particular country and in this context Zambia.

Table 3:Zambia and the 2011 Ibrahim Index of African Governance

Rank (out of 53 countries in Africa)	Category/sub-category	Country Score (out of 100)	African Average Score (out of 100)
Zambia			
15th	Safety and Rule of Law	62	53
14th	Rule of Law	62	48
20th	Accountability	47	43
27th	Personal Safety	45	44
7th	National Security	95	78
7th	Participation and Human Rights	43	45
17th	Participation and Human Rights	54	45
19th	Participation	56	42
10th	Rights	61	43
31st	Gender	46	51
23rd	Sustainable Economic Opportunity	51	47
24th	Public Management	58	56
16th	Business Environment	59	50
18th	Infrastructure	34	31
30th	Rural Sector	51	54
19th	Human Development	61	56
24th	Welfare	54	52
19th	Education	57	51
18th	Health	72	66
16th	Overall	57	50

Source: http://www.moibrahimfoundation.org/en/media/get/20111009_2011-Southern-Africa.pdf (18 Oct 2011)

1.5 Purpose of the Study

The main purpose of this study is to investigate the impacts of property rights and political instability on economic growth in Zambia. It achieves this by extending Fedderke et al. (2011)'s series by constructing comparable indices that are later merged and used to capture the institutional dimensions on economic output in Zambia from 1965 to 2010. The study is also aimed at drawing key lessons and recommendations for academics, researchers and policymakers insofar as the relationship between property rights and economic growth is concerned. As argued by Beuran et al. (2011), the dissertation tests the view that successful development outcomes require efforts to

improve political systems and public institutions in order to fight corruption and deliver more effective policies and services.

More importantly, although similar studies have been done elsewhere, for example in South Africa, Zimbabwe, and more recently in Malawi and Mozambique, Fedderke et al. (2001) and Luiz (2009) recommend that further research on alternative case studies should be undertaken that would serve to deepen scholars' understanding of the growth-institutional nexus even further.

1.6 Significance of the Study

Historically, Zambia comes from a background of dismal economic performance particularly in the 1970s through the early 1990s. For example, average real GDP growth between 1965 and 2000 was a paltry 0.1 percent while average inflation during the same period stood at 35.9 percent (Table 4). In recent years the country has made strides in its economic outlook. Since 1999 Zambia has registered real GDP growth on the back of improved macroeconomic environment (GRZ, 2006).

The IMF (2011) observes that Zambia's recent macroeconomic performance in the last few years has been propelled by a strong rebound in agriculture, mining, transport, storage and communication. The unprecedented country's recent macroeconomic stability and a general peaceful environment have contributed significantly to attracting increased foreign direct investments (FDI) in the extractive sectors particularly from China.

The GRZ (2011) states that economic growth has been positive, averaging over 6.1 percent between 2006 and 2010. Despite the debilitating effects of the global financial and economic crises that started in 2008, the Zambian economy showed resilience and grew by 6.4 percent in 2009 and 7.6 percent in 2010 and 6.8 percent in 2011 (AfDB, 2010; IMF, 2011). The growth was driven largely by a significant increase in copper production and a bumper harvest in agricultural produce.

Inflation consistently fell from 16.6 percent in 2008 to 9.9 percent in 2009; hitting 7.8 percent by March 2010 (AfDB, 2010; IMF, 2011) and in February 2012 it stood at 6 percent (IMF, 2012).

Despite the impressive record of growth[16] in recent years and even longer experience with peaceful democratic governance, 60.5 percent of Zambians live inpoverty, and rural people persistently lag behind urban dwellers in most measures of social welfare (IDA 2008). The IDA report goes on to state that sustaining economic growth and ensuring that the majority of Zambia's population benefits from this growth is a huge challenge for the country. Underlying the slow pace of economic development has been a chronic lack of investment in infrastructure for several decades coupled with a weak institutional architecture.

Table 4: Selected Macroeconomic Indicators 1990-2011

Year	Real GDP Growth rate	Real GDP per capita in US$	Rate of inflation % per annum	Investment to GDP (%)
1990	-0.5	418	107	12.31
1991	0	418	98	16.30
1992	-1.7	385	166	16.30
1993	6.8	386	183	9.985
1994	-8.6	385	55	11.28
1995	-2.8	390	35	14.12
1996	6.9	357	43	5.915
1997	3.3	415	24	16.24
1998	-1.9	334	25	12.76
1999	2.2	314	27	14.30
2000	3.6	317	26	16.02
2001	4.9	348	24	17.10
2002	3.3	347	20	17.36
2003	5.1	400	20	18.91
2004	5.4	486	20	21.93
2005	5.0	626	17	25.49
2006	6.0	911	13	24.91
2007	6.2	957	13	23.67
2008	6.0	1183	12	22.09
2009	6.4	1006	11	21.96
2010	7.6	1253	9	20.92
2011	6.8	1425	8.7	21.03

Source: IFS Yearbook 1992; IFS Yearbook 1993; http://www.econstats.com/weo/V014.htm

[16]Since Zambia's growth is largely driven by the mining sector which is highly capital intensive, it does not create a lot of jobs. This growth is not broad-based and hence not inclusive and sustainable.There is therefore need for institutional reforms for broader and more inclusive growth to lift millions out of poverty

The GRZ (2011) has stated in its sixth national development plan (SNDP) that good governance remains the cornerstone for prudent management of public affairs and ensuring that development outcomes benefit the people of Zambia. In achieving this, the GRZ (2011) set to implement institutional reforms ranging from enhancing governance and increasing civil and criminal justice, facilitating the promotion of human rights, promoting broad-based participation in public affairs, to putting in place mechanisms that prevent corruption, among other policy imperatives.

Against this backdrop, this study is relevant and important because it provides new academic and policy insights that hopefully will contribute to the on-going development agenda where Zambia and other less developed countries are being supported by the international donor community within the broad framework of promoting good governance to strengthen public institutions by reducing corruption, improving the rule of law, increasing the accountability and effectiveness of public institutions, and enhancing the access and voice of citizens[17]. In addition, the research provides useful recommendations that can act as an entry point for initiating and deepening policy dialogue in Zambia on the role and functions of formal institutions particularly property rights in promoting economic growth and development.

1.7 Knowledge Gap

Although academic literature is replete with examples of how institutions influence growth in a stable environment, there are still contestable areas arising mainly from the fact that there is no universal definition, measurement and application of institutions. Sindzingre (2010) notes that institutions considered in the academic literature are diverse, and causality as well as their directions remains highly controversial and inconclusive.

[17] http://www.moibrahimfoundation.org/en/media/get/20111009_2011-Southern-Africa.pdf

In addition, institutions vary according to time and space with some designed to address short-term problems while others are meant to cure long-term structural impediments in an economy. This means that more empirical research work needs to be done to ascertain particularly country specificity and suitability of institutional reforms as preconditions for economic growth. By so doing, the study contributes from an empirical standpoint to a deeper understanding of the theory underlying the link between institutions and economic growth given that this theory is still under development and therefore there are areas of ambiguity in the interpretation of empirical specifications as argued by both Luiz (2009) and Fedderke et al. (2001) respectively.

1.8 Research Question

In the light of the many institutional challenges that Zambia faces, the study puts forward the following broad research question for investigation:what are the causal impacts of property rights and political instability on economic growth in Zambia?

1.9 Research Hypotheses

In answering the research question above, the dissertation tests the following hypotheses:

i. Other things being equal, property rights are positively related to economic growth over time;
ii. Other things being equal, political instability is negatively related to economic growth.

1.10 Delimitations of the Scope of the Study

While the study takes full cognisance of the wide spectrum of explanatory variables such as the savings rate, technology, population growth, geographical and historical factors that impact on economic growth, its scope is however limited to an analysis of property rights and the extent to which they affect growth in Zambia. Furthermore, the study examines the impacts of political

instability on economic growth in Zambia. Finally, structural effects of selected macroeconomic policy variables on economic performance are also investigated.

1.11 Definitions of terms

1. Economic growth—the increase of per capita GDP or other measures of aggregate income, typically reported as the annual rate of change in real GDP;
2. Institutions—North (1990) defines them as rules of the game, that is, formal and informal rules, laws, constitutions, norms and beliefs that govern and regulate human behaviour in society;
3. Property rights—refer to rights and duties held by people, a community or legal entity that include individual or collective rights, duties and regulations pertaining to both public and private property;
4. Social capital—aspects of social organisations such as trust, ethics, attitudes and networks that can enhance the cooperative behaviour in society by promoting coordinated action;
5. Corruption—behaviour mainly propelled by selfish interests and the quest to make personal gain at the expense of society by circumventing rules and norms. It can also be defined as use of public office for personal gain.

1.12 Organisation of the Dissertation

The dissertation is organised into seven parts. Chapter one is the introduction to the study. Chapter two provides the theoretical and empirical literature review while Chapter three discusses the research design and methodology. Chapter four presents the data by focusing mainly on descriptive statistics. Chapter five provides analysis of data and statistical tests and Chapter six deals with the interpretation of the data and estimation results. Finally, Chapter seven offers the study's

contributions and makes conclusions while at the same time providing academic and policy recommendations as well as suggestions on the areas of further academic research.

CHAPTER TWO: Theoretical and Empirical Literature Review

2.1 Introduction

This chapter reviews both the theoretical and empirical underpinnings in the literature to gain insights for building a solid base for conceptualising the role and functions of institutions in facilitating economic growth across countries and Zambia in particular. The study proceeds from the fundamental assumption that the concept of institutions is dynamic in different settings. This assumption is consistent with Street (1988) who argued that institutions should not be perceived as being static entities but evolutionary because they pass through gradual formation, maturity, and decay.

Taken as a whole, institutions include both formal and informal rules, procedures and arrangements all meant to shape human behaviour in economic, political and social processes. The conceptual and analytical framework adopted in the study is based on some broad definitions of institutions by North (1990,1991;2003) and is robust enough to allow meaningful analysis and application to the institution-growth nexus in Zambia.

2.2 A Conceptual Framework for Institutions

Although there are some minor contextual differences in the conceptual definitions of institutions as noted by some scholars such as Chang (2005) and Searle (2005), generally there is consensus among researchers that institutions are simply the "rules of the game" as presented by North (1990). The current study is guided in its conceptual framework by the works of North (1989;1990), Joskow (2003)[18] and Jutting (2003) who have provided in-depth analysis of the

[18]Paul L. Joskow in his essay entitled *New Institutional Economics* based on his Presidential Address to the Annual Conference of International Society of New Institutional Economics, Budapest, Hungary, September 2003, categorized institutions into four levels. First level: *Embeddedness or Social/Cultural Foundations*-- the highest level of the institutional hierarchy encompassing informal institutions, customs, traditions, ethics and social norms, religion

different levels of institutions and what they are meant to measure across countries. However, institutional frameworks and applications should be taken as country or region specific to avoid ambiguous generalisations.

For example, Luiz (2009) defines the institutional framework as comprising both formal and informal constraints, ranging from customs and traditions at the one end to constitutions and laws at the other. Acemoglu (2005a) looks at institutions as the structure of property rights and the presence and perfection of markets while the IMF (2003) define institutions as rules (informal customs as well as laws) that govern behaviour, the mechanisms (often organizations or reputations) that enforce these rules, and the organizations (for example, clubs and banks) that affect peoples' incentives and support market transactions. North and Thomas (1970) defined an institution or an institutional arrangement as an arrangement between economic units that defines and specifies the ways by which these units can co-operate or compete.

However, North (1990, 1991) refines and broadens the definition of institutions by stating that institutions are the humanly devised constraints that structure political, economic and social interaction. According to him, they consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights,

and some aspects of language and cognition. Second level: *Basic Institutional Environment*--encompasses the basic institutional environment or what is known as "the formal rules of the game." According to Joskow, at this level institutions are defined in terms of constitutions, political systems and basic human rights; property rights and their allocation; laws, courts and related institutions to enforce political, human rights and property rights, money, basic financial institutions, and the government's power to tax; laws and institutions governing migration, trade and foreign investment rules; and the political, legal and economic mechanisms that facilitate changes in the basic institutional environment. Third level: *Institutions of Governance*-- encompasses what is known as "the play of the game." Choices are made regarding the institutional (governance) arrangements through which economic relationships will be governed given the attributes of the basic institutional environment. Fourth level: *Short-term resource allocation (neoclassical market economics)* -- refers to the day-to-day operation of the economy given the institutions defined at the other three levels. Prices, wages, costs, quantities bought and sold are determined here as are the consequences of monopoly, oligopoly and other neoclassical market imperfections. Joskow noted that most of the research work on institutions is concentrated on levels 2 and 3 respectively.

regulations, and contracts). North (1994) also makes a clear distinction between institutions and organizations. He says that the former are the formal rules, informal norms and the enforcement characteristics of both and it is the admixture of rules, norms, and enforcement characteristics that determines economic performance. North also says that the latter are the groups of individuals bound by a common purpose to achieve objectives.

Although institutions comprise both formal and informal arrangements, the formal also known as *de jure* institutions are usually written down as 'rules of the game' while informal ones tend to be widely held cultural practices, ethics, norms and beliefs and mostly oral. It is for this reason that many empirical studies on institutions lean heavily on the use of formal ones because they are easy to apply and as Acemoglu and Johnson (2005) note, there is also a wide range of indices that has been developed to measure their usage and performance. On the other hand, it is not easy to measure informal institutions and so their application in empirical research is very limited.

It is generally pointed out in political, social and economic literature that the dividing line between formal and informal institutions is very vague and therefore the two tend to reinforce each other in a complex relationship that ultimately creates necessary conditions for economic activity to take place. For example, a country's formal laws on competition may be used to deter predatory and monopolistic tendencies among economic players in the market arena while informal rules may demand that all economic agents should observe ethical behaviour as they carry out their business.

2.3 The Theory of Institutions and Growth

Acemoglu et al. (2001a) proposed a theory of institutional differences among countries colonised by Europeans and used it to derive a possible source of exogenous variation. Their theory is predicated on three interrelated principles namely 1) there are different types of colonisation policies which created different sets of institutions; 2) the colonisation strategy was influenced by

feasibility of settlements; and 3) the colonial state and institutions persisted even after independence. Based on this premise, Acemoglu and others used the mortality rates expected by the first European settlers in the colonies as an instrument to explain current institutions in these countries.

Therefore, this study draws insights from Acemoglu et al. (2001a)'s theory that current institutions are informed by historical events and colonisation policies which created different sets of institutions at different times across nations. For instance, Kapur and Kim (2006) note that in hostile geographical environments characterised by tropical diseases such as malaria and dense native populations the tendency by colonialists was not to establish permanent institutions in the affected areas but to focus on the extractive industries. This is clearly evident by the current structure of the Zambian economy and many economies in southern Africa in general where they mostly depend on the extraction and export of raw materials with very little value addition.

The views of Kapur and Kim (2006) are also supported by Easterly and Levine (2002) and Acemoglu et al. (2002) who found that measures of tropics, germs and crops as well as geography were more fundamental than anything else in explaining cross-country differences in economic development through their impact on institutions. Thus, many institutions and legal legislation that were created by colonialists persist to this day in many post-independent African states.

Acemoglu et al. (2001a)'s theory of economic institutions can be summed up as:

$$(Potential)\ settler\ mortality \Rightarrow settlements$$
$$\Rightarrow Early\ institutions \Rightarrow current\ institutions$$
$$\Rightarrow Current\ performance$$

In another seminal paper, Acemoglu et al. (2001b) advanced the hypothesis that Western European growth after 1500 resulted, in part, from the indirect effects of international trade across the

Atlantic on institutional development particularly political institutions that provided secure property rights to a broader segment of society and allowed free entry into profitable businesses.

However, North and Thomas (1970) take a broader view and postulate that the cause of the rise of the Western world between 1100 and 1800 was the redirection of incentives as a consequence of the development of institutions which made it more profitable to attempt to increase productivity within any economic activity. This view is also supported by Engerman and Sokoloff (2012) who investigated the path of economic development in the Americas since 1500 and noted the critical role that property rights played in directing development.

North and Thomas (1970) arguing from a historical perspective postulate that the nature of existing economic institutions channels the behaviour of individuals within the system and, in the process, determines whether the aggregate result is to be economic growth, stagnation or decay. Rodrik, Subramanian and Trebbi (2002) take a departure from the traditional growth theories that have mainly focused on physical and human capital accumulation, and in their endogenous growth variant, on technological progress to examining the geography, integration (international trade) and institutions (the role of property rights and rule of law). According to them, these last three factors are critical in determining which societies will innovate and accumulate, and therefore develop, and which will not.

Other scholars such as Khalil et al. (2007) and Lee and Kim (2009) debated on the relative importance of institutions and their design, policies and geography as some of the critical determinants of economic growth or factors responsible for the reversal of fortunes between former colonies and others. Fedderke et al. (2011) employed modernisation theory to show that causation runs from economic growth to institutions, that is, as a country becomes more industrialised, more urbanised, and its education levels rise, its social structures become more complex, new groups

emerge with their own interests and power, it therefore becomes more difficult to sustain "bad" institutions such as an autocratic regime.

However, the works of North (1992) and Yeager (2007) are quite revealing as they give a detailed account of how the new institutionalists have argued that institutions are the main determinants of economic performance, yet neoclassical economics surprisingly has no role for institutions. According to the institutionalists, the new theory which links institutions to growth can be integrated with neoclassical economics, leaving mainstream economic theory intact, but broader and more relevant.

Luiz (2009) makes an observation that the new growth theory has served to highlight the importance of the institutional determinants of economic growth, including political systems and the state. He states that literature on economic growth has established the possibility of an impact of institutions and social capital in long-term economic development. This view was also presented much earlier by Fedderke, de Kadt and Luiz (1998) who pointed out that literature on economic growth has increasingly come to emphasize the importance of social capital as a potential determinant of long run economic performance. In supporting their arguments, they look at the linkage between social capital and other social institutions such as the state, as well as the role of human capital in economic development. Fedderke, de Kadt and Luiz (1998)'s findings are well supported by Boulila et al. (2008) who established that social capital was significantly correlated with economic growth and at the same time it exerted an indirect effect on GDP per capita income growth through the development of institutions.

Another scholar Bhattacharyya (2009) examined the partial effects of institutions and human capital on growth and found that cross-country regressions of the log-level of per capita GDP on instrumented measures of institutions and schooling were uninformative about the relative

importance of institutions and human capital in the long-run because of multi-collinearity problems. Using dynamic panel regressions he showed that both institutions and human capital had significant effects on growth.

2.4 Dissimilarities between Low and High Income Countries

Some scholars have argued and shown tremendous differences in the factors that explain growth performance in low and high-income countries. For example, Luiz (2009) builds his case from the 'dominant post-war growth theory which emphasizes the link between the growth of output and growth in factor inputs'. The theory states that by mobilizing the right quantity of savings and investment, an increase in the rate of aggregate growth would be generated, leading to a higher equilibrium growth path, in which a higher level of per capita GDP and capital stock would be maintained.

Luiz notes that 'this theory predicted that conditional convergence would occur between low and high-income countries' but according to him, this has not been supported by empirical evidence in the past few decades. Instead, he stated that convergence prediction in Solow-Swan type growth models was conditional on homogeneity of the savings rate, the labour force growth rate and the technology of production.

Luiz further observes that the assumptions of homogeneity have been challenged repeatedly and the possibility of heterogeneity in other dimensions which may be of significance to growth has also arisen, for example, human capital, quality of government and degree of openness. These views seem to render credence to the World Bank's fundamental role which is to 'help governments work better in our client countries by focusing more of the Bank's efforts on building efficient and accountable public sector institutions rather than simply providing discrete policy

advice'[19]. The Bank draws lessons from East Asia (and to some extent Russia) that good policies are not enough--that the Bank cannot afford to look the other way when a country is plagued by deeply dysfunctional public institutions that limit accountability, set perverse rules of the game, and are incapable of sustaining development[20].

2.5 Fundamental Role of Institutions in Growth Promotion

There is voluminous academic and empirical literature that demonstrates the vast contributions of institutions to long-run economic performance in both developed and developing countries as shown by North (1989); Hall and Jones (1999); Acemoglu et al. (2001a); Fedderke et al. (2001, 2011); Hang (2005); Barnejee and Iyer (2005); Aoki (2007); Nelson (2007); Rodrik (2009); and Henrekson (2011). Institutional economists postulate that a country's long-run growth is closely linked to its social, political, economic and legal institutions as these provide incentives and impetus for economic agents to invest.

North (1990) notes that institutions help to define choice set and therefore determine transaction and production costs and hence the profitability and feasibility of engaging in economic activity. Other scholars such as Acemoglu et al. (2001a) observe that countries with better institutions, more secure property rights, and less distortionary policies will invest more in physical and human capital, and will use these factors more efficiently to achieve a greater level of income.

Knack and Keefer (1995) argue that even good policy prescriptions are likely to fail in countries with poor institutional conditions such as insecure property rights and weak rule of law. Against this backdrop, empirical research shows that the capacity of national institutions to protect property

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[19]http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPUBLICSECTORANDGOVERNANCE/0,contentMDK:21552798~menuPK:286310~pagePK:148956~piPK:216618~theSitePK:286305,00.html (20 Oct 2010)

[20]Ibid

rights, reduce transaction costs, and prevent coercion may be decisive in determining whether or not economic development takes place[21]. Therefore, it can be argued that the existence of institutions particularly well-defined and secured property rights is at the core of economic growth and development in both industrialised and least developed countries.

Aghion (2006) states that a main development in growth economics in recent years has been to point to the fundamental role of institutions in the growth process, although few studies have led so far to precise policy recommendations beyond the general claims about the importance of property right enforcement. According to Aghion, this was largely due to the difficulty in defining the term 'institutions'. In the empirical literature, Aghion notes that the terms politics and institutions encompass a wide range of indicators, including institutional quality, political instability, characteristics of political regimes, social capital, and social characteristics. He goes on to point out that economists often rely on several of these types of indicators to capture the features of institutions, although each has a potentially different channel of impact on growth.

Acemoglu et al. (2005a) observe that economic institutions matter for economic growth because they shape incentives for key economic actors in society; in particular, they influence investments in physical and human capital and technology, and the organisation of production. They further point out that although cultural and geographical factors may also matter for economic performance, differences in economic institutions were the major source of cross-country differences in economic growth and prosperity. For example, Khalil et al. (2007) found that more than 80 percent of the variation in GDP per capita in the OECD countries could be explained by both economic and legal determinants. They noted that a suitable legal and economic environment

[21] http://siteresources.worldbank.org/INTLAWJUSTINST/Resources/LegalInstitutionsTopicBrief.pdf (19 September 2011)

can explain changes of economic growth. They further observed that countries can develop faster by enforcing property rights, fostering an independent judiciary, attacking corruption, dismantling burdensome regulation, allowing press freedom, and protecting political and civil liberties. Others such as Williamson (2010) demonstrate a strong positive relationship between property rights and the level of GDP clearly noting that as property rights become more secure, the level of development increases dramatically across countries.

The findings of Khalil et al. (2007) and Williamson (2010) are consistent with the ECA (2011) which notes that institutions are important because of the key roles they play in facilitating private investment and capital flows and their impact on economic growth and the business environment generally, including the quality of public infrastructure, the policy environment, political stability, labour costs and stability of prices and the exchange rate. The ECA further states that economic transformation and growth require institutions such as a good constitution, the rule of law, an independent judiciary, representative political institutions, effective central banks and other regulatory bodies, and effective laws, especially in enforcing property rights.

Other scholars such as Hall et al. (2010) demonstrate that increases in capital do not always lead to increases in output. Using a growth model where the allocation and productivity of capital depends on a country's institutions, they find that increases in physical and human capital lead to output growth only in countries with good institutions[22]. They also find that in countries with bad institutions, increases in capital lead to negative growth rates because additions to the capital stock tend to be employed in rent-seeking and other socially unproductive activities. La Porta et al.

[22]Hall, Sobel and Crowley define countries with good institutions as those where social, political, and legal rules provide for secure property rights, unbiased contract enforcement, and reliance on market prices and profits and losses to guide economic activity—investments in capital are both privately beneficial to individuals and also create a positive return for society as a whole. Along similar lines of reasoning, other scholars have advocated for "appropriate institutions" by which is meant the idea that different institutional arrangements are appropriate at different stages of economic development (Aghion 2006; Rodrik 2010; Luiz 2009).

(2008) emphasise the importance of good government for growth while Assane and Grammy (2003) conclude that good institutions improve the efficiency and accelerate growth, and the positive effect of institutional quality is more pronounced with mutually reinforcing support of economic freedom.

Acemoglu et al. (2005a) and Fernandez et al. (2010) are generally in agreement with Hall et al. (2010) on the need for good institutions--to mean those that provide security of property rights and relatively equal access to resources to a broad cross-section of society as important determinants of growth. In an earlier study, Hall and Jones (1999) in their analysis of the production function framework raise a number of questions as to why some countries tend to invest more in physical and human capital while others do not and also why some countries seem to be more productive than others. They come to the conclusion that variations in capital accumulation, productivity, and therefore output per worker are a function of social infrastructure. By social infrastructure, Hall and Jones (1999) imply the formal institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output. Thus, formal institutions accompanied by predictable, consistent and good government policies help to foster an environment for business creativity through technology updgrade and increased investments in long-term capital goods.

Fedderke et al. (2001) made an observation that if institutions do matter in the determination of economic growth, it follows as corollary that their efficiency will also in turn come to matter for economic growth. Their study focused on political institutions[23] and argued that credibility of

[23]Scholars such as Acemoglu et al. (2005a) distinguish between political and economic institutions. They argue that political institutions determine economic institutions through placing constraints on and the incentives of the key actors in the political sphere.

institutions is critical to avoid time inconsistency problems and also to maintain private sector and foreign investor confidence. This is consistent with the views of Acemoglu et al. (2005a) who stressed that political institutions that place checks on those who hold power, for example, by creating a balance of power in society, are useful for the emergence of good economic institutions. Collectively, good institutions can be taken as essential 'public goods' meant to regulate human interactions and promote economic activities for societal welfare and stability.

2.6 Property Rights, Economic Freedom and Legal Systems

North (1990) provides a strong empirical foundation for linking property rights to economic performance through his argument that formal institutions lower transaction costs leading to increased business dealings or trade. His views are supported by the IMF (2003) that emphasize the importance of property right protection and its positive impact on entrepreneurship while the World Bank (2010)[24] noted that between 2009 and 2010 governments in 117 economies implemented 216 business regulation reforms making it easier to start and operate a business, strengthening transparency and property rights and improving the efficiency of commercial dispute resolution and bankruptcy procedures. According to the Bank, more than half those policy changes eased start-up, trade and the payment of taxes thus leading to more economic activities.

Velasco (1992) uses a dynamic model of the tragedy of the commons with two assets to analyse capital flight and economic growth in countries where property rights are not well defined. He finds that by deliberately introducing a technology with inferior productivity but private access

[24] http://www.doingbusiness.org/reforms (Business Reforms--Doing Business--World Bank Group). *World Bank Doing Business Report*. 2010. (2 March 2011)

(private property rights), into a common-access economy leads to the amelioration of the tragedy of the commons and increases societal welfare.

Although Valesco works with a simple model with two assets only, his findings are significant suggesting that well defined and secured property rights always lead to desirable societal outcomes. This is also consistent with the position of Ostrom (2007) who argues that individuals are bound to destroy a resource on which they were dependent through overharvesting if that resource has open access and hence the need to impose private property rights.

Du et al. (2008) examined the impacts of economic institutions, including property rights protection and contract enforcement, on the location choice of foreign direct investment in China. For the period of 1993-2001 they found that US multinationals preferred to invest in those regions that had better protection of intellectual property rights, lower degree of government intervention in business operations, lower level of government corruption, and better contract enforcement. Their results were robust to alternative measures of economic institutions, different sub-samples, and different estimation strategies, and to the inclusion of control variables such as those for agglomeration economies, and other traditional factors of FDI location choice.

Du et al.'s findings are also consistent with Zak (2002) who notes that insecure property rights can cause countries to be caught in a poverty trap and permanently lower levels of per capita income as compared to countries with well-enforced property rights. Gwenhamo and Fedderke (2010) also found that secure property rights and low risk in the host country had a positive effect on the volumes of both long-term and short-term foreign capital, but tilted the composition of foreign capital in favour of long-term foreign capital.

Although Du et al. (2008)'s findings about the role of FDI in China and those of Gwenhamo and Fedderke (2010) on foreign stocks in South Africa are well supported by theoretical and empirical

evidence, some isolated experiences in Southern Africa provide interesting revelations where some countries despite being perceived to have high corruption levels and weak contract enforcement procedures have continued to attract huge private investments from China. Perhaps the Chinese private investors in Southern Africa may be looking at other factors (for example, readily available raw materials for their industries) in addition to the quality and functions of institutions to decide on where to invest. For example, Mlachila and Takebe (2011) argue that Chinese private investors in Zambia have mainly been attracted to the country's liberal investment climate, relatively limited domestic production, and the ability to service other Chinese companies.

In a similar study to Du et al. (2008), Saini et al. (2010) investigated the systemic link between economic freedom, FDI and economic growth in a panel of 85 countries. According to them, empirical studies on the FDI–growth relationship remain limited particularly with respect to the effects of economic freedom on the FDI spillovers. They argue that countries that promote greater freedom of economic activities are more likely to gain from the presence of multinational corporations (MNCs). They go on to state that while this is a plausible conjecture, as of yet there is no hard empirical evidence to support the view that economic freedom makes a difference to the way in which FDI affects economic growth. According to them, such evidence is the logical next step in the evolution of the literature on FDI and growth. However, their empirical results, based on the generalized method-of-moment (GMM) system estimator, reveal that FDI by itself has no direct (positive) effect on output growth. Instead, they argue that the effect of FDI is contingent on the level of economic freedom in the host countries.

In another related study, Cebula (2011) investigates the impact of the ten forms of economic freedom by the Heritage Foundation, as well as a measure of political stability developed by the World Bank, on economic growth in OECD countries. He uses panel least squares estimations and

panel two-stage least squares estimations and finds that the natural log of purchasing-power-parity adjusted per capita real GDP in OECD countries is positively impacted by monetary freedom, business freedom, investment freedom, labour freedom, fiscal freedom, property rights freedom, and freedom from corruption. Economic growth is also found to be positively impacted by political stability. Cebula's findings are also in line with Wu (2011) who noted a strong relationship between economic freedom and economic growth in China. This study, in addition to the analysis of the impacts of institutions on growth, explores the debates on the correlational links between property rights and FDI in a liberalised economic environment with a special focus on Zambia.

There is also burgeoning literature that shows that there is a positive correlation between efficient legal institutions, for example, the rule of law and levels of investments that can be attracted in a country. This is supported by the international development community that has been fostering legal and judicial reforms in the belief that, beyond their intrinsic worth, such reforms will help improve economic performance[25]. The firm belief in the power of legal and judicial reforms to spur economic development is supported by a growing body of empirical research showing that economic development is strongly affected by the quality of institutions—including the quality of a nation's legal institutions[26].

For instance, La Porta (1998) notes that the protection of investors through legal institutions is an important determinant of ownership concentration and the size and breadth of capital markets across nations. He observes that investors may enjoy high levels of protection despite bad laws if an efficient judiciary can redress expropriations by management. According to him, a strong legal

[25]http://siteresources.worldbank.org/INTLAWJUSTINST/Resources/LegalInstitutionsTopicBrief.pdf (19 September 2011)

[26]Ibid

enforcement may serve as a substitute for weak rules. La Porta's main argument is that the types of legal systems and how they are applied are more fundamental than mere protection of investors in fostering a friendly business environment. He concludes by stating that common law such as the one applied in Britain and France has significant positive effects on financial and capital markets than continental law.

Beck and Levine (2003) found that in countries where legal systems enforce private property rights, support private contractual arrangements, and protect the legal rights of investors, savers are more willing to finance firms and financial markets flourish. In contrast, they find that legal institutions that neither support private property rights nor facilitate private contracting inhibit corporate finance and stunt financial development and by *implication retard economic growth* (researcher's emphasis).

In a similar study, Linda (2010) offers an interesting case on China's impressive economic growth over three decades which seemingly occurred in the absence of a strong legal system. Her study views China's reform process over the past three decades as one that has entailed a gradual introduction of market forces into areas of the economy, which requires both dismantling the structure of the centrally planned economy and developing market-oriented institutions (see also Ding and Knight, 2009).

Linda argues that China's transition is premised on a set of informal, and increasingly formal, institutions that provided incentives during the process of gradual liberalization. According to her, the exploration of the interplay between growth and institutions leads to the conclusion that continued economic growth in China will depend on implementing legal reforms better suited to the nature of the decentralized economy, hastened by the introduction of international economic laws and rules with greater global integration. By the same logic, this study argues that sustained

economic growth in Zambia is contingent upon the country implementing a continuum of political, economic and legal reforms in order to remove all institutional bottlenecks that impede economic performance.

Rathinam and Raja (2010) investigated the finance–growth thesis from the perspective of the determinants of financial sector growth such as legal and institutional developments and financial regulation in the Indian context. With the help of newly constructed indices of procedural law, regulation and institutional development, within a multivariate vector auto regressive (VAR) framework, Granger causality tests and policy simulations were employed to investigate the long-run causal relationships between the determinants and the financial sector. The results show that legal and institutional developments and financial deregulation cause financial sector growth with a considerable feedback and further finance causes economic growth.

Jalilian et al. (2006) explored the role of state regulation using an econometric model of the impact of regulation on growth and their results based on two different techniques of estimation suggested a strong causal link between regulatory quality and economic performance. Other scholars like Isam (2002) looked at the regulatory institutions in financial, labour, or product markets as an anchor for economic development although they never provided a detailed model of how those institutions impact on the growth process, which could then be confronted with data.

2.7 Quality and not Quantity Matters in Institutions

Rodrik (2000) helps to shed more light on the role and quality of institutions in explaining economic performance by focusing on property rights, regulatory institutions, institutions charged with maintenance of macroeconomic stability, institutions responsible for social insurance, and those directly dealing with conflict management. He argues that countries with high quality institutions are more likely to attain higher levels of economic growth relative to those that had

poor institutions. Indeed quality over quantity of institutions matters in laying a firm foundation for economic activities both at national and regional levels. For example, Rodrik, Subramanian and Trebbi (2002) estimated various contributions of institutions, geography, and trade in determining income levels around the world and came to the conclusion that the quality of institutions matter over everything else.

Easterly et al. (2006) broaden the debate further by arguing that policy and institutional quality are, to a large extent, endogenously determined. They place a heavy emphasis on social cohesion as the main determinant of the quality of institutions which ultimately affects growth policies that a country implements. Motivated by this logic, they postulate that a country's social cohesion is essential for generating confidence and patience needed to implement reforms: citizens have to trust the government that the short-term losses arising from reform will be more than offset by long-term gains. However, their study did not fully account for some countries where social cohesion may not be strong but yet are able to perform well economically. For example, North (1994) argued that societies with norms favourable to economic performance could sometimes prosper even with unstable or adverse political rules.

In a similar study to Easterly et al. (2006), Lewis (2010) developed a formal model to investigate the relationship between institutional quality--the current set of property rights--and institutional flexibility--the ability to develop new institutions--and related these aspects of institutional structure to dynamic economic performance. The model was used to analyze two types of institutional reform. The study established that an increase in institutional quality lowered market transaction costs, producing an immediate but short lived increase in the rate of economic growth.

In contrast, Lewis notes that an increase in institutional flexibility results in a delayed but permanent increase in economic growth. However, Lewis' analysis suggests that the current work

on institutions places too much emphasis on property rights and too little on the determinants of institutional change. In order to address a major weakness in many empirical studies that put a lot of emphasis on property rights to the exclusion of other important variables, this study includes in its scope of analysis other institutional factors such as political instability that equally has a bearing on growth. By so doing, the study deepens the empirical focus and analysis on institutions and growth.

Sacerdoti et al. (2005) found ample econometric evidence to demonstrate that institutional quality plays a crucial role in explaining economic performance across countries, and that there are close interactions between sound policies and good institutions, that are likely to be mutually reinforcing. The study argues that countries with strong growth performance are those where investors feel secure about their property rights, the rule of law prevails, private incentives are aligned with social objectives, monetary and fiscal policies are grounded in solid macroeconomic institutions, idiosyncratic risks are appropriately mediated through social insurance, and citizens have recourse to civil liberties and political representation. Sacerdoti and others go on to state that sound policies are more likely to be pursued where they are supported by strong institutions, while a weak institutional setup could make it difficult to sustain good policies over time.

The IMF (2003) postulates that income differences among economies appear closely correlated with indicators of institutional quality. Their study uses empirical analysis to capture three measures of institutions namely 1) the quality of institutions including the degree of corruption, political rights, public sector efficiency and regulatory burdens; 2) the extent of legal protection of private property and how well such laws are enforced; and 3) the level of institutional and other limits placed on political leaders. The paper finds that there is a high correlation between measures of institutional quality and economic performance, that is, improvements in institutions lead to

higher incomes, stronger growth, and lower volatility. However, the IMF study differs from Easterly et al. (2006) in the sense that it includes in its assessment the impact of historical and geographical factors[27]on economic development which are found to be significant in explaining regional differences.

Chang (2005) disagrees with the IMF's simplification of the relationship between institutions and economic development and argues that it is impossible to come up with a single list of functions and forms of institutions that are desirable, not to speak of essential, for economic development. He goes on to state that exploration of the relationship between institutions and economic development is complex and any theorization of the role of institutions and economic development should take this limitation into account.

Chang in trying to address the inability of orthodox literature to clearly define the relationship between institutions and development draws a distinction between the forms and functions of institutions. According to him, the functions that institutions perform are more important than their forms. However, he notes that one could not be taken without the other particularly when making policy proposals. Chang's views are consistent with the position of Isam (2002) who stresses the need to focus on both the functions and structure of the institutions.

2.8 Political Governance, Political Instability and Economic Growth

A number of studies such as Hall and Jones (1999), Acemoglu et al. (2001), Rodrik, Subramanian and Trebbi (2002) among others, have all discussed in detail how political institutions and particularly democracy affect economic growth. They have argued that democracy puts checks

[27]According to the IMF (2003), geographical factors include latitude, distance to the main markets, and access to the sea while historical factors could be colonisation and settlement. For instance, the paper notes that in countries where Europeans settled in large numbers, institutional developments tended to encourage broad-based participation in political and economic activity and were conducive to innovation, investment and growth.

and constraints on the excesses of leaders and hence is good for economic growth as it allows different agents to exercise their freedoms and rights including economic choices.

For example, Evgeni and Mueller (2012) and Kapur and Kim (2006) find that democracy is more conducive to growth while Narayan et al. (2010) established that democracy has a positive effect on economic growth although they were also aware of other studies such as Barro (1994) that suggested a negative relationship or no relationship at all. According to Narayan et al. (2010), although most studies find that economic growth has a positive effect on democracy, there is no consensus on this issue, particularly at low levels of economic development. They also note the fundamental differences between economists who mainly focus on the effect of democracy on economic growth and political scientists who study the effect of economic growth on democracy.

Bigsten and Mugerwa (2000) observe that although several studies on the relationship between democracy and growth are inconclusive, growth seems somewhat to thrive in an environment where its citizens enjoy relative civil and economic liberties. Bigsten and Mugerwa's findings resonate well with the empirical observations of Evgeni and Mueller (2012) who investigated the interrelationships between democracy, economic freedoms, and economic growth in 24 post-communist economies over the period 1990-2007, and found that strong democratic institutions are associated with greater economic freedoms and larger public sectors and public deficits. They also noted that stronger economic freedoms led to more rapid growth, but large public sectors and public deficits have adverse effects on growth.

Butkiewicz and Yannikaya (2006) argue from an empirical standpoint that maintenance of the rule of law promotes growth, while adopting democratic institutions does not appear to improve growth performance. However, their conclusions are very sensitive to sample selection and to estimation

technique. When an identical sample of countries is used, they find that countries with democratic institutions do enjoy superior growth performance.

Notably, the relationship between growth and democratic institutions is also sensitive to the estimation technique used. Butkiewicz and Yannikaya (2006) observed that estimates using instrumental variable techniques suggested that democratic institutions do experience better growth performance. These results are relevant for developing countries especially Zambia which introduced liberal democracy in 1991 but since then there has been no major empirical study to capture the impact of democracy on the country's economic performance or indeed the impact of economic performance on democracy.

Chen and Feng (1996) demonstrate using a mathematical model of political determinants of economic growth that growth, which is a function of accumulation of reproducible capital, is increased or decreased as a function of three political variables: regime instability, political polarization, and government repression. They test the model by examining and discussing its three broad implications and find that the economy slows down when the probability of regime change is high. They also find evidence that political assassinations and forfeiture of economic freedom have negative consequences on growth. These results are consistent with Alesina et al. (1996) who examined the relationship between political instability and per capita GDP growth in over 100 countries and found that in countries and time periods with a high propensity of government collapse, growth was much lower than otherwise.

Another scholar A-Pin (2006) argues that political instability especially unconstitutional regime change and civil protests create uncertainty with respect to future institutions and policymakers, which in turn, alters the behaviour of private agents and firms with respect to the accumulation of capital. He also notes that political instability changes the incentives of policymakers who either

try to increase their term in office or take the benefit of the position they have while they are in office. The findings of Chen and Feng (1996), Alesina et al. (1996), A-Pin (2006) and many others suggest that good political governance is critical in shaping economic outcomes through effective States that are legimitate, capable, and accountable to their citizens.

At a country level, Zambia has been experiencing sporadic political tensions manifested in the form of social unrest, civil and trade union demonstrations, picketing and violence which have markedly increased in recent years particularly in the run up to presidential, parliamentary and general elections. While political parties are generally allowed to operate freely, they usually face intimidation and occasional violence from some unruly elements in the ruling party. For example, Michael Sata the former President of Zambia had been arrested and charged for numerous offences including sedition between 2001 and 2010[28] when he was still in the opposition. It is therefore plausible to suspect that these political events (political instability) have had a bearing on Zambia's investment climate and by implication on economic performance.

The opposite is also true that political stability as argued by Luiz (2009) is cardinal in ensuring conditions that allow for growth and development of local markets. Luiz cites the frequency of changes in government, the method of electing government, political tolerance, good general country governance, corruption and the presence of high quality, transparent regulatory frameworks and public institutions as some of the aspects that impact on perceived political stability. This study investigates, among other things, the extent to which political instability in Zambia has had a bearing on economic performance.

[28] http://www.freedomhouse.org/report/freedom-world/2011/zambia (Freedom in the World, 2011 Country Report) (23 July 2012)

In concluding the literature review, the study briefly examines selected countries in the sub region to draw inferences and further insights on institutional variables that affect growth. In addition, a review has been made of selected *de jure* institutions in Zambia to understand their potential significance on economic development over time.

2.9 Country Case Studies: Mauritius, Botswana, the Democratic Republic of Congo (DRC) and Zimbabwe

2.9.1 Overview of Case Studies

The case studies have been carefully selected to help us draw key lessons for Zambia on the potential impacts of formal institutions on growth (property rights) and development outcomes. The four countries share similar historical and economic features with Zambia. They were all colonized by foreign powers and with the exception of Mauritius also depend heavily on the exploitation and export of primary products for their main economic stay[29]. For example, Botswana and Mauritius were once low income countries (LICs) that have since graduated into middle income status through sustained economic growth on the back of institutional reforms.

Part of the reason for the exceptional growth performance in Mauritius and Botswana has been their strong institutions underpinned by the rule of law and a guarantee of property rights for private investors. This is also supported by Yoo (2011) who observed that Botswana and Mauritius have had remarkable high economic development because of strong property rights institutions

[29]Mauritius has successfully diversified its economy away from heavy dependence on sugar to the service sector (tourism and hospitality, banking and insurance, among others. Zambia and Congo DR are still strongly dependent on the export of minerals while Botswana is slowly trying to diversify its economy to agriculture and tourism—albeit very slowly)

while Malawi, Zambia and Zimbabwe expunged constitutional safeguards against property expropriation for the public interests.

DRC and Zimbabwe are still LICs whose institutions have been weakened due to civil war (the former) and political instability (the latter) thereby affecting their growth trajectories. The experiences of Mauritius and Botswana provide the study with institutional insights that are critical in explaining how a country, other things being equal, can move from one income status to another. This is particularly important for Zambia because the country aspires to achieve a prosperous middle income status through growth by 2030 (GRZ, 2011). The last two countries (DRC and Zimbabwe) offer lessons in terms of factors to look out for that might impede Zambia from acquiring the envisaged prosperous middle income status.

2.9.2 Mauritius

Sacerdoti et al. (2005) demonstrate through empirical and statistical evidence that the high quality of Mauritian institutions is crucial in explaining the country's macroeconomic performance over time. According to them, the country ranks sharply above the average African country with respect to all indices of institutional quality, political as well as economic and also above the fast-growing Asian economies on most indices. The indices for voice and accountability, political instability, government effectiveness, regulatory burden, and rule of law are found to be sharply more favourable in Mauritius not only in comparison to all other African countries, but also in comparison to emerging Asian economies. The study established that political and legal institutions in Mauritius were at a significantly better level than those in the comparator countries.

Zafar[30] argues that the main drivers of Mauritian economic growth apart from macroeconomic stability are a combination of political stability, democratic legacy, rule of law, and quality of judicial institutions. The rule of law coupled with a strong and independent judiciary in Mauritius has helped to enforce property rights thus making the country a destination of choice for global corporate investors.

Others such as Svirydzenka and Petri and (2014) have observed that the Mauritian growth "miracle" is attributed to the role of key institutions particularly the separation between economic and political power, establishment of a parliamentary system to accommodate diversity, and the decision not to have a standing army [see also Subramanian (2001), Frankel (2010), and Stiglitz (2011)]. In addition, the Island State has been politically stable since independence—a condition that has fostered the development of strong economic institutions (property rights) and the flourishing of a vibrant media that places checks and balances on the governing elites.

Svirydzenka and Petri (2014) further note that the sharing of political power and the development of a vigorous opposition and media have ensured that no single elite or ethnic group was in a position to dominate. Indeed, not having a standing army has facilitated financial savings for investments and ensured freedom from military coups. Gulhati and Nallari (1990) and Subramanian and Roy (2003) have also provided insights on Mauritius' growth by stating that the country's economic performance should be understood in the context of its efficient and properly functioning institutions that have laid a firm foundation for investment, entrepreneurship and innovation.

[30]Ali Zafar, Mauritius an Economic Success Story, Chapter 5. See http://siteresources.worldbank.org/AFRICAEXT/Resources/258643-1271798012256/YAC_chpt_5.pdf

In another related study, Odit and Dookhan (2010) demonstrate that education has had a strong impact on economic growth in Mauritius. Using a Cobb-Douglas production function with constant returns to scale where human capital is treated as an independent factor of production in the human capital augmented growth model, they find compelling evidence that human capital increases productivity and by implication plays an important role in economic growth mainly as an engine for improvement of the output level.

Borrowing from Hall et al. (2010), it can be argued that an additional year of education in Mauritius has a higher chance of yielding better results on the overall economy than in the DRC because the former has a better institutional environment than the latter. Hall and others postulate that the best opportunities for more educated individuals in countries with low-quality institutions are more likely to be zero-or-negative sum, such as working in the government bureaucracy.

2.9.3 Botswana

Similar to the Mauritian experience, Botswana's impressive economic performance for several years can be traced to its strong political and institutional dynamics, that is, good governance and a market-based economy. The country boasts of relatively strong checks and balances that ensure accountability and rules for both public spending and general economic management (Maipose, 2008). In particular, institutions of private property have played a critical role in attracting foreign direct investment in the country especially in the mining and services sectors.

Acemoglu et al. (2001) note that Botswana's higher rates of per-capita growth for over three decades can partly be attributed to maintenance and strengthening of institutions of private

property[31] while Martin (2005) argue that the Botswana institutional arrangements in place at independence were favourable to political elites and their interests.

According to Martin, Bostwana pursued growth-promoting policies such as providing public goods and ensuring macroeconomic stability not only because these policies were popular for the constituencies of the Botswana Democratic Party (BDP), but also they brought direct benefits to the political elites. It is generally argued that politicians in power have always supported growth-enhancing economic reforms because they provide a win-win situation to themselves and the people at large and hence prolonging the politicians' stay in government.

Other scholars such as Ahmed and Mmolainyane (2014) note that Botswana was one of the fastest growing countries in the world with an average annual increase in GDP of 13.9 percent from 1965-1980 and 11.3 percent from 1980-1990. They attribute this remarkable growth performance to a competitive and market-friendly environment underpinned by efficient institutions and the rule of law. Ahmed and Mmolainyane further state that Botswana has a sound legal system, strong educational policies and sound infrastructure that support investments. Indeed the country has a strong regime of property rights which has acted as an incentive to both domestic and foreign investors to do business with ease in the country leading to increased economic activity and by implication strong growth.

The World Bank (2012) notes that Botswana has carried out a number of progressive business reforms and stood at 90 in the ranking of 183 economies on the ease of starting business with Mauritius taking a comfortable lead in the SADC region at 15, South Africa at 44, Mozambique at 70 and Tanzania at 123 in that order respectively.

[31] http://www.colby.edu/economics/faculty/jmlong/ec479/AJR.pdf (21 March 2011)

2.9.4 Democratic Republic of the Congo

DRC has been embroiled in civil strife and political instability spanning many years which have hindered the country from realising its growth potential. Luiz (2006) argues that the public bureaucracy has been weakened resulting in the inability by the State to effectively deliver public services. Some independent commentators note that some of the macroeconomic gains that DRC had posted before the war began in 1998 have been erased. A fragile political and social situation has proved to be a binding constraint to growth in the country by weakening institutions of governance including property rights[32]. More specifically, political instability has led to the deterioration of macroeconomic stability while at the same time creating investment and business uncertainty. Beyond the macroeconomic and sectoral impacts, the conflicts have had damaging effects from a social and human development perspective (ECA, 2015a).

Notably, Congo's economic difficulties are exacerbated by an unstable political environment and gross abuse of human rights resulting from a protracted war and pockets of rebel activities in selected parts of the country. The country's poor infrastructure, inoperative legal system, corruption, and lack of openness in economic policy and financial operations continue to be further obstacles to investment and growth[33]. The AfDB (2013) notes that the main constraints to economic growth in the DRC is the lack of infrastructure services, weak governance and inadequate institutional capacity, and an unconducive business environment.

Some scholars such as Luiz (2006) have described DRC as a failed state and hence too ineffective to provide any semblance of a legal order that can guarantee protection of property rights for

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[32] http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Congo%20Democratic%20Republic%20Full%20PDF%20Country%20Note.pdf (African Economic Outlook, 2015)

[33] http://www.nationsencyclopedia.com/economies/Africa/Congo-Democratic-Republic-of-The-OVERVIEW-OF-ECONOMY.html (11 April 2011)

business investments. Despite some persistent pockets of violence and rebellion especially in the eastern part of the country, DRC is currently enjoying relative peace and political stability which are the main preconditions for investment and growth. Buoyed by a substantial amount of debt relief to the tune of US$12.3 billion[34] received from the international financial institutions (IFIs) in 2010 and increased investments in infrastructure development from China, the country has in the last few years posted positive economic growth, albeit very modest.

2.9.5 Zimbabwe

Since the onset of the controversial land reforms in 1999 followed by a protracted political crisis characterised by election violence, Zimbabwe has been dogged by governance challenges which have proved to be serious binding constraints on its economy. The controversial government land reforms which forcibly grabbed land from commercial white farmers without adequate compensation did not only weaken property rights but had also the unintended outcome of discouraging private investments. Property titles which once served as a key insurance mechanism for guaranteeing bank lending, were no longer recognized by the government. As a result, the economy collapsed by 5 percent in 2000, 8 percent in 2001, and 12 percent in 2002, and an estimated 18 percent by 2003[35].

During the ensuing crisis, a number of multinational corporations and donors pulled out of the country thus shaking investor confidence and weakening the economy. According to Luiz (2006), the internal conflict in Zimbabwe caused the economy to spiral out of control and induced it to shrink by 3.5 percent in 2005. Thus, fiscal and monetary policies as well as maintaining

[34] http://www.imf.org/external/np/sec/pr/2010/pr10274.htm (22 September 2011)
[35] http://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2005/11/cj25n3-12.pdf The loss of property rights and the collapse of Zimbabwe economy, by Craig J. Richardson (seen 16 May 2016)

macroeconomic stability became a huge challenge as evidenced by the unprecedented hyperinflationary levels that hit the economy between 2000 and 2005.

Gwenhamo et al. (2008) and Gwenhamo (2009) have attributed the persistent growth problems in Zimbabwe to poor economic and political institutional frameworks characterised by insecure property rights and an unreliable regime of the rule of law. Others have noted that policy inconsistency, uncertainty and negative perceptions by the international community coupled with the enactment of the controversial indigenisation and economic empowerment laws in 2009 have had an adverse effect on investments and capital flows[36] in the country.

2.10 Land—A Proxy for Economic Development in Zambia

The Constitution of Zambia is the supreme law of the country and provides several legal acts relating to land acquisition, tenure and overall administration. The country has many pieces of legislation and statutes that pertain to the management of land in relation to the control of the environment, natural resources, access to water, agricultural land, and forests, among others. The current draft land policy in Zambia recognises and reaffirms that land is the basis of wealth creation and by implication economic development[37]. This view is also supported by the AU, ECA and AfDB (2012) that note that land is a central part of the livelihoods of African people and how this asset is governed and managed determines Africa's ability to harness this and related resources for economic prosperity, social equity, environmental sustainability, and peace and security.

[36] http://www.imf.org/external/pubs/ft/scr/2014/cr14322.pdf (IMF country Report No.14/322, Zimbabwe: Third Review Under the Staff-Monitored Program and Successor Staff-Monitored Program—Staff Report and Press Release, November 2014)

[37] Draft National Land Policy prepared by the Ministry of Lands, Natural Resources and Environmental Protection of the Republic of Zambia, October 2015

In an earlier report, the AU, AfDB and ECA (2010) stated that the issue of land ownership in Africa traces its origin to geo-political, economic, social and demographic factors which in recent times have been compounded by global and strategic imperatives. The report further observed that different forms and modes of colonisation experienced across the continent coupled with various cultural/normative systems and economic arrangements have in turn influenced the legal regimes relating to land tenure systems, use, management and environment governance.

At 752,618 km^2 of which 9, 220 km^2 is covered by water, land represents a significant economic resource in Zambia. Chileshe (2005) has given a detailed account of the evolution of the land tenure system in Zambia covering the colonial period, the immediate post-independence era to the present multi-party period that started in 1991. He notes that the origins of Zambia's land administration are rooted in the colonial system where the British Crown simply imposed its own land laws on the colonies and protectorates.

Chileshe further states that the British devised land laws for its colonies and protectorates based on a dual system where crown land which was usually the best and most fertile was reserved for settlers and governed by the statutory tenure system while traditional land was reserved for indigenous people and administered by customary laws.

Prior to the arrival of the colonialists in Zambia, the territory and its land were administratively governed by the British South African Company (BSAC) until 1924 when it handed over to the British Crown. In the period predating the BSAC, land in Zambia was generally administered according to African customary law and the customs of land administration varied from chiefdom to chiefdom due to the multiplicity of tribes in the Territory (WLLA, 2010).

Adam (2003) and Chileshe (2005) note that at independence Zambia inherited four types of land tenure systems in the order of State or Crown land, Freehold Land, Reserves and Trust Land.

However, under the 1995 Lands Act, the Reserve and Trust Lands were converted into traditional or customary land[38]. Currently Zambia has a dual land tenure system with approximately 90 percent of land falling under the customary system while 10 percent is under the jurisdiction of the State. The country's existing land system is largely influenced by the principles of English property law as inherited from the colonial masters. State land or land on title is generally held in trust by the President of the Republic through the Commissioner of Lands. After the liberalisation of the land market which started in 1995, both citizens and investors can acquire state land with title under leasehold arrangements as prescribed by law.

On the other hand, customary land is communally owned through traditional authorities (chiefs and headmen/women) and its overall administration is subject to policy guidance. Although customary land is recognised in the constitution, its security of tenure (land rights) are not registered. This ultimately leads to a number of disputes between chiefs and government officials, one chiefdom and another or indeed between chiefs and foreign investors (Chileshe, 2005). However, the 2012 draft land policy proposes to address some of the pitfalls associated with customary tenure system by extending legal protection of the rights of 'landowners' in order to equalise the rights of citizens to land and property.

Fedderke et al. (2011) and Adams (2003) have provided a historical and legal account of the land tenure system in Zambia starting with the Lands and Deeds Registry Act 1914 which was later amended in 2010*;* the Lands Survey Act 1960; the Agricultural Lands Act 1960; the Lands Acquisition Act 1970; the Town and Planning Act; the Lands Act 1995 (which replaced the Land Act 1975), the Housing Act, the Statutory and Improvements Areas Act, among others.

[38]Report of the Committee on Lands, Environment and Tourism for the Second Session of the Eleventh National Assembly Appointed on 27th September 2012

Worth noting is the 1975 Land Act which revolutionalised the land tenure system in Zambia when the United National Independence Party (UNIP) led by President Kaunda decided to nationalise land and outlaw all forms of trade in land except in special circumstances. By this Act (Land Act 1975), all land was vested in the President and held by him in perpetuity for and on behalf of the people of Zambia. Chileshe (2005) notes that the land market in Zambia, like in many other African countries that were pursuing socialist ideologies was criminalised. This action by the State had a bearing on private property rights in relation to land ownership and the extent to which they could be realised for economic development.

Although the Movement for Multi-Party Democracy (MMD) led by President Frederick Chiluba amended the 1975 Land Act in 1991 to liberalise land access, land administration and management in Zambia continue to pose huge challenges and the difficulties are compounded, among others, by lack of land policy, reliable land information management systems, decentralised land registration system and collaboration among different stakeholders (GRZ, 2011).

For example, UNCTAD (2006) observes that some foreign investors have reported some constraints with respect to land administration in Zambia due to a number of factors ranging from slowness on the part of the local council to open up land for allocation, cumbersome procedures to convert customary land to titled land to over-centralisation of processing procedures.

However, in recent years the government has carried out a number of reforms to decentralise land administration and also make it more accessible. Notably, the government has continued consultations on the Draft Land Policy aimed at strengthening and modernising land administration thereby increasing the supply of land for investment and increasing access to land ownership for disadvantaged groups, including women who only hold 20 percent of state-owned land title deeds (AfDB, 2010; GRZ, 2006). In addition, the government has embarked on country-

wide land audits to establish how much land is available for various uses such as agriculture, forestry, game parks, residential, industrial and commercial[39].

Land in Zambia, like in many countries has political, social and economic significance and lies at the centre of productive activities (residential, agriculture, mining, commercial, tourism, and forestry) and hence provides the basis for development. Since the liberalisation of the economy in the early 1990s, there has been increased demand for land by both local citizens and foreign investors.

2.11 Proposed Index to measure Property Rights in Zambia

Fedderke et al. (2011) argue that land is a very important form of property in Zambia, and that changes in the rights to this asset has the potential to affect economic growth of the country in a great way. Fedderke et al. (2011)'s position on land is well supported by similar studies such as Kapur and Kim (2006) who established that well defined private property rights in land management in India had a strong bearing on agricultural productivity. Persuaded by this logic, Fedderke et al. (2011) constructed a property rights index for Zambia using land as its main focus. This study has adopted the same methodology to construct a property rights index which is later employed to capture the impact of property rights on economic growth in Zambia.

In constructing the index, the study has reviewed a number of existing institutional measures and notes a number of limitations in their application and hence the focus on the new proposed indices. The new indices were achieved by making reference to the empirical work of Gwenhamo et al. (2008) who built on Fedderke et al. (2001)'s work on property rights in South Africa. The study also draws on the recent works of Gwenhamo (2009); Luiz et al. (2011); Fedderke and Garlick

[39]Ibid

(2011); and Fedderke et al. (2011) that have developed new indices on property rights, political and civil liberties and political instability for Zimbabwe, Mozambique, Malawi and Zambia.

Unlike Gwenhamo (2009) who investigated the impacts of property and political rights on FDI in Zimbabwe and Fedderke et al. (2011) who focused on the construction of reliable institutional indicators for Zambia rather than testing them on economic outcomes, this study specifically investigates the impacts of property rights and political instability on economic performance in Zambia for the period 1965 to 2010. The aim is to demonstrate that, other things being equal, institutional measures have a strong bearing on economic outcomes over time.

In analysing methodological issues, we take note of the problems of differences in the definition of institutions, difficulties in methodologically measuring institutions as well as challenges in separating formal from informal institutions. Both Fedderke et al. (2001) and Gwenhamo (2009) have provided a detailed discussion on methodological difficulty associated with construction of reliable indices of property rights, political liberties and political instability and at the same time have suggested practical ways of overcoming the identified challenges. The current study also takes into account inherent challenges associated with using aggregated indicators to represent certain institutional characteristics and functions.

For instance, Chang (2005) points out that there are challenges in the measurement of property rights system because it is complex and consists of a vast set of institutions—land law, urban planning law, tax law, inheritance law, contract law, company law, bankruptcy law, intellectual property rights law, and customs regarding common property, among many others.

Chang argues that since property rights system is made up of such diverse elements, it is almost impossible to "aggregate" these component institutions into a single aggregate institution called the property rights system. It is for this reason that many empirical studies including this particular

one opt to use subjective measures of the overall "quality" of property rights system. This is consistent with Gwenhamo et al. (2008) who stated that there is no consensus on the most appropriate way to measure institutions although subjective or perception-based indices appear to dominate empirical work.

Despite the highlighted methodological challenges in the theoretical and empirical literature, we have controlled for measurement difficulties by adopting new and robust methods such as those employed in Fedderke and Garlick (2011) and Gwenhamo (2009). In so doing; we have, to a great extent, avoided the common pitfalls associated with measurements of institutional indices. The study focuses on Zambia taking into account the observations made by Rodrik[40] that institutional arrangements are, by necessity, country-specific and he adds that, 'discovering what works in any one country requires experimentation'. He further says that institutions are not hot-house plants capable of being planted in any soil and climate.

Rodrik's views are supported by Butkiewicz and Yannikaya (2006) who in their analysis of the factors that determine rates of economic growth found that country-specific characteristics had important effects on growth performance. Furthermore, the study employs econometric models and techniques that are generally well established in theoretical literature and empirical work to capture the impacts of property rights and political instability on economic outcomes in Zambia.

2.12 Gaps in the Literature

The literature review has shown that there are many conceptual differences in the definition of institutions as argued by Searle (2005) and as such, their application should be country or region specific. In addition, there are areas of contestation in the literature, for example, it is not really

[40]Getting Governance Right, by Dan Rodrik, http://www.project-syndicate.org/commentary/rodrik19/English (article seen on 13 May 2010)

clear what the impact of democracy in different countries is on growth and vice versa. Notably, Fedderke and Klitgaard (2013) working with panel data for 162 countries found that rights (political rights and civil liberties) matter for GDP, and differentially across groups of countries. They further noted that improvements in rights do lead to increases in national income, though country heterogeneity and choice of appropriate estimation technique was crucial in isolating the effect.

We also note that there is no blueprint in literature for measuring institutions and their effects on economic performance. For instance, some studies emphasise the functions of institutions as the main determinant of growth while others focus on the forms as being cardinal. For purposes of this study, we argue that both the functions and forms/structure of institutions are important determinants of growth.

Many of the reviewed studies have employed cross-country analyses with only a handful focusing on single case studies. It is for this reason that this thesis focuses on Zambia as an empirical case in order to bring out the unique spatial country experience between formal institutions (property rights and political instability) and growth.

Although the relationship between institutions and economic growth has generated a lot of empirical research in the last two decades, there are still gaps in literature and knowledge. For example, Sindzingre (2010) and Beck (2010) argue that causality among institutional variables as well as their directions remains highly controversial and inconclusive in many respects. Other gaps in literature can be attributed to several factors ranging from different historical backgrounds and contexts, heterogeneity and evolving nature of institutions across countries to the lack of appropriate and comprehensive datasets.

It is also hard to measure the complexity of the institutional dynamics represented by numerous factors that transmit their effects on growth. For example, Fedderke et al. (2001) note that despite the literature having gone some way toward introducing a number of distinct social and political institutions and economic growth, empirical evidence is as yet inconclusive in the sense that a number of the postulated, but alternative and occasionally contradictory links have found empirical support. Fedderke and others demonstrate that the presence of strong webs of associations amongst social indicators, makes an empirical distinction between the theoretical propositions difficult [see Fedderke and Klitgaard (1998) in Fedderke et al. (2001)]. They further warn that under such conditions both structural and reduced statistical modelling is fraught with danger.

2.13 Conclusions on the Theoretical and Empirical Literature Review

There are a number of empirical studies such as North (1989;1990), Mauro (1995), Acemoglu et al. (2001), Zak (2002), Fedderke et al. (2001;2011), and Luiz (2006) that have demonstrated the impact of formal institutions (property rights) and the mechanisms by which they affect economic growth. This dissertation has used theoretical and empirical literature to demonstrate the importance of property rights in determining growth across sets of countries.

The literature review has shown that institutions have a profound influence on the development discourse insofar as explaining the drivers of growth are concerned. For example, literature especially from the new institutional economics argues that growth is an outcome of many factors such as the role and influence of property rights, political and civil liberties, political instability and social capital. More importantly, from the literature it has been established that legal, political, economic and social institutions are all critical in explaining economic variations at regional or country levels.

From the four case studies reviewed (Mauritius, Botswana, DRC and Zimbabwe), it has been established that countries with good institutions are predisposed to high economic performance while those with weak institutions are likely to suffer from both low growth and levels of development. The evidence from Botswana and Mauritius on the importance of property rights resonates well with the study's hypothesis that property rights are a key determinant of economic growth.

Given what has been reviewed and the gaps that have been pointed out in the literature, there is need to do further empirical studies on the role and impacts of property rights and political instability on growth. By carrying out an empirical study on the institutional determinants of growth in Zambia, this research has contributed to the existing literature by identifying gaps in the current debates and suggesting ways of how to address them.

Thus, the literature review is relevant to the study for two main reasons. First, it provides the study with a broad conceptual framework to guide the analysis on the interplay between property rights and economic growth over time. Second, the experiences of other countries and regions offer Zambia a window of opportunity to learn and adapt best practices to its own situation.

Notwithstanding the old arguments and theories on the determinants of long-run growth, this study builds on the new theories of growth and literature to investigate the role of property rights in facilitating economic performance in Zambia.

CHAPTER THREE: Research Design and Methodology

3.1 Introduction and Context

The main objective of this chapter is to use quantitative techniques (econometric measures) to answer the broad research question presented in chapter one of the dissertation. Specifically, the study employs two econometric techniques namely the Pesaran, Shin and Smith (1996; 2001) (PSS)-F test to determine causality among variables and the Johansen Multivariate cointegration test for establishing cointegration in a system of equations. The section further discusses in detail the methodology which has been employed and the justification for choosing it. Its analytical framework builds on the new growth theories from institutional economics as presented by North (1991;1994) and Acemoglu et al. (2001).

Attempts have been made to analyse the theoretical and econometric models used in literature to capture institutional dimensions that impact on long-run growth. We have specifically focused on the empirical methodology, scaling and rating for both property rights and political instability indices as well as their interpretation. The idea is to establish a deep understanding of the methodological approach upon which a suitable model for the study is determined.

3.2 Measuring Formal Institutions

3.2.1 De Jure Economic Institutions in Zambia: Property Rights

The introduction of plural democracy in 1991 came along with economic liberalisation and privatisation programmes. It is argued by some analysts that economic liberalization was introduced in order to release the potential of the economy that had been stifled for nearly two decades under a socialist regime. The new economic orientation meant that the role of the State

had drastically changed from being the main player in the economy to a regulator and facilitator of the private sector.

Some of the economic changes such as those relating to legal property rights were explicitly embedded in the national constitution. For example, the 1996 Constitution categorically states that "except as provided in this Article, no property of any description shall be compulsorily taken possession of, and no interest in or right over property of any description shall be compulsorily acquired, unless by or under the authority of an Act of Parliament which provides for payment of adequate compensation for the property or interest or right to be taken possession of or acquired"[41].

Consistent with the 1996 constitution, the draft constitution of 2012 has also retained protection of property rights, that is, it does not allow indiscriminate expropriation of private property without adequate compensation as may be deemed fit by the courts of law. In addition, the judiciary is being strengthened through a number of legal reforms in order to build capacity and credibility of the courts to discharge their mandate effectively.

In this context, the rule of law and protection of property rights are seen by the Zambian Government as preconditions for attracting FDI—the engine for economic growth and by implication development (GRZ, 2011). In addition, the Government has had to ensure that several policies, legal and business reforms are undertaken on an on-going basis and also that property rights are well defined in the formal laws.

For instance, some of the business reforms that the Government of Zambia has implemented in recent years to improve the investment climate include the significant reduction in the time required to register property, introduction of the public-private partnership (PPP) Act, the easing

[41] http://thezambian.com/zambia/w/constitution/constitution-of-zambia-1996.aspx (3 August 2011)

of the insolvency resolution procedures and payment of taxes. However, getting electricity and construction permits remained a challenge especially in 2013 (see Table 5). Generally, the Government's broad reforms resonate well with Besley (1995) who noted that there is a clear link between property rights and investments and that the evolution of property rights and their effect on investment are central issues in the political economy of development.

Table 5:Selected Business Reforms in Zambia

	Reforms Undertaken
Doing Business 2009	Starting a Business: The one-stop shop was reorganized through process reengineering and computerization and the operation of the Zambia Revenue Authority was improved by creating a customer service centre. Registering Property: Improvements at the Land Registry office cut the time to register property by almost half. Paying Taxes: Amendments were made to the Income Tax Act and Value Added Tax Act to update, strengthen, and remove ambiguities in these laws and enhance the effectiveness of tax administration. In addition, the withholding tax on savings and deposit accounts was reduced from 25 percent to 15 percent. Property Transfer Tax Act: The Government made acquisition of private property costly by introducing property transfer tax Public-Private Partnership Act:Aimed at strengthening government-private sector collaboration
Doing Business 2010	Getting Credit: Access to credit information was improved by making it mandatory for banks and non-bank financial institutions registered with the Bank of Zambia to use credit reference reports and provide data to the credit bureau. Property Transfer Tax (Amendment) Act:The Government amended the Property Transfer Tax Act of 2009

Doing Business 2011	Starting a Business: Zambia eased business start-up by eliminating the minimum capital requirement. Trading Across Borders: Zambia eased trade by implementing a one-stop border post with Zimbabwe, launching web-based submission of customs declarations and introducing scanning machines at border posts. Enforcing Contracts: Zambia improved contract enforcement by introducing an electronic case management system in the courts that provides electronic referencing of cases, a database of laws, real-time court reporting and public access to court records.
Doing Business 2012	Registering Property: Zambia made registering property more costly by increasing the property transfer tax rate
Doing Business 2013	Starting a business: Zambia made the starting of business costly Dealing with construction permits: Zambia made the dealing with construction permits costly Getting electricity: Zambia made getting of electricity costly Getting credit: Zambia made getting of credit difficult Protecting investors: Zambia made the protection of investors difficult Enforcing contracts: Zambia made enforcing of contracts more costly Resolving insolvency: Zambia improved on resolving insolvency Paying taxes: Zambia improved on payment of taxes

Source: http://www.doingbusiness.org/reforms/overview/economy/zambia

3.2.2 Property Rights in Zambia:1930-2010

Drawing on common law as inherited from the British colonial system, the subject of property rights in Zambia goes back to as early as 1912 when certain legal acts were used to define and protect private property as well as private business interests. For instance, in 1912 the authorities put in place a Copyright Act to protect private business interests of the British South African Company from abuse. The Act was later repealed in 1918. In 1916 authorities promulgated the Enemy Property and Trade Regulation while in 1917 there was an Enemy and Claims Property Act. The Enemy Property and Trade Regulation Act was later amended in 1918 and repealed in 1926. In 1922 the Lands and Arbitration Clauses were amended while in 1925 the Lands and Deeds Registry Act was put in place as an attempt to define access to land with a bias towards the colonial settlers. The current Lands and Deeds Registry Act, CAP 185, though rooted in historical origins, provides for registration of all land and all incidental matters relating to title and other miscellaneous deeds. In 1927 the British authorities issued the Mining Act (forfeiture of claims) and the registration of Mining Titles in order to strengthen the mining rights regime.

In 1929 the Mining Act was amended and in the same year other amendments were made to different pieces of legislation such as the Public Lands Acquisition Act and the Natives on Private Estate Act. Between 1930 and 1947 there were several pieces of legislation that were made relating to property rights and private business interests. For example, the Trades Licensing Act of 1930, the Trustee Investment in Northern Rhodesia Government Securities Act of 1931, the Registration of Business Names Act of 1932, the right to invest in other mines by BSAC was introduced in 1933, Registration of UK Patents, the Designs and Trade Marks Act of 1934, and the Poll tax and the Maize Control Act were introduced in 1935.

Others were the Patents Act of 1937, the Police Property Act of 1938, the Mining Proclamation Act of 1939, the Public Lands Acquisition Amendment Act of 1940, the Forests Act of 1941, the Factories Act of 1941 and the Liquor Licensing Act of 1941. The Lands and Deeds Registry Act was amended in 1943, while the Lands Survey Act and the Rent Control Act were also introduced in 1943. In 1944 the Maize Control Act was amended while in 1945 the Mining Proclamation Act was amended together with the Tobacco Marketing and Levy Act as well as the Forests Act. The Mining Proclamation Act was further amended in 1946 together with the Rent Control Act. Most of the amendments to the acts were meant to enhance their scope and enforcement.

All the different Acts and pieces of legislation relating to property rights in Northern Rhodesia between 1947 and 2007 were extensively covered by Fedderke et al. (2011).

However, after 1991 there was a sharp improvement in the regime of property rights as private property was reintroduced and backed by constitutional safeguards and legal reforms including the Land Act of 1995. Between 2008 and 2010 there were no significant changes made to pieces of legislation relating to property rights other than the safeguard measures introduced in the 1996 constitution. We shall now discuss and analyse the various methodologies and indicators that are used to capture institutional dimensions relating to property rights.

Kaufmann, Kraay and Zoido-Lobaton (1999) and Kaufmann, Kraay and Mastruzzi (2010) employ a wide range of indicators to capture institutional measures on governance such as voice and accountability, political instability and violence, government effectiveness, regulatory burden, rule of law, and freedom from graft.

Knack and Keefer (1995) and Bhattacharrya (2009) provide a broad spectrum of institutional variables including voice and accountability; quality of the bureaucracy; civil liberties; property rights and rule-based governance and government effectiveness. They also looked at freedom from

graft; law and order tradition; freedom from political instability and violence; political rights; freedom from regulatory burden and the rule of law.

International organizations such as the Freedom House[42]compile a number of economic indicators to measure the quality of institutions by grading three areas which all affect economic performance:(1) the democratization process--taking into account the average political process, the role of civil society, the independence of media, and the efficiency of governance and public administration, (2) the rule of law--summarizing the constitutional, legislative, and judicial framework and the level of corruption, and (3) economic liberalization--summarizing the successfulness of privatization, macroeconomic policy, and microeconomic policy.

Other organisations such as the Heritage Foundation[43] evaluate ten areas which affect economic performance directly or indirectly: trade policy, fiscal burden of government, government intervention in the economy, monetary policy, capital flows and foreign investment, banking and finance, wages and prices, property rights, regulation, and informal market activity. According to the Heritage Foundation, all the ten areas are important for economic development.

The World Bank uses the country policy and institutional assessment (CPIA) as a diagnostic tool that is intended to capture the quality of a country's policies and institutional arrangements, that is, its focus is on the key elements that are within the country's control, rather than on outcomes that are influenced by elements outside the country's control[44]. The CPIA employs scores ranging

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[42]"The impact of institutions on economic growth: the case of transition economies". Tjasa Redek andAndrej S 2005,JournalofEconomicIssues.FindArticles.com.
http://findarticles.com/p/articles/mi_qa5437/is_4_39/ai_n29228482/ (10 October, 2010)

[43]Ibid

[44]http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/IDA/0,,contentMDK:21378540~menuPK:2626968~pagePK:51236175~piPK:437394~theSitePK:73154,00.html (1 August 2011)

from 1 (low) to 6 (high) to gauge four broad areas of focus namely, economic management, structural policies, policies for social inclusion/equity and public sector management and institutions. Under the public sector management and institutions, the CPIA addresses property rights and rule-based governance, quality of budgetary and financial management, efficiency of revenue mobilisation, quality of public administration, transparency, accountability and corruption in the public sector.

In other measures, the World Bank in its *Cost of Doing Business*[45]publications which were launched in 2002 and cover over 180 countries across the globe focus on ten objective measures of business regulations [starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency) and their enforcement (see Table 5)].

However, many international organisations use common indices from international surveys such as the economic freedom index to measure property rights. A sub-component of the Economic Freedom Index called the property rights index measures the degree to which a country's laws protect private property rights, and the degree to which its government enforces those laws[46]. In other measures such as the *Global Property Guide*[47], scores range from 0 to 100 with higher ones suggesting that property rights are well protected while low scores imply poor protection. In computing the property rights index the *Global Property Guide* also assesses the likelihood that private property will be expropriated and analyzes the independence of the judiciary, the existence

[45]http://www.doingbusiness.org/about-us (10 March 2011)

[46]http://www.globalpropertyguide.com/Africa/Zambia/property-rights-index (1 August 2011)
[47]Ibid

of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts.

Some scholars such as Fernandes and Kraay (2007) distinguish between 'property rights institutions' to capture the security of private property from state expropriation and 'contracting institutions' that mediate disputes between private parties. Their first step is to define empirical proxies for the two distinct types of institutions. For property rights institutions, they employ a measure of corruption that was produced by Kaufmann, Kraay and Mastruzzi in 2005 arguing that corruption reflects the illicit capture of private property by corrupt public officials and as such constitutes expropriation. Higher values of this proxy are interpreted as corresponding to greater corruption.

To measure contracting institutions, Fernandes and Kraay (2007) used a novel proxy by focusing on the functioning of courts in terms of the number of days, and the number of formal procedures that are required to resolve a hypothetical business dispute between two parties over an unpaid debt. Higher values, both in terms of length of time, and the number of procedures, required to settle a business dispute are taken to correspond to worsening institutional outcomes.

Glaeser, La Porta, Lopez-de-Silanes and Shleifer (2004) and Beck (2010) argue that most of the existing survey-based institutional measures are perception-based and tend to reflect outcomes in terms of levels of economic development rather than institutional inputs, which undermines their use in establishing the relationship between institutions and GDP per capita. Kaufmann, Kraay and Mastruzzi (2008) argued that outcome-based indicators can be difficult to link to specific policy interventions and the links from easy-to-measure de jure indicators of rules to outcomes of interest are not yet well understood and in some cases appear tenuous. These views were also supported in the empirical work of Gwenhamo et al. (2008); Luiz et al. (2011); Fedderke et al. (2011); and

Fedderke and Garlick (2011) who noted that most institutional measures are either outcome-based and therefore do not measure *de jure* institutions as inputs into production, or have very limited coverage. To overcome this shortcoming, Gwenhamo (2009) and Fedderke et al. (2011) employ robust alternative measures of political, economic and legal institutions which cover a fairly long period of time than most empirical studies on institutions.

3.3 Proposed empirical methodology for property rights for Zambia

In this study new indices developed by Fedderke et al. (2001; 2011) and Gwenhamo (2009) are adopted because they are robust and more informative. More specifically, Fedderke et al. (2011)'s methodology of constructing indices was underpinned by four interrelated building blocks.

First, the concept of the index constructed and the criteria used in the rating process were established before collection of information. Second, rating scales for the sub-components were set using a Delphi technique in terms of relevant experts to assign weights to different sub-components that constitute the rights index. Third, heavier weights were assigned to sub-components that were more foundational to the rights being evaluated. Fourth, relevant legislation passed by government in each year was collected and scores assigned to each sub-component of the relevant index based on changes introduced by that year's legislation relative to the preceding year. For instance, if in a particular year there was no legislation passed by the government or significant changes were introduced, Fedderke et al. (2011) maintained the previous year's scores for that year.

This particular method makes the initial rating, therefore, of particular importance. The initial rating was informed by Gwenhamo et al. (2008) who studied the impact of property rights on FDI composition in Zimbabwe. Our new methodology is anchored on a threefold rationale. Firstly, by using formal legislation instead of political and economic outcomes for evaluating the status of

rights, the methodology safeguards against the validity problem of generating outcome-based indicators that do not measure institutions as inputs into production. Secondly, by assigning scores to each sub-component of the index, the methodology minimises the aggregation problem associated with composite indicators. Thirdly, the methodology also minimises the usual caveats associated with " interpretation bias," resulting from the influence of the researcher in the rating at any of the following steps of the process: the collection of the laws judged relevant and to be rated; the interpretation and evaluation of the laws; and the reflection of institutional quality. Therefore this empirical methodology was adopted because it was generally amenable to similar works and also to the theoretical and conceptual definitions of institutions as provided by North (1990; 2003).

Using the indicated methodology,the study builds on and extends Fedderke et al. (2011)'s time series from the initial 1947-2007 to 1930-2010. This is necessary in order to appreciate and have a long historical perspective of the role and evolution of formal institutions in Zambia in driving economic growth and development outcomes.

3.3.1 The concept of property rights

In dealing with conceptual issues around property rights, Fedderke, de Kadt and Luiz (1999) worked with Honore's[48]1961 definition which included the right to possess, the right to use, the right to manage, the right to the income of the thing, the right to the capital, the right to security, the rights or incidents of transmissibility and absence of term, the prohibition of harmful use, liability to execution, and the incident of residuarity.

[48]http://plato.stanford.edu/entries/property/ (11 November 2011)

However, Fedderke and others refined Honore's definition by dropping some elements which were thought to be remotely connected to property rights and instead focused on the right to possess, the right to use, the right to manage, the right to capital, the right to security, the incident of transmissibility and liability to execution.

Of particular interest to this study is that Fedderke et al. (2011) constructed a property rights index for Zambia based on land as an immovable asset. The justification for picking land as a proxy for property rights is that the country is an agro-mining economy which is heavily dependent on the use of land for its major economic activities. Thus the property rights index on land was obtained through ratings of the legislative framework governing property rights in land, using the following criteria: the right to possess, the right to use, the right to manage, the right to capital, the right to security, the right to transfer and liability to execution. The sub-components had varying scales based on their relative importance for the execution on property rights as proposed by legal theory.

As earlier stated, land in Zambia is divided into two categories namely state land administered by government through the Commissioner of Lands and communal land which is administered by traditional authorities. In order to avoid measurement biases in capturing property rights in Zambia, Fedderke et al. (2011) suggested that two distinct indices (leasehold property system) and (communal property system) should be developed to represent the two forms of land ownership. In this study we focus on leasehold property system [both state land and freehold (private land)] as this type of land offers security of tenure through title and therefore is the most sought after by both local and foreign investors. However, the Government's draft land policy of 2012 attempts to extend similar security of tenure to the communal property rights system.

In order to assure comparability of outcomes, this study has applied a similar methodological approach employed in Fedderke et al. (2001) as extended in Gwenhamo (2009) and Fedderke et

al. (2011) to construct a property rights index for Zambia. Since our methodology is exactly the same as that used by Fedderke et al.(2011), we were able to merge our series for the missing years 1930-1946 and 2008 to 2010 to the initial series that covered the period 1947-2007.

In the following section, we explain how the scaling and rating was done for the sub-components of the property rights index.

3.3.2 Scaling and rating system for property rights indices

Based on Fedderke et al. (2011), we use the incidents of ownership as defined in the preceding section as the basis of examination of the content of ownership of land in Zambia. The scale for property rights ranges from 0 to 100. The full existence of all seven incidents as defined above corresponds to the ideal type of property rights and would be equivalent to 100 points. Any legal limitation to the enjoyment of those rights would thus correspond to a less than perfect score.

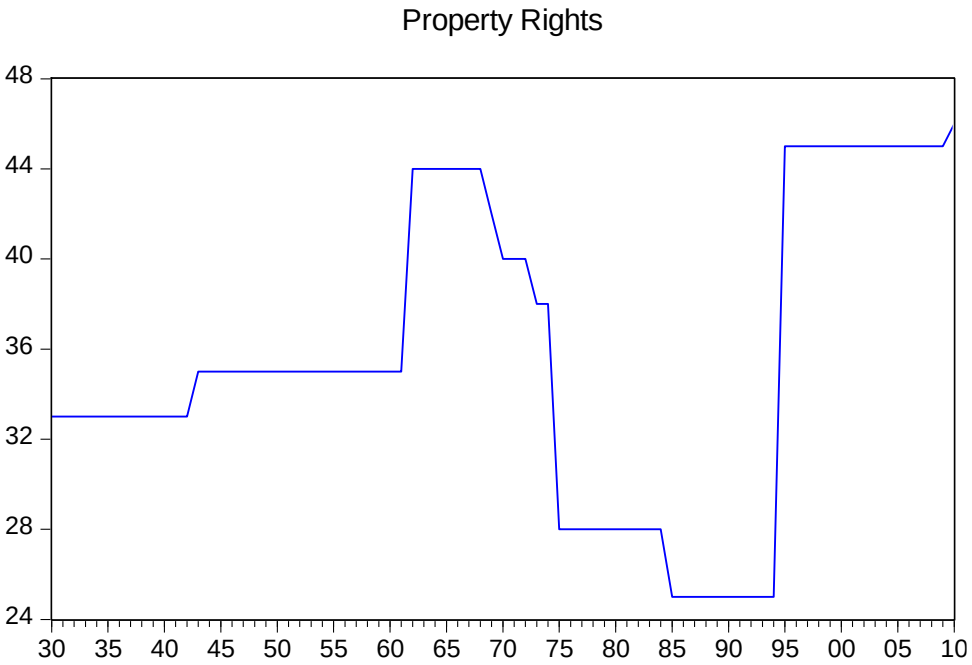
Raw points are awarded to each of the seven elements using varying scales. The criterion was to assign higher weights to more relevant incidents. The right to possess was assigned a weight of 20; the right to use, the right to manage, the right to capital, and the right to security were assigned a weight of 15; finally, transmissibility and liability to execution have weights of 10 each. As the legal protection of a right approaches the ideal scenario, the score awarded to that right increases. The information used in the ratings was obtained from a variety of secondary sources including govermnent publications and independent research works.

3.3.3 Interpretation of property rights index for leasehold tenure system in Zambia

Figure 3 plots the overall formal property rights index[49] for leasehold land tenure system in Zambia for the period between 1930 and 2010. The graph shows that there was a significant improvement in property rights soon after political independence in 1964 followed by a serious deterioration when private property was outlawed through the nationalisation programme that started in 1968. However, there was a rebound in the quality of property rights after 1991 when the MMD government took over the reigns of power and liberalised the economy including the land market. Since then, attempts have been to improve private property rights through several pieces of legislation and policy measures including the draft land policy.

[49] When correlations were run between the study's property rights index with the Fraser Institute and Heritage Foundation property rights indices, our composite index yielded a positive correlation of 0.80 with the Fraser Institute property rights index. It also had a correlation of 0.87 with the Heritage Foundation property rights index. The high and positive correlations between our composite index and other institutional indices by international organisations suggest that our new methodology as proposed by Fedderke et al. (2011) is robust enough to provide consistent and reliable indicators for this type of empirical work.

Figure 3: Property Rights Index



Source: Constructed using Fedderke et al. (2011) initial series which covered the period (1947-2007). These were later merged with student's own series covering two phases (1930-1946) and (2008-2010)

3.4 Political instability in Zambia:1930-2010

The history of political instability in Zambia is nested in the struggle by the indigenous people to free their land from colonial masters. The Zambians generally opposed most of the legislation that colonialists put in place as these laws tended to favour the latter than the former. For instance, in 1935 the colonialists introduced a poll on the Copperbelt which sparked riots in Mufulira, Nkana and Luanshya and six Africans were violently killed. One of the effects of the protests was the establishment of tribal elders' advisory councils across the Copperbelt, following a system

introduced at the Roan Antelope mine in the present day Luanshya. These councils acted as minor courts, referring other matters to the mine compound manager or district organiser[50].

History records that the Africans protested the discrimination and ill treatment to which they were subjected by staging strikes in 1935, 1940 and 1956[51] and to a large extent, relations between white settlers and Africans remained strained. Thus, the period between 1930 and 1960 was characterised by heightened political activities in terms of African resistance to many oppresive laws and practices that tended to favour the white settlers.

Although Africans were generally not allowed to form unions or organise themselves in formal groups, in 1946 there was a general political awakening through the formation of the Federation of the African Welfare which remarkably improved their political status relative to their white masters. The Federation of the African Welfare was preceded by a number of African Urban Advisory Councils established mostly in main towns on the Copperbelt. Fedderke et al. (2011) have provided a detailed account of the history of political instability in Northern Rhodesia/Zambia between 1947 and 2007.

To gauge political instability, foreign investors usually rely on several measures computed by private international rating agencies that directly or indirectly affect investment decisions. For example, the *International Country Risk Guide* (*ICRG*)[52] uses 22 variables in three sub-categories of risk: political, financial, and economic sectors. The ICRG methodology employs a separate index for each of the created sub-categories. The Political Risk index is based on 100 points with Financial Risk taking 50 points, and Economic Risk 50 points.

[50] http://en.citizendium.org/wiki/Northern_Rhodesia (1 December 2011)
[51] http://www.encyclopedia.com/topic/Zambia.aspx#5-1E1:Zambia-full (December 2011)
[52] http://www.prsgroup.com/ICRG_methodology.aspx (5 May 2012)

The ICRG uses the total points from the three indices and divide them by two to produce the weights for inclusion in the composite country risk score. The composite scores, ranging from 0 to 100, are then broken into categories from Very Low Risk (80 to 100 points) to Very High Risk (0 to 49.9 points). The Political Risk Rating includes 12 weighted variables covering both political and social attributes. Generally, if the points awarded are less than 50 percent of the total, that component can be considered as very high risk. If the points are in the 50-60 percent range it is high risk, in the 60-70 percent range moderate risk, in the 70-80 percent range low risk and in the 80-100 percent range very low risk.

Overall, a political risk rating of 0.0 percent to 49.9 percent indicates a Very High Risk; 50.0 percent to 59.9 percent High Risk; 60.0 percent to 69.9 percent Moderate Risk; 70.0 percent to 79.9 percent Low Risk; and 80.0 percent or more Very Low Risk.

Jong-A-Pin (2006;2009) constructed measures of political instability by considering four dimensions: civil protest, politically motivated aggression, instability within the political regime, and instability of the political regime. He noted that most studies on political instability had inherent measurement errors arising mainly from the tendency by researchers to treat the concept as a one dimensional index. In order to overcome the perceived measurement errors, Jong-A-Pin (2006) examined the multi-dimensional character of political instability by employing the exploratory factor analysis based on a particular model to extract only the information common to all indicators of interest. He demonstrated that individual political instability indicators were poor proxies for the underlying dimensi developed robust indicators for measuring political instability that address most of the inherent weaknesses in the other indicators.

Unlike many indices on political instability that we have we reviewed so far, Fedderke et al. (2011) provides robust indices for measuring political instability. In constructing an index for political

instability for Zambia, their approach consists, firstly, in identifying the various categories or degrees of political activity in a country such as strikes, civil demonstrations and protests, number of police arrests for protests, among others.

Secondly, the prevalence of each category was assessed on a 0 to 100 point scale, with higher scores indicating more political activity related to that category taking place in each year. Finally, these various categories were aggregated using predefined weights, to produce a composite index of political instability. Kaufmann and Kraay (2007) argued that aggregated indicators offer a wide range of benefits over other methodologies which include more information about the broad concepts of governance or property rights, are less likely to produce extreme outliers and they also generate explicit margins of error for country scores. However, the major challenge for this current study is data paucity especially for earlier years which was also a serious concern for Fedderke et al. (2011).

3.4.1 Proposed empirical methodology for political instability index for Zambia

In this section, we present a political instability index for Zambia for the period 1930-2010 based on the work of Fedderke et al. (2011). We discuss the methodology used, the scaling and rating system adopted and the interpretation of the constructed index. Fedderke et al. (2011) identifies broad categories or degrees of political activity in a country:

1. The first category is normal political activity, which is part of everyday political life and which may, in some key respects, be a requirement for political stability as distinct from signalling political instability. The political activity may well take the form of adversarial activity and expression of views critical of office holders and government.
2. The second category of political activity constitutes evidence of a potential threat to the system of rules by which a society is regulated. This kind of activity is usually absorbed

by the system, but will issue responses that range from mere awareness of the potential threat to active, pre-emptive policy initiatives on the part of governments or other significant agents (such as organised ‘ big businesses’ or labour unions).

3. The third category of activity constitutes direct or immediate threats either to the regime or to the entire institutional order. Such activity will result in adapative changes made to the system. The regime or government will not be displaced or replaced, but its mode of operation and key aspects of the functioning of the system will change (new laws, new procedures and policies, new alliances, etc.).
4. The fourth category of activity will issue in non-manageable pressures on the regime or government. In such situations the continuation of government in office will be threatened and the system will appear unstable and the levels of perceived uncertainty will be high. It is in contexts such as these that regimes are changed and governments ousted in military coups.

We use instability to refer to riots, deaths from political violence, armed attacks, protest demonstrations, regime support demonstrations, socio-political unrest, and other disturbances. The source of these events can be internal, external or both. The annual incidence of these events constitutes the basis on which these categories is judged to prevail. The information on the prevalence of such events was obtained from a variety of secondary sources including local and international newspapers and magazines.

3.4.2 Scaling and rating system

Based on Fedderke et al.(2011), scores are assigned to each of the four categories using 0 to 100 scale. Increases in the score awareded in a category indicate that more political activity related to that category is taking place. The final index of political instability is a weighted sum of the four

categories. The first and second categories received a weight of 0.1, the third a weight of 0.2, and the fourth category a weight of 0.6. The last two categories are assigned heavier weights because they represent major threats to political stability in a country.

A score between 10 and 20 would indicate a stable system. A score between 30 and 40 demonstrates unrest, and the expression of dissent, short instability. A score between 50 and 60 indicates substantial instability, but short of regime-threatening levels. Finally, a score between 70 and 100 would represent a system in political turmoil, facing substantial pressure for immiment change of regime. Since our methodology is similar to Fedderke et al. (2011)'s, we were able to merge the new series to the initial ones and come up with a comprehensive range covering the period 1930 to 2010.

3.4.3 Interpretation of the political instability index for Zambia

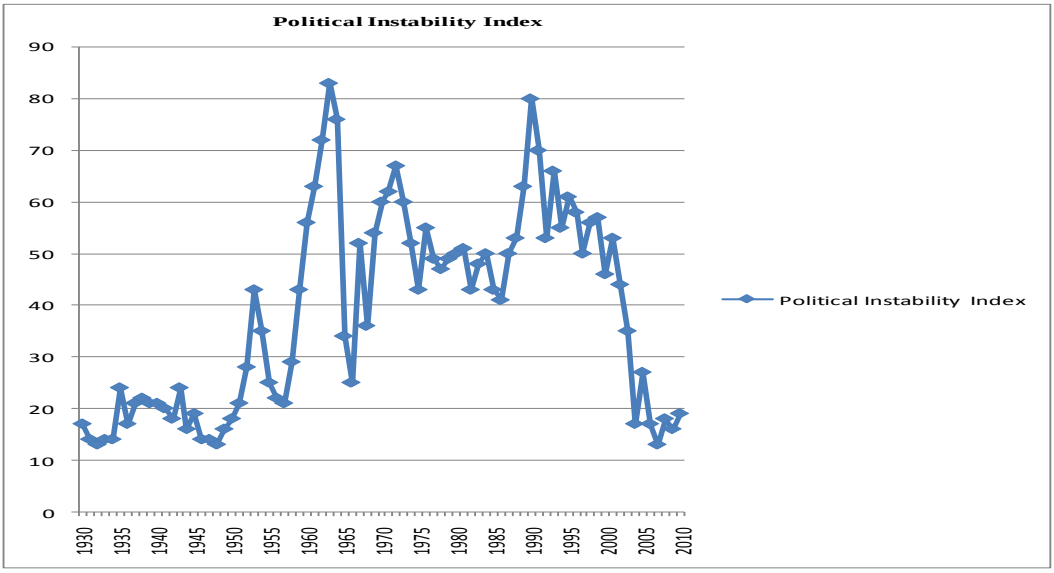
Figure 4 shows increased political instability between 1950 and 1960 as this was a period of the struggle for political emancipation which in some instances tended to be violent in nature. The period between 1970 and 1990 was mostly characterised by political activities in form of labour unrest across the industry due to deteriorating economic conditions in the country. For instance, in 1986 the IMF-led austerity measures to decontrol prices on essential commodities including the staple food (mealie meal) triggered riots both in Lusaka and Copperbelt provinces where some some rioters were killed by the Zambia Police. The Lusaka protests were led by University of Zambia (UNZA) students who opposed the austerity measures of the IMF. In 1987 the Government was forced to abandon the IMF economic policies and instead embarked on a home-grown economic programme called *Growth from Own Resources*.

However, the home-grown programme could not be sustained for long as the economy spiralled into a free-fall thus compelling Government to go back to the IMF-backed structural adjustment

programmes in 1989. The economic events of 1986 through 1989 had already sown seeds of despondency in the nation which led to heightened political activities in the early 1990s.

Thus, the 1990s witnessed increased political instability as various interest groups agitated for the reintroduction of multi-party democracy and proper economic management of the country. However, between 2008 and 2010 there was generally no marked political instability in the country save for isolated incidences of workers' protests and industrial strikes for improved conditions of service. In the next sections, we discuss some of the methodologies and indicators that are used to measure political instability.

Figure 4: Political Instability Index



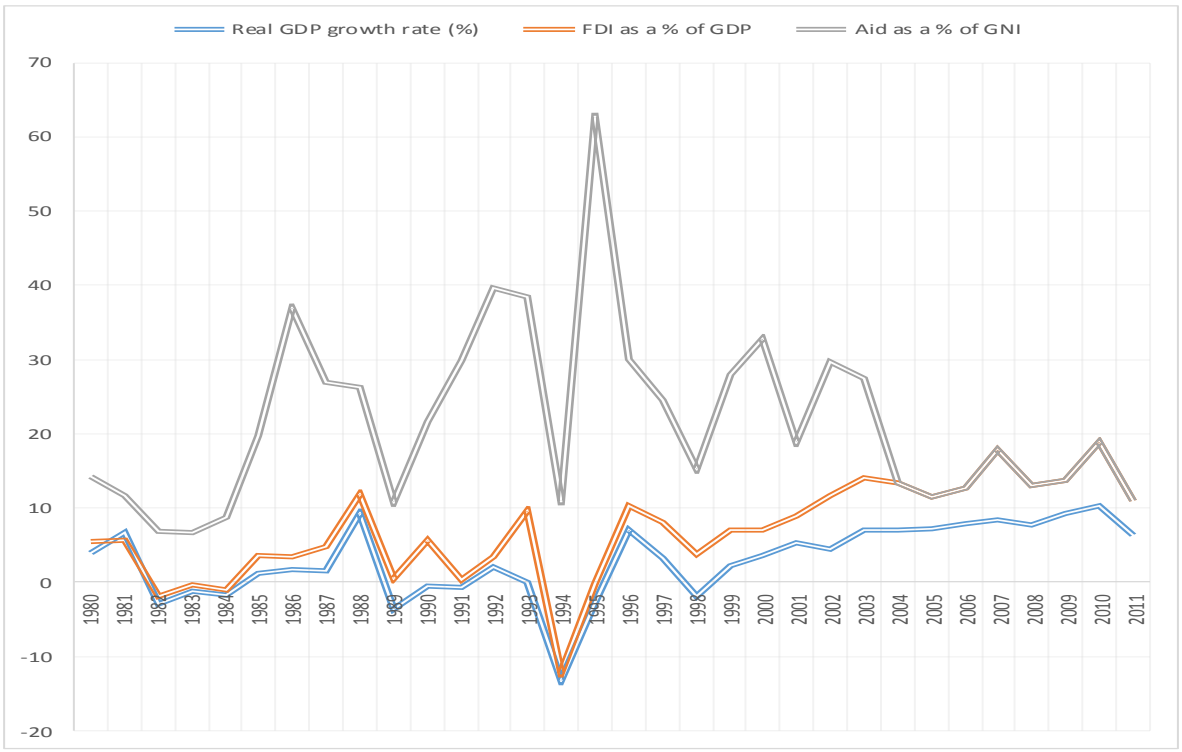
Source:Constructed using Fedderke et al. (2011) initial series which covered the period (1947-2007). These were later merged with student's own series covering two phases (1930-1946) and (2008-2010)

3.5 Foreign Direct Investments, Institutions and Growth in Zambia

According to the AfDB (2011) and Bank of Zambia (2012), Zambia was the third largest destination of FDI in Southern Africa after South Africa and Angola and it accounted for 6.4

percent of the country's GDP between 2000 and 2009. Unlike in the late 1960s especially in 1968 where there was extensive expropriation of foreign investments through nationalisation, UNCTAD (2006) observes that Zambia is now a member of the Multilateral Investment Guarantee Agency (MIGA)—a situation that has greatly helped to boost investor confidence in the economy. Given the significant role that FDI plays in the country's capital formation and economic development, this study examines the causal-effect relationships between FDI and the real economic output (GDP) alongside property rights and political instability in Zambia (see also Figure 5).

Figure 5: Trends in FDI and other selected Macroeconomic Indicators



Source:Constructed using data from Bank of Zambia and the World Bank

Several studies show strong evidence to support the proposition that FDI in an appropriate institutional environment is a strong determinant of growth. For instance, Mooya (2003) provides statistical evidence to show that political stability, market size and growth, macroeconomic

conditions, infrastructure, government policies, and investment incentives are strong determining factors of FDI in Zambia which in turn lead to economic development.

Other scholars such as Bwalya (2005) employed panel data across manufacturing firms in Zambia and noted that FDI strongly improves prospects for economic growth by inducing technology transfer through joint ventures, knowledge and productivity spillovers between foreign and local firms. In a related study, Mwitwa (2006) strongly argues that having an appropriate regulatory and institutional environment in Zambia is the single most important factor to attracting foreign direct investments and promoting the country's economic growth.

Similar studies elsewhere such as Zouhaier (2012) and Fedderke and Romm (2004) found a significant statistical relationship between institutional variables and investment on one hand and economic growth on the other, a positive interaction between political institutions and investment and a negative interaction between political instability and investment. Dinda (2009) established that the endowments of natural resources, openness, and macroeconomic risk factors of inflation and exchange rates, government infrastructure, and the rule of law were significant determinants of FDI in Nigeria while Ouattara (2004) noted that public investment, real income, foreign aid flows and terms of trade were influential in attracting FDI to Senegal. The OECD (2000) *Working Paper* pointed out that the size and growth of the host country, the cost and productivity of labour, physical, financial and technological infrastructure, openness to international trade and access to international markets, development of the regulatory framework and economic policy coherence were among the major factors that attracted foreign direct investments to China.

In order to lay a firm foundation for FDI, Zambia has enacted a number of pro-business and investment legislation such as the Income Tax Act of 1991, Investment Act of 1991, Privatisation Act of 1993, Export Development Act of 1994, Companies Act of 1995, Lands Act of 1995,

Zambia Development Agency Act of 1996, Public-Private Partnership Act of 2009, Lands and Deeds Registry (Amendment) Act of 2010, Registration of Business Names (Amendment) Act of 2010 and the Companies Amendment Act of 2010.

In addition, private property and associated investments are explicitly guaranteed in the national constitution. The constitution clearly states that no individual can be compulsorily deprived of any property without adequate compensation, unless under an Act of Parliament or in such cases as where the acquisition is for recovery of tax, the land is abandoned, the land is required for exploiting minerals, of the implementation of a land policy. More specifically, Article 19 of the ZDA Act states: an investor's property shall not be compulsorily acquired nor shall any interest in or right over such property be compulsorily acquired except for public purposes under an Act of Parliament relating to the compulsory acquisition of property which provides for payment of compensation for such acquisition.

In addition, government has put in place major legal and institutional reforms by setting up the following statutory bodies: the Zambia Investment Centre (ZIC), Zambia Privatisation Agency (ZPA), the Zambia Development Agency (ZDA), the Competition and Consumer Protection Commission (CCPC), the Zambia Information, Communication and Technology Authority (ZICTA), and the Patents and Companies Registration Office (PACRO).

The Bank of Zambia (2012) states that Zambia's investment climate is underpinned by two major reform programmes namely the private sector development reform programme (PSDRP) and the Millennium Challenge Account (MCA). The PSDRP aims at addressing the country's cost of doing business through legislative and institutional reforms while the MCA is premised on addressing issues relating to transparency and good governance. These reforms and institutional

arrangements are meant to enhance Zambia's investment climate and competitiveness in the regional and global economies.

3.6 Empirical Econometric Model for Zambia

Both theory and empirical literature show that there are several institutional determinants of economic growth ranging from culture, political and civil freedoms, social capital, good governance, economic and social arrangements as presented in Romain, Romain and Fabrice (2011), Magda (2009), Abrams and Lewis (2008), Hall and Sobel (2008), and Borner, Bodmer and Kobler (2004), Fedderke et al. (2001) and Kormendi and Maguire (1985).

There are also a number of non-institutional determinants of economic performance such as trade openness, external debt, foreign direct investment, macroeconomic stability, physical capital, human capital, financial capital, technological progress, state of infrastructure, geography and historical factors (IMF, 2003; UNCTAD, 2002; Lee and Kim, 2009; and World Bank, 2010).

In responding to the broad research question of measuring the causal impact of property rights and political instability on economic performance (measured as the natural log of real GDP over the study period) in Zambia, the study estimates the following econometric model:

$$logRGDP_t = \partial_1 + \partial_2 logREXTD_{t-i} + \partial_3 logRFDI_{t-i} + \partial_4 logTROP_{t-i} + \partial_5 logPROPRGTS_{t-i}$$

$$+\partial_6 logPOLINST_{t-i} + \partial_7 logRCRDTP_{t-i} + \partial_8 logCalarat_{t-i} + \partial_9 logEnroll_{t-i} + \varepsilon_t \quad (1)$$

Where:

Log RGDP = Log of real gross domestic product

Log REXTD = Log of real external debt

$Log\ R$FDI = Log of real foreign direct investment

Log TROP = Log of trade openness taken as a measure of exports plus imports to GDP ratio (proxy for economic freedom)

Log PROPRGTS = Log of leasehold property rights index

Log POLINST = Log of political instability index

Log RCRDTP= Log of real credit to the private sector

Log Calarat= Log of capital-labour ratio as a proxy for capital formation

Log Enroll = log of secondary school enrolment ratio as a proxy for human capital

∂ = is a constant

ε_t = error term and is assumed to have a zero mean, constant variance and follows a normal distribution.

The specification includes capital formation based on insights from the Solow (1956) growth model which uses the capital-labour ratio as one of the determinants of economic performance. The model also includes human capital as an explanatory variable based on the empirical work of Mankiw, Romer and Weil (1992) on the empirics of growth and finally finance has been added to the specification based on the works of Levine (2004) on finance and growth. The growth model has been formulated as a cointegrated system taking into account selected institutional and non-institutional determinants of economic performance. The study incorporates two key institutional factors (property rights and political instability) to capture their influence on growth in Zambia while controlling for others.

Based on theoretical and empirical literature, our parametric specification of the equation is likely to have more than one cointegrating vector and an appropriate methodology has been adopted as discussed later in the chapter. The analysis takes a historical approach that allows it to incorporate

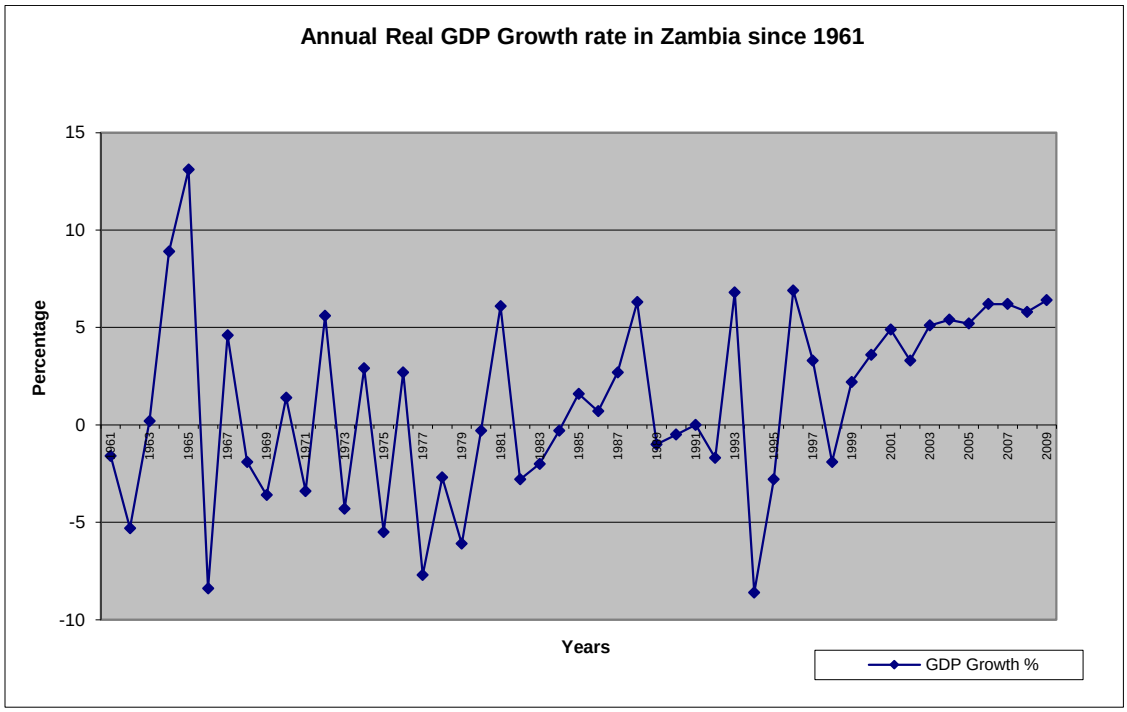
over time, the major shifts in the two institutional parameters that have influenced growth after Zambia's political independence in 1964.

The study, in addition to the institutional indices that Fedderke et al. (2011) developed for Zambia, estimates major policy determinants of real GDP. Based on the existing data, the determinants of real GDP in Zambia include: foreign direct investment, trade openness, credit to the private sector, capital formation, human capital and external debt.

The specified model helps us to test economic theory and the research hypotheses on the link between property rights and political instability on one hand and growth on the other. It is specified in log-linear form based on theoretical insights taking into account that the relationship between economic growth and property rights is not linear as demonstrated in Figure I in Chapter One. In this regard, logs help us to linearise the model for purposes of giving meaningful interpretation to the regression results. In addition, the advantage of using a log-linear model is that its coefficients are long-run elasticities with respect to the explanatory variables.

Using the above model and supported by time series data, the study also tests, *a priori*, the assumption that debt overhang and political instability have a negative and dampening effect on economic growth. Furthermore, the study tests other assumptions that credit to the private sector, physical capital (capital formation) and school enrolment ratios have a positive feedback effect on economic growth. Finally, it is assumed that foreign direct investment has a positive effect on the economy while trade openness might yield positive or negative effects on the economy depending on the degree of openness.

Figure 6: Real GDP Growth for Zambia



Source: World Bank Data

3.7 Model Estimation Procedures

A times series model running from 1965 to 2010 yielding a sample size of 46 years is used. Although small, the sample size is sufficient to avoid problems of degrees of freedom in the regression analysis. Time series data demand that all variables should be tested to establish whether or not they are stationary. All variables found to be non-stationary are differenced accordingly before including them in the model. The results of the tests are presented in Table 7. The Schwartz-Bayesian Information Criteria (SBIC) and the Akaike Information Criteria (AIC) are used to determine the optimal lag length for the variables in the model. The lower the values of both the AIC and SBIC the better the model of estimation. Residuals are also tested for normality (see Appendix IV). Hausman (1978) suggests that results from the econometric regression analysis should be subjected to a battery of statistical tests to ensure that the model is fit and free from

misspecifications. Other tests done were aimed at checking for stability and auto-correlation in the model.

3.8 Unit Root Tests

Econometric theory generally assumes that much of the observed data come from a stationary process, implying that the means and the variances are constant over time but Hendry and Juselius (1999) argue that the reality is far from this. Real data particularly economic time series is usually difference stationary that is, made stationary through differencing. Thomas (2007) states that a time series is deemed to be stationary if its mean, variance and covariance remain constant over time. That is to say, X_t is said to be stationary if:

1. $E(X_t)$ = constant for all *t*
2. Var (X_t) = constant for all *t*
3. Cov (X_t, X_{t+k}) = constant for all *t* and all $k \neq 0$

On the other hand, a time series is non-stationary if it fails to satisfy the above stated conditions. If the equation is estimated with data that are non-stationary, the *t* and *F*-statistics of the estimated coefficients are unreliable since the underlying time series would have theoretically infinite variances. There are important differences between stationary and nonstationary time series data. Shocks to a stationary time series are temporary; over time, the effects of the shocks will dissipate and the series will revert to its long-run mean level. As such, long-term forecasts of a stationary series will always converge to the unconditional mean of the series.

Running regressions on variables that are non-stationary are likely to yield misleading or spurious results. Some of the common features of a non-stationary series are; (a) no long-run mean to which the series returns; (b) the variance is time-dependent and goes to infinity as time approaches

infinity and; (c) autocorrelations do not decay but, in finite samples, the sample correlogram dies out slowly.

To test for non-stationarity, unit root tests were performed on the variables and the process also aided in determining the level of integration of each series. There are several tests that are used to check for non-stationarity in variables. We use the Augmented Dickey-Fuller (ADF) proposed by Dickey and Fuller (1979) to check for non-stationarity in variables. The ADF test is robust and quite similar to the DF test the difference being in terms of augmentations in the lag length of the dependent variable but included as one of the explanatory variables.

3.9 The Pesaran, Shin and Smith (PSS)-F Test

Econometric literature suggests that when a model is estimated without addressing endogeneity among variables of interest then the parameters tend to be biased and unreliable. From our specifications, property rights could be endogenous to real GDP. This is because as growth takes place it leads to economic development which in turn demands new and better property rights institutions. To overcome this challenge, we make use of the PSS-F test proposed by Pesaran, Shin and Smith (1996; 2001) to determine causality among variables. We formulate the error correction model as follows:

$$\Delta z_t = \alpha_0 + \alpha_1 t + \prod Z_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta z_{t-i} + \varepsilon_t, t = 1, 2... \tag{2}$$

where $\Delta \equiv 1 - L$ is the difference operator,

$$\alpha_0 \equiv -\prod_{\mu} + (\Gamma + \prod)\gamma, \alpha_1 \equiv -\prod_{\gamma} \tag{3}$$

and the sum of the short-run coefficient matrices $\Gamma \equiv I_m - \sum_{i=1}^{p-1} \Gamma_i = -\prod + \sum_{i=1}^{p} i\Phi_i$. According to Pesaran, Shin and Smith (2001), if $\gamma \neq 0,$ the resultant constraints on the trend coefficients α_1 in (2) ensure that the deterministic trending behaviour of the level process $\left(z_t\right)_{t=1}^{\infty}$ is invariant to the (cointegrating) rank of Π; a similar result holds for the intercept of $\left(z_t\right)_{t=1}^{\infty}$ if $\mu \neq 0$ and $\gamma = 0$. They further analysed the conditional modelling of the scalar variable y_t given the *k*-vector x_t and the past values of $\left(z_{t-i}\right)_{i=1}^{t-1}$ and Z_0, where they partitioned the error term as $\varepsilon_{yt} = w_{yx}\Omega_{xx}^{-1}\varepsilon_{xy} + \mu_t$.

In addition, Pesaran, Shin and Smith (2001) partitioned the z_t matrix as $z_t = \left(y_t^{'}, x_t^{'}\right)^{'}$ and then proceeded to partition the error term with $z_t = \left(y_t^{'}, x_t^{'}\right)^{'}$ as $\varepsilon_t = \left(\varepsilon_{yt}, \varepsilon_{xt}^{'}\right)^{'}$ while its variance matrix was presented as:

$$\Omega = \begin{pmatrix} w_{yy} & w_{yx} \\ w_{xy} & \Omega_{xx} \end{pmatrix}$$

The long-run multiplier matrix Π comformably with $z_t = \left(y_t^{'}, x_t^{'}\right)^{'}$

$$\begin{pmatrix} \pi_{yy} & \pi_{yx} \\ \pi_{xy} & \prod_{xx} \end{pmatrix}$$

Under the assumption of a vector $\pi_{xy} = 0$ we obtain the following conditions:

$$\Delta x_t = \alpha_{x0} + \alpha_{x1}t + \Pi_{xx}x_{t-1} + \sum_{t=1}^{p-1}\Gamma_{xi}\Delta Z_{t-i} + \varepsilon_{xt},\ t = 1, 2..., n \qquad \text{and} \qquad (4)$$

$$\Delta y_t = c_0 + c_1 t + \pi_{yy} y_{t-1} + \pi_{yyx.x} x_{t-1} + \sum_{i=1}^{p-1} \psi' \Delta z_{t-i} + w' \Delta x_t + \mu_t \quad (5)$$

where $c_0 \equiv a_{y0} - \omega' a_{x0}$, $c_1 \equiv a_{y1} - \omega' a_{x1}$, $\psi'_i \equiv \gamma_{yi} - \omega' \Gamma_{xi}, i = 1, ..., p-1$, and

$\pi_{yx} \equiv \pi_y - \omega' \Pi_x$

From equations (4) and (5) when $\pi_{xy} = 0$, then $\{x_t\}_{t=1}^{\infty}$, long-run forces $\{y_t\}_{t=1}^{\infty}$. This means that there is no feedback from the level of y_t in (5) to x_t in the long-run. However, this does not completely rule out the possibility of $\{y_t\}_{t=1}^{\infty}$ Granger causing $\{x_t\}_{t=1}^{\infty}$, in the short-run.

The PSS F-test is premised on testing the joint null hypothesis $\pi_{yy} = 0$ and $\pi_{yx.x} = 0$. If we accept the joint null hypothesis then there is no level relationship which suggests weak exogeneity among the variables of interest. In the case where there is only one cointegrating equation we would employ Pesaran, Shin and Smith (2001)'s technique to operationalise the PSS-F test based on the autoregressive distributed lag (ARDL) error-correction model presented as follows:

$$\begin{aligned}
\Delta LRGDP_t = {} & \omega_0 + \omega_1 trend + \partial_1 \sum_{i=1}^{k} \Delta LRGDP_{t-1} + \partial_2 \sum_{i=1}^{k} \Delta REXTD_{t-1} + \partial_3 \sum_{i=1}^{k} \Delta LRFDI_{t-1} \\
& + \partial_4 \sum_{i=1}^{k} \Delta LTROP_{t-1} + \partial_5 \sum_{i=1}^{k} \Delta LRCRDTP_{t-1} + \partial_6 \sum_{i=1}^{k} \Delta LPROPRGTS_{t-1} + \partial_7 \sum_{i=1}^{k} \Delta LCalarat_{t-1} + \partial_8 \sum_{i=1}^{k} \Delta LENROLL_{t-1} + \\
& \partial_9 \sum_{i=1}^{k} \Delta LPOLINST_{t-1} + \omega_2 LRGDP_{t-1} + \omega_3 LREXTD_{t-1} + \omega_4 LRFDI_{t-1} + \omega_5 LRCRDTP_{t-1} + \omega_6 LTROP_{t-1} + \\
& \omega_7 LPROPRGTS_{t-1} + \omega_8 LCalarat_{t-1} + \omega_9 LENROLL_{t-1} + \omega_{10} LPOLINST_{t-1} + \partial ECM_{t-1} + \varepsilon_t
\end{aligned}$$

(6)

where *k* denotes the required number of lags needed to render the error term stationary. The parameters $\omega_i = 1,2,3,4,5,6,7,8,9$ function as the long-run multipliers, while the ∂s are parameters representing short-run dynamic coefficients of the ARDL model. The F-test is used to check for the long-run relationship in the model using the following null and alternative hypotheses:

$$H_0 = \omega_2 = \omega_3 = \omega_4 = \omega_5 = \omega_6 = \omega_7 = \omega_8 = \omega_9 = 0$$
$$H_1 = \omega_2 \neq \omega_3 \neq \omega_4 \neq \omega_5 \neq \omega_6 \neq \omega_7 \neq \omega_8 \neq \omega_9 \neq 0$$

The null hypothesis H_0 assumes no cointegration against the alternative H_1 which suggests the existence of cointegration in the specification. The F-statistics are calculated to test the null hypothesis that all coefficients are jointly equal to zero. The calculated F-statistic is compared with the critical value tabulated by Pesaran, Shin and Smith (2001). The critical values are calculated for different regressors depending on whether or not the model includes an intercept and/or a trend.

The critical values from Pesaran and Pesaran (2009) include an upper bound (F_U=3.447) and a lower bound (F_L=2.272) covering all possible classifications of the variable I(1), I(0) or even fractionally integrated as presented by Pahlavani, Wilson and Worthington (2005). The null hypothesis of no cointegration is rejected if the calculated F-test is bigger than the upper bound. If the computed F-statistic is smaller than the lower bound, then the null hypothesis cannot be rejected. If it falls in between the lower and the upper bounds, then the result is inconclusive.

3.10 The ARDL Cointegration Test

Data observed over a considerable period of time tend to trend up or down in a non-stationary manner but when analysed as a pair or group of variables, these data may tend to drift together. If not checked, trends be they stochastic or deterministic yield spurious results characterised by high

R^2, low Durbin-Watson (DW) value and very high and significant *t*-ratios. Cointegration implies that the non-stationary variables are removed from the system of equations. Typically, most of the economic variables are ~Z(1) implying that cointegration requires the error term to be $\sim Z(0)$. This means that anything that is systematic in the equations is cleaned out of the error term—thus leading to an equilibrium state.

More broadly, cointegration exists if two or more variables share a common stochastic drift. According to Thomas (2007) and Gujarati (1995), cointegration shows that there is a long-run equilibrium causal relationship between two or more variables and that disequilibrium errors will tend to form a stationary time series and have a zero mean, that is, μ_t should be I(0) with $E(\mu_t) = 0$. Walters (1995) states that cointegration exists if a linear combination of variables assumes a lower order of integration thus rendering the linear combination stationary or I(0) if and only if the variables are $\sim(Z1)$. If the variables are integrated such that they are $\sim(d)$, and if the ε_t from the linear combination is $\varepsilon_t \sim Z(d-1)$, then the series will yield cointegration. Thomas (1997) states that in econometric specifications, stationary residuals imply that parameters in the model are cointegrated. Adam (1992) observed that failing to find cointegration implies spurious correlation, and thus the invalidity of the inferences drawn from such correlation.

There are several tests for establishing cointegration such as the Engle-Granger (1987) Two-Step Method, Johansen and Juselius (1990), Johansen (1991), Pesaran and Shin (1995), and Pesaran, Shin and Smith (1996; 2001) bounds tests also known as the auto-regressive distributed lag (ARDL) approach. It is one of the most powerful tests available to econometricians to establish if there is any long-run relationship among variables of interest but only if there is one cointegrating vector present.

Pesaran and Shin (1995) suggest the use of the ARDL for estimation of long-run relations, implying that once the order of the ARDL has been established, estimation and identification can proceed by OLS [see also Fedderke, de Kadt and Luiz (2001)] for detailed discussions on ARDL estimation procedures. In the case where there is more than one cointegrating vector, the estimation technique of choice is the Johansen vector error correction model over the ARDL. The ARDL test has been applied in a number of studies such as Muhammad and Umer (2010) and Fedderke et al. (2001).

Muhammad and Umer (2010) list the following advantages of the ARDL over other econometric techniques:

i. Resolves the inability of the Engle-Granger to test the hypothesis due to endogeneity problems;
ii. Long-run and short-run parameters of the model can be determined simultaneously.

Pahlavani, Wilson and Worthington (2005) also show that the ARDL yields statistically significant results in determining cointegration in small samples than the Johansen technique which require large samples for validity.

In our model, we consider a VAR (k) where Z_t is an $m \times 1$ vector of endogenous variables, k is the lag length, c is the matrix of deterministic terms and ε_t is a Gaussian error term.

$$Z_t = \Phi_1 z_{t-1} + \ldots + \Phi_k z_{t-k} + c + \varepsilon_t \qquad t= 1,2,\ldots, T, \tag{7}$$

After reparametrization the vector error correction model (VECM) specification takes the form:

$$\Delta z_t = -\prod z_{t-1} + \sum_{i=1}^{k-1} \Gamma_i \Delta z_{t-i} + c + \varepsilon_t, \ t = 1,2,...,T, \tag{8}$$

Existence of r cointegrating relationships amounts to the hypothesis that:

$$H_1(\mathrm{r}):\prod=\alpha\beta^{'} \tag{9}$$

and α is the loading matrix containing the short-run dynamics, while β is the matrix containing the long-run equilibrium (cointegrating) relationship (Fedderke et al., 2001). This means that:

$$\prod=I_n-\sum_{i=1}^{k}\Phi_i,\Gamma_i=-\sum_{j=i+1}^{k}\Phi_j,i=1,...,k-1.$$

The equilibrium properties of (8) are characterised by the rank of $\prod$. According to Pesaran, Shin and Smith (2001), if all elements of z_t are stationary, $\prod$ is a full rank $m\times m$ matrix. If the elements of z_t are I (1) but not cointegrated, $\prod$ is of rank zero and a VAR model in first differences is appropriate. If the elements of z_t are I (1) and cointegrated with rank $(\prod)=r$, Π can be decomposed into two $m \times r$ full column rank matrices α and β where $\Pi=\alpha\beta^{'}$. This implies that there are $r<m$ stationary linear combinations of $z_t,\xi_t=\beta^{'}z_t$. Pesaran, Shin and Smith (2001) further state that the matrix of adjustment coefficients, α, measures how strongly deviations from the long-run equilibrium, ξ_t, feedback onto the system.

The Johansen reduced rank regression technique involves maximising the log likelihood function of equation (8), subject to the constraint that $\prod$ can be decomposed into two $m \times r$ full column rank matrices α and β such that $\Pi=\alpha\beta^{'}$. However, an identification problem arises becauses matrices α and β are not uniquely identified without additional information. Indeed where r > 1, issues of identification arise.

Pesaran and Shin (2001) show that r^2 restrictions are needed for exact or just identification (based on equation 9 in our specification). The restrictions must be evenly distributed across the cointegrating vectors, that is, there must be *r* restrictions per vector. The most common approach to imposing the r^2 identifying restrictions is Johansen's statistical approach. Specifically, Johansen's just identified estimator of β is obtained by selecting the r largest eigenvectors of the system, subject to ortho-normalisation and orthogonalisation restrictions. We use the theory-guided weak exogeneity assumptions to determine the appropriate number of cointegrating relationships, r^2 in the model.

Assuming 2 cointegrating vectors for GDP and FDI based on insights from empirical evidence on Zambia and also guided by the work of Pesaran and Shin (2001), we need to impose 4 restrictions for just identification. For each vector, 2 restrictions are imposed, that is, one normalisation restriction and one exclusion restriction. In a related study, Pesaran and Pesaran (1997) imposed over-identification restrictions on the system of equations by computing asymptotic t-statistics by dividing the coefficient estimates with their asymptotic standard errors. They then imposed zero restrictions on insignificant variables.

However, in our model just-identification restrictions based on equation (9) are premised on theory [Pesaran and Shin (1995)], use of a PSS-F test and empirical evidence which allow us to impose zero restrictions on appropriate variables in the specification. We note that in 2005 a significant amount of Zambia's external debt was written off (from US$7.1 billion to US$0.5 million) by its creditors (IMF, 2005b) as part of the debt relief arrangements to heavily indebted poor countries (HIPCs). Based on this, we suspect that Zambia's external debt as it stood at the end of 2010 would not adversely affect growth.

The level and quality of human skills (human capital) has a positive effect on FDI. The higher the level of human skills the stronger the positive effects on FDI and the reverse is also true. In our model, we have used gross secondary school enrolment ratio as a proxy for human capital. However, the levels of skills at secondary school maybe inadequate to absorb technological transfer and meet the necessary managerial skills and competencies required to effectively drive foreign direct investments. We therefore suspect that our proxy for human capital (log of secondary school enrolment ratio) may have little positive impact on FDI as was also noted by the ECA and AU (2013).

With these insights, we normalise on real gross domestic product (GDP) which is our main variable of interest in the first cointegrating vector. The exclusion restriction is imposed on external debt[53] for the GDP equation. The second vector normalises on real foreign direct investment (FDI) and imposes an exclusion restriction on enrolment ratio[54] (see Tables 9 and 10).

With r =2, the empirical specification takes the form:

$$\Pi Z_{t-k+1} = \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \\ \alpha_{31} & \alpha_{32} \\ \alpha_{41} & \alpha_{42} \\ \alpha_{51} & \alpha_{52} \\ \alpha_{61} & \alpha_{62} \\ \alpha_{71} & \alpha_{72} \\ \alpha_{81} & \alpha_{82} \\ \alpha_{91} & \alpha_{92} \end{bmatrix} \begin{vmatrix} 1 & \beta_{12} & 0 & \pm\beta_{14} & \beta_{15} & \beta_{16} & \beta_{17} & -\beta_{18} & \beta_{19} \\ \beta_{21} & 1 & \pm\beta_{23} & \pm\beta_{24} & \beta_{25} & \beta_{26} & 0 & -\beta_{28} & \beta_{29} \end{vmatrix} \begin{bmatrix} \text{LRGDP} \\ \text{LRFDI} \\ \text{LREXTD} \\ \text{LTROP} \\ \text{LCALARAT} \\ \text{LRCRDTP} \\ \text{LENROLRAT} \\ \text{LPOLINST} \\ \text{LPROPRGTS}_{t-k+1} \end{bmatrix} \quad (10)$$

[53]Zambia's historical external debt was significantly reduced in 2005 by bilateral and multilateral creditors and so current levels of debt are not likely to adversely affect the economy

[54]Gross secondary school enrolment ratios are not likely to significantly affect FDI as the education skills at this level are relatively low

Since we expect more than one cointegrating vector, the VECM becomes a very useful technique to establish short-run dynamics that may have long-run equilibrium relationships. In model (10), a fundamental assumption is that GDP is endogenous, that is, future growth may depend on current growth while the explanatory variables are assumed to have weak exogeneity.

3.11 The Vector Error Correction Model (VECM)

The VECM is applied to establish the long-run relationship between the dependent variable and explanatory variables included in the specification. According to Muhammad and Umer (2010), the VECM has a number of advantages over other forms of model specifications such as:

1. It solves the problems of autocorrelation and multicollinearity;
2. It provides a more general and less restrictive lag structure, allowing for (partial or full) adjustment as a special case;
3. It captures both the long-run equilibrium and the short-run dynamic relationships associated with a model thereby making it encompassing;
4. It can lead to a better understanding of the nature of any non-stationarity among different component series and can also improve longer term forecasting over an unconstrained model.

3.12 Definitions of Economic Indicators

The empirical analysis focuses on growth as a measure of economic performance:

- *Economic growth*: the increase of per capita GDP or other measures of aggregate income, typically reported as the annual rate of change in real GDP over the period 1965-2010. It is the dependent variable in this study.

3.13 Broad Measures of Institutions

Below we present the description of institutional variables used in the study and their key features. We have focused on two broad measures of institutions namely:

a) *Property Rights Index*: The thesis uses this index to capture the degree of protection that private property receives in Zambia. It is computed as an aggregate of seven measures of institutions as developed by Fedderke et al. (2011) and whose initial timeframe has been extended by this study from the current 1947-2007 to 1930-2010. Our contribution in the series is broken down into two distinct parts 1930 to 1946 and 2008 to 2010 which are later merged with Fedderke's initial time series from 1947 to 2007.

The study employed the Fedderke et al. (2001) Delphi technique, to construct a composite *de jure* property rights index for Zambia spanning a period of 80 years. It is thus the longest known times series data on property rights institutions in Zambia. Our dissertation innovatively ascribes scores to individual sub-components of the index and by so doing, we bring novelty to the methodology. It also overcomes the shortcomings generally associated with aggregation in the calculation of most indices. The sub-components of the index consist of the right to possess, right to use, right to manage, right to capital, security, transmissibility and liability to execution. The ratings on the individual sub-components reflect the perceptions that experts attach to the economic environment in the country.

b) Political Instability Index: We have used this index to measure the level of political instability in the country as perceived by experts. It is computed as an aggregate of measures of political

institutions as developed by Fedderke et al. (2011) and extended by the current study from the initial 1947-2007 to 1930-2010. Just like in the case of our property rights index, it is broken down into distinct time periods of 1930 to 1946 and then 2008 to 2010 which are later merged with Fedderke's initial series thus giving a timeframe of 80 years. The political instability index has also been informed by the Delphi technique as proposed by Fedderke et al. (2001). It is now available for a long time coverage and has been used to determine its impact on economic outcomes in Zambia. Its sub-components have been individually scored leading to an overall improvement in the methodological calculation of a composite index. Our composite index comprises normal political activity, potential threat to political stability, direct and immediate threat to political stability, and non-manageable threat to political instability.

As noted by Gwenhamo (2009), most existing institutional indices have a short time coverage thus reducing their usefulness in country-specific studies particularly in picking up major changes and trends in institutional dynamics such as improvements or deteriorations that may have occurred over time in the variables being measured. Unlike panel data, the long time series data on property rights and political instability indices have enabled us to interact Zambia's economic growth path with institutional measures over a fairly long time period. In this context, both indices provide a new long time series dataset on Zambia which is in line with the institutional framework as defined by North (1990, 1993).

3.14 Macroeconomic Policy Measures

The IMF (2003) provides a number of macroeconomic policy measures that are used in conjunction with institutions to explain cross-country differences in economic performance. The broad macroeconomic policy measures used in this study are:

1. *Trade openness*: used to indicate the degree of goods market integration and measured as the ratio of imports plus exports to GDP in real terms for the years 1965 to 2010.
2. *External debt:* aimed at capturing resource diversion through annual debt service and is measured as the logarithm of real external debt from 1965 to 2010.
3. *Loans to the private sector:* aimed at capturing the scope and depth of financial intermediation in the economy and is measured as the logarithm of real private sector loans from 1965 to 2010.
4. *Foreign Direct Investment*: aimed at capturing the impact of foreign capital stocks in enhancing economic performance in Zambia and is measured as the logarithm of real FDI from 1965 to 2010.
5. *Secondary Enrolment ratio:* used as a proxy for human capital and is measured as the log of enrolment ratio from 1965 to 2010.
6. *Capital-Labour Ratio*: used as a proxy for gross capital formation and is measured as the log of the capital-labour ratio from 1965 to 2010.

3.15 Research Methods

3.15.1 Data and Data Collection Methods

We employ annual time series data for Zambia from 1965 to 2010. The dataset includes measures of property rights and political instability built by Fedderke et al. (2011). Other data were collected on GDP and FDI, external debt, capital-labour ratio, enrolment ratio, credit to the private sector and trade openness. The macroeconomic data were obtained mostly from the World Development Indicators (WDI) of the World Bank and supplemented by data from the IMF and UNCTAD. Data on property rights index and the political instability index for the period 1930-2010 were obtained by extending Fedderke et al. (2011)'s time series which initially ran from 1947-2007.

The property rights index was computed by aggregating sub-scores on the right to possess, right to use, right to manage, right to capital, security, transmissibility and liability to execution. The political instability index was calculated by aggregating sub-scores on normal political activity, potential threat to political stability, direct and immediate threat to political stability, and non-manageable threat to political instability.

We specifically developed indices for the period 1930-1946 as a first period and from 2008-2010 as the second period which were later merged with Fedderke et al. (2011)'s initial time series for Zambia. In this context, the study provides the longest time series on institutional indicators on Zambia. Records from the National Archives and the National Assembly of Zambia were mostly used to extend the series on property rights and political instability. Analysis uses natural logarithms so that the coefficients from the regressions are interpreted as elasticities. Interpretation of results is based on statistical, econometric and deductive inferences.

CHAPTER FOUR: Data and Descriptive Statistics

4.1 Introduction

This chapter presents and discusses data and descriptive statistics used in the study regarding the impact of property rights and political instability on growth in Zambia. The data are for nine variables namely leasehold property rights (PROPRGTS), political instability (POLINST), gross domestic product (GDP), external debt (REXTD), foreign direct investment (FDI), credit to the private sector (CRDTP), trade openness (TROP), capital-labour ratio (CALARAT)--proxy for capital formation and secondary school enrolment ratio (ENROLL)--proxy for human capital. Data for the estimable variables were available for the period 1965 to 2010.

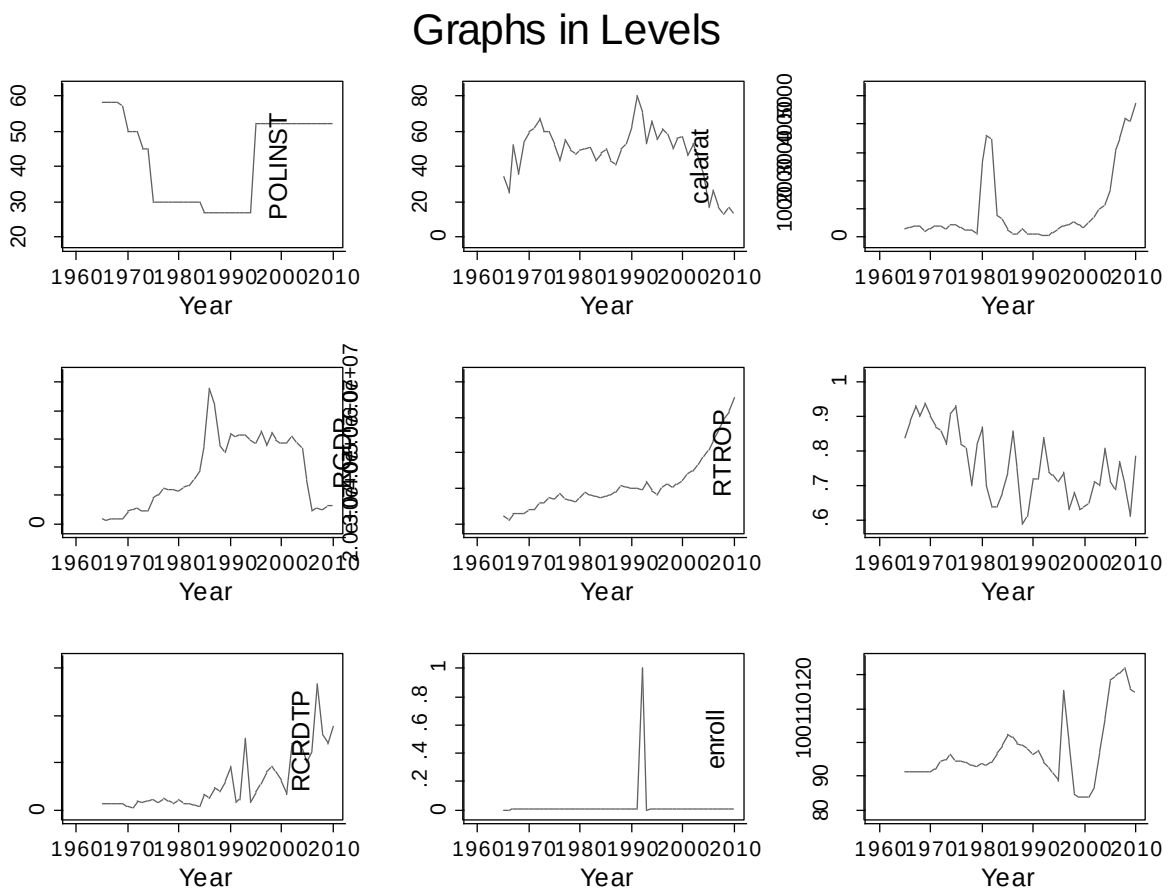
Table 6:Variable Description and Data Sources

Variable	Description	Source
LRGDP	Log of real GDP	World Bank Development Indicators
LRFDI	Log of real FDI	UNCTAD Database
RCRDTP	Log of real credit to the private sector	World Bank Development Indicators
LTROP	Ratio of imports plus exports to GDP	World Bank Development Indicators
LREXTD	Log of external debt	IMF's IFS Statistical Year Book
LENROL	Log of secondary school enrolement ratio	UNESCO Database
LCALARAT	Log of capital-labour ratio	World Development Indicators
LPROPRGTS	Log of property rights index	Built from Fedderke et al.(2011) series
LPOLINST	Log of political instability index	Built from Fedderke et al.(2011) series

4.2 Variable descritpion and data sources

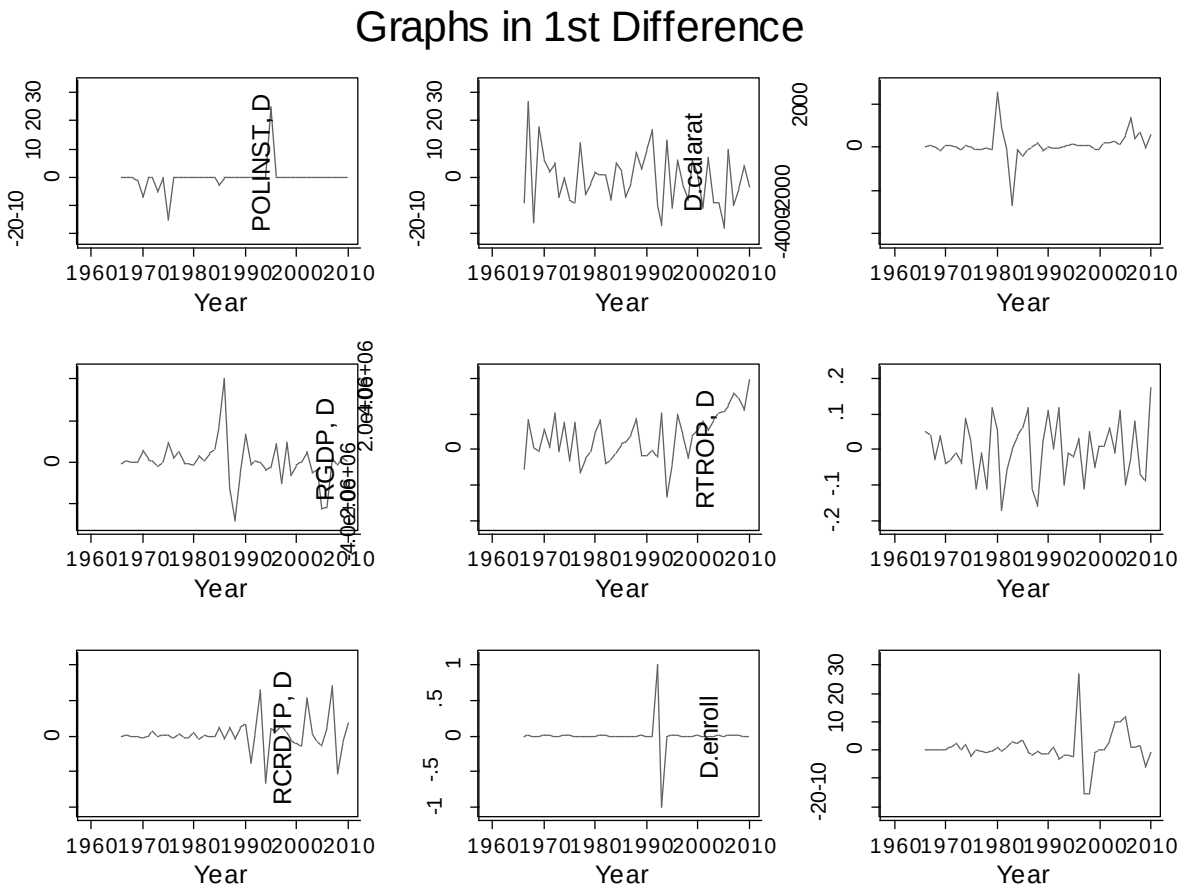
Data and information on various pieces of legislation relating to land and property rights in general were obtained from national archives, parliamentary sources (website), national constitution documents and the Zambia Development Agency. Information used to construct the political instability index was mostly obtained from archival materials for the earlier years and supplemented by newspapers (Times of Zambia, Zambia Daily Mail and the Post) for the latter years. Data for policy variables was obtained from the World Development Indictors of the World Bank, UNESCO and UNCTAD databases as well as the IMF Statistical Year Books.

Figure 7:Time Series Plots of Variables in their Levels



All the variables in their levels show nonstationarity as they have no long-run mean to which they revert. Based on this, differencing was done in order to render the variables stationary and the results are presented in Figure 8.

Figure 8:Time Series Plots of Variables in their First Differences



Despite some sharp spikes, generally all the variables are stationary after being differenced once to remove the unit root. This means that the variables are integrated of order one. The differenced variables were then used in the final regressions.

CHAPTER FIVE: Analysis of Data and Statistical Tests

5.1 Introduction

This chapter deals with various tests that were carried out on the econometric model and its respective variables. The chapter also discusses measures of central tendency (mean and median), measures of variability (variance and standard deviation), skewness (measure of asymmetry), and kurtosis (measures of peakedness or flatness) of the distribution of the series under investigation.

5.2 Analysis of Various Statistical Tests

As is standard practice in econometrics, before the model is estimated all the variables are tested for stationarity to avoid spurious regressions. Le Roux and Gorlach (2011) state that a time series is stationary if its mean and variance are constant over time, and the covariance between two values from the series depends on the length of time separating them and not on the actual times at which the variables are observed. Since most of the tests for stationarity and non-stationarity of variables were discussed extensively in Chapter three, this section will focus on the actual tests rather than describing what they are.

Table 7:Unit Root Tests on Variables

Variable	Computed DF Test Statistic (1)	Computed DF Test Statistic (with a constant) (2)	Computed ADF Test Statistic (3)	Level of Integration (4)
Prop Rgts	-0.595355	-1.474807	-6.737349	I(1)
PolInst	-0.790345	-1.697705	-5.476900	I(1)
GDP	4.766916	4.471679	-4.533810	I(1)
Ext. Debt	-0.745433	-1.521588	-5.152266	I(1)
FDI	-1.334487	-2.421809	-3.995258	I(1)
CRDTP	-0.273517	-1.919119	-5.277579	I(1)
Trad Op	-0.443949	-2.906286	-7.326571	I(1)
Enroll	0.410	-1.740	-5.063	I(1)
Calarat	0.328	-0.366	-4.388	I(1)
1% Critical Value	-2.6143	-3.5814	-3.5889	
5% Critical Value	-1.9481	-2.9271	-2.9303	
10% Critical Value	-1.6196	-2.6013	-2.6030	

The common DF unit root tests were conducted on all variables of interest and the results show that all variables were non-stationary as indicated in Table 7 above. Columns 1 and 2 report results in levels while column 3 presents results in their first differences. In columns 1 and 2 the computed DF test-statistics are greater than the critical values at 1%, 5% and 10% levels of significance. This

means that the H_0 cannot be rejected and hence the series have a unit root or are non-stationary. However, when the variables are differenced once using the ADF test as reported in column 3, they all become stationary implying that the series are integrated of order one, I(1).

As an exception, the FDI series become stationary only after a constant is added to the regression equation while the rest of the series attain stationarity after being differenced once. However, when the FDI series are lagged once with a constant included in the regression equation, they fail the test of stationarity at 1% level of significance while at 5% and 10% levels of significance the variable is stationary. We therefore conclude that FDI is an I(1) series. Perron tests were also conducted on variables in their levels as well as in their first differences in order to account for any structural breaks in the series (Perron, 1989).

Normality tests were also conducted on the variables as presented in Table 14 in the appendix. Residuals were tested to establish whether or not they were randomly and normally distributed as shown in appendix IV. The residuals all passed the test of normality and no outliers are reported. The histogram, along with the Jarque-Bera test statistic indicate that the assumption of normal distribution is not violated in the error terms (see appendices II and III). The correlogram plots of the residual variable, at first difference, illustrate that the data exhibit random characteristics and no white noise is present (see appendices I and II).

Table 8: PSS-F Tests

Dependent Variable	F-statistic	Interpretation
LRGDP	3.87*	Outcome variable
LPROPRGTS	0.00	Forcing variable
LRFDI	4.57*	Outcome variable
LRTROP	1.16	Forcing variable
LRCRDTP	1.46	Forcing variable
LPOLINST	0.20	Forcing variable
LREXTD	0.21	Forcing variable
LCALARAT	2.39ᵖ	Inconclusive
LENROLL	0.01	Forcing variable

a) Asymptotic bounds critical values are obtained from Pesaran and Pesaran (2009:564) case II: Intercept and no trend for k=9. The bounds critical values are F_U=3.349 and F_L=2.163

b) *Denotes the rejection of the null of no long-run level relationship at the 5% level of significance while ᵖ denotes inconclusive results

5.3 Analysis of PSS-F Tests

The results in Table 8 indicate that at 5% level of significance, LRGDP and LRFDI are greater than the upper bound critical value F_U. When the tests are repeated at 1% and 10% levels of significance, the results are still greater than the upper critical value. We therefore reject the null hypothesis which suggests that there is no level relationship equilibrium when LRGDP and LRFDI

are dependent variables. This implies that these variables are endogenous and hence being explained in the long-run systems of equations.

On the other hand, the tests on LPROPRGTS, LRTROP, LRCRDTP, LPOLINST, LENROLL and LREXTD yield results less than the lower bound critical value F_L---implying that we fail to reject the null hypothesis of the absence of a level relationship when these variables are taken as dependent variables. Therefore, LPROPRGTS, LRTROP, LRCRDTP, LPOLINST, LENROLL and LREXTD are by implication weakly exogenous or long-run forcing variables. Furthermore, this means that these variables are not explicitly explained by other variables in the long-run. However, we cannot rule out the likelihood that these variables could interact with other variables in the short-run. We also note that the results on LCALARAT fall between F_L<LCALARAT<F_U--thus yielding inconclusive or indeterminable outcomes. Put differently, it cannot be established whether or not LCALARAT is an outcome or forcing variable.

Since the PSS-F tests have yielded two outcome variables, use of the ARDL or estimation of a single equation would not be possible. In such a case, literature suggests that we employ different estimation techniques which allow r $>$ 1 to obtain consistent and robust results. In this context, we adopt the Johansen multivariate vector error correction mechanism (VECM) to estimate the system of equations. Before employing the VECM, unit root tests were conducted on all variables using the augmented Dickey and Fuller (1979) procedures whose results are reported in Table 7. According to Table 7, all the variables included in the model specification are I(1) series.

Recalling from the PSS-F test results in Table 8, the test statistic is consistent with LRGDP and LRFDI being both potentially outcome variables. Given that both LRGDP and LRFDI appear as outcome variables is also consistent with our earlier theoretical assumptions and expectations. In this context, we proceed to normalize on LRGDP and LRFDI as we estimate the system of

equations. In placing normalisation restrictions, we only impose restrictions on the variables that were identified as outcome or endogenous variables through the PSS-F tests.

Table 9: Johansen and Juselius Cointegration Test Results (Eigen and Trace Statistics)

Trend: constant Number of obs = 45

Sample: 1966 - 2010 Lags = 1

maximum rank	parms	Null	Alternative	LL	eigenvalue	trace statistic	5% critical value
	8	r =0	r=1	45.316649	.	208.0692*	156.00
1	23	$r \leq 1$	r=2	81.852522	0.80286	134.9974*	124.24
2	36	$r \leq 2$	r =3	103.71327	0.62152	91.2759	94.15
3	47	$r \leq 3$	r=4	122.32949	0.56281	54.0435	68.52
4	56	$r \leq 4$	r=5	132.77212	0.37131	33.1582	47.21
5	63	$r \leq 5$	r=6	140.97294	0.30544	16.7566	29.68
6	68	$r \leq 6$	r=7	145.58873	0.18547	7.5250	15.41
7	71	$r \leq 7$	r =8	148.68547	0.12858	1.3315	3.76
8	72			149.35122	0.02916		

*denotes rejection at 5 % critical value

Table 10:Using the Lambda Max Statistic

maximum rank	parms	LL	eigenvalue	max statistic	5% critical value
0	8	45.316649	.	73.0717*	51.42
1	23	81.852522	0.80286	43.7215	45.28
2	36	103.71327	0.62152	37.2324	39.37
3	47	122.32949	0.56281	20.8853	33.46
4	56	132.77212	0.37131	16.4016	27.07
5	63	140.97294	0.30544	9.2316	20.97
6	68	145.58873	0.18547	6.1935	14.07
7	71	148.68547	0.12858	1.3315	3.76
8	72	149.35122	0.02916		

* Denotes the rejection of the null at 5% level of significance

5.4 Determining and Analysing Cointegration Results

In Table 9, we employ the Johansen and Juselius Cointegration Test as applied in Asari et al. (2011) which uses two tests to establish the number of cointegrating vectors namely the Maximum Eigenvalue test and the Trace test. The Maximum Eigenvalue statistic tests the null hypothesis of r cointegrating relationships against the alternative of r+1 cointegrating relationships for r = 0,1, 2… n-1. This test statistic is computed as:

$$LR_{\max}(r/n+1) = -T * \log(1-\hat{\lambda}) \tag{11}$$

where T is the sample size and $\hat{\lambda}$ are the estimated eigenvalues. On the other hand, Trace Statistics investigate the null hypothesis of r cointegrating relations against the alternative of n cointegrating relations, where n is the number of variables in the system for r = 0,1, 2…n-1. The null hypothesis of the trace statistic states that there are no more than r cointegrating relations. Restricting the number of cointegrating equations to be r or less implies that the remaining K-r eigenvalues are zero. Its equation is computed according to the following formula:

$$LR_{tr}(r/n) = -T * \sum_{i=r+1}^{n} \log(1-\hat{\lambda}) \tag{12}$$

Using equation (12), Johansen (1995) derives the distribution of the trace statistic using estimated eigenvalues. For any given value of *r*, large values of the trace statistic are evidence against the null hypothesis that there are *r* or fewer cointegrating relations in the VECM. We apply Johansen (1995)'s method based on the use of a trace statistic to determine the number of cointegrating equations. The trace statistic has nominal coverage despite evaluating multiple tests. The method can be interpreted as being an estimator of $\hat{r}$ of the true number of cointegrating equations r_0.

Sometimes the Trace and Maximum Eigenvalue statistics may yield different results and in that case, Asari et al. (2011) advise that the results of the Trace test should be preferred because of its superior power properties. In our tests we are testing for cointegration under the assumption of unrestricted intercepts as shown in Tables 9 and 10 respectively. The method starts by testing r-0 and accepts $\hat{r}$ the first value of *r* for which the trace statistic fails to reject the null (see Table 9). When we cannot reject the test then we stop the test and that value of *r* is the number of cointegrating vectors [Asari et al., (2011) and Johansen (1995)].

In Table 9, the trace statistic of 208.0692 exceeds the critical value of 156.00, we reject the null hypothesis of no cointgerating equations. Similarly, the trace statistic of 134.9974 exceeds the critical value of 124.24, we reject the null hypothesis that there is one or less cointegrating equations. In contrast, the trace statistic of 91.2759 is less than its critical value of 94.15, therefore we cannot reject the null hypothesis that there are two or less cointegrating equations. Johansen's method for estimating *r* is to accept as $\hat{r}$ for which the null hypothesis is not rejected. Based on the trace statistic, we establish that there are two cointegrating equations.

In Table 10, the Lambda max statistic yields one cointegrating relationship at 5% critical value. In order to resolve this conflict in the test results, we make reference to literature which suggests that the trace statistic yields better results in small samples than other test statistics. We choose the trace statistic due to its superior sample characteristics to determine the number of cointegrating relationships in the model. It is established that r = 2 which requires us to impose 4 restrictions. We impose 2 normalisation restrictions on LRGDP and LRFDI and 2 zero restrictions for just identification.

For just identification, a zero restriction is imposed on external debt in the GDP equation and another one on secondary school enrollment ratio in the FDI equation. Thus, our respecification takes the form:

$$\Pi Z_{t-k+1} = \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \\ \alpha_{31} & \alpha_{32} \\ \alpha_{41} & \alpha_{42} \\ \alpha_{51} & \alpha_{52} \\ \alpha_{61} & \alpha_{62} \\ \alpha_{71} & \alpha_{72} \\ \alpha_{81} & \alpha_{82} \\ \alpha_{91} & \alpha_{92} \end{bmatrix} \begin{vmatrix} 1 & \beta_{12} & 0 & \beta_{14} & \beta_{15} & \beta_{16} & -\beta_{17} & \beta_{18} & \beta_{19} \\ \beta_{21} & 1 & -\beta_{23} & \beta_{24} & \beta_{25} & \beta_{26} & -\beta_{27} & 0 & \beta_{29} \end{vmatrix} \begin{bmatrix} \text{LRGDP} \\ \text{LRFDI} \\ \text{LREXTD} \\ \text{LTROP} \\ \text{LCALARAT} \\ \text{LRCRDTP} \\ \text{LPOLINST} \\ \text{LENROLL} \\ \text{LPROPRGTS}_{t-k+1} \end{bmatrix} \quad (13)$$

We then proceed to run the regressions for the LRGDP and LRFDI equations simultaneously and the results are reported in Tables 11 and 12 respectively.

Table 11:Regression Results for the Just Identified GDP Model

Beta is exactly identified

beta	Coef.	Std. Err.	z	P>|z|
_ce1				
lrgdp	1			
lrfdi	-0.0165484	0.0166748	-0.99	0.321
lrextd	Excluded	--	--	--
lproprgts	-0.1097722	0.026021	-4.22	0.000
lrtrop	-0.3470153	0.0686409	-5.06	0.000
lpolinst	0.1201243	0.0238095	5.05	0.000
lrcrdtp	-0.0478385	0.131062	-3.65	0.000
lcalarat	-0.0613324	0.0075542	-8.12	0.000
lenroll	-0.6789902	0.0536509	-12.66	0.000
_cons	-14.38683			

All the variables in the LRGDP just identified model in Table 11 are statistically significant at 5% level except for foreign direct investment (LRFDI). Our results are consistent with economic theory and therefore amenable to meaningful interpretation. However, outputs in STATA always have to be transposed to get the correct interpretation of results particularly the signs attached to the coefficients. In this context, the negative signs attached to the coefficients in Tables 11 and 12 denote positive outcomes after transposing them in the final results and the reverse is also true, that is, positive coefficients would be negative after transposition.

Table 12:Regression Results for the Just Identified FDI Model

Identification: beta is exactly identified

beta	Coef.	Std. Err.	z	P>|z|
_ce2				
lrgdp	-2.988107	0.4572662	-6.53	0.000
lrfdi	1	--	--	--
lrextd	0.4292912	0.0892933	4.81	0.000
lproprgts	-1.134014	0.2241072	-5.06	0.000
lrtrop	-0.048418	0.5636439	-0.09	0.932
lpolinst	1.05749	0.1990957	5.31	0.000
lrcrdtp	-0.190027	0.0866601	-2.19	0.028
lenroll	Excluded	--	--	--
lcalarat	-0.322060	0.0545331	-5.91	0.000
_cons	-44.44635			

All the variables in the LRFDI just identified model are statistically significant at 5% while LRCRDTP is only significant at 10% levels. Trade openness (LRTROP) is insignificant at all

levels. Like in the LRGDP equation, our results in the LRFDI are consistent with economic theory. The ratio likelihood (LR) test of identifying restrictions yields: $\chi^2(2) = 3.494$ Prob $>\chi^2 = 0.174$ for the two equations reported in Tables 11 and 12. The results of the LR test allow us to accept the zero restrictions placed on β_{13} and β_{28} respectively. The exclusions are based on both insights from theoretical literature and empirical results.

5.5 Selection of a Parsimonius Model

The LR test confirms that our choice of restrictions on external debt (LREXTD) and secondary school enrollment ratio (LENROLL) are statistically correct. This leaves us with a parsimonious model which is consistent with economic theory and empirical evidence. Our model of choice employs the vector error correction mechanism as applied in similar studies such as Gwenhamo and Fedderke (2013), Fedderke et al. (2011) and Gwenhamo (2009). It allows us to investigate the long-run causality and short-run dynamics among variables. The results of the long-run estimates are presented in Tables 11 and 12 while the short-run dynamics are captured through eigenvalue stability conditions in Table 13, Figures 9 and 10 respectively.

Since our variables are in logs the coefficients are interpreted as long-run elasticities. Therefore our two equilibrium relationships from the just identified models are:

$$logRGDP_t = 14.38 + 0.02logRFDI_t + 0.11logPROPRGT_t + 0.35logTROP_t + 0.05logRCRDTP_t$$

(0.321) (0.000) (0.000) (0.000)

$$-0.12logPOLINST_t + 0.68logENROLL_t + 0.06logCALARAT_t \quad (14)$$

(0.000) (0.000) (0.000)

$$\log RFDI_t = 44.44 + 2.99 logRGDP_t + 1.13 logPROP_t + 0.05 logTROP_t + 0.19 logRCRDTP_t$$

(0.000) (0.000) (0.932) (0.028)

$$-1.06 logPOLINST_t + 0.32 logCALARAT_t - 0.43 logREXTD_t$$

(0.000) (0.000) (0.000) (15)

The coefficients of the cointegerating vectors in 14 and 15 above are final and based on the transposed just identified models of the LRGDP and LRFDI equations. The coefficients are long-run elasticities while probability values (p) are presented in round parentheses. Our main interest lies in equation 14 which presents the determinants of LRGDP growth in Zambia for the period 1965 to 2010.

Table 13: Measuring eigenvalue stability condition in the VECM

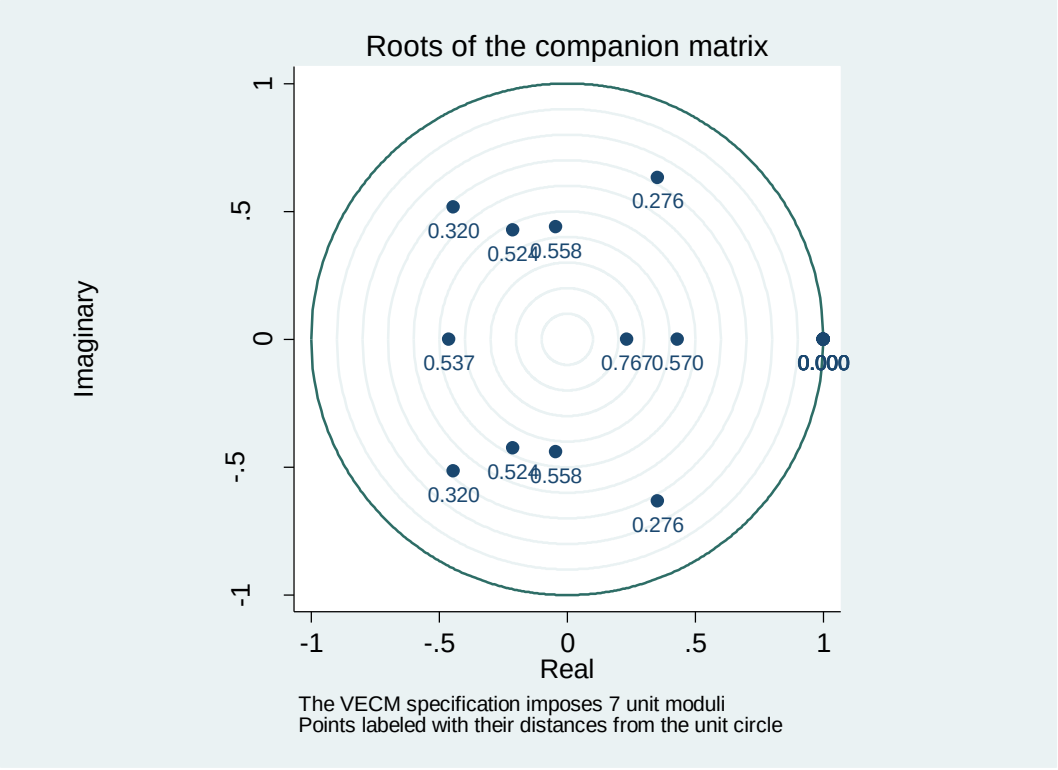
Eigenvalue	Modulus
1	1
1	1
1	1
1	1
1	1
1	1
1	1
0.3521735 + 0.6324977i	0.723933
0.3521735 - 0.6324977i	0.723933
-0.4436786 + 0.5157707i	0 .680346
-0.4436786 - 0.5157707i	0.680346
-0.2114333 + 0.4259602i	0.475548
-0.2114333 - 0.4259602i	0.475548
-0.4625472	0.462547
-.04345848 + 0.4394971i	0.441641
-0.04345848 - 0.4394971i	0 .441641
0.4298625	0.429863
0.2333569	0.233357

The VECM specification imposes 7 unit moduli.

In the VECM post-estimation, we use vecstable (a command to measure stability of the VECM) in STATA to establish eigenvalue stability condition and the results are always in form of a matrix/table and an eigenvalue unit circle. Taken together, the table and eigenvalue unit circle help to determine the stability of the model. The vecstable provides a companion matrix of a VECM with *K* endogenous variables and cointegrating equations which has *K-r* unit eigenvalues. If the process is stable, the moduli of the remaining *r* eigenvalues are strictly less than one[55].

Table 13 shows that our estimated VECM is (stationary) since the roots have modulus less than one and also lie inside the eigenvalue unit circle as shown in Figure 9. This means that impulse response standard errors are valid in the two cointegrating equations.

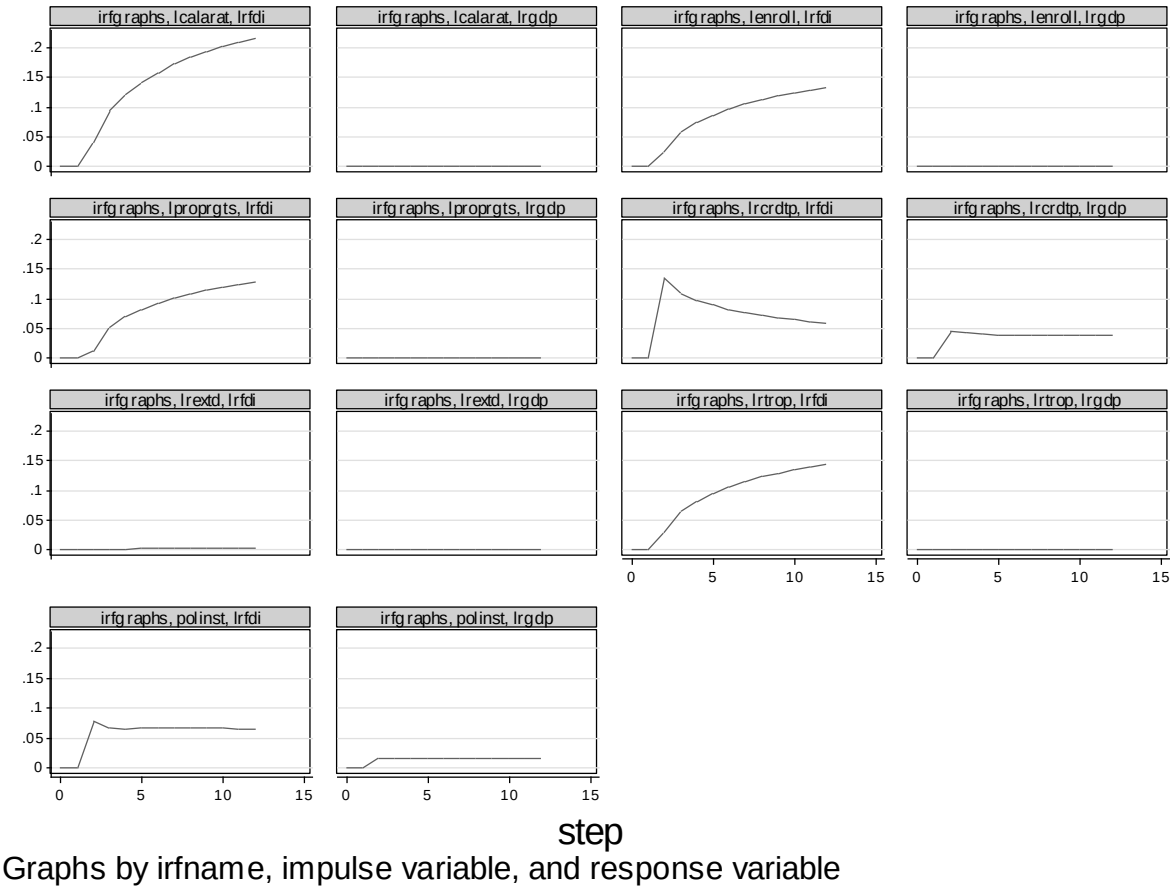
Figure 9:Measuring post-estimation VECM Stability Condition



[55]http://www.stata.com/manuals13/tsvecintro.pdf (4 July 2015)

In Figure 9, the vecstable has plotted the eigenvalues of the companion matrix presented earlier in Table 13. The graph of the eigenvalues shows that none of the remaining eigenvalues appears close to the unit circle. Therefore the stability check does not indicate that our VECM model is unstable or misspecified. Based on the outcome of these stability checks, the results of our two cointegrating vectors are consistent with economic theory and therefore statistically robust for meaningful interpretation.

Figure 10:Short-Run Impulse Response Functions



Based on the just identified LRGDP and LRFDI cointegrating vectors, when a one standard deviation shock is introduced to individual variables of interest, they respond differently with some being explosive (LCALARAT on LRFDI, LENROLL on LRFDI, LPROPRGTS on LRFDI, and

LRTROP on LRFDI) while others show a transitory reaction, that is, a sudden rise followed by a permanent fall (CRDTP on FDI). Other variables such as (LCALARAT on LRGDP, LENROLL on LRGDP, LPROPRGTS on LRGDP, LRFDI on LREXTD, and LREXTD on LRGDP) do not respond to the shocks in the interim. We suspect that this could be as a result of the short-run period being too short for the variables to meaningfully pick up reactions to the shocks. However, when political instability (LPOLINST) is impacted on LRFDI, there is a temporary rise before falling and levelling off. We also note that when LPOLINST is shocked on LRGDP, there is a small positive rise before levelling off. Given that this is a short-run phenomenon, the results are not surprising as the shocks may disappear after a few years. In other words, the shock peters out quickly reflecting the stationarity of the variables under consideration.

CHAPTER SIX: Interpretation of Estimation Results

6.1 Introduction

This chapter presents the interpretation and summary of econometric results from the regression model. Our model specified that economic growth is a function of property rights, political instability, foreign direct investments, credit to the private sector, external debt, trade openness, capital formation and human capital. The thrust of the study was to determine the impact of property rights and political instability on national output over time.

6.2 Empirical Estimation Results

As discussed in chapter 5, the usual tests for normality, stationarity, cointegration, stability, and impulse responses were all conducted on the model and the results indicate that the model had satisfied all the necessary requirements for a robust and reliable specification.

Estimation was done using the statistical package Stata 11.0. Interpretation of long-run parameter estimates is based on the regression results presented in Tables 11 and 12 and short-run dynamics in Figures 9 and 10. The overall econometric results in the regression model are consistent with economic theory in new institutional economics and empirical evidence between property rights and economic growth.

6.3 Interpreting the Long-Run Estimation Results

The research hypotheses were tested by interacting property rights and political instability measures with the log of real GDP as a proxy for economic performance in Zambia. This is in line with the existing literature and the valuable work of Fedderke et al. (2001) who measured the impacts of property rights on economic output in South Africa and Gwenhamo (2009) who measured the impacts of property rights on foreign stocks in Zimbabwe. Based on the estimation

results, we have established that economic growth in Zambia between 1965 and 2010 is a function of seven exogenous variables namely property rights, political instability, human capital, foreign direct investments, loans to the private sector, trade openness, and capital formation.

6.3.1 Institutional Impacts on Growth

The LPROPRGTS measured by the leasehold property rights index had a strong, positive and statistically significant elasticity coefficient of 0.11. A one percentage change in the coefficient of the LPROPRGTS leads to a 0.11 percentage change in LRGDP over the study period. This means that a good performance in the rating of the property rights index whose scale lies between 0 and 100 leads to a strong economic performance in Zambia. A higher rating of the property rights index implies a well secured regime of property rights. Therefore the findings confirm our hypothesis that there is a strong positive relationship between property rights and the level of economic growth in Zambia and hence the results are consistent with empirical evidence and economic theory in new institutional economics (NIE).

Our findings are also in line with the observations of Acemoglu, Johnson and Robinson (2004) who stated that formal institutions (property rights) are the fundamental cause of income differences and long-run growth. The results are equally supported by the recent works of Siddiqui and Ahmed (2013) and many other similar studies such as North and Thomas (1970,1973); Barro (1991); Knack and Keefer (1995); Rodrik (2000); Acemoglu et al. (2001); Fedderke et al. (2001, 2011); IMF (2003); Fernandes and Kraay (2007); Gwenhamo (2009); Luiz (2009); Calvaro and Calvaro (2010); Fedderke and Garlick (2010); Cebula (2011) and Gwenhamo and Fedderke (2013). In all these studies, it was established that strong and favourable formal institutions particularly property rights had a positive impact on economic growth.

Thus, from the study it has been established that growth in Zambia is strongly and positively influenced by strong economic institutions measured by leasehold property rights (LPROPRGTS). These outcomes further suggest that any society governed by the rule of law and where property rights are well secured, there is always a corresponding strong and positive outcome in economic performance as argued by Beck and Levine (2003), Falvey, and Greenaway (2006), Tajibaeva (2011), Fang, Zhao and Jingji (2011) and Davis and Sener (2012).

The study results are also comparable with the empirical work of Acemoglu and Robinson (2012) who made a profound case that, more than anything else, it is man-made economic (property rights) and political institutions (civil liberties and human rights) that underlie economic success by creating incentives for wealth creation, rewarding innovation and allowing widespread participation in economic opportunities. It therefore stands to reason that the Zambian Government should invest in measures aimed at strengthening the regime of property rights as a precondition for attracting both domestic and foreign investments. This can be done through administrative and legal reforms in order to strengthen and enforce the rule of law as it relates to investments.

Since we used land as a proxy for property rights, we infer from our findings that management and administration of land in Zambia, will to a large extent, determine whether or not the country will achieve economic development. For instance, Ianchovichina and Lundstrom (2008) argued that the land tenure system in Zambia may be perceived as a binding constraint to economic growth due to the risk it creates for the future returns on investement. Therefore, land policies and administration need to be made consistent with the investment policies to avoid sending wrong signals to the investor community. We also wish to state there is need for government to strengthen property rights as they relate to land access and ownership, enforce the rule of law and streamline business regulations to promote efficiency.

Given the strong link between property rights and economic growth, we wish to note that the government's move to reverse the sale of the Zambia Telecommunication Company (Zamtel) and a privately owned Finance Bank Zambia Limited in 2012 because of alleged corruption involving the transactions, does not bode well with investor confidence. This is also attested by the negative rating that the country got from the Fitch international survey group[56] in 2012 soon after the government reversed the sale of the telephone company. The country's rating in international surveys on property rights and the rule of law was likely to go down further with the seizure by the Zambian Government of the Chinese Collum Coal Mine in Sinanzongwe District in February 2013 without following the due process of the law. The Collum Coal Mine was expropriated or seized by the central authorities citing poor compliance with safety, health and environmental standards.

In order to minimise the risk of expropriation by authorities, La Porta et al. (2000) stressed the need for investor protection using appropriate legal laws as being crucial in many countries to attracting corporate finance for development. Therefore the move taken by the Zambian Government to deprive the Collum Coal mine investors of their private investments points to the need for the strengthening of the rule of law to avoid unilateral decisions by politicians that are likely to injure the investment climate and hence discourage long-term investments.

The LPOLINST had the expected negative elasticity of -0.12 and was statistically significant. On a scale of 0 to 100, a higher aggregate score implies more political instability taking place in the country. The results indicate that a one percentage change in the political instability index (LPOLINST) leads to a 0.12 percentage decline in economic output over time. Therefore the

[56] https://www.fitchratings.com/jsp/general/Research.faces;jsessionid=eB8AGQWPeMiHdsUzb0BpcJqP?listingName=criteriaReport

results help us to validate our hypothesis that political instability has a strong but negative effect on economic performance.

This means that perverse political institutions in Zambia are a disincentive to economic growth as they discourage long-term investments. This is also supported by Bigsten and Mugerwa (2000) who found that political instability in Zambia had a negative and dampening effect on economic growth. Similar studies elsewhere such as Polachek and Sevastianova (2012); Campos, Karanasos and Tan (2012); Jong-A-Pin (2006); Jong-A-Pin (2009); Butkiewicz and Yanikkaya (2005); Fosu (2004); Fosu (2002) and Ali (2001) all found that political instability was significantly related to economic growth and that an increase in instability tended to lower real per capita growth rate.

In light of these findings, the study argues that major political instability events such as attempted military coups in Zambia in 1980 and 1997 have the potential to dampen economic performance through scaring off would-be investors. In addition, the escalation in civil protests by trade unions and workers and frequent altercations between opposition political parties and the ruling party since the 1990s have had adverse effects on the general economic environment. These events if not put in check, can make investors become risk averse through their negative perceptions of the political and economic environment in the country.

Notably, there have been a number of labour-related protests in Chinese-owned mines in recent years. The protests are mainly fuelled by poor working conditions and low salaries and wages obtaining in the affected mines. Prolonged labour protests impact negatively on productivity through loss of output. Since 2012, there have been several political protests mainly from two large opposition parties, the United Party for National Development (UPND) and the Movement for Multi-Party Democracy (MMD). The protests were caused by denial of permits by the Zambia Police Service to conduct political rallies in various parts of the country.

The reverse is also true that political stability is necessary for growth as argued by Alessina et al. (1996) and Luiz (2009). For example, Arbatli (2011) found that political stability and absence of internal or external conflicts play a critical role as they promote economic certainty, safety of invested capital and economic prospects of the host economy.

From the empirical evidence presented so far, the results are broadly consistent with the findings of many similar studies and theoretical literature in new institutional economics (NIE). Thus, the study has found greater weight of evidence to support the proposition that property rights have a strong positive bearing on economic performance while political instability has a strong negative effect on growth in Zambia.

It can therefore be argued that Zambia needs political, economic and social reforms so as to develop strong and efficient institutions that can facilitate effective policy formulation and implementation as a springboard for growth. This is consistent with Khalil et al. (2007) who noted that achieving high levels of growth requires a suitable legal and economic environment and requires reform of the rules and institutions that govern the strategic interaction of the participants in the political game, and that reform must cope with the special interests and asymmetric information that already exist.

6.3.2 Policy Variable Impacts on Growth

Foreign direct investment (LRFDI) had an expected positive elasticity of 0.02 but was statistically insignificant. The insignificance in the coefficient of LRFDI is rather surprising but could be attributed to the fact that most of the foreign direct investments coming into Zambia are in form of heavy capital machinery for the mining sector with very little spillover effects in terms of job creation and management skills being passed on to Zambians. Given that foreign direct investment in Zambia is capital intensive, the results could also mean that FDI has been horizontal rather than

vertical (see Fedderke and Romm, 2004). In addition, the structure of the Zambian economy (especially the mining industry) is predominantly export-oriented with very weak linkages with critical internal sectors such as agriculture and manufacturing.

Thus, our results are consistent with the findings of the Bank of Zambia (2012) and UNCTAD (2006) that established that FDI had a positive effect on the Zambian economy through capital formation. The results are also in tandem with other related studies that noted that in an environment where property rights are well secured and where social and political stability are deeply entrenched, FDI always leads to positive economic growth.

For instance, Arbatli (2011) concluded that a possible determinant of FDI in a country is the quality of its legal, political and institutional environment. He went on to note that legal rights, contract enforcement, and protection of investor rights are likely to be important for an investor's decision regarding bringing capital into a foreign country. This is supported by the empirical findings of Mwitwa (2006), Kotrajaras, Tubtimtong and Wiboonchutikula (2011), Kakar and Khilji (2011), Kornecki and Raghavan (2011), Chien, Zhong and Giang (2012), McCloud and Kumbhakar (2012), Zouhaier (2012) and Gwenhamo and Fedderke (2013) who noted a strong performance of FDI on economic growth due to the existence of a strong regime of institutions (property rights) and macroeconomic stability.

Indeed Gwenhamo (2009), Arbati (2011), Gwenhamo and Fedderke (2013) observed a strong correlation between a country's legal, political and institutional environment on one hand and FDI stocks on the other. Both Gwenhamo (2009) and Arbati (2011) argue that legal rights, enforcement of contracts and protection of investor rights or property rights are critical factors that determine whether or not an investor will bring capital in a country. However, Zambia needs to address the high cost of doing business, for example, reducing the cost of energy and transportation including

undertaking necessary labour market reforms and tackling the high wage cost structure in the formal sector in order to attract more foreign direct investments (see Table 5 for some of the policies that are hurting the investment and business environment in the country). These views are also supported by the Bank of Zambia (2012) which made a strong case for Zambia, among other things, to reduce the cost of doing business, streamline licensing procedures for foreign investors while at the same time maintaining policy consistency to enhance investor confidence in the economy. The Bank of Zambia's position is also consistent with UNCTAD (2006) which noted that although FDI had a strong positive impact on Zambia's economic growth, the country needs to bring its investment policy framework, macroeconomic policies, infrastructure and the cost of doing business to levels that make the country's producers more competitive regionally and globally.

The coefficient of trade openness (LTROP) had an expected positive sign and was statistically significant. A one percentage change in LTROP leads to 0.35 percentage increase in GDP growth over time. The results confirm our earlier assumption that trade openness or market integration has a positive and strong spin-off effect on economic output. The estimation results strongly support the hypothesis that a country with an open trade regime is likely to grow and develop faster relative to those operating an autarky economy (Haouas et al., 2014; Sakyi et al., 2012). Our findings are also comparable to other empirical studies such as Harrison (1996), Yanikkaya (2003), Ahmed, Cheng and Messinis (2008), and Nannicini and Billmeier (2011) who established that the magnitude of the growth effect of trade openness in transition countries was statistically significant.

More specifically, Nannicini and Billmeier (2011) observed that trade liberalisation tended to have a positive effect on the pattern of real GDP per capita across countries. While theoretical literature

suggests that trade openness (economic integration) raises economic growth across countries, Yanikkaya (2003) cautions that if the trading partners involved are asymmetric in terms of having different technologies and endowments, such an arrangement may hurt individual countries.

Yanikkaya's views are useful in understanding the current policy debates and apprehensions on regional integration in the SADC region where some countries are generally sceptical on the perceived benefits of economic integration given that the participating countries are not homogenous in their technological capacities and natural resource endowments.

Against a background of unsuccessful outcomes of the import-substitution measures that Zambia and many other developing countries pursued in the early 1970s and 1980s, trade openness generally allows a country to access modern technologies, capital goods and innovation from advanced countries as major inputs for its own local industries. However, Rodrik (1999) cautions that import substitition strategies may have failed because their intended benefits were overstated at the time just as much as the advantages of trade openness are currently exaggerated by the Bretton Woods Institutions (BWIs).

The LRCRDTP had the expected positive sign and a statistically significant elasticty of 0.05. Our results confirm our *a priori* expectations that loans to the private sector regardless of the volumes involved have a positive effect on economic performance. The results indicate that a one percentage change increase in the loanable funds to the private sector has a corresponding increase of 0.05 percent in economic output over the study period. These results are therefore consistent with the findings of Aurangzeb (2012) who demonstrated that deposits, investments, loan advances, profitability and interest earnings had a significant positive impact on economic performance in Pakistan while Vaithilingam and Shanmugam (2003) noted a strong relationship between bank lending and economic growth in Malaysia.

Indeed, the theory of finance or credit to private firms as a conduit for economic growth is also supported by Levine (1998), Demirguc-Kunt and Maksimovic (1998), and Rajan and Zingales (1998). Other scholars such as Ben and Imene (2010) observed a positive correlation between well developed financial systems and economic growth. This is expected given that liquidity provided by commercial banks and lending institutions will always increase the outlay of resources for investment in the productive sectors such as mining, manufacturing and agriculture.

However, financial intermediation in Zambia needs to be deepened to capture rural areas that remain largely unbanked and hence unattractive to the private investors and business enterprises. Ianchovichina and Lundstrom (2008) noted that financial intermediation in Zambia has remarkably improved in recent years as many commercial banks and micro financial institutions operated by NGOs and outgrower schemes have opened up branches in rural areas to provide credits to the rural clientele. Despite this progress, their operations and credit channels remain very limited relative to the demand for banking services.

LCALARAT had an expected positive elasticity and was statistically significant. A one percentage change in the coefficient of capital formation results into a 0.06 percentage change in economic performance in Zambia. These results are consistent with standard growth models that find that broad capital formation strongly supports economic performance across countries and regions [see Ueshima (2014), Ugochukwu and Chinyere (2013), Benhabib and Mark (1994)]. In addition, Mankiw et al. (1992) found that about 80 percent of income disparities across countries or cross-country variation in income per capita can be explained by accumulation of physical and human capital. Indeed, literature also shows that capital formation anchored on high skills and technology raises total factor productivity which is essential for economic growth.

The coefficient of enrollment ratio (LENROLL) had the expected positive sign and was statistically significant. A one percentage change in the enrollment ratio leads to a positive change of 0.68 percent in economic growth for the period under consideration. These findings are comparable to the results of similar studies such as Glewwe, Maiga and Zheng (2014), Jalil and Idrees (2013), Garces (2011), Seebens and Wobst (2005) and Bills and Peter (2000) who all noted a strong positive correlation between education (human capital) and rates of economic growth across countries. Others such as Banik and Khatun (2012) found a strong causal relationship between education (knowledge and skills) and economic development in selected Indian States.

CHAPTER SEVEN: Study Contributions, Recommendations and Conclusions

7.1 Introduction

The study was aimed at investigating the causal impact of property rights and political instability on Zambia's economic performance between 1965 and 2010. Using an institutional conceptual framework, the PSS-F test and a vector error correction model, the study analysed some formal factors that cast their influence on economic output and demonstrated that strengthening the regime of property rights in Zambia has the potential to substantially raise growth which is critical for development.

The VECM procedures suggest that there is a long-run relationship and an economic theory that bind the explanatory variables together. The overall findings have established that strong property rights will always interact with the economy to produce positive development outcomes while political instability is anti-growth in Zambia. The study also notes that although the country has a wide range of economic, political and legal institutions, some of them need to be strengthened and harmonised with the investment legal framework to avoid inconsistencies in policy actions.

7.2 Contributions to the Body of Knowledge

The study has made significant contributions to the academic body of knowledge at two levels namely empirical and methodological within the new institutional economics (NIE). More specificially, it introduced new data which was used to construct additional indices that were later added to the existing series of Fedderke et al. (2011). The study engaged a wide body of theoretical and empirical literature to gain deep insights into the impacts of political, economic, legal and social institutions on growth both at regional and country levels. Like many similar studies, the results from this study suggest a compelling case for strengthening formal institutions particularly

property rights in Zambia as anchors of economic growth. Political instability was found to be a disincentive to both domestic and foreign direct investments which are critical for economic growth.

Thus, the findings would possibly contribute to the strengthening of the policy landscape in Zambia through the suggested measures on how to address weaknesses in current economic institutions so as to unleash the potential for higher and sustained economic growth. Other potential contributions of the study are the improvement on the institutional growth models by systematically including discussions of the theoretical and empirical insights of the role of property rights in facilitating growth in the long-run in Zambia.

7.2.1 Empirical contributions

The research took advantage of the empirical gap on the impact of property rights and political instability on Zambia's economic performance by extending Fedderke et al. (2011)'s annual series of indices which were then applied to determine the long-run institutional-growth interrelationship. In this context, the study has broadly attempted to close the knowledge gap on Zambia by highlighting the causal-effect relationship between property rights and political instability on one hand and the country's economic performance on the other. More specifically, the empirical findings have revealed that institutional quality (property rights) are very cardinal for the country's economic growth while political instability dampens economic output.

7.2.2 Validation of the theory in New Institutions Economics

The study tested and validated the existing theory on the role of property rights in economic growth by applying it in the context of Zambia. The theory postulates that economic institutions (property rights) are the main determinants of economic growth and income differences across countries and

regions. Like many similar studies, the study's findings are consistent with the theory of institutions as presented by North (1970,1989,1990), Aron (2000); Acemoglu et al. (2001; 2002), Fedderke et al. (2001; 2011); IMF (2003); Aghion (2006); Gwenhamo (2009) and Luiz (2009). To the extent that the study was able to validate the institutional theory in the Zambian context, it has therefore added the weight of evidence to the growing body of empirical and academic knowledge on the important role of property rights in determining growth trajectories in developing countries.

7.2.3 Methodological Contributions

From a methodological standpoint, it has been demonstrated in the theoretical literature and in this study that there are a number of institutional factors that influence growth and some of them are interwoven in a complex web of association. However, there are several techniques that can overcome this hurdle such as the PSS-F statistic and VECM which this study employed to isolate individual effects of the regressors and hence improve the prediction power of the model for clearer interpretation and analysis of results.

The study's methodology and analytical framework broadens Fedderke et al. (2011)'s model by extending the scope of coverage from the initial 1947-2007 to 1930-2010 thereby providing a sufficiently long enough time series on institutional variables in Zambia. The study used the Delphi technique to compute the composite indices of property rights and political instability by focusing on the ratings of their sub-components. This was a great innovation in the methodological calculation of the composite indices which enabled us to overcome challenges of aggregation associated with most indices in literature.

The study also incorporated several macroeconomic policy variables which helped to shed more light on the interface between property rights and economic performance in Zambia. The quantitative model employed in estimating the institutional effects on growth was robust enough

to generate specific outcomes that are expected to serve as an entry point for both policymakers and academicians in gaining deeper insights into the role of property rights in promoting growth in Zambia.

The main contribution of the study has been the quantitative estimation of the impacts of property rights and political instability on economic growth in Zambia over time. The thesis has reaffirmed the positive growth impacts of property rights over the study period. It has also tested and validated the empirical methodology on the measurement of property rights and how it relates to economic performance in Zambia. Ultimately, a detailed institutional framework of the growth process in Zambia has been presented, analyzed and attempts made to demonstrate that increasing the overall quality of economic institutions (property rights), other things being equal, would substantially raise growth performance.

7.3 Policy Recommendations

Based on our empirical findings, the study has established that there is a long-run relationship between property rights and economic growth in Zambia. This is also supported by similar evidence from Botswana and Mauritius as presented in section 2.9 under literature review. For example, in Mauritius strong economic growth is attributed to high quality institutions, political stability, democratic legacy, rule of law and credible judicial institutions. In Botswana, institutions of private property have played a critical role in attracting foreign direct investment which in turn have strongly influenced growth for several years.

Therefore a strong regime of property rights has a significant role to play in fostering an enabling environment to enhance economic performance in Zambia. In light of this, this dissertation strongly recommends that authorities should deliberately strengthen the regime of property rights (land access, management and administration) as a precondition for current and future growth.

More specifically, land policies (especially access) need to be developed and synchronised with the investment policies to avoid policy inconsistencies.

Before we offer broad policy recommendations on property rights institutions as they relate to land reforms in Zambia, it is instructive to briefly review the works of Hernando de Soto[57]. De Soto (1989, 2000) provides empirical evidence on how land reforms and programmes in third world countries act as preconditions for economic growth. He provides two testable hypotheses to guide economic institutional reforms namely; (i) property rights positively affect development by altering the ability and incentives for capital formation and; (ii) land titling provides the means to secure property rights (Williamson, 2010). His main argument, like many institutional economists, is that insecure and poorly defined property rights stifle economic development by weakening incentives for owners to make long-term capital investment. He finds that poor property rights system hinders the ability of owners to use their property as collateral to secure loans to finance capital investment. De Soto goes on to note that without access to credit and investments in the future, capital formation and economic growth are impeded.

Based on these findings, he proposes a series of reforms and steps that countries could take to unleash the potential of land as an economic asset. De Soto argues that a country must incorporate the informal, unarticulated rights into a written, formal legal property rights system [see Clift (2003)]. To him, an integrated system of standard legal titles is necessary and the codification of informal property rights through a written legal system is the only viable way to secure property rights and by implication unlock the potential of land as an economic asset.

[57]De Soto is credited as one of the most influential economists of our times on property rights and land reforms. He has been consulted by Russian President Vladimir Putin, Thai Prime Minister Thaksin Shinawatra, Mexican President Vincente Fox and Afghan President Hamid Karzai. He has also worked with the governments of Haiti, Egypt and Philippines and recently he has been working with Ghana and Honduras on land reforms (see Clift, 2003).

De Soto (2000) states that land titling is a strong mechanism through which property rights can be secured and achieved in any country. In his view, if economic assets including land are titled, then this action will send right policy signals to the investors by assuring them that their investments are legally safe. De Soto's proposals have been tested by a number of economists. For example, Williamson (2010) examined de Soto's hypotheses using empirical data on Peru. In relation to De Soto's first hypothesis, he examined channels through which property rights affect economic growth by analysing their impact on domestic credit and gross capital formation. Williamson found that secure property rights are associated with an increase in development, access to credit, and gross capital formation. These findings are also supported by Bauer (2000) who noted that capital formation, which is a precondition for an economy to progress from subsistence production to market production, is an outcome of institutions. Williamson concluded by stating that property rights institutions provide incentives, facilitate production and exchange, and lead to increased capital accumulation, investment, technological innovation, and enterpreneurship.

However, in the second hypothesis, Williamson (2010) found that land titling (formal institutions) as proposed by de Soto did not necessarily provide conclusive evidence to establish a system of private property. Instead, he provides compelling evidence on the significance of informal property rights institutions and their function for economic performance. Drawing on the findings of Benson (1989), Williamson (2010) argues that the establishment and enforcement of property rights can and has been done without government, or a coercive state [see also Kimuyu (1994); and Atwood (1990)]. He also shows that customary law (not legal law as suggested by de Soto) existed in primitive societies to govern and enforce property rights. This happened as individuals realised that the gains of respecting others' property outweighed the costs.

On the other hand, studies such as Besley (1995), Banerjee, Gertler, and Ghatak (2002) as cited in Williamson (2010) support de Soto on the necessity for land titling noting that it can generate the positive outcomes associated with secure property rights. Their argument is that land titling allows owners to use title as collateral to access loans for investments from lending institutions. In light of Williamson's and Besley's findings, evidence on the impact of land titling on economic growth remains inconclusive in third world countries.

Overall, de Soto's proposals on land titling are still relevant in guiding and informing our own study as we provide policy recommendations on property rights institutions in Zambia. We proceed from the premise that de Soto's proposals should be seen in the context of each country's unique political economy. For example, in Zambia land has a lot of sentimental and cultural value and therefore any proposed reforms to this asset have to be carefully thought-through to avoid resistance particularly from traditional leaders and their subjects.

Past efforts in the country to reform the land tenure system have always invoked emotional debates from traditional authorities who have mainly argued that putting traditional land on title essentially means ceding their authority to Government, private individuals or corporate entities[58]. For many years, traditional authority and pride in Zambia have always been synonymous with land ownership and by implication the more land a ruler has, the more authority vested in that person.

Against this backdrop, we wish to suggest that the starting point for any meaningful land reforms in Zambia is wide sensitisation and broad-based consultations in the spirit of give-and-take. For traditional rulers, it can be argued that their main interest is not so much about the economic value

[58]"My chiefdom will support foreign investment as long as that investment is legal, does not contravene national laws and tradition, customs…. I would like Dangote management to fairly treat people who have sacrificed their customary land for this project", Senior Chief Chiwala of the Lamba People of Masaiti on the Copperbelt Province talking to Zambian President Edgar Lungu and senior management team of Dangote Cement Limited in an article "Chiwala complains to Lungu over Dangote-displaced villagers", The POST, Wednesday, August 5, 2015.

that land implicitly bestows on them but protecting and preserving ancestral land for future generations. Many of them may not be willing to abrogate this responsibility by being seen to be "giving away" land through titling programmes as suggested by de Soto. One could even argue that the major weakness of de Soto's suggestion on land titling is its strong emphasis on economic value without paying sufficient attention to its sentimental and cultural sensitivities in different settings. Notwithstanding this, his proposals on land reforms are still conceptually and theoretically valid for many African countries.

In the context of Zambia, this dissertation argues that land reforms have to address both the concerns of traditional authorities and the genuine need to empower citizens with legal ownership of an economic asset as a sustainable pathway out of grinding poverty. For example, title can be issued to community or village land in the name of a traditional ruler who shall hold it in trust and on behalf of his/her subjects. In this way, customary land will acquire economic value through titling while it still remains in the custody of traditional authorities. With title, a community can collectively use its land as collateral to access credit for investment and by implication improve their incomes. As de Soto (2000) argues, the poor in developing countries own US$9.3 trillion in assets that are not titled and therefore titling can be one effective way to harness this untapped wealth.

In terms of procedure, we propose a two-prong approach in operationalising land reforms in Zambia. First, there is need for constitutional reforms undergirded by broad-based consultations of all major stakeholders to explicitly define land tenure system in the country. More specifically, there is need to amend land clauses in the current constitution to bring clarity on tenure and access.

Second, there is need to undertake administrative reforms to remove rampant corruption and bureaucratic delays in land access, management and title acquisition for would-be land owners.

These should be accompanied by decentralisation in land administration using a three-tier system at national, provincial and district levels. Authorities should also computerise land administration and management particularly at provincial and district levels to enhance efficiency. In addition, there is need for central authorities to conduct a comprehensive land audit across the country to establish the amount of land available for economic activities including investments. This way, contentious issues in land ownership, access and management would be implicitly addressed.

In terms of dealing with political instability, we note that political stability is quintessential for promoting certainty and a favourable business environment for both domestic and foreign investors. In this context, the study strongly recommends for deliberate measures that encourage political stability, peace and social dialogue as possible options available to political leaders and other actors to avoid conflict and social tensions.

The ILO and IIRA (2003) emphatically noted that social dialogue plays an important role in consensus building, encouraging good governance, advancing social and industrial peace and stability and boosting economic progress. However, the space and quality of social dialogue in Zambia should be broadened and deepened for meaningful engagement of all stakeholders including civil society and the private sector.

The prevailing situation where the Zambia Police Service has been using an archaic Public Order Act to deny opposition political parties space to hold public rallies could be a recipe for civil unrest and political instability. It is also an infringement on people's fundamental rights to freely assemble and express themselves. Therefore the study strongly recommends for measures that guarantee and deepen human rights including the right to freely criticise government on policy matters without state repraisals.

Given the important role that FDI plays in the economy through capital formation and the potential transfer of skills to the local people, we recommend that there should be a legal and administrative framework geared towards protecting investor rights through impartial courts of law and other legal instruments as incentives for attracting foreign capital (La Porta, 1998). In this regard, legal and judicial reforms aimed at building the capacity of the judiciary to effectively promote the rule of law are strongly encouraged. Williamson (2010) proposes complementary enforcement mechanisms through courts of law to be put in place that will secure property rights on investments while Acemoglu and Robinson (2012) call upon the state to enforce law and order, and private property and contracts.

The Government should continue to invest efforts in strengthening the regime of property rights, enhance policy clarity and consistency as anchors of capital formation (see Bauer 2000; Besley 1995; Knack and Keefer 1995; and Mauro 1995). Unless economic agents are convinced that property rights are safe and secure, they will not invest in long-term capital formation. In this context, judicial reforms are critical for improving policy certainty through strengthening of provision of social and economic justice in business and economic transactions. In addition, the cost of doing business in Zambia should be addressed as a matter of urgency through removing numerous bureaucratic procedures, tackling corruption (expropriation of investor profits) and significantly reducing time delays in registering and issuing investment licences (see Table 5).

Many studies and indeed this particular one have all reaffirmed the importance of education in enhancing economic performance. We therefore recommend that the Zambian Government working in close collaboration with the private sector should intensify efforts in investing in education and development of human skills as a platform for future economic growth (Odit and Dookhan, 2010) and ECA (2015b).

Loans to the private sector unlock the potential for economic growth through productive investments as argued by Rathinam and Raja (2010). Therefore there is need for a strong policy environment to deepen the scope and depth of financial intermediation especially in the peri-urban and rural areas of Zambia. Policies and measures that encourage commercial banks to expand their operations and penetration could be used as catalysts and vehicles for delivering loanable funds to business entities such as the small and medium enterprises (SMEs) in the urban and rural areas of Zambia. We also suggest that the central bank should consistently engage financial intermediaries to ensure that the cost (interest rates) of loanable funds from commercial banks is reduced and made more affordable in order for many economic agents to access the money for their businesses.

The study has established that trade openness is good for Zambia through its positive spillover effects on the economy (see also Nannicini and Billmeier, 2011). The government should therefore use complementary measures such as access to international trade finance and regional integration arrangements to build its productive capacity to effectively participate in global markets. In addition, we suggest that the government should tackle supply-side constraints (poor infrastructure, erratic energy supply and high cost of doing business) in order to reap full benefits of trade openness. However, we also caution that Zambia should put measures in place to cushion the country from volatility associated with open international markets or free trade in general.

7. 4 Academic Recommendations

Through its findings and analysis, the study has possibly opened up new frontiers of academic research on the interaction between property rights and political instability on one hand and growth on the other. However, it will be interesting to learn of new academic opportunities in research particularly on how informal institutions, geographical (distance to the sea) and historical factors

(colonialism) would influence our current study findings on the interaction between economic institutions (property rights) and growth.

7.5 Limitations of the Study

Several studies on formal institutions tend to have inherent weaknesses mainly associated with measurement challenges. The first limitation of this study is that it leans heavily in its methodology on the use of quantitative and econometric applications to the exclusion of the qualitative approaches. However, this was done purposely because Zouhaier (2012) noted that most studies on the association between qualitative aspects of institutional variables and economic performance suffer from a range of issues resulting in measurement challenges, reliability of sources and subjectivity of data.

The second limitation which is closely linked to the first one is the study's strong focus on formal (de jure) to the exclusion of informal (de facto) institutions that include culture and ethics. This is so because the former lend themselves easily to econometric measurement than the latter.

The third limitation is the paucity in data especially for the earlier years. However, the study minimized the challenges of data gaps through extrapolations particularly on some macroeconomic policy variables.

The fourth limitation is the use of aggregates on property rights and political instability measures which may not have yielded precise results as the case would have been if actual variables were employed. However, the level of aggregation was minimised through use of composite aggregates which yield fairly good results for this type of empirical work. Finally, although the study is dealing with perception-based outcomes which are difficult to measure, some of the measurement

challenges have been overcome by robust methodologies as those proposed by Fedderke et al. (2011) and Gwenhamo (2009) respectively.

7.6 Conclusions and Policy Implications

The main objective of the study was to answer the broad research question stated in chapter one of the thesis by constructing new institutional indices of property rights and political instability for Zambia and to use them to determine causality and/or association with economic growth over time. The long time series dataset generated by our dissertation on property rights and political instability in Zambia means that the study has been able to pick up major trends in the two indices to inform specific policy interventions.

Institutions by their nature take a long time to evolve and hence the need for long time series coverage to be able to capture meaningful historical trends and notable changes. It is in this context that this dissertation has made a significant contribution in the evolution of institutions in Zambia by working with a times series that has a fairly long coverage. The long dataset also distinguishes this dissertation from most studies on institutions that use panel data with short time intervals across countries and hence unable to draw historical trends and variations in formal institutions.

In addition, the study has drawn key lessons and recommendations for both policymakers and researchers on the importance of property rights in facilitating growth in Zambia. The main study hypothesis is that property rights are strongly and positively correlated with economic growth. However, the current land tenure system in Zambia is problematic especially as it relates to customary land. One way to deal with this challenge is to introduce broad-based land reforms to promote a legal property right system as suggested by de Soto (2000). This could be achieved through legal and administrative reforms in land access and management as a premise for defining and guaranteeing a secure private property rights system in the country. Inevitably, well defined

and secure property rights system will signal to the investors that the market is safe for capital investment (Williamson, 2010).

The other hypothesis that was tested is that political instability is inversely related to economic performance (Tan 2012; Jong-A-Pin (2006). Our findings confirm our apriori expectations that political instability is adverse to growth. To test the two hypotheses, the study employed the PSS-F test and VECM procedures to determine causality and cointegration in the system of equations. In addition, we used the Delphi technique as proposed by Fedderke et al. (2001) to improve on the methodology for computing the composite indices by rating their sub-components.

From the weight of the empirical and econometric evidence presented, it has been established that both property rights and political instability have statistical significance in explaining variation in Zambia's economic output over time. Property rights have a strong positive impact on economic performance in the country. Consistent with the findings of similar studies, political instability was found to be negatively related to economic growth by discouraging potential investors. The 2012 labour unrest through civil strikes across the country triggered by the Government's policy pronouncement to increase the minimum wage without consulting all stakeholders among them the tripartite consultative labour council (TCLC) has the potential to hurt economic output through lost productivity as employees stage prolonged sit-ins.

The interaction between FDI and growth was found to be positive which is consistent with economic theory and empirical evidence. We therefore reiterate our recommendation that there should be a legal and administrative framework to protect investor rights as part of the incentive regime to attract foreign capital for growth.

The study found that economic freedom proxied by trade openness is growth enhancing. It facilitates access to modern technologies, capital goods and innovation which in turn help the

country to produce competitive goods for the export markets. An expansion in trade has multiplier effects on the economy and people's welfare through an increase in income and a reduction in poverty levels, other things being equal.

The study also established a positive relationship between levels of education and national income suggesting that more efforts should be undertaken to build and sustain human capital for future economic growth. In line with standard growth models, it was also noted that capital formation is good for Zambia's growth. This calls for policy measures to continuously build the stock of capital formation for strong economic performance in the medium and long-term.

Since Zambia is pursuing a private sector-led development strategy, it is imperative to ensure that the sector is not starved of loanable funds for productive investments. In this context, the government should desist from massive domestic borrowings as this has the potential to crowd out the private sector and hence constrain domestic investments which are critical for growth.

Overall, our study has significantly contributed to the body of knowledge by presenting theoretical, empirical and statistical evidence on Zambia on the nexus between property rights institutions and political instability on one hand and economic performance on the other. With a time series ranging from 1930-2010, the study used a robust conceptual framework and a vector error correction model to provide evidence, analysis and contributions to policy and academic debates in Zambia on the important role of property rights in fostering economic growth. Such a framework enabled us to capture major institutional factors that channel their influence on economic performance in Zambia.

7.7 Further areas of Research

The study has not explored all aspects of institutions on economic growth in Zambia particularly in capturing dimensions such as efficiency and effectivity of institutions in enhancing economic performance. For instance, there have been a number of complaints in the recent past about prolonged delays by the Zambian judiciary to dispose off legal cases due to limited number of judicial staff especially magistrates. This situation makes the justice system costly and inefficient as litigants including investors have to wait for long periods of time before their cases can be heard and disposed off. Therefore it is highly desirable to capture the role of efficiency and effectivity in formal institutions as catalysts for economic growth.

The study did not address the impact of Zambian culture on economic outcomes and yet we suspect that this aspect of institutions maybe important in determing economic and social outcomes of the country. For example, Tabellini (2009) provides compelling evidence on the strong impacts of culture, an informal institution, on economic performance in a number of countries. His findings are therefore in line with the position taken by the Government of Zambia to establish the Ministry of Culture and Traditional Affairs in 2011 in order to strengthen the role of the House of Chiefs in political and economic governance of the country. In chapter one it was pointed out how certain elements of culture as it relates to the livestock industry in some parts of Zambia (Southern and Western Provinces) adversely affect business and investment decisions for private investors such as ZAMBEEF Limited and by implication retard economic development. Against this backdrop, it is recommended that future studies on formal institutions and economic growth in Zambia should incorporate cultural aspects in their modelling.

Zambian newspapers and the media in general are replete with numerous cases of massive corruption (expropriation of investors' resources) in both public and private sectors and this has a

direct bearing on the cost of doing business and access to social services (see also Tables 1 and 2). If not checked, corruption can work against the flow of foreign direct investment as investors begin to perceive the country as a costly destination (Tanzi and Davoodi, 2008). It is therefore recommended that future studies should capture the specific impacts of corruption on Zambia's economic performance.

Finally, the study did not capture the effects of political institutions namely political and civil liberties on Zambia's economic growth which we suspect are equally critical in explaining economic development (see Gwenhamo, 2009). In addition, we also did not include some macroeconomic policy variables such as the exchange rate to capture the impacts of resource allocation or resource misalignment through either an overvalued or undervalued exchange rate regime. It is therefore highly recommended that further research should be done to capture alongside informal institutions (culture and trust), and the role of political institutions as well as the exchange rate on economic performance in Zambia in order to close the gap in the analysis.

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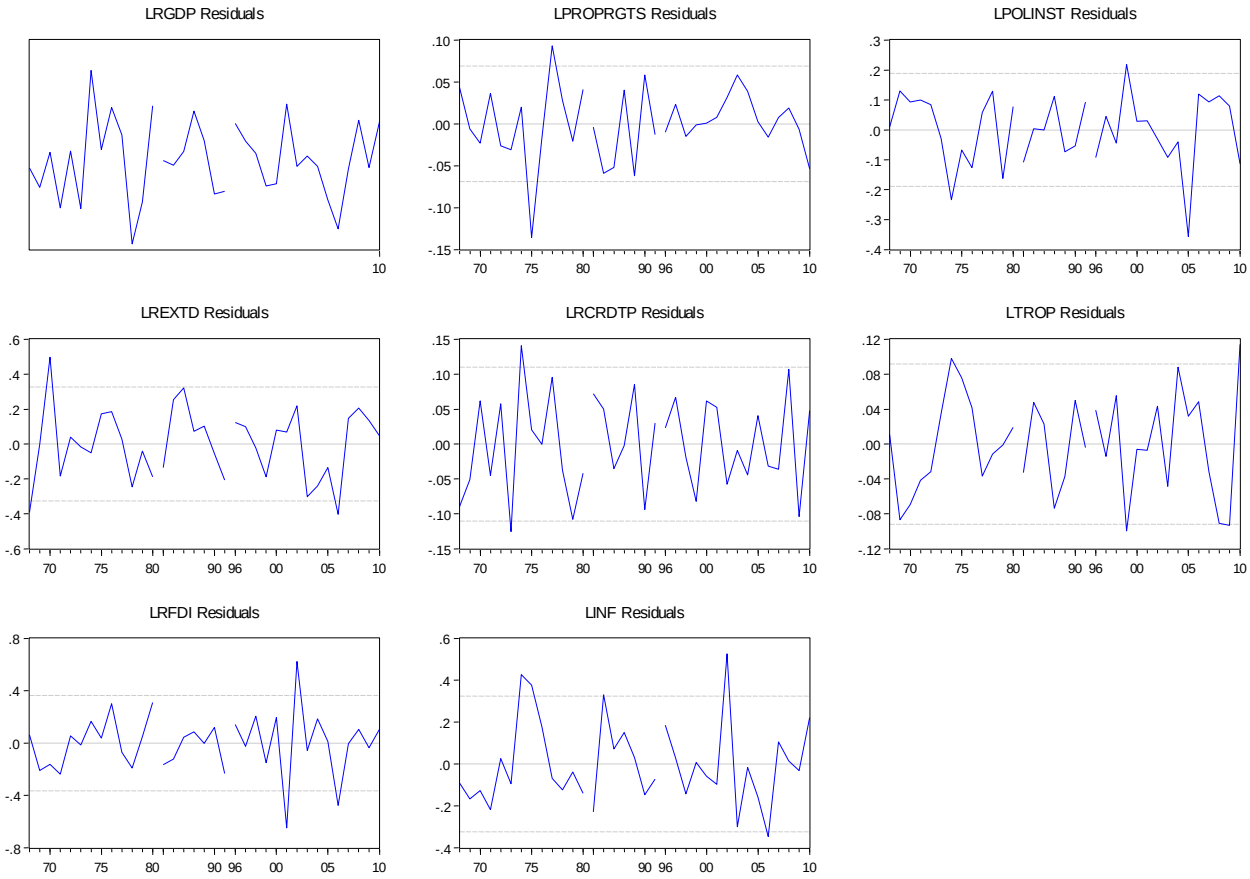
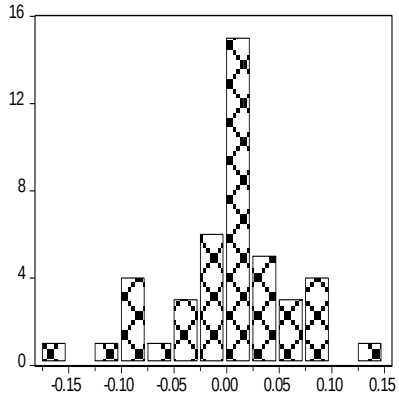
Appendix I: Selected Residual Graphs

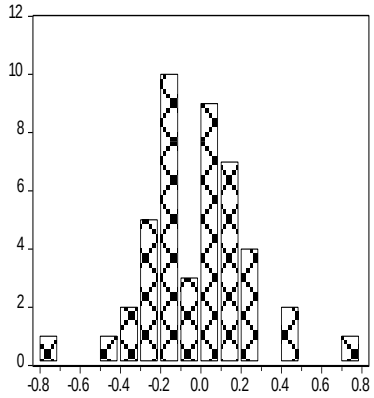


The graphs show that the residuals are stationary, independent and normally distributed and revert to their long-run mean.

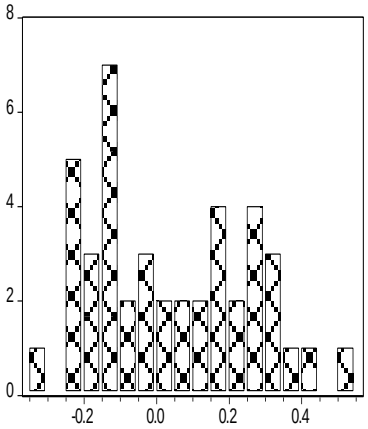
Appendix II:Histograms and Variable Statistics



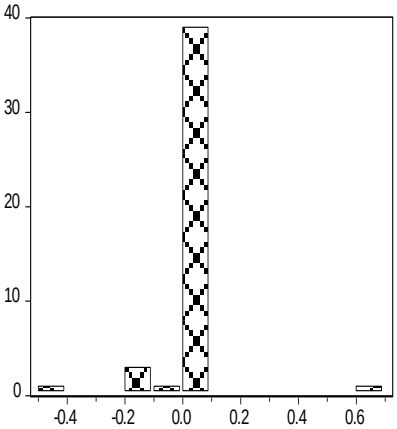
Series: DDLRPGDP	
Sample 1967 2010	
Observations 44	
Mean	0.003194
Median	0.010561
Maximum	0.130116
Minimum	-0.154672
Std. Dev.	0.056556
Skewness	-0.449646
Kurtosis	3.425269
Jarque-Bera	1.814226
Probability	0.403688



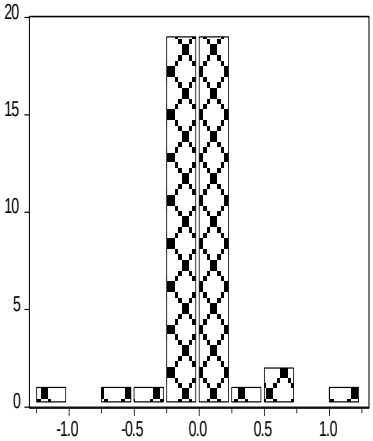
Series: DLPOLINST	
Sample 1966 2010	
Observations 45	
Mean	-0.021365
Median	0.000000
Maximum	0.732368
Minimum	-0.722135
Std. Dev.	0.252994
Skewness	0.203926
Kurtosis	4.287359
Jarque-Bera	3.419319
Probability	0.180927



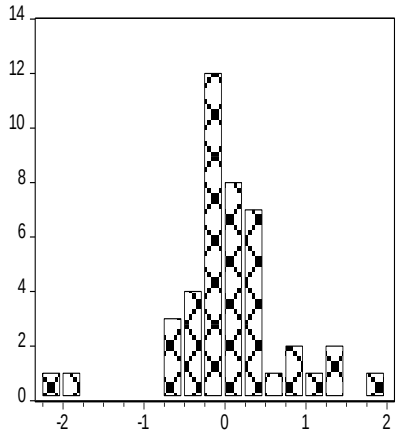
Series: DLRCRDTP	
Sample 1966 2010	
Observations 43	
Mean	0.041942
Median	0.002095
Maximum	0.539314
Minimum	-0.331061
Std. Dev.	0.218676
Skewness	0.306717
Kurtosis	2.002123
Jarque-Bera	2.458274
Probability	0.292545



Series: DLPROPRGTS	
Sample 1966 2010	
Observations 45	
Mean	-0.002427
Median	0.000000
Maximum	0.655407
Minimum	-0.405465
Std. Dev.	0.119978
Skewness	2.859868
Kurtosis	24.02287
Jarque-Bera	890.0185
Probability	0.000000

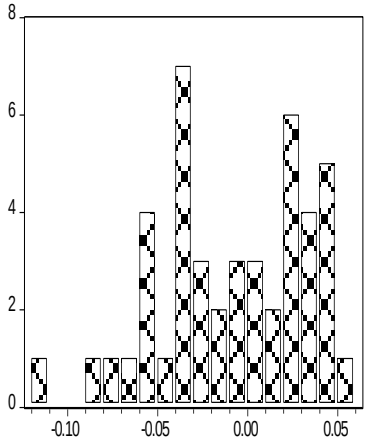


Series: DLREXTD	
Sample 1966 2010	
Observations 45	
Mean	0.030467
Median	0.004360
Maximum	1.098882
Minimum	-1.199209
Std. Dev.	0.323048
Skewness	-0.289413
Kurtosis	8.660412
Jarque-Bera	60.70369
Probability	0.000000

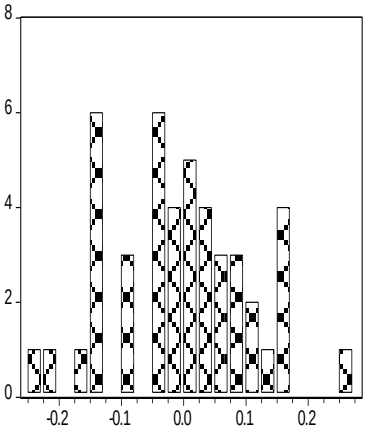


Series: DLRFDI	
Sample 1966 2010	
Observations 43	
Mean	0.071867
Median	0.003739
Maximum	1.982103
Minimum	-2.171990
Std. Dev.	0.716681
Skewness	-0.342826
Kurtosis	5.531653
Jarque-Bera	12.32557
Probability	0.002106

Appendix III: Histograms and Variables Statistics



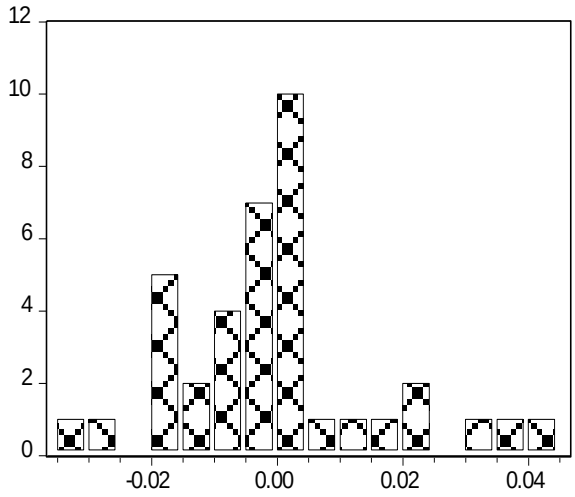
Series: DLRPGDP	
Sample 1966 2010	
Observations 45	
Mean	-0.008209
Median	-0.001787
Maximum	0.058437
Minimum	-0.113069
Std. Dev.	0.041545
Skewness	-0.354989
Kurtosis	2.270371
Jarque-Bera	1.943299
Probability	0.378458



Series: DLTROP	
Sample 1966 2010	
Observations 45	
Mean	-0.001364
Median	0.000000
Maximum	0.258574
Minimum	-0.239951
Std. Dev.	0.108640
Skewness	-0.035941
Kurtosis	2.704640
Jarque-Bera	0.173258
Probability	0.917017

Most of our variables are normally distributed with a mean and median around zero.

Appendix IV:Histogram of the Residual Series



Series: Residuals	
Sample 1968 2010	
Observations 38	
Mean	5.66E-18
Median	-0.000848
Maximum	0.044474
Minimum	-0.030153
Std. Dev.	0.016727
Skewness	0.769117
Kurtosis	3.632785
Jarque-Bera	4.380421
Probability	0.111893

Table 14:Normality Tests on Variables in their Differenced Levels

Variable	Mean	Median	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
ΔGross	749538.6	773729.9	1357200	0.044555	2.761428	0.121608
ΔExternal Debt	210922.7	272982.7	10280914	0.554349	7.925732	47.79760
ΔFDI	74260.06	959.8872	935928.7	0.268341	6.500857	23.52005
ΔCredit to the	8.9700000	3.960000	0.000963	0.143516	2.801157	0.228610
ΔTrade	-0.001111	0.000000	0.080318	-0.046080	2.519085	0.449575
ΔCalarat	0.0611538	0.1169147	0.6396931	1.712822	11.54312	69.633409
ΔEnrolrat	0.0298608	0.00000	0.0717812	0.9833317	5.66731	0.334123
ΔProperty	-0.133333	0.000000	4.605333	2.853720	23.29035	833.0123
ΔPolitical	-0.466667	0.000000	9.750524	0.477877	3.041639	1.716001