Strathmore UNIVERSITY

Institutions and Economic Growth: Kenya, 1963 - 2014

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Proposal contains no material previously published or written by another person except where due reference is made in the Research Proposal itself.

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Date: ....18th November 2015.....

This Research Proposal has been submitted for examination with my approval as the Supervisor.

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Abstract
This paper examines the existence of a relationship between political institutions and economic growth in Kenya. Through empirical analysis, carried out for the period between 1963-2014, the study aims to use the findings to improve and develop the policy in this area. The variables under scrutiny in this paper are GDP, political rights and civil liberties. Univariate and multivariate time series analysis are used to examine the relationship. The univariate time series helps to evaluate stationarity of the variables. The study finds that all three variables are non-stationary in the level unit root test. The multivariate time series examines the long run and short run relationships. The Engle-Granger test showed no cointegration between the variables. After subjecting the variables to a Johansen test, cointegration was found to exist indicating two cointegrating equations. This proves that indeed a long run relationship exists among the variables. Granger Causality tests reveal that political rights Granger Cause GDP at the 5% significance level. However, at the 10% level there was some significant causality from civil liberties to GDP and civil liberties to political rights.

Keywords: growth, economic institutions, political institutions, Kenya

Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law, and in which the authority of the state is not supposed to be regularly employed in enforcing the payment of debts from all those who are able to pay. Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government.

Adam Smith, *Wealth of Nations*

1| BACKGROUND OF THE STUDY

Introduction

In 2007, more than 70% of the world's output was produced by 15% of the world's population. New Institutional Economics attempts to explain the well-documented 'productivity' gap of many developing (and particularly African) countries. The productivity gap refers to the difference in output between various countries that remains even after differences in factor quantity and quality are accounted for. The argument, in brief, is that institutions affect the productivity of capital and labour through their incentive effects and through their impact on the allocation of resources.

Positioned on the equator of Africa's east coast, Kenya is the economic capital of East Africa. Kenya stretches from the snow capped peaks of Mount Kenya to the shores of the Indian Ocean characterized by stretches of coral rock and sand interrupted by bays, inlets and branched creeks. The country is a world destination for tourists who flood in to experience wildlife and safaris. The Kenyan Highlands, divided by the Great Rift Valley into east and west, are rich in deep fertile volcanic soils that support this agriculturally driven economy.

The 2014 World Bank statistics indicate that at US$60,937 million Kenya's economy is the largest GDP in Southeast and Central Africa. Nonetheless, Kenya is immersed in a very broad political-economic gap; a gap that separates "the haves" from "the have-nots". Kenya's historical political arena is nothing short of dramatic. The last five decades have witnessed a rather fascinating transformation in terms of governance structures, institutions and processes (Myers, 2011). The first fifteen years, which basically laid down the political foundation, were marked by institutions characterized by ethnic politics and personalized power, centered on the executive branch of government (*Mzee Jomo Kenyatta* at the time). The next twenty-four years were domineered by former President Daniel arap Moi who *"consistently demonstrated an adroit touch in his use of ethnicity as a tool of politics"* (Branch, 2012). During his reign, the constitution of Kenya was amended severally, including the addition of a section 2A that made Kenya a single party state. Thus, KANU was the only legal political party for much of the 1980s. Following much violent unrest and

international pressure, section 2A was repealed and in 1992 Kenya's status was restored to multi-party.

The presidency of Mwai Kibaki represented the start of the post authoritarian era. NARC put an end to thirty-nine years under KANU's rule. Unlike his predecessors, Kibaki sought to bridge the gap between *de jure* institutions and *de facto* reality. He implemented free primary education in 2003, resumed nationwide development projects like construction of water, health and education facilities (Njeru, 2006), and oversaw the creation of Kenya's Vision 2030 - a long term development plan aimed at raising GDP growth to 10% annually and transforming Kenya into an industrializing middle income country providing high quality of life to all its citizens by 2030 (Government of Kenya, 2009). GDP growth picked up from a low 0.6% (real −1.6%) in 2002 to 3% in 2003, 4.9% in 2004, 5.8% in 2005, 6% in 2006 and 7% 2007, then after the post election chaos and Global Financial Crisis—2008 (1.7%)and 2009 (2.6%), recovered to 5% in 2010 and 5% in 2011 (Mundi, 2015).

Kenya also witnessed the promulgation of a new Constitution on 27th August 2010, which marked a pivotal point in the country's history. The Constitution now mandates the devolution of power to the new counties, calls for land reforms and puts in place checks and balances that constrain the powers of the president. It ensures that political efforts, henceforth, are geared towards wise reforms that will drive economic growth.

The swearing in of Kenya's fourth president, Uhuru Muigai Kenyatta, marked the official launch of decentralization. The sweeping changes in Kenya's policy and institutional framework have brought about a new regime of governance. Multiple new laws have been put in place—including new legislation on county government, urban areas, public financial management, and the transition to devolved government—as well as multiple national bodies and commissions with responsibility for devolution. Functions and funds have been transferred to the new counties, and new county institutions are gradually taking shape. In addition, the country has since embarked on several major development projects including the world's largest Geothermal power plant (Wahito, 2014) and the Standard Gauge Railway running from Mombasa to Uganda, South Sudan and Rwanda.

Statement of the research problem

Weak institutions severely undermine economic growth and development. Exclusive political and economic institutions are mainly characterized by corrupt leaders and systems, which generate political conflict and threaten a country's well-being and social peace. Inappropriate institutions render an economy barren: promoting instead insecurity, unemployment, social discrimination and injustices, illiteracy – ultimately resulting in chronic poverty.

Despite being the cradle of mankind, Africa straggles several centuries behind the rest of the world. A continent with dynamic people, diverse culture representing vibrant energy, abundant natural resources, scenic physical features, unique wildlife, hospitable climate and much more. Africa, however, is also associated with issues such as disease, spontaneous civil wars, corruption, and lack of reliable sources of clean water – all of which are the dividend of poor institutions.

Kenya's economic growth was revived slightly over a decade ago with the genesis of the Kibaki era. Prior to that, the country had experienced a monumental economic downturn (real GDP was as low as -1.6%) that can be attributed to the institutions that had been erected during the authoritarian era.

Today, political stability, national security and protection of property rights play a crucial role in fostering an environment that is conducive for both social and economic development. If Kenya is to compete on a global level in terms of output and productivity, then, the quality of institutions must be addressed to ensure robustness.

By evaluating Kenya's historical political arena between the years 1963 to 2014, this study aims to investigate the relationship between institutions and economic growth.

Research Objectives

Overall Objective

To examine the relationship between institutions and economic growth with a specific focus on Kenya

Sub-objectives

i. To evaluate the univariate characteristics of institutions and economic growth in Kenya

ii. To examine the multivariate relationship between institutions and growth in the context of Kenya

Research Questions

Is there a relationship between institutions and economic growth?

Justification of the study

Academic Justification

By seeking a more analytically informed account of the relationship between political freedom, property rights and political instability, this article intends to contribute to the open-ended, research studies on the political and institutional sources of growth and development in Kenya.

Policy Justification

The research is set to evaluate the relationship that exists between institutions and economic growth in Kenya, so as to inform the policy makers on appropriate tools and mechanism in their objectives of ensuring political stability, protection of property rights and national security.

The key step of this study is to develop a better understanding of how political institutions impact economic performance. This understanding can then be used to derive policy priorities accordingly, in a way that uses efficiently the scarce political capital of reformers.

Though the research is of an exploratory nature, the results could shed light to policymakers on which institutional aspects should be principally targeted at raising rates of growth (growth strategies) and which ones are vital to maintaining private sector and foreign investor confidence.

2| LITERATURE REVIEW

Introduction

The outline of this chapter is as follows. The study first lays out the theoretical literature, comparing and contrasting the different schools of thought that attempt to account for the existing productivity gap between developed and developing countries. This is followed by the empirical literature, which is subdivided into four sections: developed countries, developing countries, African countries and Kenya. Finally the study outlines the gap that exists in the literature, which is immediately followed by the theoretical framework and the hypotheses.

Theoretical Literature

Several theories have been brought forward in an attempt to account for the divergent inequality that persists between "rich" and "poor" countries. The geography hypothesis, one of the more prevailing theories, traces a pattern that links economic performance to the geographical site of a country. Apparently, countries that lie within the tropics are poor and those that are found in the temperate latitudes are rich. Writings by Sachs (2001), Diamond (1997), and Gallup et al. (1998) argue that warm climate within the tropics provide conducive breeding grounds for tropical diseases like malaria to thrive. A combination of the rampant disease and the laziness of the inhabitants (due to the heat) negatively impact the quality of available human resources. The authors believe that geography exerts a strong influence on agricultural productivity and the quality of human resources.

Another perspective emphasizes the role of international trade as a key driver of productivity change. Authors such as Frankel and Romer (1999) argue that trade integration is the major determinant of whether a country grows or not. Therefore, the gap between rich and poor countries is purely credited to the degree of a country's market integration.

A third strand of literature tries to explain this phenomena using a theory linked to culture. Max Weber, a German socialist, was convinced that the Protestant Reformation played a critical factor in promoting the rise of the modern industrial society in Western Europe. Apart from religion, the other central principles to the cultural hypothesis are beliefs, values and ethics. For example, a society that lacks a good work ethic and is resistant to Western technologies will lag behind a society that advocates for high work standards and technology. While some of the points

presented by this strand of thought are valid, a lot of cultural aspects are just not important for understanding why the inequalities in the world persist (Acemoglu & Robinson, 2012).

Still, another set of explanations is anchored on knowledge or the lack of it. This is the ignorance hypothesis. It purports that poor countries are poor because their rulers do not know how to transform their economies into rich ones. Lionel Robbins (1935) defines economics as "a science that studies human behavior as a relationship between ends and scarce means which have alternative uses". It follows, from the First Welfare Theorem, that a society will desire a market economy where all individuals and firms can freely exchange goods and services. When these circumstances do not hold, market inefficiencies cultivate - inevitably leading to market failures. The ignorance hypothesis believes that poor countries are poor due to the market failures they exhibit – their economists and policymakers do not know how to get rid of them or have sought wrong advice in the past (Acemoglu & Robinson, 2012).

A final group of explanations centers on institutions, and in particular the role of property rights and the rule of law. North (1990, 2005), a key scholar, suggests that institutions are the rules of the game in a society and organizations are the players. Institutions are the humanly devised constraints that shape human interaction and organizations are groups of individuals who work toward a common goal or objective and have common interests. North identifies formal and informal constraints as the main elements of institutions. Informal constraints refer to norms, social taboos and interpersonal systems such as reputation, trust and information sharing. Formal constraints, on the other hand, relate to written laws and regulations. The two coexist; however, formal constraints only come into play as the size of the group grows in size or when individuals must interact with outsiders.

Informal interactions occur within small member groups. Due to their close-knit traits, the restrictions are relaxed as reputation, trust and mutual knowledge among members facilitate efficient transactions within the group. As more members are enlisted and interactions with outsiders become necessary, so does the need for formal constraints. In such situations, parties to contracts do not always know each other so the risk of default becomes more apparent. To curb the risk of default, cost and level of sureties are incorporated into contracts resulting in transaction costs. One major consequence of increasing transaction costs is transformation costs, which are incurred as a new set of institutions, are created – merchant houses, formal laws,

international trade treaties. Authors such as Acemoglu et al. (2001), Hall and Jones (1999) strongly support North's thinking. In addition, Hall and Jones (1999) and Fedderke (2001) emphasize that property rights are frequently advanced as the institutions of greatest significance to economic growth, lowering uncertainty and transactions costs associated with economic activity.

North suggests that the reason inefficient institutions continue is due to the imbalance in the distribution of transaction and transformation costs but to a greater extent because of the concentration of political powers within the hands of a few. When such conditions hold, elites are resistant to change to the extent that they intentionally sabotage institutions in order to preserve their personal interests.

Classical economists Adam Smith, Jean-Baptiste Say, David Ricardo, Thomas Malthus, and John Stuart Mill hold a different view. They assert that markets function best without government interference. In his book *Wealth of Nations*, Adam Smith explains that the wealth of nations is not based on gold but on trade: That when two parties freely agree to exchange things of value, because both see a profit in the exchange, total wealth increases. Classical economics originally differed from modern libertarian economics in seeing a role for the state in providing for the common good. Smith acknowledges that there are areas where the market is not the best way to serve the public good, education being one example. He takes it as a given that the greater proportion of the costs of these public goods should be born by those best able to afford them.

The main idea brought about by classical economics, that is, that production will generate enough income to allow its own products to be purchased sets motion to the modernization theory. Lipset (1959), being the seminal contributor to this theory, postulates a link from economic development to democratization, such that `good things go together'. Political freedom is effectively viewed as a luxury good whose high-income elasticity ensures emergence of democratization only at high levels of per capita income. The development of strong forms of associational life with economic growth is further held to reinforce the emergence and sustainability of democratic institutions. Only after agents realize economic well being, will their demand for additional civil liberty and political rights find expression. The view implies that there is a Maslowian hierarchy of human aspirations, such that once certain (basic) needs of survival are met, higher order needs such as political and social expression are pursued (Fedderke, 2001). Supporting authors of this strand of literature are Cutright (1963), Helliwell (1992) and Diamond (1992).

Acemoglu and Robinson (2012), on the other hand, echo the words of Douglass North - that all economic institutions are created by society. They contribute further to this discussion by arguing that economic success is a function of good institutions, incentives that motivate productivity and innovation as well as rules that influence the economy.

They recognize two breeds of economic institutions: inclusive and extractive economic institutions. Inclusive economic institutions are characterized by participation of the masses in economic activities, freedom of choice, secure private property, unbiased system of law, public services, and ability of parties to exchange and contract on a level playing field. The main responsibility of the state is to culture a habitat where individuals can flourish. In summary, inclusive economic institutions equate to economic activity, productivity growth and economic prosperity. Any economic institution that falls short of these conditions constitute extractive economic institutions.

Empirical Literature

This section is subdivided into four parts: developed countries, developing countries, African countries and the case of Kenya.

Rodrik, Subramanian, & Trebbi (2004) estimated the respective contributions of institutions, geography and trade in determining income levels by sampling 79 countries and a larger sample of 137 countries around the world. Their results indicate that the quality of institutions contributes significantly to income levels. Once institutions are controlled for, conventional measures of geography have weak effects on income levels, although they have a strong indirect effect by influencing the quality of institutions. Similarly, once institutions are controlled for, trade is almost always insignificant.

Easterly and Levine (2003) assert that (macroeconomic) policies do not have an effect on incomes, once institutions are controlled for. Rodrik, Subramanian, & Trebbi's view on the effectiveness of policy is similar to that expressed in Acemoglu et al. (2001, 1395): there are ``substantial economic gains from improving institutions, for example as in the case of Japan during the Meiji Restoration or South Korea during the 1960s'' or, one may add, China since the late 1970s. The distinction between institutions and policies is murky, as these examples illustrate. The reforms that Japan, South Korea, and China undertook were policy innovations that eventually resulted in a fundamental change in the institutional underpinning of their economies.

In acknowledgement of this, Cutright (1963) shows that national social conditions are related to national political systems. He demonstrates this by building an index of political development, which can be correlated with other system variables to measure the extent of the association between the development of the political system and development of other social institutions in the nation. The author examines the political development for 77 independent nations (excluding African countries due to missing data) between 1940 and 1960 and assigns a score to each country based on political instability and organizational structure of government (legislative and executive branches). The index is correlated with several other indicators of national development. The results show that the level of political development is highly correlated with the level of communications, economic development, education and urbanization.

Helliwell (1994) addresses this relationship by evaluating the two-way linkages between democracy and economic growth. In using cross-sectional and pooled data for 125 countries between the periods 1960 to 1980 he finds the effects of income on democracy to be robust and positive. The effects of several measures of democracy and personal freedoms on growth are assessed in a comparative growth framework in which growth of GDP per adult depends negatively on initial income levels, as implied by the convergence hypothesis, and positively on rates of investment in physical and human capital. Adjusting for the simultaneous determination of income and democracy makes the estimated partial effect of democracy on subsequent economic growth negative but insignificant. This non-significant negative effect is in any case counterbalanced by the positive indirect effect that democracy exerts on growth via education and investment. However, the general result of the growth analysis is that it is still not possible to identify any systematic net effects of democracy on subsequent economic growth.

Przeworski et al. (2000) show, quite compellingly, that there is no evidence to support the claim that democracy needs to be sacrificed in the name of economic development. Democratic governments are supposed to be more transparent and accountable because they are answerable to the citizens, therefore, are more likely to observe property rights and enhance growth and development. On the other end of the scale, dictatorial regimes are more likely to infringe on property rights since they are not answerable to any persons. Barro (1996) strongly rejects this view and argues that democracy and growth have a negative relationship. He explains that as democracy increases, the level of economic performance decreases due to the bureaucratic systems that slow down the decision making process as well as the redistribution of resources for political motives. He demonstrates, therefore, that a dictatorial regime can uphold property rights and a democratic government can violate them as illustrated in the case of the Argentinian Junta and the Bolivian regime. Yet, it is also true that the empirical evidence on the relationship between political regimes and economic growth is still ambiguous. In a comprehensive review of the literature, Feng (2003) argues that: "despite fertile theoretical literature on the subject, cross-national quantitative efforts at testing various hypotheses fell short in their attempt to produce clear empirical evidence.

Hall and Jones (1999) take a different approach, which insists that the pivot of economic growth is the protection of property rights. The duo argue that empowering members of society with the ability to own, transfer and fully enjoy

their property gives them incentives to work harder, invest more and augments their productivity. Across their study of 127 countries, they find a powerful and close association between output per worker and measures of social infrastructure. Countries with long-standing policies favorable to productive activities—rather than diversion—produce much more output per worker. Countries with corrupt government officials, severe impediments to trade, poor contract enforcement, and government interference in production will be unable to achieve levels of output per worker anywhere near the norms of western Europe, northern America, and eastern Asia. In their study, the countries with the highest measured levels of social infrastructure are Switzerland, the United States, and Canada, and all three are among the countries with the highest levels of output per worker. Three countries that are close to the lowest in social infrastructure are Zaire, Haiti, and Bangladesh, and all three have low levels of output per worker. Their empirical analysis suggests that success on each of these fronts is driven by social infrastructure, that is, primarily; institutions determine a country's long-run economic performance and government policies. Thus, they make up the economic environment within which individuals and firms make investments, create and transfer ideas, and produce goods and services.

Acemoglu and Robinson resonate with Hall and Jones, strongly agreeing that property rights play a crucial role with respect to growth. They insist that secure property rights provide the incentives that stimulate people to invest, innovate and be more productive. They are cautious to remind us that these opportunities must be made available to the majority and not just a select elite.

Nonetheless, Bollen (1980,1990) advocates for researchers to take caution when defining and measuring institutions. His study unveils the concealed dangers when using either objective or subjective measures to define and quantify institutions. He demonstrates this by building a hypothetical index of three countries to measure political democracy and stability for a timescale of five years. In many instances, the indicators used in this field do not represent the institutions to which they are attributed. Objective measures only capture related issues and not the actual strength or format of institutions. Freedom of press and voter turnout are not sound measures of democracy, neither does election information determine the type of regime or institutional structure. On the other extreme, subjective measurements are highly prone to bias. Often, observations of situations are carried out by external organizations whose interpretations are most likely tainted as they take little or no

account of local exposition and influences. Thus, there is high likelihood of misinterpretation and missing important data. To counter this, Bollen recommends that researchers explicitly state their underlying assumptions and steps involved in building indices when using subjective indicators.

In Africa, Gwenhamo et al. (2008) investigate the relationship between institutions and economic growth in Zimbabwe for the period 1946 to 2005. They measure institutions through an index by systematically coding the indicators of political freedom, property rights and political instability. Empirical evidence shows correlations between the new measures reveal that while political instability has a strong and negative relationship with property rights, it has no significant relationship with political freedom. The finding supports the notion that political conflict is significantly higher in the in-between category of semi-democracy than at either end of the democracy scale. The two core results of the study are that property rights influence the volumes of foreign direct investment (FDI) in Zimbabwe and that negative spillover effects of poor institutional environments can occur between neighbouring countries.

Similarly, Fedderke and Garlick (2011) reveal extremely high correlations between the political freedoms index and the various property rights indices. Through a thorough investigation of political and property rights in Malawi, the pair suggests that lack of political freedom is associated with lack of economic freedom and security. However, the low correlation between their property rights indices and an index based on de facto property rights implies that President Banda's dictatorship chose to respect property rights, in the main, despite his legal power to abrogate them.

On the same note, Fedderke et al. (2001) examine how indicators of political liberty, property rights and political instability impact economic development in South Africa. The study focuses on the years between 1935 and 1997. The results show that for South Africa the impact of institutions is indirect, via the capital-labour ratio. Moreover property rights and political instability dimensions, not the political freedom measure, have greater significance on growth. The political freedom measure appears to be an `outcome' variable of per capita output as predicted by modernization theory. However, the sign of the association is the opposite of that predicted by modernization theory. One possible interpretation is that development brought with it increasing pressure for political reform, and the Apartheid state responded by ever increasing levels of repression. The negative sign is not

necessarily evidence against modernization theory, but it does suggest the importance of appropriate modulation to the theory. The evidence suggests that there may indeed be interaction between institutions and per capita output that suggests the importance of simultaneity between the dimensions. Per capita output is found to influence the level of political instability, while political instability will come to impact on per capita output through the capital-labour ratio.

Sala-i-Martin and Subramanian (2003) address the natural resource curse through an illustration of Nigeria. They establish that some natural resources, such as oil and minerals in particular, exert a negative and nonlinear impact on growth via their deleterious impact on institutional quality. The pair show this result to be very robust. The Nigerian experience provides telling confirmation of this aspect of natural resources. Waste and corruption from oil rather than Dutch disease has been responsible for its poor long run economic performance. They propose a solution for addressing this resource curse, which involves directly distributing the oil revenues to the public. Even with all the difficulties of corruption and inefficiency that will no doubt plague its actual implementation, their proposal will, at the least, be vastly superior to the status quo. At best, however, it could fundamentally improve the quality of public institutions and, as a result, transform economics and politics in Nigeria.

In Kenya, Bedasso (2012) conducted a research study with the objective of investigating the effects of historical elite competition and consolidation on political-economic stability and institutional transition in post-independence Kenya. The study finds that most of the existing institutional structures in Kenya are built on elite configurations inherited from the colonial times. The robust growth performance of the first decade after independence was generated by smallholder agriculture, while most of the rent was transferred to the elite via state patronage. The political instability of the later years had a lot to do with dwindling patronage resources and elite fragmentation. For most part of the political economy history of the country, patron-client networks and tribalism have played key role in regulating intra-elite bargains. In addition, land has been the leverage used by the elite to manipulate the aforementioned structures. The study concludes that as long as the new constitution provides a framework for the enforcement of intra-elite agreements, Kenya could eventually move to equilibrium where its resilient enclaves of maturity overwhelm the risk of fragility emanating from its historical socioeconomic problems.

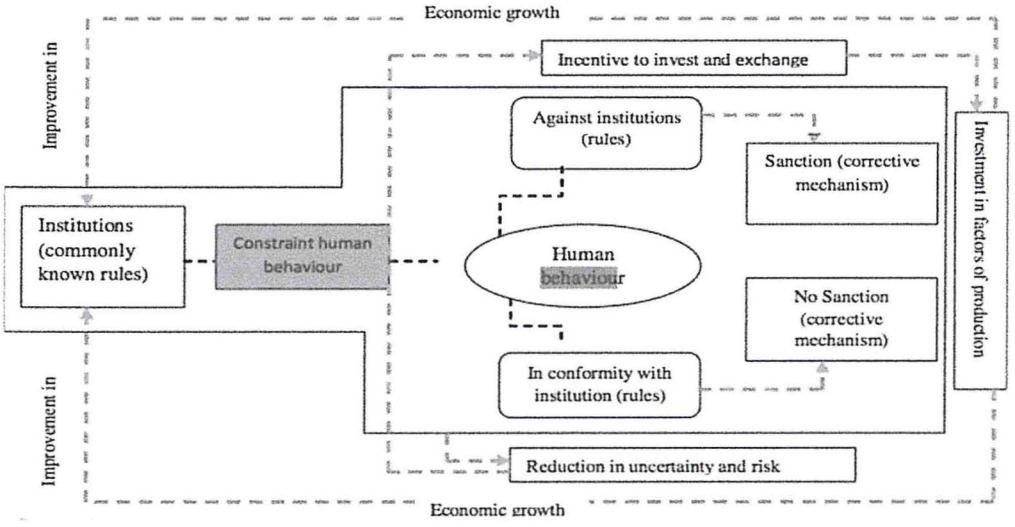
Literature Gap

Earlier studies that sought to establish a relationship between institutions and economic growth in Kenya were carried out before the implementation of the devolved government. This study examines the nexus that exists between institutions and growth and development in Kenya in the post independence period especially looking at the changes that have occurred in the transition from centralized to devolved government. In addition, the paper aims to study what impact this monumental shift in institutions has had on Kenya's growth so far. The key indicators that will be used to measure institutions are political freedom, property rights and political instability - adopted from a study done by Gwenhamo et al. that focused on Zimbabwe.

Theoretical Framework

On the basis of the earlier discussion in the literature review, the interplay between institutions, human behaviour and economic outcomes is illustrated in Figure1:

Figure 1: The Institutions-Investment-Economic Growth Framework



Source: Letete et al. (2011)

Research hypothesis

Null hypothesis (H_0): There is no significant causality relationship between institutions and economic growth.

Alternative Hypothesis (H_a): There is a significant causality relationship between institutions and economic growth.

3| Methodology

Research design

The research being conducted is exploratory research, which is conducted to provide a better understanding of a situation and is not conclusive in nature. Researchers are able to produce a hypothesis about what is actually going on in a situation through exploratory research design. At the end of this study, results will be drawn on the relationship that exists between institutions and economic growth in Kenya.

Sources of data

The study relies on indices from Freedom House, Heritage Foundation and Polity IV for data. In order for conclusive results to be drawn, the duration covered runs from 1963 to 2014.

Data

Political Rights (PR)
A measure of political rights held by citizens. The calculation of this variable is based on ten political questions grouped into three sub-categories: (1) electoral process; (2) political pluralism and participation; (3) functioning of government

Civil Liberties (CL)
A measure of civil liberties held by citizens. The calculation of this variable is based on fifteen political questions grouped into four sub-categories: (1) freedom of expression and belief; (2) associational and organizational rights; (3) rule of law; (4) personal autonomy and individual rights.

Criticisms of existing institutional indicators

There are some methodological and conceptual difficulties in constructing perception-based institutional indices. First, precision may be affected by perceptual biases of the judges making the subjective ratings. Second, the indices tend to summarize a large amount of information across a range of distinct dimensions inevitably hiding the important changes that take place within these dimensions.

Methodology

The objective of the study is to examine the relationship between institutions and economic growth with a specific focus on Kenya. A bi-variate regression model is designed to test the effects of macroeconomic variables on the stock prices.

$GDP = \alpha + \beta_1 CL + \beta_2 PR + \mu t$ ----------(1)

Univariate time series analysis

When dealing with time series data, a number of econometric issues can influence the estimation of parameters using OLS. Regressing a time series variable on another time series variable using the Ordinary Least Squares (OLS) estimation can obtain a very high R^2, although there is no meaningful relationship between the variables. This situation reflects the problem of spurious regression between totally unrelated variables generated by a non-stationary process (Sarbapriya, 2013).

Therefore, prior to testing and implementing the Granger Causality test, econometric methodology requires the examination of the stationarity characteristics. It is recommended that a unit root test be carried out to test for the order of integration. A series is said to be stationary if the mean and variance are time-invariant (Sarbapriya, 2013). With this knowledge, the GDP, civil liberties and political rights are evaluated for stationarity and the results provide useful insight on how to approach the multivariate tests because they are dependent on the univariate characteristics of the data.

A non-stationary time series will have a time dependent mean which makes the standard assumptions for asymptotic analysis in the Granger test not be valid. Therefore, a stochastic process that is said to be stationary simply implies that the mean and the variance of Y remain constant over time for all t, and the covariance and hence the correlation between any two values of Y taken from different time periods depends on the difference apart in time between the two values for all $t \neq s$.

Since standard regression analysis requires that data series be stationary, it is obviously important that we first test for this requirement to determine whether the series used in the regression process is a difference stationary or a trend stationary (Sarbapriya, 2013).

Formal tests of stationarity are used on the variables to establish the univariate characteristics of the three variables, that is, the (Dickey & Fuller, 1979) (ADF) test and Phillips- Perron (PP) Test. To test the stationary of variables, we use the Augmented Dickey Fuller (ADF) which is mostly used to test for unit root and complement it with Phillip & Perron (1988) to ensure robustness of the results obtained.

The following equation checks the stationarity of time series data used in the study:

$$n\Delta y_t = \beta_1 + \beta_{1t} + \alpha\, y_{t-1} + \gamma\, \Sigma\Delta y_{t-1} + \varepsilon_t \text{ ------(2)}$$

Where ε_t is white noise error term in the model of unit root test, with a null hypothesis that the variable has unit root. The ADF regression test for the existence

of unit root of y_t that represents all variables at time t. The test for a unit root is conducted on the coefficient of y_{t-1} in the regression. If the coefficient is significantly different from zero (less than zero), then the hypothesis that y contains a unit root is rejected. The null and alternative hypothesis for the existence of unit root in variable y_t is:

H0; $\alpha = 0$ versus H1: $\alpha < 0$.

Rejection of the null hypothesis denotes stationarity in the series.

If the ADF test-statistic (t-statistic) is less (in the absolute value) than the Mackinnon critical t-values, the null hypothesis of a unit root cannot be rejected for the time series and hence, one can conclude that the series is non-stationary at their levels. The unit root test tests for the existence of a unit root in two cases: with intercept only, and with intercept and trend to take into the account the impact of the trend on the series (Sarbapriya, 2013).

The PP tests are non-parametric unit root tests that are modified so that serial correlation does not affect their asymptotic distribution. PP tests reveal that all variables are integrated of order one with and without linear trends, and with or without intercept terms. It is used in time series analysis to test the null hypothesis that a time series is integrated of order 1. It builds on the Dickey–Fuller test. Like the augmented Dickey–Fuller test, the Phillips–Perron test addresses the issue that the process generating data for y_t might have a higher order of autocorrelation than is admitted in the test equation, making $y_t - 1$ endogenous, and thus invalidating the Dickey–Fuller t-test (Sarbapriya, 2013).

Whilst the augmented Dickey–Fuller test addresses this issue by introducing lags of Δy_t as regressors in the test equation, the Phillips–Perron test makes a non-parametric correction to the t-test statistic. The test is robust with respect to unspecified autocorrelation and heteroscedasticity in the disturbance process of the test equation (Sarbapriya, 2013).

Multivariate time series analysis

With some types of trended series, we can check if they are involved in an equilibrium relationship, that is, we can test to see if they are co-integrated. In most cases, if we combine two variables which are I(1), then the combination will also be I(1).The controversial bit in co-integration is that the variables co-integrating must have a unit root problem. This implies that if either civil liberties or political rights

fail the stationarity test, the likelihood of a long run relationship with GDP is minimal thus remaining with only the possibility of a short run relationship.

When the concept of non -stationarity was first considered, a usual response was to independently take the first differences of a series of I(1) variables. The problem with this approach is that pure first difference models have no long run solution (Brooks, 2008).

Many time series are non-stationary but "move together" over time. If variables are co-integrated, it means that a linear combination of them will be stationary. A co-integrating relationship may also be seen as a long-term relationship. No co-integration implies that series could wander apart without being bound in the long run (Brooks, 2008). This would mean that if we test for co-integration in the data used for research, it would be possible to establish the presence or absence of long run equilibrium relationship of the GDP and the two asset classes. This would result in a conclusion in support or against the hypothesis of the relationship between the variables.

Engle and Granger (1987) have tabulated a new set of critical values and hence the test is known as the Engle Granger (E.G.) test. This method suffers from a number of problems which are: unit root and co-integration tests having low power in finite samples; which means we are forced to treat the variables asymmetrically and to specify one as the dependent, and the other as independent variables and cannot perform any hypothesis tests about the actual co-integrating relationship estimated at the first stage (Brooks, 2008).

The Johansen (1989) test is used to complement the Engle Granger Test and is not based on the Dickey-Fuller test for unit root in the residuals from a single cointegrating relationship unlike the Engle Granger. Carrying out this test allows for robust results to be drawn on the long run equilibrium relationship.

The strengths and weaknesses of the two tests result in none of them being out rightly better than the other. For small samples and multivariate tests, the Johansen (1989) is better, while for bivariate tests of data, Engle Granger is superior. It is worth pointing out that the Johansen (1989) test sometimes indicates the presence of cointegration when none exists. As a result, it is important to carry out the two tests before drawing conclusions.

Vector Autoregressive Models

The vector Autoregression (VAR) model is one of the most successful, flexible, and easy to use models for the analysis of multivariate time series. It is a natural extension of the univariate autoregressive model to dynamic multivariate time series. The VAR model has proven to be especially useful for describing the dynamic behavior of economic time series and for forecasting. It often provides superior forecasts to those from univariate time series models and elaborate theory-based simultaneous equations models. Forecasts from VAR models are quite flexible because they can be made conditional on the potential future paths of specified variables in the model.

In addition to data description and forecasting, the VAR model is also used for structural inference and policy analysis. In structural analysis, certain assumptions about the causal structure of the data under investigation are imposed, and the resulting causal impacts of unexpected shocks or innovations to specified variables on the variables in the model are summarized. These causal impacts are usually summarized with impulse response functions and forecast error variance decompositions.

The section that follows constitutes of Granger Causality, impulse response and variance decomposition.

Granger causality test

Causality is a kind of statistical feedback concept, which is widely used in the building of forecasting models. Historically, Granger (1969) and Sim (1972) were the ones who formalized the application of causality in economics. Granger causality test is a technique for determining whether one time series is significant in forecasting another (Granger, 1969). The standard Granger causality test (Granger, 1988) seeks to determine whether past values of a variable help to predict changes in another variable. The definition states that in the conditional distribution, lagged values of Yt add no information to explanation of movements of Xt beyond that provided by lagged values of Xt itself (Green, 2003).

We should take note of the fact that the Granger causality technique measures the information given by one variable in explaining the latest value of another variable. In addition, it also says that variable Y is Granger caused by variable X if variable X assists in predicting the value of variable Y. If this is the case, it means that the lagged values of variable X are statistically significant in explaining variable Y. The

null hypothesis (H_0) that we test in this case is that the X variable does not Granger cause variable Y and variable Y does not Granger cause variable X. In summary, one variable (Xt) is said to Granger Cause another variable (Yt) if the lagged values of Xt can predict Yt and vice-versa (Sarbapriya, 2013).

Impulse responses and variance decomposition

An examination of causality will suggest which of the variables in the model have statistically significant impacts on the future values of each of the variables in the system. But will not, by construction, be able to explain the sign of the relationship or how long these effects require to take place. That is, the results will not reveal whether changes in the value of a given variable have a positive or negative effect on other variables in the system, or how long it would take for the effect of that variable to work through the system. Such information will, however, be given by an examination of the VAR's impulse responses and variance decompositions (Brooks, 2008).

Impulse responses trace out the responsiveness of the dependent variables in the VAR to shocks to each of the variables. So, for each variable from each equation separately, a unit shock is applied to the error, and the effects upon the VAR system over time are noted. Thus, if there are g variables in a system, a total of g^2 impulse responses could be generated (Brooks, 2008). The way that this is achieved in practice is by expressing the VAR model as a vector autoregressive model is as a vector moving average. Provided that the system is stable, the shock should gradually die away (Brooks, 2008).

4| Findings of the study

Introduction

The study converted the data for all three variables into logarithm form. The effect of logarithms on the data analysis stage is to aid in reducing the fluctuations observed in the data. In doing this, it enables the study to capture important patterns in the data. The significance level chosen, at which the null hypothesis (H_o) is to be rejected, is 5%. This section is divided into two: the first section contains the univariate analysis, which examines the stationarity of the data. This is then succeeded by the multivariate analysis, which tests for cointegration.

Univariate Characteristics

Unit Root Test

A unit root test assesses the stationarity in the time series data. Achieving stationarity is vital for the purpose of forecasting. Furthermore, it rids the possibility of a spurious regression. All three variables in this study were subjected to unit root tests using the Augmented Dickey-Fuller test supported by the Phillips-Perron test which ensures robustness of the results. The null and alternative hypotheses are as follows:

H_o: $\alpha = 0$
H_a: $\alpha < 0$

Civil Liberties

The graph below presents the time series data on civil liberties.

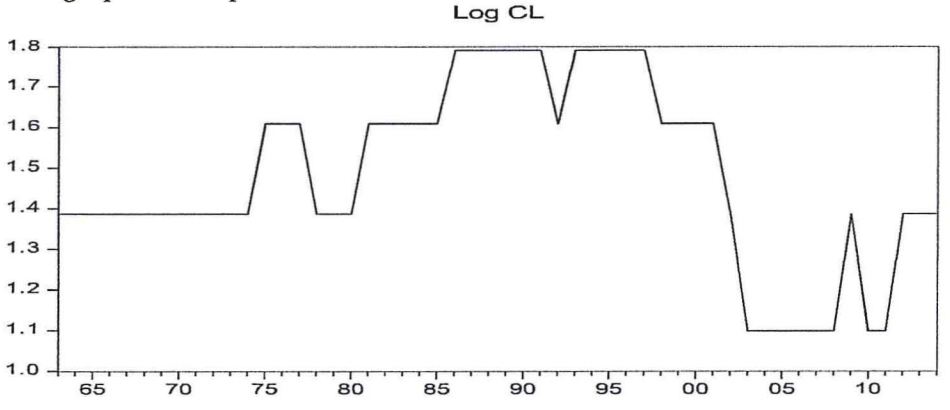


Figure 1: Freedom House Civil Liberties Index

From the figure above it is evident that there is no trend in the data. The graph meanders up and down in a manner that is unpredictable suggesting the existence of non-stationarity. A stationarity test with intercept only was executed. The level results are illustrated below.

Augmented Dickey-Fuller Test

Null Hypothesis: CL has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.755386	0.3980
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	
*MacKinnon (1996) one-sided p-values.			

Table 1: Augmented Dickey-Fuller Test on Civil Liberties

Interpretation of the results

The p-value, 39.8%, for the level stationarity test is greater than the 5% significance level. Thus, we fail to reject the H_o and run a Phillips-Perron test to ensure robustness of the results.

Phillips-Perron Test

Null Hypothesis: CL has a unit root Exogenous: Constant Bandwidth: 2 (Newey-West automatic) using Bartlett kernel			
		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.714259	0.4182
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	
*MacKinnon (1996) one-sided p-values.			

Table 2: Phillips-Perron Test on Civil Liberties

Interpretation of the results

The Phillips-Perron test confirms the non-stationarity in the data as the p-value of 41.82% is also greater than 5%. Therefore, we fail to reject the null hypothesis. The

implication is that the predictive power of fluctuations is undermined due to a varying mean and variance.

From a sample of 141 countries, Gwartney, Hall, & Lawson (2010) analyze the nature of institutional reform using data on different measures of each country's many economic and political institutions. The trio finds that the results for Political Rights (PR) and Civil Liberties (CL) are significant, which means these measures are stationary or mean-reverting indicating that the changes to these two data series tend to decay away and the series ultimately reverts to some prior mean level. Khan(2012) empirically examined the Friedman hypothesis on political, civil and economic freedom. After conducting unit root tests statistics, the scholar found that among a number of unit root tests including Augmented Dickey-Fuller and Phillips-Perron tests, sufficient evidence was provided in favour of the presence of a unit root in civil liberties.

First level integration of the data

Augmented Dickey-Fuller test is used to assess the number of times the data needs to be differenced in order to achieve stationarity. The outcome is shown below.

Null Hypothesis: D(CL) has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.531751	0.0000
Test critical values:	1% level	-3.568308	
	5% level	-2.921175	
	10% level	-2.598551	
*MacKinnon (1996) one-sided p-values.			

Table 3: ADF Integrated Order of Civil Liberties

Interpretation of the results

From table 3, we can reject the H_o since the absolute ADF test statistic it is greater than the absolute value for the 5% confidence level. The data attained stationarity after being differenced once and is I(1).

Political Rights

The graph below presents the time series data on civil liberties.

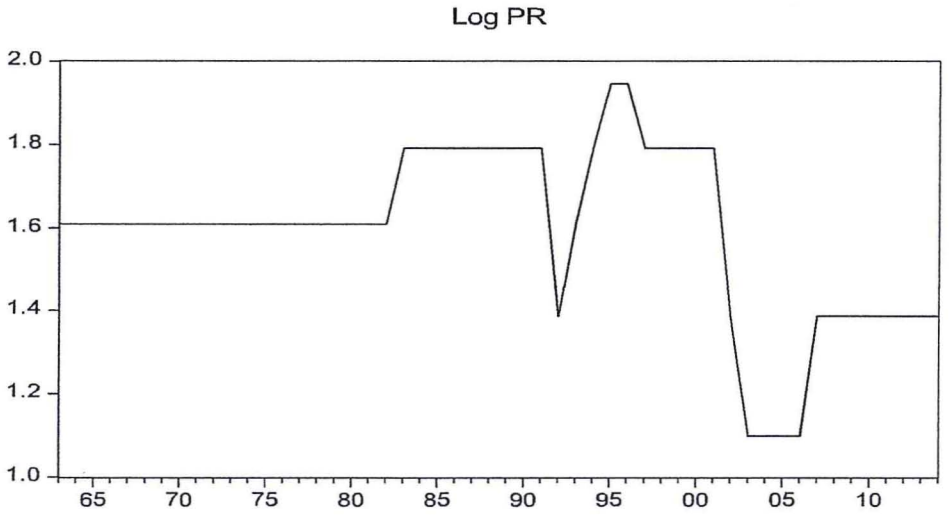


Figure 2: Freedom House Political Rights Index

Figure 2 shows some volatility in the data thus it lacks a trend. A stationarity test with intercept only was executed. The level results are illustrated below.

Augmented Dickey-Fuller Test

Null Hypothesis: PR has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.883229	0.3374
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	
*MacKinnon (1996) one-sided p-values.			

Table 4: Augmented Dickey-Fuller Test for Political Rights

Interpretation of the results

The p-value, 33.74%, for the level stationarity test exceeds the 5% significance level. Thus, we fail to reject the H_o and run a Phillips-Perron test to ensure robustness of the results.

Phillips-Perron Test

Null Hypothesis: PR has a unit root Exogenous: Constant Bandwidth: 3 (Newey-West automatic) using Bartlett kernel			
		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-2.027323	0.2746
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	
*MacKinnon (1996) one-sided p-values.			

Table 5: Phillips-Perron Test for Political Rights

Interpretation of the results

The Phillips-Perron test confirms the non-stationarity in the data as the p-value of 27.46% is greater than 5%. Therefore, we fail to reject the null hypothesis. The data has a varying mean and variance.

In his study, Khan(2012) also found sufficient evidence in favour of the presence of a unit root in the political rights data.

First level integration of the data

Null Hypothesis: D(PR) has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.065678	0.0000
Test critical values:	1% level	-3.568308	
	5% level	-2.921175	
	10% level	-2.598551	
*MacKinnon (1996) one-sided p-values.			

Table 6: Integrated Order of Political Rights

Interpretation of the results

From table 6, we can reject the H_o since the absolute ADF test statistic it is greater than the absolute value for the 5% confidence level. The data attained stationarity after being differenced once and is I(1).

GDP

The graph below presents the time series data on civil liberties.

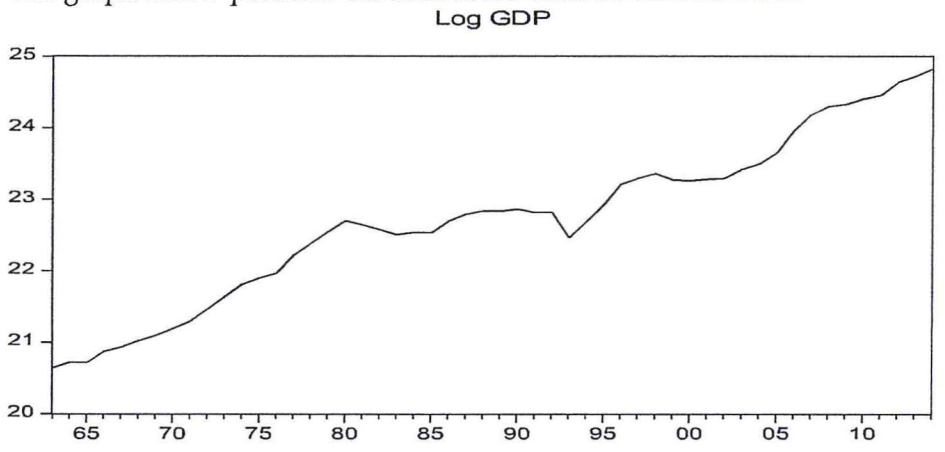


Figure 3: World Bank GDP Index

From figure 3 above it is evident that GDP exhibits an upward trend. A stationarity test with intercept and trend was executed. The level results are illustrated below.

Augmented Dickey-Fuller Test

Null Hypothesis: GDP has a unit root Exogenous: Constant, Linear Trend Lag Length: 3 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		2.536308	1.0000
Test critical values:	1% level	-4.161144	
	5% level	-3.506374	
	10% level	-3.183002	
*MacKinnon (1996) one-sided p-values.			

Table 7: Augmented Dickey-Fuller Test for GDP

Interpretation of the results

The p-value, 100%, for the level stationarity test exceeds the 5% significance level. Thus, we fail to reject the H_o and run a Phillips-Perron test to ensure robustness of the results.

Phillips-Perron Test

Null Hypothesis: GDP has a unit root Exogenous: Constant, Linear Trend Bandwidth: 4 (Newey-West automatic) using Bartlett kernel		
	Adj. t-Stat	Prob.*

Phillips-Perron test statistic		3.377336	1.0000
Test critical values:	1% level	-4.148465	
	5% level	-3.500495	
	10% level	-3.179617	
*MacKinnon (1996) one-sided p-values.			

Table 8: Phillips-Perron Test for GDP

Interpretation of the results

The Phillips-Perron test confirms the non-stationarity in the data as the p-value of 100% is also greater than 5%. Therefore, we fail to reject the null hypothesis. The implication is that the data has a varying mean and variance.

Theory suggests that most economic variables exhibit long-run trend movement and only become stationary after they are differenced. The empirical literature for unit root shows that almost all macro-economic variables are non-stationary in level while their difference is stationary. Therefore, it is not surprising that the GDP variable shows non-stationarity in level.

First level integration of the data

Null Hypothesis: D(GDP) has a unit root Exogenous: Constant, Linear Trend Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.852786	0.0217
Test critical values:	1% level	-4.152511	
	5% level	-3.502373	
	10% level	-3.180699	
*MacKinnon (1996) one-sided p-values.			

Table 9: Integrated Order of GDP

Interpretation of the results

From table 9, we can reject the H_o since the absolute ADF test statistic it is greater than the absolute value for the 5% confidence level. The data attained stationarity after being differenced once and is I(1).

Multivariate Characteristics

Cointegration

Once the relationship between the variables has been established, the study can then move on to the next step which is examining the relationship between the I(1) data. The long run equilibrium relationship can only be tested for variables that are of a higher integrated order than 0. Since all three variables in the study are of I(1), as shown in tables 3, 6 and 9, the relationship between them can be tested for cointegration. Proof of cointegration between the variables would imply that there is a long run equilibrium relationship.

Engle-Granger Test for Cointegration

Engle and Granger (1987) tabulated a new set of critical values, hence, the test is known as the Engle Granger (E.G.) test. Testing for cointegration between non-stationary variables involves testing the time series characteristics of the residuals from an OLS regression. This is because cointegration rests on the stationarity properties of the residuals from a regression. In the regression below, the dependent variable is GDP while civil liberties (CL) and political rights (PR) are the independent variables.

Dependent Variable: GDP
Method: Least Squares
Date: 11/18/15 Time: 06:13
Sample: 1963 2014
Included observations: 52

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL	1.21E+09	3.31E+09	0.363902	0.7175
PR	-8.30E+09	3.38E+09	-2.455329	0.0177
C	4.93E+10	9.68E+09	5.090890	0.0000

R-squared	0.234901	Mean dependent var	1.31E+10
Adjusted R-squared	0.203673	S.D. dependent var	1.48E+10
S.E. of regression	1.32E+10	Akaike info criterion	49.50026
Sum squared resid	8.53E+21	Schwarz criterion	49.61283
Log likelihood	-1284.007	Hannan-Quinn criter.	49.54342
F-statistic	7.522012	Durbin-Watson stat	0.148858
Prob(F-statistic)	0.001416		

Table 10: Regression Output

Below is the table showing the results obtained after subjecting the residuals of the regression to a unit root test.

Null Hypothesis: ECT has a unit root Exogenous: Constant Lag Length: 1 (Automatic - based on SIC, maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.599486	0.8613
Test critical values:	1% level	-3.568308	
	5% level	-2.921175	
	10% level	-2.598551	
*MacKinnon (1996) one-sided p-values.			

Table 11: Engle-Granger Test results

The null and alternative hypotheses are:

H_0: unit root in cointegrating regression's residuals

H_a: residuals from cointegrating regression are stationary

Interpretation of the results

The p-value of the residuals as shown from the table is 62.32%, therefore, we fail to reject the null hypothesis at a 5% significance level. This means that the residuals are not stationary and suggests that there is no cointegration between the variables. We have therefore failed to isolate an equilibrium relationship. It is very important to note that the Engle-Granger method suffers from a number of problems, namely: unit root and co-integration tests have low power in finite samples thus we are forced to treat the variables asymmetrically and to specify one as the dependent and the other as independent variables. In addition, it prevents the study from performing any hypothesis tests about the actual co-integrating relationship estimated at the first stage (Brooks, 2008). The limitations of the Engle-Granger test are addressed by the Johansen test of cointegration.

Johansen Test of Cointegration

The Johansen approach recognizes the importance of:

i. Relationships between the variables included in the system in *levels*, thereby allowing us to obtain an intimation of the equilibrium relationship between the variables.
ii. The evolution of the system of variables over subsequent time periods thereby allowing us to capture the characteristics of the *short run dynamics* of the system at the same time as estimating a long run equilibrium relationship.

Date: 11/18/15 Time: 06:55
Sample (adjusted): 1965 2014
Included observations: 50 after adjustments
Trend assumption: Linear deterministic trend
Series: CL GDP PR
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.398791	42.72041	29.79707	0.0010
At most 1 *	0.260057	17.27981	15.49471	0.0267
At most 2	0.043443	2.220741	3.841466	0.1362

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.398791	25.44060	21.13162	0.0116
At most 1 *	0.260057	15.05907	14.26460	0.0374
At most 2	0.043443	2.220741	3.841466	0.1362

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 12: Johansen Test results

Interpretation of the results

Both the trace and max-eigenvalue tests indicate two cointegrating equations at the 5% significance level. Consequently, we reject the null hypothesis at the 5% level. The Johansen test supports the existence of a long run equilibrium relationship between civil liberties and GDP and also between political rights and GDP. This implies that the both civil liberties and political rights will link with GDP in the long run.

Benyishay & Betancourt (2010) report robust results with respect to the effect of huan rights on long-term growth. Their results show that civil liberties outperform all available indicators of proprty rights in explaining long-term economic growth. Fedderke (2001), in his study on the relationship between economic activity and political rights, found that there was absence of cointegration. However, he highlights that the results cannot be held conclusive evidence of the absence of an

association between rights and economic activity, since the association may be subject to misspecification.

Hypothesis Testing

An important aspect in cointegration analysis is testing hypotheses about the cointegration relations and the adjustment coefficients. Unlike the Engle-Granger method, the Johansen setup allows the testing of hypotheses about the equilibrium relationships between the variables. An important question is whether the cointegrating vector is unique in the sense of all the variables spanning the cointegration space. To answer this question we can test the importance of each variable by dropping them one by one (imposing zero restrictions) from the reduced form cointegration vectors and testing the validity of these restrictions.

In EViews, the hypotheses are specified by imposing restriction formulas between the parameters. Matrix A refers to matrix α and B to β.

Vector Error Correction Estimates	
Date: 11/18/15 Time: 10:25	
Sample (adjusted): 1966 2014	
Included observations: 49 after adjustments	
Standard errors in ( ) & t-statistics in [ ]	
Cointegration Restrictions:	
B(1,1)=0	
Convergence achieved after 6 iterations.	
Not all cointegrating vectors are identified	
LR test for binding restrictions (rank = 1):	
Chi-square(1)	4.750430
Probability	0.029291

Table 13 Zero Restriction on Civil Liberties

Table 13 shows that the zero restriction on LCL is rejected implying that it is an important variable spanning the cointegration space. This means that in the long run it is a significant variable in explaining Kenya's GDP.

Vector Error Correction Estimates	
Date: 11/18/15 Time: 10:31	
Sample (adjusted): 1966 2014	
Included observations: 49 after adjustments	
Standard errors in ( ) & t-statistics in [ ]	
Cointegration Restrictions:	
B(1,3)=0	
Convergence achieved after 5 iterations.	
Not all cointegrating vectors are identified	
LR test for binding restrictions (rank = 1):	
Chi-square(1)	10.98493
Probability	0.000919

Table 14: Zero Restriction on Political Rights

Table 14 shows that the zero restriction on LPR is not rejected implying that it is not an important variable spanning the cointegration space. Therefore, it does not play a significant role in the long run in explaining Kenya's GDP. In terms of the structural long run relationship, only civil liberties are significant in explaining GDP in Kenya.

VAR

Granger Causality Test

Granger causality is a statistical concept of causality that is based on prediction. According to Granger causality, if a signal X_1 "Granger-causes" (or "G-causes") a signal X_2, then past values of X_1 should contain information that helps predict X_2 above and beyond the information contained in past values of X_2 alone. Granger causality tests in this study are used to examine the dynamic relation between GDP, civil liberties and political rights.

Pairwise Granger Causality Tests
Date: 11/18/15 Time: 06:21
Sample: 1963 2014
Lags: 2

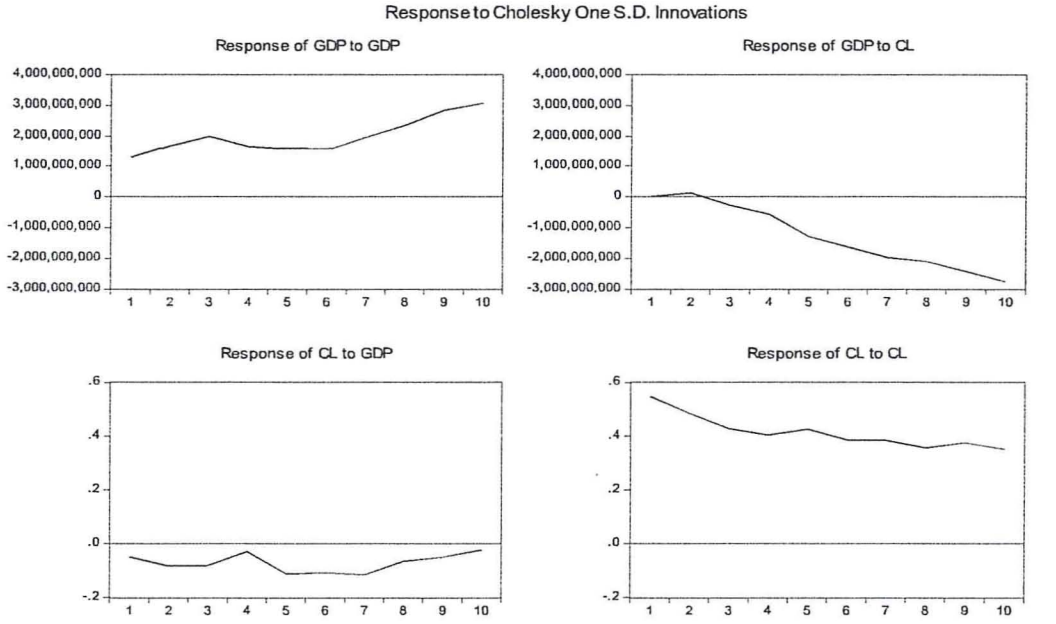
Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause CL	50	0.09929	0.9057
CL does not Granger Cause GDP		2.57690	0.0872
PR does not Granger Cause CL	50	0.60912	0.5483
CL does not Granger Cause PR		2.69646	0.0783
PR does not Granger Cause GDP	50	5.62880	0.0066
GDP does not Granger Cause PR		0.94878	0.3948

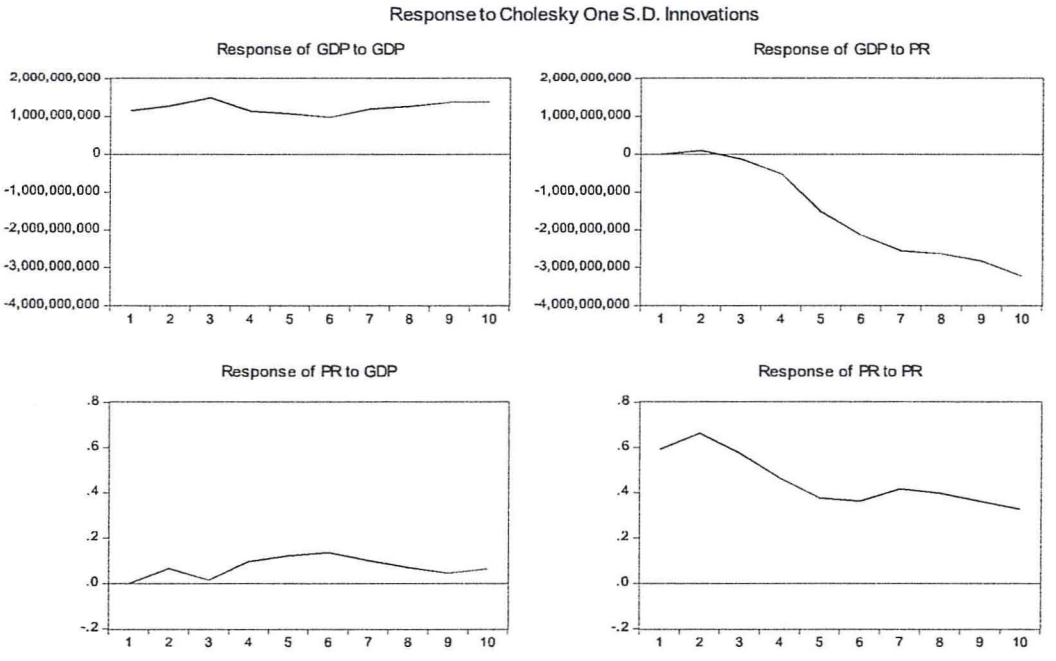
Table 15 Granger Causality results

Apart from political rights that Granger Cause GDP, none of the other results shows any causality that is significant at 5% level. However, there is some causality that is significant from civil liberties to GDP and civil liberties to political rights, that is at the 10% level.

Impulse Responses

An impulse response refers to the reaction of any dynamic system in response to some external change. Specifically, impulse response analysis enables us to answer the question: what is the likely response of variable y_{1t} at time t, $t+1$, ... to a shock in y_{2t} at time t?

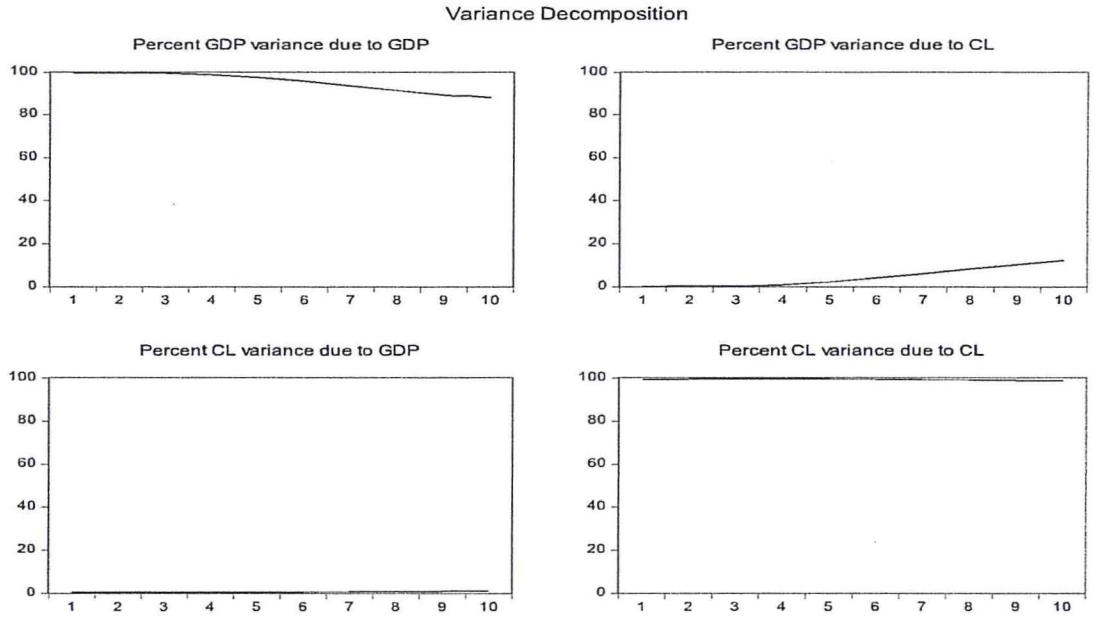


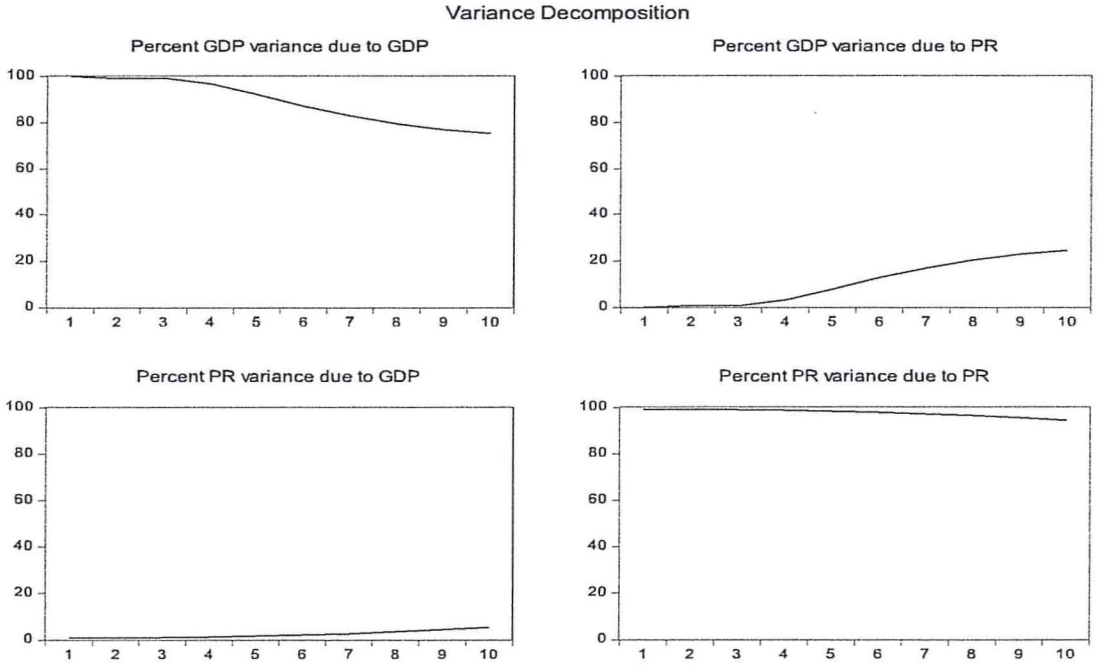


Variance Decomposition

They give the proportion of the movements in the dependent variables that are due to their "own" shocks, versus shocks to the other variables. The variance

decomposition gives information about the relative importance of each shock to the variables in the VAR.





5| Conclusions and Recommendations

The main objective of the paper was to examine the relationship between institutions and economic growth in Kenya for the period 1963 to 2014. The main variables that were used to measure political institutions are civil liberties and political rights. The Freedom House Index was used to obtain the data pertaining to political rights and civil liberties.

The first chapter of the paper introduces the issues to be addressed in the paper with the objectives and the significance of the research at the heart of the section. Chapter two presents the literature review of the conceptual framework that underpins the variables as well as the empirical work that has been conducted globally to establish the relationship between the variables. In the third chapter, the methodology for the evaluation of the hypothesis is presented, and finally the fourth chapter presents the results for the implementation of the methodology.

All three variables exhibited non-stationarity after performing unit root tests and were consequently differenced. They were all I(1). Cointegration tests were run on the variables to determine the long run relationships that existed. The Engle-Granger test showed no cointegration between the variables. After subjecting the variables to a Johansen test, cointegration was found to exist indicating two cointegrating equations. This proves that indeed a long run relationship exists among the variables.

The VAR models of Granger Causality and impulse Responses were used to evaluate the short run relationship between the variables. Granger Causality tests reveal that political rights Granger Cause GDP at the 5% significance level. However, at the 10% level there was some significant causality from civil liberties to GDP and civil liberties to political rights.

Policy Recommendations

In terms of policy, this study implies that political institutions and GDP in Kenya are non-stationary, thus have long run consequences. For this reason, policy makers should be aware that changes to political institutions affect long run economic growth although the effects are lagged and felt at a later stage. Caution should be taken when making reforms or amending the rule of law or documents that have a direct impact on political institutions. In order for Kenya's institutions to be highly efficient, policymakers must create a balance through formal laws and regulations so as to avoid a situation where political powers are concentrated within the hands of a few (North, 1990).

6 | References

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