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An Empirical Analysis of Inclusive Growth in Kenya: Measurement, Determinants and Policy Recommendations

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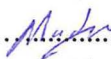
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Abstract

This study examines inclusive growth in Kenya. The call for inclusive growth has been broadcasted the world over by policy makers. However, there seems to be very little understanding and very small steps towards the achievement of significant inclusive growth. A unified measure of Inclusive growth is estimated by integrating economic growth performance (to capture growth) and income distribution properties (to capture equity). This allows us to capture inequality as well as economic growth. The unified measure is then regressed against a set of variables that are used in growth and inequality analysis in order to identify the determinants of inclusive growth.

Results indicate that inclusive growth in Kenya from 1978-2005 had large shocks in the 1990s, but largely remained non-inclusive before 1992 and inclusive briefly after 2002 till 2005. Of the variables used in analyzing the determinants of inclusive growth, only trade openness and financial deepening are found to be statistically significant, positively and negatively respectively.

Key Words: Inclusive Growth, inequality, income distribution, economic growth



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1 INTRODUCTION

1.1 Background of the Study

The pursuit of consistent, high and equitable growth in economies is central to policy-makers decisions and lies at the core of development economics. Kenya has performed well economically in the past decade, attributed to high public and private investment (M'Amanja & Morrisey, 2006) and significant developments in the service sector (The World Bank Group, 2016). This year, Kenya is projected to have an average growth rate of 5.5% (The World Bank, 2017), which is one of the highest in the region.

Despite this, Kenya continues to lag behind in standard of living and quality of life measures. Kenya is ranked poorly in terms of human development; being placed 146th out of 201 countries, using the Human Development Index¹ (United Nations Development Program, 2016). Inequality is also rife within the country, with a GINI coefficient² of 0.425 (United Nations Development Program, 2016), the 48th most unequal country in the world. Available estimates show that poverty and inequality statistics have remained stagnant over time, even with high economic growth (Kenya National Bureau of Statistics, 2005, 1997).

Creating a more equitable society and expanding social participation in the process and benefits of economic growth is one of the biggest policy challenges that world leaders face (Sammans, Blanke, Corrigan, & Drzeniek, 2015). The benefits of growth should be shared with a majority of the population, i.e. growth should be broad based and inclusive. Inclusive growth is a key element of sustainable and effective economic growth (Berg & Ostry, 2011)

1.1.1 What is Inclusive Growth?

The pursuit of inclusive growth has been discussed widely by world leaders and policy makers. Despite the consensus that inclusive growth is vital and urgent, there is surprisingly little clarity on exactly what it is, with different institutions and scholars offering varying definitions and descriptions.

¹ The HDI (Human Development Index) is a composite index of four indicators. Its components are to reflect three major dimensions of human development: longevity, knowledge and access to resources. (Noorbakhsh, 1998)

² The GINI coefficient is a measure of social inequality. It attempts to measure how income is distributed in the society. The closer the measure is to one, the more unequal the country is. (Gini, 1909)

Ianchovichina and Lundstrom of the World Bank (2009) define describe inclusive growth as referring to both the *pace* and *pattern of* growth, which are considered interlinked and therefore need to be addressed together. Ranieri and Ramos (2015) describe inclusive growth as a concept that advances equitable opportunities for economic participants during economic growth with benefits incurred by every section of society. It has also been defined as growth that is accompanied by lower income inequality, so that the increment of income accrues disproportionately to those with lower incomes, that is it is not associated with an increase in inequality (Rauniyar & Kanbur, 2010).

However, even with the lack of a single definition, there is evidently convergence in the core elements of inclusive growth. These elements include;

- Consideration for both pace and pattern of growth.
- Growth that not only lifts people out of poverty, but also reduces inequality.
- Social gains and opportunities such as education and health are also focused on.

A definition that encompasses all the elements above and hence best defines inclusive growth is that by the OECD. The OECD postulates that inclusive growth is economic growth that creates opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms (2014).

The proposal that not only the pace, but also the pattern of economic growth is vital for sustainable economic growth is in line with the findings of the Growth Report (2008), which was put together by policy makers from around the world.

1.1.2 Limitations of GDP Growth as a Measure of Economic Performance

In discussing inclusive growth, it is important to highlight the shortfalls of GDP as a metric for economic development. Since independence, Kenyan economic policies have been geared towards economic growth rather than income distribution. The importance of inclusiveness and income inequality has kept a low profile in scholarly and policy discussions (Society for International Development, 2004).

However, in recent times it has become evident that GDP is not a sufficient measure of economic development. Ivković analyzes GDP as a measure of well being and highlights one of the major

problems as being methodological problems in calculating certain elements of the economy such as distribution of income, health conditions and education (Ivković, 2016). . Even one of the pioneers of the GDP, Simon Kuznets acknowledged that GDP may only focus on the quantitative aspects of economic growth, and ignore the qualitative aspects (Kuznets, Invention Activity: Problems of Definition and Measurement, 1962)

With the apparent limitations of GDP, it is important for policy makers to discuss how equitable growth has been. While economic growth is very necessary to reduce poverty, it is not enough to reduce inequality, or even lift people from poverty. (Society for International Development, 2004).

1.2 Problem Statement

As pointed out, there seems to be a general consensus that inclusive growth is good. As Lopez (2004) puts it, growth combined with more equity is better than growth alone and high inequality makes it harder to reduce poverty. However, the situation in Kenya based on government data (Kenya National Bureau of Statistics, 2005,1997) and literature (Gakuru & Mathengi, 2012), appears to contradict the inclusive growth principles and elements, growth is high but inequality and poverty is endemic. Although some research has been done on the areas of income growth and inequality, the studies are done independently and do not offer a unified measure of inclusive growth. Morrissey and M'Amanja (2006) focus on the determinants of GDP growth in Kenya but leave out income distribution and equitable growth. The Society for International Development (2013) carry out surveys that highlight inequalities in Kenya, but do not study income growth.

This paper shall attempt to create a harmonized measure of inclusive growth that shall link both income growth and income distribution. It shall also identify the sectors that promote inclusive growth and make policy recommendations based on the findings of the analysis.

1.3 Research Questions

The research questions that shall aim to be answered in the research are;

1. To what degree has growth been inclusive in Kenya?
2. What are the main sectors that drive inclusive growth in Kenya?

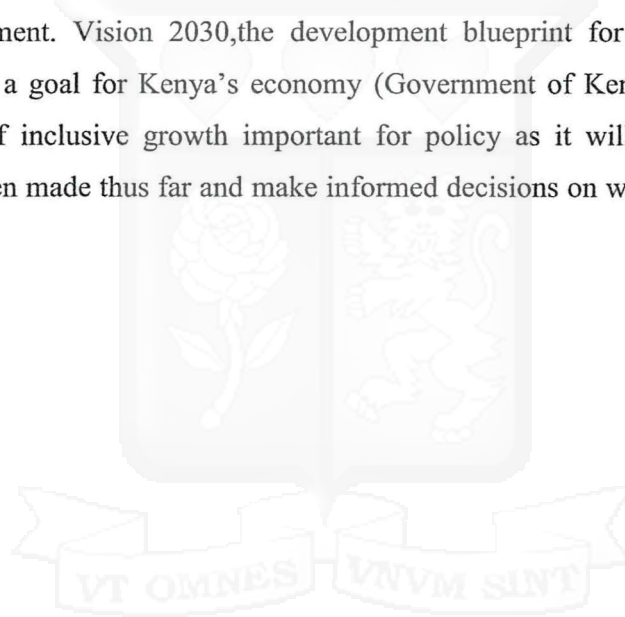
1.4 Research Objectives

In line with the research questions, the objectives of my research are;

1. Using econometric methods, measure the degree of inclusive growth in Kenya.
2. Identify, using regression analysis, the key sectors that drive inclusive growth.
3. Make policy recommendations based on the results of my analysis.

1.5 Significance of the Research

The study and analysis of inclusive growth is vital to policy makers and government officials. The Constitution of Kenya specifies in clause 201 that;”the public finance system is to promote an equitable society in that revenue raised nationally shall be shared equally between national and county government. Vision 2030, the development blueprint for Kenya, also highlights equitable growth as a goal for Kenya’s economy (Government of Kenya, 2007). This makes a coherent measure of inclusive growth important for policy as it will enable them to assess progress that has been made thus far and make informed decisions on where and how to allocate resources.



2 LITERATURE REVIEW

In the third quarter of the 20th Century, most understanding of developing economics and growth theory centered on the work and literature of Simon Kuznets and Walt Rostow. Kuznets (1955) argued that economic growth in countries was accompanied by an initial increase in inequality, which past a turning point would lead to better living conditions for the poor. This growth model assumed that countries followed the same steps as those in Rostow's 5 stages of economic growth (Rostow, 1956,1959).³

This model of economic growth was only seen to work in developed countries, but did not hold in developing nations. Furthermore, empirical literature by Kanbur (2000) did not find any evidence of Kuznets' proposition. Work by Ferreira, Leite and Ravallion (2009) that examined statistical relationships between growth and inequality found an absence of correlation between growth rates and changes in inequality. Scholars and policy makers have therefore taken a keen interest in growth that is inclusive since the early 2000s. The recent flurry of media coverage regarding wealth inequalities has also fuelled the discussion on inclusive growth.

2.1 Pro-Poor Growth

In reviewing literature regarding measuring inclusive growth, understanding what 'pro-poor' growth is and how different scholars define it is necessary, as this will form the base of the various methodologies of measuring inclusive growth. Pro-poor growth can either be taken in its *absolute* definition, or *relative* definition. In the absolute definition, growth is considered pro-poor as long as poor people benefit in absolute terms, as reflected in a pre-determined measure of poverty (Ravallion & Chen, 2003). In the relative definition, growth is considered pro-poor if and only if the incomes of the poor rise faster than those of the population as a whole (Ianchovichina & Lundstrom, 2009). The definition of inclusive growth offered in chapter 1, (and by most scholars) is in line with the absolute definition of pro-poor growth.

Literature on how inclusive growth can best be measured is fairly recent and many of the methodologies used still contain significant lapses and limitations. However, the work that has been done by various scholars and global organizations such as the World Bank will offer an

³ Rostow's 5 stages of Economic Growth are Traditional Society followed by pre-conditions for take-off, take-off, maturity and finally high mass consumption

important foundation for future research to be carried out. The majority of texts addressing the measurement and estimation of inclusive growth do not go beyond a conceptual exercise.

2.2 Measuring Inclusive Growth

Habito (2009) analyzes inclusive growth in Asian Developing countries, and identifies key factors that explain variation in patterns of inclusive growth. In his methodology, he follows a weak absolute pro-growth definition and looks at the poverty elasticity of growth. *Habito* also points out the weaknesses of the methodologies of many studies on growth and poverty; that is, they depend on regression models that fail to specify the identity that links the rate of economic growth.

McKinley (2010) attempts to measure inclusive growth by constructing a composite inclusive growth index, at the country level. He uses indicators such as growth, income distribution and inequality, productive employment, economic infrastructure, gender equity, social protection and human capital. Using these he creates a weighted index constructed on a weighted average score, where an inclusive growth score of 1-3 signifies unsatisfactory inclusive growth, a score of 4-7 is satisfactory inclusive growth and a score of 8-10 shows a superior inclusive growth. The limitations of the methodology are that it requires value judgments and may therefore be subjective. Data availability is also a significant caveat to the methodology proposed by McKinley. It is also important to note that measuring in isolation and simply adding up the contributions of a number of constituent elements does not necessarily generate a coherent measure of inclusiveness (Ranieri and Ramos, *Inclusive Growth; Building up a Concept*). This method of estimating inclusive growth is also wanting because the weighting system is done arbitrarily.

Despite these limitations, McKinley's index has been used to measure inclusive growth in a variety of Asian countries. The reason for this may be that McKinley's definition and therefore measurement of inclusive growth captures many key elements of equity and efficiency. These include good governance, basic social services, gender inequality and productive employment. Most other methodologies for measuring inclusive growth lack these elements and are only able to capture growth, inequality and/or growth or only two of these elements. (For example Son and Kakwani (2008) and Kray (2004))

Ranieri, Ramos and Lammens (2013), Following the definition of inclusive growth as a process that enhances benefit-sharing and participation, postulate that inclusive growth can be measured based on 3 factors, income poverty, inequality (as a proxy for benefit sharing) and employment to population ratio, which is used as a proxy for the participation dimension of the mentioned definition. These three indicators were deliberately given the same weight in the index in an attempt to attenuate the shortcomings of arbitrarily determining the weight of each indicator (to avoid the shortcomings of McKinley (2010)) The model is applied to 43 countries to determine how the inclusive their growth has been, as well as how it varies with GDP growth, which they describe as the 'inclusiveness of the growth process'. They however recognize that the tool can only determine a periodic snapshot of the evolution of inclusiveness in each country setting, not as a regular national-level monitoring tool. They analyze inclusive growth in 43 developing and frontier countries in 1996 and in 2006 based on availability of data.

Their inclusiveness index is built through a min-max normalization of data on poverty, inequality, and the inverse of the employment-to-poverty ratio. It is constructed on a 0-1 scale, the indexes lower values represent better performance, that is the closer the index is to 0, the more inclusive the country. Through their analysis and measurement of inclusive growth, they find that generally, growth was more inclusive in most countries in 2006 than they were in 1996.

Houngbonon et al (2013) look at inclusive growth in Africa. They analyze inclusive growth from the angle of the incidence of growth on distribution of income across centiles, generations and place of residence; they refer these as the 'dimensions' of inclusive growth'. They then identify three stylized facts regarding inclusive growth. First, they determine that irrespective of the dimension considered, inclusive growth does not depend on the magnitude of growth. Secondly, growth stability is related to inclusive growth along the area dimension, that is, the place of residence. Lastly, they determine that the structure of growth is related to the dimension along which growth is inclusive.

Their methodology involves tracking the change in household's expenditures over a year, according to the categories defined by the centiles, birth generations and places of residence. They therefore compute the average annual growth rate of the household expenditures for each category.

The African Development Bank is also preparing an inclusive growth index. According to a briefing note the bank released in 2012. The index will be based on 8 pillars that were derived from its long term strategy pillars that are in learn with its medium term strategy pillars (2008-2012). These pillars are; job creation, access to business opportunity, enhancement of regional integration, social protection and inclusion, improvement of agricultural technology, among others

2.3 Sources of Inclusive Growth

Empirical studies on the sources of inclusive growth are scarce. Specifically, No empirical study has been done analyzing the potential determinants of inclusive growth in Kenya, and what the relationship is with inclusive growth.

Most studies done the sources of inclusive growth are panel studies across a variety of nations for example, Barro and Lee (2000) shows that lower initial incomes , trade openness, fixed investment, moderate inflation and output volatility, and a better educated workforce have helped countries achieve more inclusive growth. FDI has a significantly positive impact on inclusive growth as in IMF (2007), while ICT in the total capital stock does not have a discernible impact. Interestingly, financial deepening, measured by the credit-to-GDP ratio, has a negative impact as in IMF (2007), but is not statistically significant. In addition to modernizing manufacturing, the globalization of services is increasingly a driver of economic growth in emerging markets (see Mishra, Lundstrom and Anand, 2011).

In this paper, the variables that shall be used are the same one that is used by other scholars in the analysis of inclusive growth (as the ones mentioned above). These also happen to be the same variables used in growth and inequality analytics. However, it is important to note that data availability and the nature of the economy is also a factor to consider when selecting the variables. Further description of variables is offered in the third chapter of the paper.

2.4 Conceptual Framework

As discussed, the measurement of inclusive growth over the years has differed among different scholars. However, key elements in the measurement of inclusive growth can easily be identified in the methodologies used. These elements in the definition and therefore measurement of

inclusive growth include; poverty, inequality, productive employment, gender inequality, participation, opportunity and benefits to growth.

These measurements differ across countries and researchers use factors such as data availability and the prevailing economic conditions in a specific country to measure inclusive growth.

In my study of inclusive growth, the diagram below features the most important elements to be captured



Figure 1 Elements of Inclusive Growth

To capture the above elements, the main data required is the rate of income growth (GDP per capita growth to be used as a proxy) and how income is distributed within Kenya.

3 METHODOLOGY

3.1 Research Design

This study aims at establishing the degree of inclusive growth In Kenya and the specific sectors that yield affect inclusive growth (either positively or negatively) within the country. In this regard the study will be a time series study as I shall measure inclusive growth from 1978 till 2005.

The study is correlation as it studies the relationship between inclusive growth and other variables. The study is quantitative. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected or by manipulating pre-existing statistical data using computational techniques.

To measure inclusive growth, the study utilizes a social mobility function which takes into account both the income distribution and income growth, hence creating a unified measure.

To determine the sources of inclusive growth, we use a Generalized Method of Moments approach. GMM is the best among method of moment's estimators when endogeneity is an issue. Endogeneity in this case may be as a result of simultaneity, that is, the explanatory variables are jointly determined with the dependent variable. It also does not require strong assumptions of the data generating process.

3.2 Data Types and Sources

The data used is secondary and collected from the World Bank database⁴.Data is also extracted from the Povcalnet database, which is an online analysis tool that helps to monitor global poverty... This will enable us to study how inclusive growth has evolved over time, and also be a stepping stone and template for future research on the field.

⁴ www.worldbank.com

3.3 Description of Independent Variables

The paper analyses whether variables used in growth and inequality analysis are proximate causes of inclusive growth. The variables that are used in the study are:

<i>Variable</i>	<i>Description</i>
Trade Openness	Is described as the sum of exports and imports over GDP.
Education	Is captured by Government expenditure on education as a percentage of GDP
Fiscal Policy	Government consumption over GDP is used as a proxy for government spending
Financial Deepening	Is captured by domestic credit to private sector as a share of GDP.
Agriculture Value Added (%)	This is the Value added on agricultural activities
Foreign Direct Investment	Investment made by a company in one country in business interests in another country

Population is the only control variable in the estimation model.

3.4 Dealing with Missing Data

The income distribution data for Kenya has gaps that need to be dealt with in order to carry out the analysis thoroughly. We use the most common method, linear interpolation due to its simplicity. However it is important to note that interpolation may lead to underestimation of inequality.

3.5 Data Analysis

3.5.1 Measuring Inclusive Growth

Following Anand, Mishra and Peiris (2013), I estimate a unified measure for inclusive growth in Kenya by integrating their economic growth performance and income distribution outcomes. The microeconomic concept of a social mobility function at the macroeconomic level is utilized to measure inclusive growth that is closer to the absolute definition of pro-poor growth⁵.

As in Ali and Son (2007), the generalized concentration curves can be presented in continuous time to be more amendable to econometric analysis. The population is arranged in the ascending order of their income. Let \bar{y}_i is the average income of the bottom i percent of the population, where i varies from 0 to 100 and \bar{y} is the mean income. Different values of i are plotted (curve AB in figure 1 below). Curve AB represents a social mobility curve discussed above. Since a

⁵ See chapter 1

higher curve implies greater social mobility, growth is inclusive if the social mobility curve moves upward at all points. However, there may be degrees of inclusive growth depending on:

- (i) How much the curve moves up (growth)
- (ii) How the distribution of income changes (equity).

This feature of the social mobility curve is the basis of the integrated measure of inclusive growth. Thus, if two generalized concentration curves do not intersect, they could be ranked on social mobility i.e. inclusiveness of growth.

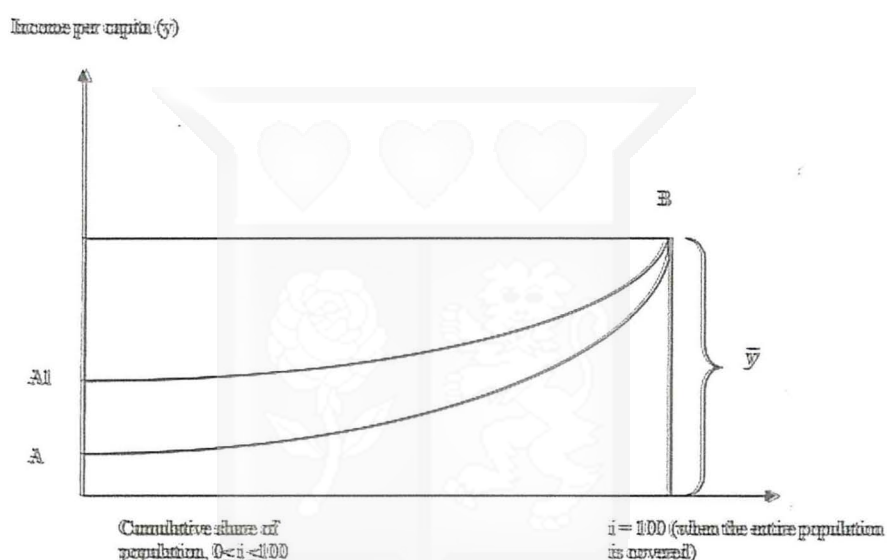


Figure 2: Social Mobility Curve, source, Anand, Mishra and Peiris (2013)

A higher curve implies greater social mobility, growth is inclusive if the social mobility curve moves upward at all points. Social mobility curve (A1B) is more inclusive than the social mobility curve AB. Despite the fact that the average income is the same (\bar{y}) as the average income of the bottom segment of the society is higher.

Anand, Mishra and Peiris use a social mobility index to calculate the area under the social mobility curve

$$\bar{y}^* = \int_0^{100} \bar{y} \, d_i \quad (1)$$

A greater \bar{y}^* implies a higher income. If $\bar{y}^* = \bar{y}$ then this implies that the income of everyone is the same and hence income distribution is equitable. If $\bar{y}^* < \bar{y}$ then this implies that the distribution of income is inequitable, signifying inequality. Using this index **Ali and Son (2007)** propose an income equity index (IEI), ω which can be used to measure the degree of inequality.

$$\omega = \frac{\bar{y}^*}{\bar{y}} \quad (2)$$

Where a higher value of ω represents a more equal society. A society is completely equal if $\omega = 1$

Making \bar{y}^* subject of the formula;

$$\bar{y}^* = \omega * \bar{y} \quad (3)$$

Therefore, for growth to be inclusive, it requires an increasing \bar{y}^* ⁶. As per the equation above, this can be done through (a) increasing \bar{y} that is, average income through growth (b) increasing the income inequality index ω and hence increasing equity or (c) a combination of the two. To further understand the dynamics of inclusive growth, we differentiate equation (3) above.

$$d\bar{y}^* = \omega * d\bar{y} + d\omega * \bar{y} \quad (4)$$

$d\bar{y}^*$ Is the change in the degree of growth inclusiveness. Growth becomes more inclusive if $d\bar{y}^* > 0$. The first term of the RHS of equation (4) represents the contribution of an incremental change in average income, while keeping the income distribution constant. The second term represents the contribution of a change in income distribution while keeping average income fixed. This has important policy implications which shall be discussed later.

Inclusive growth depends on the sign and the magnitude of the two terms ($d\bar{y}, d\omega$). . If both terms are positive, growth is unambiguously inclusive; similarly, if both terms are negative, growth is unambiguously non-inclusive. (Anand, Mishra, & Peiris, Inclusive Growth Revisited; Measurement and Determinants, 2013).

⁶ In line with the pro-poor definition of inclusive growth

However, there could be tradeoff between ω and \bar{y} . If the first term is positive but the second term is negative, higher social mobility is achieved at the expense of reduction in equity. Similarly, if the first term is negative but the second term is positive, then higher social mobility is achieved at the cost of contraction in average income.

3.5.2 Sources of Inclusive Growth

I then perform a regression based on the GMM estimation . The unified measure of inclusive growth ($d\bar{y}^*$) becomes my dependant variable while the variables described in section 3.3 are my independent variables .This is done to find the sources of inclusive growth.

$$\text{Inclusive Growth} = d\bar{y}^* = \alpha + \beta_1 FD + \beta_2 TO + \beta_3 Edu + \beta_4 FP + \beta_5 FDI + \beta_6 Agric + \beta_7 \log P$$

Where;

FD: Financial Deepening

TO: Trade Openness

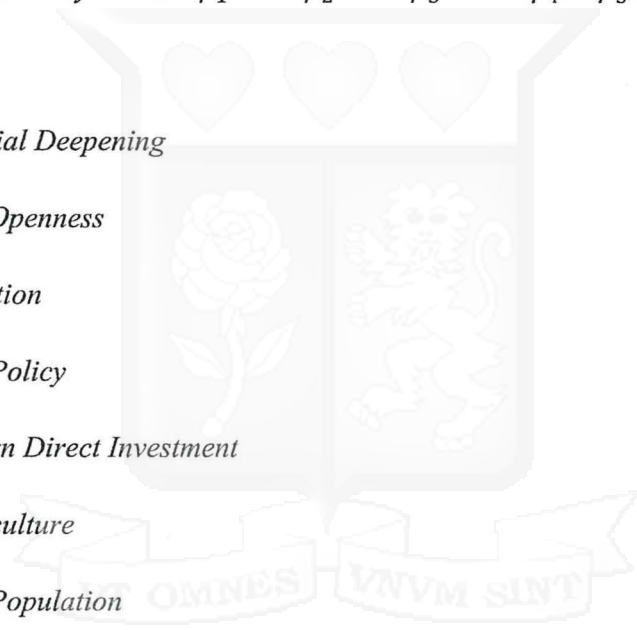
Edu: Education

FP: Fiscal Policy

FDI: Foreign Direct Investment

Agric: Agriculture

Log P: Log Population



4 RESULTS AND DISCUSSIONS

4.1 Measurement of Inclusive Growth

As discussed in the previous chapter, inclusive growth is measured for the years 1977-2005 by taking into account the social mobility index ω and the income levels \bar{y} and their respective changes ($d\omega, d\bar{y}$). The results generated show that the year to year change in inclusive growth shows great variability as mentioned before, growth is considered to be more inclusive if the inclusive growth measure is greater than 0. Inclusive growth is calculated by

$$d\bar{y}^* = \omega * d\bar{y} + d\omega * \bar{y}$$

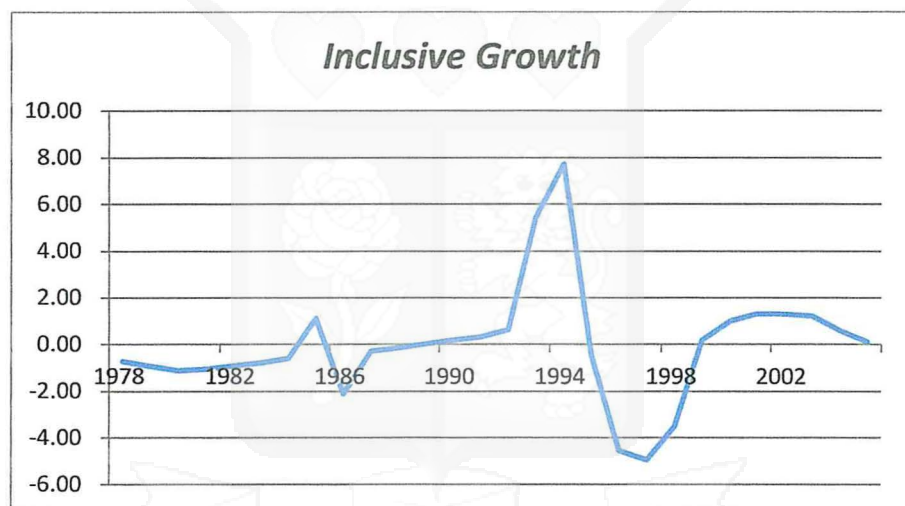


Figure 3: The Trend of Inclusive Growth 1978-2005

The variability in inclusive growth can be attributed to the great changes in income and income distribution from year to year. Great variability can particularly be seen in the 1990s. Three years particularly, from 1992-1999 stands out. Within these three years, data from the World Bank database shows that household income and expenditure greatly vary. In that regard, the variability of inclusive growth within this period can be attributed to the change in the income and expenditure, rather than the change in the distribution of income.

The measure of inclusive growth also shows that growth was generally not inclusive in the years prior to 1992. It is however evident that Kenya exhibited significant inclusive growth towards the turn of the century and the years leading up to 2005, where inclusive growth then slowed down.

There might exist a possible relationship between the governance (for example shift to multi-partism) and mega corruption scandals in Kenya (for example the Goldenberg scandal, which exposed the inefficiency of Kenyan public institutions which cost Kenya approximately 10% of its annual GDP and cut IMF aid worth \$500M) and inclusive growth. It is however difficult to analyze and prove this statistically as data on Kenya's governance indicators is scarce. This possible relationship between governance and inclusive growth may account for the variability of inclusive growth in the 1990s. Growth was most inclusive in 1994, right after Kenya had embraced multi-partism, and sweeping reforms to enhance transparency, wealth distribution and income growth. This may account for the high degree of inclusivity in 1994, after decades of sub-standard governance policy, multi-partism and increased transparency may have improved inclusivity.

Analysis on the possible factors that lead to inclusive growth will therefore be done for variables that are commonly used in analyzing inequality and growth as described in the first chapter.

4.2 Determinants of Inclusive Growth

In this section we endeavor to find out what the causes of inclusive growth are. A GMM method of estimation is used.

4.2.1 Unit Root Test for Stationarity

Given the time series nature of our data, it was imperative to carry out estimation tests to be sure that our data is not non-stationary so that we avoid the problem of spurious regression results. Stationarity tests are therefore conducted for the series using the Augmented Dickens Fuller (ADF) test. The ADF assumes that the error terms are independently and identically distributed. A time series data is said to be stationary if its mean, variances and auto covariance remain the same no matter at what point we measure them. Unit root test for stationarity results the Augmented Dickens Fuller test is to test for stationarity in the data. The test indicates whether or not the variables are stationary. The null hypothesis is that of non-stationarity while the alternative hypothesis is that of stationarity. This study requires same order of stationarity for the

time series data because it is pre-requisite in co-integration analysis and the Vector Error Correction Model. Results indicate that all the variables are integrated of order one I (1)

Unit Root Test

Variable		
<u>At Level</u>	T-Statistic	Probability
<i>Education</i>	-2.10	0.25
<i>FDI</i>	-6.02	0.00
<i>Financial Deepening</i>	-0.79	0.81
<i>Fiscal Policy</i>	-2.03	0.28
<i>GDP Growth</i>	-4.66	0.00
<i>Trade Openness</i>	-1.07	0.08
<i>Inclusive Growth</i>	-4.71	0.00
<i>Value Added Agriculture</i>	-3.74	0.01
<u>First Difference</u>		
<i>Education</i>	-4.75	0.00
<i>FDI</i>	-6.19	0.00
<i>Financial Deepening</i>	-6.21	0.00
<i>Fiscal Policy</i>	-5.98	0.00
<i>GDP Growth</i>	-10.84	0.00
<i>Inflation</i>	-5.97	0.00
<i>Trade Openness</i>	-5.32	0.00
<i>Inclusive Growth</i>	-5.51	0.00
<i>Value Added Agriculture</i>	-5.39	0.00

Table 1 Critical Value at 1% is -3.63, 5% Significance is -2.96, and 10% is -2.61

4.2.2 The Generalized Method of Moments Results

As discussed in the third chapter, we use a GMM approach to estimate the possible determinants of inclusive growth in Kenya, by examining whether factors used in growth and inequality analysis indeed have an effect on inclusive growth in the country.

From our results in Table 2, we see that financial deepening and trade openness are the only significant variables (at a 95% confidence interval level). The rest of the variables relationship with inclusive growth is statistically insignificant. This illustrates that other factors may be

proximate causes of inclusive growth other than those used in growth and inequality analytics, factors such as agricultural development, and governance (as discussed)

Variable	Coefficient	Std.Error	t-Statistic	Prob
C	-75.60467	53.9456	-1.4015	0.1772
Agriculture	-0.076669	0.372023	-0.20609	0.8389
Education	-1.218438	1.327913	-0.91756	0.3704
FDI	-0.646664	1.87052	-0.34571	0.7334
Financial Deepening	-0.722041	0.285809	-2.52631	0.0206
Fiscal Policy	0.243478	0.434513	0.560347	0.5818
GDP_Growth	-0.265346	0.140802	-1.88454	0.0749
Trade Openness	0.305621	0.123209	1.913093	0.0227
Log Population	12.14762	6.34927	2.480513	0.00709

Table 2 Regression Results

Financial Deepening

The negative relationship between financial deepening and inclusive growth is consistent with that of financial deepening and inequality. Financial deepening could transpire at the intensive margin, expanding financial services for those who already enjoy access. As these tend to be established firms and high-income individuals it would worsen income inequality (Claessens and Perotti, 2007). This is evident in Kenya before the advent of microfinance, agency banking and mobile money, which was not popular for the years the data has covered.

Education

Education in particular stands out as a variable that would be expected to lead to inclusive growth, but this seems not to be the case. This non significant relationship can be attributed to the high rates of unemployment in Kenya. The results could also be as a result of the mismatch between the skills taught and skill set needed in the economy. If there is a mismatch between the two, there will predictably be no positive effect on the inclusive growth of the population. Furthermore, it is important to note that primary education was made free in Kenya in 2002, therefore the lower deciles of population may not have had access to education anyway, hence leading to the non-significant relationship observed.

Trade Openness

There exists a positive relationship of inclusive growth with trade openness. It is argued that trade openness brings many economic benefits, including increased technology transfer, transfer of skills, increased labour and total factor productivity and economic growth and development.

Foreign Direct Investment:

FDI has also not been statistically significant in determining inclusive growth. A plausible explanation for this is that FDI has not been targeted at areas that help people every sector of the society. An example is investments made in stock portfolios rather than infrastructure investments.

Agriculture

The lack of a positive significant relationship between agriculture and inclusive growth in Kenya is also an interesting result in the analysis of inclusive growth. In an ideal world, agriculture would be expected to be a catalyst in driving inclusive growth. However, a possible explanation to the non-significant relationship is that there is very minimal productivity. Although the value added in agriculture may be high, the productivity levels may still be too low to make any significant changes in inclusive growth.

Fiscal Policy

Fiscal policy is also found to have a non-significant relationship with inclusive growth. This may be as a result of inefficiency in enforcing fiscal policy, such that government services and resources do not reach every sector of society, and are rather corrupted or used inefficiently, hence preventing a positive relationship between the two variables.

5 CONCLUSIONS AND POLICY RECOMMENDATIONS

The results in the analysis of inclusive growth yielded interesting results. The regression results show that while financial deepening had a negative relationship with inclusive growth, this was in the years when agency banking, micro-financing and mobile money were not prevalent in Kenya. Therefore, when finance is only accessible to the richest in the society, a negative trend in inclusive growth follows. However, since 2005, Kenya has made numerous strides in banking and finance that has benefited all sectors of society and lifted people out of poverty (Suri & Jack, 2016). Therefore, research and development in mobile money and government support and investing in microfinance and agency banking can be a possible boost to inclusive growth in the country.

Next the trend of inclusive growth suggests that shocks in government institutions can be a significant determinant of inclusive growth. However, this can only be posed as a hypothesis in this paper and not proved using statistical analysis that indeed more efficiency in government leads to growth being inclusive (purely based on a trend analysis). I argue that more transparency leads to greater inclusiveness while corruption and exposure of inefficiency in government leads to less inclusiveness in growth.

While in recent years education has been made more accessible to the public (therefore possibly increasing inclusive growth), there still exists a mismatch between skills trained and skills needed in the market. It is therefore necessary that institutions that meet industry standards are set up and invested in, either by government or private ventures. It is also necessary to make agriculture create meaningful growth by investing in relevant technology even for small scale farmers that will enable them to produce higher quality agricultural produce, ready for either local consumption or export.

It is imperative to pursue not just growth, but consistent and inclusive growth. Results yielded show there's still work to be done in various sectors in order to make them have a positive impact on inclusive growth.

6 APPENDICES

Definitions of Inclusive Growth

	Poverty	Inequality	Growth	Productive Employment	Capabilities / Empowerment	Gender Inequality	Access to Infrastructure	Social Protection	Participation	Targeted Policies	Basic social Services	Good Governance	Opportunity	Barriers for Investment	Benefits of Growth
Ravallion and Chen (2003)	X														
Shalla (2007)	X			X	X										
Ianchovichina and Lundstrom (2009)	X		X	X										X	
Habito (2009)	X														
Kakwani and Pernia (2000)		X			X					X					
White and Anderson (2001)		X													
Kakwani, Khandker and Son (2004)	X	X	X												
Son and Kakwani (2008)	X	X	X												
Kraay (2004)	X	X													
Ali and Son (2007)		X											X		
Grosse, Hartigen and Klasen (2008)	X	X			X										
Son and Kakwani (2008)		X	X												
Klasen (2010)		X											X		
Ranieri and Karbur (2010)		X	X		X			X	X				X		X
Mickelthorpe (2011)	X	X	X	X	X	X	X	X			X	X			

Table 3 Source; Ramos, Ranieri and Lammens

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