UNIVERSITY OF CAPE COAST

HUMAN CAPITAL DEVELOPMENT, FINANCIAL INCLUSION, AND INCLUSIVE GROWTH IN SUB-SAHARAN AFRICA

OBED FYNN

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BY

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A thesis submitted to the Department of Finance of the School of Business, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Master of Commerce Degree in Finance

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: ……. Date: …….....

Name: Obed Fynn

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised following the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: …… Date: ……...

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ABSTRACT

Inclusiveness of growth of many developing countries has been slow with sub-Saharan Africa at the bottom irrespective of increasing economic growth over the years resulting in the high poverty rate and inequality issues. Human capital development has emerged in several empirical pieces of literature as a key factor that could contribute to inclusive growth in emerging economies. However, evidence in the literature indicates that financial inclusion will be more relevant to spur the inclusive growth of economies that have a strong human capital base. Thus, by using the system General Method of Moment, this study examines how human capital development and financial inclusion affect inclusive growth and growth volatility in Sub-Saharan African economies. The study finds that financial inclusion enhances the effect of human capital development on the inclusive growth of Sub-Saharan African economies. It is therefore recommended that economies in the sub-region should put in measures to strengthen the financial inclusion level so that level of human capital development could spur inclusive growth. This would increase the participation of the minor and also create an opportunity for growth for all.

KEY WORDS

Inclusive Growth

Human Capital Development

Financial Inclusion

General Method of Moments

Moderating Effect

Sub-Saharan Africa

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DEDICATION

To my lovely Father The Late Mr Kingsley Frederick Mensah.

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LIST OF ABBREVIATIONS

IGI	Inclusive Growth Index
FI	Financial Inclusion
HCD	Human Capital Development
UNESCO	United Nations Educational, Science and Cultural Organisation
UNDP	United Nations Development Programme
ATM	Automated Teller Machine
AfDB	Africa Development Bank
GMM	Generalized Method of Moment
SSA	Sub – Saharan Africa
WHO	World Health Organisation
GDP	Gross Domestic Product
IMF	International Monetary Fund
SDG	Sustainable Development Goals
CoC	Control of Corruption
INF	Inflation
FD	Financial Development
OECD	Organisation for Economic Co-operation and Development

CHAPTER ONE

INTRODUCTION

Each year, sub-Saharan Africa records high growth rates which stand to mean that the level of poverty, unemployment, and inequality is on the low but in reality inclusiveness in SSA has been very low for the past years (World Bank, 2020). Human Capital Development being among the nine objectives of the millennium development goals and recently sustainable development goals, the World Bank, the world health organization, and other international bodies have made various advocates that government should increase expenditure on these sectors. Financial Inclusion has been particularly low with hindering issues such as information asymmetry and the number of ATMs per adult 100,000 being very low as a result contributing to lower inclusiveness. Various models have been employed in the study such as the endogenous growth theory, utilitarian social welfare theory, human capital theory, and financial innovation theory.

Background to the Study

One of the difficulties faced by numerous countries especially in the developing nations is the failure to handle the high rate of poverty (World Bank, 2018.) Numerous countries have accordingly made it a noteworthy task to diminish the level at which poverty has eaten deep into their economies causing so much ruin and turning into an obstacle to growth and development. Though there has been an advancing rate of economic growth in sub-Saharan Arica from 2.5% in 2018 to 2.6% in 2019, the poverty (41%), unemployment (11.5%), and inequality rate in Africa are still high and increasing (World Bank, 2019).

In developing countries, poverty is predominant. While the total overall poverty rate has decreased by about half somewhere in 1990 and 2015 primarily in the sub-Saharan-Africa because of strong growth, the World Bank assessed that more than 736 million individuals lived with under $1.90 every day in 2018 (Dabla-Norris, Kochhar, Suphaphiphat, Ricka, & Tsounta, 2018). To differentiate the encouraging dynamic in poverty reduction, income inequality has risen across the world throughout the most recent many years. How do these two dissimilar dynamics impact the income opportunities of the less privileged, specifically the most unfortunate 20% of the populace in sub-Saharan Africa? Key to this is the advancing attention on attaining inclusive growth, which relates to poverty mitigation, employment generation, youth and women employment and development as well as even dissemination of wealth (Ortiz & Cummins, 2011).

The idea of inclusive growth plays a key in steering the development argument in international policy circles, yet the concept proves misleading when one embarks on defining it operationally (Ramos, Ranieri & Lammens, 2013). The Organisation for Economic Co-operation and Development (OECD) explains inclusive growth to be "Economic growth that creates an opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society" (OECD, 2015, p80). Along these lines, inclusive growth has to guarantee the strengthening of more fragile areas of society.

The concept of inclusive growth emerged in recent times. There is a slow understanding of it in the region of Sub-Saharan Africa (SSA). The inclusive growth and development report (2017) identifies SSA economies as

the least region in the performance of growth for all. This awakens interest in the need to investigate factors that can speed up the rate of inclusiveness in the region. Again, there have been a significant improvement in the field of inclusive growth and some key factors identified as contributors to enhancing the rate of inclusive growth in SSA economies. Some of the factors found include human capital, financial inclusion, trade openness, foreign direct investment, moderate inflation, financial developments, and effective institutions among others (Doumbia, 2019).

The Sustainable Development Goal 1 set by the United Nations was meant to reduce poverty by half (2015), but, certainly, African will not reach that goal of eradicating poverty by 2030 (World Bank, 2018). Poverty in sub-Saharan -Africa has dropped significantly from 54 percent in 1990 to 41 percent in 2018, but the number of the poor has increased, from 278 million in 1990 to 422 million in 2018 living below the poverty line. Sub-Saharan Africa is still lagging with 41% of the poverty rate and 422 million people still living below the poverty line (World Bank, 2018). While some degree of growth is an essential condition for continued poverty reduction, growth by itself is not enough condition to eradicate poverty. Growth doesn't ensure that all people will benefit similarly. Growth can bypass poor people bringing about expanding inequality.

In the pursuit of inclusive growth where it is expected that opportunities are equitably broadened at all levels of the society, thereby spreading prosperity. One of how access to such prosperity can be achieved is through increased development of human capital employed in the growth process. Whenever an investment is made in man through education, it

translates into the reduction of poverty in the long run. This investment improves upon the skills and knowledge essential to contribute to the GDP of the country, this contributes to the earning level of the individual in the country. An educated individual gains knowledge as to the number of children to give birth to so that he can have ample time to invest in them through education which in the long run reduces the burden on the society and the government and eventually brings down the poverty level in the country which goes a long way of affecting African continent positively. Globally, educated individuals are given preferences in terms of employment seeking. They have the requisite knowledge and skills so they can work efficiently which contribute to the overall performance of the country and in aggregation reduce the poverty rate since there will be no significant burden on the government to spend on these individuals and his family (Nzabona & Ntozi, 2017).

‘’Good health doesn't just add to better personal satisfaction but at the same time is basic for a functioning workforce for the creation and support of a country's wealth. The health of individual members from the family is the wealth of the country as a dynamic and productive workforce will be accessible for sustainable development. Poverty has looted the sub-Saharan Africa of this chance of keeping up a healthy populace to create wealth (WHO, 2018). Since poverty has a reverse relationship with health care, the two socio-economic phenomena must be crucial in deciding the well–being and survival of man in his current circumstance. The health component in any advancement technique is to improve the wellbeing status of the populace to keep up a functioning workforce for effective productivity (Fayomi, 2014)’’.

Financial inclusion has the link with inclusive growth which holds the promise of boosting growth and reducing poverty and inequality, notably by mobilizing savings and providing households and firms with greater access to resources needed to finance consumption and investment and to insure against shocks. In addition, financial inclusion strengthen social safety nets (Ambarkhane, 2014). Inclusive growth with constancy is not possible without financial inclusion and inclusive finance is a long-run phenomenon that cannot be attained instantly, especially concerning the sub-Saharan African continent where the access to financial products is constrained by several factors such as lack of awareness, unaffordability, high transaction costs (Africa Development Report, 2015).

Financial Inclusion is about the conveyance of money-related services at a moderate expense to tremendous areas of disadvantaged and low-income groups. Financial inclusion contributes to individuals getting fundamental facilities and afterward comes the availability of financial services, wherein they can save what small amount they can (Shettar, 2016).

There has been growing evidence depicting how financial inclusion has affected human capital development. The contribution of financial inclusion and the financial system cannot be under-emphasized. A well–developed financial system helps to assemble resources that contribute to the investment in human capital through education expenditure, health expenditure, and poverty reduction. Whenever a financial system is developed and financial inclusion is spread to have a greater portion of the populace partake, it generally helps to develop the human capital (Oyinlola, 2017). This is because, access to resources (financial) to help to develop the human

resource in terms of education, health, and the welfare of humans are easily taken care of. The difficulty in raising financial support does not help in equipping the human capital that the economy has (Sehrawat & Giri, 2017).

‘’Financial inclusion enhances the welfare of producers and consumers taking into consideration their health naturally. In terms of productivity, access to financial services can help an individual as they can borrow funds to educate themselves and equip them with the necessary skills and knowledge needed to work efficiently and effectively which helps in attaining inclusive growth. This would reduce the high rates of poverty in sub- Saharan Africa (Demirci & Ozyakisir, 2017)’’.

Statement of the Problem

An adaptive perspective on Africa uncovered that she is naturally blessed with mineral resources, for example, cocoa, unrefined petroleum, gold, and so forth, and mathematically with an overflowing populace of roughly 1,325,937,666 individuals as of 2019, half of which can be tackled and formed into proficient human resources and as such equipped for making her a landmark of monetary development if these resources are harnessed appropriately (World Bank, 2019).

Literature has made a significant contribution to the fact that economic growth has been the main factor that affects poverty reduction (Dollar & Kraay, 2002; Dollar, Kleineberg & Kraay, 2013; Hadhek & Mrad 2015). That notwithstanding, the recent economic growth over the decade asserts that poverty continues to remain high as it is shown by high unemployment, income, gender inequality, poor industrial development (The African Economic Outlook, 2017). This clearly shows that irrespective of the recent

economic growth increments seen by way of figures in most African countries, there is no corresponding or significant reflection in terms of development.

Ngepah (2017) asserts that, the growth rate in sub-Sahara Africa has been rising each year on average and that this may seem good, the poverty level has not been affected by the high growth. The World Bank in 2019 also identified a persistently increase in inequality as one of the main reasons for the low inclusive growth in the region. Growth rates have increased from 2.5% in 2018 to 2.6% in 2019, the World Bank in their 2019 reports stated that poverty levels have increased and 437 million of the world's extremely poor are in sub-Saharan Africa. The World Bank and the IMF later stated in their report that 10 out of 19 most unequal countries in the world are in sub-Saharan Africa and if inclusive growth is not highly upheld, sub–Saharan Africa could be home to 90% of the world's poor by 2030. This indicates that SSA is still lacking the inclusiveness of the recent growth.

Education expenditure, health expenditure, and economic growth in Sub-Saharan Africa fluctuate after some time and across nations. Studies in the health economics literature recognize health care and educational expenditure as a significant factor clarifying contrasts in the degree of economic growth that is economic development is somewhat credited to better health care results which are mostly a consequence of healthcare expenditure. There are still some more serious health problems in Sub-Saharan Africa. The incidence rate of malaria in this region is 219.13%, accounting for 90% of the total number of malaria deaths worldwide. More than 60% of the world's human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS)–infected people are in Sub-Saharan Africa, and women and girls

are still the most affected groups. Compared with the global level, Sub-Saharan Africa has the highest mortality rates for children younger than 5 years and infants. In contrast, health care in Sub-Saharan Africa is inadequate. In 2018, Sub-Saharan Africa's health expenditure [% of gross domestic product (GDP)] accounted for 5.09%, which is far below 12.46% of the Organization for Economic Cooperation and Development (OECD) countries (WHO, 2020). However, education and health are key indicators of HCD. This claim has also been backed by the fact that they (education and health) have retained their prominence by being among the nine objectives of Millennium Development Goals (MDGs) and recently, Sustainable Development Goals (SDG).

"Also, agencies such as United Nations Educational, Scientific and Cultural Organization (UNESCO), OECD, UNDP, and World Health Organization (WHO) have advocated for the improvement in the quality of service delivery as well as the increase in government expenditures on these sectors. At the macro level, interest in championing healthy individuals, providing quality education, and good infrastructure will aid in improving the human capital and in effect inclusive growth. Reports from the sub-Saharan Africa region stipulate that health and education expenditure has received less attention in the budgets of the various countries (WHO, 2017)".

Furthermore, studies on the impact of healthcare expenditure and educational expenditure on economic growth in SSA have shown a positive relationship (Jameel, 2016, Haif, 2016). The question to investigate is that, though SSA has been recording high growth rates each year, the poverty levels are still high in SSA and literature shows that human capital has a positive

impact on inclusive growth. Does human capital have an impact on inclusive growth?

Despite the opportunities inherent in financial inclusion to reduce poverty, bridge gaps in inequality, raise per capita GDP, reduce unemployment, access to financial services remains poor in many parts of the world. A recent World Bank Financial Inclusion Study (2017) found that approximately two billion adults of working age (more than half of the world's total adult population) do not have a formal financial institution account. In sub-Saharan Africa, however, the situation appears to be more severe. In high-income OECD economies, account ownership, a large financial inclusion index is nearly universal at 94 percent as of 2014, 51.4 percent in both Latin America and the Caribbean and Central Asia, 46.4 percent in South Asia, and just 34.2 percent in sub-Saharan Africa, with just 14.2 percent in the Middle East behind sub-Saharan Africa (Ogunleye & Omokamnii, 2020). Accessible statistics from the Financial Access Survey (2017), indicate that the number of automated teller machines (ATMs) is on average less than 6 ATMs per 100,000 adults, except for South Africa, which has 60 ATMs per 100,000 adults (Kazeem, 2017). The statistics also show that, in terms of the number of commercial bank branches, there are less than five commercial bank branches per 100,000 adults in the area on average (Demirguc-Kunt, 2018; Ogunleye & Omokamni, 2020).

‘’There has been a significant improvement in inclusive growth literature financial inclusion and its contribution showing a mixed result. For instance, Anthony and Aboagye (2014) and, Sichei and Kamau (2012) concluded that financial inclusion has a negative effect on inclusive growth,

on the other hand, Harley, Adegoke and Adegbola (2017), Okoye, Adetiloye, Erin, and Modebe (2017), Babajide, Adegboye and Omankhanlem (2015), concludes that financial inclusion has a positive relationship with inclusive growth. These mixed findings which show in the literature have to be further investigated to know how financial inclusion affects inclusive growth''.

Purpose of the Study

The purpose of this study is to examine how human capital development and financial inclusion affect inclusive growth and inclusive growth volatility in Sub-Saharan Africa economies.

Research Objectives

- Investigate the relationship between Human Capital Development and Inclusive Growth in sub-Saharan Africa.
- Investigate the relationship between Financial Inclusion and Inclusive Growth in sub-Saharan Africa.
- Investigate the interacting role of Financial Inclusion and Human Capital Development on Inclusive Growth in sub-Saharan Africa.

Research Hypotheses

- H_1 :There is a positive relationship between Human Capital Development and Inclusive Growth in sub-Saharan Africa
- H_2There is a positive relationship between Financial Inclusion and Inclusive Growth in sub-Saharan Africa
- H_3: Financial inclusion moderates the relationship between human capital development and inclusive growth.

Significance of the Study

This study contributes to the recent and growing literature on inclusive growth. The study also would inform policymakers about the focal area in the economy that much attention needs to be given to ensure fast and even distribution of growth in SSA economies

Delimitations of the Study

The study is delimited to Sub-Saharan Africa due to high inequality, unemployment, and poverty cases in the region yet the region is recording high growth. Also, this region is identified with characteristics that are different from the few Arab countries in the continent of Africa. The study is delimited to a sample of 39 economies out of the 48 countries in the SSA region due to data availability in the sampled areas. The study also used the Government expenditure on Education and Current Health Expenditure as proxies for Human Capital Development and also measured Financial Inclusion with the number of bank branches per 100000 adults and the number of ATMs per 100000 adults. These measures were used because they are widely used in extant literature compared to other measures.

Limitations of the Study

The study is limited in the use of Generalized Methods of Moment. Nonetheless, the two-step Generalized Methods of Moment are more efficient in analyzing panel data and also address endogeneity problems associated with panel data estimations. Again, the study is limited to the period under review due to data availability. However, generalization can be drawn from the findings to other periods with similar characteristics.

Definition of Key Terms

Inclusive Growth: The AfDB (2012) defines inclusive growth as economic growth that results in an even distribution of wealth which alleviates poverty, inequality, and the unemployment level and seeks the welfare of the majority of the population whiles protecting the vulnerable, and it is done in an environment of fairness, equal justice, and political plurality

Financial Inclusion: Financial Inclusion is about the conveyance of money-related services at a moderate expense to tremendous areas of disadvantaged and low-income groups. The initial phase in FI is to encourage individuals in getting fundamental facilities like food, shelter, and dresses to individuals, and afterward comes the arrangement of a bank account, wherein they can save what small amount they can. (Shettar, 2016).

Human Capital Development: According to OECD (2019), human capital development is defined as the knowledge, skills, competencies, and other features inherent in various individuals or groups of individuals for development and maximum contribution to economic growth.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This section comprises a review of various related literature and other theoretical underpinnings related to my study. The various related works of literature are works which are done by other authors and their findings. Other theories which support the work are also reported. The various empirical findings are related to the objectives of the study.

Theoretical Review

The Endogenous Growth Model

Based on endogenous factors as opposed to exogenous factors of the neoclassical growth theory, the Endogenous Growth Theory suggested by (Romer, 1994) describes the growth rate of an economy. This theory assumes that gross domestic product (GDP) growth is a natural consequence of long-term equilibrium. The theory describes both differentials in growth rates across countries and a larger percentage of the growth observed. The neoclassical assumption of declining marginal returns on capital investments is discarded by endogenous growth theory, allowing growing returns to scale in aggregate output and also concentrating on the role of externalities in deciding the rate of return on capital investment.

Endogenous growth economists conclude that productivity gains can be directly linked to faster innovation and more human capital investments (Liberto, 2019). The endogenous growth theory explains the existence of rising returns to scale and the divergent long-term growth trends among countries, assuming that public and private investment in human capital

generates external economies and productivity improvements that offset the natural tendency to decrease returns. The theory thus stresses technological progress resulting from the investment rate, the size of the stock of capital, and the stock of human capital (Todaro & Smith, 2011). Perhaps the most significant aspect of these models is that they provide room for policies that affect saving and investment to influence the long-term growth rates of the countries (Angel, 2007).

Utilitarian Social Welfare Theory

Utilitarian Social Welfare Theory outlines how the various political, social, and economic factors shape the structural bodies of social welfare. The theory emphasizes the role of interest groups such as the government in defining social welfare and explains why some interest groups remain side-line to social welfare. The theory builds on the social welfare function by way of inclusiveness of all factors needed to expand the income growth of a state and also the fairness of income distribution to benefit these structural interest groups.

Utilitarian Social Welfare Theory is used in the context of inclusive growth to explain how a nation's growth in the domestic product is first arrived at and sustained as well as how that growth is fairly distributed with enabling institutions. This goes down to solving inequality and accounts for the use of GDP per Capita which ensures the wellbeing of all in the society.

Human Capital Theory

In his seminar work on the economics of employer preparation, the theory of human capital was proposed by Schultz (1961) and developed by the Nobel Prize-winning economist Gary Becker (1962). The theory of human

capital claims that education or training provides workers with valuable knowledge and skills, which in turn increases their productivity and income (Becker, 1964). The theory of human capital considers education and training as an investment in abilities and talents (Schultz, 1960 and 1961). This theory illustrates how schooling contributes to an improvement in employees' efficiency and performance by increasing the level of their cognitive abilities. Schultz (1962) introduced the notion that individuals are investing in education or growing their stock of human abilities that can be generated by combining natural abilities with human investment. The expenditure on education, on-the-job training, health, and nutrition are examples of such investments. Theorists of human capital have proven that basic literacy increases the productivity of low-skilled workers. They often provide guidance involving rational and analytical thinking that provides technical and advanced expertise to improve the marginal efficiency of high-skilled or experienced employees and positions. In addition, the greater the availability of education to society the greater the increase in national productivity and economic development. This theory illustrates how schooling contributes to an improvement in employees' efficiency and effectiveness by increasing their cognitive abilities (Mekdad, Dahmani & Louaj, 2014).

Theory of Financial Innovations

‘’Silber (1983) suggested the theory of financial developments based on the belief that the main explanation for financial inclusion is the benefit expansion of money-related foundations (Li and Zeng, 2010). The theory demonstrates that the weaknesses of the money-related business sector, mostly the deviated data, office expenses, and exchange costs, are the primary

thoughts behind the latest developments (Błach, 2011). According to the theory, financial-related developments may be very new resolutions or simply customary means by which the latest development aspect has been offered, improving the liquidity of companies and expanding the number of new applicants because of their situation skills (Ionescu, 2012). More access and use of financial tools are provided by digital financial technologies. According to the theory, financial related developments may be very new resolutions or simply customary means provided by the latest development part, improving the liquidity of companies and expanding the number of new applicants because of their situation skills (Ionescu, 2012). More access and use of financial resources are provided by digital financial developments''.

Financial innovation is a vital driving force of the financial system, according to the theory, which leads to improved economic competence and improved economic advantage resulting from new and regular adjustments (Sekhar, 2013). Financial advances describe financial developments by new manufacturing processes, technical solutions, better return rates and thereby improving the economy of the country in general. The theory indicates that creativity increases the competitive advantage of a multinational business and creates more income for investors (Błach, 2011). Innovation is a tool used to solve the entire additional burden, handle and pass it. By enhancing allocation, efficiency and reducing financial and administrative costs, the implementation of technologies stimulates the growth of financial entities (Sekhar, 2013).

Empirical Review

Human Capital Development and Inclusive Growth

‘’One of the important studies in literature at present has been the study of human capital development and inclusive growth. The relationship between them has been shown differently by empirical studies. Jameel and Naeem (2016) measured the relationship between human capital and inclusive growth for eleven (11) countries between 1992-2014 by the use of panel data. Using the fixed impact OLS test, they used the panel econometric tool to determine the long-run relationship between real gross domestic product and human capital. They concluded that economic development is positively influenced by human resources. In a related analysis, through the use of the ordinary least squares (OLS) and the fixed effect model (FEM), Hanif and Arshed (2016) used primary, secondary and tertiary education as proxies for the SAARC region's human resources within the period 1960-2013. Their findings showed that human capital has a good positive growth relationship and suggested government investments in the education sector’’.

‘’Mekdad, Dahmani, and Louaj (2014) performed an analysis in Algeria in Africa using the OLS and Johansen Co-integration test between 1974-2012 and the granger causality test technique. The proxy they were using was public spending on human capital education. Their findings support the fact that economic growth is supported positively by human capital. Even though education has the most significant impact on economic growth, the other three explanatory variables also have a positive impact on economic growth, although their effect is comparatively less important than that of education. Isola and Alani (2012) conducted a study that concluded that the

development of human capital is crucial for growth, although there has been little commitment to health compared to education. They used the growth account model that includes a measure of policy changes and defines the growth of GDP as a labor and capital feature''.

''Johnson (2011) assesses the development of human capital and economic growth in Africa by implementing a conceptual empirical methodology using the theoretical and ordinary least square (OLS) to examine the relationship between using GDP as a proxy for economic growth; total government expenditure on education and health; and tertiary, secondary and primary school enrolment trends as a proxy for human growth The outcome revealed a clear positive relationship between the creation of human resources and economic growth Subsequently, he added that the correct institutional structure should be the basis for achieving highly inclusive development. The effect of human capital development on economic growth in Nigeria during the period 1970 to 2008 was examined by Sankay, Ismail, and Shaari (2010). To determine this relationship, the Johansen cointegration technique and vector error correction analysis was used. The proxies used for the production of human capital are real gross domestic product (RGDP), real capital expenditure (RCE) on education, real recurring expenditure (RRE) on education, real capital stock (RCS), total school enrolment (SCHE), and labor force (LF). The outcome showed that the production of human capital has had a substantial positive effect on the economic growth of Nigeria''.

''In comparison to the various studies that have shown that economic growth is positively influenced by human capital, other studies have debunked that notion. The relationship between government spending and economic

growth in Africa between 1970 and 2008 was studied by Abu and Abdullah (2010). To unravel the effect of government expenditure on economic growth, they used disaggregated analysis. Their results indicate that overall government spending on human capital, total recurrent expenditure, and education have a negative impact on economic development. Therefore, they urged the state to spend more on human resources''.

''Cooray (2009) also tracked other variables for 35 countries and found that overall government spending on education had a negative effect on economic development, as other variables showed a positive impact on growth. He indicated that more emphasis should be put on education as it drives the development of advanced economies''.

Financial Inclusion and Human Capital Development

''In the majority of emerging and developed economies, the financial sector has been a growth factor. Several studies have shown the effect of financial inclusion on growth, and this section explores it further. The relationship between financial deepening and human capital growth in Nigeria between 1981-2015, using Johansen Co-integration and causality, was investigated by Osaka, Ihejirika, and Chinweze (2018). It was found that from financial deepening to the growth of human capital, there was a unidirectional causality. Based on this finding, they concluded that to enhance education and health care delivery in the country, current financial deepening policies should be sustained''.

''Yah and Simo-Kengne (2018) investigated the role of financial sector reforms in human development in Cameroon between 1973 and 2013 in another study in Cameroon. Using co-integration and causality techniques of

auto-regressive distributed lag, they found that financial liberalization promotes financial development in Cameroon that improves human development in the long run''.

''Yao (2018) also investigated, using panel data analysis, the effect of banking growth on the human development of West African Economic and Monetary Union (WAEMU) member countries between 1990 and 2014. He found that there is a positive connection between the growth of banking and human development. They have also found that private sector credit has a positive and substantial effect on human growth, although the impact remains poor''.

''Wang and Guan (2017) reveal that the level of income, education, and use of communication equipment by individuals plays a vital role in clarifying the degree of financial inclusion of a country and that a significant determinant is found to be other macroeconomic factors, namely financial depth and bank health status''.

''In India, a report by Gupta, Chotia, and Rao (2014), entitled "Financial Inclusion and Human Development: India's State-wise Review found that the Financial Inclusion Index and the Human Development Index correlated positively with each other." He suggested, using a multi-dimensional approach, that fostering financial inclusion should be a policy priority in India for achieving the core objectives of sustainable growth, human and economic development''.

Human Capital Development, Financial Inclusion and Inclusive Growth

''Because of its increasing level of interest among researchers, studies on human capital development, financial inclusion, and inclusive growth have

attracted many researchers and yielded varying results. In 19 sub-Saharan African countries between the years 1999 and 2014, Sharma and Bardhan (2016) used the system-generalized method of moment estimation technique to investigate this relationship. Their results indicate that inclusive growth is positively influenced by the creation of human capital and financial inclusion. Maku and Ajike (2015) used life expectancy, average years of education, access to water and sanitation as proxies for human capital using the fixed effect estimator panel in a similar vein. Their study found that financial inclusion has a positive impact on human capital, which also has a positive effect on growth with financial inclusion as a mediating variable''.

''In a recent report, Abubakar et al. (2015) used Panel cointegration techniques to examine the effect of financial development and accumulation of human capital on economic growth in ECOWAS countries between 1980 and 2011. Their findings indicate that both directly and through their impact on the accumulation of human capital, financial inclusion among ECOWAS countries contributes significantly to the economic growth of ECOWAS. They encouraged stakeholders to use better financial policies to boost the equitable financing of both companies and individuals and as a result, to promote development in the ECOWAS region. Evans et al. (2002) in a translog setting, studies human capital and financial development in economic growth in 82 countries between 1972-1992. Their findings show strong evidence (human capital and financial development) of such interactions, indicating that studies that neglect such interactions are likely to be misleading. These findings reinforce the notion that in the growth phase, financial development is at least as important as human capital''.

Financial Inclusion and Inclusive Growth

‘’In different literature across the globe, financial growth, financial innovation, and financial inclusion have been extensively studied. Various studies point to the fact that finance has a positive impact on growth, although others believe that finance has a negative effect on growth. Harley, Adegoke, and Adegbola (2017) address how Africa's drive to boost sustainable development has been facilitated by financial inclusion. Inclusive development has been influenced by an empirical study on the role of financial inclusion in economic growth and poverty reduction in the developing economy, using panel data analysis in the log-linear model specification system from 2006 to 2015’’.

‘’ From the literature they came across the approach they applied to the research was extracted. The records of successful ATMs, bank branches and government expenses selected from three African countries were the most robust predictors of financial inclusion for the reduction of poverty in the growth of economic inclusion. According to them an increase of one percent in the active ATM ratio would lead to an increase of around 0.0082 percent in the gross domestic product and a decrease in poverty in the developing economy’’.

‘’According to them, an indicator indicates that most ATMs are obsolete in the developing economy, needing a technical upgrade to have a major effect in rural areas. Their coefficient of determination was very high, as it showed that all the independent variables in the model explain about 92 percent of the total variations in the actual growth rate of the gross domestic product. Accordingly, the researchers suggested that the government should

concentrate on reducing poverty by concentrating on the construction of infrastructure that will boost banking services''.

''For Organization of Islamic Cooperation (OIC) countries, Kim (2018) explores the relationship between financial inclusion and economic development. To calculate key financial inclusion factors, five variables were used, namely: (1) automated teller machines per 100,000 adults, (2) bank branches per 100,000 adults, (3) commercial bank deposit accounts per 1,000 adults, (4) commercial bank creditors per 1,000 adults, and (5) life insurance premium amount to GDP. The study finds that financial inclusion plays a crucial role in fostering economic growth and there are shared causalities between the two variables, based on the results of complex panel estimates conducted on panel data for 55 OIC countries. Although some important results are given by the analysis, there are some limitations''.

''Firstly, there are substantial gaps between OIC countries, including the degree of financial inclusion. These differences may be due to various levels of religion, gender discrimination, rate of illiteracy, interest rate, level of income, and policies. Therefore, the factors that may affect the degree of digital financial inclusion in Islamic countries in modeling need to be addressed. Second, instead of a composite index for financial inclusion, several digital financial inclusions are analyzed separately in various models''.

''Cihak, Mare, and Melecky (2016) document that in sectors that appear to rely on external finance in countries with greater financial depth, a significantly higher growth rate is experienced. In this sense, reducing the financial constraints of companies' financial progress positively affects economic growth. The poor or disadvantaged have equitable opportunities for

investment in their education and physical assets with access to proper financial services, resulting in a decrease in income disparities and a boost to economic growth (Mehrotra & Yetman 2015)''.

''Some scholars claim that economic development is driven by financial innovation, while others have a different point of view. Arnaboldi and Rossignoli (2015) point out that creativity is a two-edged sword. The right kind of innovation and favorable conditions that could stimulate banks to invest in new technology would help the financial system fulfill its functions and as a result, deliver growth. However, too much or inefficient innovation may have drastic repercussions for the general economy (Beck, Chen, Lin & Song, 2014). In the Economist online discussion, Beddoes (2010) warns that the last few years have shown that financial advances can be used as instruments of economic devastation, while Allen (2011) and Llewellyn (2009) continue to argue that financial innovation was the cause of the 2007 Global Financial Crisis. This was because the issue was compounded by securitization and sub-prime mortgages. Stiglitz (2010) noted that the issue of knowledge asymmetry, which translates to moral hazard and eventually into economic crises, increased some of the financial goods''.

Conceptual Framework

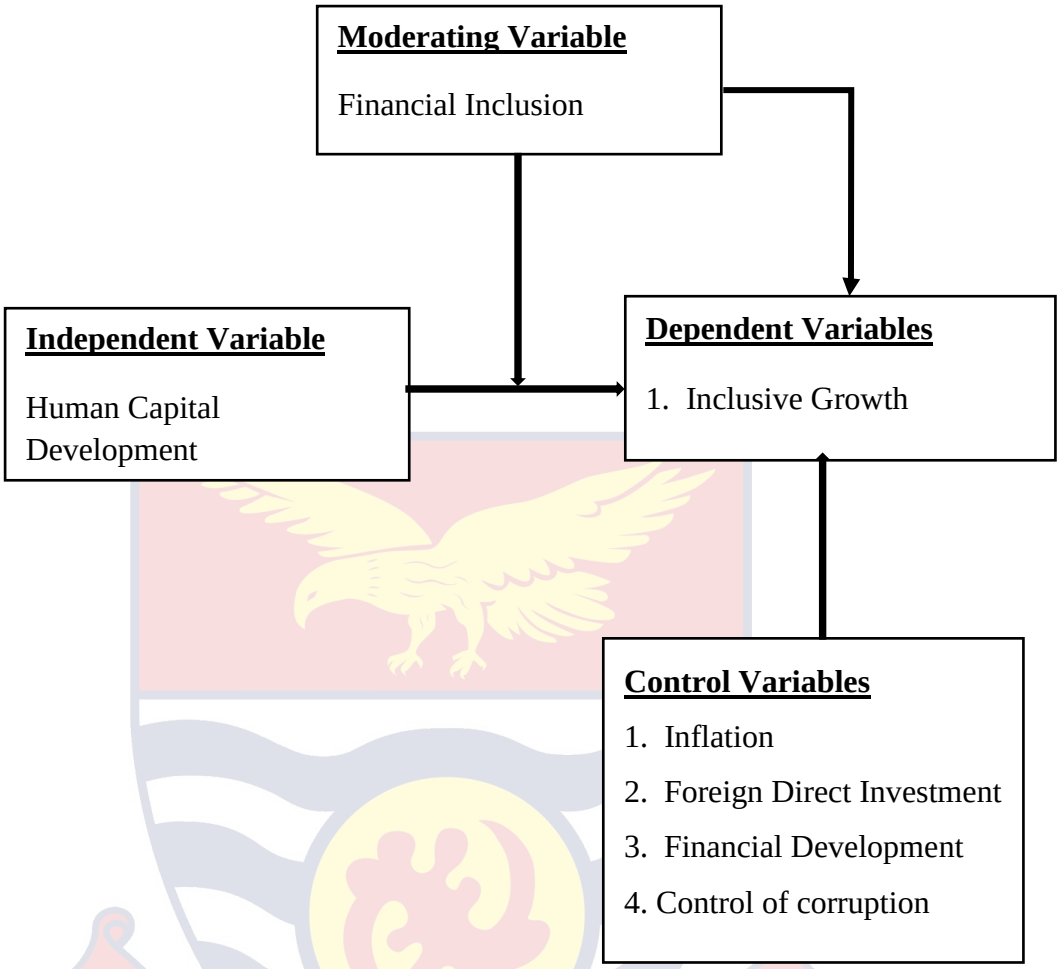

Figure 1: Moderating role played by financial inclusion in the relation between human capital and inclusive growth in SSA (2004-2017)
Source: Author's construct

Figure 1 above shows how human capital development and financial inclusion affect inclusive growth in SSA economies. Figure 1 further shows the interaction role played by institutions in the relationship between trade openness and inclusive growth in SSA economies. Finally, Figure 1 shows the direct link of the control variables (Inflation, Foreign Direct Investment, Financial Development, and Control of Corruption) and the dependent variable (inclusive growth).

Gaps in Literature

''Generally speaking, the theoretical and empirical analysis offers a clear indication that the production of human capital and financial inclusion is a critical condition for inclusive growth in SSA economies''.

''In addition, the analysis of different works of the literature shows that financial inclusion moderates the relationship between the production of human capital and inclusive growth. Financial inclusion is an all-important variable for growth to be successful through human capital (Evans et al, 2002). In the SSA literature, the interaction of financial inclusion and human capital for inclusive growth is few Oyinlola (2018). The study on financial inclusion and sustainable growth has also shown mixed results, as Beddoes (2010) claimed that the global crisis of 2007 spurred financial innovation and as a consequence, financial inclusion may not necessarily affect growth. Arnaboldi and Rossugnoli (2015) conducted similar research and also identified a negative relationship between finance and development. However, financial inclusion was found to be positively linked to inclusive growth by Adegoke and Adegbola (2017), and the research by Prasert et al. (2015) is not different from that by Olanyi (2017)''.

Contribution to Existing Studies

''Many academics have researched studies on human capital, financial inclusion, and sustainable development and their contribution has been incredibly important. To capture the moderating impact of financial inclusion on the relationship between human capital and inclusive growth in SSA economies, this study employs a broad calculation of financial inclusion. This fills the literature gap by the introduction of an interaction concept of financial

inclusion and human capital in a regression equation to the restricted study to understand their impact on inclusive growth in SSA economies''.

Chapter Summary

The chapter reviewed various theories and relevant literature on the channel through which Human Capital, Financial Inclusion affect Inclusive Growth. The various theories employed are the Endogenous Growth theory, the Utilitarian Social Welfare theory, the theory of Human Capital, and the Financial Innovation theory. The rest of the chapter explains the various literature which considers the relationship between human capital and inclusive growth, financial inclusion and inclusive growth, and the interactive role of financial inclusion in the relationship between human capital and inclusive growth.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter explains the procedures and measures systematically used to explain the role of financial inclusion and human capital development in enhancing inclusive growth in SSA. The chapter begins with the research paradigm and research design, followed by the model's specification, measurements of the dependent and independent variables, data collection procedure, and data processing tool. It is then followed by measurements of variables and finally the chapter summary.

Research Paradigm

''In the descriptive casual frameworks, this analysis follows the positivism approach to the research model that helps the researcher to understand the subject (Aaker, Kumar, George & Day, 2001; Yilmaz, 2013; Hays & Wood, 2011). The positivism model advocates that this approach entails investigating an observable social observation and arriving at assumptions and generalizations (Cooper & Schindler, 2008). In particular, the positivism model requires the collection of data, the analysis of the data collected employing a statistical significance test, and, ultimately, the present quantitatively reported outcomes''.

''This design is adopted since the analysis requires the compilation of data on the creation of human resources, financial inclusion, and SSA's inclusive growth indicators. These data are further analyzed to test for significance to accept or deny the hypothesis formulated''.

Research Design

‘’The explanatory research design was adopted as it seeks to improve a researcher's comprehension of a certain subject and also to explore the relationships of cause and effect. It is necessary to observe the variance in the variable presumed to cause the change in the other variable(s) to determine causality, and then calculate the changes in the other variable(s). Due to the lack of statistical power, it does not have definitive outcomes. It influences what data is gathered. This study uses explanatory research design as its goal is to investigate how inclusive growth and inclusive growth instability in sub-Saharan African economies are influenced by financial inclusion and human capital development’’.

Theoretical Model Specification

‘’A positive correlation between financial deepening, real interest rates, investment, and economic growth is forecast in the theoretical literature. Both the McKinnon-Shaw model and the endogenous growth literature have this prediction in common. The McKinnon-Shaw thesis attempts, by the complementarity between money and capital and debt intermediation theories, to clarify the positive relationship between financial deepening and economic development. McKinnon (1973) believed that investment was lumpy and self-financed and could therefore not be realized unless sufficient savings in the form of bank deposits were accrued. On the other hand, the debt-intermediation view proposed by Shaw (1973) postulates that by borrowing and lending, financial intermediaries encourage investment and increase production growth. Both of these arguments imply that higher levels of financial development, which may be the result of financial liberalization,

would result in higher productivity growth. They proposed that governments eliminate interest rate caps and abandon the increase of seigniorage by inflationary monetary policies to achieve higher savings and investment rates (Luintel & Khan, 1999). As a consequence, real interest rates will increase to the level of market clearing. In these models, a positive real interest rate increases the financial depth through the increased amount of mobilization of financial savings and stimulates growth by growing the volume and efficiency of capital. By preventing investors from investing in low-return ventures, higher real interest rates have a positive impact on the average productivity of physical capital (World Bank, 1989). Similarly, a positive relationship between financial depth, real profits, expenditure, and real interest rate is also expected in the endogenous growth literature (King & Levine, 1993a). By channeling financial capital to the most effective uses, well-established financial markets encourage investment and growth''.

Based on these theoretical postulates, consider an algebraic representation of the simplest endogenous growth model - the 'AK' model by Rebelo (1991) maximized for labor:

$Y_{it} = A_{it}^{\beta 1} K_{it}^{\beta 2}$ ..... (1)

Where Y denotes the aggregate output at time t, K is the aggregate capital stock at time t, and μ_t is an error term while A denotes total factor productivity growth (TFP). The TFP captures production growth that is not compensated for by the model's increase in physical input (capital). Given that TFP is endogenously determined, the endogenous growth literature argues that not only through capital accumulation but also through the TFP channel, financial deepening affects growth. This channel suggests that by encouraging

the adoption of new technology to boost information creation and technology-intensive industries, an effective financial system is affecting growth. There are a wide number of possible factors influencing TFP, according to Durlauf, Johnson, and Temple (2005). However, due to data availability and following the baseline model by Baseline model of Khan, Safdar, Munir, and Andleeb (2016), the study examined the following variables of interest resulting in:

$Y_{it} = f(HCD_{it}\ FI_{it})$ ..... (2)

Substituting equation (2) into equation (1), we have our baseline model as

$IGI_{it} = \beta_0 + \beta_1 IGI_{it-1} + \beta_2 HCD_{it} + \beta_3 FI_{it} + \beta_4 Z_{it} + \varepsilon_{it}$ ..... (3)

Where Y is inclusive growth, HCD is human capital development, FI is financial inclusion, and Z is control variables and ε is the error term.

Empirical Model

Consistent with the objectives of the study and in line with the literature, the study applies the empirical model as follows:

$IGI_{it} = \beta_0 + \beta_1 IGI_{it-1} + \beta_2 HCD_{it} + \beta_3 FI_{it} + \beta_4 Z_{it} + \varepsilon_{it}$ ..... (4)

Where IGI is the inclusive growth index

FI is financial inclusion

HCD is human capital development

Z is the various control variables included in the study

ε is the error term

β is the regression coefficient

Model 1: How Human Capital Development and Financial Inclusion Affect Inclusive Growth in SSA

Model 1 is the regression equation for the first and second objectives and was adopted from the regression equations of Rahul, Saurabh, and Shanak (2013) as adopted by Khan, Safdar, Munir, and Andleeb (2016). This study explained that human capital development, financial inclusion, the lag of inclusive growth, financial development, and moderate inflation are key indicators of inclusive growth. However, modifications are made to their baseline model to control for other macroeconomic variables. A lag of the dependent variable was allowed for partial adjustment to the long-run equilibrium value.

Model 1:

$$IGI_{it} = \beta_0 + \beta_1 IGI_{it-1} + \beta_2 HCD_{it} + \beta_3 FI_{it} + \beta_4 Z_{it} + \varepsilon_{it} \quad \text{..... (4)}$$

Where IGI is the inclusive growth index

FI is financial inclusion

HCD is human capital development

Z is the various control variables included in the study

ε is the error term

β is the regression coefficient

Model 2: The Moderating Role of Financial Inclusion in the Relationship between Human Capital Development and Inclusive Growth in SSA

This model focuses on the third objective of this study. Thus, examine the role played by financial inclusion in the relationship between human capital development and inclusive growth. The human capital development and financial inclusion index were interacted and entered into the model as a

separate independent variable. The interaction term could indicate that financial inclusion enhances the level at which human capital development affects the current level of inclusive growth.

Model 2:

$$IGI_{it} = \beta_0 + \beta_1 IGI_{it-1} + \beta_2 HCD_{it} + \beta_3 FI_{it} + \beta_4 (HCD_{it} * FI_{it}) + \beta_5 Z_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots (5)$$

Where;

IGI is the inclusive growth index

IGI_{t-1} is the lag of inclusive growth index

HCD is the natural log of human capital development

FI is the composite of the financial inclusion variables

HCD * FI denotes the interacting term of the human capital development and the Financial inclusion index

Z represents all control variables

β denotes the regression coefficient

ε denotes the error term

Definition of terms

Inclusive Growth: Inclusive growth means economic growth that creates employment opportunities and helps in reducing poverty. It means having access to essential services in health and education by the poor. It includes providing equality of opportunity, empowering people through education and skill development (World Bank, 2020).

Financial Inclusion: Financial Inclusion is about the conveyance of money-related services at a moderate expense to tremendous areas of disadvantaged and low-income groups. The initial phase in FI is to encourage individuals in

getting fundamental facilities like food, shelter, and dresses individuals, and afterward comes the arrangement of a bank account, wherein they can save what small amount they can (Shettar, 2016).

Human Capital Development: According to OECD (2019), human capital development is defined as the knowledge, skills, competencies, and other features inherent in various individuals or groups of individuals for development and maximum contribution to economic growth.

Measurement of Inclusive Growth

‘’In the analysis, the calculation of variables was chosen on the basis that these measurements are frequently used in literature. The dependent variable's inclusive growth was calculated by a composite of Hakimian's five-dimensional index prepared by the AfDB working paper in 2016 (Ngepah, 2017). This dimension covers economic social, specific, political, and environmental concerns, illustrating both the majority's involvement in the process of economic growth and the even distribution of the same economic development. To capture eight large components captured in table 1, this dimension is further established. AfDB (2016) and located in Ngepah (2017) justified the selection of these components. The measure of inclusive growth is adopted in this way because it describes the concept's African geographical sense’’.

Development captured as real per capita GDP growth is, for example, included in the index to reflect economic efficiency, taking population growth into account. Again as an additional component of labor and jobs, it includes three individual measures to focus on the employment system and to capture the scope and scale of job growth in each economy. As a proportion of total

jobs shows the degree to which employment is located in the formal sector and protected by contracts rather than employed in family and or private firms, the first labor force, and employment metric is Wage and Salaried. The other two, the proportion ratios of adults and youth jobs, apply to the population of the working population of the country and also act as a proxy for the reach of a country's national and youth employment rates.

‘’The composite Gender Inequality Index, which uses a variety of carefully selected measures to represent the reproductive health status of women, their empowerment, and participation in the labor market relative to men, has also been regarded as a component of gender (Branisa, Klasen, Ziegler, Drechsler & Jütting, 2014). The Gini index and poverty gap at $2 a day (PPP) respectively both capture and calculate inequality and poverty. Later, the depth and prevalence of poverty calculated as the average poverty line deficiency expressed as a percentage of the poverty line, are represented’’.

The Climate, which is also another composite index, the Environmental Performance Index (EPI), describes the numerous and multifaceted aspects of the environmental performance of a country, is another main component of the index. Due to its emphasis on results, this is favored over other metrics, rather than chosen aspects of climate change or environmental risk. To assess success across two major categories, EPI uses a variety of detailed indicators: environmental health with a weight of 40 percent and ecosystem vitality with a weight of 60 percent as well (Zhang, 2015)

Table 1: Description of Dependent Variable Measurement and Data Source

Components	Individual Indicator(s)	Data Source
Growth	Real per capita GDP growth.	WDI, 1996-2017
Labour Force & Employment	Wage and salaried (% of total employment).	WDI, 1996-2017
	Employment HCD population ratios (% of 15+)	WDI, 1996-2017
	Employment HCD population ratios (% of 15-24)	WDI, 1996-2017
Health & demographics	Life expectancy at birth	WDI, 1996-2017
	Mortality rate Under-5 (per 1,000)	WDI, 1996-2017
Education	The ratio of female HCD male secondary enrolment (%)	WDI, 1996-2017
Gender	Gender inequality index	GII, 1996-2017
Environment	Environmental performance index	EPI, 1996-2017
Inequality & poverty	Gini index	WDI, 1996-2017
	Poverty gap at $2 a day	WDI, 1996-2017
Governance	Corruption perception index	CPI, 1996-2017

Source: Author's Own Construct

Aggregation, Weighting, and Scoring Based on Different Indicators

To create an index, addictive or multiplicative aggregation approaches have been widely debated and used in literature (Garriga & Foguet, 2010). For each country, the multiplicative method calculates an overall inclusive score as a geometric mean of all its distinct indicators, while the arithmetic means is considered by the addictive method. The arithmetical mean method is followed in the calculation of the inclusive growth index based on intuition.

The arithmetic means the approach is computed by averaging the sum of the normalized values of each indicator S*j* county *i*, each component and each indicator within that component are equally weighted.

$IGi = \sum_{i=1}^{m} Wj * Sji$

Where:

i=1…, m: country i included in the dataset

j=1,…, n: indicator j included in the data set

The overall objective of the inclusive growth index is set as 100 as illustrated in table 2. The closer to 100 the result is, the higher the step of inclusiveness of economic growth is. A composite index that is based on a scoring methodology and a weighting scheme implicitly involve value judgments. The composite index is constructed on a weighted average score of 0–100, based on country performance on each of its components. Equal weight is applied to all eight components with each scoring 12.5%. Components with more than one indicator then spread the allocated score. For instance, Growth, Gender, and Environment all with a single indicator will score 12.5% score each whilst Health and Demographics, and Labour Force and Employment with three indicators each share the 12.5% evenly among the three indicators to obtain 4.17% each.

Table 2: Aggregation Methods Based on Different Indicator Weights.

Components	Individual Indicator(s)	Weights (%)
Growth	Real per capita GDP growth.	12.5
Labour Force	Wage and salaried (% of total employment).	4.17
&	Employment to population ratios (% of 15+)	4.17
Employment	Employment to population ratios (% of 15-24)	4.17
Health &	Life expectancy at birth	4.17
demographics	Mortality rate Under-5 (per 1,000)	4.17
	Public health expenditure (% of GDP)	4.17
Education	Ratio of female HCD male secondary enrolment (%)	12.5
Gender	Gender inequality index	12.5
Environment	Environmental performance index	12.5
Inequality &	Gini index	6.25
poverty	Poverty gap at $2 a day	6.25
Governance	Corruption perception index	12.5
Total		100

Source: Author's construct

Measurement of Independent Variables

''Human capital development, the independent variable was measured by the government expenditure on education and the government expenditure on health as a percentage of GDP. This measure of human capital development is widely used and accepted in literature Hanif and Arshed (2016). Financial Inclusion which is also the dependent variable was measured by the number of ATMs per 100, 000 adults and the number of bank branches per 100, 000 adults''.

Table 3: Description of Independent Variable Measurement and Data Source

Variable	Measurement	Data source
Human Capital development	Government Expenditure on Education (% of GDP)	WDI, 2004-2017
Human Capital Development	Government Expenditure on Health (% of GDP)	WDI, 2004-2017
Financial Inclusion	Number of ATMs per 100, 000 adults	WDI, 2004-2017
Financial Inclusion	Number of Bank Branches per 100, 000 adults	WDI, 2004-2017
Trade Openness	Sum of Exports and Imports (% of GDP)	WDI, 2004-2017
Foreign Direct Investment	Net inflow (% of GDP)	WDI, 2004-2017
Institutions (Control of corruption)	Sum of control of corruption from the WGI	WGI, 2004-2017

Source: Author's construct

Data Collection Procedure

The study obtained Secondary annual data on human capital development, financial inclusion, and inclusive growth indicators were obtained from World Development Indicators data sets. The data were screened to select 40-41 countries from the 48 SSA countries due to data quality and availability. The study finally spans from the year 2004 to 2017 and the reason is that the financial inclusion variable has its data starting from 2004 and as such since we want to avoid a lot of missing values if we start from a year earlier than 2004.

Data Processing Tool and Analytical Technique

The study uses Stata 14.0 processing tool to analyze the data and the data explains some advantages and disadvantages of the dynamic GMM, Fixed and Random Effect.

Table 4: Advantages and Disadvantages of the Various Models Used

Analytical Technique	Advantages	Disadvantages
General Methods of Moments	1. ‘’It uses the first difference between the variables and the level of the lagged values of time-varying variables as tools for the equation of differences that were successful in removing fixed country effects and, respectively, eliminating unnoticeable simultaneity bias (Law & Azman-Saini, 2012)’’. 2. ‘’To resolve the problem of reverse causality, it removes the exogenous components of the endogenous variables or variables that have simultaneity bias (Miletkov & Wintoki, 2012)’’. 3. ‘’By removing the exogenous components of the endogenous independent variables and using them as instruments to describe the independent variables, the GMM estimator deals with possible endogeneity issues between the independent variable and the dependent variable’’.	1. ‘’The main drawback of the GMM estimator method is that since it uses the lags as instruments of the dependent and independent variables, there may be a problem of proliferation of the instrument, especially when there is a small dimension of the time series compared to the cross-sectional dimension (Roodman, 2009)’’.

Chapter Summary

This chapter presented the methodological framework suitable for the study. It started with the positivism research paradigm followed by the explanatory research design. The study further used the endogenous growth model to estimate the various equations in the relationship between human capital development, financial inclusion, and inclusive growth in SSA. The 2 step GMM was used and data was captured from 2004-2017 dues to data unavailability and from various sources such as the WDI, CPI, GII, and other relevant sources. The GMM was used because it is the best estimation technique due to the panel nature of the data. It presents how AfDB working paper measures inclusive growth as well as how Hanif and Ashed (2016) measured the various independent variables. The advantages and disadvantages of the GMM were finally used to conclude the chapter.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presented and discussed results obtained from the empirical analysis. First, descriptive statistics on all the variables are discussed to give an idea of the nature of human capital development, financial inclusion, and inclusive growth in SSA economies. The chapter then presents a correlation matrix that aids to avoid issues of multicollinearity in the empirical specification. Subsequently, the chapter presents the formal discussions on the various models estimated in the study.

Descriptive Statistics

The descriptive statistics are presented on a sample of a range of 40-41 SSA economies out of a total of 48 SSA economies due to data unavailability of some economies in the region. The descriptive statistics presented include the mean, which is the measure of average, the standard deviation which is the measure of the degree of variability, the minimum and the maximum values for each variable, as well the number of observations.

Table 5: Descriptive Statistics

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
IGI	988	18.564	6.830	3.179	42.859
ATM	966	30.117	24.032	2.857	164.070
BRANCH	967	16.992	16.461	0.402	106.260
CHEXP	818	5.5492	2.403	1.263	20.413
GEXPEDU	567	4.0358	1.872	1.012	13.219
CoC	893	-0.662	0.657	-2.565	0.963
TO	951	77.711	47.082	17.858	531.737
FDI	998	4.9047	10.021	-8.589	161.823
FD	919	19.350	23.272	0.410	160.125
INF	898	15.466	142.124	-9.616	4145.106

Source: Author's Estimation, (2020)

Note: IGI represents inclusive growth measured by the composite of the five-dimension index developed by AfDB. ATM represents Automated Teller Machine per 100,000 adults. BRANCH represents bank branches per 100,000 adults. CHEXP represents Current Health Expenditure measured by the Government expenditure on Health as a percentage of GDP. GEXPEDU represents Government Expenditure on Education measured by the government expenditure on education as a percentage of GDP. CoC represents control of corruption. TO represents trade openness measured by the Trade (imports and exports) as a percentage of GDP. INF represents Inflation. FD represents financial development which is measured by domestic credit by the financial sector as a percentage of GDP. FDI represents foreign direct investment measured by net inflow as a % of GDP.

From the descriptive statistics in Table 5, the average inclusive growth index was 18.56% within the ranges of 3.179% and 42.86%. This confirms the report by the IMF (2016) which stated that the inclusiveness of growth of most SSA economies has not been able to match up with other regions in the world. ATM recorded an average of 30.11% within the limits of 2.85% and 164.07%. This depicts that although most SSA economies have done their best in increasing the number of ATMs per 100,000 adults it has not contributing much too inclusive growth. Bank Branches recorded an average of 16.99% within the limits of 0.402% and 106.26%, which is also an indication that the bank branches are very minimal in contributing to inclusive growth. Current Expenditure on Health has an average of 5.54% within the limits of 1.26% and 20.41%. The Government Expenditure on Education has an average of 4.03%

within the limits of 1.012% and 13.21%. CoC recorded an average of -0.66% within a range of-2.565% and 0.963%. This shows that control of corruption in SSA is very weak and has contributed poorly to inclusive growth. Trade Openness recorded a mean of 77.71% within the range of 17.85% and 531.73% which also provides clear evidence that trade openness contribution to the inclusiveness in SSA is very low. Foreign Direct Investment measured as the net inflow (% of GDP) recorded an average of 4.90% within a range of -8.589% and 161.8%. This also exhibited similar outliers' characteristics of that of inflation.

Financial development, measured as the domestic credit to the private sector by financial sector (% of GDP) recorded an average as low as 19.35% within the ranges of 0.410% and 160.12%. This confirms the report by the IMF (2016) which stated that the financial development of most SSA economies has not been able to match up with other regions in the world. Inflation recorded an average of 15.46% within a range of -9.616 and 4145.

The extreme nature of this is a result of the crises faced by Angola from 1996 to 2000. Hence, inflation transformed to eliminate extreme values.

Table 6: Correlation Matrix

	IGI	ATM	BRANCH	CHEXP	GEXPEDU	CoC	FD	TO	FDI	INF
IGI	1									
ATM	0.572***	1								
BRANCH	0.618***	0.403***	1							
CHEXP	0.347**	0.749**	0.116*	1						
GEXPEDU	0.452***	0.385***	0.373***	0.508***	1					
CoC	0.625***	0.708***	0.696***	0.0459	0.442***	1				
FD	0.151**	0.219***	0.238***	-0.0084	0.129*	0.140**	1			
TO	0.159**	0.392***	0.226***	-0.204***	0.157**	0.231***	0.142**	1		
FDI	-0.0457**	0.0162*	-0.0632***	0.0176**	-0.115***	-0.00368**	0.0969	0.397***	1	
INF	-0.0271***	-0.0705**	-0.0854***	-0.0386**	-0.0321***	-0.105**	-0.105**	0.108*	0.045	1

p<0.05** p <0.01** p<0.001***

Author's Estimation, 2020

Note: IGI represents inclusive growth, ATM represents Automated Teller Machine per 100,000 adults. BRANCH represents bank branches per 100,000 adults. CHEXP represents Current Health Expenditure, GEXPEDU represents Government Expenditure on Education, CoC represents Control of Corruption, FD represents Financial Development, TO represents trade openness, FDI represents Foreign Direct Investment and INF represents Inflation.

Table 6 presents the pairwise correlation matrix for all the variables in the study. There is no issue of multicollinearity in the pairwise matrix because the rest of the variables do not score correlation coefficients of more than 0.90 (Brooks, 2019). There is a moderate positive correlation between inclusive growth and financial inclusion with ATMs and Branch showing 0.572 and 0.618 respectively. There is a low positive correlation between human capital and inclusive growth with GEXPEDU showing 0.452 and CHE showing 0.347 respectively.

Regression Results on the Relationship Among Human Capital Development, Financial Inclusion and Inclusive Growth in SSA.

This subsection presents and discusses the results for objectives one and two of the study. The regression results are presented in Table 7 which presents the results of the effect of human capital development, financial inclusion on inclusive growth in SSA economies using GMM. Table 8 presents the results for moderating the role played by financial inclusion in the relationship between human capital development and inclusive growth in SSA economies.

Table 8 further present the effects of each financial inclusion on inclusive growth when interacted with human capital development of SSA economies in a sub-model Interact and Interact 1 to 3 as financial inclusion is playing a moderating role.

Table 7: Variance Inflation Factor to test for Multicollinearity

VARIABLE	VIF	1/VIF
ATM	2.34	0.42
BRANCH	2.45	0.40
CHEXP	1.87	0.53
GEXPEDU	1.99	0.50
FD	2.45	0.40
TO	2.25	0.44
FDI	2.17	0.46
INF	1.83	0.54
CoC	2.97	0.33
Mean VIF	2.257	

Source: Author's Estimation, (2020)

Note: ATM represents Automated Teller Machine per 100,000 adults. BRANCH represents bank branches per 100,000 adults. CHEXP represents Current Health Expenditure measured by the Government expenditure on health as a percentage of GDP. GEXPEDU represents Government Expenditure on Education measured by the government expenditure on education as a percentage of GDP. CoC represents control of corruption. TO represents trade openness measured by the Trade (imports and exports) as a percentage of GDP. INF represents Inflation. FD represents financial development which is measured by domestic credit by the financial sector as a percentage of GDP. FDI represents foreign direct investment measured by net inflow as a % of GDP.

''From table 7, the Variance Inflation Factor (VIF) test has been conducted to test for multicollinearity with a decision point of less than or equal to 5. The VIF tells the degree to which the standard errors are inflated and is the reciprocal of the tolerance level (Frost, 2021). We can therefore conclude that there is no multicollinearity among the variables depicting the level of significance in the regression coefficients. The mean value of VIF is 2.25 which is less than 5 and does not show the presence of multicollinearity''.

Table 8: Effect of Human Capital Development and Financial Inclusion on Inclusive Growth in SSA Economies

Dependent Variable: Inclusive Growth

	GMM
LIGI	0.246***
	(0.0429)
ATM	-0.032**
	(0.0295)
BRANCH	0.110***
	(0.016)
CHEXP	0.0248*
	(0.236)
GEXPEDU	0.426*
	(0.247)
CONTROL	
LnTO	0.842
	(1.639)
LnINF	-0.092
	(0.120)
LnFDI	0.257
	(0.244)
LnFD	0.692
	(0.369)
CoC	0.816
	(1.157)
DIAGNOSTICS	
Wald Chi2	42.37
P(Wald)	0.0001
AR(1):z	-2.78
P-Values	0.000
AR(2):z	-0.89
P-Values	0.428
Hansen Chi 2	36.29
P-Values	0.105
No of groups	36
No of Instruments	28
No of Observations	450

Source: Author's Estimation, (2020)

Note: IGI represents inclusive growth measured by the composite of the five-dimension index developed by AfDB. ATM represents Automated Teller Machine per 100,000 adults. BRANCH represents bank branches per 100,000 adults. CHEXP represents Current Health Expenditure measured by the Government expenditure on health as a percentage of GDP. GEXPEDU represents Government Expenditure on Education measured by the government expenditure on education as a percentage of GDP. CoC represents control of corruption. TO represents trade openness measured by the Trade (imports and exports) as a percentage of GDP. INF represents Inflation. FD represents financial development which is measured by domestic credit by the financial sector as a percentage of GDP. FDI represents foreign direct investment measured by net inflow as a % of GDP.

Human Capital Development and Inclusive Growth in SSA Economies

The Model in Table 8 presents the combined relationship between human capital development, financial inclusion, and inclusive growth in SSA economies. The study will therefore choose to discuss objective 1 which is the relationship between human capital development and inclusive growth. From the Model, the Government expenditure on health has a coefficient of 0.0248 at a 10% significant level which means that a percentage increase in the current health expenditure will lead to a 0.0248% in inclusive growth. The government expenditure on education has a coefficient of 0.426 at 10% significant positive effect on inclusive growth.

The coefficient of 0.426 shows that a percentage increase in government expenditure on education will lead to a 0.426 percentage increase in inclusive growth. This affirms the hypothesis that there is a significant positive effect of human capital development on inclusive growth in the economies but the impact is very small though positive. The result supports Sharma and Bardhan (2016), in 19 sub-Saharan African countries between 1999 and 2014, used the system-generalized method of moment estimation technique to investigate this relationship. Their results indicate that inclusive growth is positively influenced by the creation of human capital and financial inclusion.

However, in sub-Saharan Africa (SSA) and other developing regions, health and education expenditure has received less attention in government budgets. For the region to experience a good shift in their human capital to have a greater influence on inclusive growth, various governments have to invest in their human capital. This is in line with Mekdad, Dahmani, and Louaj

(2014), who stated that government spending on education affects positively economic growth. Even though the most important effect on economic growth is for education, the other explanatory variables affect also, economic growth even though, their effect is relatively less important than the effect of education. The figures in parenthesis are the p-values.

Financial Inclusion and Inclusive Growth in SSA Economies

From the Model, ATM has a coefficient of -0.032 at a 5% significant level. This shows that a percentage increase in ATMs will lead to a 0.032% decrease in inclusive growth. This study is in line with Arnaboldi and Rossignoli (2015) who stated that the right kind and use of innovation may be favorable and spur up growth but inefficient innovations will hinder growth. This clearly shows that ATMs have an indirect effect on inclusive growth which means that ATMs do not have a direct relationship with inclusive growth but rather have to pass through another variable for the positive relationship to be established.

Bank Branch has a coefficient of 0.110 which means a percentage increase in bank branch will lead to0.110% increase in inclusive growth. The results are in line with Kim (2018) who also found a positive relationship between financial inclusion and inclusive growth using similar proxies. The study is however not in line with. Beddoes (2010) has not supported that financial inclusion leads to inclusive growth. He stated that the global financial crisis occurred in 2007 as a result of financial inclusion through innovation.

Results of the Control Variables for the Models Assessing the Effect of Human Capital Development, Financial Inclusion and Inclusive Growth in the SSA Economies

The control variables in table 7 control for the human capital development, financial inclusion, and inclusive growth using the lag of trade openness, inflation, foreign direct investment financial development, and institutional quality. Trade openness has a significant coefficient of 0.842. The result is in line with the findings of Chidede (2017), as well as a joint publication by the WTO, IMF, and the World Bank (2017), who discusses that trade and integration can be used to facilitate Africa's quest for inclusive growth. They explain that trade openness has created jobs, growth, and development in both developing and developed countries. They further articulate that trade openness reduces trade costs and facilitates the expansion of regional and global value chains, which are strong drivers of specialization, productivity, and manufacturing exports. They can also support economic diversification depending on the supply-response, skills, and capabilities of the private sector.

Inflation has a coefficient of -0.092. This means that a percentage increase in inflation will lead to a 0.092% decrease in inclusive growth. This is consistent with Wieland, Afanasyeva, Kuete, and Yoo (2016). They explain that higher inflation is associated with less poverty reduction, through lower average welfare growth as well as with an adverse contribution to distributional effects.

FDI has a positive coefficient of 0.257(at a 1% significant level). This explains that a percentage change in FDI leads to a 0.257%, increase in inclusive growth. This study is consistent with that of Rahul et al. (2013); IMF (2007); Morgan (2007) affirm the findings and explain that FDI can encourage future social progress while, in turn, elements of social progress such as infrastructure, education, and personal and political security can help attract foreign investment. This study goes with the literature because it affirms the significant and positive effect of FDI on inclusive growth in SSA economies.

Control of Corruption has a positive coefficient of 0.816, and this is in line with Acemoglu and Robinson (2012) who explain that when corruption is controlled it determines the wealth of the nation, political institutions are efficient if they can assure the participation of the individuals in the electoral process, providing them the faculty of renewing or removing its leaders. He further explains that the powerful elite that can extract resources from society characterizes the extractive economies.

Finally, financial development has a strong positive coefficient of 0.692 and this corresponds with Khan et al. (2016) who explain that the improvements in the financial sector make easy access to a loan for investment. In previous findings such as Levine (2005) financial development is positively linked to growth. Again, Anand et al. affirm that financial development positively and strongly affects inclusive growth in emerging economies.

Diagnostics for the Models Assessing the Effect of Human Capital Development and Financial Inclusion on Inclusive Growth in SSA Economies

According to Mileva (2007), the null hypothesis for the test for AR (1) process in first differences usually should be rejected and most importantly, the null hypothesis for the AR (2) should not be rejected. From Table 5, all the p values of the AR (1) showed a rejection of the null hypotheses of no autocorrelation process, at a 1% significance level. Again, the p-values of the AR (2) showed no rejection of the null hypotheses of autocorrelation. This indicates that there is an absence of second-order autocorrelation in all the residuals thereby justifying the non-inclusion of more lags of the dependent variables on the right side of the specification The Wald test also depicted a rejection of the null hypotheses that the coefficients of the regressors are simultaneously zero as shown by the p-values. This means all the independent variables together adequately explain the dependent variable. Finally, the p-values of the Hansen statistic on the test for over-identification restriction and instrument validity for the included instruments cannot be rejected at the 5% level. This depicted no rejection of the null hypotheses that the instruments as a group are exogenous. This means all the instruments used for each of the models in table 5 are valid and that instruments employed in the GMM estimations have appropriate exclusion restrictions.

The Interacting Role of Financial Inclusion in the Relationship Between Human Capital Development and Inclusive Growth in SSA Economies

Table 9 shows the results of the role played by financial inclusion to establish the interacting result between human capital development and

inclusive growth in the SSA economies. Table 9 shows the interacting role of financial inclusion in the relationship between human capital development and inclusive growth. This is shown by the interaction term which is introduced.

The results from the model in Table 9 are very key. From Table 9, the ATM with Health Expenditure has a coefficient of 0.0287 at a 1% significant level. The introduction of the interaction term causes the ATM to change from -0.032 at a 5% significant level in Table 5 compared to 0.180 at a 10% significant level and -0.126 at a 10% significant level in Table 8. The negative sign of the ATM has a meaning that, ATMs have an indirect effect on inclusive growth which means that ATM does not have a direct effect on inclusive growth but rather through another variable.

From Table 9, the ATM has a positive coefficient of 0.180 at a 10% significant level and government expenditure on education has a coefficient of 0.112, their interaction coefficient is -0.0141. This means that ATM and government expenditure on education do not complement each other and have a mediating effect in attaining inclusive growth. A similar study was undertaken by Oyinlola (2019), he stated that the negative coefficient obtained when human capital interacts with financial inclusion was a result of the financial system in sub-Saharan Africa. He stated that human capital and financial inclusion have not taken a regional focus and also their choice of measurement will influence the outcome.

The introduction of the interaction term has seen an improvement in some of the coefficients as well as the decline in some of the coefficients as well and it is discussed below using the estimated formula; HCD+INTERACTION TERM*(FI)

The net effect of GEXPEDU on inclusive growth is estimated from the partial derivative differential of inclusive growth to GEXPEDU. The net effect of GEXPEDU on inclusive growth from Model 2 is GEXPEDU-0.014*ATM, which is 0.109 (computed as 0.112-0.014*(0.180)). The net effect of GEXPEDU is 0.109 which shows that both ATM and GEXPEDU have a positive effect on inclusive growth because of the complimenting role of ATM. This explains that GEXPEDU in isolation may not contribute much to inclusive growth in SSA economies unless ATM is introduced in the system

From interact 1a, government expenditure on education has a coefficient of 0.105 and Bank Branch has a coefficient of -0.063, their interaction coefficient is 0.0406 at a 5% significant level. This shows that government expenditure on education and the bank branches helps in achieving inclusive growth though it has a small coefficient. The finding is in line with Abubakar et al. (2015) who investigated the impact of financial development and human capital accumulation on economic growth in ECOWAS countries between 1980 and 2011 using Panel cointegration techniques. Their results show that bank private credit and domestic private credit contribute significantly to economic growth in the ECOWAS, both directly and through their influence on human capital accumulation. Their results further imply that providing access to credit to both enterprises and individuals, through appropriate financial policies, will encourage economic growth in the ECOWAS region.

The net effect of GEXPEDU on inclusive growth from interact 1a is GEXPEDU+0.0406*BRANCH which is 0.1094 (computed as 0.112+0.0406*(-0.063)). The net effect is 0.1094 compared to 0.426 in Table 7 which shows

a decrease in the coefficient though it is still positive. This shows that the interaction of GEXPEDU and BRANCH do not aid in achieving inclusive growth.

From interact 1b, ATM has a coefficient of -0.128 at a 5% significant level and current expenditure on health with a coefficient of -0.126 at a 10% significant level, their interaction coefficient is 0.0287 at 1% significant level. The finding is in line with Abubakar et al. (2015) who investigated the impact of financial development and human capital accumulation on economic growth in ECOWAS countries between 1980 and 2011 using Panel cointegration techniques. Their results show that bank private credit and domestic private credit contribute significantly to economic growth in the ECOWAS, both directly and through their influence on human capital accumulation. Their results further imply that providing access to credit to both enterprises and individuals, through appropriate financial policies, will encourage economic growth in the ECOWAS region.

The net effect of CHEXP on inclusive growth from interact 1b is CHEXP+0.0287*ATM which is -0.1223 (computed as 0.126+0.0287*(-0.128)). The net effect is 0.1223 compared to 0.0248 in Table 7 which shows an improvement in inclusive growth because of the complementary role played by ATM. This shows that ATM and CHEXP when interacted contribute much to inclusive growth.

From interact 1c, the bank branches have a coefficient of -0.010 at a 10% significant level and current expenditure on health with a coefficient of 0.112 with a 10% significant level, their interaction coefficient is 0.038 at 1%

significant level. This shows that bank branches and current expenditure on health help in achieving inclusive growth.

The net effect of CHEXP on inclusive growth from interact 1c is CHEXP+0.038*BRANCH which is 0.111 (computed as 0.112+0.038*(-0.010)). The net effect is 0.111 compared to 0.0248 in Table 7 which shows a slight improvement in inclusive growth because of the complimenting role played by BRANCH. This shows that BRANCH and CHEXP aid in achieving maximum inclusive growth.

Table 9: The Interacting Role of Financial Inclusion in the Relationship between Human Capital Development and Inclusive Growth of SSA Economies

Dependent Variable: Inclusive Growth

VARIABLES	INTERACT 1	INTERACT 1a	INTERACT 1b	INTERACT 1c
LIGI	0.210***	0.220***	0.109***	0.145***
	(0.051)	(0.024)	(0.036)	(0.096)
ATM	0.180*		-0.128**	
	(0.073)		(0.052)	
BRANCH		-0.063*		-0.010*
		(0.036)		(0.093)
GEXPEDU	0.112**	0.105		
	(0.059)	(0.482)		
CHE			0.126*	0.112*
			(0.343)	(0.234)
ATM*GEXPEDU	-0.014**			
	(0.010)			
BRANCH*GEXPEDU		0.0406**		
		(0.0512)		
ATM*CHE			0.0287***	
			(0.0111)	
BRANCH*CHE				0.038***
				(0.0108)
CONTROL				
LnTO	0.048*	0.024*	0.012*	0.951**
	(0.322)	(0.318)	(0.626)	(0.0672)
LnINF	-0.122*	-0.118	-0.136*	-0.148
	(0.164)	(0.169)	(0.125)	(0.250)
LnFDI	0.244*	0.264*	0.490***	0.480***
	(0.148)	(0.155)	(0.143)	(0.143)
LnFD	1.221	0.640***	0.281**	0.022**
	(0.908)	(0.918)	(0.469)	(0.486)
CoC	0.489	0.103*	2.990***	3.084**
	(0.340)	(0.084)	(0.010)	(0.071)
DIAGNOSTICS				
Wald Chi 2	26.28	48.43	14.76	22.71
P(Wald)	0.000	0.000	0.000	0.000
AR(1):z	-3.24	-3.21	-4.32	-4.21
P-Values	0.001	0.001	0.000	0.000
AR(2):z	-0.60	-0.77	1.77	1.58
P-Values	0.549	0.441	0.076	0.113
Hansen Chi2	23.67	24.46	25.77	25.92
P-Values	0.166	0.141	0.105	0.102
No of groups	37	37	40	40
No of Instruments	27	27	27	27
No of observations	450	450	450	450

Source: Author's Estimation, (2020)

Note: IGI represents inclusive growth measured by the composite of the five-dimension index developed by AfDB. ATM represents Automated Teller Machine per 100,000 adults. BRANCH represents bank branches per 100,000 adults. CHEXP represents Current Health Expenditure measured by the Government expenditure on health as a percentage of GDP. GEXPEDU represents Government Expenditure on Education measured by the government expenditure on education as a percentage of GDP. CoC represents control of corruption. TO represents trade openness measured by the Trade (imports and exports) as a percentage of GDP. INF represents Inflation. FD represents financial development which is measured by domestic credit by the financial sector as a percentage of GDP. FDI represents foreign direct investment measured by net inflow as a % of GDP.

Results of the Control Variables for the Models Assessing the Interacting Role of Financial Inclusion on Human Capital Development and Inclusive Growth in the SSA Economies

All the interactions in Table 9 controlled for the same control variables as controlled for in Table 9. Concerning interact 1 of Table 9, there is a negative link between inflation and inclusiveness with a coefficient of -0.136 and significant at 10%. This means that a unit increases in inflation will lead to a 0.136 decrease in inclusive growth in the SSA economies. Similar results were obtained in interact 1, 1a, and 1c of Table 9 and consistent with Rahul, (2014), Wieland, Afanasyeva, Kuete, and Yoo, (2016). They explain that higher inflation is associated with less poverty reduction, through lower average welfare growth as well as with an adverse contribution to distributional effects. In particular, poor households are usually more affected by food price inflation as they need to spend disproportionately more on food, and substitution possibilities are limited. The figures in parenthesis are the p-values.

Also, financial development, measured by the credit to the private sector by the financial sector, has a positive and very significant impact on inclusive growth in SSA as shown in interact 1a of Table 8 with a coefficient of 0.640. This means that a unit change in the level of financial development in SSA economies will lead to a 0.640% increase in inclusive growth. This

result is consistent through interact 1, 1b, and 1c of Table 9 obtaining a coefficient greater than 1% respectively. This shows the importance of financial development for inclusive growth. This finding is in line with Khan et al. (2016) who explain that the improvements in the financial sector make easy access to a loan for investment. In previous findings such as Levine (2005) financial development is positively linked to growth. Again, Anand et al. affirm that financial development positively and strongly affects inclusive growth in emerging economies.

Trade openness according to Table 9 has a positive coefficient of 2.642 and a significant level of 10%. This is consistent through model 2 - 2c and this is consistent and in line with the findings of Chidede (2017), as well as a joint publication by the WTO, IMF, and the World Bank (2017), who discusses that trade and integration can be used to facilitate Africa's quest for inclusive growth. They explain that trade openness has created jobs, growth, and development in both developing and developed countries. They further articulate that trade openness reduces trade costs and facilitates the expansion of regional and global value chains, which are strong drivers of specialization, productivity, and manufacturing exports. They can also support economic diversification depending on the supply-response, skills, and capabilities of the private sector.

Control of Corruption in interact 1 of Table 9 has a positive and significant coefficient of 0.489 and it is consistent through from 1a to 1c and this is in line with Acemoglu and Robinson (2012) who explain that economical institutions determine the wealth of the nation, political institutions are efficient if they can assure the participation of the individuals

in the electoral process, providing them the faculty of renewing or removing its leaders. He further explains that the powerful elite that can extract resources from society characterizes the extractive economies.

Finally, interact 1b indicates that foreign direct investment fosters inclusive growth with a coefficient of 0.490 and is significant at a 1% level. This again, indicates that a unit change in the level of foreign direct investment will lead to a 0.490% change in inclusive growth in SSA economies. The result is consistent throughout sub-models 2 – 2c. Rahul et al. (2013); IMF (2007); Morgan (2007) affirm the findings and explain that FDI can encourage future social progress while, in turn, elements of social progress such as infrastructure, education, and personal and political security can help attract foreign investment. In effect, the study goes with the literature and affirms the significant and positive effect of FDI on inclusive growth in SSA economies.

Diagnostics on the Models Assessing the Interacting Role of Financial Inclusion on Human Capital Development and Inclusive Growth in the SSA Economies

At a 1% significant level, all the p-values of AR (1) showed a rejection of the null hypothesis of no autocorrelation process whilst the p-values of the AR (2) process showed no rejection of the null hypothesis of no autocorrelation as depicted in table 6. This indicates that there is an absence of autocorrelation in Table 6. Also, the Wald test depicted a rejection of the null hypotheses that the coefficients of all the independent variables are simultaneously zero as shown by the respective p-values. This means all the independent variables together adequately explain the dependent variable.

Finally, the p-values of the Hansen test depicted no rejection of the null hypotheses that the instruments as a group are exogenous. This means all the instruments used in table 9 are valid and that instruments employed in the GMM estimations have appropriate exclusion restrictions.

Chapter Summary

This chapter examines the panel data properties of the data used for estimation, presented and discussed the results. The study presents descriptive statistics to show the mean and the measure of dispersion. It further presents the correlation matrix which shows the relationship between human capital, financial inclusion, and inclusive growth. The statistics on the regression show that human capital has a positive relationship with inclusive growth which satisfies objective one. Objective two is confirmed by the positive relationship between financial inclusions with inclusive growth through ATM has an indirect effect on inclusive growth. The study further presents the interacting role financial inclusion plays in the relationship between human capital and inclusive growth which fulfills the last objective of the study. The 2 step GMM estimation technique was used in the estimation of the data.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the major findings obtained from the entire study. This chapter further presents the major conclusions, policies and finally gives suggested recommendations for further research.

Summary

''SSA economies over the past years have achieved relative progress in economic growth represented by their GDP growth rates which increase every year but this growth rate has not been reflected in the poverty levels and poverty has been an issue of concern in the sub-region. The continuously rising GDP reflecting an economic improvement is a potential indication to fighting poverty, unemployment, and inequality in the region. Despite this, the SSA has made considerable efforts to achieve inclusive growth which results in poverty reduction as the sustainable goal 2 of the World Bank, making employment assessable to all and making sure there is an even distribution of wealth. Literature has made considerable efforts to bring out some factors which can spur up inclusive growth with the use of human capital and financial inclusion. It goes further to probe the interactive role played by financial inclusion in the relationship between human capital and inclusive growth. This is because human capital and financial inclusion have been a contributor to inclusive growth in the SSA''.

The Literature review section spotted in chapter two of this paper brings out the various theories that underpin the study as well empirical evidence on the relationship between human capital development, financial inclusion, and inclusive growth in the sub-region. The main theories employed are the endogenous growth theory, utilitarian social welfare theory, human capital theory, the theory of financial innovation. The empirical review has shown inconclusive results between human capital development, financial inclusion, and inclusive growth using the GMM estimation technique. The study made use of the interactive role played by financial inclusion to conclude that financial inclusion interacted with human capital spurs inclusive growth.

The study used the positivism research paradigm and the quantitative research approach. The study employed the explanatory design to formulate the various models. SSA economies were the focus of the study and included 37 economies out of 48 SSA economies due to the unavailability of data. GMM used the first objective of human capital development, financial inclusion, and inclusive growth in SSA economies. Following the first model on the interacting role played by financial inclusion in the relationship between human capital development and inclusive growth in SSA economies. The system GMM is the estimation technique employed in analyzing the objective 1, 2.

Results of the study affirmed the first and second hypothesis that both human capital development and financial inclusion affect inclusive growth positively both combined and separately in the SSA region. Again, the third hypothesis was confirmed by the results of the study, that is, the moderating

effects of financial inclusion on the relationship between human capital and inclusive growth also showing a positive effect.

Conclusion

The results of the study can help us conclude that, based on the four hypotheses, human capital is required to increase inclusive growth in the SSA economies. It is evidenced that strong human capital is needed to improve inclusive growth in the SSA economies. Financial inclusion is as well needed as an interacting variable to improve inclusiveness. Inflation as the study has shown has a negative relationship with inclusive growth compared with the other control variables (trade openness, foreign direct investment among others) which have a positive relationship with inclusive growth.

Recommendations

‘’Concerning the results of the study, it is recommended that SSA economies should continue to strengthen their human capital base by government investing more in education and health of its labor force and the younger ones. Other stakeholders must also have a contributing factor of making sure that, the active working populace is not left behind in policy formulation and building up strong institutions. There should be maximum education and training which will bring out competent human capital to help build the human capital nature in the SSA’’.

In terms of financial inclusion, the issue of information asymmetry should be avoided because this will grant the populace the chance of getting access to financial products and services to enable them to invest massively in other profitable ventures to enable inclusiveness. Various financial products should be developed by the government and other stakeholders to help in

expanding financial inclusiveness which will be able to capture those in the remote areas as well. Strengthening of financial systems in the SSA region will also be needed since various weak systems will make people lose trust in the financial system in the sub-region.

‘’Macroeconomic stability is important. IMF research shows that economic crises and instability have scarring effects on both advanced and developing economies. The global financial crisis of a decade ago is likely contributing to the backlash against globalization and the declining trust in public institutions, especially in advanced countries. Crises lead to higher inequality and have played a major role in thwarting developing countries from catching up. So macroeconomic stability is a prerequisite to achieving sustained growth and inclusive prosperity’’.

Direct government intervention policies affect the distribution of income and the incidence of poverty. Fiscal policy is a powerful tool to reduce inequality, through redistribution. In advanced economies, direct taxes and transfers reduce income inequality by about one-third, on average. Approximately three-quarters of this fiscal redistribution is achieved on the transfer side of the budget, with public pension benefits accounting for about half of that. Fiscal redistribution has a large impact on inequality in advanced countries, although much less so in developing ones.

‘’Financial inclusion means ensuring that people have access to saving, as well as investing in human capital and business opportunities, which increase growth and provide poor people the chance to get ahead. Financial inclusion can be promoted by providing information that facilitates access to financial services like credit bureaus and collateral registries, enhancing

financial literacy, and through new technologies like peer-to-peer lending, mobile banking, and microcredit. But all of this needs to be balanced with maintaining financial stability through appropriate laws and regulations''.

Finally, government and other stakeholders must strengthen their policies and put up strong initiatives which will help in alleviating poverty, they should create employment opportunities and try as much as possible to put in measures in bridging the inequality gap in the region not forgetting the environmental aspect in promoting inclusiveness.

Suggestions for Further Research

Further studies can be extended to studying the interacting role played by the financial institution in the relationship between human capital development and inclusive growth volatility. Other measures of human capital and financial inclusion can also be used to find out the relationship between human capital, financial inclusion, and inclusive growth and inclusive growth volatility.

Lastly, further research can be extended to country-specific analysis which would give a true reflection of how individual countries 'financial system affects the relationship between human capital and inclusive growth in the SSA and other developing and developed countries.

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