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Income Inequality and Economic Growth Among Emerging African Economies: The
Moderating Role of Financial Inclusion

By

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MBA FINANCE

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DECLARATION

I hereby declare that this submission is my own work towards the award of the MBA and that, to the best of my knowledge, it contains no material previously by another person or any material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate this work to my father, Rev George Obeng for being the pillar of this academic journey, who taught me that the best kind of knowledge to have is that which is learned for its own sake. to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time. And to my siblings who were my cheer leaders.



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ABSTRACT

The main objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth among emerging African economies. In order to achieve the above objective, the study uses a sample of all ten emerging African countries. The study further uses the purposive sampling technique which is intended to give the researcher access to the countries that are specifically needed for this research. The data for the study covers the duration from 2004 to 2017. This research follows a panel data approach and based on this, the data is analysed using the random effect regression analysis. Based on the findings of the study, it is concluded that income inequality has no significant effect on economic growth of emerging African economies, in addition, financial inclusion reduces the economic growth rate of these emerging economies. However, financial inclusion moderates the relationship between income inequality and economic growth and changes the negative effect to a positive one. The study recommends that policy makers of emerging African economies should design programs to increase financial inclusion for those who are currently excluded from accessing financial resources. If policy makers can improve financial accessibility in these countries by even a modest amount, it is possible to reduce income inequality and thus reverse the negative relationship between income inequality and economic growth. The study further recommends that governments of emerging African countries should adopt a progressive tax system designed in such a way that the rich pay a higher percent in income taxes than the poor in order to reduce the income inequality levels of these countries. This would help in income retribution which can further promote economic growth among these countries.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Earnings disparity in the 21st century is a hotbed issue because of its prominence in addressing trends. Inequality in wages is more generally than welfare. Empirical data shows that wage disparity in both developed and emerging countries has risen over the past few decades (Milanovic, 2013; Hacker and Pierson, 2010; Babu et al., 2016; Berrittella, 2017; Berrittella and Dardanoni, 2016). The dilemma is that when wage disparities and socioeconomic and public security interventions are linked, the growing patterns lead the welfare of individuals to escalate, and that is also a political issue. For example, a meta-analysis to determine how income inequality is related to depression indicates a positive, statistical and meaningful association between income inequalities and depression among about two-thirds of the 26 studies, and five out of six longitudinal studies (2018). Other findings show that wealth disparity is related to public health (Detollenaer, etc., 2018; Babones, 2008) or that relative income inequality and social class influence the health results of individuals (Wilkinson, 2002).

In political circles and analysts lately, the role that income inequality plays in economic development has attracted substantial attention as well. However, it has been difficult to determine whether higher income disparities delayed economic development and in literature is generally debated. The influence will go somewhere technically. A rise in income gap, for example, may fuel economic development by major incentives to risky entrepreneurship and innovation. Higher inequality could, on the other side, harm productivity if low-income families persistently are less efficient due to slower production of human resources and greater financial exclusion. There is no consensus empirically, too. Some experiments have shown that disparity impacts development and its length dramatically and adversely (Michálek and Výbošćok 2019; Asongu and Odhiambo 2019; Teixeira and Loureiro 2019; Ostry and Berg

2017; Zhang & Ben Naceur 2019; Ostry et al. 2014; and Cingano 2014). However some do not see the structural detrimental impact of development disparities (Forbes, 2000; Panizza, 2002; and Kraay, 2015). And several scholars have attempted to explain a non linear interaction (Banerjee and Duflo, 2003; Brueckner and Lederman, 2015).

Researchers often claim that financial inclusion will decrease wage inequalities, thus improving their economic growth impacts. Financial incorporation intends to make it simpler for the non-banked to extend financial services to improve living standards, which would lead to economic growth and development (Sharma, 2016; Kim, Yu and Hassan, 2018). Financial inclusion further leads to increased access to poverty mitigation development funding. If the balance of evidence does not seem entirely compelling, improved access to finance appears to contribute to a decrease in poverty (Ajide, 2015; Mohammed, Mensah and Gyeke-Dako, 2017). Empiric data shows that finance has a strong effect on poverty reduction: the proportion of the poorest population (defined as lower than \$ 1 daily) has stronger declines in countries with higher levels of financial growth. According to Churchill and Marisetty, financial inclination decreases hardship and income gaps as economic conditions typically enable individuals to make use for positive purposes of financial access such as the increase of businesses or children's education.

However, the African perspective has not research the extent to which the relationship between rich inequalities and economic growth is reinforced by financial inclusion. The link between wealth inequality and financial inclusion economic growth has been reinforced according to (Kim, 2016). The collapse of financial inclusion's wealth inequalities flips a constructive partnership between economic growth and income disparity. This study follows the study of (Kim, 2016) and extends this research among emerging African economies in order to ascertain if financial inclusion could help improve the negative relationship between income inequality and economic growth.

1.2 PROBLEM STATEMENT

In Sub-Saharan Africa, the high level of income inequality poses the question what positions, if any, could perform in the lower income and greater gender inequality. The continent is, nevertheless, one of the world's largest wealth gaps (Kaulihowa and Adjasi 2019). Economic development is poor in comparison to other developing economies (Demirguç-Kunt and Klapper 2012). The impact of income disparity on development in countries, including African countries, was studied. However, mixed results have been made, and some studies have reported substantial and negative effects of inequality on and period of growth (Michálek et al., 2019; Asongu and Odhiambo, 2019; Teigeira and Loureiro, 2019; Ostry et al., 2014; Zhang and Ben Naceur, 2019; Cingano, 2014). Yet other individuals have no structural adverse impact on development from unfairness (Panizza, 2002; Forbes, 2000; Kraay, 2015). And several scholars have attempted to explain a nonlinear interaction (Brueckner and Lederman, 2015; Banerjee and Duflo, 2003).

While the balance of research is not completely clear, the belief that greater financial connectivity will play a decisive role in poverty mitigation seems to be supported. Empirical evidence suggests that financing has a robust impact on poverty reduction: higher financial inclusion countries have a faster decline in the share of the poor population (Beck, Demirgüç-Kunt, and Levine 2007), which could contribute to higher tax payers and companies which could then influence productivity. Kim (2016) also observed that the connection between wealth disparities and economic development is strengthened through financial inclusion in his research in the Asian economy. Financial inclusion aims to minimize wage inequalities in countries with low income and high fragility. In high-fragility countries such patterns are greater than in low-fragility countries, indicating that financial inclusion in a nation with a comparatively poor financial system is more successful. However, analyses on how financial

inclusion strengthens the partnership between wealth disparities and economic development in Africa are missing include African economies. The continent is the largest wealth disparity in the world and financial integration is poor (Demirgüç-Kunt and Klapper 2012). (Kaulihowa and Adjasi 2019). Therefore, studying how these variables affects economic growth on their own is likely to present inconclusive findings. This study therefore fills this gap in research and examines how the interaction between financial inclusion and income inequality affects economic growth, specifically, whether financial inclusion can improve the adverse effect of income inequality on economic growth among emerging African economies.

1.3 OBJECTIVES OF THE STUDY

The main objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth among emerging African economies. In order to achieve this, the following objectives are outlined:

1. To analyse the effect of income inequality on economic growth among emerging African economies.
2. To evaluate the effect of financial inclusion on economic growth among emerging African economies.
3. To examine the moderating effect of financial inclusion on the relationship between income inequality and economic growth.

1.4 SIGNIFICANCE OF THE STUDY

The ultimate objective of the analysis is to explore the moderating function of financial inclusion in the relationship between income inequality and economic growth among emerging African economies. From a political point of view, a strong measure is required to evaluate financial inclusion and to decide which variables lead to cross-country variations. Such a step

will allow people to realize how financial inclusion works to promote economic growth. The results of the study will also include insight into strategies that may be aimed at increasing the economic development of African countries by growing wealth disparities and raising the degree of financial inclusion. The study will also provide investors with an in-depth understanding of the extent of financial inclusion and income disparity amongst African countries to help in their decision-making about where to invest and help boost the country's economic development. The study would further contribute to the literature on financial inclusion, income inequality and economic growth among African countries.

1.5 OVERVIEW OF METHODOLOGY

The key objective of the analysis is to explore the moderating position of financial inclusion in the relationship between income disparity and economic development between emerging African economies. To this end, the thesis uses an explanatory analysis method for a quantitative and panel test methodology. The explanatory test design will serve to offer a detailed description of the interaction between the variables in the sample. The data panel approach to the analysis will help to have a far higher degree of independence and thereby increase the predictive ability of the test model. The demographic of the sample will be all developing African economies. The sample will be chosen by 15 emerging economies on the basis of the availability of the data needed for this analysis. Data from 2007 to 2019 will also be included in the analysis.

The factors to be used in the empirical analysis would be GDP growth rate, fiscal Gini coefficient (which measures income inequality), the ratio of nonperforming loans to total bank loans, the unemployment rate, the inflation rate, the population growth rate, the income tax rate, and the rate of government social expenditure. The sources of the data are the World Bank's World Development Indicators and Global Development Finance, and the International

Monetary Fund's e-Library Data. Data on GINI coefficients come from UNUWIDER version 2c (WIID) of United Nations University. The study would rely on the use of the Hausman test to ascertain which panel data analysis to use for the study (Random or Fixed effect). The study would use the generalized method of moments (GMM) estimation method to investigate the relationship between the variables and to take care of potential endogeneity issues among the independent variables.



CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

In this chapter of the study, the research focuses on the review of various literature that is relevant to this study. The chapter begins with section 2.1 which elaborates on the important things to know about the various concepts that the study uses. The next section, 2.2 talks about the various theories that we can use to explain the relationship between the variables while the final section, 2.3 reviews empirical studies by other scholars on the subject matter and how the variables relate to one another.

2.1 CONCEPTUAL LITERATURE REVIEW

2.1.1 OVERVIEW OF FINANCIAL INCLUSION

Financial inclusion concentrates on offering structured financial services to meet the needs of all participants of the economy particularly low income communities, in an accessible and available way (savings, credit, remittances, cash transfers, insurance, mortgages, retirement portfolios, protection markets). The Finance Inclusion Understanding is based mainly on access that underlines restricted usage and consistency, which are the key components of the concept. Rangarajan (2008) defines financial inclusion as "process of safe and equitable access to financial services for poorer groups and low-income groups and where necessary, provides appropriate and timely credit." Chakrabarty (2013) is also explaining the phrase 'process to ensure that conventional social actors have an equal and transparent access to sufficient financial capital and services offered by every segment of society, including the vulnerable as some poorer and low-income societies.' People do not have recourse to credit from small banks and money-lenders through financial inclusion. Access by centralized dominant players must be provided and then fair, accessible and economical access is provided.

On the other hand, Cull (2014) offers very contradictory definitions of financial inclusion. According to FI, all employed adults have links to credit, savings, payments and incentives from organized resources suppliers. Successful entry includes easy, secure and cost-effective provision of service for the customer, and for the operator that results in the use of standardized financial facilities rather than an informal option for customers who are currently financially excluded. It allows families to obtain finance in order to conduct effective economic undertakings to boost, conserve and spend their well-being. Financial inclusion extends the consumer base of financial companies, providing a way to save the individuals that have been rejected. As a consequence of the large number of low-cost deposits, financial institutions are able to diversify their reliance on bulk deposits and boost their profitability. The economy profits from financial inclusion, by promoting savings, developing industries, supporting and growing the productivity of the financial sector, generating jobs and sustaining equal growth. Globally, financial inclusion has been described as allowing several of the seven sustainable development priorities to be accomplished. These include hunger and drought eradication, work growth, gender equity progress, and good health. Biasharaleo (2017) says other facets of financial inclusion include: empowering disadvantaged citizens to cope sustainably with poverty challenges; and facilitating monetary policy across the conventional financial sector, by involving a significant proportion of the population. They claim that monetary policy cannot operate adequately as there are those beyond the financial system. It also promotes the creation of strong structures to improve the resilience of the financial sector.

Many developing countries are impacted by financial exclusion. Leyshon & Thrift (1995) described financial exclusion as an early definition of financial exclusion as a refining method to deter certain social classes and individuals from having access to a formal financial system. Later on, Sinclair(2013) notes that financial exclusion means the right to receive financial

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resources required accordingly. Exclusion may arise from entry, conditions, prices, marketing and or self-exclusion as a reaction to negative experiences and perceptions.

2.1.1.2 Measurement of Financial Inclusion

The literature has assessed financial inclusion in several respects. Some scientists use a variety of metrics to assess the definition on either the demand or supply fronts. Demircuc-Kunt and Klapper (2012), for example, rely on demand side metrics to assess financial inclusion. Key metrics include five transaction areas: lending, investing, insurance, billing and account service. The Financial Access Survey (FAS) and AFI complement the demand side of the Global Findex by relying on supply-side metrics, on the other hand. FAS offers details about how financial resources, such as savings, lending and insurance plans, are utilized and available worldwide. Including indicators such as numbers of access points, percentage administrative units, form of account, and proportion of adults with type of account are included in AFI (2013) core indicators.

The definition is commonly calculated by the amount of individuals who possess and utilize structured financial services/products. There is recognition in the literature that the main aspects of access/availability/outreach/penetration, use and efficiency are financial incorporation. Since it has many scales, the definition could not be entirely captured using a single indicator to quantify it. At times, the degree of financial inclusion is calculated by a composite predictor. However, it has been a subject of literature debate how this aggregate calculation is measured. The agreement about how to calculate it robustly seems to be incomplete. Different scientists use an indices along with different ways to calculate, composite factors, details and econometric calculation to calculate financial inclusion.

For physical entry, affordability and eligibility factors Beck, Demircuc-Kunt and Levine (2007) (deposits, loans, and payments). Their report rates nation success in various dimensions which finds it impossible to define and compare the level of financial inclusion in one region.

A country has different rankings in different dimensions. Honohan (2008) uses an econometric approach to calculate the number of citizens with access to the entire population of financial goods. This research did not examine the usage factor of financial inclusion and econometric calculations can presumably include a one-time estimation of financial inclusion that cannot be utilized in measurements of time and countries variance (Sarma, 2012).

Chakravarti and Pal (2012) use banking sector metrics related to entry, use and availability of banking facilities to assess the measure of financial inclusion by measuring a composite index on financial inclusion. In your study, they use an equivalent weighting of variables without offering a justification for the weighting process. Both indicators are similarly interested in financial inclusion. This implies. Critical of an index that assigns equivalent weights to all variables and measurements is Mialou, Amidzic, and Massara (2017), as assigning the same weights means that all parameters have the same importance to financial inclusion that in practice may represent fact. They use factor analysis to derive weights for their analysis. In contrast to equivalent weighting, the weighting method was relatively objective. A reversal in Mialou et al. (2017) the computation factors are just four vector, with no metrics representing transfers, payments and telephone accounts.

Wang and Guan (2016) propose a measured solution to weighting utilizing the variance coefficient approach initially employed in the portfolio study. They measure a financial inclusion index in their analysis by utilizing the coefficient of variance to assess the weight of these metrics and dimensions. The indicator weight is defined as the part of its coefficient of variation to the sum of all indicators. They claim that this method helps to evaluate each measure and dimension's comparative importance to the total index.

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2.1.2 OVERVIEW OF INCOME INEQUALITY

Inequality is a multidimensional term, with various measuring methods (the measurements of capital, profits, consumption, opportunities). Unfairness is a simple divergence from a basic concept of equity, according to Cowell (1995) – the fact that two or more quantities are identical. Earnings disparity applies to discrepancies in people's wealth distribution and successes. Inequality in wealth stretches beyond distributional inequalities to the deprivation of equitable privileges and freedoms (UNICEF & UN Women, 2013). Income disparity often contributes to a number of other types of disparities (such as social inequality, opportunity) correlated with disabled, gender, racial or ethnic groups in particular; (Kabeer, 2010). Latest research suggests the interdependence of the multiple dimensions of injustice. Economic discrimination, for instance, prohibits citizens from having fair chances in existence because disproportionate chances contribute to income inequality (UNDP, 2013).

The phenomenon of income disparity has become necessary, as it has a detrimental impact on efforts to alleviate poverty and impedes progress towards achieving SDGs. Fosu (2017) found that uneven allocation of income weakens the bad pattern in developed countries in economic development. Inequality will impede economic development (Ncube et al., 2014; Okojie & Shimeles, 2006) and prosperity, since opinions of the weak and excluded do not necessarily prevail (Dabla-Norris, Kochhar, Suphaphiphat, Ricka, & Tsounta, 2015). The effect of damaged confidence and social harmony, due to an unequal allocation of incomes, will contribute to tensions and political uncertainty. These disputes inevitably influence the satisfaction of citizens, deter investments and harm development (Anyanwu, 2016). Researchers disagree on the causes of the allocation of profits. The fact that income allocation was a product of economic process and challenges was related to the absence of unanimity of views (Bigsten, 1983). It is important to consider the causes of such differences in and within the countries to formulate policies to minimize inequalities. In general, factors underlying

inequalities are categorized as global economic and demographic (Milanovic, 2016). The powers are technical transition, civil wars, conflicts, domestic spending and schooling.

2.1.2.1 Drivers of Income Inequality

2.1.2.1.1 Past Income Inequality Levels

The laggard value of income inequalities would typically impact future inequality rate. This driver offers proof that wage differences appear to continue over time. Income disparity. Empirically, some researchers show that wealth differences steadily change over time and thus don't alter dramatically (Anyanwu, 2016; Mahmood, Noor, & Law, 2014; Bahmani-oskooee et al., 2008; Gupta, Davoodi, & Alonso-Terme, 1998). Gupta et al. (1998) include the lagging income disparity values to relate corruption to uneven income distribution, to ensure that the key variables are ignored. Consequently, existing wealth disparity levels are suggested to be affected by historical income inequality levels. This indicates that the association between the income distribution rate now and history is favorable.

2.1.2.1.2 Economic Development Levels

In the early stages of a nation's growth, income disparity grows more as the population begins to expand and then deteriorates as national development continues to grow (Kuznets, 1955). Kuznets (1955) insists that wealth disparity is generally low in the initial phases, while an economy is predominantly agrarian. Yet as nations shift to secondary and tertiary markets socially, the degree of income disparity rises. Finally, when a nation is in strong economic growth, wage disparity continues to decline as economic growth rises. In this sense, the GDP per capita is favorable for emerging nations in terms of income disparity but it shows a detrimental link to inequality if the GDP per capita is sufficiently large as it is in industrialized countries. Empirical proof has been given for OECD countries (Alderson & Nielsen, 2002), USA (Dinscer & Gunalp, 2012), ASEAN 5 (Seneviratne & Sun, 2013) and West Africa on a

hypothesised Inverse-U correlation between uneven income distribution and economic growth (Anyanwu, 2016).

Although most research supports the Kuznet hypothesis in the relationship between economic development and income disparity, others find no proof of it. Harris (1993) reveals that the U-shaped Argument of Kuznets has been U-shaped in the United States, and therefore the idea has ceased to exist. The result was supported by Ram (1991) that the theories of the Inverted United States defied the real connection between economic growth and the allocation of revenue. The validity of Kuznets hypothesis is likely to be faulty, emphasized recent proof for a connection between economic growth and revenue gap (Hossain, 2013).

Alessina and Perotti (1993) point to certain mechanisms that control the growth of economies by uneven allocation of revenue. Such injustice insights into the profit-seeking conduct and indulgence of the poor's criminal activity, which disincentives expenditure and thus economic development. They claim They often consider that unjust revenue sharing contributes to a fairer allocation of profits through the vote for higher taxes for the disadvantaged who are mostly the bulk of the population. Higher tax rates lower the effective after-tax product of capital, which thus lowers the accumulation level and thus decreases economic development. Earnings disparity often influences development through the stability channel, which indicates that many disadvantaged people seek drastic reforms contributing to crime, uncertainty and finally investment opportunities.

2.1.2.1.3 Domestic Investment

In Korea (Lee, Kim & Cin, 2013) and Pakistan there is a detrimental association between gross capital accumulation and income disparity (Chaudhry & Imran, 2013). This happens because a rise in spending of resources (infrastructure and industry) provides more workers and in exchange raises the share of earner. As a consequence, wage disparity in the world is declining. In comparison, Anyanwu (2016) finds that a one-percentage-point rise in domestic spending in

West Africa will contribute to income inequities rising by 0.08%. There is also a notable connection between both variables in Latin America between Székely and Sámano (2012).

2.1.2.1.4 Democracy

Empirical and analytical research suggests that the allocation of income has a link with democracy. Empirical data on the analysis of democracy and income distributions is mixed, with a favorable (Lee 2005; Balcasar 2016; Islam 2016) and negative correlation (Amendola, Easaw & Savoia 2013; Ahmad 2017) among some scholars and others not having any connection with them (Timmons, 2010; Acemoglu, Naidu, Restrepo & Robinson, 2015). Reuveny and Lee (2003) claim that liberalism means better re-distribution steps, such as incremental taxes, expenditure on healthcare, and laws on minimum wages. Gradstein and Milanovic (2004) further stress that equal income allocation is typically seen in strongly democratized countries rather than autocratic. This opinion endorses the idea that median citizens place higher taxation on the wealthy and choose to share wealth in the event that the real income is under the average income. The literature also shows that limits on the freedom of electors contribute to high income disparities and that democratization has increased income distribution. This suggests that there is a reverse association between the allocation of wealth and different political initiatives. Acemoglu et al. (2015) nevertheless indicates that democracy can exacerbate income inequality. They claim that this will happen as policymakers engage in gaining de facto control by limiting income redistribution to their needs and compensating for the lack of jure power.

2.1.2.1.5 Natural Resources

The availability of natural wealth leads significantly to the allocation of profits. Resource rentals appear to raise disparities in revenue allocation, according to literature (Auty, 2004; Stevens, 2003; Fields, 1989). The wealth of capital in those areas has been due to high income disparity in Latin America and Sub-Saharan Africa (Mckay et al., 2003). A Buccellato and

Alessandrini (2009) research confirms that there is a positive relationship between rentals from natural resources and disparities in wealth, especially for ores and metals. Rentiers have been described as a significant channel by which natural resources influence wealth disparity. Auty (2004) indicates the depending on natural capital, allowing rentals easily collected by the wealthy, exacerbate the income inequality between rich and poor. He also claimed that the ruling class channels efforts to capture much of their income from rental extraction quickly without taking into consideration the long-term benefits of competitive expenditure. Furthermore, over-reliance on natural capital raises inequalities indirectly as the advent of industrialisation is limited. Leamer et al. (1999) suggest that the development market improves the equal allocation of profits by growing the need for human services, and raises the incomes of unskilled labour. This indicates that excess dependency on natural resources is likely to slow the growth of other economic sectors and expand the income disparity between the different industry employees. Mallye et al. (2015) find the association between oil resources and income distribution in developed countries unfavorable, considering the proof of the reality that an economic wealth exacerbates the inequity in income. In a report on African economies, Anyanwu, 2016, corroborates this observation. It demonstrates that countries that can handle their natural resources efficiently ensure fair benefits for the population by providing essential facilities, generating employment.

2.1.2.1.6 Trade Openness

There is still no proof of the correlation between commercial transparency and income disparity. The influence of commercial transparency on income distribution appears to vary between industrialized and developing countries (Polpibulaya, 2015). PolPibulaya (2015) illustrates that for countries at various levels of growth, the relationship between inequalities and access to exchange may be positive or negative. Because of the high degree of technologic development, massive qualified labour and a better government, industrialized countries that

are free for trade appear to enjoy the advantages they offer. Implicit in this is that the requirements listed above must be met to obtain the maximum benefits of commercial transparency. Trade transparency in the developed world could contribute to unemployment, the closing of indigenous businesses that cannot compete with external companies and inevitably lead to lower salaries. Anderson (2005) indicates that growing exchange openness has detrimental effects on the distribution by assets, room and gender disparity of developed countries' incomes. Dollar and Kraay (2004) analyze and recognize clear detrimental correlations between the impact of globalization on inequality and development. Globalization speeds up prosperity and decreases suffering in less industrialized countries. However, trade liberalisation, as scientific research indicates, is not necessarily guaranteed to produce advantages. Thus there is a propensity of hardship in the least developed countries with a high degree of exchange transparency, which is apparent in the evidence presented.

2.1.2.1.7 Foreign Direct Investment (FDI) Inflows

The IMF describes Foreign Direct Investment as a non-resident investment in the economy that is a direct investor in sustainability. The original expenditure in the creation of a corporation and other financial transactions that are used in the establishment of the companies requires Foreign direct investment. Such contributions are recognized once they hit a level of 10 percent. FDI encourages sustainable development, capital expansion, productivity growth and income allocation, the data shows. FDI has shown to be important to the improvement of equitable income distribution in terms of income inequalities (Mah, 2012; Lipsey & Sjöholm, 2004). FDI's beneficial effect on income distribution is accomplished by capital inflows and pay premiums provided by international corporations (Jensen & Rosas, 2007). Velde (2003) builds on other scholars' work and ends on three kinds of mechanisms through which FDI influences income inequality: technology transfers, transfers of information and the 'composition effect.' Empirically, Velde (2003) finds that an FDI rise in Latin America

decreases the regional sales difference. As FDI has a beneficial influence on income distribution, the positive results appear to vary across industries – primary business, manufacturing and the services industry, with major FDI impacts in the manufacturing and services sector. While this could be valid, other work indicates that FDI and Inequality have positive ties, in particular in emerging economies (Sturm & De Haan, 2015; Jaumotte, Lall, & Papageorgiou, 2013; IMF, 2007; Behrman, Birdsall, & Szekely, 2003). They claim that FDI inflows into developing markets from industrialized countries are expected to raise the relative demand for professional jobs, contributing to increased income disparity.

2.1.2.1.8 Population Growth

Population increase was related to wage disparity which was shown to add to the worsening inequality divide. Population growth is commonly perceived to hamper the growth of social infrastructure, lower the wages per individual, and place strain on limited natural capital, contributing to overwork and unemployment (Rodgers, 1983). For several factors, Rodgers (1983) allotted revenue. The author claims that demographic increase widens the wealth difference when job growth outperforms the scale of land accessible to jobs and salaries paying for the labor force appear to decline as a consequence of low labor compared to land and resources. He also points out that property possession is the principal means by which demographic development influences the distribution of wealth. Rise in population encourages uneven allocation of resources, which also aggravates the landless population. Rougoor and Marrewijk (2015) also demonstrate that income disparity across the dependence ratio is caused by population development. This is because fast demographic increase is correlated with a higher proportion of young people's reliance, contributing to economic lag. However, Campante and Do (2007) suggest, by distribution, that countries with a heavily settled population face less inequalities. They suggest that the wealth allocation appears to be equal

when the populace seeking separate governments is higher, compared with the overall population.

2.1.3 ECONOMIC GROWTH

Overall, several policymakers have become worried with economic development. There have been many hot debates and discussions between politicians, whether in developing or industrialized countries, on how economies can grow. A measure of the economic growth of the nation is the aggregate quantity of products and services generated. Over the years multiple analysts' concepts of economic development have been distinguished. According to Whitehead (1970), economic development is a financial, not a monetary, rise in national income. Spencer et al. (1993) further defines economic development as an improvement in the actual production or overtime profits of full jobs in a country. The rise in the full-employment output of an economy at constant prices is defined differently as economic development.

Johnson (2000) describes economic growth as the economic principle that demonstrates how quickly a country's economy is rising over the years. It is typically calculated as the annual percentage growth rate of the highest national income accounting aggregates in the world (GNP, etc.) with proper statistical correction to minimize the possibly deceptive impact of market inflation. Economic development is based on sustainable expansion, according to Dornbusch, et al. (1994). The economic growth of Samuelson et al. (2001) is characterized as an expansion of a country's total GDP or output. This involves economic growth when the boundaries of a country's manufacturing potential go beyond. Economic development is a complex phenomenon that has a particular interest in production, demand and productivity (McConnell, et al., 2002). Godwin (2007) explains economic development as a rise in real GDP (GDP). That is, inflation-adjusted gross domestic product. Conteras (2007) describes economic development often as an improvement (or increase) in a particular measure, for example actual national sales, gross domestic product or per capita income. In terms of domestic economy net

value-added output, the national income or income is usually represented as a gross domestic produced commodity, where the GDP of a country grows.

Economic growth can generally be described as a positive improvement in the product and service prices of a nation over a time. This implies that the valuation of an economy's products and services rises as a consequence of economic development. The Gross Domestic Product raise may be named as well. The measure of output is reasonably basic, providing an indication of how well a nation relates to its rivals and its past results. It is a torch that allows leaders to transform the market into essential economic targets. Lastly, it is a well-being measure for a state; in fact, all else is usually similar.

2.2 THEORETICAL LITERATURE REVIEW

2.2.1 Endogenous Growth Theory

The classical endogenous theory of growth begins with an overview of growth, implying that expenditures in labor and innovations lead to economic growth. The central concept of this theory is that indicators of government policy affect a nation's long-term development. Smith (1776) emphasizes that supplies of resources sustain the efficiency of labour. He assumes that capital stock is an essential engine of growth and that it stimulates research and development, opens opportunities and creates greater demand. Smith further claims that economic development is an organic event, and is guided by decision making and agents' behaviors and reports that capital stock improves agents' output capacity. This principle will serve as a framework for the evaluation of the relation between economic and financial inclusion.

Ricardo (1891) argues that savings and expenditure derive from income from productive activities that promote development. Capital accumulation is seen from the human assets viewpoint as regards financial inclusion and economic development. As more citizens become financially integrated, all being fair, even more people will support development by fruitful business projects and this increases the economic base. The growth rate is driven externally by

the saving rate (Domar, 1946; Harrod, 1939) or technical progress in the neoclassic growth system (Solow, 1956). This hypothesis indicates that economic development and therefore a stable interaction between the factors is strengthened by financial inclusion.

2.2.2 Empowerment Theory

Another theory worth considering is the empowerment theory propounded by (Sen, 1999). He uses this theory to explain the existence of poverty and how it can be attacked. He opines that poverty is more than low income but encapsulates a lack of political and psychological power. His view is that most modern societies deprive some citizens of power and control which makes them poor. To address this, Sen asserts that society ought to provide all citizens with the political, financial, and social choice; protection; and transparent executive activities. This theory was expanded by the World Bank (2001) to develop a three-pillar theory of poverty. This is related to the absence of security, empowerment, and opportunity (Carr & Sloan, 2003; World Bank, 2001). These three pillars provide a foundation for concerted effort to fight poverty. The relevance of this theory to this study is that financial inclusion can be this empowerment tool that can be used to fight poverty and enable economic units to contribute to growth. This theory is therefore used in this study to explain the moderating role that financial inclusion plays in the relationship between income inequality and economic growth.

2.2.3 Schumpeter's Theory

A related theory to this study is the theory of Schumpeter (1911) which holds that for economic growth and development to be attained, there should be the identification and optimal utilization of factors of production to innovate and increase output which will require funds. Schumpeter asserts that entrepreneurs who are innovative, creative, and have foresight need access to finance to be able to implement their innovations. He adds that a strong financial system serves as a conduit to make financial resources available to the most efficient user hence, finance leads to economic growth. This is the finance-led hypothesis. A cardinal point

of this theory is that financial institutions are important drivers of innovation and growth. Thus, mobilization of factors of production of which financial capital is key is a significant characteristic of any growth process. The Schumpeterian model of economic growth revolves around inventions and innovations of which credit plays an important role because access to credit enables the entrepreneur to have command over other factors of production. Schumpeter also adds that economic growth hinges on technical settings of the economy which are largely influenced by the creation of credit and financed by bank credit expansion. However, one limitation to his assertion is that in the short run the bank credit may be helpful for industrial development but in the long run bank loan may be inadequate for development. Hence, other sources of finance such as the sale of shares will have to be considered to raise long term finance. The thrust of this theory is that financial inclusion is very relevant to achieving growth and hence this study uses it to explain the positive relationship between financial inclusion and economic growth.

2.3 EMPIRICAL LITERATURE REVIEW

2.3.1 Relationship between Income inequality and economic growth

While several studies have been carried out to investigate the connection between disparity of income and economic growth, the modeling of complexity has been in the way of solid proof to date. The principal considerations of endogenous techniques and the model parameters, along with the diversified implementation of econometric techniques, are considered, according to Fawaz et al. (2015). In Kuznets' groundbreaking analysis (1955), disparity is the product of economic development. In this regard, at the early stage of the global development period, inequalities have risen until more change has declined. Much study in the compilation of documents relating to inequality and economic growth has meanwhile been carried out. Some studies support a favorable association between them (Rubin and Segal, 2015), whereas

some analyses support a negative connection (Majumdar and Partridge, 2009; Nissim, 2007). Such study reports are also conflicting (Huang et al., 2015).

For instance, Rubin and Segal (2015) state that between 1953 and 2008 the U.S. wage inequalities were closely related to economic growth. The details included in the study is income flows, defined as general income from property and labor income, subject to economic growth and varies in age groups. The methodological results show that in the upper 1% of the population, the wealth sensitivity is double the lower 90%. In reality, the empirical results revealed that the principal sales were more accessible to market returns adjustment.

However, the proof that the S-shaped curve has had a strong impact on income inequality in the South Korean, Japan, the US, and China background, reveals the connection between income inequity and development, based on evidence from the Structured World Income Inequality and World Bank of Yang and Greaney (2017). In the short term, however, economists do not think any overlap in terms of wage disparity and economic growth, but in Japan. Yang and Greaney (2017) suggest that on the one side, discrimination leads citizens on low wages to work more to satisfy demand, and on the other, inequality has influenced the production and growth of human resources.

The function of Madsen et al. in other respects (2018) also indicates a devastating influence on global growth of wage disparities. In particular, the authors claim that differences in income hinder the development of the non-bankeeper sector/nominal GDP ratio credit at low levels of financial growth. Ses findings are obtained from the usage in the studies of 21 selected OECD countries of the two-stage approach on the least squares (2SLS) from 1870 to 2011. The external communist effect has been established as an instrument component to ensure that the outcome is not skewed due to the negative ties between development and income disparity. Kim (2016) still advocates this analysis strategy. Economic prosperity is adversely correlated with wage inequalities as a consequence of scientific outcomes. Together with the fixed-effect

model and GMM, this analysis uses cross-sectional evidence, found in 40 countries in the Organisation of Economic Co-operation and Growth (OECD) and the European Union from 2004 to 2011. The results suggest that the wealth differences in different sub-samples have slowed down economic development and are computed by the ratio of non-performing loans to banks.

Kim (2016) attempts to estimate whether the beneficial effect of financial inclusion on lowering wealth disparities is financially affordable. The scientist also estimates the impact of the elimination of income disparities on economic development of this financial inclusion. The findings of their analytical study will draw the following three hypotheses. Firstly, income inequality has very negative implications for GDP growth. The negative association between income inequality and GDP development in low-income countries is strong. Increased economic development is also guided by sales disparity in high-failure nations. Secondly, progression is not a big factor in increasing wage disparities in low income and high fragility countries. Finally, the connection between economic development and income disparity is reinforced by financial inclusion. Reducing wealth inequality by financial inclusion turns the optimistic connection between economic prosperity and income inequality into a harmful relationship. This trend is higher in extremely vulnerable countries than in low-fragility countries.

2.3.2 Positive Effect of financial inclusion on Economic Growth

In individual nation time series analyses as well as cross-sectional and panel data analysis, financial inclusion effects on development have been observed. Considering financial inclusion initiatives such as divisions of the commercial banking system, credit deposits ratios and numbers of automated distributors, most studies conclude that these would have a positive influence on the development of certain countries as regards financial inclusion.

Babaji (2015) performs a report to examine the effect of financial inclusion on economic development in Nigeria. Financial production has been established, according to previous reports, as the driver of economic growth in four distinct sectors. Firstly, all reliable low-cost payment methods, particularly in the poor income market. Secondly, the position of financial intermediary in increasing surplus resource volumes and allocations for any deficit unit that enhances the distribution of resources in any economy (Babajide et al , 2015). The third refers to the impact of risk control.

The secondary source of data and the traditional least-square model of regression analyzes for data analyzes investigate this phenomena using Babajide et al(2015). From 1981 to 2012, data were included. In this analysis, the CMBD is used as a metric for measuring the financial inclusion of account holders as a dependent variable. The Independent Variable is seen in this sense as: capital per worker (Geni) politics (Gini, EI) 2 (EIGs from -10 upwards to +10, with higher value indicates a more egalitarian process of institutionalization); the overall factor production, rate of interest, number of banks, total natural resources. They highlight a strong link between financial inclusion and economic development.

In the per capita GNP production and poverty mitigation of financial inclusion, Omojolaibi (2017) reveals very significant reasons. The key targets are two questions; firstly, is there any impact of Nigeria's financial access and governance on infrastructure projects, per capita GDP and income disparities? Secondly, can sustainable growth help alleviate poverty in Nigeria? The author Omojolaibi uses a method for the GMM data evaluation during his study. He uses a per capita GDP model to measure the impact on economic growth of financial inclusion. The Babajide et al. (2015) analysis is also expected to involve three more factors, which include avoidance of exploitation, consumer freedom and rural loans. Upon review of the results, she noticed that the amount of bank branches in commercial bank deposits, corruption controls,

rural credit, and per capita GDP have a positive connection, which will raise Nigerian per capita GDP per capita, which leads to an overall increase in levels of public life.

Iqbal & Sami (2016) also carries out a review in accordance with earlier research to examine the effect on growth and creation of Financial Integration. They often use secondary data points from 2007 to 2104 and the multiple regression model's mathematical methods. The based variableness and three financial inclusion measures in the regression model are the gross domestic product (GDP); the amount of banks and ATM's growth rates and their credit deposit levels are independent variables. They often provide a strong relation between the variables.

Similarly Lenka and Sharma (2017) used evidence from 1980 to 2014 for the purposes of evaluating the impact of financial inclusion and economic growth. Autoregressive Distributed Lag (ARDL) and Error Fixing Model (ECM) for data processing are used. The short-term and long-term outcomes between Indian economic development were noteworthy as well. Fiscal participation and economic growth are correlated with single-direction dimension in addition with estimators (Lenka & Sharma, 2017). Many projects in India show that the expansion scheme for the RBIs Rural Directorate dramatically decreases rural poverty and increases non-agricultural GDP growth.

The overarching point for both of these studies stresses the accessibility to financial resources and goods for any adult in society for example sufficient lending facilities at affordable rates to the vulnerable, creation of a structured payment system, services of conversion and deposits, an expansion in number of financial institutions and resilience to ensure that it is optimistic.

2.3.3 Negative Effect of financial inclusion on Economic Growth

It is an intelligent tactic to foster economic development, motivated by the positive impacts of financial inclusion, but this theory is still not valid. It was known that the big influence of finance on growth is challenging to ensure. In certain situations their way of life and insufficient financial structures hinder sustainable growth independent of national politics. In this way,

several scholars have argued that financial integration and economic development have a detrimental effect. In this portion of the study, three experiments have been discussed.

The and al. (2019) has surveys completed between 2004 and 2016 in 31 Asian nations. Composites are composed using the core composition analysis on the basis of uniform variables (PCA). They consider that there is no clear connection between trends across countries and a number of circumstances. The findings of the standardization processes are stable. In addition, financial inclusion results are assessed using FGLS to enhance financial efficiency and sustainability (Feasible Generalized Least Squares). Estimated outcomes suggest that financial convergence has unfavorable consequences for financial efficiency while favoring financial resilience. The results are true for the whole study and the two sub-samples in separate countries of sales.

The financial stability and economic development of the Chinese economy have been also worked out by Wang et al. (2015) — The key focus of their work is to explore the relationship between economic and financial growth in particular the impact of financial development on China's central, secondary and tertiary industries. They use the multiple regression of the Ordinary Least Square (OLS) from 1978 to 2013 for the data collection. The goal is to determine the influence of financial development on economic growth thus tracks those macro-economic factors, including labor market, capitalization, inflation, and export output (Wang et al., 2015).

Above all it is evident from the debate that the level of development and inclusion among countries is different, but some of the countries that regard relationships as poor have overlooked the reality that the quick breadth of the banking system in a specific country deters productive credit from growing inclusion pressures.

2.3.4 The Moderating Effect of Financial Inclusion in the Income Inequality and Economic Growth Relationship

Financial inclusion strives to extend financial services to non-banking citizens to improve their quality of life, enabling them to develop and progress economically overall. Financial inclusion typically facilitates inclusive development, sustainable growth and economic deepening (Biswas et al., 2017). In essence, the contribution of vulnerable people to financial services improves, their economic conditions strengthen and their lives change. Not many study explores empirically how financial inclusion strengthens the connection between wealth disparity and economic growth. However, Kim (2016) refers in these surveys to a growing adverse impact on a society, as the wealth gap in low-income nations is rising.

Mookerjee and Kalipioni research (2010) shows a decline in income disparities in countries with far greater branch banking per capita. In Honohan's (2007) research, too there is significantly a negative association between entering the household into finance through possession of a bank or microfinancial institution and income variance. Study by Park and Mercado (2018) reveals that rising the 'accessibility and' usage of financial services – by comparing the sum of automatic telling devices and commercial branches per 100,000 adult population – lowers the income gap between lenders and commercial bank depositors for 1 000 adult populations and the domestic credit-to-GDP ratio. These observations from Aslan et al. (2017) also indicate that a rise by a larger proportion of the population in the 'speed of the usage of financial resources' (proposed by the number of persons accounted for in financial entities investing and collecting the financial institution's digital payments) results in a decline of income inequality. The introduction of all key financial inclusion programs, including the level of account possession and SME lending, and even the Financial Inclusion Indexes Sarma and Cámara and Tuesta (2014). Touregano and Herrero (2018) present further indications of a less uneven distribution of wealth in countries with a more equitable financial system. In the same

way, study that reflects mostly on the role of microfinance as a financial inclusion system has shown that the wealth gap is lower in developing countries with greater participation in microfinance schemes (Lacalle-Calderon et al ., 2019; Hermes, 2014).

Kim (2016) indicates that certain prospects for decreasing wealth disparities by financial inclusion — that is, enhancing financial accessibility — have recently arisen in low-income countries. Kim (2016) shows that financial inclusion strengthens the connection between wealth inequality and economic development. The decrease of income disparity by financial inclusion is thus projected to turn the negative association between income inequality and economic development into a positive one.

Basing on the above studies and arguments, the conceptual framework below is used to highlight the proposed relationship between the variables as argued in the above empirical literature.

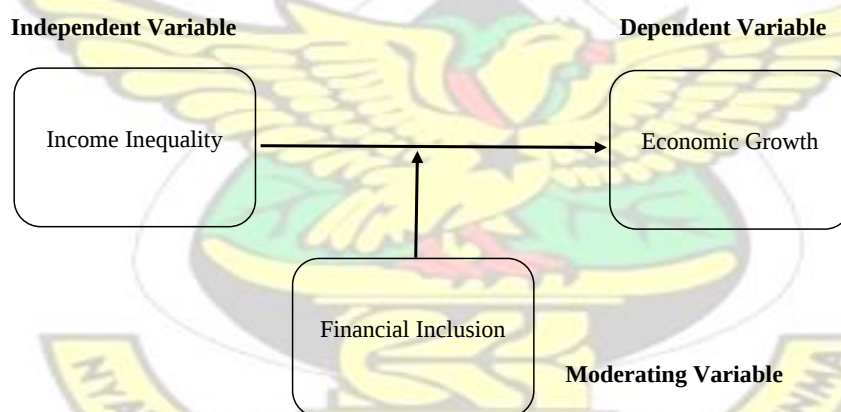


Figure 2. 1: Conceptual Framework.

Source: Authors Construct (2020).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter of the study focuses on the overall research methodology underpinning the study. The chapter is divided into seven sections. The first section, Section 3.1 presents the research design of the study, while section 3.2 focuses on the population of this study. Furthermore, Section 3.3 deals with the sample for the study and Section 3.4 talks about the sample selection technique. In section 3.5, the study focuses on the data and sources of data for the study. Section 3.6 focuses on the data analysis method and Section 3.7 provides information on the diagnostics tests done in this study before using the data for the regression analysis.

3.1 RESEARCH DESIGN OF STUDY

The main objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth among emerging African economies. In order to achieve this, the study adopts the use of an explanatory research design with a quantitative and panel research approach. The explanatory research design would be used to help focus on explaining the relationship between the variables of the study in a detailed manner. The panel data approach to the study would help provide a much higher degree of freedom and hence improve the predictive power of the research model. The quantitative nature of the study is to enable the researcher to empirically examine the research problem using statistical data.

3.2 POPULATION OF THE STUDY

Since the research objective revolves around the use of emerging African economies, the study population is defined as including all African countries. Overall, there are 54 countries in Africa and this makes up the study's population from which the sample would be selected.

3.3 SAMPLE OF THE STUDY

The sample of the study are all emerging African economies. This has been defined by the IMF to be ten countries in total. These includes Nigeria, Egypt, South Africa, Angola, Algeria, Morocco, Kenya, Ethiopia, Tunisia and Ghana.

3.4 SAMPLING TECHNIQUE AND SOURCE OF DATA OF THE STUDY

The main sampling technique of the study is the purposive sampling technique. The purpose of this technique is to help the researcher to select the countries with the available data that serve the purpose of this research.

3.5 DATA, SOURCES OF DATA FOR THE STUDY

The main source of data for this research is the secondary data sourced online from credible sources. The main data for this study revolves around income inequality, economic growth and financial inclusion. The dependent variable economic growth is measured using GDP growth rate of the selected country. The independent variable, income inequality, is also measured using fiscal Gini coefficient as employed in the study of Tchamyou et al. (2019). The moderating variable for the study, financial inclusion, is measured using Bank branches per 100,000 adults as used in the study of Anarfo, Abor and Osei (2020). The study also controls for inflation and balance of trade of the selected country.

The data for the study cover the duration from 2004 to 2017. This duration is selected because the data on financial inclusion cover the emerging African economies within these duration (2004-2017). Coupled with the selected sample size (10), this brings the number of observation to 140 observations. The sources of the data are the World Bank's World Development Indicators and Global Development Finance, and the International Monetary Fund's e-Library Data. Data on GINI coefficients come from UNUWIDER version 2c (WIID) of United Nations University.

3.6 DATA ANALYSIS METHOD OF THE STUDY

This research follows a panel data approach and based on this, the data is analyzed using Stata version 15, which is mostly used for the analysis of panel data. Based on the research objectives, the models below are used to guide the analysis and estimation strategy:

$$Y (\text{EconomicGrowth})_{it} = \beta_0 + \beta_1 (\text{IncomeInequality})_{it} + \beta_2 (\text{Inflation})_{it} + \beta_3 (\text{BalanceOfTrade})_{it} + \varepsilon_{it} \dots \dots \dots (\text{Model 1})$$

$$Y (\text{EconomicGrowth})_{it} = \beta_0 + \beta_1 (\text{FinancialInclusion})_{it} + \beta_2 (\text{Inflation})_{it} + \beta_3 (\text{BalanceOfTrade})_{it} + \varepsilon_{it} \dots \dots \dots (\text{Model 2})$$

$$Y (\text{EconomicGrowth})_{it} = \beta_0 + \beta_1 (\text{IncomeInequality})_{it} + \beta_2 (\text{FinancialInclusion})_{it} + \beta_3 (\text{IncomeInequality} * \text{FinancialInclusion})_{it} + \beta_4 (\text{Inflation})_{it} + \beta_5 (\text{BalanceOfTrade})_{it} + \varepsilon_{it} \dots \dots \dots (\text{Model 3})$$

3.7 DIAGNOSTICS TESTS OF THE STUDY

Before the data are used for the analysis in this study, a few diagnostics tests are conducted to help fix some issues that arise from the use of panel data. This section presents the different testing done on the data before being used:

3.7.1 Panel Unit Root Test

Panel data contains several of the components of time series that are considered to be largely non-stationary. Scholars analyze the decision to conduct a regression across history with stationary or non-stationary results. Plosser and Schwert (1978) say that a high r-squared is provided by non-stationary data than stationary data. The study continues the recommendation of Granger and Newbold (1974) to use stationary data since it produces a very consistent performance that can be generalized. To assess variable stationarity, the Harris-Tzavalis Unit Roots Test is used as the number of cycles is larger than the number of tests.

3.7.2 Multicollinearity

Multicollinearity occurs when two or more independent variables are closely interrelated. Pearson correlation coefficient and inflation factor (VIF) are often used in multicollinearity testing and are to be adopted in this study also. Appropriate VIF below 10 is acceptable as indicated by Robinson and Schumacker (2009).

3.7.3 Autocorrelation

When performing regression analysis, confirmation of the absence of autocorrelation is important since it has adverse effect on the regression model and often produces deceptive results. In this study, the Wooldridge autocorrelation test is used to test for autocorrelation.

3.7.4 Heteroscedasticity

The study uses the Modified Wald Test for GroupWise heteroscedasticity to check if the error terms do not have a variance which is constant or distributed according to the observations discussed.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 INTRODUCTION

In this chapter, the study presents and analyses the findings of the research. The results are presented in tables. The analysis covers the descriptive statistics of the data, preliminary testing of the data, and the various objectives are analysed using the multiple regression analysis.

4.1 DESCRIPTIVE STATISTICS

In this section, the descriptive statistics of the variables are presented before the preliminary tests are carried out. Table 4.1 presents the descriptive statistics of the variables used in this study.

Table 4. 1: Descriptive Statistics on Variables

Variable	Mean	Std. Dev.	Min	Max
Income Inequality	41.17214	11.21517	27.6	64.8
Financial Inclusion	7.433798	5.87078	0.83376	24.6652
Economic Growth	5.672121	3.412621	-2.580097	15.02892
Inflation	8.680945	10.46074	-60.4964	44.35669
Balance of Trade	63.57515	22.86688	20.72252	122.4461

Source: Author's Construct, 2020

4.1.1 Income Inequality

From Table 4.1, it is observed that income inequality shows a minimum of 27.6 and a maximum of 64.8. The table further shows that the mean for income inequality among the panel is 41.17214 with a standard deviation of 11.21517. The above indicates that income inequality on the average among the emerging African economies is 41.17214 percent. This can be said to be bad since the desired income inequality level sought by all countries seek zero or close to zero inequality rates.

4.1.2 Financial Inclusion

Relative to financial inclusion variable, Table 4.1 indicates that a minimum of 0.83376 is recorded among the panels and a maximum of 24.6652. The mean financial inclusion index recorded among the panels is 7.433798 with a standard deviation of 5.87078. This indicates that on the average, the financial inclusion index measured as the number of commercial bank branches per 100,000 adults is 7.433798 commercial banks per 100,000 adults. This can be said to be on the low side considering that the highest rate recorded among the variables is 24.6652.

4.1.3 Economic Growth

In terms of the dependent variable economic growth (measured as GDP growth rate), the minimum recorded among the panel is -2.580097 and a maximum of 15.02892 percent. The overall mean is 5.672121 with a standard deviation of 3.412621. This implies that on the average, the economy among the selected panels grew by 5.672121 percent. This growth rate can be said to be good since the continent is poised to grow by 3.8 percent in 2020 (Adegoke, 2020).

4.1.4 Inflation

Relative to inflation, the Table 4.1 indicates that the minimum inflation recorded among the panels is -60.4964 percent and a maximum of 44.35669 percent. The mean inflation rate among the panels is 8.680945 percent with a standard deviation of 10.46074. The above indicates that inflation rate on the average among the panels is 8.680945 percent among the emerging economies in Africa. Inflation rate of 8.680945 percent is not so high since most African countries records inflation rates mostly in the double digits.

4.1.5 Balance of Trade

For balance of payment, the study observes that the minimum balance of payment is 20.72252 percent of GDP while the maximum is 122.4461 percent of GDP. The mean balance of trade among the panel is 63.57515 with a standard deviation of 22.86688. This implies that on the average, balance of trade as a percentage of GDP among the emerging African economies is 63.57515 percent. Balance of trade of 63.57515 percent of GDP is low since this implies that the balance of trade for the selected countries is in the negatives.

4.2 PRELIMINARY TESTS

Since times series data suffer from autocorrelation and cross-sectional data from heteroscedasticity. In order to achieve the best results from the regression analysis, the tests performed in this section include panel unit root test, multicollinearity, hausman test, autocorrelation, and heteroscedasticity. Furthermore, the test to determine which panel data regression analysis to use for this study is also conducted in this section.

4.2.1 Panel Unit Root

Here we use the Levin-Lin-Chu unit-root test, which assumes that the number of panels tends to be fixed while the number of time periods is infinity, to test whether the variables in our entire dataset contains a unit root. The test has as the null hypothesis that all the panels contain a unit root and the alternative hypothesis that all panels are stationary. As a rule of thumb for Levin-Lin-Chu unit-root test, we accept the null hypothesis when the p-value is greater than the significant value of 0.05 and vice-versa. From Table 4.2 above, we find overwhelming evidence in all the variables to reject the null hypothesis of unit root and we therefore conclude that the variables are all stationary at level.

Table 4. 2: Levin-Lin-Chu unit-root test

Variable	Adjusted t*	p-value	Conclusion
Income Inequality	-3.6963	0.0001	Stationary at level
Financial Inclusion	-2.2431	0.0124	Stationary at level
Economic Growth	-6.2479	0.0000	Stationary at level
Inflation	-5.6660	0.0000	Stationary at level
Balance of Trade	-3.0004	0.0013	Stationary at level

Source: Author's Construct, 2020

4.2.2 Multicollinearity

Multicollinearity exists, when two or more independent variables are highly related to each other. In testing multicollinearity Pearson correlation coefficient and variance inflation factor (VIF) are used. A VIF below 10 is acceptable, and is used to confirm the results of the Pearson correlation analysis (Robinson and Schumacker, 2009).

Table 4. 3: Pearson Correlation Analysis

	Income Inequality	Financial Inclusion	Inflation	Balance of Trade
Income Inequality	1.0000			
Financial Inclusion	0.1520	1.0000		
Inflation	0.0655	-0.0751	1.0000	
Balance of Trade	0.0606	0.4274	0.0331	1.0000

Source: Author's Construct, 2020

From Table 4.3 above, it can be observed that the highest correlation is 0.4274 which is the correlation between balance of trade and financial inclusion. This is followed by a correlation of 0.1520 which is between income inequality and financial inclusion. Since the correlations are all less than 1.0000, it is concluded that there exists no perfect correlation among the explanatory variables. In order to verify if these correlations among the variables would pose errors in the model coefficients, the Variance Inflation Factor (VIF) is employed. The VIF is normally used to confirm if the correlation between the variables are at acceptable levels. VIF values less than 10 and mean VIF less than 10 are the acceptable values (Robinson and

Schumacker, 2009). From table 4.4 below, it can be observed that the VIF of the individual variables in all four models are less than 10 and the mean VIF also less than 10. We therefore conclude that, the variables are not highly correlated and hence there exists no multicollinearity among the independent variables in all models of the analysis.

Table 4. 4: VIF Testing

Model	Variable	VIF	1/VIF
Model 1	Income Inequality	1.01	0.992288
	Inflation	1.01	0.994856
	Balance of Trade	1.00	0.995477
	Mean VIF	1.01	
Model 2	Financial Inclusion	1.43	0.700431
	Inflation	1.09	0.913965
	Balance of Trade	1.34	0.744649
	Mean VIF	1.29	
Model 3	Income Inequality	1.03	0.970844
	Financial Inclusion	1.26	0.791897
	Inflation	1.02	0.983044
	Balance of Trade	1.23	0.813001
Model 4	Mean VIF	1.14	
	Income Inequality	1.35	0.741122
	Financial Inclusion	1.24	0.809193
	Inequality*Inclusion	1.69	0.591215
	Inflation	1.03	0.968530
	Balance of Trade	1.28	0.780596
	Mean VIF	1.32	

Source: Author's Construct, 2020

4.2.3 Hausman Test

In order to ascertain which panel analysis to use, the hausman test is conducted, in this case on all four models of the study. The null hypothesis for the test is that the two estimation methods are both OK and that therefore they should yield coefficients that are "similar". The alternative hypothesis is that the fixed effects estimation is good and the random effects estimation is not; if this is the case, then we would expect to see differences between the two sets of coefficients. From Table 4.5, it is evident from the hausman test that all four models yielded probability

Chi2 greater than 0.05. This presents overwhelming evidence to reject the alternative hypothesis of Fixed-Effect for the null hypothesis of Random-Effects. We therefore conclude that all four models are appropriate under the Random-Effect estimation and hence the Random-Effect model is the appropriate model for this analysis.

Table 4. 5: Hausman Test

Model	Statistics	Prob>chi2	Conclusion
Model 1	Chi2(3)=1.38	0.7111	Random-Effect Model is Appropriate
Model 2	Chi2(3)=6.29	0.0982	Random-Effect Model is Appropriate
Model 3	Chi2(4)=7.74	0.1017	Random-Effect Model is Appropriate
Model 4	Chi2(5)=4.55	0.4729	Random-Effect Model is Appropriate

Source: Author's Construct, 2020

4.2.4 Autocorrelation

The test for autocorrelation is conducted using the Wooldridge autocorrelation test. From the Table 4.6 below, we found strong evidence to accept the null hypothesis that there is no first order autocorrelation between the variables in model 4. However, models 1,2 and 3 shows probability values greater than 0.05 and hence we conclude that there is first order autocorrelation between the variables in these three models. To correct this and ensure that the hypothesis tests are valid, we use the Driscoll-Kraay standard errors which is autocorrelation consistent.

Table 4. 6: Wooldridge Test of Autocorrelation

Model	Statistics	Prob>F	Conclusion
Model 1	F(1,9)=4.458	0.0639	First-order autocorrelation
Model 2	F(1,9)=4.076	0.0743	First-order autocorrelation
Model 3	F(1,9)=4.253	0.0692	First-order autocorrelation
Model 4	F(1,9)=6.199	0.0344	No first-order autocorrelation

Source: Author's Construct, 2020

4.2.5 Heteroscedasticity

The Breusch-Pagan / Cook-Weisberg test is used to test for the existence of heteroscedasticity. The null hypothesis for this test is homoscedasticity or constant variance and alternative is Heteroscedasticity. From the Table 4.7 below, we find overwhelming evidence against the null hypothesis of homoscedasticity and we therefore conclude the model 2 suffers from heteroscedasticity. To correct the issue of incorrect standard errors so that the interval estimates and hypothesis tests are valid we use the Driscoll-Kraay standard errors which is heteroscedasticity-consistent for the regression analysis. However, models 1, 3 and 4 shows overwhelming evidence in favour of the null hypothesis and we therefore conclude that these models (1,3 and 4) have constant variance.

Table 4. 7: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Model	Statistics	Prob>chi2	Conclusion
Model 1	0.15	0.6946	Constant variance
Model 2	5.09	0.0240	Heteroscedastic
Model 3	0.64	0.4233	Constant variance
Model 4	0.61	0.4334	Constant variance

Source: Author's Construct, 2020

4.3 DATA ANALYSIS

After confirming which model is appropriate for the study and conducting the various tests to determine how the errors should be corrected, this section of the study proceeds to analyse the data based on the preliminary tests conducted earlier. The regression summary on all four models are presented in Table 4.8 below and the full original outputs of the various models are also presented in the Appendix.

Table 4. 8: Regression Summary

	Model 1	Model 2	Model 3	Mode 4
Constant	4.373932 (0.305)	2.817414 (0.105)	6.472682 (0.285)	3.886233 (0.570)
Income Inequality	-0.0431528 (0.590)		-0.0437884 (0.672)	0.0263488 (0.830)
Financial Inclusion		-0.3438269*** (0.000)	-0.3760791*** (0.001)	0.0240232 (0.909)
Inequality*Inclusion				-0.0102173** (0.025)
Inflation	-0.0922109*** (0.006)	-0.0120934 (0.539)	-0.0678545*** (0.005)	-0.0666969*** (0.007)
Balance of Trade	0.0613128** (0.045)	0.0803879** (0.018)	0.0706584** (0.016)	0.0690621** (0.017)
R-Squared	0.0214	0.1286	0.2756	0.2667

Source: Author's Construct, 2020

4.3.1 Income Inequality and Economic Growth

From Table 4.8, it can be observed that in the absence of income inequality, inflation and balance of trade, GDP growth rate would be expected to improve by 4.373932 units, however statistically insignificant ($p=0.305$). Relative to the independent variable, the study finds that income inequality shows a coefficient of -0.0431528 which is found to be statistically insignificant ($p=0.590$). This implies that income inequality in this study shows a negative but insignificant effect on economic growth among the selected emerging African economies. Relative to the first control variable, the study finds that inflation recorded a parameter estimate of -0.0922109 which is found to be statistically significant at .05 significance level ($p=0.006$). This indicates that inflation has a negative effect on economic growth and a unit increase in inflation rate is expected to result in a 0.0922109-unit decrease in economic growth, all things being constant. The analysis from Table 4.8 further shows that balance of trade recorded a parameter estimate of 0.0613128 which is found to be statistically significant at .05 significance level ($p=0.045$). This implies that holding all other variables constant, balance of trade is

expected to influence economic growth positively and a unit increase in balance of trade should result in a 0.0613128-unit increase in inflation rate. The overall r-squared of the model is 0.0214 which implies that overall, the model explains up to 2.14 percent of changes in economic growth.

4.3.2 Financial Inclusion and Economic Growth

From Table 4.8, it can be observed that in the absence of financial inclusion, inflation and balance of trade, GDP growth rate would be expected to improve by 2.817414 units, however statistically insignificant ($p=0.105$). Relative to the independent variable, the study finds that financial inclusion shows a coefficient of -0.3438269 which is found to be statistically significant ($p=0.0.000$). This implies that financial inclusion in this study shows a negative and significant effect on economic growth among the selected emerging African economies. The above indicates that a unit increase in financial inclusion ratio is expected to result in a 0.3438269-unit decrease in economic growth. Relative to the first control variable, the study finds that inflation recorded a parameter estimate of -0.0120934 which is found to be statistically insignificant at .05 significance level ($p=0.539$). This indicates that inflation has a negative effect on economic growth however statistically insignificant in this model, all things being constant. Table 4.8 further shows that balance of trade recorded a parameter estimate of 0.0803879 which is found to be statistically significant at .05 significance level ($p=0.018$). This implies that holding all other variables constant, balance of trade is expected to influence economic growth positively and a unit increase in balance of trade should result in a 0.0803879-unit increase in inflation rate. The overall r-squared of the model is 0.1286 which implies that overall, the model explains up to 12.86 percent of changes in economic growth.

4.3.3 Income Inequality, Financial Inclusion and Economic Growth

In the third model, the study regressed income inequality and financial inclusion on economic growth without the interaction effect. From this analysis, the study shows that in the absence of all the variables such as income inequality, financial inclusion, inflation and balance of trade, economic growth is expected to increase by 6.472682 units ($p=0.285$). Relative to the independent variable income inequality, the analysis shows a parameter estimate of -0.0437884 which is found to be statistically insignificant at .05 significance level ($p=0.672$). Further, financial inclusion shows a parameter estimate of -0.3760791 which is found to be statistically significant at .05 significance level ($p=0.001$). This implies that holding all other variables constant, a unit increase in financial inclusion is expected to result in a 0.3760791-unit decrease in economic growth.

The study further shows in this model that inflation has a parameter estimate of -0.0678545 and statistically significant at .05 significance level ($p=0.005$). This indicates that inflation in this model shows a negative effect on economic growth and a unit increase in inflation is expected to result in a 0.0678545-unit decrease in economic growth. Furthermore, balance of trade is also found to have a parameter estimate of 0.0706584 which is also found to be statistically significant at .05 significance level ($p=0.016$). This shows that in this model also, balance of trade has a significant positive effect on economic growth and a unit increase in the balance of trade is expected to result in a significant 0.0706584-unit increase in economic growth.

4.3.4 Moderating Role of Financial Inclusion on Income Inequality and Economic Growth

In the final model, the moderating role of financial inclusion in the relationship between income inequality and economic growth is examined. In this model, the study observes that in the

absence of all other variable such as income inequality, financial inclusion, the interaction effect, inflation and balance of trade, economic growth is expected to increase by 3.886233 units which is found to be statistically insignificant. The study further finds that relative to income inequality in this equation, a parameter estimate of 0.0263488 is observed and found to be statistically insignificant at .05 significance level ($p=0.830$). The analysis further shows that financial inclusion shows a parameter estimate of 0.0240232 which is also found to be statistically insignificant at .05 significance level ($p=0.909$). Relative to the interaction between income inequality and financial inclusion, the study finds a parameter estimate of -0.0102173 which is statistically significant at .05 significance level ($p=0.025$). This indicates the the interaction between income inequality and financial inclusion is a significant determinant of economic growth.

Relative to the control variables, the study shows that inflation has a parameter estimate of -0.0666969 which is found to be statistically significant at .05 significance level ($p=0.007$). This implies that in this model, inflation has a negative effect on economic growth. Furthermore, the study finds that balance of trade shows a parameter estimate of 0.0690621 which is also found to be statistically significant at .05 significance level ($p=0.017$). This indicates that a unit increase in balance of trade is expected to result in a 0.0690621-unit increase in economic growth holding all other variables constant. The overall r-squared of the model is found to be 0.2667 which implies that the model could explain up to 26.67 percent of changes in economic growth among the selected panels.

4.4 DISCUSSION OF FINDINGS

4.4.1 The Effect of Income Inequality On Economic Growth Among Emerging African Economies

The first objective of this study is to examine the effect of income inequality on economic growth among emerging African economies. The analysis of this objective is presented in model 1 in Table 4.8. From the analysis, it is evident that income inequality measured as the Gini coefficient has a parameter estimate of -0.0431528 which is found to be statistically insignificant at .05 significance level ($p=0.590$). This above implies that among the selected sample for this study, income inequality has a negative effect on economic growth. This effect is however statistically insignificant since the p-value is greater than .05 ($p=0.590$). This negative effect indicates that income inequality hurts the growth of the economy of emerging African economies. The insignificant finding refutes the findings of Panizza (2002) who shows a negative but significant effect of inequality on growth.

4.4.2 The Effect of Financial Inclusion On Economic Growth Among Emerging African Economies

The second objective of the study is to examine the effect of financial inclusion on economic growth among emerging African economies. This is presented in Model 2 in Table 4.8 above and in that model, financial inclusion is measured as the number of commercial bank branches per 100,000 adults. In this analysis, it is evident that financial inclusion has a parameter estimate of -0.3438269 and found to be statistically significant at .05 significance level ($p=0.000$). This implies that financial inclusion among the selected panels shows a negative effect on economic growth. This effect is found to be significant and a unit increase in financial inclusion is expected to result in a significant 0.3438269-unit decrease in economic growth of emerging African economies. This negative effect of financial inclusion is confirmed in the

study of Naceur and Samir (2007) who demonstrate that bank development index “bank and credit to private sector development” for MENA countries has a negative effect on economic growth. Likewise, Moore and Craigwell (2003) claim that, the provision of smaller financial products does not produce higher financial return related to the operating finance cost of proving it. This negative effect can be attributed to the low levels of financial development among the selected countries as evident in the lower overall average of financial inclusion among the ten emerging African economies.

4.4.3 The Moderating Effect of Financial Inclusion On the Relationship Between Income Inequality and Economic Growth

The final objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth. In order to ascertain the interaction between financial inclusion and income inequality on economic growth, the study first conducts the analysis without the interaction effect in order to know the individual effects of the variables on economic growth before introducing the interaction effect in model 4. In model 3 which does not contain the interaction effect, the study finds that income inequality has a negative but insignificant coefficient of -0.437884 ($p=0.672$) indicating that income inequality negatively affects economic growth. In this same model, financial inclusion shows a coefficient of -0.3760791 which is also found to be statistically significant ($p=0.001$). This also indicates that in model 3, financial inclusion has a negative and significant effect on economic growth.

However, in model 4 which contains the interaction effect between the two variables, income inequality shows a coefficient of 0.02634 which is still insignificant ($p=0.830$) while financial inclusion also shows a coefficient of 0.0240232 also found to be insignificant ($p=0.909$). The above indicates that after introducing the interaction effect between the two variables, the

negative coefficients of the two variables changed to be positive. More importantly however, the interaction effect between income inequality and financial inclusion shows a coefficient of -0.0102173 which is found to be statistically significant at .05 significance level ($p=0.025$). This implies that the interaction between income inequality and financial inclusion is expected to have a negative effect on economic growth however, the coefficient is found to be less than the individual effect of income inequality on economic growth presented in models 1 and 3. Coupled with the significance value of this interaction effect and the changes in the coefficients of the variable, it can be concluded that financial inclusion improves the relationship between income inequality and economic growth. The reduction in income inequality through financial inclusion changes the negative relationship between income inequality and economic growth into a positive relationship. This is consistent with the findings of Kim (2016) who shows that the negative relationship between income inequality and GDP growth is changed to a positive relationship when the variable is interacted with financial inclusion in high fragility countries. Based on the above, it can be concluded that financial inclusion significantly moderates the negative relationship between income inequality and economic growth among emerging African economies.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

In this chapter of the study, the researcher provides the summary of the findings of the study based on the research objectives. Furthermore, the chapter makes conclusions based on the findings of the study and also makes recommendations in line with the study's findings.

5.1 SUMMARY OF FINDINGS

The first objective of this study is to examine the effect of income inequality on economic growth among emerging African economies. With respect to this objective, the study finds that income inequality has a negative but insignificant effect on economic growth. This confirms the arguments of previous scholars who show that the relationship between inequality and growth is not robust and that small differences in the method used to measure inequality can result in large differences in the estimated relationship between inequality and growth (Panizza, 2002).

The second objective of the study is to examine the effect of financial inclusion on economic growth among emerging African economies. From the analysis, the study finds that financial inclusion among the selected panels shows a negative and significant effect on economic growth. This negative effect is attributed to the low levels of financial development among the selected countries as evident in the lower overall average of financial inclusion among the ten emerging African economies. This negative effect of financial inclusion is confirmed in the study of Naceur and Samir (2007) who demonstrates that bank development index "bank and credit to private sector development" for MENA countries has a negative effect on economic growth.

The final objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth. With respect to this objective, the study finds that the interaction between income inequality and financial inclusion has a negative and significant effect on economic growth. The reduction in income inequality through financial inclusion changes the negative relationship between income inequality and economic growth into a positive relationship. This confirms the findings of Kim (2016) that the negative relationship between income inequality and GDP growth is changed to a positive relationship when the variable is interacted with financial inclusion in high fragility countries.

5.2 CONCLUSION

The main objective of the study is to examine the moderating role of financial inclusion in the relationship between income inequality and economic growth among emerging African economies. In order to achieve the above objective, the study uses a sample of all ten emerging African countries. The study further uses the purposive sampling technique which is intended to give the researcher access to the countries that are specifically needed for this research. The data for the study covers the duration from 2004 to 2017. This research follows a panel data approach and based on this, the data is analysed using the random effect regression analysis. Based on the findings of the study, it is concluded that income inequality has no significant effect on economic growth of emerging African economies, in addition, financial inclusion reduces the economic growth rate of these emerging economies. However, financial inclusion moderates the relationship between income inequality and economic growth and changes the negative effect to a positive one.

5.3 RECOMMENDATIONS

The study recommends that policy makers of emerging African economies should design programs to increase financial inclusion for those who are currently excluded from accessing financial resources. If policy makers can improve financial accessibility in these countries by even a modest amount, it is possible to reduce income inequality and thus reverse the negative relationship between income inequality and economic growth.

The study further recommends that governments of emerging African countries should adopt a progressive tax system designed in such a way that the rich pay a higher percent in income taxes than the poor in order to reduce the income inequality levels of these countries. This would help in income retribution which can further promote economic growth among these countries.

Technologies like mobile payments, blockchain, biometric data, crowdfunding, and microfinance have the potential to extend financial inclusion to the world's poor. Emerging African economies are to expand financial inclusion by considering the above methods. This way, the poor can be banked and also start-ups could easily access funding through microfinance initiatives which can subsequently lead to them paying taxes that can help improve the growth of the economy.

Finally, the study recommends that future studies should consider expanding the scope of the study to cover all other African countries rather than just emerging economies as used in this study. This would help provide more conclusive evidence on the relationship between the variables.

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