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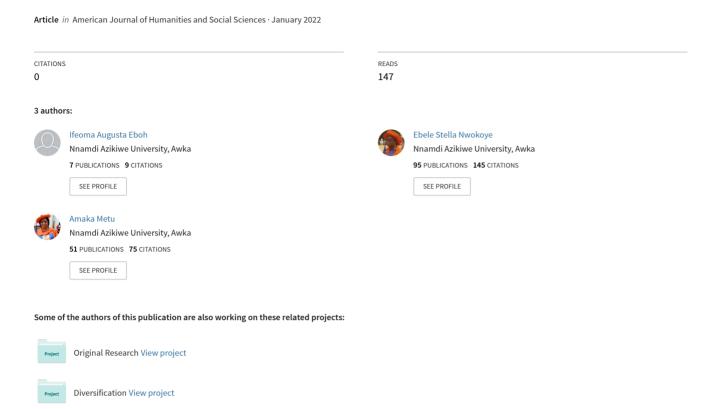
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Social Protection, Financial Depth, Soundness and Inclusive Growth in Nigeria

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ABSTRACT: This paper examines the effect of social protection on inclusive growth in Nigeria, focusing also on the role of financial depth and soundness on inclusive growth using a time series data from 1981 to 2019. The System Generalized Method of Moments (SYSTEM – GMM) estimator was used in estimating the model. It was found that social protection had a positive and significant effect on inclusive growth. We also found a positive and significant effect of the size of financial intermediaries in the financial system on inclusive growth, but the effectiveness of social protection in enhancing inclusive growth was not dependent on the size of financial intermediaries in the financial system. A negative and insignificant effect of bank credit to the private sector to GDP on inclusive growth was also found, nevertheless, the credit to the private sector channel has the wherewithal to complement social protection to raise the inclusive growth. The liquidity ratio had a positive and significant effect on inclusive growth and complements the effectiveness of social protection in raising the inclusive growth rate. The study recommends expansion of the government social safety net measures to accommodate more beneficiaries especially the small entrepreneurs and the poor unemployed. In this way, growth will be distributive to enhance inclusiveness. Also, the government social safety net policies cannot work effectively in isolation with a sound financial system. Therefore, measures should be in place to ensure a sound and sustainable financial system in the economy.

Keywords: Social protection, financial depth, financial soundness, inclusive growth, generalized method of the moment.

I.   INTRODUCTION

Inclusive growth, which is both sustainable and poverty-reducing through productive employment generation instead of direct schemes of income redistribution, is inherent to economic development. Inclusive growth ensures the fair distribution of the benefits of economic growth across society and provides opportunities for the citizens especially the poor. It is inequality and poverty-reducing and increases the standard of living for all. Inclusive growth also enhances potential productivity and creates wealth fairly across society (Walton, 2012).

Talks on inclusive growth by governments, institutions and Non-Governmental Organizations (NGOs) are on the increase, especially in recent years. This is instigated by the identification that growth is not benefiting everyone equally and attempts to tackle the deficiencies associated with the prioritization of economic growth as solely inequality and poverty-reducing. Nigeria has seen strong economic growth rates in recent times. Yet, the country is regarded as one of the poorest countries in the world. For example, before the recession in 2016, the GDP was 6.3% – putting the economy the fastest growing and largest in Africa. GDP reduced to 1.9% and 2.3% in 2018 and 2019 respectively (Nigeria Economic Outlook, 2019), which is attributed to the sharp fall of the oil price and the Corona Virus pandemic – COVID 19 that hits the World economy. As reported by the Nigerian Bureau of Statistics (NBS), in 2019, approximately 40% – about 83 million people were below the poverty line of ₦137,430 or $381.75 per year (World Bank, 2020). Inequality in income and opportunities remain very high alongside high unemployment that has kept the poverty rate high with about 7 million newly poor in 2020 (World Bank, 2020).The link between an increase in economic growth and the reduction in inequality and poverty is not automatic. This awareness is also a reason for the increase in policies for growth inclusiveness at the national and international levels since 2007. A key policy area in the literature on inclusive growth is social protection.

Social protection is policies formulated to reduce poverty and vulnerability, and prevent social exclusion. Social protection plays a more dynamic role in determining inclusive growth in addition to

functioning as a tool to encourage equality and reduction in poverty via transfers and distribution (Chang, 2014). Three primary channels through which social protection transmits to inclusive growth are the credit channel, consumption channel and resources allocation channel (OECD, 2019). Regarding the credit channel, social protection ride out credit constraints by making it easier for households to have access to formal loans, thereby makes room for credit to get to poor low-income households. This fosters inclusiveness and, consequently, inclusive growth. Concerning the consumption channel, social protection protects and smoothing the consumption patterns of low-income households. The implication is that private consumption is deepened and, therefore, aggregate demand and economic activities – which is an effective means to retain inclusive growth through employment creation, etc. The resources allocation channel, on the other hand, is that social protection causes resources to be allocated to the vulnerable and the low-income groups in the society, which also has implications for inclusive growth (OECD, 2019).

Social protection improves the income security of vulnerable households and individuals and guarantees better access to healthcare. Besides, social protection also affects the quality of growth (OECD, 2019). Social protection as a portfolio of national interventions, according to White (2016), provides several functions. At the household and individual levels, it guarantees a minimum living standard, strengthens resilience to shocks - especially economic and financial shocks, and causes sustainability in livelihood investments. At this level, positive growth effects can occur by facilitating households' productive asset accumulation, and innovation and entrepreneurship growth. Also, savings and labour market participation rate will be affected, also, to support for human capital investment that can lead to direct growth effect. At the national level, social protection brings about equity, prevents social exclusion and unveils the human rights to social issues such as social security. Growth enhancing effect can also be expected at this level, given the fact that it raises aggregate consumption and investment demands and, therefore, rising employment opportunities especially at periods of economic downturns. Inclusive growth effects induced by social protection can interact with an effect on financial depth and soundness.

Financial depth and soundness are among the most important characteristics (including financial access and efficiency) of a country's financial system – made up of banking, money and capital markets, pension funds, insurance, mortgage, etc. Financial depth refers to the size and liquidity of financial markets. Financial depth determines the inclusiveness of growth through the accumulative and allocative channels. The cumulative channel works through the finance-incited influence of human and physical capital accumulation. The allocative channel, on the other hand, operates through the finance-impelled gains of efficient resources allocation. Financial depth enhances savings mobilization in addition to information asymmetries reduction, which results in more efficient resources allocation and, thus, growth inclusiveness (Le, 2015).A high financial depth level enables a country to implement a wider expansionary fiscal policy including social protection policy. It facilitates countercyclical fiscal stimulation measures of the government.

Financial soundness, on the other hand, is a condition whereby the financial system indicators (for example, liquidity – liquid assets to total assets and liquid assets to short-term liabilities, liquidity ratio, and loan to deposit ratio) are within some limits that guarantee the ability of the financial system to withstand unpleasant market conditions. Financial soundness built trust in financial systems and stops bank runs and other related phenomena that can disrupt the proper functioning of the financial system (Salina, Zhang & Hassan, 2020). Financial soundness ensures that the effectiveness of policies of inclusive growth and monetary policy, as well as financial intermediation, is not baulked (International Monetary Fund – IMF, 2016).

It is not easy to achieve social inclusion protection for all. The percentage of the population globally that is socially protected or effectively under one social inclusion protection at least, is approximately 45 per cent. That is, over half of the world population (about 1.4 billion people) is not under any effective social protection. Women with newborn babies who get maternity cash benefits that offer them income security are about 41 per cent. Large coverage gaps also exist for the unemployed. Only about 22 per cent of unemployed (one out of every five unemployed) worker globally gets an unemployment benefit. Social protection coverage for persons with a severe disability is also a concern; all over the world, just about 28 per cent gets disability benefits. For those above retirement age, globally, effective pension coverage is about 68 per cent (International Labour Organization – ILO, 2017a; and United Nations, 2017a). Approximately 90 per cent of the population benefits from at least one social protection in Europe. For Latin America as well as the Caribbean, about 60 per cent benefits from effective coverage, while in Sub-Saharan Africa, only about 15 per cent is covered (Report on the World Social Situation, 2018).

Many developing countries, in particular, have been trying to include everyone socially and take the people out of poverty, yet there are concerns that it has not been inclusive. This can be associated with low social protection expenditure. Nigeria, for example, has very low social protection expenditure. The social protection expenditure is equivalent to about 5 per cent of the Debt Relive Gains (DRG) and the Sustainable Development Goals (SDGs) funds (excluding contributions from states) and, about 1.4 per cent of government expenditure. Social protection implementation in Nigeria is extremely low, ad hoc and uncoordinated and

oftentimes state-specific – where coverage is about 0.001 per cent of the poor. Weak institutional capacity, low coverage of available programmes covering just a fraction of the poor, implementation of a narrow set of the instruments of social protection and limited coordination structures, low transfer values, and short programme participation (beneficiaries gets support for one or two years, as in the case of Npower) are among the major challenges. These are capable of hindering the achievement of the inclusive growth targets of the social protection programmes in Nigeria.

Also, of concern recently, is service delivery and financial infrastructure – the level of financial depth and soundness to foster social protection for more inclusive growth pathways. The financial sector of Nigeria is underdeveloped and, there are still challenges of shortage of investment finance for investors. The sector appears not to be deepened enough reduce the sensitivity of financing conditions to change the borrowers' net worth. The sector has not meaningfully promoted risk-sharing, therefore, has not been significantly reducing financial constraints to enhance the ability of firms and households to absorb shocks, and allows for greater consumption smoothing. This paper, therefore, examines the effect of social protection on inclusive growth, focusing also on the role of financial depth and soundness on inclusive growth policies. This is necessary because with a significant level of financial depth and soundness, countries (Nigeria) may be better positioned to implement a broader and more effective safety-net policy for social stimulation and inclusive growth. The broad objective of the study is to examine the relationship between social protection and inclusive growth in Nigeria. The specific objectives are: (i) to examine the effect of social protection on inclusive growth in Nigeria, (ii) to determine if the effect of social protection on inclusive growth in Nigeria is dependent on the financial depth of the financial system, and (iii) to determine if the effect of social protection on inclusive growth in Nigeria is dependent on the soundness of the financial system.

The study has significant policy implications and is useful for the relevant authorities on social protection for the stimulation of inclusive growth. The findings of the study is also useful for the implementation committee of the Sustainable Development Goals (SDGs) in Nigeria since most of the goals are related to the social protection and inclusive growth policy thrusts of the country. The study is organized into five sections. Following the introductory section is the literature review section. Section three is the methodology, while section four concerns presentation and discussion of estimation results. Section five is the conclusion and policy recommendations.

I.   LITERATURE REVIEW

2.1.1   Conceptual Literature Review
2.1.1.1   Social Protection

Social protection refers to as policies and programmes put forward to mitigate and alleviate poverty and vulnerability in the life cycle throughout. Stiftung (2018) defined social protection from a broader perspective. It is viewed as all government and private initiatives concerning the transfer of income to the poor, prevent the vulnerable people of been destitute, and improve the right and social status of the marginalised. Social protection is about managing, protecting, and overcoming social problems that hamper the wellbeing of individuals in society. The Social Protection Policy document of the Federal Government of Nigeria – the implementation plan of vision 2018, according to Stiftung (2018), defined social protection as a combination of policies and programmes formulated to protect individuals throughout their life cycle and alleviate poverty and social-economic shocks by promoting wellbeing and life of dignity. The Report on the World Social Situation (2018) viewed social protection as a possible development policy instrument that is capable of assuaging inequality, poverty and social exclusion. The report, also, defined the concept as a collection of measures that offer benefits in cash or kind to ensure income security as well as access to healthcare. This definition likened social protection (as an alternative term) to social security. Most other definitions of social protection include access to basic services like education, social care, social work and other measures like labour market policies (World Bank, 2012).

Social protection comprises benefits for child and family, unemployment benefits and supports, maternity protection, sickness and health protection, disability benefits, old age supports, and survivor's pensions. Systems of social protection general take care of all these policy areas either through social insurance – financed from the contributions of workers and employers, and social assistance – financed from the government budget (Ortiz, Chowdhury, Valverde, Muzaffar & Urban, 2019). Social protection is provided to people in both the formal and informal sectors of the economy, as well as those that cannot work as a result of old age or injury, the poor, and the unemployed. Most benefits like pension, healthcare and maternity leave available only for people in the formal sector, which are usually linked with social security policies are based on the method of worker's right.

In Nigeria, social protection is not guaranteed by law and does not effectively cover every segment of the population. Some of the challenges facing the process and, therefore, have made social protection out of coverage of many people and groups, in addition to socioeconomic deprivation and discrimination are how the

policies are designed and implemented. The risk of exclusion from social protection is also propelled by the absence of measures of tax-financed social protection, stringent registration process, inappropriate targeting, and insufficient information.

2.1.1.2 Financial Development

Financial development is defined by Okoli (2013) as the outcome of the growth of financial intermediation. It is a financial system characterized to be free from financial repression to a large extent. Two core aspects of financial development are financial depth and soundness.

Financial Depth

Financial depth measures the financial sector compared to a measure of economic output. World Bank (2016) defined financial depth as the size of banks and non-bank financial institutions and financial markets relative to the economy. A similar and narrower definition is given by *Nishanth and Baby (2015). They defined financial depth as the size of financial markets and institutions.* Setiawan (2015) described financial depth as the financial size of a country, measuring how big the financial sector is when compared relative to the size of the economy. For this study, financial depth is defined similarly with World Bank (2016), as defined above. Financial depth in the literature is commonly measured by the ratio of liquid liability to gross domestic products (GDP), or private credit to GDP. The former measures the extent to which banks finance economic activities – mostly private sector activities, while the latter captures the degree of mobilization of financial resources as a ratio of (GDP). Financial depth can also be captured by the ratio of broad money to GDP, and the ratio of bank deposits to GDP.

Financial Soundness

Financial soundness, on the other hand, concerns the health and soundness of financial markets and institutions. It is a condition whereby the financial system is not unhealthy. It can be viewed as a condition whereby the main components of the financial system – financial markets, institutions and financial infrastructure are financially healthy. A sound financial system can adequately carry out the financial intermediation functions with little or no assistance from external institutions or the government. With a sound financial system, economic agents operate financial transactions with confidence. Its impose confidence on the financial system. In this study, financial soundness is described as the condition or state of the financial system that is considered to be healthy financially to successfully facilitate policy safety-net for social stimulation to enhance growth inclusiveness and real economic activities.

2.1.1.3 Inclusive Growth

Growth is known to be inclusive when it generates equal economic opportunities and provides equal access for every segment of society. Pelipe (2012) sees inclusive growth as growth that offers everyone in the society an equal opportunity to take part and make contributions to the growth process not regarding the circumstances of the individual. The Asian Development Bank (2018) defined inclusive growth as high and sustainable growth that generates and expands economic opportunities, increases access to the opportunities to enable individuals in the society to take part and benefit from growth as well as social safety nets to avoid severe deprivation.

Inclusive growth differs from pro-poor growth on the basis that the latter concerns absolute poverty reduction that comes with productive employment generation, while the former concerns schemes of the direct income distribution. The economic growth and distribution nexus have to be attained for growth to be seen as inclusive rather than achieving mainly the poverty-growth nexus without considerable attention given to the pattern of distribution. Inclusive growth solves absolute poverty while pro-poor growth addresses relative poverty. In other words, growth inclusiveness involves an ex-ante analysis of the growth generating process coupled with outcomes of the growth process. Pro-poor growth, on the other hand, is an ex-post examination of the growth generated outcomes. In this regard, a comprehensive inclusive growth strategy combines policies to propel economic growth including those that promote equal opportunities and social security net to secure the most vulnerable segment of the population.

John Stuart Mill is regarded as the key proponent of the utilitarian theory. This is because modern form utilitarianism originates from him. Utilitarianism sees the welfare of society as the sum of the utilities of all individual of that society (Drane, 1990). According to the utilitarianism approach, an individual's welfare in society increases, if the decrease in the welfare of other individuals is less than the increase of the individual who benefits, then the welfare of the entire society as well has increased. To portray this point further, take, for example, a rich taxpayer, who is a billionaire pays an additional tax of N300, 000 and this money is allocated to social protection made available for the low-income earners, then the society would be better off since the marginal utility of the low-income earners that benefits from the social protection will increase by at least as much as the marginal utility of the billionaire has decreased. Utilitarianism can also be viewed from the points of Individualism and consequentialism (Mattisson, 2017). Individualism is a situation where utilitarianism sees the best outcome based on the sum of individual utility, which is neither greater nor less than its parts. This means that there is no form of intrinsic benefit attached to the distribution of utility. Consequentialism, on the

other hand, connotes that what is best only refers to a consequence of a new outcome or policy. It means that utility-maximizing outcome can only be ranked in incremental gains or losses, following a deviation from the common practice. The utilitarian best outcome, therefore, is the maximization of an efficiency-cost ratio.

2.2 Empirical Literature

Using the Autoregressive Distributed Lag (ARDL) approach, the study by Adeniyi, Ajayi and Adedeji (2020) examined the effect of education on inclusive growth from 1990 to 2017. School enrolment measures as well as education quality measures were found to have positive and significant effect on inclusive growth. Afolabi (2020) examined the effect of financial inclusion on inclusive growth in Nigeria from 1981 to 2017 using ADRL technique. It was found that financial inclusion (measured by rural loan, number of bank branches and level of liquidity) had a positive and significant effect on inclusive growth in the short and long run. Determinants of inclusive growth in ASEAN were examined by Alekhina and Ganelli (2020). The study covered the period from 1992 to 2017 using the fixed effect panel technique. It was found that the implementation of fiscal redistribution and labor market-oriented structural reforms significantly accelerated inclusive growth in ASEAN. Mutiiria, Ju and Dumor (2020) examined the impact of infrastructure on inclusive growth in sub-Saharan Africa (SSA) from 2003 – 2017. They found a positive impact of infrastructure on inclusive growth. Olakanmi and Olagunju (2020) examined the impact of monetary policy on inclusive growth in Nigeria from 1991 to 2018. The Ordinary Least Square technique was employed by the authors. Inclusive growth was measured using per capita income. It was found that money supply had a significant impact on inclusive growth. Covering the 1998 to 2017 sample periods, Olanrewaju, Aremo and Binuyo (2020) examined the relationships between institutional quality and inclusive growth in Nigeria. The ARDL technique was employed in analysing the data. Inclusive growth was measured by real GDP per person employed. The results showed that institutional quality had a significant effect on inclusive growth. The empirical font includes the study by Osabohien, Mathew, Ohalete and Osabuohien (2020) who examined the effect of social protection on poverty and inequality in 38 African countries. The study covered the 2000 to 2017 sample periods. The fixed and random effects techniques were employed to analyse the data. The results of the study showed that an increase in social protection leads to a decrease in poverty and inequality. In Ghana, Osei, Atta-Ankomah and Lambon-Quayefio (2020) examined the structural transformation–inclusive growth nexus, covering the periods from 1984 – 2017. The result showed that structural transformation has been generally weak and also associated with limited inclusive growth. Pouw, Rohregger, Schüring, Alatinga, Kinuthia and Bender (2020) examined the effect of social protection through inclusive growth in Ghana and Kenya using qualitative impact assessment technique. It was found that social protection significantly affected food, education and health. Focusing on developing countries, Ravallion, Jolliffe and Margitic (2018) examined the effect of social protection on economic development. They also ascertained if the effect of spending on social protection on development is through poverty reduction. It was found that social protection had a direct effect on development. It was specifically found that spending lifts the poor mainly through social insurance, pointing out that the average effect of social insurance was 1.5 per cent. Using the fixed effect technique, Bilal, Cooper, Abreu, Nau, Franco and Glass (2017) examined the effect of social protection on economic growth and child mortality. Economic growth was proxied by unemployment, while social protection was measured by social protection expenditure. The study covered the period from 1980 to 2010. The findings showed that social protection strengthened the relationship between unemployment and child mortality. Rewilak (2017) examined the relationship between financial development and poverty reduction in middle-income countries from 2005 to 2015 using the fixed-effect method. The findings showed that financial deepening and higher fiscal access significantly poverty reduction. The role of social protection on economic growth in Sudan was examined by Hassan (2014), using the GMM technique. The study covered the period from 1970 to 2011. The result showed that social protection had a positive effect on economic growth in the long and short run. The relationship between financial deepening and inclusive growth from 1975Q1 to 2011Q4 in Egypt was examined by Abosedra, Shahbaz and Nawaz (2015). The vector error correction model Granger causality technique was used in analysing the data. When domestic credit to the private sector was the proxy for financial development, it was found that financial development reduces poverty.

2.3 Literature Gap and Justification for the Study

Not much has been done on the empirical relationship between social protection and inclusive growth in Nigeria. Few studies on social protection in Nigeria, including Osabohien, Mathew, Ohalete and Osabuohien (2020) focused on the effect of social protection on economic growth. Evidence on this relationship, however, is not robust enough to conclude the inclusive growth effect of social protection. On this basis, this paper examines the effect of social protection on inclusive growth, focusing also on the role of financial depth and soundness on inclusive growth policies. A study of this nature is necessary because empirical evidence on this will provide significant policy implications and will be useful for the relevant authorities on social protection and stimulation

and inclusive growth. Financial depth and soundness can enhance the implementation of a broader and more effective social protection policy for social stimulation and growth inclusiveness.

II.   RESEARCH METHODOLOGY

3.1   Measurement of Inclusive Growth

Inclusive growth in this study is measured following Ali and Son (2007) with the social opportunity function as its basis – where growth inclusiveness is a function of income growth and income distribution. The concentration curve is used in measuring inclusive growth. Ali and Son (2007) specified a concentration function – also known as social mobility function as:

$$GC^c \approx \left(y_1, \frac{y_1+y_2}{2}, \dots \frac{y_1+y_2+\dots+y_n}{n} \right) \qquad (1)$$

Where n is the population, and, $y_1, y_1, \dots y_i$ are the incomes from the poorest to the richest population. Equation (1) above satisfies the two properties mentioned earlier. The area under the social mobility curve (see equation 2 below) is used to estimate the level of change in income distribution.

$$\bar{y}^* = \int_0^{100} \bar{y}_i \, d_i \qquad (2)$$

For income to be equitably distributed, $\bar{y}^*$ must equal $\bar{y}$. Income Inequality is inequity if $\bar{y}^* < \bar{y}$. It means that inequality in income distribution is the deviation of $\bar{y}^*$ from $\bar{y}$. Ali and Son (2007) employed the feature of $\bar{y}^*$ in constructing an equity index, defined as:

$$v = \frac{\bar{y}^*}{\bar{y}} \qquad (3)$$

In equation (3), if income is distributed wholly, the value of v will be 1. The more the value of v gets closer to 1, the more income is distributed equitably. Making $\bar{y}^*$ the subject of the formula, equation (3) becomes:

$$\bar{y}^* = v * \bar{y} \qquad (4)$$

Growth is inclusive if there is an increase in $\bar{y}^*$, which can be possible if: average income from growth increases ($\bar{y}$ increases), the index of equity income increases (v increases) or a joint increase in average income and the index of equity income. To capture the contributions of increase in average income to growth inclusiveness (without altering income distribution and, also the contribution of change in income distribution without any change in average income, equation (4) is differentiated as follows:

$$d\bar{y}^* = v * d\bar{y} + dv * \bar{y} \qquad (5)$$

Where $d\bar{y}^*$ captures the change in inclusive growth, $v * d\bar{y}$ is the contributions of increase in average income to inclusive growth, while $dv * \bar{y}$ measures the contribution of change in income distribution if there is no change in average income (Anand, Mishra & Peiris, 2013). We can rewrite equation (5) as:

$$\frac{\overline{d\bar{y}^*}}{\bar{y}^*} = \frac{d\bar{y}}{\bar{y}} + \frac{dv}{v} \qquad (6)$$

Equation (6) integrates growth and equity into a single measure of inclusive growth (percentage change in $\bar{y}^*$). Based on the above, we measure an index of inclusive growth by taking real per capita GDP growth and the Gini coefficient to capture equity in income distribution.

3.2   Theoretical framework

This study adopts (with modifications) the framework developed by Anand, Mishra and Peiris (2013), which was predicated on the utilitarian social welfare function, which is similar to the social opportunity function. The reason for modification is because our study incorporates social protection as a core variable determining inclusive growth, which is outside the scope of their study. Also, unlike this study that is a country (Nigeria) specific, their framework was formulated within a panel regression model. Consider the framework:

$$Y_t^* - Y_{t-1}^* = \varphi_1 \bar{y}_t + \varphi_2 X_t \qquad (7)$$

Where $Y_t^* - Y_{t-1}^*$ in equation (7) is the log difference of $\bar{y}^*$, which is taken as inclusive growth at time t – as defined earlier in the measurement section of inclusive growth above. $\bar{y}_t$ represents the initial level of income per capita, to show conditional convergence. X_t, on the other hand, is determinants of growth and inequality. In this study, financial depth and soundness are considered essential.

For this study, and for the fact that the study is predicated on the utilitarian social welfare function following Anand, Mishra and Peiris (2013), we incorporate social (welfare) protection as an important determinant of inclusive growth. On this basis, we re-specify equation (7) as:

$$\bar{y}^* = \varphi_1 PINCOM + \varphi_2 F\_DEPTH + \varphi_3 F\_SOUND + \varphi_4 SOC\_PROTECT \qquad (8)$$

Where $PINCOM$ is the income per capita, F_DEPTH represents financial depth, F_SOUND is financial soundness, and $SOC\_PROTECT$ measures social protection. Equation (8) shows the direct impact of social protection on inclusive growth. The main focus, however, is social protection; financial depth and soundness are brought in as channels in which social protection enhances inclusive growth. To capture these indirect channels, we interact financial depth and soundness with social protection as:

$$\bar{y}^* = \varphi_1 PINCOM + \varphi_2 F\_DEPTH + \varphi_3 F\_SOUND + \varphi_4 SOC\_PROTECT + \varphi_5 F\_DEPTH * SOC\_PROTECT + \varphi_6 F\_SOUND * SOC\_PROTECT \qquad (9)$$

Where $F\_DEPTH * SOC\_PROTECT$, and $F\_SOUND * SOC\_PROTECT$ are the interactions of financial depth and social protection, and financial soundness and social protection.

3.3 Variables, Data and Data Sources

The dependent variable is an index of inclusive growth – constructed using income growth and equity in income distribution. Per capita income growth is used as income growth, while the GINI coefficient is used to capture equity in income distribution. The core independent variable is social protection, measured by government expenditure on social services as a percentage of total expenditure. The study also included financial depth and soundness as key variables to show whether the financial system is an efficient channel in which social protection brings about inclusive growth. Financial depth is measured by the ratio of the money supply – M2 to GDP (the size of financial intermediaries in the financial system through the financial liabilities in relation to the entire economy), and banks credit to the private sector to GDP (the ability of the banking system – or banks to provide credit to the private sector).These measures are relevant in this study because social protection of the government gets to the targeted population (mostly the private sector small businesses and individuals) through the banks, which increases banks deposits for future consumption or investment that contribute to growth inclusiveness. Financial soundness is measured by financial liquidity (liquidity ratio) in the financial system. This is necessary because the soundness and health (or the vulnerability of the financial sector to loss of access to market sources of funding or a run on deposits) could go a long way to determine the effectiveness of the social protection measures in Nigeria. Another variable included in the model is per capita income, which measures the initial level of income.

The study uses annual time series data that spans from 1981 – 2019. The data is sourced from the World Development Indicators (WDI) and Central Bank of Nigeria (CBN) statistical bulletin, various issues. The data on per capita income and the GINI coefficient will be sourced from the WDI, while the data on the rest of the variables will be sourced from the CBN statistical bulletin.

3.4 Empirical Model

The functional form of the model is presented as:

$$INCLG = g(PINCOM, M2GDP, CREPSGDP, LIQR, GXSTX) \qquad (10)$$

Where $INCLG$ is inclusive growth, PINCOM is per capita income, M2GDP is the ratio of the money supply to GDP, while CREPSGDP is domestic credit to the private sector to GDP. LIQR is the liquidity ratio and GXSTX is government expenditure on social services as a percentage of total expenditure. We take the first-lag of the dependent variable and interact the financial depth and soundness variables with the social protection variable and re-specify equation (10) as:

$$INCLG = a_0 + a_1 INCLG_{t-1} + a_2 PINCOM + a_3 M2GDP + a_4 CREPSGDP + a_5 LIQR + a_6 GXSTX +$$
$$\varphi_7 GXSTX * M2GDP + a_8 GXSTX * CREPSGDP + a_9 GXSTX * LIQR + u_1 \qquad (11)$$

Where all the variables remained as defined above. a_i(i = 1, 2, …9) are the elasticities of the variables respectively.

Several econometric issues could come from the estimation of equation (11). For example, the inclusion of lagged dependent variable at the right-hand side, which makes the model dynamic, leads to autocorrelation. Also, the presence of variables such as $PINCOM$ could have a causal relationship with the dependent variable. Therefore, the Ordinary Least Square (OLS) estimators will not be efficient since the estimates could be biased. The two-stage least squares – 2SLS could be an option, but the instruments from the 2SLS could be weak at the first stage of the two-stage least square (2SLS) regressions. With weak instruments, the instrumental variable (IV) estimator could be biased in the way of OLS (inconsistent estimate). The Instrumental Variable System Generalized Method of Moments (SYSTEM – GMM) estimator, which makes use of equations in level form with lagged differences as instruments, is employed in this paper. The SYSTEM – GMM is preferable to the differenced GMM because the lagged levels of variables like $PINCOM$ could be very weak instruments for first differenced equations (Aditya & Roy, 2010).

III.   RESULTS

4.1 Descriptive Statistics of the Variables

The analysis begins with an overview of the data set concerning the mean, standard deviation, maximum values and minimum values, Skewness and Kurtosis. Table 1 below presents the result.

Table 1: Descriptive Statistics of the variables in the model

Variables	INCLG	PINCOM	M2GDP	CREPSGDP	LIQR	GXSTX
Mean	0.4319	0.0003	26.4452	18.2222	43.7503	11.7330
Standard Deviation	0.0423	0.0001	7.4916	6.0579	19.1889	5.2785
Minimum	0.3622	0.0002	13.7022	9.6426	13.1	2.5596

	value					
Maximum value	0.5252	0.0004	43.5703	41.2990	83.3399	23.0611
Pr(Skewness)	0.1022	0.1121	0.0775	0.0001	0.6345	0.2735
Pr(Kurtosis)	0.8793	0.0001	0.6457	0.0012	0.0458	0.5635
Obs.	38	38	38	38	38	38

Source: Researchers' computation using STATA 16 econometric package

The variables respectively have a quite low mean value. The mean values are not far from the respective standard deviation values. This means that the values of the respective variables are close to the mean values. The minimum values of the data set of the variables respectively are less than the mean values. The maximum values, on the other hand, are all higher than the respective mean values.

For the skewness, it is found that only the ratio of credit to the private sector to GDP is significant at the 5% level. For this reason, the hypothesis that the variables (inclusive growth, per capita income, and the ratio of money supply to GDP, ratio of credit to the private sector to GDP, liquidity ratio and government expenditure on social services as a percentage of total expenditure) are normally distributed is rejected only for the ratio of credit to the private sector to GDP at the 5% level. For the Kurtosis, per capita income, and the ratio of credit to the private sector to GDP are significant at the 5% level, while the rest of the variables are not significant. Thus, we reject the null hypothesis of kurtosis of normal distribution for per capita income, and the ratio of credit to the private sector to GDP. But the hypothesis is accepted for the rest of the variables.

4.2   Unit Root and Cointegration Tests

We tested for the unit root using the Augmented Dickey-Fuller and Phillips-Perron unit root tests. The result is shown in Table 2 below.

Table 2: Unit root test results

Variable	Augmented Dickey-Fuller (ADF) Test Result		Phillips-Perron (PP) Test Result		Lag order	~I(d)
	At Level	At 1st Difference	At Level	At 1st Difference		
INCLG	-2.302	-3.916*	-1.794	-4.348*	1	I(1)
PINCOM	-2.188	-3.981*	-2.260	-3.900*	1	I(1)
M2GDP	-2.982	-5.054*	-2.894	-6.129*	1	I(1)
CREPSGDP	-3.053	-5.008*	-2.889	-6.110*	1	I(1)
LIQR	-0.546	-6.228*	-1.049	-7.989*	1	I(1)
GXSTX	-2.706	-7.490*	-2.209	-5.000*	1	I(1)
GXSTX*M2GDP	-2.404	-6.818*	-2.243	-4.243*	1	I(1)
GXSTX*CREPSGDP	-2.345	-5.162*	-3.318	-9.666*	1	I(1)
GXSTX*LIQR	-1.734	-6.630*	-3.024	-10.313*	1	I(1)

Where * denotes the rejection of the null hypothesis at the 5% level. The optimal lag lengths were chosen according to Akaike's Final Prediction Error (FPE), and Akaike's information criteria. The ADF 5% critical value at levels is -3.552 and at 1st difference is -3.556, while the Phillips-Perron (PP) critical value at level is -3.548 and at 1st difference is -3.552. A trend is included in both the ADF and the PP Unit Root test models estimated.

Source: Researchers' computation using STATA 16 econometric package

The test statistics of the variables respectively were insignificant at the 5% level in both the Augmented Dickey-Fuller and the Phillips-Perron tests. Therefore, the null hypothesis that the variable contains a unit root is accepted for each of the variables. For this reason, we tested for the unit root at the 1st difference of the variables. As shown in Table 2, both tests at 1st difference suggest the rejection of the null hypothesis. On this basis, we say that the variables are all stationary at their 1st difference. A further step was taken to test for the cointegration of the variables using the Johansen test, and the result is presented in Table 3 below.

Table 3: Results of Johansen tests for cointegration of the variables

MaximumRank	Eigenvalue	Trace Statistics	5% critical value
0	-	247.9084	175.77
1	0.8453	176.9797	141.20
2	0.8090	114.0532	109.99
3	0.6645	72.5582*	82.49
4	0.5100	45.4483	59.46
5	0.4569	22.2453	39.89
6	0.2839	9.5549	24.31
7	0.1616	2.8577	12.53
8	0.0704	0.0835	3.84
9	0.0022	-	-

Source: Computed by the Author

Three cointegrating equations were found, as indicated by the significant trace statistics. The null hypothesis of no cointegration is, therefore, rejected at the 5% level. This means that the variables have a long-run relationship.

4.3   Social Protection, Financial Depth, Soundness and Inclusive Growth

The results of equation (11) are presented in Table 4 below. All the variables have a positive coefficient except the ratio of credit to the private sector to GDP, and the interaction terms of government expenditure on social services as a percentage of total expenditure and the ratio of the money supply to GDP; and government expenditure on social services as a percentage of total expenditure and credit to the private sector to GDP.

Table 4: GMM estimates of social protection, financial depth, soundness and inclusive growth

INDUS	Coefficients	Robust Standard Errors	z-stat	P-value
$INCLG_{T-1}$	1.3893	0.1830	7.59	0.000
PINCOM	37.9743	121.9502	0.31	0.756
M2GDP	0.0105	0.0039	2.65	0.008
CREPSGDP	-0.0041	0.0066	-0.62	0.537
LIQR	0.0056	0.0011	5.30	0.000
GXSTX	0.0323	0.0074	4.36	0.000
GXSTX_M2GDP	-0.0009	0.0005	-1.98	0.048
GXSTX_ CREPSGDP	0.0004	0.0006	0.60	0.546
GXSTX_LIQR	0.0003	0.0001	4.08	0.000
Constant	-1.2008	0.1261	-9.52	0.000
Hansen's J chi2 (1)	1.4563 (p = 0.0686)			

Government expenditure on social services as a percentage of total expenditure shows a positive and significant coefficient. The null hypothesis that social protection has no significant effect on inclusive growth is, therefore, rejected at the 5% level. Social protection has a positive and significant effect on inclusive growth. Every additional social protection significantly incites inclusive growth by 0.03%.National social protection interventions improve income security and propel economic growth including those that encourage equal opportunities and social security net to secure the most vulnerable segment of the population.

An increase in per capita income is associated with a 37.97% increase in inclusive growth, but insignificant at the 5% level. This means that per capita income has a positive and insignificant impact on inclusive growth. This entails that improving the per capita income of people has the prospects of inducing inclusive growth. However, the insignificant coefficient insinuates too low per capita income level, insufficient to derive meaningful inclusive growth rates.

The coefficient of the money supply to GDP is positive and significant. That is, the ratio of the money supply to GDP has a positive and significant impact on inclusive growth. This finding alludes to the size of financial intermediaries in the financial system (through the financial liabilities in relation to the entire economy) as a relevant variable in the inclusive growth process.

However, the ratio of banks credit to the private sector to GDP showed a negative and insignificant coefficient. It shows that the effect of banks credit to the private sector to GDP on inclusive growth is negative and insignificant. This means that the ability of the banking system – or banks to provide credit to the private sector acts negatively against inclusive growth. This may be the case, provided that the private sector small businesses and poor individuals are not given preferential treatment. They are the most vulnerable groups and

stigmatization in credit provision for reasons related to collateral among others increases the income gap and reduces social welfare, capable of reducing inclusive growth.

The liquidity ratio coefficient is positive and significant. This means that the liquidity ratio has a positive and significant effect on inclusive growth. This also means that the soundness of the financial system is relevant to inclusive growth. Any improvement in the ability of the financial system to find ready cash, short-term creditworthy securities as well as government bills – which can be readily converted to cash, results in a significant increase in inclusive growth.

The interaction of government expenditure on social services as a percentage of total expenditure and the ratio of the money supply to GDP has a negative and insignificant coefficient. The negative and insignificant coefficient suggests that, though the size of financial intermediaries in the financial system directly affects inclusive growth, government social protection does not work through the size of financial intermediaries in the financial system. In other words, the effectiveness of social protection in enhancing inclusive growth is not dependent on the size of financial intermediaries in the financial system.

The interaction term for government expenditure on social services as a percentage of total expenditure and credit to the private sector to GDP showed a positive and insignificant coefficient. Though the direct effect of banks credit to the private sector to GDP on inclusive growth is negative and insignificant – as earlier discussed, the positive interaction coefficient means that the credit to the private sector channel has the wherewithal to complement social protection to heighten inclusive growth. However, since the interaction term coefficient is insignificant, there is every indication that the usage of the credit channel in the social safety net programmes has not been judicious.

The interaction of government expenditure on social services as a percentage of total expenditure and the liquidity ratio had a positive and significant coefficient. This means that social protection is complemented by the ability of the financial system to find ready cash, short-term creditworthy securities as well as government bills – which can be readily converted to cash. In other words, financial sector soundness complements the effectiveness of social protection in promoting inclusive growth.

The Hansen's J statistic is insignificant at the 5% significance level. Thus, the null hypothesis that the mode is not misspecified is accepted. Therefore, it is concluded that the regression model is properly specified. So we are justified for including the variables in this study in the regression model.

IV.   CONCLUSION AND POLICY RECOMMENDATIONS

The effect of social protection on inclusive growth has been examined, and the role of financial depth and soundness in inclusive growth policies is also been considered in this study. The Instrumental Variable System Generalized Method of Moments (SYSTEM – GMM) estimator was used in estimating the model. The findings guide our conclusion that social protection significantly promotes inclusive growth in Nigeria. Government social safety net measures incite inclusive growth. Financial depth especially the size of financial intermediaries in the financial system plays an important role in affecting inclusive growth. That, notwithstanding, the effectiveness of social protection in heightening inclusive growth is not dependent on the size of financial intermediaries in the financial system. The ability of the banking system – or banks to provide credit to the private sector acts negatively against inclusive growth, but with appropriate measures in place, the credit to the private sector channel has the ability and means to complement social protection to raise inclusive growth rate in Nigeria. The positive and significant liquidity ratio coefficient underscores the importance of a sound financial system in the pursuit of growth inclusiveness and complements the effectiveness of social protection in raising the inclusive growth rate. Raising the per capita income is also a good way to enhance inclusive growth.

The study recommends expansion of the government social safety net measures to accommodate more beneficiaries especially the small entrepreneurs and the poor unemployed. In this way, growth will be distributive to enhance inclusiveness. The government and banks should prioritize small businesses and poor individuals in their credit to the private sector. Also, the government social safety net policies cannot work effectively in isolation with a sound financial system. Therefore, measures should be in place to ensure a sound and sustainable financial system in the economy.

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