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On the Determinant of Financial Development in Africa: Geography, Institutions and Macroeconomic Policy Relevance

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Abstract

While it is clear that financial depth and economic diversity are prerequisites for the realisation of growth and development objectives, heterogeneous factors that determines financial development remains imperfectly understood. This ambiguity in the structural relations between varied causative factors is more pronounced in Africa where conditions for growth and development remains inadequately met. Underexplored aspects such as geographic, political, economic and macroeconomic policy determinant of financial development in Africa could have culminated into the misalignment of the continent financialisation strategies. This paper takes the lead, diverse and holistic approach to assign numerical weights to these unobserved factors to reach conclusions that can redefine policy and research on Africa's financialisation objectives. We compared result along with the mean group (MG), common correlated effect mean group (CCEMG) and Augmented Mean Group (AMG) estimators but relied on the AMG results because of its high precision, relevance and superiority in addressing core issues of cross-sectional dependence and slope homogeneity of regressors.Based on the AMG results, we found geographic, economic and macroeconomic policy factors to lead to financial development in Africa. However, our political/institutional composite index inversely relate to financial development in Africa. This counter-intuitive outcome could be due to Africa, age-long weak institutional capacities. Policy implications were discussed.

Keywords: Financial Development; Geography; Institutions; Macroeconomic Policy; Africa.
JEL Codes: D02;G20;P34; Q56

1.0   Introduction

In development and empirical finance literature, studies on finance and their contributions to growth and development outcomes have grown tremendously since the work of Schumpeter (1911)due to the influence of financial development for the rapid realisation of growth and development objectives. While it is apparent that a comprehensive financial system is required for actualisation of the broader objectives of growth and development, the question of what determines financial development remains dimly discerned in extant literature. This structural ambiguity clouds our understanding of the determinants of financial development in Africa where conditions for growth and development remain inadequately met. Africa's financial architecture has been characterised by high-level variances that have greater consequences for their growth and development objectives(Demetriades & James, 2011; Ibrahim & Alagidede, 2018).The emergence and development of Africa financial market have been dominated by dissimilarities with heterogenous causative agents responsible for this wide-varying financial markets(Otchere, Senbet, & Simbanegavi, 2017). Thus, understanding the determinant of financial development in Africa becomes essential, given the broad consensus on the importance of finance for the actualisation of growth and development objectives. It remains *aprior* unclear why and how countries with homogenous characteristics in terms of geographical conditions, political structure, growth and development strategies attain varying levels of financial development.

Research into broad-based causative factors in the Africa financial development trajectory is essential for some reasons. With Africa 2063 Agenda *(the Africa we want)* much talked about, it may well be that financial development is a prerequisite, if not a major determinant, of the take-off into self-sustained economic growth that has eluded Africa for many years. Ill-informed regulations based on wrong macroeconomic policy mix may have culminated into the misalignment of Africa financialisation objectives (inefficient utilisation of resources and malfunctioning financial market)(Zins & Weill, 2016).For example, the prevalent interest rate cap favoured in Africa deposit and financial institutions have led to a sharp edge between demand and supply of funds needed to augment investment(Fofack, 2005). The resulting policy regulation to cap interest rate could, in turn, lead to repressed inflationary tendencies and in extreme case an unofficial institutionalised parallel market which further segment and sabotage

growth and development objectives in the continent. Also, the level of trade interactions reached among nations within a globalised framework determines, to a large extent, the success or otherwise in the pursuit of financial development objectives(Asongu & De Moor, 2017). Therefore, knowing how various macroeconomic policy mix, on the one hand,contribute to the realisation of financial development objectives in Africa and on the other interact to achieve broader goals of self-sustained growth and development are essential and sine-qua-non to a financially developed Africa.

While the large and active studies on finance and growth have leaned empirical credence to a plethora of factors leading to financial development, the role of geography in the financial development discourse remains grossly understudied. Geographical conditions such as the latitudinal arrangement of countries and regions around the equator determine the climatic conditions that are conducive for productive activities and subsequently financialisation(Gottmann & O'Brien, 1993; Kochendorfer-lucius, Pleskovic, Gill, & Collier, 2009). Countries or regions closer to the equator are most likely to experience climatic conditions that are subarctic and tropical which impedes crop-yield, for example leading to low-agricultural yield and subsequently financial underdevelopment(Bosker & Garretsen, 2012). Also,landlocked countries or geographically isolated regions faces mammoth of challenges interacting with other countries or regions of the world(Faye, McArthur, Sachs, & Snow, 2004). Since no economy could attain high-level industrialisation objective without bilateral trade arrangements, financialisation objectives become a blur in the absence of geographic mobility. Nonetheless, natural resource endowments are well placed to lead to financial development if the resource curse hypothesis is averted(Zaidi et al., 2019). The spread of these natural resources endowments in terms of space and time in a broader geographic context has clear relevance to the development of financial markets. Rents and royalties from natural resources endowment are expected to contribute to financial development. However, the magnitude, sign and directions in this apparent relations are less explored in Africa with evidence-based findings still mostly regional specific because most of such studies are done across African border (see Erdoğan, Yıldırım, & Gedikli, 2020; Khan, Hussain, Shahbaz, Yang, & Jiao, 2020; Nawaz, Lahiani, & Roubaud, 2019; Redmond & Nasir, 2020 for an extensive review).

In consonance with Beck and Levine (2008); Huang and Huang (2011), political institutions moderates the finance-growth nexus. Since government are at the helms of affairs making and enforcing laws that define financial interactions and practices, the type, structure and functionality of the institutional arrangement in place in the recipient country determines to a large extent the growth or otherwise of financial markets. Khan, Khan, Abdulahi, Liaqat and Shah (2019)argue that financialisation objectives are most likely to produce a negligible effect when institutions are weak. This is because the government ordinances go a long way to determine the success or otherwise of a policy or capital injection. Thus, type, structure, and functionality of the institutional framework obtainable in a region or country become one of the most pervasive factors aiding or abating the growth of the financial market. Democratic dispensation, capital restriction options, capital outsourcing strategies, financial products permitted to be traded on the financial market are by far the most significant determinant of an efficient financial market(Khan, Gu, Khan, & Oláh, 2020). Government at the most general level makes and enforce the law which includes among others hedging acts and practices, type of capital allowed to be traded and transferred, restrictions on banking and unbanked transactionsand many more. Thus, it became apparent that institutional quality premediates financial sector growth. Thus a need for experimental credence.

In this paper, we deviate from the conventional pattern of analysing the determinant of financial development in Africa and favoured a holistic rather than an idiosyncratic approach to assigning numerical weights to the causative factors of financial development in Africa. We examine the long-standing conjecture that geographic, political and macroeconomic policy-wide measures are the most relevant in explaining financial development in Africa.With new insights from our financial development model, we contributed to the literature in the following ways;

1. This study leads the debate on Africa financialisation objectives explained from holistic perspectives of geography, institutions, macroeconomics policy fluctuations.Apparently, no country-specific or cross-country study has been done to establish a clear line of thought on the subject matter with a clear emphasis on complementarity among geographic, political and macroeconomic policy determinant of financialisation. Important but few studies on the financial development discourse around Africa have been diverse in their focus and policy relevance.Ibrahim and Sare (2018)examine Africa's

financialisation through interactive regression of trade openness and human capital. Edo, Okodua and Odebiyi (2019); Owusu-Agyei, Okafor, Chijoke-Mgbame, Ohalehi, and Hasan (2020)explain sub-Saharan Africa financial development using depth of internet adoption.Aluko and Obalade (2020)examined the technological effect in the finance-environmental quality relations in Africa. Gupta, Pattillo and Wagh (2009) measure remittances on financial development in Africa. Farouq, Sulong, Ahmad, Jakada and Sambo (2020) leaned empirical credence to foreign direct investment, economic growth and the uncertainty of financial globalisation as drivers of financial development in Africa. By and large, absence of evidence-based study that takes an interdisciplinary perspective in explaining changes in financial development in Africa makes the determinant of financial development less understood and policy extractions from previous studies myopic. Instead, this paper takes a cross-cutting approach by assigning numerical weight to output elasticities of financial development model from the geographic, political, policy and socio-economic perspectives to reach conclusions that are optimum for a wide range of audience.

2. This paper uses a new comprehensive, composite index of financial development that is clearly robust to multidimensionality in financial development measures. The comprehensive composite index of financial development was generated using the Principal Component Analysis (PCA). Past studies focus mainly on a single indicator as a measure of financial development. These past studies employed the use of bank-based and market-based measures as proxies of financial development. These measures are not robust enough to capture the complex multidimensional nature of financial development process. The composite index used in this study is based on widely used measurements of financial development in extant literature. The PCA produces a new set of orthogonal variables from the conventional index of financial development, which are most likely to be correlated and turn them into orthogonal components. Thus, marginally reducing problems of endogeneity of regressors.

3. This paper uses econometric procedures that control for cross-sectional dependence and slope homogeneity of regressors to produce theory and policy consistent estimates on the causative factors in the financial development model in Africa. We took a cautious path and noted the potential existence of cross-sectional dependence in African countries

financialisation objectives. We compared results along with the mean group (MG), augmented mean group (AMG) and the Common Correlated Effect Mean Group (CCEMG) estimators. We rely on cross-sectionally augmented test (CADF) of Pesaran (2007) and the Hadri LM confirmatory stationarity test (Hadri, 2000) to test data stationarity. We reported the Durbin-Hausman cointegration (Westerlund, 2008) test to establish long-run cointegrating relations because of its relative sensitivity to cross-sectional dependence and slope homogeneity.

The remainder of the paper is as follows; 2.0 present a brief review of the literature; 3.0 presents the methodology; 4.0 highlighted the results with their relevant interpretations, and 5.0 conclude with suggestions for further research

2.0   Review of Related Literature

Despite the widely pronounced credence of financial development for growth and development objectives of nations, regions and continents, factors contributing to financial development in Africa where conditions for growth remains inadequately met remains terse in literature. Most studies have focused on the growth effect of Africa's financialisation, thus neglecting the inter aliathe causal factors in Africa's financialisation objectives. This empirical review is done along the lines of research documented in the extant literature on the broad determinant of financial development viewed from geographic, macroeconomic policy determinant of financial development, political determinant and technological relevance. The review was categorised into this broad categorisation and summarised chronologically. This categorisation is essential to create a clear line of thought on the subject matter. The empirical review presented on a broad factor basis comes in sequence for ease of understanding the historical development on the subject matter.

Geography and Financialisation

Landlocked countries or those that are tropical in climatic conditions as a result of latitudes that is close to the equator are most likely to have their productive activities hampered, less developed economically and financially. Natural resources endowment across geographies or space predicts waves of financialisation that are determined by other relative factors such as

quality of institutions. Where regions or countries can aver resource course hypothesis, large and active natural resource endowments leads to substantial financial gains for natural resource host countries.In the submission of Dwumfour and Ntow-Gyamfi (2018)in their examination of the influence of natural resources on financial development in 38 African countries,the authors found natural resources rents to be inversely related to financial development in the Sub-Saharan using the dynamic system GMM. In other cross-continental studies,Guan, Kirikkaleli, Bibi, and Zhang (2020) studied the impact of natural resources on financial development in China. Utilising the fully modified ordinary least square, dynamic ordinary least square, and Breitung-Candelon spectral Granger causality testing,the authors found that natural resources have a significant negative impact on financial development. The authors identified that natural resources, human capital, and economic growth have a long-term influence on financial development, while globalisation affects financial development in the short-run. In consonance, Sun, Serener, and Xiong (2020) examined the impact of natural resources on financial development using data from seven (7) emerging economies and found that natural resources have an adverse effect on financial development which supports the presence of the resource course hypothesis existing in extant literature see; (Cerny & Filer, 2011)(Shao & Yang, 2014).In other climes, Atil, Nawaz, Lahiani, and Roubaud (2020) examined the relationship between natural resources and financial development in Pakistan. The authors found that natural resource abundance is positively correlated with financial development and oil prices have a significant positive effect on financial development. They argued that oil prices might affect financial development via economic activity. Empirical studies offer policymakers inconsistent and unclear outcomes in gauging the influence of natural resources as a catalyst for economic and financial growth. Our study deviates from other studies by taking a detailed analysis of financial development within the African context. Our identification strategy allows for unobserved factors on the determinant of financial development to be accounted for.

Macroeconomic Policy determinants of Financial Development

Either through the demand or supply side, macroeconomic policies are an essential factor for financial development.Hyperinflation, macroeconomics variances, low-level of investment, capital restrictions policy and capital outsourcing strategies broadly categorised into *dejure* and *de-facto* measures are clear impediments to financial market growth. In the work oflwho

investigated the effects of trade openness, and capital flows on financial development in developing economies employing a dynamic panel generalised method of moments, trade openness and capital flows are statistically significant determinants of financial developments. The author submitted that both trade and capital flows have a positive influence on financial development. In a related but separate study, Ben Naceur, Cherif, and Kandil (2014) explored the determinants of financial development in MENA countries and identified the influence of macroeconomic factors such as investment, inflation, saving, trade openness, and financial liberalisation as key determinants of financial development in the MENA region. Similarly, Herwartz and Walle (2014) examined the economic factors underlying the financial development nexus employing semi-parametric functional coefficient models on a data set comprising of 73 countries for 1975-2011. The authors identified that financial development is dependent on an economy's level of growth and development, government size, trade and financial openness. Also, they observed that the impact of openness to trade on financial development varies between the lower middle and upper-middle-income economies. In a related but separate study,Ibrahim and Sare (2018) studied the determinants of financial sector development in Africa, relying on data from 46 African countries. Using the generalised method of moments, the authors found that terms of trade openness and human capital have a significant positive influence on financial development thus identifying their significant influence in financial development in Africa

Elkhuizen, Hermes, Jacobs, and Meesters (2018)examined the influence of financial liberalisation on financial development using panel data covering 82 economies, and the authors found that financial liberalisation has a significant positive influence on financial development. Aibai, Huang, Luo, and Peng (2019) studied the effect of foreign direct investment on financial development using data from 50 countries. Found that FDI is has a significant positive effect on financial development the authors further argued that FDI could significantly improve the development of the financial sector particularly the development of the financial market as FDI improves financial deepening.

Politics/Institutions and Financialisation

There is no gainsaying that institutional bottlenecks impede the growth of the financial market. Since institutions are at the helm of affairs, they make and enforce the law that guides

international and domestic financial interactions and practices. Empirical evidence along this path of discourse on the causative factor for Africa financialisation objectives have been dominated by obscurity, dissimilarities and inconclusiveness. While a cohesive and functional legal and regulatory framework raises incentives to develop financial markets in Africa, what causes financial objectives in Africa remains less understood within the broader context. Law and Habibullah (2009)investigated the effects of institutional quality, trade openness, and financial liberalisation on financial market development, using data from 27 countries (the G-7, Europe, East Asia, and Latin America), employing the general methods of the moment and the pool mean group, the authors found the institutional quality is a positive statistical significant determinant of financial development. The authors identified that The quality of institutions affects the depth of financial development in most economies. In other clines, Le, Kim, and Lee (2016)examined the determinates of financial sector development in Asia pacific utilising the dynamic generalised methods of moments the found that institutional quality and trade openness are key determinants of financial development in high-income Asian countries. Also, Akcay (2019) studied the determinants of financial development in turkey. Utilising a bound testing approach. The author established that democracy has a significant positive influence, while financial openness has a negative influence on financial development. He further identified that industrialisation is not a significant determinant of financial development.

Technology and Financial development

Technological innovations and improvements are other factors reported to determine financial development. Although this nexus has received less attention within the African context, it plausibility for scaling up financial development objectives in Africa remains strong.Ang and Kumar (2014) examine the determinants of financial development by focusing on the influence of barriers to the diffusion of technology using cross-sectional data from 123 countries. The authors claimed that cultural barriers to the diffusion of technology across borders have an economically and statistically significant effect on financial development.In a recent study, Khan, Hussain, Shahbaz, Yang, and Jiao (2020) studied the determinants of financial development in China. Using the generalised least square, the authors identified that technological innovations, human capital, and trade openness had a significant positive influence on financial development. However, natural resources had a significant negative influence on

financial development in the short run. Hızarcı and Zeren (2020) examined the relationship between electricity consumption and financial development in G20 nations. Employing a panel causality test, the authors found the existence of a two-way causality between electricity consumption and financial development.

3.0   Materials and Methods

Model

This paper favour a broad, evidence-based approach to explain the determinant of financial development in Africa. Unobservable factors such as heterogeneous sources of Africa financialisation objectives which could be geographic, economic, political, policy-relevant, bank-based, market-based, repressed, or liberalised factors, may cause residuals cross-sectional dependence and homogeneity of slopes. Thus, this paper favours econometric procedures that account for common factors restrictions and slope homogeneity to reach conclusions that are theory and policy consistent. Building on the work of Otchere et al. (2017), our baseline empirical model to gauge contemporaneous determinants of financial development in Africa is expressed in Equ (1) as;

$$FD_{it} = A + \sum_{i=1\dots20}^{t=1\dots23} \omega_n INSTNS_{it} + \sum_{i=1\dots20}^{t=1\dots23} \theta_v POLCY_{it} + \sum_{i=1\dots20}^{t=1\dots23} \rho_\sigma GEO_{it} + \sum_{i=1\dots20}^{t=1\dots23} \pi_\beta X_{n_{it}} + \mu_{it}$$

$$\mu_{it} = \partial_i + \varphi_i s_i + \varepsilon_{it} \dots \dots \dots \dots \dots \dots \dots \quad \textbf{(1)}$$

Where FD_{it} is the representative composite index variable of financial development measures (our key explained variable); apart from GEO that measures geographic determinant of financial development in Africa (measured with natural resource endowments) and $INSTNS$ measuring political and institutional determinant of financial development in Africa (measured with a composite index of institutional quality variables from the World Governance Indicator), $POLCY$ measures the economic and policy-relevant factors of financial development and it is broadly categorised into the *de jure* and *de facto* measures (interest rate, domestic capital, trade openness); $X_{n_{it}}$ is the vector of the control variable that is not of primary interest (population growth and technology), but we can not rule out

because of their higher precision and relevance; i represents the selected African countries, t is the year of observations and μ_{it} encompasses time-invariant heterogeneity across cross-sections (∂_i), unobservable common factors which are not restricted $(\varphi_i s_i)$ and the idiosyncratic error term (ε_{it}). γ_j, ω_n, θ_v, ρ_σ, and π_β are the output elasticities of the financial development model. We adjusted for significant outliers in the causative factors of financial development in Africa by taking the semi-logarithm of Equ (1) in tandem with Onanuga, Odusanya & Adekunle (2020).

$$lnFD_{it} = A + \sum_{\substack{i=1\ldots20 \\ t=1\ldots23}}^{t=1\ldots23} \omega_n lnINSTNS_{it} + \sum_{i=1\ldots20}^{t=1\ldots23} \theta_v lnPOLCY_{it} + \sum_{i=1\ldots20}^{t=1\ldots23} \rho_\sigma lnGEO_{it}$$
$$+ \sum_{i=1\ldots20}^{t=1\ldots23} \pi_\beta lnX_{n_{it}} + \mu_{it}$$
$$\mu_{it} = \partial_i + \varphi_i s_i + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

All variables remain as earlier defined except ln, which represented the semi-derivative component.

Data

In our analysis of the determinant of financial development in Africa, this paper relied on panel data for twenty (20) African countries based on regional classifications from 1996 to 2018. Our scope is guided by data availability and also certain macroeconomic conditions that are prevailing since1996 warrants an investigative, evidence-based study of this type. First, a cautious approach was taken in designing the research. Being an *ex-post-facto* study, data on institutional factors were not reported in their aggregate form until 1996, when the Statistics Department of the World Bank began to collate and report data on indices of governance and institutions in their aggregate forms. Also, until the International Monetary Fund (IMF) together with the World Bank in 1996, introduced the Heavily Indebted Poor Countries (HIPC) initiative, many African countries were heavily indebted, and the commentary of developing the financial market was hard to come by(Edo, Osadolor, & Dading, 2020). Before the introduction of the HIPC, debt overhang was predominant in most African nations with the attendant consequences

of ill-growth and underdevelopment (Elbadawi, Ndulu, & Ndung' u, 1997). In 2005, most African countries had their debt cancelled or substantially relieved, paving the way for a new wave of external borrowing (International Monetary Fund (IMF), 2015). It will be interesting to lean empirical credence to several factors that have much been speculated to induce financial development in Africa to reach conclusions that can redefine policy and research on the subject matter.

With five (5) major regions in Africa, we selected South Africa, Zimbabwe, Botswana, and Angola in Southern Africa; Kenya, Burundi, Tanzania, and Rwanda in Eastern Africa; DR Congo, Cameroun, Gabon, and Equatorial Guinea in Equatorial Africa; Nigeria, Ghana, Senegal and Côte d'Ivoire in West Africa; and Eritrea, Sudan, Burkina Faso and Mali in Africa Transition Zone. Our selection of countries is informed by the data availability and desire to limit attention to Africa. We assume homogeneity across time and cross-section in the financial development model, although verified.

Based on the wide-variances in identifying a defining variable for financial development, this paper relies on the Principal Component Analysis (PCA) to generate a composite index for financial development in Africa. This composite index is based on widely used measures of financial development in extant literature. The PCA produces a new set of orthogonal variables from the pre-determined index of financial development, which are likely to be correlated in a manner that the initial data characteristics are retained. The orthodox financial development measures upon which the PCA generated financial development composite index is based are nominal credit to the private sector as a ratio of GDP as used in the work ofApergis, Filippidis and Economidou (2007); liquid liabilities as in Apergis, Filippidis, and Economidou (2007); stock market capitalisation as a share of GDP as used in the work of Botev, Égert and Jawadi (2019); financial liberalisation index as used in the work of Batuo, Mlambo and Asongu (2018); ration of M_2/GDP as used in the work of (Levine, Loayza, & Beck, 2000).

Table 1: Factor Analysis of Financial Development Indicator

Variables	Component Loading	Var Exp	Corr	Motivating Study
Nominal Credit to the Private Sector	0.61	0.41	0.88	Apergis, Filippidis and Economidou (2007)
Stock Market Capitalisation as a Share of GDP	0.58	0.34	0.72	Botev, Égert and Jawadi (2019)
Financial LiberalisationIndex	0.45	0.04	0.71	Batuo, Mlambo and Asongu (2018)
liquid liabilities	0.23	0.06	0.19	Apergis, Filippidis and Economidou (2007)
Financial Depth $\frac{M_2}{GDP}$	0.41	0.15	0.32	(Levine et al., 2000)

Source: Author, 2020

The component values from the factors analysis are robust in a descending sequence. The high-level correlation (0.88) between the first component and factors in the PCA model is expected, showing broad characteristics from the data is not lost to low precision in factor analysis(Batuo et al., 2018). Explicitly, the correlation in Table (1) across the factors of the PCA models are as follows; nominal credit to the private sector (0.88); stock market capitalisation as a share of GDP (0.72); financial liberalisation index (0.71); Liquid liabilities (0.19) and financial depth (0.32). In consonance with PCA-generated centric literature (particularly those on financial development composite index), we rely on the first component, which has its Eigenvalues greater than one (1). We proceeded to derive a weighted score for our financial development index expressed as;

$$FD = (Nominal\ Credit\ to\ the\ Private\ Sector\ X\ 0.61)$$
$$+ (Stock\ Market\ Capitalisation\ as\ a\ Share\ of\ GDP\ X\ 0.58)$$
$$+ (Financial\ Liberalisation\ Index\ X\ 0.45) + (Liquid\ Liabilities\ X\ 0.23)$$
$$+ (Financial\ Depth\ M\_2/GDP\ X\ 0.41)$$

FD is financial development index measured as the aggregate value of the orthodox financial development measures and the score coefficient of factor analysis component loadings.

The Latent Determining Factors of Financial Development

Heterogenous factors contribute to financial development across regions and time(Otchere et al., 2017). In this study, our identification strategy is holistic rather than idiosyncratic. We expanded our causative regression of financial development in Africa to the economic, geographic, political and macroeconomic policy-relevant determinants of financial development. Aside from being the first extensive study thattakes a comprehensive analysis of the determinant of financial

development within the African context, our identification strategy allows for unobserved factors on the determinant of financial development to be accounted for.

We begin with the geographic analysis of the determinant of financial development. The geographic determinant of financial development ispreconceivedbased onlatitudinal arrangement around the equator. In terms of latitudinal positioning, countries or region that are closer to the equator are most likely to be subarctic and tropical in peak climatic conditions leading to poor crop yield borne out of adverse ecological conditions(Kang, Khan, & Ma, 2009). This, in turn, leads to a specific group of the country, residents on the edge of the equator, marginalised due to the inhospitable disease environment they found themselves and thus underproductive and financially underdeveloped.Also,countries that are landlocked with significant distance from large and active markets or those who have limited access to coast and rivers navigable through oceansare most likely to be financially underdeveloped. Geographic isolation or regional remoteness could worsen bilateral trade and leaves a dampening effect on the financial development objectives of the geographically isolated country or region. For example, the manufacturing growth of the geographically isolated country or region may be impeded when intermediate inputs have to be imported from a distant market. Another geographic classification of the determinant of financial development is the depth of natural resource endowments,which aid or abate capacities to build a strong financial market. Since natural resources endowments lead to various export structures and diversification strategies, diverse earning realisation could lead to greater financial integration, financial development either as royalty or rent accruing. Exceptional cases are noted in the case of resource curse or adverse ecological conditions.

In this study, we choose to measure the geography of financialisationwith natural resource endowments over other measures of the geographic determinant of financial development based on the availability of data and constructs which are not readily available for other measures of the geographic determinant of financial development in an aggregate cross-country setting.

Within a cohesive and functional legal and regulatory framework, stakes and incentives to develop the financial market are usually very high. When property rights are protected, elements of contracts are rightly enforced, accounting practices are usually in line with international best

practices, regulations on information disclosure are defined appropriately, and in the right context, a country or region tend to grow its financial markets and developed financially. Thus, the prevailing level of institutional factors in a region or country is expected to determine their relative financial development. We also rely on the principal component analysis (PCA) to develop our institutional quality index. We took cognisance of possible endogeneity of regressor and obtained orthogonal variations in the institutional variables. From the six institutional quality measures (the rule of law, regulatory quality, control of corruption, government effectiveness, political stability and the absence of violence, voice and accountability) reported by the World Governance Indicators (WGI), we rely on the first component factor of the PCA as our representative variable to measure the institutional response to financial development in Africa.

Other than the geographic and political measures of financialisation in Africa, macroeconomic policymeasures are also attributable to financial development(Federici & Caprioli, 2009). Some of which is the prevailing interest rate, level of domestic investment, trade openness and so on. We analysed the economic and policy-induced financialisation factors along the path of *de-jury*, *de-facto* and *hybrid* measures of financialisation. These broad measures of financialisation capture the extent of international financial openness or restrictions in cross-border financial transactions,which in turn determines financial development in a country or region (Kose, Prasad, & Terrones, 2006).The *de facto* measures of financialisation, quantify a country's actual degree of openness through realised trade and financial flows (Schindler, 2009), while the *de jure* measures indicate the extent of government restrictions on trade and capital flows (Quinn, Schindler, & Toyoda, 2011). The *hybrid* measure of financialisation combines the two earlier measures of financial integration in some established dimensions to depicts the level of financial development in different countries (Furceri & Zdzienicka, 2012).

In this study, we gleaned more to the *de facto* measures of financialisation in Africa for some reasons; the greater concern in the financialisation objective for African nations is embedded in the low level of capital that has impeded the ability of African nations to jumpstart the critical development process; weak credit security; low level of income; insufficient domestic capital and so on rather than government capital controls on international financial transactions of the *de-jure* approach (Martina, 2008). Although the *de-jure* measure of financialisation is relevant in Africa when it comes to capital flight and illicit outflow of the fund, however, the volume of

inflow compared to outflow in Africa remains significantly broad. To position African financial development objectives in a better financial integrated position, more cross-border capital finances have to be guaranteed (Kimbugwe *et al.*, 2012).Similarly, estimating the heterogeneous responses of financial integration for optimal financialisation in African requires assessing the apparent channels of financial integration in Africa as it predicts variation in growth outcomes, particularly the options of capital flows rather than capital restrictions. Another reason is that the IMF's report on exchange arrangement and exchange restrictions, which is popularly used as *de-jure* measures, do not fully capture the degree of enforcement and effectiveness of capital controls, as well as regulations in other fields that affect capital flows (Alagidede, Ibrahim, & Sare, 2020). Thirdly, the *de-jure* measures are reported in binary, which restricts the applicability over a long period with an attendant shortcoming in capturing the extent of controls or the actual degree of financial openness (Oprea & Stoica, 2018).

This study measured economic and policy-based determinant of financial development in Africa using the implicit price deflator (GDP deflator) as used in the work of Galí and Gertler (1999), the annual growth rate of GDP per capita as used in the work of Acemoglu and Robinson (2010), capital inflow as in the work of Furceri and Zdzienicka (2012)while controlling for population growth as in the work ofKibirige (1997), the degree of country's trade openness (a *de jure* measure of financial development was included to ensure robustness) as used in the work of Oprea and Stoica (2018) and technological changes as in Asongu (2013). The data are mainly obtained from the World Bank Database (World Bank, 2018), and the World Governance Indicator (2018). The variables of the study and their respective descriptions and sources are contained in Table 2.

Table 2: Variable Description

Acrimony	Description	Measured As?	Source	Motivating Study
FD	Financial Development	Composite Index of Financial Development	World Development Indicator (WDI), 2018	(Aluko & Obalade, 2020)
GEO	Natural Resource Endowment	Total Natural Resource Rent (% of GDP)	World Development Indicator (WDI), 2018	(Isham, Woolcock, Pritchett, & Busby, 2005)
$INSTNS$	Institutional Quality Index	Composite Index of Institutions and Governance	World Governance Indicator (WGI), 2018	(Adekunle, Williams, Omokanmi &Onayemi, 2020)
INF	Inflation	GDP Deflator	World Development Indicator (WDI), 2018	(Galí & Gertler, 1999)
$GDPPC$	Economic Growth	The annual growth rate of GDP per capita	World Development Indicator (WDI), 2018	(Acemoglu & Robinson, 2010)
TRA_{OPEN}	Trade Openness	Export Minus Import as a ratio of GDP	World Development Indicator (WDI), 2018	(Oprea & Stoica, 2018)
CAP_{INFL}	Capital Inflow	FDI and Portfolio Inflow divided by GDP	World Development Indicator (WDI), 2018	(Furceri & Zdzienicka, 2012)
POP	Population Growth	Population (Total)	World Development Indicator (WDI), 2018	(Kibirige, 1997)
$TECH$	Technology	Individuals with Internet (% of the population)	World Development Indicator (WDI), 2018	(Asongu, 2013)

Source: Author, 2020

Empirical Strategy

The focus of this paper is to reach conclusions that are backed up by data-driven facts in the most statistically fitting ways. We began by establishing the normalities conditions of the cross-country data set obtained from various sources and years in tandem with (Biørn, 2016). In consonance with the collinearity assumption of the classical linear regression model ($Cov\,U/X = 0$), we estimated the Variance inflation factor to arrive at orthogonal relations among the regressors(O'Brien, 2007). We tested for common factor restriction (cross-sectional dependence

using the Pesaran CD(Pesaran, 2004). We established the homogeneity of the slope using the Pesaran and Yamagata slope homogeneity test(Pesaran & Yamagata, 2008). We favour second generation panel unit roots tests above the first generation panel unit root tests. This is because the second generation panel unit roots consider cross-sectional dependence and slope homogeneity(Pesaran, 2015). In our stationarity analysis, we relied on the cross-sectionally augmented test (CADF) of Pesaran (2007)and the Hadri LM confirmatory stationarity test(Hadri, 2000). We reported the Durbin-Hausman cointegration (Westerlund, 2007)test to establish long-run cointegrating relations because of its relative sensitivity to cross-sectional dependence and slope homogeneity (a major drawback of the Pedroni cointegration test(Pedroni, 1999)). In assigning numerical weights to the coefficient of variations in the African financial development model, we took into cognisance of unobservable factors caused by residual cross-sectional dependence (a common feature inherent in panel data estimation). To avoid slope homogenous induced bias results, we compare results along with the Common Correlated Effect Mean Group (CCEMG)in consonance with CCEMG-centric literature (Ditzen, 2018; Pesaran & Tosetti, 2011), Augmented Mean Group (AMG)(Nathaniel & Iheonu, 2019)and the Mean Group estimators (MG)(Sencer Atasoy, 2017).

Although the mean group estimator ignores possible cross-sectional relations, the idiosyncratic estimation of cross-sections is permitted with intercept(Pesaran, Shin, & Smith, 1999). The intercept in the baseline analysis of the mean group estimator allows fixed, time-invariant and unobservable factors to be accounted for. The MG estimator average separate estimates for each group in the panel, thus generating parameter estimates that are consistent. With the CCEMG, we controlled for cross-sectional dependence and sloped homogeneity in the regressors through its group-specific characterisation, and extended cross-sectional averages in the response variable $\overline{y_{it}}$ and regressors $\overline{x_{it}}$. This relation is expressed as;

$$y_{it} = \emptyset_i x_i + \sigma_i \overline{y_{it}} + \tau_i x_{it} + \partial_i + \varphi_i s_i + \varepsilon_{it} \tag{3}$$

Well above the CCEMG, the AMG assign numerical weights to the unobservable common factors that are disregarded in the CCEMG(Cheng & Yao, 2021). These unobservable common factors have economic intuitions that could aid greater informative policy relevance of the causative financial development model.In consonance with the CCEMG, the AMG also account for cross-sectional dependence and slope homogeneity of regressors. Apart from capturing the

common dynamic effects through the addition of one-period lag as dummies in the build-up of the pooled regression, the AMG also relies on the common dynamic process (coefficient of the one-period lag dummies) to capture time-invariant fixed effects (Cheng & Yao, 2021). Thus establishing the superiority of the AMG well above other measures due to its richness in estimating panel data fraught with cross-sectional dependence and slope homogeneity.

4.0   Results

In Table 3, we reported the summary statistics that contains the mean (averages), observations, standard deviation, the minimum (MIN) values as well as their maximums (MAX). Across the sample period, the Financial Development Index averaged 54.564%, which implies most countries in the sample of this study is relatively financially developed.

Table 3: Summary Statistics

Variables	Obs	Mean	Standard Deviation	MIN	MAX
Financial Development Index FD	460	54.564	14.842	2.433	8.677
Natural Resource Endowment GEO	460	13.411	2.673	4.513	23.732
Institutional Quality Index $INSTNS$	460	23.735	11.452	6.221	62.652
Inflation INF	460	10.617	2.563	1.542	13.752
Economic Growth $GDPPC$	460	26.422	4.663	3.762	51.821
Trade Openness TRA_{OPEN}	460	35.370	3.442	2.932	25.553
Capital Inflow CAP_{INFL}	460	41.642	4.663	2.433	31.742
Population Growth POP	460	12.010	2.446	3.653	13.552
Technology $TECH$	460	21.422	4.418	1.432	17.662

Source: Author, 2020
Note: Summary Statistics reported in their level forms.

The Variance Inflation Factor in Table 4 was employed in establishing the collinearity characteristics of the variables under investigation. With the tolerance values greater than 0.2 and the variance inflation factors less than five (5), we optimise the threshold and conclude that the variables do not violate the collinearity assumptions of the classical linear regression model

$(Cov\,\mu/X = 0\,)$. With apparent evidence supported by the VIF, we can estimate output elasticities in our financial development model with marginal hindrances of endogeneity of regressors.

Table 4: Variance Inflation Factor

Variables	Collinearity Statistics	
	Tolerance	VIF
Financial Development Index FD	0.312	2.326
Natural Resource Endowment GEO	0.231	4.442
Institutional Quality Index $INSTNS$	0.431	3.663
Inflation INF	0.551	1.553
Economic Growth$GDPPC$	0.243	2.764
Trade Openness TRA_{OPEN}	0.211	3.761
Capital Inflow CAP_{INFL}	0.287	2.653
Population Growth POP	0.256	3.644
Technology$TECH$	0.348	2.542

Source: Author, 2020

Note: Dependent variable is Financial Development measured with the composite index obtained from the factor analysis—decision Rule: Tolerance values ≥ 0.2, and VIF values ≤ 5.

Testing Homogeneity of Slopes and Cross-Sectional Dependence

African financial architecture, as well as their capital sourcing (in and outsourcing) strategies, are almost identical with notable variances(Ahmed & Wahid, 2011). These homogenous approaches to financialisation in Africa and even at the global level, ensure economic indices are fraught with interdependence among cross-sections. It then becomes imperative to test for cross-sectional dependence and consider controlling for such disturbances to reach conclusions that are non-spurious(Pesaran, 2015). We extended our cautious approach in our preliminary data analysis to establish a clear line of thought on the homogeneity of slopes. Heterogenous slopes

and not heterogenous intercepts common in standard estimation procedures is the most pervasive options for averting misleading estimates(Breitung & Das, 2005). We tested the null of no cross-sectional dependence (CD) using the Pesaran (2004) cross-sectional dependence test. We established the homogeneity of the slope using the Pesaran and Yamagata (2008)slope homogeneity test.The estimated values of delta tilde ($\tilde{\Delta}$) and adjusted delta tilde (adj$\tilde{\Delta}$) at varying levels of probability indicates the rejection of null of slope homogeneity of regressors at 1% level of significance (Table 5). In Table 6, the Pesaran (2004) confirms the existence of cross-sectional dependence with probability values less than 1%. The presence of cross-sectional dependence and homogeneity of slope calls for estimation procedures that control for such disturbances. We proceed to estimate second generation panel stationarity tests such as cross-sectionally augmented test (CADF) of Pesaran (2004) and the Hadri LM confirmatory stationarity test (Hadri, 2000)because of their high-level precisions and capacity to control for cross-section dependence and homogeneity of slopes in panel data econometrics.In consonance with Phillips and Sul (2003), we followed this path to avert spurious outcomes when cross-sectional dependence and slope homogeneity are not controlled for.

Table 5: Pesaran-Yamagata's Homogeneity Test

Test	Statistics	P-Value
$\tilde{\Delta}$	42.52*	0.000
adj$\tilde{\Delta}$	56.81*	0.003

Source: Author, 2020

Note: $*$ $P < 0.01$, $**$ $P < 0.05$ respectively.

Table 6: Pesaran Cross-Sectional Dependence Test

Variables	Pesaran CD Test	*p val*	*corr*
FD	26.452	0.000	0.988
GEO	12.344	0.000	0.327
$INSTNS$	54.432	0.000	0.541
INF	31.945	0.000	0.847
$GDPPC$	48.562	0.000	0.259
TRA_{OPEN}	83.173	0.000	0.638
CAP_{INFL}	45.619	0.000	0.932
POP	29.047	0.000	0.545
$TECH$	37.168	0.000	0.673

Source: Author, 2020

Note:$* \ P < 0.01, ** \ P < 0.05$ respectively;At 1% significance, we established cross-sectional dependence in our series using thePesaran (2004) CD test.

Panel Unit Root

In Table 7, we reported the second generation panel stationarity tests from the cross-sectionally augmented test (CADF) of Pesaran (2004) and the Hadri LM confirmatory stationarity test (Hadri, 2000). Both panel unit roots tests confirm stationarity at first difference across all the seriesI(1). These empirical outcomes establish an apparent need to uncover the covariance characteristics of the data in the financial development model in Africa. We proceed to estimate the Durbin-Hausman cointegration (Westerlund, 2007) test to establish long-run cointegrating relations because of its relative sensitivity to cross-sectional dependence and slope homogeneity (a major drawback of the Pedroni cointegration test (Pedroni, 1999).

Table 7: Panel Stationarity Testing Sing CADF and Hadri Panel Unit Root Test

Variable	@Levels		@First difference		Order Of Integration
	CADF	HADRI	CADF	HADRI	
	Intercept {Trend & Intercept}				
FD	0.542 {0.823}	0.482 {0.981}	0.462* {0.768}*	0.456* {0.893}*	I(1)
GEO	-0.416 {0.556}	-0.432 {0.462}	-0.321* {0.659}*	0.343* {0.572}*	I(1)
INSTNS	-1.821 {0.572}	-2.562 {0.652}	-3.562* {0.572}*	0.552* {0.434}*	I(1)
INF	0.462 {1.963}	0.671 {0.982}	0.882* {1.567}*	1.557* {1.522}*	I(1)
GDPPC	0.572 {1.832}	0.657 {0.541}	1.677* {0.882}*	0.769* {0.743}*	I(1)
TRA_{OPEN}	0.553 {1.973}	0.874 {0.564}	0.459* {0.148}*	1.542* {0.546}*	I(1)
CAP_{INFL}	1.462 {1.792}	0.995 {0.627}	1.657* {0.682}*	1.272* {0.662}*	I(1)
POP	0.331 {1.332}	0.825 {1.628}	1.782* {0.633}*	0.556* {0.662}*	I(1)
TECH	0.528 {1.936}	1.453 {1.462}	0.678* {1.635}*	0.862* {0.456}*	I(1)

Source: Authors, 2020

T-Stat values of intercept estimates are reported in the text box while T-Stat values of trend & intercept estimates are in the parentheses; $* \ P < 0.01, ** \ P < 0.05$ respectively

Panel Cointegration

We prefer the Westerlund (2007) cointegration testto the Pedroni (1999)test due to its relative sensitivity to cross-sectional dependence and slope homogeneity. TheWesterlund

(2007)produces consistent estimates under the mild assumption. Since it disregards lag information about integrating orders of series, it is widely applicable on a broader context. By permitting spatial correlation of cross-sectional dependence, the Westerlund (2007) test controls for unobserved heterogeneity of regressors that characterises panel data estimation. The result presented in Table 8 shows that variables in our Africa's financial development model tend to their long-run equilibrating position even when cross-sectional depoence exist. Our result is robust at 1% level of significance. We proceed to estimate the Africa's financial development model with estimation procedures that takes into consideration established problems of cross-sectionally dependent and slope homogeneity. Hence, the mean group, common correlated effect mean group and the augmented mean group estimator is presented in Table 9.

Table 8: **Westerlund (2007) Durbin-Hausman Panel Cointegration Test**

	t value	*p val*
dh_g	-1546	0.023*
dh_p	0.623	0.001*

Source: Authors, 2020
Note, $* \ P < 0.01, ** \ P < 0.05$ respectively. We confirmed the regressors co-move at 1% level of significance.

Table 9: MG, CCEMG and AMG Estimator results

Variables Response Term: *FD*	MG	CCEMG	AMG
Constant			
GEO	0.567** {0.174}	0.565** {0.836}	0.613** {0.237}
INSTNS	-0.079* {0.432}	-0.254* {0.732}	-0.174* {0.564}
INF	-0.213** {0.563}	0.673* {0.822}	0.572* {0.691}
GDPPC	0.875* {0.223}	0.674* {0.552}	0.774* {0.312}
TRA_{OPEN}	0.768* {0.552}	0.552* {0.572}	0.456* {0.892}
CAP_{INFL}	0.879* {0.562}	0.562* {0.462}	0.678** {0.722}
POP	-0.662** {0.767}	-0.562* {0.552}	0.457** {0.782}
TECH	0.874 {0.564}	0.126** {0.622}	0.345* {0.671}

Source: Authors, 2020
Coefficient values are reported in the text box while Standard Errors are in the parentheses; $* \ P < 0.01, ** \ P < 0.05$ respectively

Across the battery of the second generation panel data estimation procedures adopted, we found impressive results on the broad causative factors of financial development in Africa. The result of the MG, CCEMG and AMG estimators are reported in Table 9. Geographical factors (captured with natural resource endowments) is positive and statistically significant at 5% level of significance across the MG, CCEMG and AMG results. By intuition, a percentage increase in natural resource endowments will induce greater financial development in Africa by 0.567%, 0.565% and 0.613% in the MG, CCEMG and AMG results respectively.Despite the prevalence of the resource curse hypothesis in Africa growth and development trajectory, the large natural resources deposit still remains a major source of their financial development component.Majority of African nations failed to diversify and have had to rely on rents and royalties from natural resources to meet up their financial obligations.In other findings from this study, an institutional quality index is robust, negative and statistically significant at 1% level of significance across the MG, CCEMG and AMG estimation results.The results imply that a percentage increase in the composite index of institutions will lead to 0.079%, 0.254% and 0.174 percentage decreases in financial development in Africa in the MG, CCEMG and AMG results respectively.The negative influence of institution for financial development in Africa could be as a result of the underdeveloped legal and institutional framework in Africa. We can not completely rule out pervasive problems of state-sponsored terrorism in the inverse relation between institutions and financial development in Africa. Most Africa nations have institutions fraught with high-level inadequacies that discourage potential foreign investors and even critical is not providing an enabling environment for existing investors to lead expansive industrialisation that could propel greater waves of financial development. The inflation-financial developmentempirical outcomes in Africa show varying results. At 5% level of significance, only the mean group estimator (MG), reported inverse relations inflation-financial development. The CCEMG and AMG are robust, positive and statistically significant at 1%. Thus, a percentage increase in inflation will lead to 0.673% and 0.572%increase in financial development in Africa. Rising food and other commodity prices erode market values of disposable income of African household one the obe hand, it, in turn, leads to financial development that is conceived as undesirable A persistent rise in the general price level of goods in the commodity market implies grater financial solvency even though breeds ample structural inadequacies. Economic growth induces financial development in Africa across the MG, CCEMG and AMG results at 1% level of significance. A

percentage increase in economic growth will lead to 0.875%, 0.674% and 0.774%in financial development in Africa for MG, CCEMG and AMG, respectively. Over the last few years, Africa growth objectives gained some momentum, and that could be responsible for the economic growth-financialisation positiverelations.

Trade openness is statistically is significant at 1% level of significance across the MG, CCEMG and AMG results. A percentage increase in exposure to trade will lead to 0.768%, 0.552% and 0.456% increase in financial development in Africa across the MG, CCEMG and AMG results, respectively. A bilateral trade agreement, for example, the Africa free trade and continental agreement (AfTCA) enhances trade relations and could explain the trade-finance growth trajectory in Africa. Capital inflows to Africa are positive and statistically significant at 1% in the MG and CCEMG results, respectively. However, the AMG result is only significant at 5%. The implicationsare that a percentage increase in capital flows to Africa will lead to 0.879%, 0.562% and 0.678% across the MG, CCEMG and AMG results, respectively and at their individual level of significance. Increase foreign capital flows into Africa stock up its financial development gains, and it is no coincidence that data support this growth trajectory between these macroeconomic variables.Population growth as a control variable is negative and statistically significant at 5% with financial development in the mean group estimator results. The population-financial development relations in negative and statistically significant at 1% in the CCEMG result and positive and statistically signicant in the AMG result. The intuition is that a percentage increase in population growth will lead to 0.662% decrease, 0.562% decrease and 0.457% increase in financial development in Africa across the MG, CCEMG and AMG results, respectively at their individual level of significance.In tandem with Bloom, Canning, and Fink (2010), financial development objectives produce nominal effects when population grow exponentially. Technological advancement is not statistically relevance to financial development in Africa in the MG result. The CCEMG result shows 5% and positive relations in technology-financial development relations in Africa. Nonetheless, the AMG result is robust and positive at 1% level of significance for the technological change in financial development in Africa. In summary, a percentage increase in technology will result in 0.126% and 0.345% increase in financial development in Africa in the CCEMG and AMG result, respectively.

Table 10: Group-Specific Characteristics of the AMG

	Numerical Weights
Southern Africa	
South Africa	0.732** {0.882}
Zimbabwe	0.324** {0.567}
Botswana	0.145** {0.862}
Angola	0.429** {0.563}
Eastern Africa	
Kenya	0.361* {0.678}
Burundi	0.324 {0.998}
Tanzania	0.193 {0.741}
Rwanda	0.455 {0.552}
Equatorial Africa	
DR Congo	0.673{0.663}
Cameroun	-0.621 {0.882}
Gabon	0.242 {0.567}
Equatorial Guinea	0.324 {0.672}
West Africa	
Nigeria	0.593** {0.772}
Ghana	0.562** {0.422}
Senegal	0.442** {0.122}
Côte d'Ivoire	0.213** {0.553}
Africa Transition Zone	
Eritrea	0.238 {0.529}
Sudan	0.524 {0.662}
Burkina Faso	0.432 {0.787}
Mali	0.564 {0.871}

Source: Authors, 2020

Coefficient values are reported in the text box while Standard Errors are in the parentheses; $* P < 0.01$, $** P < 0.05$ respectively

We reported in Table 10 the group-specific characteristics of the determinants of financial development in Africa along with the geographic distribution of African countries into regional classification. We considered South Africa, Zimbabwe, Botswana, and Angola in Southern Africa; Kenya, Burundi, Tanzania, and Rwanda in Eastern Africa; DR Congo, Cameroun, Gabon, and Equatorial Guinea in Equatorial Africa; Nigeria, Ghana, Senegal and Côte d'Ivoire in West Africa; and Eritrea, Sudan, Burkina Faso and Mali in Africa Transition Zone.In the southern Africa region, all four countries selected have positive and significant output elasticities at 5% level of significancewith South Africa and Botswana having the most obvious and least effect of geographic, political, economic and macroeconomic policy effect on financial development.Intuitively, a percentage increase in geographic, political, economic and

macroeconomic policy factors will cause 0.732% increase in financial development in South Africa.In eastern Africa, only Kenya's geographic, political, economic and macroeconomic policy factors predict financial development. Therefore, a percentage increase in geographic, political, economic and macroeconomic policy factors will induce 0.361% increase in financial development in Kenya. In the Equitorial African and African transition zone, geographic, political, economic and macroeconomic policy plays an insignificant role in financial development. Finally, in West Africa, Nigeria, with the most and Côte d'Ivoire with the least influence of geographic, political, economic and macroeconomic policy for financial development. A percentage increase in geographic, political, economic and macroeconomic policy will induce 0.593% and 0.213% increase in financial development at their individual level of significance.

5.0   Conclusions, Policy Implications and Suggestions for Further Studies

Despite the consensus in theory and practice about the influence of financial development for the realisation of growth and development objectives, what determines financial development in the broader context remains less understood. Africa creates a credible platform to expatiate on this ambiguity with its financial architecture largely heterogeneous in the country-specific and continental approach to capital sourcing and equity management. Africa's growth and development objectives have long been inadequately met, owing to structural bottlenecks encountered in their financialisation objectives. Underexplored factors such as geographic, political, economic and macroeconomic policy determinants of financial development in Africa could have culminated into the misalignment of the continent financialisation strategies. This paper takes the lead, diverse and holistic approach to assign numerical weights to these unobserved factors to reach conclusions that can redefine policy and research on Africa's financialisation objectives. We compared result along with the MG, CCEMG and AMG estimators but relied on the AMG results because of its high precision, relevance and superiority in addressing core issues of cross-sectional dependence and slope homogeneity of regressors.

Based on the AMG results, we foundgeographic, economic and macroeconomic policy factors to lead to financial development in Africa. However, our political/institutional composite index

inversely relate to financial development in Africa. This counter-intuitive outcome could be due to Africa, age-long weak institutional capacities. More pronounced issues of banditry, illicit flow of funds, terrorism and corruption,can not be ruled out in attributing factors for an inverse relationship in the institutions-financial development in Africa. Our positive relations in the geography-financial development puzzle in Africa agree with the result of Dwumfour and Ntow-Gyamfi (2018);Khan et al. (2020). The findings of Ibrahim and Sare (2018)is in tandem with ourresults of a positive relationship between the macroeconomic policy of trade openness, capital flow, inflation and financial development in Africa. Apparently, our positive relation in the population- financial development objectives takes the lead empirical insight into the population-finance relations in Africa, as no country-specific, and continental study has towed this line of thought.

The policy implications of these results are (1)proper management of natural resource endowments across Africa states are essential for a financially developed Africa. By avoiding rent-seeking, corrupt practices, vandalisation of resources endowments, Africa nations can reach new heights in their financialisation objectives. (2) Institutional bottlenecks have impeded the growth capacity of Africa nations. Therefore, there is an apparent need for stakeholders to recalibrate their strategies for broader inclusive and democratic participation where core issues of poverty and productivity at the grassroots are mitigated for improved socio-economic outcomes. (3) Macroeconomic policy objectives should be redirected to target greater openness to trade, and the inflation outlook should be monitored such that prices of goods and services are not out of place within a global commodity framework. (4) population growth should be checked such that gains from financial development would not be negligible in the face of rising societal needs. (5) Technological advancement through training and reskilling should be encouraged both at the public, and private sector level such that the cost of banking and intermediating process of exchange could be substantially reduced and productive activities enlarged for capital gains.

Despite leaning empirical credence to broad issues of Africa's financialisation objectives from the perspectives of geographic, political, economic and macroeconomic policy determinants, further studies could look into the interactive reactions among the variables that could produce an exciting result about new insight into the channels of financialisation in Africa. For example,

the technological effect of natural resources for financial development in Africa could be an exciting investigation that could lead the debate on how technological advancement could aid carbon-free use of natural resources endowments which in turn has consequences for financial development in Africa. As argued by Acemoglu and Robinson (2010), the role of institutions in geography and financial development in Africa has not been studied.

Data Availability Statement

The data that support the findings of this study are openly available in World Bank Data (World Development Indicators (WDI) https://data.worldbank.org/ and World Governance Indicator http://info.worldbank.org/governance/wgi/

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