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# Unravelling the Mysteries of Underdevelopment in Africa

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**Abstract**

Achieving sustainable development has been the dream of every society across the globe especially sequel to the dawn of the industrial revolution. Thus, understanding the fundamental determinants of the socio-politico-economic development of every economy is of prime importance for investors, policymakers, development agencies and the society at large. It is in this light that this study sought to empirically examine the key factors that explain the socioeconomic development patterns in Africa. The Instrumental Variable Two Stage Least Squares (IV-2SLS) estimation technique is adopted for a panel of 38 African countries over the 1996-2019 period. The empirical findings reveal that financial development and human capital are development enhancing in Africa while external financial inflows are detrimental to economic development. In addition, when other specific macroeconomic and structural variables were introduced in the model, the results show that institutional quality through governance, natural resources abundance, and industrialisation all explain both the social and economic development dynamics. These results were specific to income group, export structures and level of development. Moreover, salient policy implications are discussed.

**Key Words**: Underdevelopment, Financial development, Human capital, Institutional quality, Africa.

## 1. Introduction

Understanding the fundamental determinants of the socio-politico-economic development of every economy is of prime importance for investors, policymakers, development agencies and the society at large. Several factors encompassing human and physical capital accumulation, technological change, productivity growth, standardisation, innovation and institutions (North, 1994, 2016; Hickey et al., 2014; Khan, 2018; Acemoglu et al., 2012; Acemoglu and Robinson, 2019) have been found to influence the development of countries the world over. Growth studies have shown wide disparities in economic development across the globe, with the African continent consistently lagging behind over all epochs. Besides, a majority of African countries continue to rely on external finance (foreign aid, external debt and FDI) from advancedeconomies and developement agencies for their socioeconomic emancipation. This incessant dependence has been made manifest by the colonisation policies and institutions that were designed and implemented by African colonial masters (Sachs and Warner, 1997a; Acemoglu et al., 2001). Given the specificities of the African continent as regards development challenges, this study provides a comprehensive coverage of the fundamental factors that underlie Africa's underdevelopment.

Achieving sustainable development has been the dream of every society across the globe especially sequel to the dawn of the industrial revolution. The 1950s however saw a great twist in development history ensuing the emergence of several path-breaking classical and contemporary growth and development theories (Solow, 1956; Swan, 1956; Rostow, 1959; North, 1959; Uzawa, 1965; Romer, 1986; Lucas, 1988; Rebelo, 1991). Rostow (1959) in his celebrated growth theory demonstrates that economic development is characterised by five main stages notably the: "*traditional society; preconditions for take-off; take-off; drive to maturity; and the age of high mass consumption*", beyond which the economy begins to face certain economic, social, political as well as environmental challenges. This perception of development is made even more visible following recent global socioeconomic challenges, characterised especially by high levels of global environmental degradation resulting from carbon dioxide (CO2) emissions occasioned primarily by the high levels of industrialisation of most developed economies the world over. Hence, over the past three decades, world leaders have in several occasions

pursued diverse goals aimed at providing solutions to various development-related problems.

This is noticeable through the numerous conferences, conventions, and global development strategies, notably the elaboration and adoption of the Millennium Development Goals (MDGs) in the early 2000s and most recently the Sustainable Development Goals (SDGs) outlining the World development agenda for 2015-2030 (United Nations, 2015) which valorises the economic, social and environmental dimensions of the society. Despite the fact that this theoretical postulations may have worked for Western economies, their workability and applicability remains questionable and even paradoxical in the case of African countries, whose economies are yet to attain the stage of high mass consumption but are faced with virtually dismal development challenges than their developed Western counterparts. Although previous development literature prior to the 1980s placed emphasis on the economic dimension which quantitatively often employs real GDP growth as a measure of development, the social and environmental dimensions have increasingly gained recognition since the contributions of Sen (1989) and the World Commission on Environment and Development (WCED) (Imperatives, 1987; WCED, 1987). Likewise, the early contributions of Grossman and Krueger (1991) to the development of Environmental Kuznets Curve (EKC) hypothesis is worth mentioning.

While several growth studies (Miamo and Achuo, 2021; Nathaniel, 2020; Dar and Asif, 2019; Wang et al., 2019; Zheng and Walsh, 2019; Adenle et al., 2017; Forgha et al., 2015; Barrios et al., 2010; Haggblade et al., 2010; Deaton, 1999; Deaton and Miller, 1995) have often considered agricultural productivity, natural resource wealth, industrial value added and urbanisation as key determinants of economic growth, others have been focused on the determinants of inclusive and sustainable development emphasising the need for a safe environment and social equity. In this regard, ample studies have probed into the link between inclusive human development and various growth and development indicators like natural resource rents, information and communication technologies (ICT), infrastructure development, and environmental quality (Nchofoung et al., 2021a,b; Asongu et al., 2019; Sinha and Sengupta, 2019; Asongu, 2018; Asongu et al., 2017; Asongu and Le Roux, 2017); foreign direct investment (FDI), financial development and globalisation (Huh and Park, 2021; Ofori and Asongu, 2021; Urama, 2021; Asongu and Odhiambo, 2020; Hammudeh et al., 2020; Santiago et al., 2020; Sethi et al., 2020;Shittu et al.,

2020; Tchamyou, 2019; Adams et al., 2019 ; Zaidi et al., 2019); institutional quality and governance, among other key indicators (Singh and Pradhan, 2020; Canh et al., 2020; Gründler and Potrafke, 2019; Sala-i-Martin and Subramanian, 2012).

Despite the fact that most African countries are blessed with natural resource endowments such as crude oil that have been at the genesis of economic prosperity of most developed economies around the world, the growth of African countries has remained daunting over the years. This dwindling growth has however been blamed on the continent's overdependence on primary commodity exports or natural resource rents (Nkurunziza et al., 2017; Avom and Carmignani, 2010; Carmignani and Avom, 2010), economic mismanagement and corruption (Zalle, 2019; Badeeb et al., 2017), undemocratic and poor quality of institutions (Gründler and Potrafke, 2019; Sala-i-Martin and Subramanian, 2012; Lin and Monga, 2012;Norman, 2009; Sachs and Warner, 1995), and low quality of human capital potentials (Ogundari and Awokuse, 2018; Raheem et al., 2018; Eggoh et al., 2015; Glewwe et al., 2014).

Moreover, the educational needs of African youths capable of guaranteeing decent employment and professional insertion have attracted derisory attention from most African governments. This is evidenced by the low level of infrastructure investments on education which has continued to imprison African youths under the dictates of Western ideologies with relatively well-developed educational facilities. Besides, the urge for socioeconomic and intellectual emancipation together with poor working conditions characterised by habitually low remuneration rates and heightening unemployment often compel most of the highly skilled African youths to venture for greener pastures towards various continents outside Africa (Mapulanga-Hulston, 2014; Kalipeni et al., 2012). This continuous emigration of the youthful and education-thirsty population results to brain drain which is considered as one of the twenty-first century impediments for inclusive development in Africa (Emmanuel et al., 2019; Nyanga et al., 2012).

Equally, Africa's underdevelopment may be attributed to the inadequate or quasi-lack of financial, economic and political autonomy, owing to the continued guard on the now supposedly dependent countries by their former colonisers. Thus, during the colonial era in Africa, the adopted financial policies that led to the creation of colonial reserves in metropolitan currencies greatly disfavoured Africa's financial development. Most existing financial institutions created during the colonial epoch

have continued operating not for the interest of African countries. Several African countries still rely on their former colonial masters for financial assistance to sustain their economies. For instance, it is believed that former French colonies, especially those of the Central African Economic and Monetary Community (*CEMAC*) zone lack financial autonomy, as most of their financial decisions are auto-guided by French authorities (Rodney, 2010; Tchundjang, 1980). These countries are seemingly unable to design sound financial policies capable of propelling sustainable development. This definitely has repercussions on economic growth as it is undoubtedly obvious that lack of financial autonomy is likely to curtail socioeconomic development. The low financial sector development in Africa constrains African countries to a heavy dependence on the less competitive primary sector.

Although Deaton (1999) asserts that Africa's economic growth prior to the late 1990s was propelled by commodity exports, while recent empirical evidence seems contravening (Nkurunziza et al., 2017). The growth challenges are even more daunting when comparisons are made between resource-rich and resource-poor countries, with resource-blessed countries often characterised by the paradox of plenty (Badeeb et al., 2017; Avom and Carmignani, 2010; Carmignani and Avom, 2010), that Auty (1993) qualifies as the resource curse. While most African countries continue to rely on primary commodity exports as a key driver of economic development, the modern development paradigm acknowledges the importance of: the digital economy through technological advancements and the valorisation and increasing use of ICT tools; enhancements in human capital through increased investments in health and education; increased spending on research and development (R&D); enhancing democracy and institutional quality by curbing corruption to ensure transparency in the management of public affairs and resources; financial sector development as well as the creation of an enabling business environment capable of attracting FDI to boost industrialisation, without compromising environmental quality (Tchamyou, 2017; Tchamyou et al., 2019a). Therefore, the drive for sustainable development inevitability necessitates the adoption of environment-friendly policies.

From what precedes, we observe that African development challenges are multifaceted, emanating from the overdependence on the production and exportation of primary products, inefficient utilisation of natural resource

endowments, unconducive business environment, political instability, poor governance, limited domestic capital,inadequate human and financial resources, widespread corruption and mismanagement, as well as brain drain which greatly limit Africa's innovative ability (Tchamyou, 2020; Tchamyou et al., 2019b). Hence, it has been shown that lower levels of entrepreneurial activities and innovation, poor governance, as well as lower saving rates and investment (Auty, 2001; Sachs and Warner, 1997b; Fonchamnyo et al., 2021; Sachs and Warner, 2001) constitute major speed brakes to development especially in resource rich countries. Furthermore, Sachs and Warner (1997a) demonstrate that poor transportation systems especially by sea, climate and geography, colonial history, ethnic diversity and dismal openness to world trade have greatly slowed Africa's development. Thus, these challenges, coupled with the recent coronavirus pandemic are projected to further impede Africa's development (IMF, 2020; Achuo, 2020; Achuo et al., 2020). It is thus hoped that overcoming some of these challenges can pave the way for sustainable development in Africa.

Having introduced the study, the rest of the paper is organised as follows: section 2 provides a summary of salient literature; section 3 presents the methodological approach; section 4 presents the results and sensitivity analyses; section 5 provides a conclusion and policy implications.

## 2. Synoptic review of salient literature

Although ample studies have been carried out on the determinants of economic growth, this study not only provides a comprehensive understanding of the classical determinants of economic growth, but also extensively outlines several channels through which sustainable growth and development can be achieved. We thus provide salient literature which takes into consideration the economic, social and environmental concerns of the society.

### 2.1 Understanding the macroeconomic development dynamics

Macroeconomic development dynamics have been greatly shaped by the evolution of macroeconomic factors like ICT, FDI, trade Openness and globalisation in the past decades. This has attracted a great deal of studies within these spheres (Huh and Park, 2021; Ofori and Asongu, 2021;Shittu et al., 2020;Hammudeh et al., 2020;Asongu and Odhiambo, 2020;Santiago et al., 2020; Sethi et al., 2020;Sinha and

Sengupta, 2019; Azman-Sainiand Law, 2010; Alfaro et al., 2004). Development theories like the international dependence models highlight the socioeconomic imbalance in the independence that exist between rich and poor countries wherein powerful and wealthy countries exploit poor and weaker nations. Whereas the primal facet of globalisation of every nation is to boost domestic productivity, enhance technological advancement, augment capital inflow which in turn helps in boosting domestic capital (Shittu et al., 2020; Hammudeh et al., 2020).

Such basic hopes and benefits die gradually when a country's desires are constrained by low technological endowments, poverty, limited capital and poor competitive strength within international markets. Such are the peculiarities of African countries that have warranted conspicuous research in this continent in recent decades. Different authors have sought to empirically investigate the effect of FDI on economic growth and human development in Africa especially SSA with many inconclusive outcomes. While some settle on a positive link (Ofori and Asongu, 2021; Shittu et al., 2020; Asongu and Odhiambo, 2020) others conclude on an ambiguous relation (Azman-Sainiand Law, 2010; Alfaro et al., 2004).Recently the many growth and development studies have highlighted the keynote role played by technological innovation in continental development thrives. The penetration of such advances in technology like ICTs in African economies dominated by low human capital formation is therefore a major call for concern. The literature in this light is sparseand empirical evidence is still problematic.

### 2.2 On the environmental and socio-political development dynamics

The past three decades have been characterised by unending social and environmental challenges which have impelled research interest. Indeed, modern development concerns lay emphasis on environmental, socio-political and human development indicators in explaining sustainable development. As opined by the Economics Nobel laureate Sen, modern measures of economic development ought to deviate from the traditional real GDP considerations. Emphasis is thus placed on inclusive human development indicators like education, health and inequality (Sen, 2000). Indeed, contemporary development analysis focuses on man's quality of life which greatly depends on basic human capabilities, social equity (Sen, 1993) and environmental quality. The environmental dimension has attracted a wide range of studies across the world (Asongu, 2018; Nchofoung et al., 2021; Dinga et al., 2021). In a recent study for Sub-Saharan African countries, Asongu (2018) employs the fixed

effects and Tobit regression techniques and reveals that human development is negatively impacted following rising carbon dioxide emissions. Similar results have been confirmed in a recent study for developing countries by Nchofoung et al. (2021).

Moreover, recent development literature has sought to investigate the role played by institutions on the growth process of countries (Urama, 2021; Singh and Pradhan, 2020; Acemoglu and Robinson, 2019; Khan, 2018; North, 2016; Hickey et al., 2014; Lin and Monga, 2012). Acemoglu and Robinson (2019) contend that economically and politically inclusive institutions have the potential to propel a country's development. Inclusive institutions have the potential to reduce socio-political tensions because they are capable of creating expansive opportunities and broadly spreading political power. Politics has thus been recognised as an important factor in the development process of countries across the world (Hickey et al., 2014). In order to appreciate the role of institutions on development outcomes, emphasis is placed on democratic practices and reduced central government influence on economic life, control of corruption, the rule of law, political stability and accountability (Khan, 2018).

Although Lin and Monga (2012) recognise the importance of governance challenges as major setbacks to growth, they assert that governance hitches observed in African countries are merely a reflection of the abysmal development that characterises the continent and the result of unsuccessful centralised systems of governance stemming from mismatched development strategies. However, North (2016) argues that a proper evaluation of the impact of institutions must take into consideration the role played by ideas, ideologies and culture in shaping the functioning of the society as they engender information asymmetries. Hence, Africa's cultural practices could play a great role in her development strides. Urama (2021) however opines that the dream meeting the global SDGs and Africa's Agenda 2063 may remain futile if the individual, organisational and institutional capacity of African countries is not enhanced.

## 3. Econometric strategy

### 3.1 Empirical model specification

The following empirical model is used based on the works of Gründler and Potrafke (2019) and that of Cazachevici et al. (2020)

$$Dev_{it} = \alpha_0 + \alpha_1 X_{it} + \varepsilon_{it}$$

Where *Dev* is the measure of economic development. It measures at first place macroeconomic development proxied by per capita growth (GDPK), secondly social economic development proxied by the human development index (HDI) and finally the environmental development proxied by carbon dioxide emissions metric tons emissions per capita (CO2). X is the vector of explanatory factors of economic development. In this study we use several determinants of economic development including the size of the financial sector (M2), net official development assistance received (NODA), population size taken in logarithm (LPOP), real effective exchange rates (REER), trade openness (trade), human capital (HC), external debt (external_debt), information and communication technology (internet), remittances received (remittances), foreign direct investment inflows (FDI), industrialization that is captured at first place through manufacturing value added (MVA), then through manufactured exports (manufacture_exports) and manufactured imports (Manufacture_imports). Governace is further used as a composite index (governance), then its constituent variables that include, control of corruption (control_corruption), government effectiveness (government_eff), regulatory quality (reg_qual), rule of law (rule_law), voice and accountability (voice_account), and political stability (political_stab).Natural resources are also used including total natural resources rents (resource_rents), mineral rents (mineral_rents), oil rents (oil_rents), gas rents (gas_rents) and forest rents (forest_rents)

**Dependent variable**

The first development variable is the per capita growth. This has been extensively used in literature to measure economic development. These include Sachs and Warner (1997a). The next dependent variable is social development proxied by the inequality adjusted human development index (IHDI). This has been used in literature including Asongu and Nwachukwu, (2018) and Asongu and Odhiambo (2021). The last dependent variable measures environmental development proxied by the CO2 emission metric ton per capita. Studies that have applied this measure of environmental development include Asongu and Odhiambo (2021) and Ahmad et al. (2021).

**Explanatory variables**

Financial development is one of the explanatory variables. It is proxied by the size of the financial market (broad money). Redmond and Nasir (2020) posit of a significant negative effect of financial development on economic development. Acheampong et al. (2020) however argue that financial development acerbates CO2 emission. A negative sign is thus expected to be associated to this variable. Also Redmond and Nasir (2020) argue that trade openness harms economic growth. Tarde openness is thus expected to have a negative sign. The aforementioned authors further argue that natural resources and institutional quality have positive effects on economic development. A positive sign is thus expected to be associated to natural resources rents and institutional quality. Rahman et al. (2020) argue that population density positively affect economic development. A similar result is expected in this study. Reinhart and Rogoff (2010) argue that economic growth increases with external debt up to a certain threshold when this effect becomes negative.

Recently, Amann and Middleditch (2020) have argued against this view. A positive or negative sign is thus expected for this variable. Ahmed et al. (2020) argue that human capital reduces environmental deterioration. Also, Amna (2020) show that that human capital enhances economic growth. A similar result is expected in this study. Abbas et al. (2020) argue that fixed capital formation in these economies can enhance economic growth and help to sustainable environmental conditions in the belt and road countries. Appiah-Otoo and Song (2021) argue that ICT enhances economic growth. A positive sign is expected on this variable. Cazachevici et al. (2020) argue that remittances are growth enhancing in Asia and not in Africa. There is thus possibility of a negative or positive sign. Martorano et al. (2020) find that Chinese aid increases social development in recipient countries. Also, Immurana (2020) find that FDI improves on health outcome in Africa. There is an expected association thus between FDI and economic development. Zafar et al. (2020) argue that industrialization exacerbates CO2 emission as a result of increased development associated with industrialization. A positive sign is expected here.

### 3.2 Data

The data is collected for 38 African countries between 1996 and 2019. The choice of countries and time frame is constrained by the availability of relevant data. The data

on human capital is collected from the Penn World table; that on governance is collected from the World Governance Indicators of the World Bank while the rest of the variables are from the World Development Indicators of the World Bank. Table 1 presents the descriptive statistics of these variables used.

In Table 1, the observations are more or less around the mean. The maxim observation is 911 and the minimum is 770. We are thus disposed of an unbalanced panel. Manufacturing exports have the highest dispersion from the mean. Looking at the dependent variables, per capita growth and human development are very much around the mean. This shows that each country in our sample has dispersion pattern very different from the other. This same behaviour is observed for natural resources variables. The correlation between the retained variables is presented in appendix. The next section presents the estimation method used.

**Table 1**. Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| IHDI | 886 | .497 | .116 | .244 | .804 |
| GDP per capita | 907 | 7.13 | .988 | 5.234 | 9.388 |
| Human capital | 911 | 1.768 | .438 | 1.053 | 2.939 |
| External debt | 859 | 56.133 | 55.529 | 2.556 | 610.452 |
| Internet | 841 | 8.723 | 13.409 | 0 | 74.376 |
| Remittances | 831 | 3.752 | 7.749 | 0 | 98.389 |
| FDI | 907 | 3.538 | 7.135 | -11.625 | 103.337 |
| Governance | 911 | -.551 | .555 | -1.808 | .88 |
| Resources rents | 869 | 10.843 | 9.487 | .001 | 56.61 |
| Mva | 830 | 12.029 | 7.319 | 1.533 | 50.037 |
| Manufactureexports | 770 | 26.969 | 25.835 | 0 | 96.239 |
| Manufacture imports | 781 | 62.353 | 10.474 | 26.336 | 93.154 |
| Control of corruption | 911 | -.551 | .543 | -1.702 | 1.217 |
| Government effectiveness | 911 | -.6 | .569 | -1.885 | 1.057 |
| Regulatory quality | 911 | -.53 | .56 | -2.236 | 1.127 |
| Rule of law | 911 | -.571 | .59 | -2.009 | 1.077 |
| Voice &accountability | 911 | -.537 | .663 | -1.859 | 1.007 |
| Political stability | 911 | -.52 | .857 | -2.699 | 1.2 |
| Resources rents | 869 | 10.843 | 9.487 | .001 | 56.61 |
| Mineral rents | 869 | 1.894 | 4.686 | 0 | 46.625 |
| Oil rents | 869 | 3.18 | 8.114 | 0 | 56.14 |
| Gas rents | 854 | .22 | .717 | 0 | 4.522 |
| Forest rents | 869 | 5.411 | 5.971 | 0 | 40.427 |

Notes: *IHDI represents inequality adjusted human development index; FDI is foreign direct investment inflows; Mva implies Manufacturing value added*

### 3.3 Estimation method

In this study, we apply the Two-Staged Least Squares method of estimation. Several reasons motivate the choice of this method. Firstly, the explanatory variables retained could be sources of endogeneity. This endogeneity problem can arise from several sources, including, measurement errors, simultaneous causality, and omission of variables in the model specified. In such a case, the instrumental variable (IV) regression provides solution for endogeneity (Wooldridge, 2010). According to this author, the basic idea behind instrumental variables techniques is to decompose the variations in the endogenous independent variable through the use of instrumental variables (Instrumental variables are variables that are uncorrelated with the structural error term in a model, but which are correlated with the endogenous independent variable, and that themselves do not represent explanatory variables in the structural equation) by focusing on the variations in the endogenous independent variable that are uncorrelated with the error term in the model and disregarding the variations that bias the estimation. There are several estimators associated with the instrumental variable technique. The most commonly used is the 2SLS.

The instrumental variable technique with 2SLS estimator occurs in two stages. The first stage involves the regression of the endogenous independent variable on the chosen instrument variables and the regression residuals saved. In the second stage, the dependent variable is regressed on the residual in place of the endogenous variable (Wooldridge, 2010). However, there is a major challenge associated with the use of the 2SLS in particular and the instrumental variable technique in general. The first major problem is the choice and validity of the instrumental variables retained and also the right choice of instruments to be used subsequently. For the instrumental variable to be reliant, it must be sufficiently correlated with the endogenous independent variable. Also, the instrumental variable most be uncorrelated with the error term. To ascertain that the endogenous variables suspected are truly endogenous, we apply the Durbin-Wu-Hausman test of endogeneity. The null hypothesis of the test states that any endogeneity among the explanatory variables has no lethal effect on OLS estimates. The rejection of this hypothesis indicates that the effects of endogenous variables on the estimates are significant and instrumental variable techniques are needed. To select the right instruments, we choose the first and second lags of the explanatory variables as instruments.

## 4. Econometric strategy results and discussion

### 4.1 Explaining economic and social development

This section presents the various determinants of development. In this study, we first employ the determinants of economic growth as a proxy for economic development, secondly, the determinants of human development as a proxy for social development.

**Table 2**. Explaining economic development in Africa

| | (1) | (2) |
|---|---|---|
| | Dependent variable | |
| VARIABLES | Per capita GDP | IHDI |
| Broad money (m2) | 0.0121*** | 0.00169*** |
| | (0.00186) | (0.000128) |
| Foreign aid | -0.0993*** | -0.00436*** |
| | (0.00714) | (0.000578) |
| Population (log) | -0.500*** | -0.0375*** |
| | (0.0963) | (0.00413) |
| Trade | -0.00343 | -4.99e-05 |
| | (0.00262) | (0.000134) |
| Human capital | 0.749*** | 0.132*** |
| | (0.109) | (0.00841) |
| Externaldebt | 0.000187 | -0.000269*** |
| | (0.00163) | (8.83e-05) |
| Internet | -0.00783** | 0.000531*** |
| | (0.00303) | (0.000195) |
| Remittances | -0.0525*** | -0.00386*** |
| | (0.0119) | (0.000658) |
| FDI | -0.0268** | -0.00189*** |
| | (0.0111) | (0.000626) |
| Constant | 12.43*** | 0.432*** |
| | (1.341) | (0.0641) |
| Observations | 580 | 576 |

| | | |
|---|---|---|
| R-squared | 0.726 | 0.882 |
| Fisher | 108.2*** | 199.2*** |
| Robust scorechi2(5) | 49.4437*** | 34.0933*** |
| Robust reg F(5,263) | 29.5312*** | 8.97192*** |

Notes*: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1;IHDI represents inequality adjusted human development index;FDI implies foreign direct investment inflows*

Table 2 shows that financial development and human capital enhance economic development in this study. Also, official development assistance, population size, real effective exchange rates, ICT, remittances and Foreign direct investment harm development both economic and human dimensions of the corresponding development in.

The above results put into evidence two principal information. Globalisations and external inflows are detrimental to economic and human development. Secondly, human capital and domestic financial development are key for economic development but harmful to environmental development.

The role of institutions, which is how economic policies are elaborated and implemented is increasing gaining ground as a buzzword for economic development. Limiting ourselves to the results in Table 1 without further consideration of the governance environment will be a limited study. Tables 3, and 4 present the results with the different institutional variables.

**Table 3**. Role of governance on economic development

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | Dependent variable: Per capita GDP | | | | | | |
| Broad Money (m2) | 0.00981*** | 0.00786*** | 0.0107*** | 0.0121*** | 0.0111*** | 0.0135*** | 0.0114*** |
| | (0.00249) | (0.00239) | (0.00197) | (0.00232) | (0.00189) | (0.00195) | (0.00248) |
| Foreign aid | -0.101*** | -0.101*** | -0.101*** | -0.101*** | -0.106*** | -0.0990*** | -0.101*** |
| | (0.00728) | (0.00727) | (0.00725) | (0.00744) | (0.00842) | (0.00685) | (0.00730) |
| Population (log) | -0.515*** | -0.532*** | -0.504*** | -0.513*** | -0.578*** | -0.619*** | -0.511*** |
| | (0.0988) | (0.103) | (0.0928) | (0.100) | (0.0985) | (0.109) | (0.100) |
| Trade | -0.00460 | -0.00306 | -0.00389 | -0.00371 | -0.00472* | -0.00379 | -0.00386 |
| | (0.00268) | (0.00274) | (0.00269) | (0.00276) | (0.00267) | (0.00262) | (0.00269) |
| Human capital | 0.617*** | 0.467*** | 0.703*** | 0.696*** | 0.582*** | 0.906*** | 0.647*** |
| | (0.134) | (0.154) | (0.129) | (0.157) | (0.163) | (0.126) | (0.161) |
| Externaldebt | 0.000111 | -0.000402 | 0.000306 | 0.000139 | 0.000529 | 0.000352 | 0.000113 |
| | (0.00159) | (0.00165) | (0.00164) | (0.00173) | (0.00160) | (0.00163) | (0.00169) |
| Internet | -0.00624* | -0.00445 | -0.00603** | -0.00829** | -0.00623** | -0.00996*** | -0.00752** |
| | (0.00347) | (0.00334) | (0.00294) | (0.00332) | (0.00309) | (0.00318) | (0.00360) |
| Remittances | -0.0549*** | -0.0542*** | -0.0506*** | -0.0545*** | -0.0525*** | -0.0513*** | -0.0546*** |
| | (0.0120) | (0.0121) | (0.0123) | (0.0132) | (0.0116) | (0.0120) | (0.0126) |
| Foreign direct investment | -0.0288** | -0.0293** | -0.0277** | -0.0275** | -0.0308*** | -0.0203* | -0.0287** |
| | (0.0112) | (0.0116) | (0.0113) | (0.0118) | (0.0111) | (0.0103) | (0.0118) |
| Control of corruption | 0.202* | | | | | | |
| | (0.109) | | | | | | |
| Government effectiveness | | 0.291*** | | | | | |
| | | (0.101) | | | | | |
| Regulatory quality | | | 0.0817 | | | | |
| | | | (0.0900) | | | | |
| Rule of law | | | | 0.0420 | | | |
| | | | | (0.101) | | | |
| Voice & accountability | | | | | 0.171 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | (0.112) | | |
| Political stability | | | | | | -0.154** | |
| | | | | | | (0.0641) | |
| Governance | | | | | | | 0.102 |
| | | | | | | | (0.118) |
| Constant | 12.95*** | 13.40*** | 12.19*** | 12.96*** | 13.04*** | 12.86*** | 13.03*** |
| | (1.278) | (1.425) | (1.282) | (1.358) | (1.044) | (1.298) | (1.299) |
| Observations | 580 | 580 | 580 | 580 | 580 | 580 | 580 |
| R-squared | 0.727 | 0.731 | 0.744 | 0.705 | 0.738 | 0.731 | 0.708 |
| Fisher | 97.00*** | 96.71*** | 107.8*** | 96.05*** | 101.4*** | 101.9*** | 92.47*** |
| chi2(5) | 50.1611*** | 52.0714*** | 52.0714*** | 53.9614*** | 49.4729*** | 56.144*** | 54.355*** |
| F(5,262) | 30.4005*** | 31.0846*** | 31.0846*** | 28.2902*** | 29.813*** | 27.2085*** | 29.3871*** |

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Table 4**. Role of governance on social development

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| VARIABLES | Dependent variable: IHDI | | | | | | |
| Broad money (m2) | 0.00172*** | 0.00150*** | 0.00197*** | 0.00183*** | 0.00177*** | 0.00197*** | 0.00191*** |
| | (0.000158) | (0.000166) | (0.000144) | (0.000156) | (0.000132) | (0.000128) | (0.000156) |
| Foreign aid | -0.00440*** | -0.00451*** | -0.00434*** | -0.00420*** | -0.00372*** | -0.00413*** | -0.00410*** |
| | (0.000562) | (0.000582) | (0.000546) | (0.000574) | (0.000609) | (0.000499) | (0.000556) |
| Population (log) | -0.0385*** | -0.0394*** | -0.0378*** | -0.0391*** | -0.0306*** | -0.0602*** | -0.0391*** |
| | (0.00401) | (0.00412) | (0.00440) | (0.00409) | (0.00505) | (0.00596) | (0.00422) |
| Trade | -9.17e-05 | -4.84e-05 | -0.000194 | -0.000112 | 4.79e-05 | -8.97e-05 | -8.98e-05 |
| | (0.000134) | (0.000136) | (0.000134) | (0.000128) | (0.000140) | (0.000132) | (0.000126) |
| Human capital | 0.131*** | 0.116*** | 0.157*** | 0.144*** | 0.149*** | 0.165*** | 0.154*** |
| | (0.00874) | (0.0106) | (0.00958) | (0.0103) | (0.0102) | (0.00812) | (0.00987) |
| Externaldebt | -0.000262*** | -0.000292*** | -0.000204** | -0.000246*** | -0.000297*** | -0.000252*** | -0.000242*** |
| | (8.63e-05) | (9.13e-05) | (8.44e-05) | (8.43e-05) | (8.36e-05) | (7.64e-05) | (8.24e-05) |
| Internet | 0.000471** | 0.000645*** | 0.000279 | 0.000419** | 0.000427** | 0.000170 | 0.000335 |
| | (0.000203) | (0.000216) | (0.000211) | (0.000203) | (0.000195) | (0.000188) | (0.000210) |
| Remittances | -0.00391*** | -0.00404*** | -0.00310*** | -0.00356*** | -0.00371*** | -0.00354*** | -0.00343*** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (0.000631) | (0.000645) | (0.000681) | (0.000661) | (0.000651) | (0.000663) | (0.000653) |
| FDI | -0.00186*** | -0.00201*** | -0.00118* | -0.00155*** | -0.00152** | -0.000666 | -0.00135** |
| | (0.000604) | (0.000600) | (0.000643) | (0.000598) | (0.000612) | (0.000641) | (0.000613) |
| Control of corruption | 4.35e-05 | | | | | | |
| | (0.00684) | | | | | | |
| Government effectiveness | | 0.0140** | | | | | |
| | | (0.00677) | | | | | |
| Regulatory quality | | | -0.0272*** | | | | |
| | | | (0.00660) | | | | |
| Rule of law | | | | -0.0113 | | | |
| | | | | (0.00705) | | | |
| Voice & accountability | | | | | -0.0152** | | |
| | | | | | (0.00649) | | |
| Political stability | | | | | | -0.0294*** | |
| | | | | | | (0.00457) | |
| Governance | | | | | | | -0.0212*** |
| | | | | | | | (0.00750) |
| Constant | 0.465*** | 0.506*** | 0.372*** | 0.424*** | 0.356*** | 0.485*** | 0.389*** |
| | (0.0594) | (0.0645) | (0.0644) | (0.0579) | (0.0664) | (0.0623) | (0.0586) |
| Observations | 576 | 576 | 576 | 576 | 576 | 576 | 576 |
| R-squared | 0.884 | 0.886 | 0.886 | 0.885 | 0.892 | 0.897 | 0.887 |
| Fisher | 188.0 | 183.6 | 231.8 | 193.6 | 197.7 | 262.7 | 205.9 |
| chi2(5) | 29.7248 | 28.8412 | 35.8877 | 33.4466 | 36.2591 | 47.2821 | 37.6005 |
| F(5,258) | 8.23931 | 7.79147 | 10.2327 | 9.11205 | 12.17 | 11.3694 | 10.4538 |

*Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1;IHDI represents inequality adjusted human development index;FDI implies foreign direct investment inflows*

Tables 3 and 4 show that in the presence of governance indicators, the results in Table 2are replicated. The results further reveal that some dimensions of governance are crucial for economic development. In fact, government effectiveness and increase control of corruption enhance economic development, while political instability is detrimental to economic development. The same applies for human development, with overall governance having a negative effect on human development. This is as a result of the negative effect of the rule of law, voice and accountability and political instability on human development. Acemoglu et al. (2005) argue that differences in institutions are the fundamental cause of differences in economic development. This is however in contradiction to the results of Acemoglu et al. (2019) who posit that democracy do cause growth. The institutional development in Africa is still very lagging. Even though some countries especially the English speaking countries are gradually succeeding in their democratic transitions. The continent has been characterized by political instability over the years especially in oil rich countries. This has left scholars with the thought of the effect of natural resources on growth. Tables 5 and 6 show the results integrating natural resources in the presence of institutional quality.

Table 5 shows that taking into account both institutional quality and natural resources, the results in table 1 are still robust. Furthermore, natural resources rent is enhancing to economic growth, this is robust with oil rent and gas rent. But the effects of forest and mineral rents are non-significant. In Table 6, a similar result is obtained for human development. In fact, natural resources rent have a positive effect on human development. When alternative measures of natural resources were used, oil and gas rents maintained the positive effect but mineral rent has a negative effect while forest rent has no effect. This result is in line with that of Yang et al. (2019) who argue of a positive link between natural resources and economic growth in Sub-Saharan Africa

**Table 5**. Explaining economic growth taking into account natural resources

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| VARIABLES | Dependent variable: per capita GDP | | | | |
| Broad money (m2) | 0.00870*** | 0.0107*** | 0.0106*** | 0.00929*** | 0.0144*** |
| | (0.00269) | (0.00230) | (0.00235) | (0.00280) | (0.00292) |
| Foreign aid | -0.118*** | -0.0970*** | -0.0771*** | -0.0990*** | -0.0587 |
| | (0.00738) | (0.00721) | (0.00609) | (0.00745) | (0.0378) |
| Population log | -0.339*** | -0.461*** | -0.217** | -0.553*** | -0.506*** |
| | (0.103) | (0.0944) | (0.101) | (0.112) | (0.123) |
| Trade | -0.00528* | -0.00185 | -0.00346 | -0.00442 | -0.00328 |
| | (0.00269) | (0.00248) | (0.00214) | (0.00294) | (0.00287) |
| Human capital | 0.0705 | 0.680*** | 0.322** | 0.480** | 0.916*** |
| | (0.219) | (0.162) | (0.151) | (0.189) | (0.307) |
| Externaldebt | 0.00240 | -0.000374 | 0.00158 | 0.000789 | -0.000639 |
| | (0.00161) | (0.00157) | (0.00128) | (0.00178) | (0.00180) |
| Internet | 0.00214 | -0.00619* | -0.000610 | -0.00582 | -0.0137*** |
| | (0.00446) | (0.00340) | (0.00358) | (0.00416) | (0.00520) |
| Remittances | -0.0347*** | -0.0547*** | -0.0297*** | -0.0522*** | -0.0583*** |
| | (0.0128) | (0.0117) | (0.0105) | (0.0132) | (0.0139) |
| FDI | -0.0333** | -0.0216** | -0.0167 | -0.0244* | -0.0286** |
| | (0.0160) | (0.0107) | (0.0113) | (0.0124) | (0.0130) |
| Governance | 0.553*** | 0.0944 | 0.472*** | 0.314** | -0.0639 |
| | (0.157) | (0.114) | (0.117) | (0.144) | (0.183) |
| Resourcesrents | 0.0334*** | | | | |
| | (0.00613) | | | | |
| Mineralrents | | -0.0198 | | | |
| | | (0.0122) | | | |
| Oilrents | | | 0.0424*** | | |
| | | | (0.00464) | | |
| Gasrents | | | | 0.191*** | |
| | | | | (0.0465) | |
| Forestrents | | | | | -0.0377 |
| | | | | | (0.0407) |
| Constant | 12.50*** | 12.03*** | 11.26*** | 14.47*** | 13.97*** |
| | (1.246) | (1.205) | (1.188) | (1.418) | (1.641) |
| Observations | 577 | 577 | 577 | 577 | 577 |
| R-squared | 0.742 | 0.751 | 0.811 | 0.672 | 0.601 |
| Fisher | 111.0*** | 96.16*** | 141.1*** | 74.14*** | 65.85*** |
| chi2(5) | 56.2744 | 50.1592 | 55.7029 | 63.0847 | 53.7471 |
| F(5,258) | 41.3478 | 25.0383 | 39.4988 | 37.8195 | 14.0165 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; *FDI implies foreign direct investment inflows*

**Table 6**. Explaining human development taking into account natural resources

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|

| VARIABLES | Dependent variable: IHDI | | | | |
|---|---|---|---|---|---|
| Broad money (m2) | 0.00179*** | 0.00195*** | 0.00187*** | 0.00165*** | 0.00195*** |
| | (0.000148) | (0.000153) | (0.000125) | (0.000128) | (0.000165) |
| Foreign aid | -0.00499*** | -0.00361*** | -0.00265*** | -0.00347*** | -0.00633*** |
| | (0.000549) | (0.000544) | (0.000488) | (0.000496) | (0.00196) |
| Population (log) | -0.0298*** | -0.0355*** | -0.0197*** | -0.0429*** | -0.0396*** |
| | (0.00433) | (0.00462) | (0.00403) | (0.00396) | (0.00482) |
| Trade | -0.000138 | 0.000109 | -9.03e-06 | -0.000114 | -3.61e-05 |
| | (0.000121) | (0.000134) | (9.10e-05) | (9.93e-05) | (0.000144) |
| Human capital | 0.120*** | 0.158*** | 0.129*** | 0.135*** | 0.141*** |
| | (0.0139) | (0.0102) | (0.00885) | (0.00847) | (0.0166) |
| Externaldebt | -0.000133* | -0.000313*** | -0.000165*** | -0.000171** | -0.000261*** |
| | (7.94e-05) | (7.98e-05) | (6.15e-05) | (6.66e-05) | (8.96e-05) |
| Internet | 0.000757*** | 0.000308 | 0.000696*** | 0.000572*** | 0.000460* |
| | (0.000240) | (0.000211) | (0.000196) | (0.000171) | (0.000252) |
| Remittances | -0.00262*** | -0.00360*** | -0.00217*** | -0.00295*** | -0.00373*** |
| | (0.000608) | (0.000661) | (0.000529) | (0.000518) | (0.000725) |
| FDI | -0.00163** | -0.000448 | -0.000713 | -0.000783 | -0.00147** |
| | (0.000717) | (0.000652) | (0.000509) | (0.000531) | (0.000640) |
| Governance | 0.00199 | -0.0236*** | 0.00195 | 0.00630 | -0.0140 |
| | (0.00895) | (0.00741) | (0.00647) | (0.00691) | (0.00973) |
| Resourcesrents | 0.00169*** | | | | |
| | (0.000450) | | | | |
| Mineralrents | | -0.00229*** | | | |
| | | (0.000581) | | | |
| Oilrents | | | 0.00259*** | | |
| | | | (0.000325) | | |
| Gasrents | | | | 0.0261*** | |
| | | | | (0.00213) | |
| Forestrents | | | | | 0.00321 |
| | | | | | (0.00207) |
| Constant | 0.383*** | 0.331*** | 0.296*** | 0.518*** | 0.400*** |
| | (0.0553) | (0.0619) | (0.0518) | (0.0528) | (0.0682) |
| Observations | 573 | 573 | 573 | 573 | 573 |
| R-squared | 0.888 | 0.896 | 0.915 | 0.920 | 0.872 |
| Fisher | 186.0*** | 200.2*** | 247.7*** | 306.9*** | 165.8**** |
| chi2(5 | 45.5811 | 36.9389 | 32.8392 | 25.6316 | 30.5227 |
| F(5,254) | 11.3659 | 11.0609 | 9.6073 | 6.92695 | 9.72925 |

*Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; IHDI represents inequality adjusted human development index;FDI implies foreign direct investment inflows*

Also, the level of industrialisation in Africa though on an increase is still very low, we further investigate in Table 7, if industrialization has an effect on economic development.

**Table 7.**Effect of industrialization on economic development

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Per capita GDP | | | IHDI | | |
| Broad money (m2) | 0.00752*** | 0.00646*** | 0.00901*** | 0.00148*** | 0.00162*** | 0.00181*** |
| | (0.00280) | (0.00235) | (0.00278) | (0.000134) | (0.000174) | (0.000137) |
| Foreign aid | -0.115*** | -0.122*** | -0.122*** | -0.00442*** | -0.00550*** | -0.00547*** |
| | (0.00731) | (0.00741) | (0.00736) | (0.000549) | (0.000613) | (0.000571) |
| Population (log) | -0.354*** | -0.146 | -0.253** | -0.0313*** | -0.0327*** | -0.0425*** |
| | (0.106) | (0.0966) | (0.110) | (0.00434) | (0.00517) | (0.00581) |
| Trade | -0.00544** | -0.00375 | -0.00399 | -0.000128 | -0.000205 | -0.000194 |
| | (0.00272) | (0.00267) | (0.00267) | (0.000106) | (0.000143) | (0.000140) |
| Human capital | 0.0309 | -0.250 | -0.186 | 0.111*** | 0.109*** | 0.115*** |
| | (0.219) | (0.218) | (0.235) | (0.0123) | (0.0154) | (0.0128) |
| Externaldebt | 0.00232 | 0.00268* | 0.00246 | -0.000140** | -0.000125 | -0.000134* |
| | (0.00159) | (0.00151) | (0.00152) | (6.96e-05) | (8.60e-05) | (8.07e-05) |
| Internet | 0.00293 | 0.00428 | 0.00185 | 0.000994*** | 0.00101*** | 0.000920*** |
| | (0.00449) | (0.00390) | (0.00455) | (0.000202) | (0.000242) | (0.000215) |
| Remittances | -0.0325** | -0.0239* | -0.0213* | -0.00210*** | -0.00292*** | -0.00246*** |
| | (0.0130) | (0.0125) | (0.0124) | (0.000537) | (0.000675) | (0.000670) |
| FDI | -0.0294* | -0.0680*** | -0.0670*** | -0.000724 | -0.00155 | -0.00137 |
| | (0.0164) | (0.0183) | (0.0189) | (0.000678) | (0.00105) | (0.001000) |
| Governance | 0.596*** | 0.805*** | 0.648*** | 0.0137* | 0.00845 | -0.00762 |
| | (0.162) | (0.152) | (0.173) | (0.00787) | (0.00926) | (0.00889) |
| Resourcesrents | 0.0329*** | 0.0455*** | 0.0365*** | 0.00159*** | 0.00244*** | 0.00153*** |
| | (0.00597) | (0.00607) | (0.00685) | (0.000379) | (0.000474) | (0.000411) |
| Mva | 0.0103* | | | 0.00237*** | | |
| | (0.00593) | | | (0.000289) | | |
| Manufactureexports | | 0.00172 | | | 0.000172 | |
| | | (0.00225) | | | (0.000186) | |
| Manufactureimports | | | 0.0124*** | | | 0.00144*** |
| | | | (0.00425) | | | (0.000302) |
| Constant | 12.84*** | 11.27*** | 11.78*** | 0.429*** | 0.427*** | 0.411*** |
| | (1.286) | (1.126) | (1.185) | (0.0533) | (0.0594) | (0.0610) |
| Observations | 576 | 559 | 561 | 572 | 555 | 557 |
| R-squared | 0.734 | 0.768 | 0.749 | 0.913 | 0.881 | 0.895 |
| Fisher | 99.76*** | 112.2*** | 110.3*** | 255.2*** | 132.2*** | 171.6*** |
| Chi2(5) | 58.3061 | 49.8411 | 47.1037 | 37.0756 | 39.4921 | 44.1438 |
| F(5,256) | 58.3061 | 45.2675 | 54.7492 | 8.41769 | 9.9472 | 10.5068 |

*Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; IHDI represents inequality adjusted human development index;FDI is foreign direct investment inflows; Mva implies Manufacturing value added*

Our results In Table 7 show that the previous results are robust and further show that industrialisation is development enhancing. This is in line with the results of Opokuand Yan (2019) who argue that industrialisation is essential for economic development in Africa.

The above results however is for Africa in general, whereas, some African countries are richer in wealth than others. Besides, their level of development differs. Moreover, some are oil exporters while others are not. There is therefore necessity to verify the global results taking into account the income group and export structures[1]. Tables 8 and 9 show these results.

The results indicate that the determinants of economic development vary across export structures, income groups and levels of development. In fact, financial development, governance, industrialisation, natural resources and human capital have enhancing effects once more on economic development in all these income groups, and any contrary sign for these variables were non-significant. Looking at other variables, external financial inflows (foreign direct invest, remittances, official development assistance) are development impeding in most of these groups, with the only exceptions being remittance that has an enhancing effect on economic growth in fuel exporting, lower-middle income and lower-income countries and foreign direct investments that has a positive effect in least developed countries. While industrialisation is harmful to growth in lower-income, less and least developed countries, it is growth enhancing to the non-fuel exporting countries. External debt has an enhancing effect on economic growth throughout but very detrimental to human development across all groups.

[1]This categorisation is based on the fact that the African countries under consideration consist of both oil- and non-oil exporters. Thus, it is necessary to examine if oil or fuel exportation can influence the development pattern of fuel exporters compared to the non-fuel exporting counterparts. Moreover, Nchofoung et al. (2021) recently established that the social development of a country is contingent on income group and level of development of a country.

**Table 8**. Explaining economic growth through different income groups, export structure and level of development

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | Dependent variable: GDP per capita | | | | | | |
| VARIABLES | Fuel exporters | Non-fuel exporters | Upper-middle income | Lower-middle income | Lower income | Less DCs | Least DCs |
| Broad money (m2) | 4.16e-05 | 0.00887*** | 0.00624*** | 0.00441 | -0.00509 | 0.0161*** | 0.00177 |
| | (0.00519) | (0.00163) | (0.00181) | (0.00302) | (0.00769) | (0.00175) | (0.00590) |
| Foreign aid | -0.135*** | -0.0819*** | -0.0271 | -0.111*** | -0.0297*** | -0.120*** | -0.0585*** |
| | (0.0322) | (0.00838) | (0.0598) | (0.0185) | (0.0106) | (0.00683) | (0.0167) |
| Population (log) | 0.0452 | -0.175* | -0.492*** | 0.153 | -0.171 | -0.655*** | 0.346 |
| | (0.407) | (0.100) | (0.0788) | (0.246) | (0.327) | (0.104) | (0.293) |
| Trade | 0.00676 | -0.000804 | 0.00631 | 0.00183 | -0.00675 | -0.0135*** | -0.00356** |
| | (0.0152) | (0.00209) | (0.00396) | (0.00385) | (0.00418) | (0.00286) | (0.00176) |
| Human capital | 1.192*** | -0.0651 | 0.224** | 0.541*** | 0.493 | 0.842*** | 0.189 |
| | (0.328) | (0.167) | (0.0835) | (0.0957) | (0.769) | (0.106) | (0.323) |
| Externaldebt | 0.00469** | 0.00239** | 3.68e-05 | 0.00254** | 0.00113 | 0.00474*** | 0.000777 |
| | (0.00190) | (0.00113) | (0.000907) | (0.00123) | (0.000844) | (0.00159) | (0.000957) |
| Internet | -0.000906 | 0.00267 | 0.00168 | 0.00228 | 0.0119 | -0.00560** | 0.0148*** |
| | (0.00383) | (0.00271) | (0.00143) | (0.00333) | (0.0135) | (0.00228) | (0.00454) |
| Remittances | 0.0862*** | -0.0291*** | -0.0390** | 0.0205*** | 0.0277*** | 0.00615 | 0.0342*** |
| | (0.0286) | (0.0109) | (0.0190) | (0.00772) | (0.00820) | (0.0156) | (0.00634) |
| FDI | -0.0107 | -0.0166 | -0.000328 | -0.0423** | 0.00260 | -0.0580*** | 0.00761 |
| | (0.0184) | (0.0128) | (0.00260) | (0.0209) | (0.00826) | (0.0178) | (0.00888) |
| Governance | 0.513* | 0.783*** | 0.245*** | 0.117 | 0.652*** | 0.0461 | 1.253*** |
| | (0.303) | (0.118) | (0.0866) | (0.0972) | (0.108) | (0.0935) | (0.289) |
| Resourcesrents | 0.0153 | 0.0225** | -0.00280 | 0.0133 | 0.0135** | 0.0315*** | 0.00375 |
| | (0.0103) | (0.00886) | (0.00275) | (0.00924) | (0.00565) | (0.00417) | (0.00679) |
| Mva | -0.00638 | 0.0340*** | -0.00373 | 0.0121 | -0.0173** | -0.0105** | -0.0420*** |
| | (0.00408) | (0.0104) | (0.00230) | (0.0152) | (0.00857) | (0.00417) | (0.0150) |
| Constant | 3.353 | 9.694*** | 11.14*** | 4.584* | 7.998*** | 12.65*** | 5.182*** |
| | (4.497) | (0.829) | (0.728) | (2.631) | (0.920) | (1.269) | (1.360) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Observations | 174 | 402 | 105 | 231 | 190 | 185 | 191 |
| R-squared | 0.941 | 0.866 | 0.992 | 0.754 | 0.885 | 0.891 | 0.820 |
| Fisher | 115.3*** | 119.1*** | 530.6*** | 63.37*** | 54.66*** | 104.5*** | 69.66*** |

*Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Notes: FDI is foreign direct investment inflows; Mva implies Manufacturing value added*

**Table 9**. Explaining human development through different income groups, export structure and level of development

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | Dependent variable: IHDI | | | | | | |
| VARIABLES | Fuel exporters | Non-fuel exporters | Upper-middle income | Lower-middle income | Lower income | Less DCs | Least DCs |
| Broad money (m2) | 0.00247*** | 0.00171*** | 0.00175*** | 9.24e-05 | 0.00173** | 0.00101*** | 0.00199*** |
| | (0.000528) | (0.000148) | (0.000555) | (0.000376) | (0.000669) | (0.000152) | (0.000398) |
| Foreign aid | -0.0137*** | -0.00295*** | -0.00496 | -0.0117*** | -0.00140 | -0.00249*** | -0.00245** |
| | (0.00406) | (0.000793) | (0.0118) | (0.00224) | (0.00122) | (0.000473) | (0.00122) |
| Population (log) | -0.0887 | -0.0778*** | -0.0593** | 0.0694** | 0.0129 | -0.0334*** | 0.00467 |
| | (0.0600) | (0.0109) | (0.0229) | (0.0301) | (0.0417) | (0.00873) | (0.0234) |
| Trade | 0.000156 | -0.000172 | -0.000483 | 0.00165*** | -0.000265 | 0.000251 | -0.000432*** |
| | (0.00228) | (0.000125) | (0.000890) | (0.000486) | (0.000403) | (0.000168) | (0.000141) |
| Human capital | -0.0280 | 0.146*** | 0.0546** | 0.148*** | 0.0608 | 0.133*** | 0.102*** |
| | (0.0747) | (0.0154) | (0.0217) | (0.0164) | (0.0884) | (0.0110) | (0.0259) |
| Externaldebt | -0.000305 | -0.000207*** | -2.69e-05 | -0.000305* | -0.000223* | -0.000281** | -6.14e-05 |
| | (0.000225) | (7.10e-05) | (0.000167) | (0.000156) | (0.000116) | (0.000113) | (8.19e-05) |
| Internet | 0.00141* | 0.000805*** | 0.00174*** | 0.000862** | 0.00263* | 0.000834*** | 0.00203*** |
| | (0.000789) | (0.000233) | (0.000355) | (0.000376) | (0.00142) | (0.000208) | (0.000307) |
| Remittances | 0.00607* | -0.00370*** | -0.00949* | 0.00300*** | 0.000548 | 0.00351*** | 0.000364 |
| | (0.00315) | (0.000811) | (0.00509) | (0.00111) | (0.000924) | (0.00117) | (0.000446) |
| FDI | -0.000678 | 0.00105 | -0.000867 | -0.00207 | 0.00100 | -0.00346** | 0.00122*** |
| | (0.00131) | (0.000648) | (0.000757) | (0.00239) | (0.000551) | (0.00159) | (0.000429) |
| Governance | 0.0208 | 0.00920 | -0.0172 | 0.0512*** | -0.00220 | 0.0156* | 0.0357* |
| | (0.0342) | (0.00872) | (0.0148) | (0.0155) | (0.00996) | (0.00825) | (0.0203) |
| Resourcesrents | 0.000165 | 0.00153** | 0.000538 | -0.000264 | 0.000330 | 0.00119*** | 0.000678* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (0.00127) | (0.000650) | (0.000666) | (0.00131) | (0.000217) | (0.000359) | (0.000405) |
| Mva | 0.00136** | 0.00598*** | 0.000917** | 0.00766*** | -4.86e-05 | 0.00268*** | -0.00109 |
| | (0.000539) | (0.000814) | (0.000438) | (0.00184) | (0.000752) | (0.000388) | (0.00117) |
| Constant | 1.155 | 0.658*** | 1.152*** | -0.510* | 0.270** | 0.353*** | 0.276** |
| | (0.701) | (0.0841) | (0.167) | (0.290) | (0.124) | (0.105) | (0.108) |
| Observations | 170 | 402 | 105 | 227 | 190 | 181 | 191 |
| R-squared | 0.964 | 0.925 | 0.962 | 0.895 | 0.891 | 0.934 | 0.926 |
| Fisher | 147.3*** | 275.3*** | 106.5*** | 120.0*** | 55.96*** | 273.4*** | 107.4** |

*Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; IHDI represents inequality adjusted human development index; FDI is foreign direct investment inflows; Mva implies Manufacturing value added*

### 4.2 Further discussion of results

Explaining how financial development, governance, and human capital enhance economic development will be of great importance. Financial development brings in new firms into the financial market, while offering new opportunities for the incumbent. This brings about competition within the financial market leading to low interest rates. This enhances the efficiency of financial institutions and tackles issues related to the phenomenon of information asymmetry in financial transactions (Chien et al., 2020). Financial institutions support innovations and creativity. There is causality from entrepreneurship to the knowledge economy and from the knowledge economy to entrepreneurship (Asongu and Tchamyou, 2016). In fact, Stan and Garnsey (2006) posited that knowledge eases entrepreneurship on the one hand and that entrepreneurship further boosts the growth of knowledge on the other. In this regard, it is easier nowadays to google out the cost or procedure of starting up a particular business in a defined environment and the answers given with just a click. Enhancements of entrepreneurship as a result of financial development increases economic activities thereby stimulating economic development. According to the 2020 financial development ranking by the International Monetary fund (IMF), no African country figures among the top 30 financially developed economies, with the majority of these nations occupying the bottom quarter of the classification. This low pace in the development of the financial sector can be seen as one of the reasons for under-development in Africa.

At the same time, human capital can help in expanding economic development by developing the knowledge and skills of the workforce. This increases economic development and consequently growth. In fact, Barro (1991) posit that poor countries will turn to catch up with rich countries if the poor countries have high human capital per person in relation to their per capita GDP. This is because countries with high human capital turn to have high rates of physical investments. Africa has made large strides in increasing its literacy rate and improving on the health status of its population. However, according to World Bank statistics (2020), Africa is the least developed in turns of education, in fact, the least humanly developed nations are found in Africa. While this low starting level of human capital may have hindered Africa's growth, other factors can be cited too to have contributed. These include governance.

Acemoglu et al. (2005) argue that differences in institutions are the fundamental causes of differences in economic development. In this respect, Acemoglu et al. (2019) posit that democracy does cause growth. Africa is the worst performing region in terms of institutional development (Ngouhouo et al., 2021). In fact, according to the 2021 transparency international report, 10 African countries are found among the 20 most corrupt countries in the World while no African country is found at the 20 top score countries in the index. Looking at their levels of democracy, African countries especially sub-Saharan African countries top the list in terms of the least democratic nations in the World.In fact, 14 of the 30 least democratic nations in the World are found in Africa (Szmigiera, 2021). This lagged of institutional development can be cited to be at the origin of this slow development. It is true that one cannot simply be contented by this because countries like North Korea which is ranked the least democratically developed nation in the World and among the most corrupt is very developed compare to African countries.

One of the most striking aspects about the findings of this study is the fact that external financial inflows have a negative effect on economic development. Though this negative effect varies with income levels and export structures, Orlik (2009) had earlier argued that external financial capital reduces financial instability and as a result, modify key prices while depressing economic activities in developing countries. According to the World Bank (2020), external flows into Africa has been on a steady increase. In fact, in Sub-Saharan Africa, FDI rose from 6.8578 billion USD in 2000 to 32.222 billion USD in 2018, despite the 13 points dropped compared to the 2012 level. At the same period, workers remittances witnessed a sharp increase, rising from 4.801 billion USD in 2000 right up to 48.169 billion USD in 2018. While official development assistance increased from 13.058 billion USD to 50.478 billion USD. Moreover, external debts in SSA countries (excluding high income countries) left from 215.042 billion USD in 2000 to 569.804 billion USD in 2018. These heavy inflows have had varying effects on the African economy. Official development assistance has robustly hinder economic development, remittances enhances economic development in oil exporting countries, lower middle-income, lower income and least developed countries. FDI on its part only enhances human development in least developed countries, its development effect in other groups of countries are either significantly negative or non-significant. This is a clear indication that for African economies to actually move out of under-development, the solution lies on their domestic economies. External financing only though with its own merits is more

harmful to economic development. This is most evident as national industrialisation and resources rents are development enhancing in this study.

## 5. Concluding remarks and policy implications

One of the challenges faced by Africa today is the problem of underdevelopment. Explaining this problem has however remained an economic mystery given the rich nature of the continent. The objective of this work was therefore to empiricallyexamine the factors that explain socio-politico-economic development in Africa. The methodology adopted is that of the IV-2SLS estimator. The results of the analyses reveal that on the one hand, financial development, and human capital are development enhancing in Africa while external financial inflows are detrimental to economic development. When other specific macroeconomic and structural variables were further introduced in the model, the results reveal that institutional quality through governance, natural resources abundance, and industrialisation all explain both the social and economic development dynamics. These results were specific to income groups, export structures and levels of development.

As policy implications, African States are encouraged to focus on developing their domestic economies in their quest for fighting the underdevelopment cankerworm. In this respect, they should develop their domestic financial sector and use that in financing their development projects and rely less on external financing. Moreover, rents from natural resources should be maximised and reinvested into economic and social development projects and plans. Besides, there is need for improving on the quality of governance which has been a problem in the continent. In this respect, the countries should intensify the fight against corruption and conflict resolutions. The countries should equally ensure the protection of rights and properties which will encourage investments. Also, industrialisation should be further enhanced. The countries have depended a lot on raw material exports while importing processed food. These countries are therefore encouraged to invest more in the manufacturing sector. Finally, their development models should be built based on their export structures, income group and level of development.

This study obviously leaves space for future research especially as it pertains to assessing how the findings withstand empirical scrutiny within country-specific frameworks, not least, because country-specific studies complement panel-based research with more targeted policy implications. Moreover, it is worthwhile to

consider environmental outcomes especially in the light of growing concerns about environmental sustainability.

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