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This study analyzes Sub-Saharan Africa through the framework of globalization. The study's objective is to determine whether globalization is a significant factor when associated with economic growth in the region. Using panel data from 1995-2005 for 41 countries and the KOF globalization index, an Ordinary Least Squares (OLS) model was employed to examine the relationship between globalization and other traditional factors of economic growth such as trade, foreign direct investment, loans, aid, natural resources, corruption, and rule of law. The study shows that globalization has a positive, though statistically insignificant impact on the economic growth of Sub-Saharan Africa. However, globalization is positive and statistically significant for countries with scarce natural resources. I interpret these results as proving that the leading causes of slow economic growth in Sub-Saharan African countries is due to heavy dependence on natural resources, low investment in human capital, and the negligence of other industries—all of which suggest that these countries are unable to effectively manage critical processes of globalization. Indeed, in order to reap the net benefits of globalization, I argue, African countries need to work towards economic stability by developing better macroeconomic policies for their future.

**Keywords**
globalization, international trade, natural resources, imports, foreign aid, economic growth

# Globalization and Economic Growth in Sub-Saharan Africa

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## Abstract

This study analyzes Sub-Saharan Africa through the framework of globalization. The study's objective is to determine whether globalization is a significant factor when associated with economic growth in the region. Using panel data from 1995-2005 for 41 countries and the KOF globalization index, an Ordinary Least Squares (OLS) model was employed to examine the relationship between globalization and other traditional factors of economic growth such as trade, foreign direct investment, loans, aid, natural resources, corruption, and rule of law. The study shows that globalization has a positive, though statistically insignificant impact on the economic growth of Sub-Saharan Africa. However, globalization is positive and statistically significant for countries with scarce natural resources. I interpret these results as proving that the leading causes of slow economic growth in Sub-Saharan African countries is due to heavy dependence on natural resources, low investment in human capital, and the negligence of other industries—all of which suggest that these countries are unable to effectively manage critical processes of globalization. Indeed, in order to reap the net benefits of globalization, I argue, African countries need to work towards economic stability by developing better macroeconomic policies for their future.

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## Introduction

In this new era of international interdependency and interaction called globalization, there has been much controversy over the benefits of globalization to developing countries, especially to African nations. The issue of globalization is especially important considering the history of sub-Saharan Africa.  With the exception of Liberia and Ethiopia, most of the region has been colonized at some point in its history. During the mid-twentieth century, for example, both the International Monetary Fund (IMF) and the World Bank imposed neoclassical economic policies, such as Structural Adjustment Programs (SAPs), on Sub-Saharan Africa in the hopes of opening up and integrating it into the global market (Schneider, 2003; Ajayi, 2003; Dreher, 2006).  Neoclassical economic policies are associated with pro-market liberalization of trade, capital control and labor markets, reductions of all kinds of state regulation, and privatization of state-owned enterprises.

There are many findings that suggest these SAPs were more harmful to these nations than beneficial. But other scholars have concluded that SAPs did not have such a detrimental effect. Meagher (2003) articulated this point in her analysis of globalization and trade in West Africa, stating that “instead of disappearing into the face of structural adjustment and globalization, West Africa’s trans-border trade systems have been restructured and globalized.” Yet, where the presence of globalization has not always been in the best interest of the local communities, the paradox is that African leaders themselves welcome the opportunity to promote globalization (Otenyo, 2004). Where SAPs did not benefit African nations, they did stimulate trans-border trade by enforcing the global policy framework of deregulation and privatization of government enterprises and by helping to improve trade in communication and technologies.

This paper studies the aggregate impact of globalization on the economic growth of Sub-Saharan Africa, using the traditional neoclassical growth model, with panel data from 1995 to 2005 and for 41 African countries.[2] The decade 1995 to 2005 is important because African nations had enough time to recover from SAPs and pursue policies that could enable them to embrace the process of globalization.

I utilized the Ordinary Least Square (OLS) estimation to analyze this panel data, controlling for countries' characteristics by including dummy variables. Previous studies of globalization and economic growths used proxy variables such as trade, which by itself is not of the best variable, to determine how globalized a particular economy

[2] I wanted to use data for all of Sub-Sahara Africa, but due to the lack of data for the variables employed in this paper, I was limited to 41 countries.

might be. I used the KOF globalization index to measure globalization. The KOF index measures nations' overall integration into the global economy. According to the KOF index of globalization, globalization is defined as the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows, including people, information and ideas, and capital and goods, while eroding national boundaries, integrating national economies, cultures, technologies and governance. Along with other traditional measures of economic growth that are often utilized in other studies—these range from foreign aid to foreign direct investment (FDI), investment in human capital, trade, and corruption, just to name few—this study used the OLS method to determine whether globalization impacts economic growth in Africa. Following this method, I measured whether globalization is a significant and positive factor to the economic growth of

African nations. Furthermore, I attempt to explain how African nations can benefit economically from globalization in ways similar to other regions of the world such as Asia and the Middle East, which are growing economically at a faster rate than Africa.

The contribution of this study to globalization literature is that it underlines the reality that globalization is not a statistically significant contributor to the economic growth of countries with abundant natural resources. It also highlights the fact that, on the other hand, globalization is significantly important for small countries, especially those countries with “scarce” natural resources. Indeed, when managed systematically in the proper context, globalization can have a positive and significant contribution to economic growth of Sub-Saharan Africa. For one, nations that are highly globalized tended to be less corrupt than less globalized ones. And nations that are less corrupt tend to have high economic growth.  The empirical findings from this study underscore that globalization has a positive contribution to economic growth of Sub-Saharan Africa generally, but that its contribution is not statistically significant.

The rest of this paper is organized as follow. Section I provides literature reviews. Section II provides the methods used to conduct this study: an empirical OLS estimate regression model on globalization. Section III presents the estimation results of the simple multiple regression models. Section IV provides discussion and interpretation of these results. Section V draws conclusions and makes some policy recommendations about how to improve globalization in order to benefit Africa, and explores areas for further research.

## I. Literature review

Researchers have long been interested in determining the factors of economic growth in Sub-Saharan Africa and how globalization affects growth. Some scholars have argued that the overall effect of globalization is positive for developing countries whether by trans-border or international integration (Meagher, 2003; Otenyo, 2004; Schneider, 2003). The ratio of extra-regional trade to GDP in Africa is twice that of Latin America and nearly four times that of Europe (Schenider, 2003). The global community is pushing toward a rapid and sustainable development, thus pressing African nations even more toward openness and globalization. Due to this push, African nations are relatively open and globalized. Schneider (2003) argued that globalization is not a new phenomenon in Africa: Africa began to be integrated into the global economy in the sixteenth century, and this integration has continued, although unevenly, since that time. Furthermore, African countries are also linked directly to their former colonial powers, who often are their largest trading partners.

On the contrary, other scholars maintain that African nations do not have the potential to effectively integrate into the global economy. A major concern is that while other emerging market economies have benefited from globalization, African countries continue to be marginalized (Oshikoya, 2008). Meagher (2003) concluded in her study that globalization, for example, tended to stimulate rather than eliminate illegal and counterproductive activities across Africa.  She points out that, as a direct result of unstable and short-sighted political and macroeconomic policies, Africa is mismanaging globalization rather than capializing on the net benefit of globalization. In addition, Africa does not have an adequate political and economic infrastructure to effectively manage globalization, therefore reinforcing its global position as economically disadvantaged. These scholars would probably agree that globalization is taking advantage of Africa and that it is not a reciprocal relationship in terms of the benefit gained from globalization.

The benefits of globalization can accrue to Africa if governments take advantages of the following channels of globalization: trade, capital flows, migration, communication, and technologies (Ajayi, 2003). Indeed, if managed correctly, the benefit to Africa of globalization can be significant. Africa can diversify its exports, so that instead of exporting only minerals or primary commodities, globalization would allow it to generate exports developed through new or less active industries. For example, with improved communication and technology, Africa can expand its manufacturing industries thereby attracting foreign capital, which in turn can bring in new ideas and new technology (Ajayi, 2003). Against the backdrop of increased trade and investment, economic growth is the only way to develop because it can reduce a country's level of poverty and increase the standard of living. Of course, the benefit derived by each African nation will be different because of different characteristics such as the level of education, the available natural resources, infrastructural development, and political stability, all of which can be greatly improved by globalization.

African governments want to benefit from globalization in the sense that they too advocate for globalization. The desire to embrace the potential benefits of interconnectedness remains strong in most governments of the developing world (Otenyo, 2004). Indeed, many economists agree that the route to the global economy remains straightforward, most pointedly, as noted above, through trade and investments. Yet Africa's entry into the global markets is complicated by its poverty, debts, and great dependence on natural resources. Necessary steps must be taken in order for Africa to benefit from globalization. African governments are involved in managing natural resources instead of globalization. According to Otenyo (2004), data shows that since 1996, following the emergence of rapid globalization, East African city governments has become increasingly positive, leading to the conclusion that globalization can even positively reform how nations govern themselves. This and other studies shed light on the concrete benefits of globalization in Sub-Saharan Africa.

## II. Method—an empirical model of economic growth

This study uses panel data for 41 Sub-Saharan African countries covering the period 1995 to 2005 on globalization and other traditional factors of economic growth. A total of 11 independent variables are used in this study. The model used in this paper is the classical regression model, the Ordinary Least Square (OLS)

Regression, under the Gaus-Markov assumptions. The model is specified as:

$$\text{Log GDP} = \beta 0 + \beta 1\text{aid} + \beta 2\text{loans} + \beta 3\text{FDI} + \beta 4\text{export} + \beta 5\text{import} + \beta 6\text{rulelaw} + \beta 7\text{humancap} + \beta 8\text{naturalresources} + \beta 9\text{ Global index} + \text{B10LagGDP} + \text{B11Corrupt} + \epsilon \tag{1}$$

The model passed the Ramsey test which tests for omitted variable bias (p-value 0.61). I also ran a Variance Inflation Factors (Vif) to identify the problem of multicollinearity. The test shows that we do not have the problem of multicollinearity, meaning that the independent variables are not correlated with one another since the mean vif is 2.58; all the variables have a vif less than 10. Also, I tested for heteroskedasticity to ensure that the standard errors of the estimates are not biased. The standard errors must be constant. Homoskedasticity implies that the conditional on the explanatory variables, i.e. the variance of the unobserved error, $\epsilon$, was constant. Using the Pagan test, I failed to reject the null hypothesis (p-value 0.0596). Therefore, there is no problem of heteroskedasticity.

The dependent variable used to capture economic growth is log Gross Domestic Product (GDP). GDP is the most important variable in studying economic growth. The log GDP is taken for simplicity of description and interpretation of results. The independent variables used in the model are described as follows.

"Aid per capita," measured by both official development assistance and official aid, is used to capture the impact of an external source of capital on economic growth. Scholars who advocate for aid argue that foreign capital flows are necessary for the economic growth of developing countries (Fayissa and Nsiah, 2008).

“Loans per capita” are measured in terms of IBRD loans and IDA credit extended by the World Bank Group to developing countries. Loans are also used to capture their effect on economic growth. Many studies find that loans are negatively correlated with economic growth in Sub-Saharan Africa, adversely affecting the economic growth.

“Foreign Direct Investment” (FDI) measured as a percentage of GDP, is the net inflow of foreign enterprise operating in an economy other than that of the investor. FDI is used here to capture the effect of the outside source of capital on economic growth of developing nations. There are controversies over the benefit of foreign direct investment in Africa.

“Export” and “Import”. The term of trade measured as export plus import divided by GDP. Trade is another variable that determines how open an economy is to the global market. In this model, I separated export from import to determine their impact separately on economic growth. Ajayi (2003) mentioned that trade liberalization has been shown to be associated with increased export orientation and higher rate. However, this has not been the case for Africa; rather, most African nations have seen an increase in import instead of export.

"Rule of law" and "corruption" measured the accountability of government officials. The promotion of the rule of law throughout Africa is lacking. African nations are among the lowest ranking on the rule of law index. The Corruption Perceptions Index (CPI) measures the perceived level of public-sector corruption taken from Transparency International.

"Net enrollment/attendance rates in primary school" are used as a proxy to capture the investment in human capital. Investment in human capital is a significant factor of economic growth in many other regions. The people of

Africa experience lower levels of education than those in other regions of the world, which reflects the lower level of economic development in Africa. As Schultz (1999) argued, Africa also has some of the lowest levels of schooling in the world, and the relative quality of schooling still remains to be evaluated. Thus, I expect education to become even more critical to the economic progress.

"Natural resources" are measured as the percentage of export that is each country's main mineral commodities. Sachs and Warner (1997) pointed out that one of the surprising features of modern economic growth is that economies abundant in natural resources have tended to grow slower than economies without substantial natural resources. They conclude that high resource wealth has encouraged developing countries to pursue protectionist, state-led development strategies, as they try to combat the natural resource curse or Dutch Disease[3] effect of the resources' abundance. In addition, they argued that this inward-looking approach to development may result in lower investment rates and/or lower growth rate directly.

"The Globalization index" measures how countries are economically, politically, and socially integrated. The sub-indexes of globalization are strongly related to each other, so including them separately in a regression induces collinearity problems. The Globalization index is used to capture the long distance flow of goods, capital, and services and diffusion of government policies and the spread of ideas, information, and people.

[3] The Dutch disease is a theory that explains that countries that are wealthy in natural resources tend to have a decrease in manufacturing industries causing them to become less competitive because they neglect those industries—manufacturing or agriculture in the case of Africa. Indeed, manufacturing and agriculture are essential to a country's economic growth.

“The lagGDP” is also included to measure the effect of past GDP. In most countries, past performance has an effect on future economic growth.

All variables, except rule of law, corruption and natural resources, are in current US$. A group of country dummies are included to control for the effect of different countries’ characteristics because the effect of all factors vary across countries but not so much over time, since only a decade is used in this model.

Data is from various sources. GDP, aid per capital, loans, FDI, and trade (export and import) are taken from the World Bank Development Indicators. While the Globalization index is taken from the KOF index Globalization, net enrollment/attendance rates are taken from United Nations Data, mineral commodities from U.S. Geological Survey, Rule of Law index is from the

Worldwide Governance Indicators, and the corruption index is taken from Transparency International.

## III. Results

Table 4 in the appendix provides a summary of the variables used in this study. The OLS estimates used in the model are provided below:

$$\begin{aligned}\text{Log GDP} = {} & 0.1901226 + 0.0003689\text{aid} \\ & \pm 0.0001656\text{loans} \pm 0.0011973\beta 3\text{FDI} \\ & \pm 0.000000249\text{export} + 0.0001704\text{import} \\ & + 0.0410666\text{rulelaw} \\ & + 0.0007122\text{humancap} \\ & + 0.0002286\text{naturalresources} \\ & + 0.000702\ \text{Global index} \\ & + 0.9964942\text{LagGDP} \pm 0.0276172\text{Corrupt} \\ & + \epsilon\end{aligned} \tag{2}$$

The results from the model used here indicate that this study is consistent with other economic studies of economic growth. The result for globalization index indicates that globalization has a positive coefficient (0.000702), but a statistically insignificant effect (p=0.477) on the economic growth in Sub-Saharan Africa. This is consistent with the findings of other studies, which have established that globalization is not fully grasped by all of Africa. This suggests that globalization is important for economic growth in Africa but is performing below its potential.  Otenyo (2004) argues that one positive effect of globalization is the drive toward greater decentralization and openness.  But African nations with large amounts of natural resources tend to lean toward protectiveness, which results in a slower growth rate.

I tested whether the globalization index has different effects in countries that have large amounts of natural resources in comparison to countries that do not. I ran a regression with economic growth measured here by log GDP of year one minus log GDP of year two against lag trade, which is the past term of trade, and lag global, which is the past globalization index. I created a dummy variable with countries that export 40 percent or greater of their natural resources in comparison with countries that export less than 40 percent of their natural resources. I also used the fixed effect for this model. The results show (see table 3) that in countries with a large amount of natural resources, globalization is not statistically significant (p-value=0.73) to economic growth. But in countries with less than 40 percent of natural resources, globalization is statistically significant (p-value=0.011) to economic growth. This suggests that globalization is statistically significant for economic growth in countries with “scarce” natural resources; but in countries abundant in natural resources, globalization is positive, but statistically insignificant.

The result for foreign aid has a positive coefficient (0.0003689) and is statistically significant for economic growth (p=0.005) of African countries. A dollar increase in aid per capita will increase GDP by .0369 percent. Among scholars, aid is one of the major conventional investments that are deemed to foster economic growth (Papanek, 1973).

The coefficient for loans is negative (-0.0001656) and p-value (0.129). This means that there is a negative relationship between loans and economic growth, but it is statistically insignificant. Many other scholars such as Dreher (2006) have demonstrated that there is a negative relationship between loans and economic growth. This relationship is due to the fact that loans often lead to debt. This study provides further proof of this.

The results showed negative coefficient (-0.0011973) between foreign direct investments (FDI) and economic growth and statistically insignificant (p-value 0.083) at the 5% level, controlling for all other variables. According to Asiedu (2005), among developing countries as a whole, FDI flows have increased from 17 percent in the second half of 1980s to 32 percent in 1992, but the share of Sub-Saharan

Africa is now below 1 percent and falling. Asiedu (2005) also mentioned that an increase in FDI does not necessarily imply higher economic growth. Indeed, the empirical relationship between FDI and growth is unclear.

In this model, I separated imports from exports because I wanted to understand their respective effects on economic growth. The terms of trade as percentage of GDP was negative to economic growth, this is often due to trade deficits. Many African countries have a negative trade deficit because they import much more than they export. Hence, the negative relationship between the terms of trade and economic growth. Most countries export only primary commodities or natural resources. The result from this study shows that there is a negative coefficient (-0.000000249) between import and economic growth, but not statistically significant (p-value 0.996) at the 5 percent level. There is a positive coefficient (0.0001704) between economic growth and exports, but it is statistically insignificant (p-value 0.716). This is what I expected and is consistent with other studies.  According to Meagher (2003), Africa's share in world export flow has fallen, particularly in manufacturing, which is the key growth sector for the expansion of trade and resource flows in the context of globalization. In addition, Meagher (2003) concludes that in the face of declining exports and international investment Africa has fallen far behind in the development of the appropriate infrastructure, technology and skills to link up with the information revolution, which is central to the global restructuring of production, trade, and finance.

The rule of law coefficient is positive (0.0410666) and statistically significant (p-value 0.011) at the 5 percent level. This is important because political accountability is important to economic growth. However, there is a negative coefficient (-0.0276172) between corruption and economic growth, which is what is expected from such study. Corruption is negative and statistically significant with a p-value of 0.002. This indicates that a 1 point increase in corruption will decrease GDP by 2.76 percent which is significant. Corruption affects economic growth by reducing aid, foreign investment, and effectiveness in an economy. Otenyo (2004) used Tanzania and Kenya as examples, where Tanzania lost aid due to bureaucratic corruption and Kenya lost a great deal of its competitiveness due to massive corruption in the government. For many years, Kenya has been among the worst performers on Transparency International (TI) Corruption Perception Index (CPI) which is the index employed in this study.

I expected investment in human capital to be positive and statistically significant. Investment in human capital here measured the net enrollment of primary education rate over a 10 year period, which is not enough to make a conclusive decision. The coefficient is negative (-0.007122) and statically insignificant (p-value 0.088). As mentioned before, Africa has some of the lowest levels of school enrollment in the world.

Natural resources are measured as the percent of exports that are a main mineral resource of each country. African countries on average depend on primary product exports (86 %) (Barbier, 2005). The results from this study show a positive relationship between economic growth and mineral resources. The coefficient is .0002286 and statistically insignificant to economic growth with a p-value of 0.258 at the 5 percent level.

## IV. Discussion

Many of the results presented in this study are consistent with other economic studies.  Globalization, although positive for economic growth, is not significant in Africa because globalization is not fully realized there. The main goal of this study has been to investigate the effect of globalization relative to other traditional factors such as aid, FDI, and trade on the economic growth of Sub-Saharan Africa. The results indicate that globalization can positively impact economic growth; however, it is not statistically significant for all of Africa in this study. Many studies conclude that the lack of economic growth in Africa is due to marginalization of the world economy, lack of globalization, heavy dependence on primary commodities and/or natural resources, as well as weak technological capabilities. Thus, African nations not fully integrated to the global economy. Globalization can work in African nations if it is used to promote embedded, decentralized, broad based trading networks that bypass current trade patterns dominated by transnational oligopolies and corrupt African elites (Schneider, 2003).

Globalization can be a catalyst for economic growth. Most countries that are well off in Africa, such as the Seychelles, are countries with little or no natural resources. Botswana is a great example of a country in Sub-Saharan Africa that did not fall victim to the natural resource curse (or Dutch disease), but instead manages its natural resources to its benefit. In essence, countries such as Botswana and Seychelles have embraced and managed globalization. As Schneider (2003) found in his study, in an effort to manage globalization and diversify its economy, while fostering greater global linkages for the benefit of its citizens: the government of Botswana followed the classical neoliberal recommendations for developing an economy. They established an appropriately valued currency, political and social stability, lowered wages, subsidized and taxed financing and training, and provided good education and infrastructure. They learned from the experience of South

Korea because taxes and subsidies were accompanied by requirements that firms employ at least 400 Botswana workers, invest 25 percent of the project's capital, and export most of what is produced (Schneider, 2003: 5). By reinvesting wealth of natural resources in physical and human capital, for instance, Botswana gained one of the highest rates of primary and secondary-school enrollment (Barbier, 2005). There are ways in which Africa might benefit from globalization significantly, perhaps by taking examples from Botswana, Seychelles or East Asian such as South Korea, Taiwan, Singapore, and Hong Kong when it comes to the process of globalization. However, policies that are follwed need to be country-specific.

Most African countries export natural resources or primary commodities which were conditions attached to SAPs. This study shows that globalization is not important to economic growth of countries with large amounts of natural resources. Sachs and Warner (1997) pointed out that high resource abundance leads to increased aggregate demand that shifts labor away from high learning-by-doing sectors and thus depresses growth in labor productively. In other words, natural resource production is less skill intensive than other industries. Therefore, when countries open to trade, they shift away from manufacturing, which requires skilled labor to primary production which require less skilled labor. Globalization does foster economic growth in manufacturing and infrastructure, argued KS and Reinert (2005). However, in most African countries, the manufacturing industries are neglected. Instead, they import cheap manufactured goods from Asia which undermined the industries at home. Meagher (2003) also concluded that the flood of cheap Asian manufactured goods imported via trans-border trading circuits has crippled manufacturing industries throughout West Africa. Another sector that has been neglected is the agricultural sector. Trans-border inflows of agricultural commodities undermine the long-term viability of local agriculture by undercutting prices and eroding demand, in addition to undermining local food security and disrupting agricultural development initiatives (Meagher, 2003). In order for Africa to benefit from globalization it must embrace other sectors such as agricultural and manufacturing industries.

The result of FDI from this study found a negative relationship. In economic literature, there are controversies over the benefit of FDI. Some found a positive relationship, others concluded that FDI enhances growth only under certain conditions. For example, when the host country's education exceeds a certain threshold, or the domestic and foreign capital are complement, the country has achieved a certain level of income, the country is open, or when the country has a well developed financial sector (Asiedu, 2005).

Other scholars found that FDI is largely driven by natural resources and markets' sizes. This seems to be consistent in Africa. The three largest recipients of FDI are Angola, Nigeria, and South Africa. As mentioned above, private investment that occurs in mineral resources is not beneficial in the long run because it is not channeled to human capital or infrastructure. Another problem regarding natural resources in Africa that is not often discussed is that natural resources are often owned and managed by foreign capital. This is another reason why natural resources have not been an engine for economic growth. Jomo K.S. and Erik Reinert (2005: 124) argue that "international capital flow (FDI) often does not contribute to growth because they tend to be primarily concentrated in enclave sectors, and in primary and extractive industries that exacerbate the pattern of comparative advantage." They conclude that foreign capital plays a positive role in economic growth when it goes into manufacturing and infrastructural sectors and not into primary production sectors. In Africa, FDI often goes into natural or primary resources, which do not play an important role in economic growth.

In comparing developed countries to developing countries, only 2 percent of national wealth is generated through dependence on primary commodities, whereas for developing countries dependent on export revenues from primary commodities, about 20 percent of their national wealth comprises natural resources (Barbier, 2005). Barbier (2005) concluded that poor economies that can be classified as highly resource-dependent in terms of primary product exports also show low or stagnant growth rates. Thus, there is more than enough evidence to show that resource dependency may be associated with poorer economic performance. In Africa, greater dependence on the exploitation of natural resources appears to hinder economic growth. There are many other proposed hypotheses as to why natural resource dependency hinders economic growth. In Africa, this can be attributed to failed policies, weak institutions, lack of well-defined property rights, insecurity of contracts, corruption, and social instability (Easterly and Levine, 1997; Warner and Sachs, 1997). However, other economists propose that the problem might be due to a failure to ensure that the rents generated from natural resource extraction are reinvested in other forms of capital such as those that are human, physical and knowledge-based in order to sustain economic growth in resource-rich countries, a phenomena known as the Hartwick rule (Barbier, 2005).

Countries with natural resources, especially in Africa, are prone to problems such as corruption, and thus are unable to manage natural resource assets (and globalization) efficiently in order to generate net benefits. This problem will continue to hinder economic performance. Figure 1 shows that countries with large amounts of natural resources tend to be highly corrupt, with the exception of Botswana, which is a unique case. There is a correlation between natural resources and corruption. For example, Nigeria is a nation with large amounts of natural resources, especially in oil. Yet it is also one of the most corrupt countries in the world. Countries such as Mauritius, which do not have a large amount of natural resources, are less corrupt, highly globalized, and have higher economic growth.

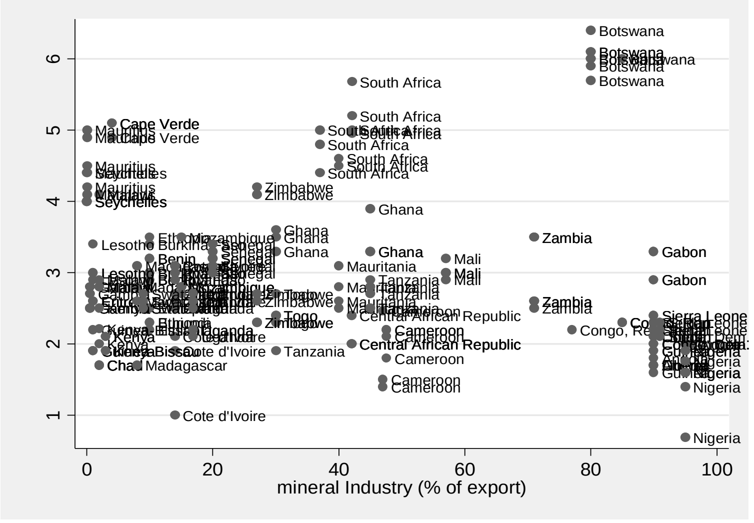


Figure 1: Countries mineral exports in relation to the corruption (CPI) index

Dreher (2003) concluded that globalization is good for growth. He found that on average, countries that globalize experience higher growth rates, especially economically integrated countries. Thus, the accusation that poverty prevails because of globalization is therefore not valid, unless of course, globalization is not managed. On the contrary, those countries with the lowest growth rates are those that did not globalize. However, it is not enough to simply globalize in order to stimulate growth and reduce poverty according to Dreher (2003). This study shows that countries that are more globalized tend to be less corrupt and countries that are less globalized are highly corrupt. This can be seen in Figure 2 where the lower the number, the more corrupt the country is, 1 being the most corrupts and 6 being the least corrupt. On the globalization index, the higher the number, the more globalized the country.

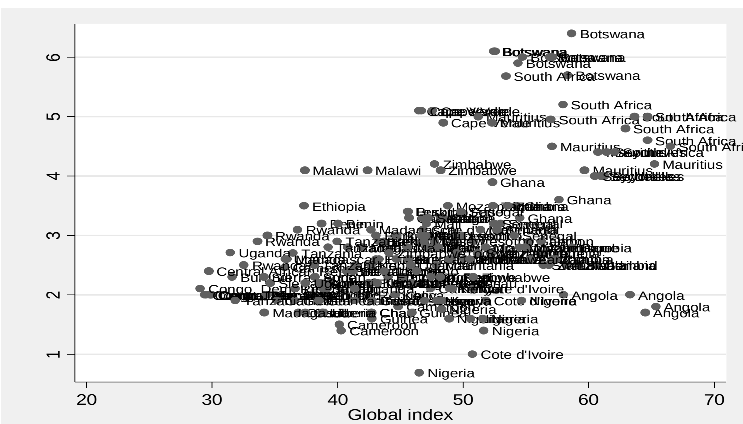


Figure 2: Countries globalization index in relation to the corruption (CPI) index

Globalization is also a means to achieve good governance. Otenyo (2004) concludes that the potential of globalization as a catalyst in governance is an important dimension in regional development. Due to corruption, Africa has not excited western investors as other regions have. Capital inflow remains low and so the total picture of Africa's place in a globalizing world remains peripheral. Easterly and Levine (1997) have empirically demonstrated that economic growth is affected by the quality of governance. Otenyo (2004) also stated that most data shows a positive correlation between globalization and the rate of attention to political accountability reforms. The results from this study support this finding. Countries that are globalized not only foster good governance, but attract trade, investment, and tourism, which in turn generate greater economic growth.

Globalization is also meant to provide physical infrastructure, technological support, and appropriate incentives necessary for a country to grow in the long run. One of the sad problems in Africa is that the most educated and skilled individuals migrate to developed nations such as the U.S.A, Canada, and the United Kingdom (Ajayi, 2003). Globalization is a means of providing technology to Africa, but this technology can only be successfully acquired, utilized, and diffused if countries have developed sufficient social absorptive capacity, such as human capital. Education is therefore one of the keys to economic growth.  Asia has been publicized as the world's economic miracle, opening and liberating trade regimes which have allowed these countries to develop their comparative advantages and gain access to newer and more appropriate technologies. Financial liberalization has increased their access to international private capital, not to mention more influence and power in the international economy (Ajayi, 2003). There is much that Africa can learn from the Asia model, in particular its development strategy. One of the investments that have helped developed Asia is its investment in education. Countries that are globalized tended to have higher levels of education.

Globalization can significantly benefit Africa if Africa positions itself appropriately via appropriate policy measures. Like Asia, Africa needs to manage globalization in order to benefit from it, instead of being managed by globalization.

## V. Conclusion

This study concludes that although globalization is not statistically significant to economic growth in Sub-Saharan Africa, it can have a positive influence on its economic growth. Although the playing field in the international economy is not level, African countries must take the necessary steps to reevaluate macroeconomic policies and establish international institutions to better manage and reap the net benefits of globalization. With good governance, better institutions and sound and stable macroeconomic policies, Africa can better manage its natural resources, attract more capital inflow, and benefit greatly from globalization.

Increased integration into the global economy can provide Africa with newer and more efficient technologies to build other industries such as agriculture and manufacturing, and to reinvest natural resource revenues into these industries. In addition, globalization can foster greater investment in infrastructure, reduce corruption and improve the rule of law, all of which are essential to economic growth. Globalization can pressure nations to stay politically moral, and develop better political and legal institutions. Most economists strongly advocate globalization because of its positive net benefit to economic growth. Globalization increases competition, fosters innovation and efficient production, promotes education and infrastructure, but most importantly encourages economic diversification. African nations can follow the models of East Asia by diversifying their economies and industries through reinvesting their natural resource rents and revenues.

There is good evidence for further research in the future. The model might suffer from the problem of panel data regression. Increasing the number of years to greater than 30 years would create more satisfactory results. Also, it would yield better results to avoid some of the statistical errors and include more variables. In addition, the study would benefit by including more African countries perhaps by comparing African globalization processes to those in other regions of the world.

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