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Privatization and Economic Growth: The Case of Sub-Saharan Africa

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PRIVATIZATION AND ECONOMIC GROWTH: THE CASE OF SUB-SAHARAN AFRICA

By

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The Graduate School has verified and approved the above-named committee members.
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Does privatization of state-owned assets result in economic growth? This paper seeks to theoretically and empirically link this market reform strategy to the outcome of economic growth. By taking a deeper look at developing countries, particularly sub-Saharan Africa and juxtaposing institutional and economic variables I will be able to test the relationship between privatization and economic growth.
1. INTRODUCTION

Beginning in the 1960’s sub-Saharan Africa\(^1\) birthed newly independent states. Not only was the enthusiasm for political self-determination at its heights but the economic possibilities were even more promising. However, the elation that surrounded colonial independence quickly gave way to the realities encountered by immature political institutions when colonial administrations are withdrawn: seemingly perpetual anarchy. A continent ravaged by political instability; a cyclical nightmare of political fracturing, tentative consolidations, and re-fracturing have all but extinguished the promise associated with self-determination. Sub-Saharan Africa’s problems are evident by images of war, destitute refugees, child soldiers and malnourished infants; only to be supported by human capital indicators of high child mortality rates, low life expectancy rates and in some cases negative overall economic growth.

The wave of market liberalization that beset the international community in the 1980’s promised economic growth as the panacea for all ailing societies. In theory, economic stability, particularly market orthodoxy, can bring about a sort of *Capitalist Peace* (Gartzke, 2007). A main component of economic reform typically advanced is the selling off of state-owned enterprises (SOEs) or privatization. Privatization has thus become essential to economic reform policy, as evidenced by many African nations adopting this reform policy. What drives the subsequent research is the results of these market liberalization strategies. Particularly, has privatization had a positive impact on economic growth in Africa? To qualify such a query within the scope of this research endeavor it is first instructive to situate privatization as it relates to economic growth.

Developing countries are following the lead of their developed counterparts and are transitioning their economies from state-centered production and allocation of goods and services to a more market oriented approach. However, the impetus for this structural change has rarely been engendered from within or voluntary. Developing countries throughout the post-colonial period have built up large public sectors under the

\(^{1}\) Sub-Saharan African is the geo-political description of states south of the Sahara desert, generally considered all 53 African states save Algeria, Egypt, Libya, Morocco, Tunisia and Western Sahara. Within the discourse I may substitute Sub-Saharan Africa for the more informal, yet practical term, Africa.
influence of socialist developmental strategies and the patronage system that subsequentially evolved. The onset of macroeconomic crisis in combination with internal mismanagement altered the perception of the wise, wholly benevolent state-centered economy. Faced with soaring external debt and continuous budget deficits due in large part to subsidizing firms producing at sub-optimal levels, governments desperately sought ways of achieving liquidity. Typically to tide over such a period of economic destabilization meant developing countries had to activate the Bretton Woods system of emergency financial assistance overseen by the International Monetary Fund (IMF) and World Bank; the results were conditional lending based on adopting stringent adjustment programs of which privatization or divestiture was a key strategy. Privatization in this regard provided for a change in ownership that would absolve the state from internalizing production costs and thus alleviate budget deficits. Secondly, the altered incentive structure of private managers would prompt competition, leading to greater profit maximizing activity that on aggregate will increase total production and societal prosperity.

While much of the privatization programs that have taken place in developing countries come via externally imposed economic reform, an integral component of economic viability is the complementary institutional reforms. These institutional factors generally include: strong legal and regulatory institutions. The relationship here is straightforward. Institutions that facilitate the delineation of property rights and can meaningfully provide for contract enforcement are fundamental to economic development. More succinct, private sector development is contingent on rules that facilitate market intercourse. Unfortunately, it appears that many African states did not always meet these necessary conditions, therefore the divestiture programs employed have had mixed and empirically unsettled results.

Employing 31 Sub-Saharan countries for the purpose of empirically testing this interplay between economic growth, privatization and institutional vigor; the purpose of this essay is to add insight to the hotly contested debate of the efficacy of privatization programs in developing countries. My overall goal is to ascertain if privatization, as employed by African states over the last two decades, has resulted in positive economic growth. The proceeding article is organized as follows: Chapter II will begin with a brief
look at the rise of privatization as it evolved in developed countries to its spread to developing countries, particularly Africa. Chapter III, is a review of the empirical studies on privatization throughout the developing world and locates where this research situates within the current literature. Chapter IV proceeds to build a theoretical framework, culminating in a couple testable hypotheses. Chapter V is an introduction to the data and the basic econometric model. Chapter VI presents cross-sectional results of GDP growth rate as regressed against a measure of privatization and a variety of human capital and institutional variables. Chapter VII, by way of conclusion, will address the possible implications for this research and space afforded for further exploration of market liberalization policies and its influence on the developing world.
2. THE RISE OF MARKET LIBERALISM AND PRIVATIZATION

The contemporary genesis of privatization as a core public policy is commonly attributed to the Thatcher administration, extending itself to North America by way of the Reagan administration. Developed countries first began privatizing in the early 80’s. The move towards market liberalism and a diminished role for the state was a fairly new course of action. Prior to the renaissance of neoclassical economic thought, a combination of the Great Depression, World War II and the conclusion of colonialism ushered in a new belief in the states role as manager and distributor of goods and service. It was only fitting that a second series of macroeconomic crises’ (specifically the oil shocks and debt crisis) laid the groundwork for the revival of neoclassical economics. The drive for global financial integration catalyzed the ascendency of the IMF, World Bank, Paris Club etc, which provided the necessary inertia for shifting the organization of command economies. Because developed countries controlled these institutions, as they adopted privatization policies it was coherent to believe that these policies would be dispersed through these international financial institutions (IFIs). This relationship between developed countries and IFIs made it possible for developed countries to explore, and in turn, export privatization policies (Brune et al., 2004). At this juncture it may be enlightening to briefly detour and clarify the main purpose of divestiture before we proceed to developing countries.

As a public policy, the goals of privatizing SOEs are generally understood as: 1) Promoting economic efficiency, 2) raising revenues for the state, 3) reducing government interference in the economy, 4) advancing share ownership, 5) developing domestic capital (bond and stock) markets, and in some cases 6) introducing competition and subjecting SOEs to market discipline (Ramamurti, 2000; Zines et al., 2001 and Megginson and Netter, 2000). By virtue of the nature of development, it can be reasonably assumed that countries just recently removed from extraction based economies or cutting the umbilical of Soviet influence may have a different experience trying to actualize these goals.
2.1 Privatization in the Developing World

With the relative success of substantial privatization policies in Great Britain and the United States, the neoclassical economic ideology of small government witnessed a resurgence. No place was ripe for economic reform in the mid to late 80s as was Latin America. Many Central and Southern American countries were suffering from high inflation, balance of payments deficits and less than equitable income distribution. The policy instruments that would remedy these conditions were by and large devised by political and technocratic figures in Washington and came to be known as the Washington Consensus. The original tenets of the Washington Consensus are the belief in (1) the reduction of budget deficits caused by government expenditure outside of those aimed at immediately boosting long run growth a la infrastructure development, (2) public expenditures directed toward advancing human capital (education and health care) and not misallocated to subsidize state enterprises, energy, telecommunication and agricultural sectors, (3) tax reforms aimed at broadening the tax base thereby moderating the marginal tax rate (4) interest and exchange rates being market-determined inasmuch as it supports export expansion, (5) encouraging foreign direct investment (FDI) and minimizing acts of protectionism (6) government budget reduction by way of privatizing inefficiently managed enterprises (7) deregulation on controls of market entry, capital flows, pricing, imports, and employment protections and finally (8) improving on property rights and the access to such (Williamson, 1990). The implementation and results stemming from these reforms has been subject of much controversy\(^2\). However, for our purposes, much of the discussion will be based on these policies (particularly 1,2,6 and 8) as they relate to sub-Saharan African states.

Following the oil shocks of the 70’s and subsequent debt crisis, the global economic downturn was especially hard on African states. The sharp decrease in the price of raw materials ravaged these raw material exporting economies. Many of these states encountered both budget and balance of payments deficits and sought desperately needed liquidity. As a lender of last resort, the WB and IMF agreed to provide liquidity.

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to these cash strapped countries through a series of conditional loans. These loans were provided under the condition that these states submit to a series of structural adjustment policies. In line with the Washington consensus, the reform process typically advanced capital account liberalization, macroeconomic discipline and an opening up of the domestic economy to foreign competition. To begin this process, governments were urged to sell poorly performing state owned companies. The target sectors for divestiture included: energy -- exploration, extraction and refinement of oil and natural gas; (ii) finance -- banks, insurance, real estate, and other financial services; (iii) infrastructure -- transportation, water and sewerage, telecommunications, natural gas transmission and distribution, and electricity generation, transmission, and distribution; (iv) manufacturing and services -- agribusiness, cement, chemicals, construction, steel, hotels, tourism, airlines, maritime services and other sub-sectors that are not infrastructure or finance related; and (v) primary -- extraction, refinement and sale of primary minerals and metals such as coal and iron ore. Economic reform via privatization began during the 80’s and has continued with varying intensity ever since. Figure 1 shows the amount of privatization proceeds accrued by Sub-Saharan countries from 1989 to 2006. For the year 2005 the cumulative 2.7 billion US dollars worth of privatization proceeds for Sub-Saharan African states involved a total of 46 transactions of which Nigeria accounted for 76%.

![Figure 1: Total Proceeds of Privatization Received by Sub-Saharan African Countries](image)

3 Taken from the World Bank Privatization Database
This brings up two important questions about the intensity and value associated with privatization in the region. First, the lack of linearity makes clear the discontinuous nature of privatization programs throughout the continent. One possible reason for this is the inability to commit to these conditional programs due to their political unpopularity. Secondly, when African states did privatize SOEs the revenue generated was comparatively small. For example, in 2005 sub-Saharan African states accounted for 18.4% of all privatization transactions world-wide but only received 4.4% of the proceeds; a reflection of the small size of the African economies. This is graphically evident in the regional juxtaposition of proceeds in Figure 2. Plane (1997) suggests that developing countries instituting divestiture programs targeted mainly poorly performing firms. These firms were typically in payroll arrears, had few valuable physical assets in working condition and were all but abandoned. This may have indeed been the strategy of African leaders who did not stand to lose much politically from the sale of these firms, yet simultaneously satisfied Fund conditions and the immediate need for liquidity.

Figure 2: Total Proceeds of Privatization Received by Developing Countries, Regional Aggregates
3. A REVIEW OF EMPIRICAL PRIVATIZATION STUDIES

Megginson and Netter (2000) treat the potential problem of public ownership as that of a principal-agent disconnect. Government ownership of enterprise makes for unclear goals. States may be concerned with public welfare as opposed to profit maximization and soft budget constraints attenuate the motivation for pareto-optimal performance. The basic premises of profit maximization are ignored and circumvented by governments wanting to maximize employment.

Given that African states face such a difficult time competing on a global scale due in part to their poorly performing public sector, it would seem logical that much attention should be paid to the reform policies that promised to stabilize and bring about economic health. Much of the firm level studies have shown a positive relationship with privatization and firm efficiency, however, the long run growth studies are both sparse and inconclusive (Plane, 1997; Cook and Uchida, 2003). The following is an overview of some of these efficiency and growth studies.

In country specific studies that compared the overall performance of state-owned versus privately owned firms the results appear conclusive irrespective of developed, transitioning, or developing country status. For example, Majumdar (1996) utilizing industry-level survey data of a selected set of Indian firms concludes that privately owned companies markedly outpaced mixed ownership and state-owned companies in efficiency scores for a period ranging from 1973 to 1989. Similarly, Boardman and Vining (1989) assess the performance of 500 non-US firms in 1983 using a similar characterization of private, mixed and state owned companies. The authors gauged economic performance utilizing profitability ratios and concluded that private firms are notably more productive than both mixed and stated owned companies with a negligible difference between the latter two. Likewise, Tian (2000) in a 1998 country and industry specific study of 825 publicly-traded companies finds that private firms in China outperform both mixed and state owned firms.

In a more extensive study that takes into consideration firm performance across a variety of countries Megginson, Nash and van Randenborgh (1994) compares the financial and operating performance of 61 firms in 32 industries across 18 countries from
1961 to 1989 in 3 years periods pre and post privatization. The empirical findings point to relatively significant increases in both productivity and profitability. There is also no substantial decrease in employment. Boubakri and Cosset (1998) challenge Megginson et al. findings on the grounds that the sample of countries did not contain enough developing countries (only 6) and was therefore an inadequate measure of privatization in developing countries. The authors subsequently recreated Megginson et al. but increased the number of developing countries to 21 and the overall country totals to 79. The results showed similar if not larger gains especially in the previously inconclusive employment gains. However, most relevant for my study is the 1999 article by Boubakri and Cosset which focused on 16 African firms privatized via public sharing from 1989 to 1996. The authors determine that profitability, efficiency and output all feature insignificant change, with the only positively significant improvement being capital expenditure.

The literature appears to agree on privatization spurring output and subsequent economic growth, whether it is Central and Eastern Eurpean countries (Frydman et al., 2000; Harper 2000), transitioning economies of the former Soviet Republics\(^4\) (Djankov 1999; ) or developing countries (Boubakri Cosset 1998), privatization is generally associated with economic growth. Alternatively, Pinto et al. (1993) studies Polish economic liberalization policies absent privatization and finds that performance was substantially improved due to austere fiscal and monetary policy. State-owned firms improved productivity due to hard budget restrictions and the credibility afforded from the unlikelihood that these firms would be bailed out. This particular study is extremely important because it shows that performance gains are possible without the act of privatization. Patrick Plane (1997) using a sample of 35 developing countries from a period of 1988-1992 concludes that privatization does indeed lead to economic growth. Particularly when institutional forces such as regulation work in tandem with other market-oriented macroeconomic policies. In opposition to the findings of Plane, Cook and Uchida (2003) in an econometric approach using a rigorous extreme bounds analysis (EBA) have found that privatization has had a negative effect on economic growth. The

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\(^4\) Black, Kraakman and Tarassova (2000) in a more qualitative approach has shown that Russia’s privatization policies have had disastrous results due to the collapse of the state and evidenced by institutionalized “kleptocracy”.

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cross-sectional study, while agreeing with the improved efficiency of private firms, posits that regulatory systems when present are not very effective in facilitating the ideal competitive environments. Consequently, proceeds are captured by private monopolies and not necessarily infused into the larger economy. Essentially, the studies on privatization generally use a firm-level analysis and indirectly capture economic growth through efficiency gains. Unfortunately country-level models are less prevalent. This study is region specific and will challenge the oft-disregarded task of analyzing the case of sub-Saharan Africa. The next section is the theoretical foundation for this study.
4. THEORETICAL FRAMEWORK

Motivated by balance of payment (BOP) deficits and the debt crisis, African countries beginning in the early 1980’s sought the assistance of the IMF in an effort to secure BOP loans. The IMF conditioned their loans on the requestor nation adopting a series of reforms that were deemed necessary to correct their economy. These policy recommendations target the structural problems that retard economic growth and function to bring about a stable environment where optimal production and distribution can flourish (Brune et al., 2004; Ramamurti, 2000; Zines et al., 2000). The conditional terms of the IMF also serves a dual purpose of credibly signaling to other multilateral lending and developmental aid agencies a commitment to reform. It also signals to private investors a commitment to structural reform (Kraus, 1992; Brune et al., 2004; Smith et al., 2005). The extent of reform included, but was not limited to: emphasizing an increase in exports and reducing imports through currency devaluations, the removal of price controls, the reduction of firm subsidies and the divestiture of some of these public firms. In sum, the IMF and international financial community critically inferred that BOP and debt crisis were due to inefficient governments producing inefficient policies. The goal thus was to limit the role of government in administrating the economy through the adoption of market liberalization programs (Kraus, 1992).

A prominent feature of the market liberalization stratagem is the encouragement of states to adopt privatization, defined as “the deliberate sale by a government of state owned enterprises (SOEs) or assets to private economic agents” (Megginson and Netter, 2001: 321). Privatization, whether as a one-time windfall of profits or as a structured series of transactions are seen as a way of balancing a country’s books (Megginson, 2000). The presumptions of privatization is that it generates efficiency by substituting profit maximization for employment maximization, induces competition and market discipline and encourages foreign investment that leads to the diffusion of technology and human expertise (Ramamurti, 2000; Zines et al., 2000; and Megginson and Netter, 2000).

Privatization directly affects economic growth in how it interacts with Gross Domestic Product (GDP). GDP is the summation of domestic consumption, gross investments, the difference between exports and imports and government spending. A
reasonable amount of government spending in developed countries goes directly to subsidizing SOEs. On the converse, as public firms are removed from a country’s balance sheet and begin to exhibit allocative efficiency, they now become a source of revenue for the state through taxation. Also, profitable firms are more likely to export (dependent on the sector) and re-invest into the domestic economy. Privatization is thus able to improve firm efficiency, profitability and output, which causally influences domestic economic performance. Therefore I posit that:

**Hypothesis 1- Privatization leads to economic growth.**

The implementation of privatization is generally viewed as a combination of macroeconomic, political and institutional variables. Because states are cautiously moving towards privatizing we can reasonably assume that leaders generally wish to maintain control of economic planning. Ideally there exist some political virtue in being able to assure high rates of employment (Tanyi, 1997; Zines et al., 2001). Therefore, leaders are willing to trade economic vitality for political gains so long as the private goods distributed are enough to maintain support from their core supporters. That being noted, domestic economic reforms will generally be adopted under dire conditions of economic crisis where the ability to deliver private (or public) goods is compromised. African states have historically had strong state-centered political systems; that coupled with growing international debt and budget deficits in the 80’s made market liberalization an unpopular but necessary change. Privatization is accordingly pursued under increased political costs and advanced as part of broader ranging economic reforms. Much of these institutional supports were either simultaneously created or tailored with privatization in mind (Ramdas, 1997; Banerjee and Munger, 2004).

Africa’s experience with privatization has been hindered by numerous factors associated with a fledgling continent. The continent’s regulatory institutions, legal systems (see figure 4 & 5), capital markets and middle class are comparatively weaker if compared to those from emerging economies. Much of the political leadership on the continent have long lived off a system of patronage that has made it difficult for state-owned companies to be divorced from the government. In most African countries the governments thrive on maintaining low levels of unemployment, maximizing the utility of this public good (Tanyi, 1997; Boubakri and Cosset, 1999). Also, Africa’s lack of an
affinity toward market liberalization has deeper roots that begin with its colonial history. The Pan-African sentiment that emerged during the revolutionary period of the 60’s and 70’s was a powerful tool used by the first generation of leaders who were markedly anti-European and anti-capitalist (Wilson, 1992: 12). As a result, many African states failed to foster the core market institutional norm of private property (Alchian & Demsetz, 1973).

A respect for property rights is inherent to market economies. In order to encourage a productive climate for economic intercourse, foreign investors must be comfortable in knowing that they will be protected from cases of forced expropriation of property. Much of this concern can be alleviated by good governance, rule of law (contract enforcement) and bureaucratic minimalism (adequate regulatory environment). These types of institutions, among others, are imperative in any discourse concerning institutional reform and privatization. The degrees to which they function effectively influences economic growth. Consequently, I speculate that:

*Hypothesis 2- Privatization, in the presence of institutions that regulate the private sector and protect property rights leads to economic growth.*

This section has made the theoretical link between privatization and economic growth. It has also explained why African countries adopted institutional economic reform and how these reforms interact with privatization to improve the prospect for economic growth. The next section delineates the methodology and data used to test the hypotheses developed here.
5. RESEARCH DESIGN

5.1 Determinants of Economic Growth

The strongest determinants of economic growth are high education attainment rates, low fertility rates, strong rule of law, low government spending and high investment rates (Barro, 1997; Williamson, 1990). The first consideration when determining economic growth is the relative change in some baseline productive capacity. Neoclassical long-run growth models have posited an inverse relationship between economic growth rate measured as average GDP per capita (GDPpc) and the initial level of income per person. That is, *ceteris paribus*, poor countries grow faster than wealthy countries because of the diminishing returns to reproducible capital (Barro, 1991: 407). In his cross-country studies, Barro (1991 and 1997) shows the relationship between economic growth and base year GDPpc to be substantively negatively related, conditioned on the inclusion of the human capital variable. At the same time, human capital has a substantively positive relationship with economic growth, given the initial level of income per capita. Therefore, as opposed to initial GDPpc, the initial human capital affects growth rates positively and significantly. Barro notes that the neoclassical growth model is confirmed if we consider the interaction between human capital and initial GDPpc\(^5\).

Human capital is the investment in the health and training of citizens, most notably in the attainment of primary education and access to preventative health care (Williamson, 1990). A healthy and educated workforce is responsible for sparking ingenuity and absorbing technological development. Increases in productive capabilities are theoretically due to investments in human capital. In growth models, human capital is proxied by primary and secondary school enrollment, child mortality and fertility rates. Child mortality rates inform us about the preventative health care system, while fertility rates tell us something about the allocation of state economic investments. The increase in population determines if capital is spent on new workers or used to further train

\(^5\) This is not to imply an expected convergence of economies. Economies vary in endowments, government policy and their ability to sustain technological improvements. For a more detailed discussion of these factors see Barro (1997).
existing workers. It is widely accepted that reduced birth rates increases the rate of per capita output and is related to greater participation of women in the workforce (Barro, 1997).

The role of government in maintaining the rule of law is also important in determining growth. The quality of bureaucracy, pervasiveness of political corruption, respect for property rights, the likelihood of contract repudiations and political stability all factor in the ability of a country to attract foreign investments. This may be the most subjective indicator in growth models, the measures of which are compiled in for-profit enterprises like PRS (Barro, 1997) or a derivative database like the *World Bank Global Development Network Growth Database* (Cook and Uchida, 2003).

Another determinant of economic growth is the spending disposition of the state. Government spending is the ratio of government consumption to GDP (excluding spending on human capital and defense). This measure should be negatively related to economic growth and helps buttress the consensus of small governments being good for economic growth. High investment rates are also associated with positive economic growth and are typically measured as the ratio of foreign direct investments (FDI) to GDP. It is argued that this measure is responsible for capturing some the technological and skill enhancements brought about by the infusion of investments (Cook and Uchida, 2003). Other variables that include inflation rates, terms of trade, measures of democracy and population growth rates are also routinely included in long run growth models. While important, these variables are inconsistently measured across countries. For my study I focus on the human capital variables (educational attainment and child mortality rates) and an institutional variable (rule of law) and the neoclassical convergence variable – initial year income per capita.

5.2 Definitions and Operationalization of Variables

The definition of privatization is far from ecumenical and varies in meaning as it pertains to the particular theory endorsed and hypothesis being tested. Privatizations are

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6. The validity in the Political Risk Service measures is determined by the value attached to it by international private investors.
rarely ever one-time transactions, and generally take place over a period of time until the shares for the private shareholder exceeds some threshold of ownership. Privatization can also be seen as public firms accepting private management or simply any form of transaction between a fully SOE and private actors (Plane, 1997). The key now is determining how to operationalize my primary independent variable - privatization. For this study, privatization will be defined according to the *World Bank Privatization Database* as transactions of over $1 million (US) that generated proceeds or monetary receipts to the government resulting from partial and full divestitures, concessions, management contracts, and leases. In other studies privatization is measured in a variety of ways. In its simplest form, Wallsten (2001) operationalizes privatization as a dichotomous variable that indicates *any* divestiture of a SOE. However, Plane (1997) measures privatization as the ratio of cumulative proceeds from privatization revenue over the 1988-1992 period to the 1990 GDP and then chooses to dichotomize the privatization variable (0 if ≤ 1% of GDP and 1 if otherwise). Conversely, Cook and Uchida (2003) maintains the average of the privatization indicator over 1988-1997 but chooses to use the GDP averaged over the same time period as a weight. The magnitude of privatization is also preserved as they maintain the ratio and opt not to use Plane’s dichotomous variable. I will situate my privatization variable somewhere between these two methods. I will treat the magnitude of *privatization* as the ratio of cumulative proceeds from 1989 to 2000 to the base year 2000 GDP. This method effectively helps manage the missing data problems encountered from a time series approach.\footnote{Admittedly this was only partial help; the original research design intended to capture 48 Sub-Saharan countries. Many countries where lost in this phase of the design process.}
Economic growth as our outcome variable will be measured as the average GDP per capita growth rate from 2000 to 2007. The staggering of years between the measure of privatization (1989-2000) and economic growth (2000-2007) will provide for the lagged effect of our explanatory variable on the values of the response variable. Table 1 and Figure 3 gives us an idea of what both these variables look like. On the surface there is no discernible relationship and we can detect some obvious outliers in the data. Figure 6 in the Appendix is accompanied by a more detailed discussion on these findings.
Table 1. Statistical characteristics of countries with privatization programs

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<td>Equatorial Guinea</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Angola</td>
<td>0</td>
<td>13.7</td>
</tr>
<tr>
<td>Mozambique</td>
<td>0</td>
<td>6.9</td>
</tr>
<tr>
<td>Sudan</td>
<td>0</td>
<td>6.0</td>
</tr>
<tr>
<td>Rwanda</td>
<td>0</td>
<td>4.0</td>
</tr>
<tr>
<td>Mauritius</td>
<td>0</td>
<td>3.5</td>
</tr>
<tr>
<td>Rep. Congo</td>
<td>0</td>
<td>1.4</td>
</tr>
<tr>
<td>Gabon</td>
<td>0</td>
<td>0.5</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>0</td>
<td>-2.5</td>
</tr>
</tbody>
</table>

Note: countries that have no available data are dropped from the observations.

Source: The data set was obtained from the World Bank Privatization Database (http://rru.worldbank.org/Privatization) and compiled by Sally Anderson and Dale L. Smith.
5.3 Institutional and Control Variables

Because divestiture was attempted (in the best case) alongside institutional reform, it is believed privatization would stimulate the impetus for the development of market-protecting institutions. Ideally, “the new shareholder class would demand corporate governance regulation to insure their ability to exert oversight on enterprise managers” (Zines et al., 2001: 148-149). This endogenous effect is in stark contrast to the general agreement that privatizations success is reliant on a host of established institutional and country level policies (Buchs, 2003; Ramamurti, 2000; Megginson and Netter, 2001). According to Ramamurti (2000), the success of privatization depends on the political convergence and implementation of core issues such as property rights, capital and labor markets and regulatory institutions. A country ought to have firm laws (antitrust, bankruptcy), specialized professions (auditors, accountants, financial media) and a distinct set of government agencies (independent courts, capital and industry regulators) if privatization is to be credible. As Figure 4 and 5 shows, regulatory quality and rule of law on continental Africa has been comparatively low. The regulatory quality and rule of law scores are provided by the World Bank Governance Indicators and are based on a scale of -2.5 to +2.5. The source data is an amalgamation of at least 15 different sources including: Political Risk Services International Country Risk Guide (PRS), World Bank Country Policy and Institutional Assessments (PIA), Political Economic Risk Consultancy (PRC) and the African Development Bank Country Policy and Institutional Assessments (ADB).

For the sake of simplicity in the subsequent coefficient interpretations, the scores within the sample data set are transformed to allow for the lowest value (Angola: -1.65) to assume the score of zero while correcting for all other countries by adding 1.65 to each value. The 1998 scores are a snapshot based on a single year but are not subject to much deviation from year to year. For this paper, the institutional variables (regulatory quality and rule of law) were averaged from 1996 to 2000 finding that within our sample Angola (0, .08) and Sudan (.13, .10) had the lowest scores while Mauritius (2, 2.44) and South Africa (1.89, 1.86) had the highest values.
In the estimations to follow, control variables include base year GDP/capita (in constant US$) for the year 2000, average development assistance and primary school enrollment from 1989 to 2000. These effectively control for current conditions in the country. This combination of macroeconomic and demographic variables was compiled from the World Bank Development Indicators.

Figure 4. International Regulatory Quality Indicators (1998)

Figure 5. International Rule of Law Indicators (1998)

This map shows the percentile rank of each country on the selected governance indicator. Percentile rank indicates the percentage of countries worldwide that rate below the selected country. Higher values indicate better governance ratings. Percentile ranks

Note: The governance indicators presented here aggregate the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, and international organizations.

5.4 Design Specifications

Going forward my unit of analysis is the country in a cross-country growth analysis and will be used to examine privatization and growth trends in 31 Sub-Saharan African countries over for the period 1989 to 2007. This testing procedure is optimal allowing us to test the various institutional variables via multiple regression analysis (de Vaus, 2001; Beck, 2001). I therefore begin by estimating equation (1) to satisfy the notion of a positive effect of privatization on economic growth

$$ Y = \alpha + \beta_1 \text{ (Private)} + \varepsilon $$

In an effort to explore the effects of institutional quality on economic growth I estimate equation (2) and (3) where Private is the variable for the intensity of privatization, RuleLaw and RegQlty are our institutional variable and $X$ is a vector of the afore-described control variables.

$$ Y = \alpha + \beta_1 \text{ (Private)} + \beta_2 \text{ (RuleLaw)} + \delta (X) + \varepsilon $$

$$ Y = \alpha + \beta_1 \text{ (Private)} + \beta_2 \text{ (RegQlty)} + \delta (X) + \varepsilon $$

These data are crude estimators in general but are the best available for the limitations associated with accessing data for developing countries. Growth models have tended to be quite unwieldy in terms of the amount of independent variables included in the analysis. This study uses a sample of only 31 observations; thus the number of variables

have been adjusted to account for changes over time in the set of countries covered by the governance indicators. Note that countries' percentile ranks are subject to margins of error that cannot be displayed in the map format.

(http://info.worldbank.org/governance/wgi)
included in the regression equation must be limited in order to preserve adequate degrees of freedom. A low adjusted explained variance (R²) suggests possible specification error, particularly the exclusion from the model of relevant independent variables⁹. I have conducted a number of tests for this and other violations of the regression assumptions and will present these in the Appendix section. This section has detailed our methodology to be used in the data analysis. The next section will present the results of the regression analysis.

⁹ A low R² are not limited to specification error, but can also be a function of measurement error. For a detailed discussion please refer to: William Berry and Stanley Feldman. 1985. *Multiple Regression in Practice* (Sage).
6. RESULTS

This section presents the regression results for Equations (1), (2), and (3). In general none of the results satisfy the suggested hypothesis, but in this case, a none-supportive result may provide for some rather interesting implications. Table 2 presents these regression results.

It appears, contrary to my hypothesis, that privatization is not correlated with economic growth. A theoretical explanation may be found in Marxian ideology of underdevelopment and the wider theories of dependency (Ernest, 1992). The neo-classical economic liberalization programs have been critiqued as sustaining a relationship between poor developing and rich developed countries where the former is reliant on the latter - that is - poor countries are used as a kind of offshore economy solely for extraction purposes. Privatization in conjunction with price devaluations acts as a way of creating a no-reserve auction for foreign investors to purchase state enterprises at bargain rates. Countries under economic duress are at a strategic disadvantage during negotiations and will often not realize the full value of their assets. Firm ownership is transferred and profits are repatriated to the home countries of private actors.

Table 2. Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Equation 1</th>
<th></th>
<th>Equation 2</th>
<th></th>
<th>Equation 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R^2 : .03</td>
<td>Coefficient</td>
<td>t-statistic</td>
<td>Adj R^2 : .20</td>
<td>Coefficient</td>
<td>t-statistic</td>
</tr>
<tr>
<td>Privatization</td>
<td></td>
<td>-.0741728</td>
<td>-.43</td>
<td>.1057084</td>
<td>0.54</td>
<td>.2101501</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>-.0315599</td>
<td>-1.65</td>
<td>n/a</td>
</tr>
<tr>
<td>Regulatory Quality</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>-.0583189</td>
</tr>
<tr>
<td>GDP year 2000</td>
<td>n/a</td>
<td>n/a</td>
<td>.0000162</td>
<td>1.32</td>
<td>-.0000151</td>
<td>1.60</td>
</tr>
<tr>
<td>Developmental Aid</td>
<td>n/a</td>
<td>n/a</td>
<td>-.0000124</td>
<td>-0.36</td>
<td>6.640000</td>
<td>0.23</td>
</tr>
<tr>
<td>School Enrollment</td>
<td>n/a</td>
<td>n/a</td>
<td>.0002442</td>
<td>0.57</td>
<td>.0004301</td>
<td>1.22</td>
</tr>
</tbody>
</table>

*** : statistically significant at the .01 level (p-values)
The regression results from equations (2) and (3) produces a positive coefficient for the privatization variable, but it’s not significant in either equation. It appears that both institutional variables when regressed separately have significantly negative effects on growth. For equation (2), the negative coefficient on Rule of Law (-.03) is puzzling when I attempt to interpret the results. This regression suggests that, holding all else constant, an increase of one unit in Rule of Law is associated with a -.03 decrease in economic growth. Therefore, contract enforcements are depressing to the average level of economic growth.

The result of equation (2) potentially tells a different story. Substantively, as the effectiveness of countries private sector regulation decreases we should witness greater economic prosperity. A story could be told about this if we defined regulation as SOE friendly. For example, a state restricting entry of competitive private firms into a state dominated sector. This is however counter to the defined goal of regulatory quality. As conceptualized, the regulatory quality variable measures the effectiveness of the private sector development environment. Nevertheless, both institutional variables exhibit negative correlations. The negative correlation between regulatory quality and economic growth is the only statistically significant (t-statistic -3.93) finding, while its interpretation is ambiguous. In an effort to deal with this inconsistency, I interacted the privatization variable with both institutional variables. Theory suggests that privatization without institutional reform will result in private capture of revenues. Therefore, comprehensive economic reform policy alongside divestiture should enhance economic growth. The interactive equations are as follows:

\[
(4) \quad Y = \alpha + \beta_1 \text{ (Private)} + \beta_2 \text{ (RuleLaw)} + \beta_3 \text{ (Private * RuleLaw)} + \delta (X) + \varepsilon
\]

\[
(5) \quad Y = \alpha + \beta_1 \text{ (Private)} + \beta_2 \text{ (RegQlty)} + \beta_3 \text{ (Private * RegQlty)} + \delta (X) + \varepsilon
\]

The problem with these equations is the high levels of collinearity between the privatization variable and the interaction terms (.98). Even so, choosing to violate this regression assumption provides results with no comprehensible interpretations (see attached stata output). I will detail my suspicions about these indistinct results in the Appendix section where I examine the critical regression assumptions individually and locate threats to validity.
Though neither hypothesis was supported by the empirical results, the enterprise is far from fruitless. The relationship between privatization and economic growth seems to be nonexistent. If privatization does not lead to growth, then this may provide some support to those theorists who oppose privatization as a part of structural adjustment programs and the leaders who resisted these policies in protest of neo-colonialism. If we recline for a moment and viscerally consider the condition of Africa’s economy over the past four decades we can reasonable suggest that much more than market liberalization is necessary for economic growth. The piece-meal reforms in China when compared with the carte-blanche sale of Russia’s SOEs are the difference between prosperity and anarchy. This instructs us that institutions must not only exist, but they must be effective.

A gross underdevelopment in the literature creates both optimism and pessimism for future research. The encouraging aspect stems from the possibilities for cutting edge exploration; whereas the cynicism comes in the form of incomplete data and a limited theoretical framework. I take a certain amount of solace in learning how to approach a logistically difficult research project. Whilst this project focuses on the broader effects of market liberalization, future research can delve into the political ramifications of neoliberal policies on post colonial countries and ask for example: Why market reform, and why so much? One explanation is that massive arrears have constrained policy options and dried up revenue streams for governments, as a consequence giving leverage to domestic actors and interest groups who support market liberalization (Li, Smith and Young, 2005). Given this, have political reforms suffered as it relates to economic reforms? That is, have unconsolidated democracies regressed back to authoritative measures during times of economic anguish due to austere policies? These are topics certainly worth exploring.
APPENDIX

This section outlines a series of tests conducted to test for assumption violations, including measurement error, specification error and heteroscedasticity. A brief discussion accompanies each test and when necessary methods of correction are advanced. The sequential methods are available in the form of Stata output pages.

I begin by surveying the data for potential data measurement problems associated with statistical outliers. The below scatterplot graphs [Figure (6), (7) and (8)] show the relationship economic growth (GROWTH) and each of my primary independent variables: privatization (privatize), regulatory quality (reg_quality) and rule of law (rule_law). By doing this we see that Equatorial Guinea (minimally Ghana and Zambia) is a consistent outlier. This can easily be verified if we revert back to table 1; indeed Equatorial Guinea’s growth rate uncharacteristically averaged 26% during the period 2000 to 2007. Figure (9) shows how the partial regression plot is affected by this outlier observation. To deal with this I dropped this observation from the sample and re-estimated the equation (see stata command #40).

![Figure 6. Scatter plot of outlier observations for Privatization](image-url)
Figure 7. Scatter plot of outlier observations for Regulatory Quality

Figure 8. Scatter plot of outlier observation for Rule of Law
In a test for heteroscedasticity, I used a scatter plot of residuals against my set of independent variables and find that the residuals are not normally distributed a follow up test of model specification confirmed these results (stata command #57). The suspected problem is a specification error, pointedly there exists variables excluded from the model that in some way interact with the included variables to affect the dependent variable.
As alluded to earlier, the data limitations and the exclusion of the full vector of Barro-regressors may have contributed to a potential model specification error. For example, cross-country growth analyses often include human capital variables such as literacy rates, child mortality rates, population growth rates and life expectancy. These variables are used to control for the initial social conditions of a country. Some macroeconomic variables generally included are foreign direct investments, inflation rates and a slew of other indicators that capture government investment and consumption (Barro, 1997; Cook & Uchida, 2003). Further problems of internal validity may arise from the simple time frame that this data is collected. Possible events that could be problematic is the outbreak of war, drought or famine during our observational period; these however could all be controlled for as long as we discover and code them appropriately. If at all available a feasible method for dealing with this problem may be to replace data from alternative sources and then make the statistical corrections (Gleditsch, 2002). It is interesting to note that it may not be in a state’s best interest to publicize information on their economic transactions for it is routinely a source of domestic strife and political discontent. Therefore, there may be an incentive for states to avoid access to pertinent economic activity by international data collection agencies. Secondly, while much of the transactions regarding state-owned assets are done through the large multinational banks associated with the IMF or World Bank, there are transactions that occur unilaterally between states and therefore precise information may not be readily available for public use. Finally, we may want to be a little suspicious of results that show sharp spikes in GDP (as in the case of Equatorial Guinea), it is quite possible that some of this may be accounted for by the move of economic interactions out of the informal sector into the formal sector as states become market oriented (Kapur and Herrera, 2007). This in no way pardons the research from its inadequacies; conversely, being able to identify potential shortcomings operates as a framework for improvement in future research projects.
Definition of Institutional Independent Variables

**RULELAW**- Rule of law: Rules and a distinct course of action that encourages investment, enforce property rights and makes for more accountability. This is the extent of which agents have confidence in and abide by the rules of society, including contract enforcement, the police and the courts, as well as the likelihood of crime and punishment.

**REGQLTY**- Regulatory Quality: This is the ability of the government to provide sound policies and regulations that enable and promote private sector development. To the degree in which the bureaucracy is independent from the government and avoids patronage greatly affects the success of a privatization program.$^{10}$

Table 3. Correlations among independent variables

<table>
<thead>
<tr>
<th></th>
<th>GDP 2000</th>
<th>Privatization</th>
<th>Aid</th>
<th>Reg. Quality</th>
<th>Rule of Law</th>
<th>Prim Enroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privatization</td>
<td>-0.17</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aid</td>
<td>-0.07</td>
<td>0.33</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reg. Quality</td>
<td>0.21</td>
<td>0.37</td>
<td>0.26</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule of Law</td>
<td>0.39</td>
<td>0.24</td>
<td>0.09</td>
<td>0.73</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Prim. Enroll</td>
<td>0.65</td>
<td>-0.06</td>
<td>-0.08</td>
<td>0.21</td>
<td>0.20</td>
<td>1.00</td>
</tr>
</tbody>
</table>

---

$^{10}$ A well entrenched bureaucracy that is not tied to political leadership also sends signals of credible commitment to international investors (Keefer and Stasavage, 2003; Li and Smith, 2002).
REFERENCES


Harper, Joel T., 2000, “The Performance of Privatized Firms in the Czech Republic.” working paper, Florida Atlantic University, Boca Raton, FL.


BIOGRAPHICAL SKETCH

Ransford Edwards, Jr. was born in Kingston, Jamaica and migrated to the United States with his family in 1993. Residing in Florida, he graduated from Plantation High School in 2000. In 2004, he began his academic career as a Political Scientist at Broward Community College. After transferring to Florida Atlantic University he received his Bachelor of Science in Political Science in 2007. From there, Edwards taught Mathematics at Lauderdale Lakes Middle School before resuming his academic career at Florida State University. Edwards completed his Master of Science in Political Science at Florida State in 2009 and is currently a doctoral student at Florida International University where his research interests include international political economy and security issues in developing countries.