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The Impact of Privatization on Economic Growth and Income Inequality in Developing Countries

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THE IMPACT OF PRIVATIZATION ON ECONOMIC GROWTH AND INCOME INEQUALITY IN DEVELOPING COUNTRIES

by

SAMUEL ADAMS

A Dissertation Submitted to the faculty of
Old Dominion University in Partial Fulfillment
of the Requirement for the Degree of

DOCTOR OF PHILOSOPHY

PUBLIC ADMINISTRATION AND URBAN POLICY

OLD DOMINION UNIVERSITY

May 2007

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DISSERTATION:
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ABSTRACT

In the 1960s and 1970s academicians, economists and politicians favored state ownership over private ownership in the production and provision of goods and services. By the end of the 1980s, however, there was a reversal of public policy from state domination of the production and provision of goods and services to private ownership and operation. This was due in part to what the World Bank referred to as “state failure”, which was characterized by inefficient service delivery, unprofitable SOEs, high government debt, and stagnant economic growth rates. Accordingly, privatization caught on in many countries as a policy tool to foster efficiency, encourage investment, free public resources for investment in infrastructure and social programs to enhance economic growth and distributional equity.

In recent years, however, privatization has come under attack. The main criticism being that privatization results in the abuse of market power and social welfare losses. The perception of most people in the developing countries is that privatization usually benefits the rich at the expense of the poor in society. This study therefore is an attempt to empirically examine the claims and counter claims of the impact of privatization on economic growth and income distribution in developing countries. The study sample is made up of 80 developing countries that privatized their state-owned enterprises between 1991 and 2002. The findings of the study indicate that privatization did not have a significant impact on economic growth, but had differential effects on the distribution of income. The results of the study, however, suggest that country-specific characteristics, including good governance may be more important in promoting growth and reducing income inequality than any economic policy *per se*.

TABLE OF CONTENTS

ABSTRACT.....	i
TABLE OF CONTENTS.....	ii
LIST OF TABLES.....	iv
LIST OF FIGURES.....	v
LIST OF APPENDICES.....	vi
CHAPTER 1.....	1
Introduction.....	1
Purpose Statement.....	5
Research Questions.....	6
Significance of Study.....	7
Overview of Study.....	9
CHAPTER 2	
Background.....	10
Definition of Privatization.....	10
Regional Distribution of Privatization.....	14
Sectoral Distribution of Privatization.....	19
Extent of Government Ownership.....	23
CHAPTER 3.....	25
Literature Review.....	25
Theories of Privatization.....	25
Property Rights Theory.....	26
Principal Agent Theory.....	28
Public Choice Theory.....	30
Privatization, Economic Growth, and Income Inequality.....	34
Criticism of Theoretical Arguments.....	36
Empirical Studies.....	42
Firm-Level Studies.....	43
Industry-Level Studies.....	44
Country-Level Studies.....	47
Limitations of Empirical Studies.....	50
CHAPTER 4.....	60
Methodology.....	60

Model Specifications.....	60
Data.....	64
Dependent Variables.....	65
Independent variables.....	66
Data Analysis.....	71
CHAPTER 5.....	76
Results.....	76
Privatization and Economic Growth Regressions.....	76
Privatization and Income Inequality Regressions.....	83
Summary of Results.....	89
Discussion of Results.....	92
Implications of Study.....	106
Limitations and Further Research.....	110
Conclusion.....	111
REFERENCES.....	114
APPENDIX.....	132

LIST OF TABLES

TABLE

1. Privatization Number of Transactions and Proceeds by Region	11
2. Summary Statistics	72
3. Correlation Matrix of Governance Indicators.....	73
4. Correlation Matrix of all Variables Used in Study.....	75
5. Privatization and Growth Regressions	77
6. Privatization with Individual Governance Indicator Regressions	80
7. Privatization Interaction Growth Regressions	82
8. Privatization and income Inequality Regressions	84
9. Privatization and Income Inequality with Individual Governance Indicators	88
10. Privatization regression with Interaction Regressors	90
11. Median Gini Coefficient by Region and Decade	100

LIST OF FIGURES

FIGURE

1. Global Privatization Proceeds	12
2. Privatization Transactions 1988 - 2003	13
3. Privatization Proceeds 1988 – 2003	14
4. Share of Privatization Transactions	15
5. Privatization Proceeds by Region	16
6. Privatization Transactions by Region.....	16
7. Sectoral Distribution of Privatization Proceeds, 1988 – 2003	20
8. Sectoral Distribution of Privatization Transactions, 1988-2003	21
9. Sectoral Privatization Transactions (%)	22
10. Economic Growth in Perspective, 1970 and 2000	93

LIST OF APPENDICES

APPENDIX

1A. Privatization Revenues and Economic Growth Rates Data 1991-2002	132
2A. Privatization Revenues and Income Inequality Data 1991 – 2002	134
3A. Variables, Symbols, and Sources of Data Collection	136
4A. List of Landlocked Countries	137
5A. Variables used in Study	138
6A. Raw Data for the Study.....	139

CHAPTER 1

INTRODUCTION

In the past several years, governments all over the world have privatized state owned enterprises (SOEs) in all sectors of their economies, including energy, infrastructure and financial services. Until the 1980s international policy tended to favor state planning in national development strategies. Public sector expansion was seen as a major instrument in economic development, employment, social welfare and national security (Vernon and Aharoni, 1981). In the developing countries especially, Cook and Kirpatrick (1988) note that public investment can perform the role of ensuring that the conditions necessary for industrial growth are met. The authors further argue that the need to accelerate the process of industrialization led to public sector participation in sectors believed to have significant linkages in the overall economy.

By the end of the 1980s, however, there was a reversal of public policy from state domination of the production and provision of goods and services to private ownership and operation. This was due in part to what the World Bank (1995) referred to as “state failure” which was characterized by inefficient service delivery, unprofitable SOEs, high government debt, and stagnant economic growth rates. A 1988 World Bank survey of 25 developing countries shows that the median contribution of their SOEs to the overall public sector deficit was 48%, and between 1976 and 1983 the total debt of SOEs in developing countries was estimated to be \$80 billion (Cowan, 1990).

Further, Musa (1996) asserts that state run economies’ inability to absorb external price shocks led to macroeconomic instability as evidenced by the debt crisis of the

1980s. Consequently, privatization caught on in many countries as a policy tool to foster efficiency, encourage investment, free public resources for investment in infrastructure and social programs with the hope that they could lead to overall economic growth and reduction of poverty (Nellis, 1995). Privatization was therefore pursued worldwide as a response to the demands to the disappointing performance of government provision of certain goods and services (Clifford, 1993). Indeed, privatization has become what Miller (1997) describes as the new economic mantra, which will continue to exert influence on the lives of people in countries throughout the world well into the 21st century. Likewise, Feigenbaum and Henig (1997) claim that if any economic policy could lay claim to popularity, at least among the world's political elites, it would certainly be privatization.

The trend toward privatization, however, has not been without debate. The debate over private versus public sector's superiority in terms of efficiency has been going on for the past four decades. The debate initially focused on how the size of the public sector (measured by the size of government consumption) affected economic growth (Barro, 1991; Landau, 1986; Ram, 1986; Robinson, 1977). While Robinson (1977) and Ram (1986) claim that government consumption has a positive effect on economic growth, Landau (1986) and Barro (1991) make claims to the contrary. Robinson (1977) argues that a large government size proxied by government revenue as a percentage of GNP positively affects economic growth by reducing dependence, especially in poor or less developed countries. Landau (1986), on the other hand asserts that a large government size (proxied by share of government consumption in GDP) depresses GDP per capita income.

By the end of the 1980s many studies pointed to the fact that private firms were more efficient than SOEs. For example, Shirley and Walsh (2001) in a review of 52 empirical studies on the debate between the superiority of the SOEs and private firms report that 32 of the studies favored private firms, 15 results were ambiguous and superiority of SOEs were found in only five of the studies. In another review of the literature, Villalonga (2000) reports that of the 104 studies on the private versus public ownership issue; 55 were in favor of private ownership, 14 against, and 35 were neutral. Megginson and Netter (2001) in their extensive review of 65 empirical studies at the firm level, and in firms within and across countries, concluded that privately owned firms were more efficient and profitable than otherwise comparable SOEs. The World Bank's (1995) *Bureaucrats in Business*, also indicates that government controlled firms perform less well than the private sector in a host of activities. It appears that while the theoretical and empirical studies were not able to completely settle the debate, the discussions seem to have favored private ownership due to the impact of increasing government debt, macroeconomic instability, and the declining world economy in the 1980s.

The privatization process has been ongoing for some time, and therefore it is appropriate to empirically examine the direct impact of privatization on economic performance. It is important to note that a few studies have examined the economic impacts of privatization, but none of the studies controlled for regional differences (Barnett, 2000; Cook and Uchida, 2003; Filipovic, 2005; Plane, 1997; Yoder et al., 1991). These five studies have examined the impact of privatization on economic growth but have reported contrasting results. While Barnett (2000) and Plane (1997) report a significant positive effect, Cook and Uchida (2003) show a significant negative effect and

Filipovic (2005) and Yoder et al. (1991) indicate a negative but insignificant effect of privatization on economic growth. The inconsistent results might be due to omitted variable bias in terms of the regional differences. Obviously, regional differences are not associated with only geographic variables but also with social, political, and cultural norms that determine how privatization is implemented and hence its effect on economic growth.

This research attempts to fill this gap with respect to the privatization process as it has impacted various regions of the developing world. Contributions to the literature on privatization are twofold. First, as argued above, by controlling for regional blocs, the study contributes to the understanding of how privatization has impacted the economies of the different regions of the developing world. But even more important, it helps to reduce any bias in the estimation of the regression coefficients. Second, the study examines the impact of privatization on both economic growth and income distribution, as a government's responsibility is not only to deliver services more efficiently, but also more equitably. Of the five studies mentioned above, only Yoder et al. (1991) examined the impact of privatization on economic growth and other measures of economic development, including income distribution, life expectancy at birth, literacy rate, and infant mortality rate.

However, Yoder et al. (1991) employed a correlational analysis to study the relationship between privatization and the development indicators and therefore could not control for other factors (macroeconomic stability and institutional infrastructure) that might affect economic growth and income distribution. Yoder et al. (1991) did recognize the weakness in their methodology and recommended further studies of the impact of

privatization on the other measures of development. Until now most studies have responded to the first recommendation to employ more rigorous statistical methods (Cook and Uchida, 2003; Plane, 1997), but not much on the second recommendation in terms of analyzing the impact of privatization on the distribution of income. This dissertation therefore is a response to Yoder et al.'s (1991) call and the perception of many in the developing countries that privatization has benefited the rich at the expense of the poor (Kessides, 2004; Kikeri and Sunita, 1992; Nellis, 2003). Consequently, this study examines the impact of privatization on economic growth and income inequality in developing countries between 1991 and 2002.

The time period (1991 – 2002) is selected because this is the period in which most countries in the developing world engaged in ambitious privatization programs (World Bank Privatization Database, 2005).

Purpose Statement

The objective of this study is to examine the impact of privatization on economic performance in developing countries between 1991 and 2002. The goal is to examine the impact of privatization on two economic development indicators: economic growth and income inequality. The study therefore seeks to examine whether the privatization programs implemented by most developing countries between 1991 and 2002 had a positive effect on both output growth and distributional equity as suggested by the advocates of privatization.

The dependent variables employed in this study are the economic growth rates and income inequality. The economic growth rates is represented by the Gross Domestic

Product (GDP) per capita growth rates and income inequality is represented by the ratio of the share of going to the richest in the population and the share of income going to the poorest in the population. The main independent variable of interest is the privatization variable which is represented by the privatization revenues as a percentage of Gross Domestic Product (GDP). The study will also control for other variables that are known to affect growth (e.g., the degree of openness, fiscal and monetary policy, governance infrastructure, and the initial level of development).

Research Questions

Considerable time has elapsed since privatization was first implemented in a number of countries and therefore it is appropriate for the results to be evaluated at the macroeconomic level. This is particularly important in the developing world where privatization has been implemented as a political, economic, and social instrument for societal transformation (Stiglitz, 1998). Although a great deal of attention has been given to privatization in the developing world, most of the country-level studies have been descriptive and focused on the extent of privatization (Bennell, 1997; Berthelemy, Kaufmann, and Valfort, 2004), with only a few analyzing the empirically the impact of privatization. Consequently, more empirical research is needed to ascertain the impact of privatization in the various regions of the developing world. The dissertation will contribute to the empirical research literature on privatization by examining two main questions:

1. What is the impact of privatization on economic growth in developing countries?
2. What is the impact of privatization on income inequality in developing countries?

Significance of the Study

Privatization as an economic reform policy has been in effect now for a number of years and therefore it is appropriate to empirically examine the direct impact of privatization on economic performance. It is important to note that only a few studies have examined the economic impacts of privatization, but none of the studies controlled for regional differences. Accordingly, this dissertation will examine the effects of privatization as it has unfolded in various regions of the developing world. This is important because the extent and quality of privatization is different for the regions of the world, and subsequently, privatization's effect might not be the same in all the regions. Further, government ownership is more prevalent in some region than others, and consequently, the impact of government intervention in the economy and corporate governance in general may be different for the different regions (Chong and Lopez, 2003; Kikeri and Kolo, 2005)

Finally, the different regions have different cultural, economic, and political institutions, which may affect the way privatization is implemented, and subsequently its effect on economic performance. An example is case studies of privatization in Latin America and Sub-Saharan Africa. While Galiani et al. (2005) and McKenzie and Mookherjee (2002) claim that privatization resulted in improved performance in Latin America, Bayliss (2002a) reports otherwise in Sub-Saharan Africa. Al-Obaidan (2002) argues that the inclusion of countries in the regression analysis that are intrinsically different may result in unacceptable statistical bias. Clearly, developing countries in Sub-Saharan Africa, Eastern Europe, Latin America, and Asia exhibit different socioeconomic characteristics. Accordingly, the inclusion of developing countries with different social

and cultural characteristics requires the regional blocs to be controlled to reduce the problem of omitted variable bias associated with geographical differences and other region –specific factors.

The study contributes to the literature on privatization in two main ways. First, by controlling for regional blocs, it helps to produce consistent estimates of the effect of privatization and contributes to the understanding of how privatization has impacted the economies of the different regions of the world. Second, the dissertation examines the impact of privatization on both economic growth and income distribution, as a government's responsibility is not only to deliver services more efficiently, but also to provide them more equitably. The focus on income distribution is important because the well-being of the poor has a special role in the objective function of policymakers. Further, economic reforms that do not reduce income inequality tend to generate discontent and ultimately are unsustainable (Eduardo and Ugo, 2002).

There is also a consensus in the economic development literature that high inequality slows growth and promotes political instability (Baliamourne-Lutz, 2004; Cling et al., 2006). Cling et al. (2006) also note that low income inequality strengthens the impact of growth on poverty reduction. The study focuses on the time period between 1991 and 2002, as privatization picked up at the end of the 1980s and peaked at the end of the 1990s for most countries (World Bank Privatization Database). Focusing on this time period will help to identify how the extensive implementation of the privatization policy impacted the economies of the countries concerned.

Overview of Study

The dissertation contains five chapters. Chapter one introduces the research and provides a general overview of the research problem. Chapter two provides a background of the intensity and pace of privatization in developing countries between 1991 and 2002 as this is the period in which most developing countries privatized their state-owned enterprises. Chapter three presents a review of the literature on privatization in which the theoretical arguments for and against privatization are offered and followed by an analysis of the empirical literature on privatization and its limitations. Chapter four discusses the methodology and data used in the research. This section also discusses the model specifications that are used to address the research questions. Chapter five presents and discusses the study's findings, provides policy implications, limitations and suggestions for future research, and concluding remarks.

CHAPTER 2

BACKGROUND OF PRIVATIZATION

This chapter provides a brief discussion on the definition of privatization and recent privatization trends, and examines the extent to which government ownership is still prevalent in developing countries.

Definition of Privatization

Privatization is defined in many ways in the literature. It is a broad term but most simply defined as the transfer of assets or service delivery from the government to the private sector. Pirie (1986) identified over 22 definitions of privatization. In recent times, the term has been used to represent three main concepts: divestiture; deregulation; and delegation (Ghosh, 2004; Rothenberg, 1987; Savas, 2000). Divestiture refers to the partial or full sale of an enterprise from the public to the private sector. Deregulation, also known as liberalization, refers to the removal of restrictions on market entry and is intended to increase the role of competition. Change of ownership may not be involved. Delegation usually involves the government maintaining control and being responsible for the service delivery, but the actual production activity is done by the private sector. This means that the government usually provides the funding for the private sector to produce the service or good. Delegation is carried out by contract, franchise, and subsidy (grant or voucher).

The focus of the dissertation, however, is on the impact of the proceeds generated from the sale of government owned assets on economic growth and income inequality and, therefore the extent and trend of the of the divestiture is discussed next. It is

important to note that the sale of government owned assets is the most popular method of privatization in developing countries. Unless otherwise stated, all the privatization transactions and proceeds utilized are from the World Bank Privatization Database (2005). The World Bank Privatization database shows that between 1988 and 2003, developing countries carried out about 9000 privatization transactions and raised nearly \$410 billion in privatization revenues (See Table 1) or 0.5% of total developing country GDP during that period (Kikeri and Kolo, 2005).

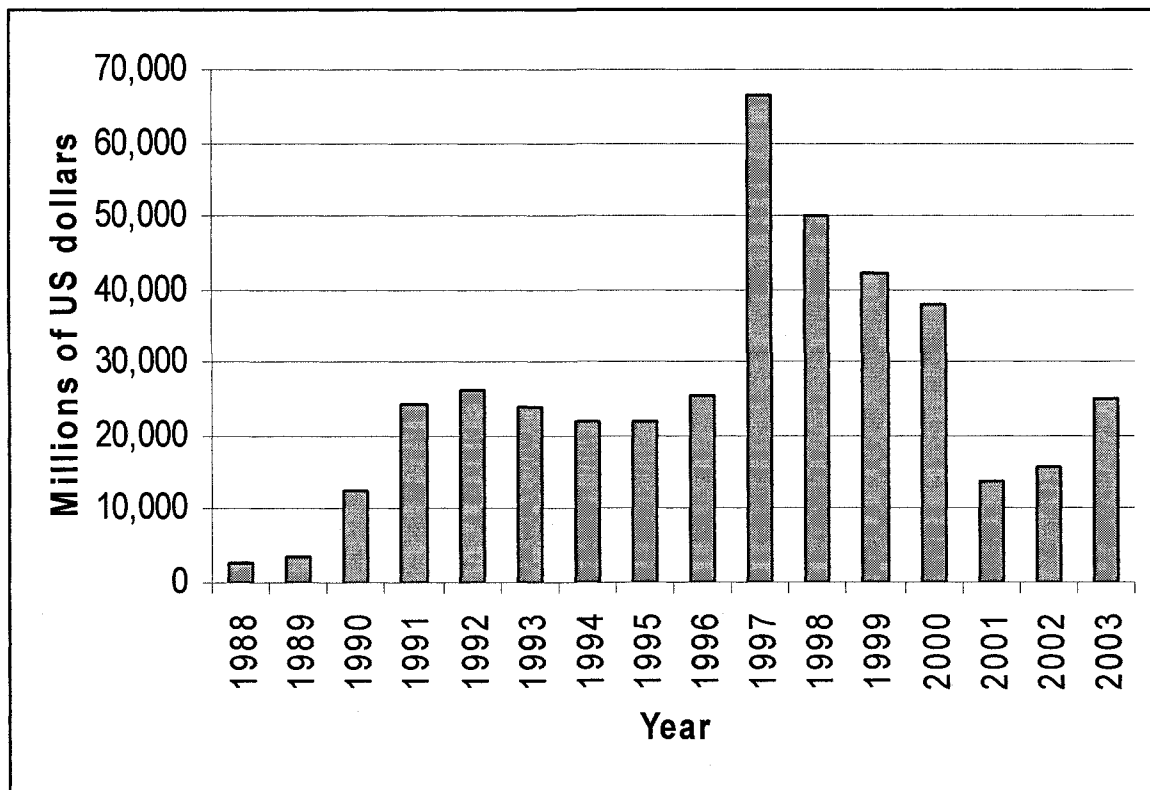
Table 1: Privatization Numbers and Proceeds by Region, 1990-2003

<u>REGION</u>	<u>TRANSACTIONS</u>	<u>PROCEEDS (US \$ BNS.)</u>
Middle East, North Africa	302	\$18.9
South Asia	399	\$15.4
East Asia/Pacific	417	\$65.8
Sub-Saharan Africa	981	\$11.5
Latin America, Caribbean	1,265	\$195.1
East & Central Europe, Central Asia	5,634	\$104.1
Totals	8,998	\$410.8

Source: Nellis (2006)

As presented in Figure 1 below, privatization activity peaked in 1997, reaching nearly \$70 billion due to increased activity in large infrastructure and energy (oil and gas) transactions. The number of privatization transactions in 1997 was the least between 1993 and 1998 (Figure 2), but the privatization revenues was the highest, which indicates that the privatization process involved the sale of highly valued SOE assets

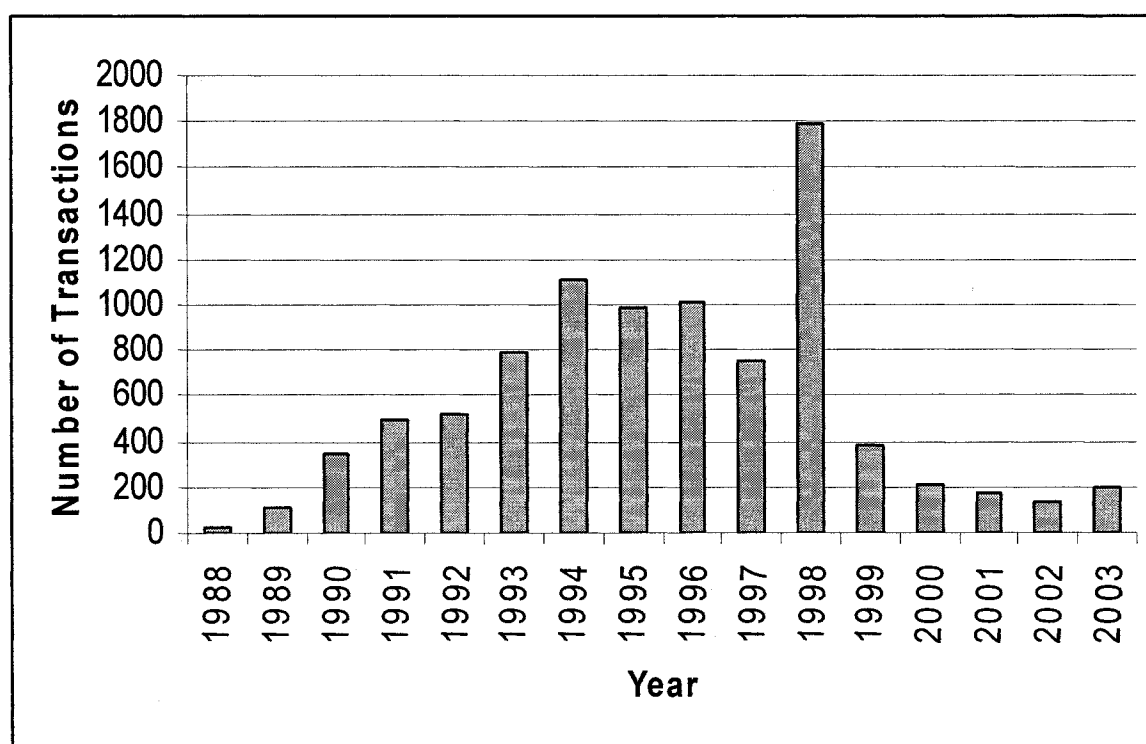
Figure 1: Global Privatization Proceeds



Source: World Bank Privatization Database (2005).

Although privatization activity increased in all regions of the world, the greatest increase was found in five countries: Argentina, Brazil, Mexico (all from Latin America), China and Russia. These five countries generated privatization revenues of nearly \$41 billion out of a total of \$67 billion generated by developing countries in 1997. Privatization activity, however, declined after 1997 to \$50 billion in 1998, \$40 billion in 1999 and 2000 and reduced drastically to a low of \$14 billion in 2001. Gradual increases in privatization were found after 2001 as the proceeds increased nearly 13% in 2002 and 38% in 2003 (Figure 1). This was due to the fact that the average size of transactions increased over the years as countries began privatizing larger firms.

Figure 2: Privatization Transactions

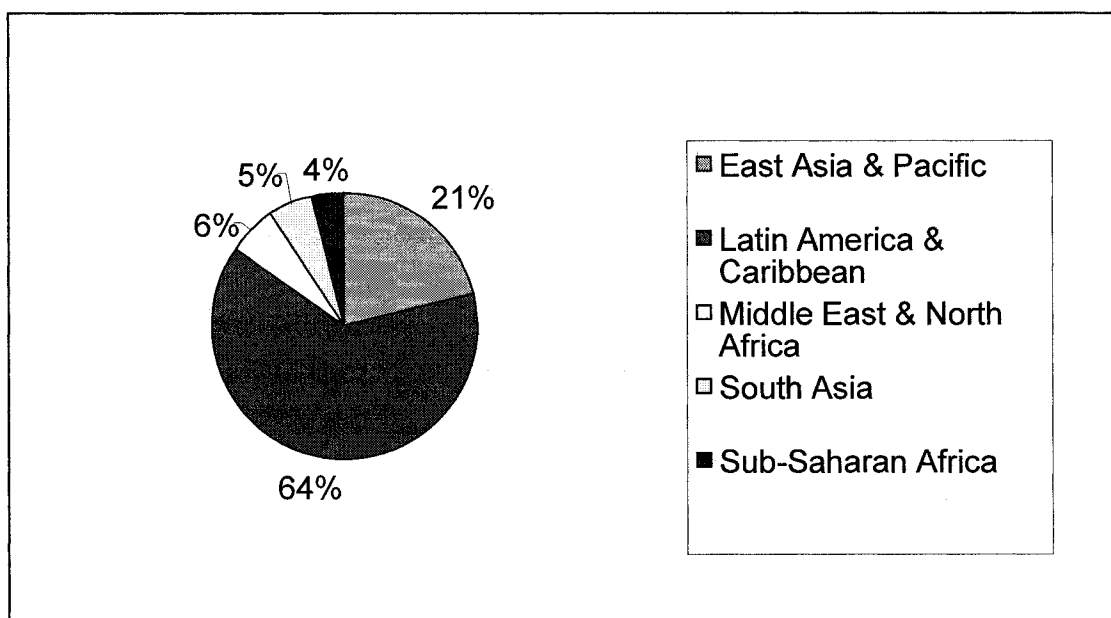


Source: World Bank Privatization Database (2005).

Regional Distribution

Even though the number of transactions and the proceeds generated from privatization increased in all regions of the developing world, proceeds were highly concentrated in Latin America and East Asia (Figure 3). Latin America accounted for 64% of total privatization proceeds with 39% of the total number of transactions, followed by East Asia with 13% of the transactions and 21% of the privatization proceeds, and the rest of the developing world accounting for 15% of the proceeds and 48% of the transactions.

Figure 3: Privatization Proceeds, 1988-2003



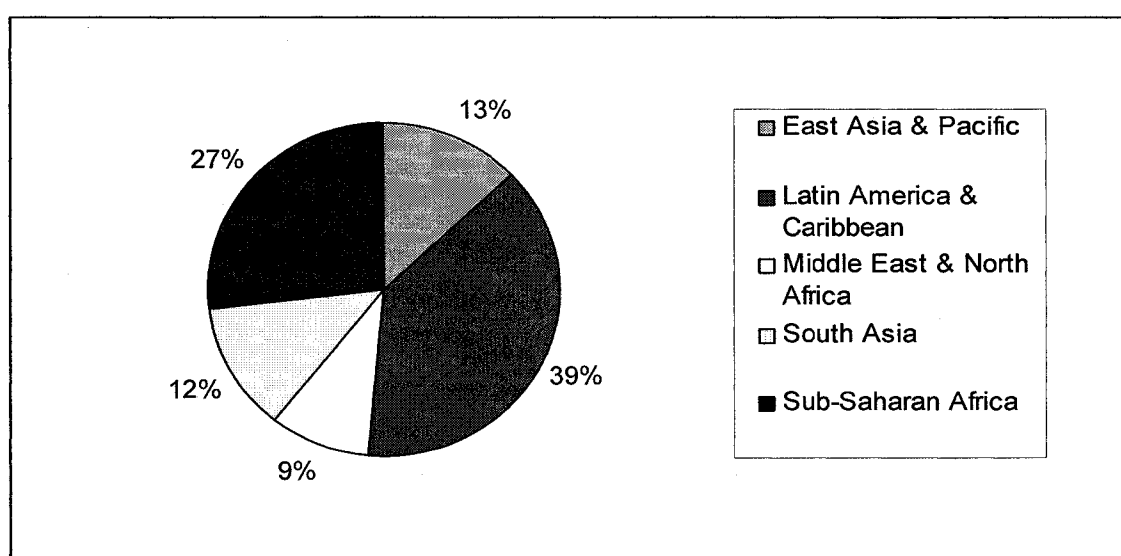
Source: World Bank Privatization Database (2005).

Latin America

Latin America is the biggest privatizer in terms of both the quantity (number of transactions) and the proceeds generated from privatization (volume of assets sold)

between 1988 and 2003. Latin America accounted for 39% of the total number of transactions (Figure 4) and nearly \$195 billion or 64% of the total privatization proceeds (Figure 3) in developing countries between 1988 and 2003. Three countries; Argentina, Brazil, and Mexico accounted for over 75% of the regional revenues in the 1990s primarily from telecommunications, electricity, and energy in the 1990s.

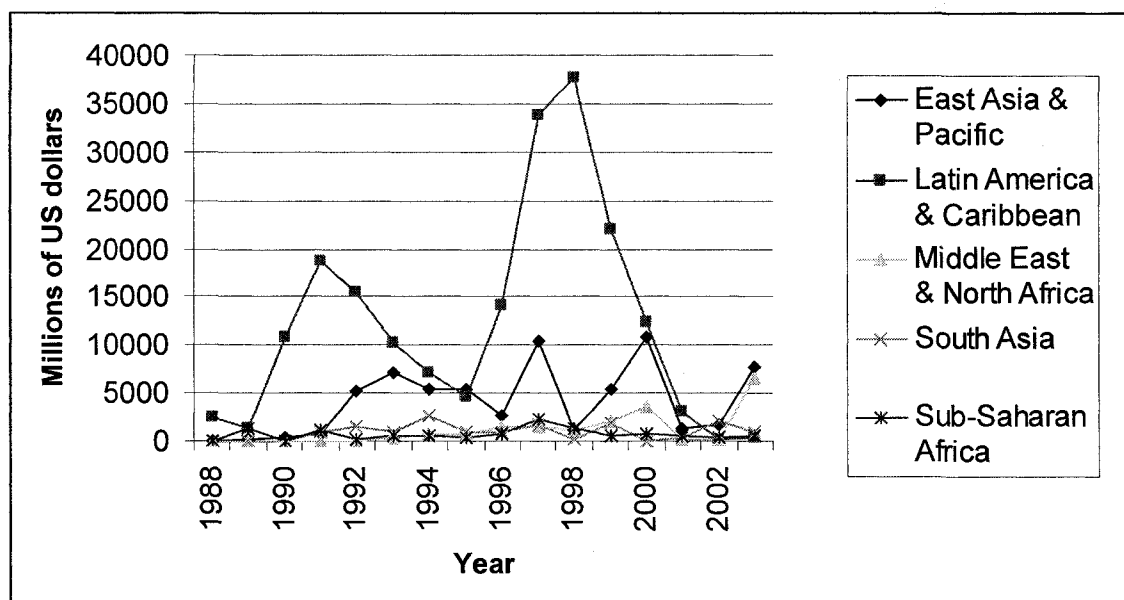
Figure 4: Share of Privatization Transactions, 1988-2003



Source: World Bank Privatization Database (2005).

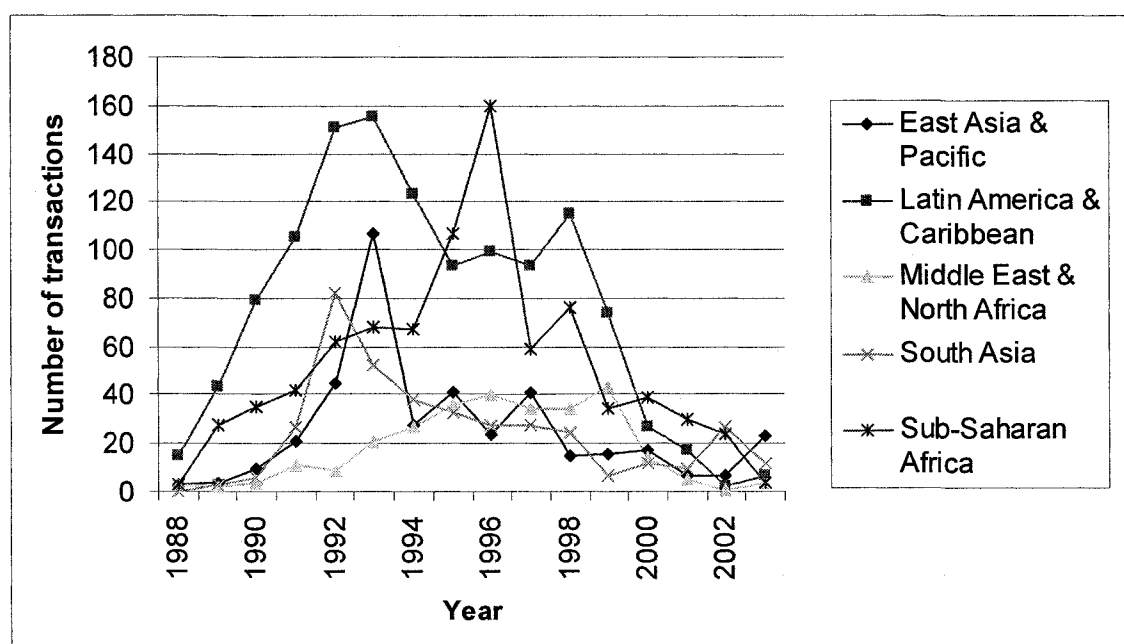
Latin America's share of privatization transactions and proceeds began to fall gradually in the later part of the 1990s and fell dramatically in 2000 and afterwards (Figures 5 and 6). The decline was due to the reduction in the stock of enterprises for sale and dwindling political desire to privatize additional sectors of the economy. Brazil, however, continues to be among the top ten privatizers in the developing countries after 2000 and contributes about 85% of the Latin America's privatization proceeds (Kikeri and Kolo, 2005).

Figure 5: Privatization Proceeds, 1988-2003



Source: World Bank Privatization Database (2005).

Figure 6: Number of Privatization Transactions by Region, 1988-2003



Source: World Bank Privatization Database (2005).

East Asia and the Pacific

The World Bank Privatization Database (2005) indicates that after a slow start in the 1980s, privatization in East Asia and the Pacific picked up in the early 1990s and peaked in 1997, with privatization revenues of \$10 billion. There was a steep decline in privatization revenues in 1998 (\$1.5 billion), but this increased to \$5.5 billion in 1999, and nearly \$11 billion in 2000. The region raised \$66 billion or 13% (Figure 4) of total privatization proceeds from 420 transactions between 1988 and 2003. Malaysia, Indonesia, and China were the three top privatizers during the 1990s. It should be noted that China alone accounted for nearly 60% of the regional proceeds in the 1990s, but this increased to nearly 80% between 2000 and 2003. China's privatization revenues of over \$8 billion make it the top revenue earner among developing countries between 2000 and 2003, as a result of divestiture in the telecommunications, energy, and manufacturing sectors.

South Asia

South Asia accounted for nearly \$16 billion or 5% of total developing countries' privatization proceeds from 390 transactions between 1988 and 2003 (Figure 5). Privatization in South Asia peaked in 1994 with revenues of nearly \$3 billion. India and Pakistan accounted for 75% and 19% respectively of the South Asian privatization proceeds. India is one of the few countries that have been consistent with its privatization program and currently, it is one of the top ten privatizers, as generated revenues reached over \$2 billion between 2000 and 2003. Indian's privatization proceeds were largely from

minority share sales in banking, oil, and gas with only a few recent sales involving the manufacturing and telecommunications sectors.

Sub-Saharan Africa

Figure 4 shows that Sub-Saharan Africa had the second largest number of transactions (27%) after Latin America, but it generated the least proceeds from privatization (4%) in developing countries between 1988 and 2003. This is due to the fact that most of the SOEs sold, were low-valued firms in competitive sectors (Kayizzi-Mugerwa, 2002; Kikeri and Kolo, 2005; Nellis, 2003). Of the over \$11 billion of African privatization revenues raised between 1990 and 2003, nearly a third was generated by a handful of privatizations in South Africa (Nellis, 2003). Another 33% came from sales in a group of four countries (Ghana, Nigeria, Zambia, and Ivory Coast). Some 26 African countries have privatized under \$1 billion over the same period. The privatization activity has also been concentrated in a few sectors, including telecommunications (South Africa), mining (Ghana and Zambia), and oil fields (Nigeria).

Middle East and North African Countries

The Middle East and North African Countries generated nearly \$19 billion or 6% of total developing country proceeds (Figure 3) from 288 transactions or 9% of developing country transactions. Significant privatization activity was concentrated in three countries: Egypt, Morocco, and Tunisia. These three countries accounted for nearly 90% of total regional proceeds. Transactions in both Morocco and Egypt were mainly in manufacturing; however, Morocco's privatization was more diversified with transactions

in oil refining and banking. Since the year 2000, however, the telecommunications sector has been the main source of privatization revenues. The partial sale of Jordan Telecom for over \$500 million and the partial sale of Saudi Telecom for \$4 billion have made the telecommunications' sector the region's leading revenue generator since 2000.

Sectoral Distribution of Privatization

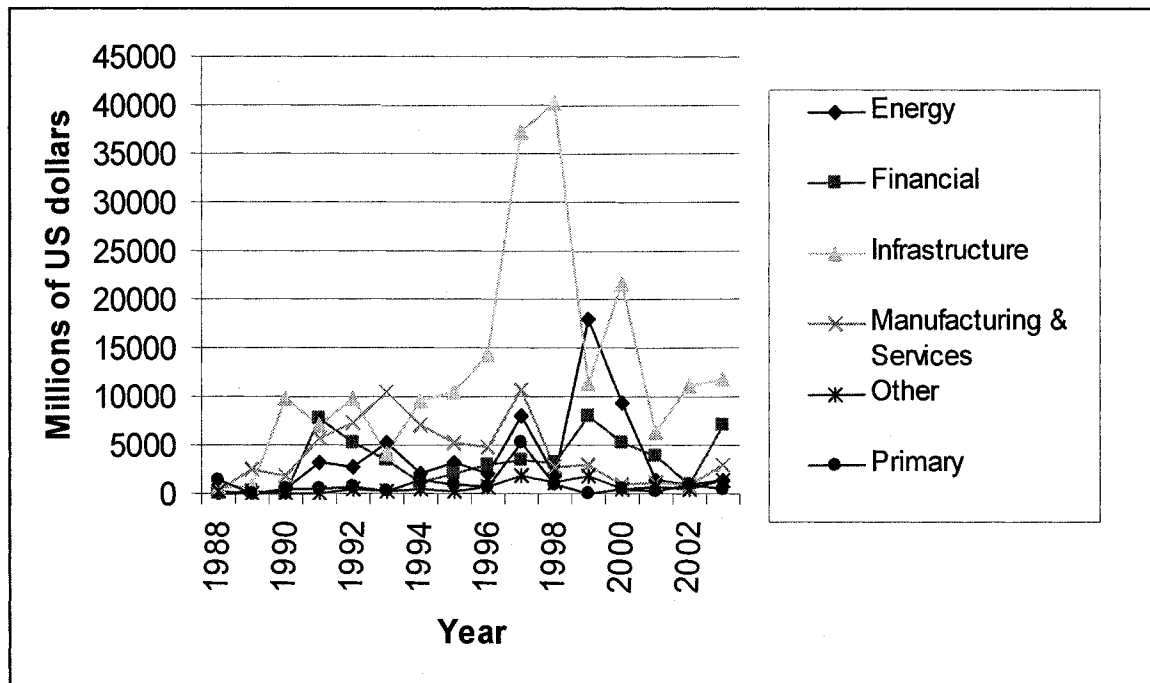
Various regions of the developing world differ not only in the level of privatization activity, but also in the sectors privatized. Between 1988 and 1994 manufacturing and infrastructure accounted for over 80% of privatization proceeds (16% for financial services, 31% for manufacturing and 36% for infrastructure). After 1994, however, the shares of manufacturing, energy, and primary sectors either declined or remained stable, while that of financial services and infrastructure increased substantially. As a result, by the end of 2003, the share of infrastructure proceeds accounted for nearly 50%, even as manufacturing decreased from 31% in the early 1990s to 16% by 2003.

Infrastructure

Infrastructure related proceeds come from transport, telecommunications, water and sewage, natural gas transmission and distribution, electricity generation, transmission, and distribution. Between 1988 and 1994, infrastructure proceeds reached nearly \$40 billion, but this increased to over \$200 billion in 2003. Infrastructure's share increased from 36% by the end of 1994 to 50% in 2003. Figure 7 shows that since the 1990s, infrastructure has generated the highest proportion of privatization proceeds in developing countries, reaching its peak in 1998. Telecommunications and power make up

the bulk of the infrastructural activity, accounting for 50% and 36% respectively between 1988 and 2003.

Figure 7: Sectoral Distribution of Privatization Proceeds, 1988 - 2003



Source: World Bank Privatization Database (2005).

Financial Services

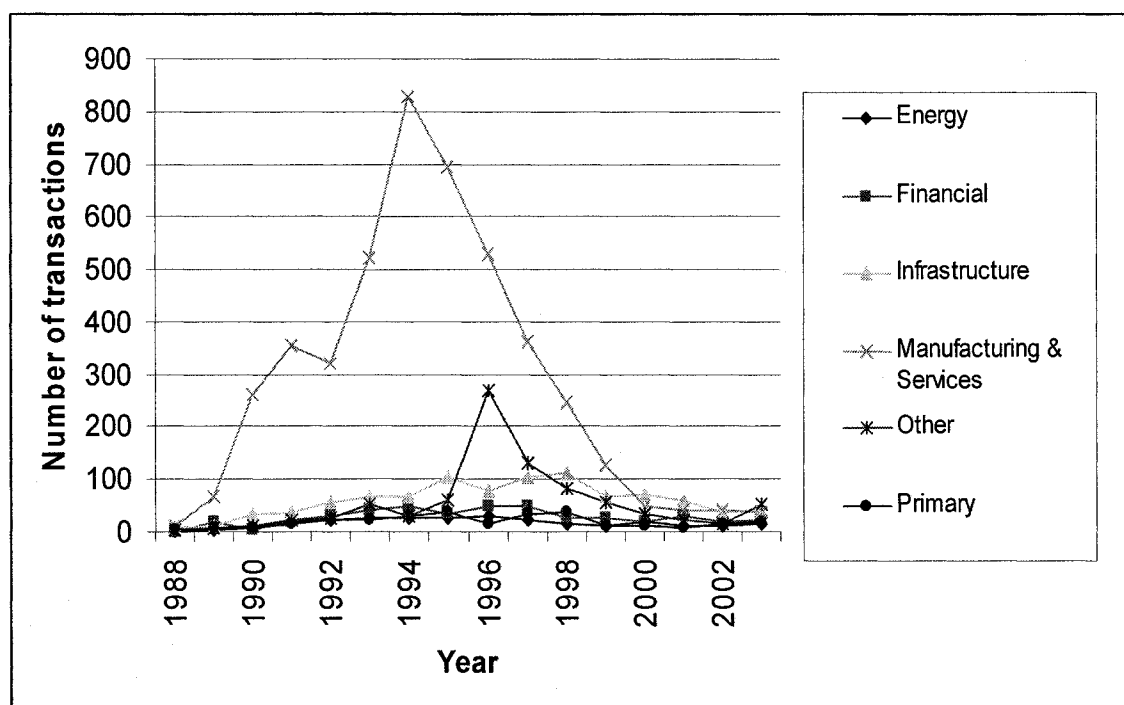
From a slow start in the late 1980s, proceeds from the financial sector increased in the 1990s but declined between 1994 and 1998 (Figure 7). From a little under \$20 billion by the end of 1994, proceeds rose to over \$50 billion at the end of 2003. The financial sector proceeds are generated from real estate, banking, insurance, and financial service firms, which account for nearly 90% of the financial sector proceeds. The financial sector revenues seem to be concentrated in a few developing countries: Mexico and Brazil in

Latin America; China, Philippines, Indonesia, and Thailand in East Asia; Pakistan in South Asia; and Nigeria, Uganda, and South Africa in Sub-Saharan Africa.

Manufacturing

Figure 8 shows that the most popular sector privatized in the developing countries has been the manufacturing sector, accounting for 61% of all transactions between 1988 and 2003 (Figures 8 and 9). Manufacturing's sharpest increase occurred between 1991 and 1994 after which it declined through the rest of the 1990s, but it is still one of the major sectors being privatized in developing countries.

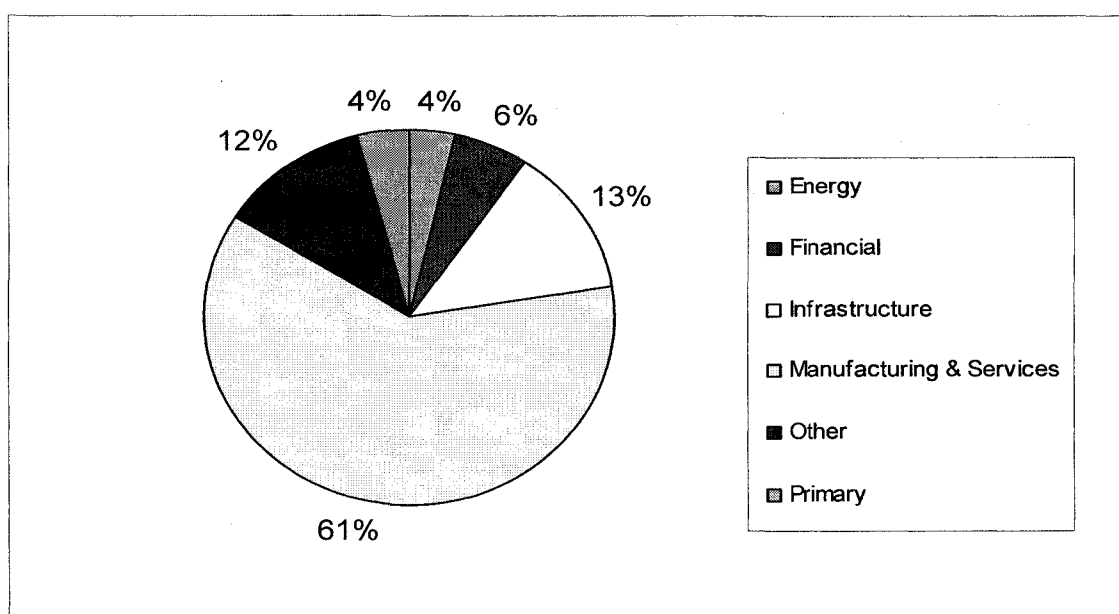
Figure 8: Number of Privatization Transactions, 1988-2003



Source: World Bank Privatization Database (2005).

The revenues generated from manufacturing, however, declined from 31% in the early 1990s to 16% by the end of 2003 (Figure 7). The largest transactions in manufacturing were in steel, cement, and fertilizer, with Asian countries being the most active in this sector.

Figure 9: Sectoral Privatization Transactions, 1988-2003



Source: World Bank Privatization Database (2005)

Primary Sector

The primary sector includes the extraction of metals and minerals. Proceeds from this sector declined slightly from 4% in the early 1990s to 3.46% by the end of 2003.

Revenues from this sector have been concentrated in a few countries in Latin America (Brazil and Mexico), Asia (China and India), and Sub-Saharan Africa (Ghana, Zambia, and Mozambique).

Energy

Proceeds from the energy sector include revenues from extraction and refinement of hydrocarbons (oil and gas and petrochemicals). Revenues from energy accounted for 12% of privatization proceeds in developing countries by 1994, but had increased slightly to 14 % by the end of 2003. Transactions over the period were concentrated in few countries - Argentina, Brazil, China, and South Africa

The discussion above shows that for the developing countries as a whole privatization activity peaked at the end of 1998 and dropped off in the late 1990s but increased slightly after 2000. Further, while many developing countries engaged in ambitious privatization programs, proceeds are concentrated in a few countries. Brazil, Argentina, and Mexico dominated the 1990s (Kikeri and Kolo, 2005).

Extent of Government Ownership

The high levels of privatization activity might suggest that government ownership has declined over the years. Kikeri and Kolo (2005) note that although a systematic assessment of SOE activity in GDP, investment, and domestic credit is difficult because of data constraints, anecdotal evidence suggests that government involvement in economic activity in most developing countries is still appreciable. Hence, while privatization activity has increased all over the developing world, at the aggregate level it appears to be small relative to the stock of SOEs.

Between 1980 and 1997, SOEs activities as a percentage of GDP decreased from about 11 to 5 percent in middle income countries and from 15 to 3 percent in low income countries (Sheshinski and Lopez-Calva, 1999). Chong and Lopez-de-Silanes (2003)

observe that these averages might mask the regional variations in the size and economic importance of the remaining state-owned production. For example, in Sub-Saharan Africa, only a few governments have openly adopted an explicitly state-owned divestment strategy. The African privatization effort has been significant in only a handful of countries and state production still accounts for over 15% of GDP in the region. Similarly, government economic role remains large in the Middle East and North African countries with the private sector accounting on average for less than 50% of GDP in the region (Kikeri and Kolo, 2005). In Asia, China for example, has only recently committed to privatize all but the largest state enterprises; while in India nearly 43% of country's capital stock is being owned by the state (Chong and Lopez-de-Silanes, 2003). The review of privatization trends in the developing world suggests that after nearly 15 years of privatization programs, government ownership is still prevalent in many of the developing countries. The indication is that while privatization has reduced government ownership in the economy of most developing countries, it has not reduced it to insignificant levels. The next section discusses the theoretical and empirical literature cited for and against privatization.

CHAPTER 3

LITERATURE REVIEW

This section presents an overview of the theories of privatization, the link between privatization and economic growth and income inequality, and finally discusses the empirical literature on privatization.

Theories of Privatization

Though many theories have been used to support the privatization agenda, three theories have stood out over the past several years. These are: Property Rights theory, Public Choice theory, and Principal Agent theory. The basic assumption of the privatization theories is that free market forces enhance efficiency in organizations. Henig (1989), for example, notes that the privatization theories have served to advance the privatization movement in two ways. First, they served to refurbish a laissez faire philosophy that was politically past its prime especially in the developing world. Henig (1989) claims that by applying economic principles to explain government behavior (failure), the privatization theories provided a means to undercut the presumption that an expanded governmental apparatus could best carry out the pursuit of a widely shared public goal. Second, the theories furthered the privatization movement by redefining preexisting local government practices, as the theories represented a coherent, pragmatic and nonpartisan philosophy rather than the advancement of a political program to disassemble the state. Each of these theories will now be discussed in detail.

Property Rights Theory

The property rights literature is quite diverse, but it is characterized by a common emphasis on the interconnectedness of ownership rights, incentives, and economic behavior (Commander and Killick (1988). Property rights theory is therefore concerned with maximizing the utility function of managers subject to the limits established by the existing organization. Property rights have been defined in a variety of ways. Alchian (1965) defines property rights as having three characteristics: exclusivity of rights to the choice of use of a resource; exclusivity of rights to the services of a resource; and the rights to exchange the resource at mutually agreeable terms.

On the other hand, Demetz (1967) defines a property right as an instrument of society, which derives its significance from the fact that it helps an individual form those expectations which he or she can reasonably hold in dealings with others. These expectations find expression in the laws, customs, and mores of a society. An owner of property rights possesses the consent of fellowmen to allow him or her to act in particular ways. In accordance with this view, Starr (1988) asserts that the theory of property rights specifies the social and economic relations that people must observe with respect to the allocation of resources, taking into consideration both the benefits owners can enjoy and the harm they cause to others.

Similarly, Hill and Karner (1996) refer to property rights as the control over assets and argued that managers have such control in that they determine the day to day allocation of inputs and production of the firm. From an institutional theory perspective, however, Anderson and Hill (1975) assert that property rights creation is an economic activity very much like the production of other goods and services, which cannot be

imposed upon the system but develop in response to incentives. For example, in the case of the United States, Hill and Karner (1996) explain that the property rights to water, livestock, and land, were in response to both supply and demand conditions. When these resources were not particularly valuable, little effort was made in defining and enforcing rights, but when population pressure and increased demand for agricultural products made property rights more valuable, greater effort was made in defending and enforcing these rights. This is because property rights give individual owners “residual claims” on the assets of private enterprise (Hanke, 1987). Residual claims refer to the ability to use an asset, change it in form, and to transfer all or sell some of these rights (Starr, 1988). Soto (1996) has described property rights as the ‘missing ingredient’ needed to make markets work. This is because the creation of property rights is directly linked to the incentive structure of the system, as well defined and enforced rights will develop more rapidly if decision makers can capture the returns from such rights (Hill and Karner, 1996).

The discussion above suggests that individuals tend to their property better when there are gains to be made. As far back as 1776, Adam Smith wrote in the “Wealth of Nations” that people are more prodigal with the wealth of others than with their own. Accordingly, from the property rights perspective, public enterprises are expected to be less efficient compared to private firms because public enterprises are owned by individuals who have no residual claim (SOEs shares cannot be sold by citizens) on the assets of the public organizations (Megginson, 2005). As Aharoni (1982, p. 69) puts it, the “....SOE is an agent without a principal.”

The main thesis of the property rights theorists is that the state sector's inefficiency results from situations in which no individual or group has a clear stake in the assets of the enterprise (Abdul, 2000). This means that in public enterprises, property rights are neither exclusive nor transferable. In this context, the probability that the public assets would be mismanaged might be high (Furobotn and Perjovich, 1972). This review demonstrates that property rights theory diverges from the classical theory of the firm by rejecting the firm as the unit of analysis, and focuses instead on the role of individual decision makers within the organization. The more completely the rights over resources are allocated to the decision maker, the stronger are the incentives to use and preserve those resources efficiently. Accordingly, privatization associated with concentration of property rights is expected to lead to improved efficiency.

Principal-Agent Theory

The fundamental argument for the superiority of the private enterprise in terms of its efficiency is based on the fact that as residual claimants to a firm's revenues, the owners are motivated to behave efficiently. In the modern firm, however, there is attenuation of property rights as in SOEs, because ownership is separated from managerial control in most big corporations. There is therefore a principal-agent relationship under which one or more persons (principal (s) or the body of diffuse shareholders) can engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. The agency relationship therefore results in agency costs, which consists of monitoring expenditures by the principals, bonding payments by the agents, and residual losses (Jensen and Meckling, 1976).

Agency theorists argue that managers in both private and SOEs are assumed to maximize their own utility rather than that of the organization or its owners. However, the problem is reduced in private firms through external mechanisms (corporate control) and internal mechanisms through boards of directors and incentives for managers (Cuervo and Villalonga, 2000; Furobotn and Pejovich, 1972; Skipke, 2001; Tandon, 1995, 1997). Further, Furobotn and Pejovich (1972) claim that the extent of managers' pursuit of their own interests will also be constrained by managers' own cost-benefit calculations in terms of: market valuation; managerial Incentives; and competition among managers. This means that in so far as stock price reflects the present value of the expected future consequences of managerial policies, it would be expected that managers would be careful with respect to maximizing their own value rather than the firm's value. As a result, owners' freedom to sell shares in a market that reflect the capitalized value of current managerial decision tends to set limits on the power of managers to pursue their own objective at the expense of profit maximization (Furobotn and Perjovich, 1972, p. 1150).

Further, Fama (1980), in his analysis of the agency problems, argues that the separation of ownership from control can be an efficient form of organization relative to organizations in which the risk-bearing and decision-making functions are combined. Fama (1980) observes that a firm is usually disciplined by competition from other firms, which forces the evolution of devices for efficiently monitoring the performance of the entire team and its members. Individual participants in the firm, and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both inside and outside the firm.

Additionally, Agency theory indicates that because private firms have clearer goals, it is easier for owners (principals) to hold managers (agents) accountable (Dharwadkar et al., 2000; Vickers and Yarrow, 1988) and therefore managers perform better in private firms than in SOEs. Shleifer and Vishny (1994) and Sheshinski and Lopez-Calva (1999) also claim that political interference distorts the objectives and constraints faced by public managers, which results in poor choices of production. Similarly, La Porta and Lopez-de-Silanes (1997) describe agency conflicts as the main source of inefficiencies of SOEs. This means that privatization will tend to raise the cost to politicians in influencing firms, since subsidies to private firms necessary to force them to remain inefficient are politically harder to sustain than wasted profits of the SOE (Boycko et al., 1996).

Public Choice Theory

Underlying the case for privatization is the view that there is government failure, in the sense that public policy is likely to operate in ways that impede the efficient functioning of markets (Yarrow, 1999). Government failure or the public choice argument, according to Ghosh (2001) is the main pillar of the neoclassical counter-revolution to the interventionist state with unlimited power. Government failure refers to the failure of government policies to allocate resources efficiently, to redistribute them in a well-targeted manner, and to stabilize the economy in the period of stagflation (Tanzi and Schuknecht, 2000). The basic assumption of public choice theory is that humans are egoistic, rational, utility maximizers (Buchanan and Tullock, 1962).

The principle of utility maximization according to the public choice perspective dominates human behavior both in the marketplace and in politics (Abu Shair, 1997;

Dye, 2000; Hodge, 2000). As a result, the inefficiency of state firms is attributed to politicians and bureaucrats pursuing their own well specified objectives such as excess labor spending which conflicts with the efficient operations of SOEs (Boycko et al., 1996). Buchanan (1972) asserts that politicians in interfering in the economic activity are more interested in winning votes than promoting efficiency in SOEs. This is due to the fact that the policy environments in which firms operate are functions of the incentive structures faced by policy makers, which depend on a range of political factors including interest group pressure and public opinion. This means that an increasingly larger share of government output is designed to benefit subgroups of the populace at the expense of the general public.

Further, Niskanen (1971) asserts that utility maximizing bureaucrats receive utility from the size of the budget they manage. Consequently, lacking the incentive of the profit maximizing firm and with no clear objectives, the bureaucrat is likely to seek the budget size which maximizes his utility, which, as Niskanen (1971) claims is greater than efficient size. Niskanen's view is in contrast to the Weberian view of bureaucrats as "neutered eunuchs" (Niskanen, 1994). Borchertding (1977) also argues that only about half of the increase in real government spending can be explained by changes in the standard economic variables of relative price, relative income, and population. The other half, he argued is attributed to the role of the bureaucracy, which in most cases maximizes its own utility rather than the public's interest in the decision making process. Buchanan (1977) echoes a similar view in his assertion that bureaucrats' interests lie in an expanding governmental sector and especially one that expands the number of employees. Bush and Mackay (1977) in explaining the "politics for profit" and "conflict

of interest” of politicians and bureaucrats, argue that the maximizing behavior of bureaucrats generates forces that cause excessive public sector growth at the expense of efficiency.

Another argument against the SOE is the view that SOEs can be used to achieve social objectives at the expense of efficiency of the organization. Olson (1982, p. 47), argues that a large government sector related to a large SOE share in output is usually associated with special interest groups that focus more on redistributing income rather than creating it, and in ways that reduce social efficiency and output. This is clearly indicated in Okun’s (1975, p. 48) statement that “....any insistence on carving the pie into equal slices would shrink the size of the pie.” There is therefore a trade-off between efficiency and equity or as Okun (1975, p. 2) puts it, “....we cannot have our cake of market efficiency and share it equally.” This is because redistributive policies that attempt to decrease the level of inequality will invariably decrease the efficiency in resource allocation, the savings ratio, and labor supply and thereby reduce the growth potential (Korpi, 1985). Okun (1975, p. 91) explains his rationale against state intervention in the market with the “leaky bucket” concept; which suggests that in the process of the bureaucrat or politician carrying the money to the poor, some of the money will get lost in transit. The result is that the poor will not receive all the money that is taken from the rich. The beneficiaries of the wealth transfer by implication are the politicians. Accordingly, what society needs, Okun (1975, p. 3) argues is not equality of income, but rather equality of opportunity.

Okun’s (1975) analysis of the leaky bucket is similar to Olson’s (1982) view, which suggests that irrespective of coalitions of individuals or firms to affect the

outcomes and functioning of markets via legislative or organized collusion usually leads to lower economic growth. This is due to the fact that only a few people benefit from the government intervention in economic activity. Likewise, Mueller (1979) claims that increased emphasis on distributional issues due to accumulation of special interest groups can increase the divisiveness in a political system and consequently make societies ungovernable. Hence, Olson (1982) suggests that special interest organizations and collusion reduce efficiency and aggregate income in societies in which they operate and make political life divisive. The public choice perspective therefore holds the view that the role of the state should be reduced and service delivery where possible should be privatized. Consequently, privatization is expected to lead to a change in the goals of the firm and the bargaining power of the different actors in the political market and thereby increasing the need for efficiency (Cuervo and Villalonga, 2000; Hodge, 2000).

The review of the privatization theories above suggests that SOEs are inefficient because of the high transaction cost in protecting and enforcing property rights associated with bureaucrats' and politicians' inability and in certain cases refusal or fear of losing their support base (Abu Shair, 1997; Omran, 2004). Privatization is therefore expected to improve the performance of the firm by changing the mechanisms through which different institutional arrangements affect the incentives for managing enterprises (Laffont and Tirole, 1991). Consequently, privatization is expected to lead to allocative and productive efficiency and hence increased output in the economy.

Privatization, Economic Growth, and Income Inequality

There are many ways in which privatization may exert a positive effect on economic growth and income inequality. Three of these ways are discussed below. First, if privatization was sufficiently extensive and had efficiency inducing effects, the contribution of improved performance could be detected at the macroeconomic level (Cook and Uchida, 2003). As noted by Bennett et al. (2004), if the positive effects of privatization on the financial performance and productivity of firms that are predicted by microeconomic theory are realized, these effects should have a macroeconomic lag leading to an increase in economic growth. This is because market specialization and the resulting efficiency of resource use is the basis of economic growth (Olbeter, 1994).

Likewise, Berg and Berg (1997) argue that in the presence of competition, enterprise efficiency associated with privatization is expected to lead to increased efficiency in the entire economy through competitive markets and better allocation of resources across different firms and sectors of the economy. This is because competition has the potential to radically change the economy in such a way that some firms will grow exponentially while others wither away and some services will fail while others thrive. According to Olbeter (1994), competition forces firms to continually innovate, improve efficiency, and provide high quality service. The result is that consumers economy-wide will benefit from less expensive, higher quality, and more innovative services.

Second, the allocative and productive efficiency associated with privatization will help to reduce public sector debt and free public resources for investment in infrastructure and social programs to promote economic growth and reduce poverty

(Nellis, 1994). Aghion and Schankerman (1999), for example, argue that the increased financial performance and productivity of firms might result in greater revenue for the government and its ability to spend on infrastructure, which would have a potential positive impact on aggregate productivity. The fiscal impact of privatization may also have favorable distributive consequences by aiding macroeconomic stabilization and allowing a shift in spending away from expensive debt service obligations towards increased social spending targeted more directly at the poor (Mckenzie and Mookherjee, 2002). Similarly, Ramanadham (1988) notes that revenues generated from privatization can be invested in infrastructural development and basic industries, which have significant distributional outcomes.

Finally, the privatization process may lead to increased investment and stimulation of economic growth for the entire economy (Berg and Berg, 1997). Davis et al. (2000) indicate that markets and investors regard privatization as a positive signal of the political likelihood that a government will stick with its overall reform program, and therefore privatization may be associated with high rates of foreign direct investment (FDI). The FDI literature indicate that developing countries experienced a sharp increase in the average ratio of FDI to total investment during the 1990s, which was due mainly to large scale privatization programs especially in infrastructure (Kirkpatrick, Parker, and Zhang, 2006; Palmade and Anayiolas, 2004).

Foreign investment has positive spillovers to the entire economy in terms of improved technology, superior marketing and management skills, and access to international production networks (Kobrin, 2005; Kumar and Pradhan, 2002; Narula and Portelli, 2004; Sylwester, 2005). More than 50 years ago, Lewis (1948) argued that the

export of capital to developing countries promotes growth by creating industries, transferring technology, and fostering a modern perspective in the local economy. Accordingly, privatization that brings in foreign direct investment could potentially have multiple positive effects on the growth of developing countries (Filipovic, 2005). The discussion above suggests the following hypotheses:

H1: Privatization is positively correlated with economic growth.

H2: Privatization is positively correlated with income distribution.

Criticisms of the Theoretical Arguments

There are many criticisms against the privatization theories. First, is the fact that basing the privatization idea solely on economic efficiency leads the discussion to what Ikenberry (1990, p. 106) describes as “economic reductionism.” In contrast to the privatization theories outlined above, Avishur (2000), Kayizzi-Mugerwa (2003), and Laffont and Meleu (1999) have argued for a positive theory of privatization to explain the rationale for the privatization process. These authors argue that governments in most developing countries divest their SOEs only when it is politically desirable for them to do so.

The positive theory perspective indicates that privatization occurs only when politicians can fetch enough shares in the newly created firms to compensate for the private benefits they were deriving from the SOEs. Banerjee and Munger (2004) claim that the privatization decision is based on the “net political benefits” defined as the difference between the benefits and costs of divestiture from the perspective of the

political elites. Privatization therefore occurs only when the present value of political benefits from the efficiency gains are higher than the cost of redistribution (Clarke and Cull, 2002). This argument is further echoed by Borner (2004) who argues that the success of privatization is dependent on efficient incentives of the political leadership.

Dinavo (1995) and Ramamurti (2000), for example, suggest that politics play the most significant role in deciding whether to privatize or not to privatize. Biais and Perotti (2002) claim that in most countries privatization process has taken place in a “Machiavellian fashion”, a strategic policy to maintain power. Similarly, Stephan III (1996) argues that rent-seeking and political patronages were the prime motivating factors for privatization and other reforms in the former soviet type economies.

The discussion above indicates that in implementing privatization policy, governments may have interests other than productive efficiency especially in the context of the developing world. Starr (1988) asserts that privatization must not be seen only as a technical instrument of policy to achieve productive efficiency but also as a political measure of symbolic consequence. This argument is supported by Henig’s (1989) claim that the exclusive focus on economic forces obscures the intensely political nature of the privatization process. Henig (1989) argues that privatization initiatives are political because they redistribute costs and benefits among diverse and competing groups in society.

Second, there is theoretical and empirical evidence that show that efficiency is an outcome of the market structure rather than a change of ownership *per se*. Mansoor (1988) claims that significant efficiency gains from privatization are more likely to come from measures to increase competition than an ownership change, and that ownership is

neither necessary nor sufficient for efficiency gains. Similarly, Shapiro and Willig (1990) and Tandon (1995) argue that without competition there will be no difference between the private and public enterprises. This view is supported by Mendez and Glomm (2004), who examined theoretically how privatization and deregulation of production of intermediate products influence capital accumulation. The authors used three model specifications in the analysis: public monopoly under government control, private monopoly, and one where there is competition. The authors report that the benefits of state-to-market transitions are mostly due to increased competition on the deregulated market and that privatization of state enterprises by itself is not likely to generate significant changes in the economy. More importantly, Mendez and Glomm (2004) show that the model predicts that for high enough levels of public investment, a public monopoly would be preferred to a private monopoly in terms of the resulting aggregate income level.

Mendez and Glomm's (2004) finding is consistent with Mansoor's (1988) argument that the transfer of a public monopoly to the private sector with its monopoly power kept intact may lead to a worsening of the budgetary position. Likewise, Kay and Thompson (1986), in a study of the privatization process in the United Kingdom claim that private firms are not necessarily intrinsically more efficient but that market pressures are more effective at weeding out poorly performing firms in the private sector than in the public sector. Kay and Thompson (1986) observe that there are efficient and inefficient private enterprises as there are in the public sector. However, they argue that if the product market is competitive, lower efficiency is penalized by small market share

and low profits. At the same time if capital market is effective, this in turn leads to a withdrawal from the industry by unsuccessful firms.

Consequently, market disciplines do more to improve the private sector than the public sector, which indicates that it is not ownership, but rather the interaction of ownership and competition that promotes efficiency. This argument is supported empirically by Savas' (1977) study of refuse collection in the United States, which shows that where competition was introduced between public and private suppliers, the difference in costs between the two sectors was largely eliminated in a short period of time.

Other studies also show that in some particular industries (e.g., telecommunications), when there is no competition or the necessary regulatory framework, privatization may have a negative effect on performance (Wallsten, 2001). As noted by Brett (1988), the virtues of the market in enforcing efficiency do not stem from the fact that ownership is private but from the fact that resource allocation is competitive. Cuervo and Villalonga (2000) also claim that though the privatization theories indicate privatization is expected to lead to improved efficiency, on average the variance across real world empirical tests is substantial. They explain that the variance is due to the fact that in imperfectly competitive environments, efficiency appears to depend more on competition and regulation than on ownership. Shapiro and Willig (1990), on the other hand, note that the form of ownership may matter only when there is some private noncontractible information involved.

Thirdly, other authors (Adam et al., 1992; Cook and Kirkpatrick, 2003) argue that because of market failures, SOEs may produce socially efficient results, which maximize

social welfare, where private managers will maximize private profits and welfare. Likewise, Shirley and Walsh (2001) note that in developing nations and transition economies, monopolies abound because of pervasive market failures, lack of information and high entry costs. Further, SOEs can be used to pursue other social objectives beyond that of addressing market failures, including: reducing income inequality; increasing employment; and promoting regional development (Cook and Kirkpatrick, 2003).

On the other hand, Vernon-Wortzel and Wortzel (1989) assert that SOEs' problems do not arise from ownership but from the lack of clear goals and objectives as well as inappropriate control, motivation, and reward systems. Similarly, Brett (1988) claims that the failure of the state to control its own servants should not be seen as an economic problem to be solved by privatization, but rather as a political problem to be resolved by improving the political and administrative mechanisms which have failed. Further, Cowan (1990), argues that the turn to privatization is a reflection of a change in the value structure of western democracies that is not necessarily transferable to developing countries.

Finally, many other authors indicate that the probity and competence of government is a crucial factor in ensuring the success of privatization (Meredith, 2005; Parker and Kirkpatrick, 2005). Consequently, some of these authors promote the idea of reform or revitalization of SOEs rather than privatization especially in the developing countries where there is lack of well established institutional infrastructure, weak private sector, poor public sector government, corruption and cronyism. Likewise, Harris and Lye (2001) argue that given the large costs associated with privatization, reforms may be more desirable than privatization. Revitalization or reform of SOEs is based on the

assumption that privatization is only appropriate when there is competition and institutional capacity to regulate markets. Further, the revitalization perspective indicates that since performance is more a function of institutional design and resource allocation process than of ownership, it will be more appropriate to make SOEs more autonomous and subjective to competitive pressures and market discipline (Aharoni, 1986).

The success of revitalization is dependent on the ability to immunize SOEs from political interferences by choosing the right managers, giving them the right incentives, and allowing them to influence results and achieve them. Aharoni (1986), however, notes that the suggested reforms may indeed be applicable in more established democracies. Similar to Aharoni's (1986) view is Cook and Kirkpatrick's (1988) argument that since both privatization and the opening up of the public sector to domestic and international competition have not achieved their stated objectives, the best alternative to public sector efficiency and performance would be a focus on improvements in the internal management of the public sector.

The discussion above suggests that the question to be asked is not whether the private sector is more efficient than the public sector or vice versa. Rather, the issue that needs to be addressed is identifying which of the two sectors (private or public) is more appropriate in the production of a particular service and where necessary for the private and public sectors to be involved in partnerships to produce and deliver goods and services. As Savas (2000) has noted, the problem is not public versus private ownership, but rather, monopoly versus competition. Similarly, Brett (1988) asserts that if indeed monopoly is the central problem, then progress can only be made by trying to develop methods to deal with the problem wherever it exists whether in the public or private

sectors. Brett (1988) argues that if careful analysis is not done to take into account valid insights of both paradigms (private and government ownership), the debate will be continually shifting from one paradigm to the other. Further, Brett (1988, p.63) states:

What is needed therefore is a fundamental re-evaluation of the discipline of public administration, long associated with the mechanistic and formalistic development of the classical Weberian principles of formally rational bureaucratic organization. Instead we need a radical analysis of the way in which public authority can be organized in order to eliminate the barriers behind which officialdom has always been able to hide, to ensure that they are rewarded for performance and not simply for occupying positions and doing what they are told. And to guarantee that they will not use the monopoly power derived from the state to exclude creative alternatives which might threaten their ability to go on doing things that they find most easy and comfortable.

Finally, Starr (1988) asserts that the choice is not public or private but rather which of the many possible mixed public-private structures works best. Obviously, we cannot simply make a choice between state and market, because, separating the two produces not only inadequate social science, but disastrous policy presentation in the real world (Brett, 1988). Accordingly, portraying privatization primarily as an economic process that is implemented in response to fiscal constraints fails to acknowledge the considerable range of alternatives open to government actors to revitalize SOEs and the economy as a whole. In the next section, we discuss the privatization empirical literature.

Empirical Studies

The privatization empirical literature can be divided into three main groups: firm-level, industry-level, and country-level studies. Each will now be discussed in detail.

Firm-Level studies

The firm-level impact of privatization is the most studied (Boubakari and Cosset, 1998, 1999; Boubakari et al., 2001; Megginson et al., 1994; Megginson and Netter, 2001). Megginson et al. (1994) compared the pre and post financial operating performance of 61 firms from 18 countries between 1961 and 1990. The authors report that privatization resulted in increased profitability, real sales and operating efficiency. More importantly, the authors report an increase in median and mean employment rates. However, the authors did not find significant improvements for non-OECD countries. The main limitation of the study is its small sample size involving only six developing countries. Further, as Boubakari and Cosset (1998) noted, most of the firms had their headquarters in a developed country, and hence the sample of firms studied is not representative of the developing world.

In a later review of the privatization literature on transition economies, OECD countries and non-transition developing economies, Megginson and Netter (2001) report that privatization has significant positive effects on firm-level performance. The study finds privatization's effect on employment to be ambiguous. Boubakari and Cosset's (1998) study was a departure from that of Megginson et al.'s (1994) in that all the firms were headquartered in a developing country. Boubakari and Cosset's (1998) study included 79 firms from 21 developing countries between the years of 1980 and 1992. The authors report that newly privatized firms exhibit significant increases in profitability, total dividends, operating efficiency and employment levels.

Interestingly, the authors also showed that privatization yields greater benefits for companies operating in developing countries with high per capita income than those with

low per capita income. In contrast to Boubakari and Cosset (1998), the Boubakari and Cosset's (1999) study of 16 privatized firms in five African countries indicate that although profitability and operational performance improved after privatization, efficiency as well as output (measured by real sales) decreased slightly but not significantly while capital expenditures rose significantly after privatization.

On the other hand, recent firm-level empirical studies in the developing countries indicate that the change of ownership *per se* may not be the prime indicator of improved performance. For example, Boubakari et al. (2001) in studying the impact of 201 privatized firms from 32 developing countries reported that improved efficiency of firms was associated with countries in which their stock markets and property rights were highly developed. This finding supports the view that allocative efficiency is more a function of market structure rather than ownership (Cook and Kirkpatrick, 1988).

Industry-Level Studies

Water and telecommunications sectors are the two most studied industries in the developing world. Li and Xu (2002) claim that in 1980 less than 2% of the telecommunications firms in 167 countries were privatized, but the number of privatized telecommunications firms increased to nearly 42% in the 1990s. Li and Xu (2002) further assert that the telecommunications industry in most countries is the fastest growing industry because it offers positive externalities to other industries. This is primarily due to reduction in the transaction cost for businesses.

The significance of the telecommunications industry in promoting economic growth was studied in detail by Roller and Waverman (2001). The authors jointly

estimated a micromodel for telecommunications investment with a macro production function and report that there is a significant positive causal link between telecommunication infrastructure and economic growth. The impact of privatization of the telecommunications sector, however, is mixed. While Ros (1999) asserts that privatization of telecommunications infrastructure is positively correlated with network expansion, Wallsten found the opposite in a 2001 study.

Ros' (1999) study is based on data for 110 developing and developed countries between 1986 and 1995. Using panel data with fixed-effects estimation technique to control for unobserved effects in their model, the authors found that privatization was positively correlated with network expansion. The study indicates that where there was at least 50% private ownership in the telecom firm, teledensity levels (service coverage) and output growth rates improved significantly. Though both competition and privatization raise efficiency, Ros (1999) asserts that privatization by itself, is sufficient to generate efficiency gains in network expansion. An interesting finding of this study was the lack of evidence that privatization increases network expansion or efficiency in countries with per capita income of less than \$10, 000. However, it is questionable as to whether Ros' (1999) study can be generalized to all developing countries as only three countries in the study's sample have a per capita income in excess of \$10, 000 (Table 6A in Appendix).

Unlike Ros' (1999) study, the Wallsten (2001) study focused on telecommunications firms from developing countries (14 African and 16 Latin American countries) between 1984 and 1997. Using panel data and fixed-effects regression techniques, the author found privatization to be negatively correlated with mainline penetration and connection capacity. However, privatization in the midst of competition

and regulatory framework was positively correlated with the number of per capita mainline phones, payphones, connection capacity and a decrease in the price of local calls.

Like telecommunications privatization, the impact of privatization of water provision has also been mixed. While Galiani et al. (2005) claim that privatization of water services resulted in improved performance, Bayliss (2002a) reports otherwise. Galiani et al. (2005) studied the privatization of water services in Argentina in the 1990s and found that privatization improved performance. The performance measure employed was the number of deaths caused by water borne diseases, which fell by 8%, an effect that was largest (26%) in the poorest areas. A robust check on their finding revealed that while privatization was associated with significant reductions in deaths from infectious and parasitic diseases, it was uncorrelated with deaths from causes unrelated to water conditions.

On the other hand, Bayliss (2002a), in analyzing the impact of privatization of water services in 13 Sub-Saharan African countries reports that there was no significant improvement in performance. In Kenya and South Africa for example, privatization contracts were terminated because of irregularities which came to light following protests from civil society. Bayliss (2002a), however, notes that the lack of significant improvements after privatization in the region could be attributed to the macroeconomic instability and the poor institutional and regulatory conditions.

Like the firm-level studies, the results of the industry-level studies seem to suggest that that the change of ownership *per se* (in the absence of competition) from the

public to private sector does not necessarily lead to improved efficiency as indicated by property rights, agency, and public choice theories.

Country-Level Studies

The empirical studies that examine the economy-wide effects of privatization as in the firm and industry levels have been inconclusive. For example, Barnett (2000), Davis et al. (2000) and Plane (1997) claim that privatization has a significant positive impact on economic growth, while Cook and Uchida (2003), Filipovic (2005), and Yoder et al. (1991) make claims to the contrary.

Barnett (2000) studied the relationship between privatization and measures of fiscal and macroeconomic performance. The study involved 18 countries, 12 of which were developing countries. The results show privatization to be positively correlated with an improvement in macroeconomic performance, which was manifested in higher GDP growth and lower unemployment. Further, a privatization of 1% of GDP was associated with an increase in the real GDP growth rate of 0.4% – 0.5%. Similar to the Barnett (2000) study, Plane (1997) employed Probit and Tobit estimation techniques to study 35 developing countries between 1984 and 1992 and found a significant positive effect for privatization on economic growth. The findings of the study indicate that the positive economic effect was stronger when privatization was accompanied by institutional reforms. On average institutional reform increased economic growth from 0.8% to 1.5% between the sub-periods 1984-1988 and 1988-1992.

On the contrary, Cook and Uchida (2003) found a negative correlation between privatization and economic growth for 63 developing countries. They used the total

proceeds from privatization between 1988 and 1997 as a share of Gross Domestic Product. Controlling for variables that might interfere with the impact of privatization (e.g., the size of government budget deficit and World Bank loans) the authors report a negative, but fragile partial correlation between privatization and economic growth. However, a robust negative correlation was found for 61 countries, when two outliers (Malaysia and Singapore) were excluded from the study sample. Similarly, Filipovic (2005) reports a negative but insignificant correlation between privatization and economic growth in a study of 92 developing countries between 1990 and 2000. This result is similar to that reported by Yoder et al. (1991) who found a negative correlation between privatization and the economic development indicators. However, the Yoder et al. (1991) study differs from Cook and Uchida (2003) and the other studies, as it focused on economic development rather than economic growth.

Yoder et al.'s (1991) study is the only study that the author is aware of that deals specifically with the issue of privatization and economic development (dealing with social and economic indicators). Their study was based on the premise that privatization studies must go beyond economic growth or the use of Gross Domestic Product (GDP) or Gross National Product (GNP) in assessing development. Consequently, they employed a comprehensive index of development, including GNP per capita income, life expectancy at birth, literacy rate, infant mortality rate, income distributions and GNP growth rates. Their study involved 45 countries (17 from Sub – Saharan Africa) in a cross sectional design using the private sector level of participation in 1980 or 1981 as the independent variable and development index (GNP per capita income, life expectancy at birth, literacy

rate, infant mortality rate, income distributions and GNP growth rates) for 1986 as the dependent variable.

The authors divided the 45 countries into three income groupings: low-income (GNP of less than \$450), lower-middle income (GNP between \$451–1800), and upper middle income (GNP between \$1801–7500), and found that the development indicators were highly correlated with income groupings. Further, the authors show that there was no statistically significant relationship between the size of the private sector and any of the development indicators. However, the study had many methodological limitations, including the use of private sector participation as a measure of privatization and the use of simple correlation design that does not take into account other factors that may affect the growth process. The authors did acknowledge these shortcomings and recommended the need for further research.

Clarke and Wallsten (2002) undertook a cross-country study that examined the impact of privatization on social welfare. Clarke and Wallsten (2002) used household data from around the world to examine the performance of public utilities in meeting universal service obligations and the impacts of reform. They found that state monopolies everywhere except in Eastern Europe failed to provide service to the poor and rural households. Further, they argue that privatization did not harm the poor and rural consumers, rather and in many cases privatization has led to improved access to utility services. Clarke and Wallsten (2002) argue that even in cases where there were negative distributional consequences, these were generally outweighed by increased access and better regulatory systems or subsidies aimed at protecting the less favored.

Like the firm-level and industry-level studies, recent cross-country empirical studies in the developing countries indicate that the change of ownership *per se* may not be the prime indicator of improved performance (Boubakari and Cosset, 2004; Ramamurti, 1999; Zinnes et al., 2001). Zinnes et al. (2001), in their analysis of the impact of privatization on economic growth in the transition economies of Eastern Europe make the argument that change of ownership is not enough to ensure the success of privatization. More importantly, Zinnes et al. (2001) indicate that the mere change of ownership from the public to private sector may have a negative impact on the transition economies. The study concludes that only when there is “deep privatization” (privatization associated with institutional reforms) will improved performance be assured. Similarly, Boubakari et al. (2005) on studying the impact of privatized firms in developing countries, report that improved efficiency of firms was associated with countries in which their stock markets were highly developed and also where property rights were highly developed.

The empirical studies outlined above as with the previous theoretical review indicate that there is no consensus as to the impact of privatization on economic development. The next section discusses the limitations of the various studies.

Limitations of the Empirical Literature

Two main problems can be identified with the studies reviewed: methodology and measures used in the study (Berthelemy et al., 2004, Bortolotti et al., 2003; Bortolotti and Pinotti, 2003; Cook and Uchida, 2001) and the inclusion of all developing countries in

the regression analysis (Barnett, 2000; Plane 1997, Filipovic, 2005). These limitations will now be discussed in detail.

Inclusion of all Developing Countries in the Regression Analysis without Controlling for Regional Blocs

The empirical evidence cited for the positive impact of privatization has been that which pertains generally to the developing world as a whole (Barnett, 2000; Plane 1997).

However, Al–Obaidan (2002) argues that the inclusion of countries in the regression analysis that are intrinsically different may result in unacceptable statistical bias. Clearly, developing countries in Sub-Saharan Africa, Eastern Europe, Latin America and Asia exhibit different socioeconomic characteristics. In principle, regression analysis necessitates observations that are drawn from a distinct population (Harberger, 1987). Blonigen and Wang (2005), for example, in the analysis of FDI on economic growth, argued that it is inappropriate to pool together countries of different socioeconomic conditions and that the positive correlation between FDI and growth may have arisen because most of the studies did not control for regional differences. Accordingly, the inclusion of developing countries with different social and cultural characteristics requires the regional blocs to be controlled to reduce the problem of omitted variable bias associated with geographical differences and other region –specific factors. Controlling for the regional blocs to identify the impact of privatization on countries from different regions of the developing world is one of the main contributions of this study.

Measures Used in studying Privatization and Economic Development

The inconsistencies of the impact of privatization on economic performance may be attributed to the numerous methodologies and the abundance of measures used to represent privatization and measures of performance. Plane (1997) noted that the problem with inconsistent empirical results is due to the lack of a conceptual framework – thus, the concept of privatization is not clearly defined. While Savas (2000) defines privatization broadly as relying more on private institutions of society and less on government to satisfy people's needs, Plane (1997) defines it as the full transfer of government's property rights to private shareholders. As noted earlier, Pirie (1986) identified more than 22 different definitions of privatization.

Associated with the definition is the problem of measurement validity with respect to the measure used for privatization in assessing its impact. For example, Barnett (2000), Bortolotti et al. (2003), Bortolotti and Pinotti (2003), and Cook and Uchida (2003) used privatization revenue or proceeds as a percentage of GDP as a measure of privatization to control for the effect of country size. However, Berthelemy et al. (2004) argue that the use of privatization proceeds share in GDP is not the most appropriate measure for assessing the fiscal impact of privatization. This is because the GDP figures overshadow the privatization statistics and also the resulting ratio does not take into account the size of the budget. Berthelemy et al. (2004) therefore suggest the use of the average annual sales during the active period of privatization as a percentage of government revenue (excluding grants). Further, while Barnett (2000) and Filipovic (2005) used OLS regression techniques, Plane (1997) used Probit and Logit estimation techniques, and Cook and Uchida (2003) employed the Extreme Bound Analysis (EBA).

From a different perspective, Yoder et al. (1991) claim that the best measure for privatization is the level of private sector participation in the economy (private sector spending) as a percentage of Gross National Product (GNP). This is measured by the inverse of the level of public sector spending as a percentage of GNP ($1 - \text{public sector spending as a percentage of GNP}$). Yoder et al.'s (1991) measure of privatization has inherent problems as it equates the private sector activity to privatization, which in reality is not the case since the private sector measures the overall private sector activity in the economy as opposed to the activity of the newly privatized firms. Though many arguments have been made in favor of the various measures used, most of the current literature on privatization used the privatization proceeds share in GDP and will be used to assess the impact of privatization on economic growth and income inequality.

The other limitation in the study of privatization is the lack of consensus on what is to be measured. Most of the studies reviewed equate economic development to economic growth, which is represented by the GDP per capita income. The economic growth measure (income per capita) is a purely income based measure which does not take into account the extent to which the basic needs of the population are met (Meier and Rauch, 2000). The emphasis on economic growth therefore results in a tendency to overstate the positive outcomes of most policy changes, including privatization. This, in turn, may lead to a disconnect between changes in individual wealth and the state's fiscal health (Reese and Fassenfest, 1997). As noted by Beauregard (1994, p. 271), economic development must go beyond mere increases in income to the "...enhancement of the capacity of local citizens to act and innovate." Malizia and Feser (2000) also made this

point in their claim that wealth and job creation must not benefit only corporate shareholders, but also local workers and community residents.

From a more comprehensive perspective, Lewis (1984) defines economic development as the study of economic structure and behavior of the poor, while Sen (1988), Chenery and Srinivasan (1988), Hirschman (1958), Kindleberger (1965), and Stiglitz (1998) describe economic development as the transformation of society. Sen (1988) explains economic development as the enhancement of individuals' lives, standard of living, common safety and each person's happiness. Chenery and Srinivasan (1988) explain the transformation to mean the reduction of poverty, improvements in health and education of the population, an increase in productive capacity as well as an increase in per capita income.

Kindleberger (1965) asserts that while growth means more output and more efficiency, economic development goes beyond these to imply changes in the structure of inputs and in the allocation of the inputs. Stiglitz (1998) sums up the whole idea of development as a transformation of society that it involves a movement from traditional ways of thinking and dealing with health and education to more modern ways. He further states:

The changes that are associated with development provide individuals and societies with more control over their own destiny. Development enriches the lives of individuals by widening their horizons and reducing their sense of isolation. It reduces the afflictions brought on by disease and poverty, not only increasing life spans, but improving the quality of life (p.5).

Obviously, if privatization is to be seen as a policy to improve not only the efficiency of firms but also the living conditions of the citizenry, then the preferred

measure to assess its impact must be one that takes into consideration both economic and social factors. Undoubtedly, if government policies are intended to identify program improvements, then a broader examination of the policy impacts, distributional implications, and differential social and economic effects must be undertaken (Loftman, 1995). Murphy et al. (1989) claim that most episodes of economic growth are due to high incomes generated by any leading sector being broadly distributed that it materializes as demand for a broad range of domestic manufacturers. As noted by Vernon (1988), privatization may be seen as a philosophical or economic issue in developed countries, but for most developing and transitional economies, privatization has development imperatives.

Privatization is therefore not only an economic tool, but also has social and political implications. Consequently, economic development, which is a measure of the income growth and how one's basic needs are met, is a more appropriate measure for assessing the impact of privatization. This is because a government's responsibility is not only to be efficient in the delivery of service, but also to be equitable. As argued by Seers (1969), economic development must not only create jobs but also reduce both absolute poverty and income inequality. From a policy perspective, Hunt (1997, p. 86) states that "...income distribution is the simplest and most effective device for gaining a general sense of a society's prospects" and thus tells more about the state of an economy than any other single indicator. Hence, politicians in making policy decisions are generally concerned about both income growth and distribution implications.

Similarly, Buress (1996) argues that government policy makers have multiple goals other than output growth and claims that the exclusive use of GNP is based on a

“one dollar one vote” philosophy, which he said is inconsistent with the “one person one vote” principle of democracy. According to the former Managing Director (Michael Camdessus) of the International Monetary Fund (IMF), the primary policy objective in the developing countries must be growth. He states that “When I refer to growth, I mean, high quality growth, not just growth for the privileged few, leaving the poor with nothing but empty promises” (Camdessus, 1998, p.235).

In recent times both the World Bank and IMF have all realized the importance of considering the effects of policy on income growth, poverty, and income distribution. This is demonstrated by the World Bank’s shift from Structural Adjustment Programs to Poverty Reduction Strategies, while the IMF has replaced its Enhanced Structural Adjustment Facilities (ESAFs) with the Poverty Reduction and Growth Facilities (Bayliss, 2000b). The increasing importance of income inequality can be seen in the current World Development Report (2006) main theme: Equity and Development. The World Development Report (2006) emphasizes the important role of equity in economic development and especially in poverty reduction. The report notes:

We argue that an equity lens enhances the poverty reduction agenda. The poor generally have less voice, less income, and less access to services than other people. When societies become more equitable in ways that lead to greater opportunities for all, the poor stand to benefit from a “dual dividend.” First expanded opportunities benefit the poor directly through greater participation in the development process. Second, the development process itself may become more successful and resilient as greater equity leads to better institutions, more effective conflict management, and a better use of resources in society, including those of the poor. Resulting increases in economic growth rates in poor countries will, in turn contribute to a reduction in global inequities (p.9).

The report further demonstrates that despite there being a short-run trade-off between equity and efficiency, equity is necessary for economic growth and long-term development. This long term complementarity stems from the fact that with imperfect markets, inequalities in power and wealth translate into unequal opportunities, which leads to wasted productive potential and an inefficient allocation of resources. Even more important is the report's observation that income inequality which leads to unequal power leads to the formation of institutions that perpetuate inequalities in power, status, and health- and that typically are also bad for investment, innovation, and risk taking that underpins long-term growth.

Because of the emphasis being placed on income distribution by the World Bank, IMF, and other donor organizations, the evaluation of the impact of policy reforms on the ordinary citizen has gained currency in the privatization literature (Birdsall and Nellis, 2002; Gupta et al., 1999; Mackenzie and Mookherjee, 2002; Zinnes et al., 2001). These studies indicate that the criteria used for evaluating privatization focuses on profitability, labor productivity, and firm growth, which do not give any information on the impact of privatization on the citizens. Mackenzie and Mookherjee (2002) assert that market evaluation that focuses on increase in profitability may come at the expense of customers, workers and other social groups as a result of increased prices, lower levels of employment, longer work hours and the neglect of environmental effects. Birdsall and Nellis (2002) in a review of privatization literature that had focused on some measures of welfare (employment and prices) report that privatization in general had worsened the distribution of assets and income at least in the short term. The study, however, was

limited to Latin-American countries and therefore the findings cannot be freely generalized.

Gupta et al. (1999) reviewed various methods of privatization in transition economies as well as other selected countries. The authors found that privatization promotes economic efficiency and growth, thereby reinforcing macroeconomic adjustment. However, privatization also led to job losses, higher prices for consumers and dramatic widening of the income distribution, especially in transition economies. The basic premise of these authors is that politics trumps economics and hence redistributive issues are of major concern in policy making.

What these studies reveal as noted by Cling et al. (2006) is the fact that equity is an intrinsic part of development, where development is seen as extending beyond the merely economic (level of GDP per capita) to encompass respect for human rights, of which equal opportunities and the absence of absolute poverty are an integral part. None of the country-level studies have so far concentrated on studying both the broader economic and social impacts of privatization in developing countries during the active years of privatization. This is the specific gap that this dissertation proposes to fill.

The central theme of this study is that the impacts of policy reforms and for that matter privatization, has both economic and social consequences and hence these outcomes (economic growth and income inequality) need to be evaluated. In extending the literature to the distributional impact, the authors are quick to point out that it does not wholly resolve the issue of the determinants of economic development. However, in doing so, it adds to our understanding of the development process and how it is affected by policies such as privatization. Accordingly, this dissertation does not question the

relevance of the output growth measure, but argues that taking only an aggregated view of incomes does not tell the whole story of economic development.

Further, the focus on income distribution is especially important given the nature of the current backlash in many countries against further privatization. The backlash is nurtured by the widespread view that the effects of privatization have been to enrich the already rich and powerful, and sometimes corrupt at the expense of the poor (Nellis and Birdsall, 2005). Obviously, identifying the validity of the effects of privatization on the ordinary citizen is important because high levels of income inequality may not only slow growth but also promote political instability (Baliamourne-Lutz, 2004). In accordance with the discussion above, this study examines the impact of privatization on both economic growth and income inequality in developing countries. The methodology and data used in the analyses are discussed in the next section.

CHAPTER 4

METHODOLOGY

The unit of analysis for the study is at the country level. The study employs a cross – sectional design in an effort to examine the impact of privatization on economic growth and income inequality. The sample consists of developing countries that the World Bank Privatization Database provides data on their privatization program between 1991 and 2002. The study employs ordinary least regression analysis with interaction regressors to examine the impact of privatization on economic growth and income inequality in developing countries. The data are annual observations for a sample of 80 developing countries. There is no consistent time series data on the privatization variable for the sample of countries studied and therefore we follow the usual practice in previous research using cross-country regressions with respect to economic growth and privatization. The averages of the variables over the period of the study are used to help reduce the noise in the annual data (Cook and Uchida, 2003; Filipovic, 2005; Gyimah-Brempong and Camacho, 2006; Plane, 1997). The models for the empirical analyses for the study are discussed below.

Model Specification

The main goal of this study is to examine the impact of privatization on economic growth and income inequality. The empirical analysis for the study is based on prior privatization and economic growth literature (Barnett, 2000; Cook and Uchida, 2003; Plane, 1997;

Filipovic, 2005). The basic regression analysis for the cross section of 80 countries is specified below. The study adopts the basic growth equation as has been used in earlier privatization studies and postulates that:

$$Y = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 M + u \quad (1)$$

where Y is the average Real GDP per capita growth rate; α_i s are the coefficients to be estimated. B is a set of variables including; the stock of human capital (SEC), degree of openness of the economy (OPEN), initial level of development (LGCAP), population growth rate (POP), rate of inflation (INF), and foreign direct investment (FDI). M is the economic policy being studied, which in this case is the privatization variable (PR). Z is a set of additional variables that are included to capture the country conditions, which literature suggests have an impact on economic growth. The country conditions are proxied by the institutional or governance infrastructure and geographical conditions (whether or not a country is landlocked) and u is the stochastic error term.

To examine whether the impact of privatization in developing countries is sensitive to the type of countries included in the sample or regional differences, we control for the regional blocs. The regression model for controlling for the regional groups is specified as follows:

$$Y = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 PR + \alpha_4 Di + u \quad (2)$$

D is a dummy for regional groups: Sub-Saharan Africa (SSA), Latin America (LA), Asia (AS), and Middle Eastern and North African Countries (MENA), where:

LA = [1 if Latin American country; 0 otherwise]

SSA = [1 if Sub-Saharan African country; 0 otherwise]

AS = [1 if Asian country; 0 otherwise]

To prevent perfect collinearity (where one of the regressors is an exact linear function of the other regressors) problems, only three of the categories or regional groupings are entered in the regression equation at a time. Thus, for J number of categories, the number of categories to be entered in the regression equation is J-1. The group left out is called the reference group (Stock and Watson, 2003). The reference or comparison group is the group of countries in the sample that are members of MENA. The coefficient for a dummy variable measures the difference in values between the region in question and the reference group.

Further, to capture possible regional differences in the growth effect of privatization, we include the cross product of the privatization and the regional dummies (PR D_i) in the regression, which is specified as follows:

$$Y = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 PR + \alpha_4 D_i + \alpha_5 PR D_i + u \quad (3)$$

The impact of privatization on the reference group will be indicated by the coefficient for PR, whereas the coefficient for the interaction term PRD_i captures the difference in the impact of privatization between the region in question and the reference group.

Finally, the privatization literature suggests that privatization's effect on the economy is dependent on country conditions in terms of institutional infrastructure, degree of openness, and the flow of foreign direct investment; consequently the validity of this claim is examined in the following model:

$$Y = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 PR + \alpha_4 I + u \quad (4)$$

where I is a set of zero, one, or more interaction terms. The interaction terms used in the study are PR*FDI; PR*OPEN; AND PR*GOV, which represent privatization and foreign direct investment, privatization and openness, and privatization and governance infrastructure respectively. The inclusion of the interaction term is based on the assumption that the effect of one independent variable on the dependent variable depends on the value of another independent variable. This means the partial effect of one variable depends on the value of another. The interaction terms are obtained by multiplying privatization variable with each of the three variables (Stock and Watson, 2003).

The income inequality regressions follow the same models in the growth regressions, where we estimated four basic regression equations. Income inequality measures are used in separate regressions as dependent variables as follows:

$$INEQ = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 M + u \quad (5)$$

$$INEQ = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 PR + \alpha_4 Di + u \quad (6)$$

$$\text{INEQ} = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 \text{PR} + \alpha_4 \text{Di} + \alpha_5 \text{PRDi} + u \quad (7)$$

$$\text{INEQ} = \alpha_0 + \alpha_1 B + \alpha_2 Z + \alpha_3 \text{PR} + \alpha_4 I + u \quad (8)$$

where INEQ refers to the income inequality measures (INEQ 10% and INEQ 20%), which will be used as dependent variables in separate regressions. The other notations (α , B, PR, Z, I, PR*Di, and u) have similar explanations as those in the growth regressions. However, we include an additional variable; the square of the level of development measure as one of the B variables to capture the fact that the relationship between income inequality and level of development is curvilinear rather than linear. This argument follows the traditional Kuznets' (1955) hypothesis which indicates that income inequality initially increases with development, but in the long run it decreases.

Data

The study analyzed the impact of privatization on economic growth and income inequality in 80 developing countries using data from 1991–2002. Though the World Bank Privatization Database (2005) provides privatization transactions and proceeds between 1988 and 2003, this study focuses on the period between 1991 and 2002, as this is the period in which most privatization activity occurred in developing countries. Table 1A and 2A in the Appendix gives the privatization, economic growth rates, and income inequality data respectively. The data are annual observations for a sample of 80 developing countries: 33 from SSA; 22 from Latin America; 12 from Asia; and 13 from North Africa and the Middle East. Because of data limitations, not all countries had consistent data over the period of the study. The data set has complete observations for

75 countries for the growth regressions and 60 countries for income inequality regressions.

The variables, symbols, and sources of data collection are summarized in Table 3A in the Appendix). The list of landlocked countries is given in Table 4A and the complete data used in the analyses are given in Tables 5A and 6A of the Appendix. The variables used in the study are described next.

Dependent Variables

Economic growth and income inequality are the dependent variables for this research and are used in separate regressions. Economic growth is proxied by the per capita rate of growth of real GDP during the study period (1991–2002). The use of real GDP per capita is important because it is inflation adjusted and consequently reflects the real value of goods and services compared to using the GDP per capita. With respect to income inequality, two main measures have been used: the Gini index and the share of income groups of individuals from their population share.

Though, both measures have limitations (Muller, 1984), the Gini provides a summary measure over the entire range of the populations and may therefore be insensitive to the degree of inequality in particular ranges (Ahluwalia, 1974). Allison (1978) argues that the Gini tends to be most sensitive to transfers around the middle of the distribution and the least sensitive to transfers among the very rich or the very poor. Consequently, we use the ratio of the income share of the richest 20% and the poorest 20% of population (INEQ20%) and the ratio of the share of income going to the richest and poorest 10% of the population (INEQ10%). These measures of inequality explain

how the lower and upper end income populations benefit from privatization. A positive coefficient on these measures indicates increasing inequality and a negative coefficient explains otherwise

Independent Variables

The choice of explanatory variables was informed by prior literature (Barnett, 2000; Cook and Uchida, 2003; Filipovic, 2005; Plane, 1997). Privatization revenues as a percentage of GDP; log of the initial real GDP per capita (LGDCAP), square of LGCAP (LGCAPSQ), log of the inflation rate, population growth rate, trade share in GDP; secondary school enrollment, geographical location, governance infrastructure or institutional quality and FDI share in GDP. The initial level of development and the rate of inflation variables were transformed (log transformation) because the raw data were highly skewed.

The main independent variable of interest is privatization, which is proxied by the total privatization revenues (1991-2002) as a percentage of average GDP (1991-2002). The use of the aggregate privatization revenue over the study period is based on the assumption that the effect of privatization is not instantaneous and that the benefits of privatization for a given year will depend on the overall level of privatization that has taken place (Filipovic, 2005). The period between 1991 and 2002 was chosen because most reports on privatization in the developing countries show that privatization picked up at the end of the 1980s and peaked at the end of the 1990s (World Bank Privatization Database, 2005). Consequently, focusing on this time period will help to provide more information as to the impacts of privatization in developing countries. From the

efficiency gains associated with privatization as explained by the property rights, public choice, and agency theories, a positive effect of privatization is expected on both economic growth and income distribution.

The LGCAP controls for the initial level of development at the beginning of privatization. Some other studies have used GDP per capita as the measure of level of development; however, this has a comparability problem in cross-country regressions. Since it involves the use of official exchange rate in converting GDP measured in domestic currency to GDP measured in dollars, and consequently it does not reflect the real purchasing power of different countries (Tsai, 1995). The use of real GDP per capita, which is inflation adjusted, therefore helps to overcome this problem. Further, a log transformation is employed because of the wide variations in GDP per capita of the various developing countries. For example, the lowest GDP per capita for the group of countries studied is Tanzania with a real GDP per capita of \$494.12 and Saudi Arabia with the highest GDP per capita of \$16,368.92. The descriptive statistics show a standard deviation of \$3074.23, which is nearly ten times the value of the GDP per capita of Tanzania.

LGCAPSQ is an additional variable that is included in the income inequality regressions as the level of development and income inequality is hypothesized to exhibit a curvilinear relationship (Ahluwalia, 1976; Kuznets, 1955; Sylwester, 2005; Tsai, 1995). Income inequality is therefore expected to increase initially but over time, continual growth will lead to a reduction in income inequality. We therefore expect LGCAP to be positive and LGCAPSQ to be negatively correlated with income inequality. Human capital is proxied by the secondary school enrollment, which captures the degree of

human capital improvement beyond the basic level of education (Ahluwalia, 1976). It is expected the human capital variable will have positive effects on both economic growth and income distribution (Makki and Somarwu, 2004).

The trade (exports plus imports) share as a percentage of GDP is a proxy for the degree of openness of a country's economy. The globalization literature suggests that openness promotes growth, however, openness also increases income disparities between countries. Consequently we expect the openness to exert a positive effect on economic growth and a negative effect on the distribution of income. Population growth rate controls for the fact that the benefits of an economic policy may be diluted by high population growth rates (Bornschier et al., 1978). The ratio of FDI to GDP is included on the assumption that FDI may play a significant role in generating positive spillover effects in terms of new technologies and management skills that contribute to growth (Sylwester, 2005). Many studies, however, indicate that FDI is negatively correlated with the distribution of income (Dixon and Boswell, 1996a, 1996b; Beer, 1999). Consequently, we expect a positive effect of FDI on growth and a negative effect on the distribution of income respectively.

The inflation rate over the study period is included to capture the consistency of monetary and fiscal policies, as large structural fiscal imbalances may lead to debt monetization and higher inflation rates. Major international institutions focus on controlling inflation as a mechanism for boosting long economic Growth. Romer and Romer (1998) claim that inflation may hurt the poor more than the rich, because the rich have other financial instruments that they use to hedge themselves against the negative

effects of inflation. Consequently, we expect inflation to be negatively correlated with economic growth and positively correlated with income inequality.

Geography has gained a lot of prominence in recent growth literature (Acemoglu et al., 2003; Crafts and Venables, 2001; Henderson et al., 2000; Redding and Venables, 2004; Sachs, 2003). These authors argue that the direct effects of geographical location explain a large portion of the variance in the income per capita across countries. Redding and Venables (2004), for example, claim that remoteness of markets and sources of supply explain why many developing countries have not benefited from the globalization process. The geographical variables that have been used in cross-country growth regressions include climate zone, disease ecology, and whether or not a country is landlocked. In this study, a landlocked measure is employed, which is a dummy variable showing whether or not a country has a coastline or has access to the sea or ocean. Obviously, lack of territorial access to the sea, remoteness and isolation from world markets will lead to high transit costs and impose constraints on the overall socio-economic development of the landlocked country. Being landlocked is therefore expected to have a negative effect on economic growth and a positive effect on income inequality. The list of landlocked countries is given in Table 4A of the appendix.

An additional variable that measures the level of institutional quality or governance infrastructure is included in the regression analysis as most authors argue that good institutions promote growth (Olson et al., 2000; Rodrik et al., 2004). The concept of governance is not concise and many authors define the term in various ways. In this study we employ the governance definition by the World Bank (1992). Governance is defined as the process by which authority is exercised in the management of a country's

economic and social resources and the capacity of government to design, formulate, and implement policies. Good governance is therefore expected to promote economic growth and reduce income inequality.

Kaufmann et al.'s (2005) six governance indicators were used as proxies for governance or institutional quality for two main reasons. First, the indicators are aggregates of many indices and therefore measurement error may be less as compared to individual indicators. Second, there are data points for many countries compared to the governance ratings by other agencies like the International Country Risk Guide or Business Environmental Risk Intelligence. It is important to note that we used the newest version of Kaufmann et al.'s (2005) governance indicators as they replace the older versions (1999; 2003).

The scores of the six governance indicators lie between -2.5 and 2.5, with higher scores corresponding to better governance. The six Kaufmann et al.'s (2005) governance indicators are defined below:

- Voice and Accountability (VOICE) measures the extent to which citizens of a country are able to participate in the election of their governments.
- Political stability (POLST) measures the absence of violence and the likelihood that a government in power will not be overthrown by unconstitutional means and or by violence.
- Government effectiveness (GOVEFF) is a measure of the quality of the public service—quality of the bureaucracy, competency of civil servants, independence of civil service from political and government's commitment to its policies.

- Regulatory quality (REG) focuses on the extent of market friendly policies like price control or banking supervision, and also perceptions of the burdens imposed by excessive regulation.
- Rule of Law (RULE) indicator measures the extent to which citizens have confidence in and abide by the rules of society.
- Control of corruption (CORR) measures perceptions of corruption, defined as the exercise of public or state power for private gain.

Data Analysis

Table 2 presents summary statistics for the main economic variables of interest. The summary statistics indicate that the growth rates for the various countries varied between -3.22 for (Zimbabwe) and 9.78 (Qatar) between 1991 and 2002. The highest and lowest privatizers in terms of the privatization proceeds as a percentage of GDP for the period are both in Sub-Saharan Africa (Zambia and Sao Tome and Principe). The average privatization proceeds as a percentage of GDP for the four regions are as follows: Sub-Saharan (3.64); Latin America (5.29); Asia (2.18); and Middle Eastern and North African countries (2.96). The inflation rate and initial GDP per capita show wide variations, which therefore required their being transformed (log transformation) to reduce any bias that the large differences might create. There is also wide variation in the corruption index, which ranged from -2.12 for Angola to 2.65 for Chile. The sample therefore is made up of countries that are perceived to have good institutional infrastructure as well as those with poor institutional infrastructure. The values quoted for the governance index

are the principal component values, which explain why Chile's value is higher than the 2.5 maximum as reported by Kaufmann et al. (2005).

Table 2: Summary Statistics

Variable	Number of observations	Minimum	Maximum	Mean	Std Deviation
Rate of inflation	80	.17	891	38.85	131.22
Log INF	80	-.77	2.95	1.03	.57
Growth	80	-3.22	9.78	3.31	2.33
Privatization revenues in GDP	80	.00	24.26	3.84	4.98
Income Inequality (10%)	60	6.60	105.00	27.15	21.97
Income Inequality (20%)	60	4.30	57.60	13.15	9.45
Population	80	.44	7.35	1.95	.89
Foreign Direct Investment	77	-1.60	14.94	2.73	2.84
Trade share in GDP	80	21.83	204.54	71.74	35.29
Log GDP per capita	77	2.69	4.21	3.38	.36
Square of LGCAP	77	7.26	17.76	11.57	2.48
Secondary school enrollment	80	5.55	97.82	46.97	25.87
Governance	71	-2.12	2.65	-.049	.933

The initial correlation matrix for the governance indicators shows that they are highly correlated with each other at the 1% level, with a coefficient between 0.403 and

0.898 (Table 3). This means that all of the six indicators cannot be used in the same regression, because of multicollinearity problems. Consequently, following Globberman and Shapiro (2003), a summary measure that is utilized was from their first principal component, denoted as GOV. The individual indicators are also used in separate regressions to check for the robustness of the relationship between governance and economic growth and income inequality.

Table 3: Correlation Matrix for Governance Indicators

	VOICE	POLST	GOVEFF	REG	LAW	CORR
VOICE	1.00					
POLST	.530	1.00				
GOVEFF	.403	.698	1.00			
REG	.604	.569	.752	1.00		
LAW	.425	.674	.898	.737	1.00	
CORR	.440	.671	.883	.678	.898	1.00

Table 4 displays the correlation matrix for the variables. The correlation matrix shows that privatization is negatively correlated with economic growth, while it is positively correlated with both measures of income inequality. In both cases, however, the coefficients do not reach the level of significance. The governance variable is negatively correlated with economic growth and positively correlated with income inequality. Like the privatization variable, none of the governance coefficients were significant. This

might be an example of a situation where a strong relationship between the two variables can only be revealed after controlling for other variables in the regression equation (Gyimah-Brempong, 2002). Population growth rate is positive and significantly correlated with economic growth, but negative and insignificantly correlated with both income inequality measures. On other hand, FDI is positive and significantly correlated with both income inequality measures but positive and insignificantly correlated with economic growth. The landlocked variable is negatively correlated with economic growth and positively correlated with income inequality, but the coefficients are not significant.

In the next chapter, the results of the ordinary least regression estimation of the models specified above are presented and discussed.

Table 4: Correlation Matrix

	AGDP	INEQ10%	INEQ20%	PR	LGCAP	LGINF	POP	FDI	OPEN	SEC	GOV	LLOC
AGDP	1											
INEQ 10%	-0.417	1										
INEQ 20%	-0.427	0.938	1									
PR	-0.08	0.234	0.136	1								
LGCAP	-0.36	0.283	0.179	0.190	1							
LGINF	-0.07	0.177	0.154	0.198	-0.036	1						
POP	0.278	-0.147	-0.123	-0.184	-0.550	0.06	1					
FDI	0.153	0.395	0.324	-0.114	0.033	0.07	-0.29	1				
OPEN	0.047	0.014	0.017	-0.05	0.02	-0.08	-0.15	0.567	1			
SEC	-0.255	0.278	0.199	0.136	0.765	-0.038	-0.493	-0.105	-0.017	1		
GOV	-0.040	0.069	0.014	0.200	0.524	-0.338	-0.456	0.059	0.170	0.430	1	
LLOCK	-0.07	0.142	0.118	-0.072	-0.422	-0.051	-0.217	0.067	0.140	-0.409	0.155	1

CHAPTER 5

RESULTS

This section presents and discusses the results of the study, the implications of the findings, directions for future research, and offers concluding remarks.

Privatization and Economic Growth Regressions

The study employed Ordinary Least Squares (OLS) with interaction regressors to examine the impact of privatization on economic growth and income inequality. The privatization and growth regression results are reported in Table 5. Privatization is negative but insignificantly correlated with economic growth (Column1). This finding is different from most of the studies reviewed in this study. While Plane (1997) and Barnett (2000) find a significant positive correlation between privatization and economic growth, Cook and Uchida (2003) report a significant negative effect of privatization on economic growth.

Consequently, to examine whether the negative insignificant effect of privatization on economic growth is due to a specification error or the omission of region-specific factors, the regional groupings are controlled for and the results are reported in Column 2. The coefficient of the privatization variable remains unchanged indicating that the negative effect is not due to a possible mis-specification associated

Table 5: Privatization Growth Regressions

	1	2	3
PR	-.007 (.049)	-.000 (.049)	-.150 (.130)
LGCAP	3.148*** (1.102)	-2.652** (1.127)	-2.410** (1.176)
LGINF	-.679 (.503)	-.333 (.512)	-.442 (.524)
POP	1.057** (.463)	1.125** (.470)	1.263** (.483)
SEC	.0008 (.014)	-.002 (.016)	-.003 (.016)
FDI	.258** (.112)	.321*** (.115)	.332*** (.116)
OPEN	-.001 (.009)	-.014 (.009)	-.015 (.009)
GOV	.695* (.356)	.800** (.352)	.812** (.360)
LLOCK	-1.926*** (.668)	-1.839*** (.655)	-1.917*** (.667)
SSA		-1.106 (.923)	-1.920* (1.126)
LA		-1.793** (.849)	-2.385** (1.083)
AS		-.299 (.938)	-.005 (.278)
PR*SSA			.205 (.151)
PR*LA			.153 (.153)
PR*AS			-.005 (.278)
Constant	13.115*** (3.765)	12.24*** (4.164)	12.022*** (4.412)
F-test	3.357	3.140	2.630
N	75	75	75
R ²	.317	.33	.324

*Significant at the 10% level; **Significant at the 5% level; ***Significant at the 1% level

with regional differences. Column 2 shows that all the regional dummies have a negative correlation with growth; however, the coefficient on the Latin American dummy is significant at the 5% level.

The interaction of privatization with the regional dummies shows that privatization is positively correlated with economic growth in Sub-Saharan Africa and Latin America but negatively correlated with growth in Asia (Column 3). However, in all cases the effect is not significant. Further, the privatization variable (PR) which captures privatization's effect on the reference group (MENA countries) is negative but insignificant. Two main conclusions can be drawn from these findings. First, there is no difference in the effect of privatization in Sub-Saharan Africa, Latin America and the Middle East and North African countries on one hand, and Asia and Middle East and North African countries on the other. Second, privatization did not have a significant impact on economic growth in the developing countries studied between 1991 and 2002.

The initial real GDP per capita is negative and significantly correlated with growth in all the model specifications (Columns 1 through 3), which supports the hypothesis that countries at a lower level of development grow faster and over time catch up with countries at a higher level of development (Barro, 1991; Datta and Agarwal, 2004). The human capital variable (SEC) is positively correlated with economic growth (Column 1), but on the inclusion of the regional dummies, the SEC coefficient becomes negative. The inflation variable (LGINF) is negative but insignificantly correlated with economic growth, with and without the regional controls. Population growth rate is positive and significantly correlated with growth (with and without the regional dummies at the 5% level. This finding suggests that the population growth rate

contributed to growth of the developing countries between 1991 and 2002. Foreign direct investment is positive and significantly correlated with growth (Column 1) at the 5% level and at the 1% level when the regional blocs are controlled for (Column 2).

Openness is negative but insignificantly correlated with growth in both regressions with and without the regional groupings. Thus, openness did not have a significant effect on growth over the study period. The landlocked variable is negative and significantly correlated with economic growth at the 1% level (Column 1). This means that being landlocked is associated with a penalty of -1.92, or 2% lower growth rates than those countries that are not landlocked. When the regional blocs are controlled for, the coefficient on the landlocked variable is still significant at the 1% level (Columns 2 and 3), which means that the negative growth effect of being landlocked is not sensitive to regional location. Further, the study's results indicate that after controlling for institutions, being landlocked still has a significant negative effect on economic growth. This result contradicts Rodrik et al.'s (2004) and Easterly and Levine's (2002) assertion that after controlling for institutions, geography does not have an effect on growth. However, Bosker and Garretsen (2006), Redding and Venables (2004) and Sachs (2003) report results that are similar to this study's findings.

The governance variable is positive and significantly correlated with growth at the 10% level (Column 1), but when the regional blocs are controlled for, the significance improves to the 5% level (Columns 2 and 3). To check for the robustness of the relationship between governance and economic growth, we use the individual indicators rather than the composite measure of governance and the results are reported in Table 6. The results show that three indicators; government effectiveness (Column 6), rule of law

Table 6: Growth Regression with Individual Governance Indicators

	4	5	6	7	8	9
PR	.014 (.050)	-.003 (.049)	-.012 (.048)	.002 (.053)	.014 (.049)	-.008 (.047)
LRGCAP	-2.515** (1.118)	-2.603** (1.075)	-3.149*** (1.066)	-2.769** (1.139)	-3.439*** (1.097)	-3.13*** (1.081)
LGINF	-1.021** (.485)	-.825 (.496)	-.470 (.511)	-.936 (.505)	-.471 (.511)	-.684 (.481)
POP	.778 (.468)	.973 (.465)	1.077** (.449)	.815* (.456)	1.190 (.462)**	1.114** (.453)
SEC	.002 (.009)	-.001 (.015)	-.007 (.014)	.001 (.015)	.019 (.014)	.003 (.014)
FDI	.265 (.115)	.266** (.113)	.245** (.110)	.260** (.115)	.272** (.109)	.244** (.110)
OPEN	-.009 (.009)	-.012 (.009)	-.009 (.009)	-.009 (.009)	.011 (.009)	-.009 (.009)
LANLOC	-1.812** (.694)	-1.865*** (.675)	1.811*** (.654)	-1.869*** (.685)	-1.985*** (.656)	1.846*** (.653)
VOICE	-.096 (.408)					
POLST		.521 (.57)				
GOVEFF			1.488*** (.585)			
REG				.318 (.539)		
LAW					1.549** (.613)	
CORR						1.514** (.594)
Constant	11.415** (3.897)	11.684*** (3.733)	13.288*** (3.676)	12.315*** (3.958)	14.173*** (3.757)	13.862*** (3.722)
F-Test	2.781	3.100	3.767	2.826	3.756	3.771
N	75	75	75	75	75	75
R ²	.278	.300	.343	.281	.342	.343

*Significant at the 10% level; **Significant at the 5% level; ***Significant at the 1% level

(Column 8), and corruption (Column 9) are all significant at the 5% level.

The cross product results are reported in Table 7. The inclusion of PR*FDI, PR*OPEN, and PR*GOV, which represent the interaction of privatization with foreign direct investment, openness, and governance respectively do not lead to appreciable changes in the results. A few of the results, however, are worth examining further. First, the same variables (level of development, population growth, foreign direct investment, landlocked and governance variables) are significant in most of the regressions. Second, the inclusion of the interaction variables did not affect the model fit, ranging from .325 to 0.351. Third, PR*GOV and PR*FDI are positively correlated with economic growth, while PR*OPEN is negatively correlated with economic growth. In all cases, however, the coefficients are not statistically significant. When the interaction regressors were entered two at a time, though the cross product variables were not significantly correlated with growth, the PR variable changed from negative and insignificant to positive and insignificant.

It is important to note that we did not include the PR*FDI and PR*OPEN in the same regression equation because the two variables are highly correlated, with a coefficient of 0.759. Also the correlation matrix shows a correlation between PR and PR*OPEN (coefficient of .779) and PR*FDI (coefficient of 0.824) and therefore in Column 16, the cross products are entered without the privatization variable. The results show that both interaction regressors are not significantly correlated with economic growth.

Table 7: Privatization Interaction Growth Regressions

	10	11	13	14	15	16
PR	-.065 (.121)	.103 (.098)	-.065 (.121)	.077 (.102)	-.087 (.123)	
LGCAP	-3.030*** (1.131)	-3.306*** (1.103)	-3.030*** (1.131)	-3.408*** (1.110)	-3.162 (1.136)	-3.307*** (1.113)
LGINF	-.569 (.547)	-.748 (.503)	-.569 (.547)	-.736 (.504)	-.557 (.547)	-.722 (.493)
POP	1.090** (.470)	.854* (.496)	1.090** (.470)	.852 (.486)	1.068** (.470)	1.038 (.466)
SEC	-.001 (.014)	.001 (.014)	-.001 (.140)	.001 (.014)	-.001 (.015)	-.001 (.014)
FDI	.258** (.114)	.354** (.133)	.259** (.111)	.347 (.134)	.270** (.114)	.257** (.112)
OPEN	-.015 (.012)	-.010 (.009)	-.012 (.009)	-.012 (.009)	-.017 (.102)	-.011 (.009)
GOV	.689* (.358)	.661* (.355)	.571 (.374)	.558 (.373)	.564 (.376)	.561 (.375)
LANLOC	-1.964*** (.675)	1.692** (.688)	-1.914*** (.667)	-1.703** (.689)	-1.953*** (.674)	-1.913*** (.669)
PR*FDI	.001 (.002)				.001 (.002)	.000 (.001)
PR*OPEN		-.003 (.030)		-.035 (.030)		
PR*GOV			.099 (.092)	.093 (.085)	.100 (.093)	.090 (.091)
Constant	12.789*** (3.837)	13.732*** (3.774)	13.797*** (3.814)	14.260*** (3.823)	13.464*** (3.882)	13.774*** (3.843)
F-Test	3.015	3.225	3.144	3.002	2.855	3.114
N	75	75	75	75	75	75
R ²	.320	.335	.329	.229	.216	.222

*Significant at the 10% level; **Significant at the 5% level; ***Significant at the 1%level

Privatization and Income Inequality Regressions

Table 8 reports the results of the privatization and income inequality regressions. Before analyzing the results, it is important to note that the hypothesis of a curvilinear relationship between income inequality and the level of development was first tested. This is necessary because it allows for the identification as to whether or not to include the power term of LGCAP (LGCAPSQ), which is the initial level of development squared variable. This test therefore helps to reduce any bias or error that might be due to misspecification of the functional form of the model. The results show the initial level of development (LGCAP) and LGCAPSQ are negative and positively correlated with income inequality respectively, but insignificant in both cases (Columns 17 and 21). This suggests that there is no evidence for the Kuznets curve or a curvilinear relationship between the level of development and income inequality. As noted in Columns 17 and 21, when the two variables are included, both are insignificant, however, when the LGCAP alone is used it is significant at the 1% level (Columns 18 and 22). Consequently, in the subsequent regressions, the power term (square of the initial level of development variable or LGCAPSQ) is not included in the regression analysis. Thus, we drop the power term without threatening the internal validity of our results (Stock and Watson, 2003).

Privatization is positive but insignificantly correlated with income inequality (Columns 18 and 22). Controlling for regional groupings does not change the coefficient on the privatization variable (Columns 19 and 23) and therefore the positive coefficient on privatization is not an artifact related to geographical differences in the sample of

Table 8: Privatization and Income Inequality Regressions

	INEQ 10%				INEQ 20%			
	17	18	19	20	21	22	23	24
PR	.653 (.467)	.629 (.472)	.538 (.431)	.190** (1.168)	.134 (.233)	.128 (.231)	.062 (.218)	.187 (.594)
LGCAP	-200.787 (168.798)	37.735*** (12.352)	29.817 (13.140)	28.468* 13.8260	-52.408 (84.023)	11.157* (6.062)	9.977 (6.633)	8.541 (7.036)
LRGCAPSQ	35.952 (25.376)				9.581 (12.631)			
LGINF	1.021 (5.672)	2.094 (5.678)	-1.964 (5.329)	-1.832 (5.584)	.871 (2.824)	1.157 (2.786)	-.149 (2.702)	.352 (2.842)
POP	8.196 (5.240)	7.241 (5.249)	5.099 (5.221)	5.435 (5.374)	1.882 (.684)	1.627 (2.576)	1.306 (2.647)	1.122 (2.735)
SEC	.020 (.147)	.005 (.148)	.161 (.150)	.151 (.152)	.008 (.073)	-.0004 (.072)	.091 (.076)	.093 (.077)
FDI	5.400*** (1.374)	5.244*** (1.383)	4.230*** (1.320)	4.357*** (1.331)	1.840** (.684)	1.799** (.679)	1.512** (.669)	1.553** (.677)
OPEN	-1.03 (.106)	-.135 (1.05)	-.040 (.098)	-.014 (1.331)	-.033 (.053)	-.041 (.052)	-.006 (.050)	.009 (.052)
GOV	-8.044* (3.878)	-6.423* (3.724)	-8.268** (3.413)	-7.270** (3.539)	-2.9239 (1.930)	-2.401 (1.836)	-3.140* (1.730)	-2.888 (1.801)
LLOCKED	11.917** (6.429)	13.337** (6.415)	10.773* (5.797)	11.649* (5.865)	3.894 (3.200)	4.272 (3.148)	3.125 2.940	3.512 (2.985)
SSA			23.492** (9.454)	24.802** (11.950)			11.617** (4.793)	13.892** (6.081)
LA			23.830*** (8.172)	17.368 (10.813)			8.345* (4.143)	7.120 (5.503)
AS			5.411 (8.735)	3.904 (12.953)			2.141 (4.429)	1.705 (6.591)
PR*SSA				-.404				-.552

				(1.384)				(.704)
PR*LA				1.152 (1.376)				.087 (.265)
PR*AS				.177 (2.510)				.134 (1.277)
Constant	262.262 (277.158)	-125.669 (43.364)	-118.227** (51.480)	-114.175** (54.551)	71.269 (137.962)	-32.280 (21.280)	-38.722 (26.103)	-35.784 (27.760)
F-test	3.812	3.934	4.916	4.089	1.613	1.94	2.447	2.089
N	60	60	60	60	60	60	60	60
R ²	.323	.309	.443	.440	.094	.102	.227	.217

*Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level

countries studied. The coefficients of the Sub-Saharan Africa and Latin America dummies are significant and positive at the 5% and 1% levels respectively for the INEQ 10% measure. However, the Sub-Saharan Africa and Latin American dummies are significant at the 5% and 10% level for the INEQ 20% measure, while the Asia dummy is positive but insignificant for both the INEQ 10% and INEQ 20% regressions (Columns 19 and 23).

To examine whether privatization may have differential impacts in the various regions of the developing world, the cross product of the privatization variable and regional dummies were analyzed with respect to income inequality. The results show a negative effect of privatization on both measures of inequality in Sub-Saharan Africa, but a positive effect of privatization in Latin America and Asia (Columns 19 and 23). In all cases, however, the coefficients are not significant. The results indicate that there is no significant difference in privatization's effect in the four regions studied, but even more importantly, privatization did not have a significant impact in any of the developing countries studied between 1991 and 2002.

FDI is significant and positively correlated with income inequality in all the model specifications, generally at the 5% level in the INEQ 20% regressions and at the 1% level in the INEQ 10% regressions. This means that the richest in the population grew richer while the poorest grew poorer. This study's result like those of Alderson and Nielsen (1999), Beer (1999), and Reuveny and Li (2003) support the dependency (or world systems) perspective that indicates that foreign capital penetration contributes negatively to the distribution of income in developing countries.

Inflation is positively correlated with income inequality, but the coefficient becomes negative when the regional controls are included in the regression. In both cases, however, the coefficients are not significant. Openness is negative but insignificantly correlated with income inequality in all the model specifications with and without the regional controls. The landlocked variable is positive and significantly correlated with the INEQ 10% measure, but positive and insignificantly correlated with the INEQ 20% measure. Controlling for the regional blocs gives similar results.

The governance variable is negative and significantly correlated with inequality in all the model specifications; both the INEQ 10% and INEQ 20% measures and also with and without the regional controls (Columns 18 through 24). The effect of the individual governance indicators on income inequality are reported in Table 9. Only the INEQ10% regressions are reported here. The results show that the same variables are significant as in the principal component regressions (Landlocked, Initial GDP per capita, and FDI). All the governance indicators are negatively correlated with the income inequality measure but only the rule of law and government effectiveness variables are significant at the 5% level. The landlocked variable is significant at the 10% in four of six regressions (Columns 25 through 28), and significant at the 5% level in the Rule of Law regressions (Column 29), but insignificant in the corruption regression (Column 30). FDI was significant at the 1% level in all the model specifications, and the LGCAP was positive and significant at the 5% level in 2 regressions (Columns 25 and 26) and positive and significant at the 1% level in four regressions (Columns 27 through 30). The model fit or R^2 -adjusted also increased from a value of 0.266 for the voice and accountability regression to 0.346 for the government effectiveness regression.

Table 9: Inequality Regression with individual Governance Indicators

	INEQ 10%			INEQ 20%		
	25	26	27	28	29	30
PR	.518 (.482)	.560 (.475)	.637 (.457)	.630 (.497)	.692 (.464)	.500 (.469)
LGCAP	32.496** (13.053)	32.542** (12.127)	6.63*** (11.759)	35.960*** (12.994)	37.294*** (11.917)	36.512*** (12.285)
LGINF	3.977 (5.742)	3.704 (5.658)	-.298 (5.698)	3.010 (5.818)	.263 (5.298)	2.806 (5.644)
POP	8.732 (5.328)	7.712 (5.321)	6.137 (5.148)	9.108* (5.313)	4.900 (5.351)	7.039 (5.308)
SEC	-.015 (.151)	-.006 (.149)	.029 (.144)	-.006 (.151)	.019 (.145)	-.013 (.148)
FDI	4.930*** (1.412)	5.294*** (1.424)	5.317*** (1.343)	5.133*** (1.424)	4.901*** (1.344)	5.119*** (1.382)
OPEN	-.153 (.108)	-.125 (.109)	-.141 (.102)	-.155 (.107)	-.128 (.103)	-.147 (.105)
LANLOC	12.970* (6.763)	12.928* (6.504)	11.449* (6.267)	13.121* (6.558)	13.864** (6.298)	12.684 (6.440)
VOICE	-.124 (4.517)					
POLST		-4.858 (4.066)				
GOVEFF			-14.990** (6.160)			
REG				-4.410 (5.444)		
LAW					-14.168** (6.278)	
CORR						-9.615 (6.088)
Constant	-108.47*** (47.108)	-111.92** (41.420)	-121.96*** (41.420)	-121.82*** (46.186)	-123.77*** (41.906)	-122.62*** (43.308)
N	60	60	60	60	60	60
R ²	.266	.289	.346	.278	.336	.303
F-test	3.406	3.662	4.467	3.523	4.318	3.853

*Significant at the 10% level; **Significant at the 5% level; ***Significant at the 1% level

The cross product results are qualitatively similar to the non-interaction regression results in terms of the variables that are significant (Table 10). However, a few differences emerge. First, the privatization and openness cross product (PR*OPEN) is positive and significantly correlated with income inequality (in both the INEQ 10% and INEQ 20%) at the 1% level (Columns 31, 34, 36, and 39). The inclusion of the privatization and Foreign direct investment (PR*FDI) and privatization and governance (PR*GOV) interaction variables do not result in any appreciable changes in results, however, the model fit reduced from a high of .422 to .287 in the INEQ 10% regressions and from .211 to .092 in the INEQ 20% regressions. The PR*OPEN and PR*FDI were not entered in the same regression equations, because the two variables are highly collinear, with a coefficient of .766.

Summary of Regression Results

The main findings of the study are as follows:

- Privatization is negative but insignificantly correlated with economic growth in developing countries.
- Privatization is negatively correlated with income inequality in Sub-Saharan Africa and Asia but positively correlated with income inequality in Latin America. However, in all cases, the coefficients were not significant. However, Sub-Saharan Africa and Latin America experienced greater levels of income inequality than Asia and the Middle Eastern and North African countries.
- FDI is positive and significantly correlated with both economic growth and income inequality.
- Landlocked is negative and significantly correlated with economic growth, but positive and significantly correlated with income inequality.
- Good governance is positive and significantly correlated with growth but negative and significantly correlated with income inequality.

Table 10: Inequality Regressions with Interaction Regressors.

	INEQ10%					INEQ 20%				
	31	32	33	34	35	36	37	38	39	40
PR	-2.322** (.997)	.536 (.511)	.187 (1.291)	-2.486** (1.026)	-.011 (1.349)	-1.13** (.501)	.045 (.249)	-.263 (.631)	-1.270** (.512)	-.439 (.55)
LGCAP	36.596** (11.301)	37.444*** (12.460)	37.934*** (12.472)	36.189*** (11.368)	37.649*** (12.572)	10.666* (5.684)	10.898* (6.079)	11.333* (6.101)	10.352* (5.674)	11.080 (6.106)
LGINF	2.057 (5.192)	2.314 (5.738)	3.153 (6.408)	2.353 (5.232)	3.624 (6.511)	1.141 (2.612)	1.352 (2.800)	2.093 (3.135)	1.369 (2.612)	2.512 (3.162)
POP	11.781** (5.995)	7.244 (5.289)	7.321 (5.299)	11.844** (5.019)	7.341 (5.3370)	3.583 (2.512)	1.630 (2.580)	1.698 (2.592)	3.631 (2.505)	1.716 (2.592)
SEC	.077 (.137)	-.007 (.151)	.009 (.149)	.061 (.139)	-.004 (.152)	.035 (.069)	-.007 (.074)	.007 (.073)	.023 (.069)	-.004 (.074)
FDI	.859 (1.839)	5.262*** (1.394)	5.255*** (1.395)	.828 (1.848)	5.278*** (1.406)	-.090 (.925)	1.82** (.680)	1.809** (.683)	-.114 (.922)	1.829** (.683)
OPEN	-.166* (.097)	-.140 (.106)	-.174 (.149)	-.174* (.097)	-.187 (.152)	-.055 (.049)	-.046 (.052)	-.076 (.073)	-.061 (.049)	-.088 (.074)
GOV	-4.470 (3.474)	-7.063* (3.984)	-6.379 (3.777)	-5.308 (3.571)	-7.090* (4.018)	-1.660 (1.747)	-3.071 (1.944)	-2.462 (1.848)	-2.307 (1.832)	-3.095 (1.951)
LLOCKED	7.190 (6.157)	13.339** (6.463)	13.149* (6.491)	7.114 (6.187)	13.112* (6.538)	1.625 (3.097)	4.274 (3.153)	4.106 (3.135)	1.566 (3.088)	4.073 (3.175)
PR*OPEN	1.071*** (.325)			1.085*** (.328)		.46*** (.164)			.47*** (.164)	
PR* GOV		.456 (.935)		.628 (.854)	.524 (.952)		.414 (.456)		.485 (.426)	.466 (.462)
PR*FDI			.008 (.021)		.009 (.021)			.007 (.010)		.008 (.010)
Constant	-118.98*** (39.708)	-123.91*** (43.836)	-125.46*** (43.747)	-116.49*** (40.035)	-123.43*** (44.215)	-29.223 (19.973)	-30.547 (21.387)	-31.929 (21.401)	-27.322 (19.983)	-30.128 (21.472)

F-test	5.312	3.512	3.493	4.833	3.158	2.576	1.645	1.595	2.474	1.543
N	60	60	60	60	60	60	60	60	60	60
R ²	.422	.299	.297	.417	.287	.211	.099	.092	.216	.092

*Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level

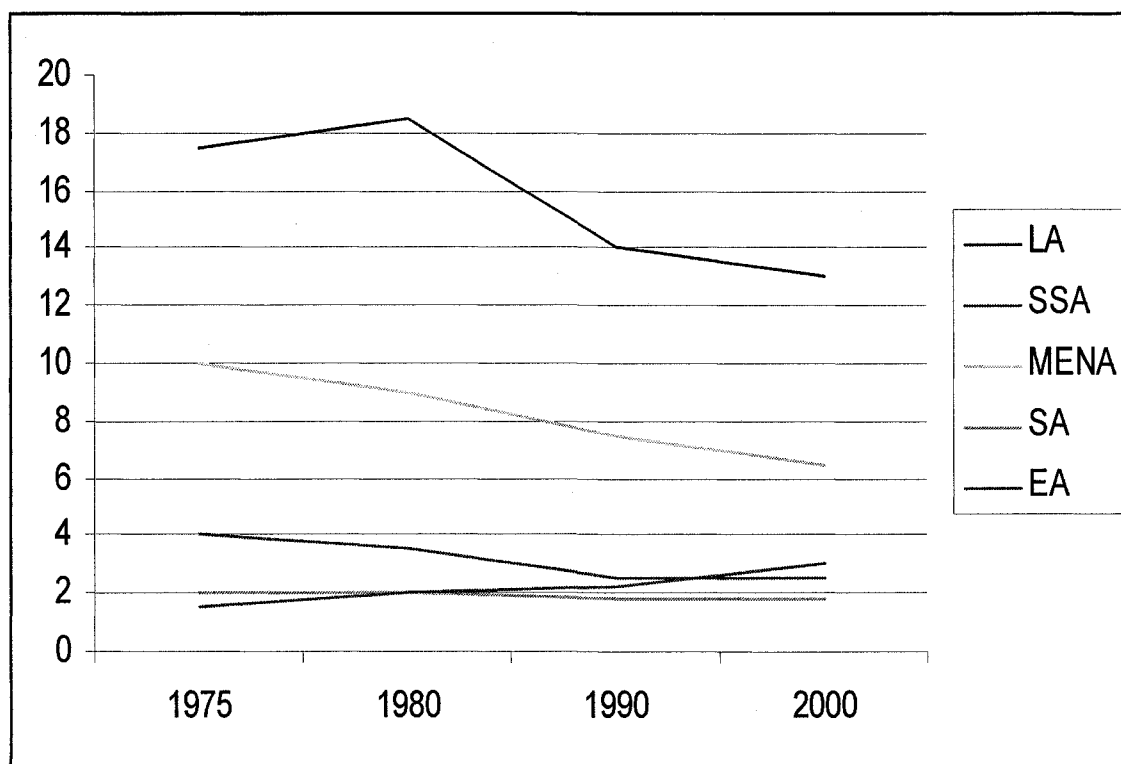
DISCUSSION

Privatization and Economic Growth

The study's results indicate that privatization did not have a significant effect on economic growth with or without the regional group. Inclusion of the regional dummies, however, shows that only the Latin American dummy has a negative and significant coefficient. This means that Latin American countries experienced the slower rate of growth compared to Middle Eastern and North African countries between 1991 and 2002. The result also indicates the growth rates of Sub-Saharan Africa and Asia were not significantly different from the Middle Eastern and North African countries over the study period. This means that Latin America experienced the greatest distortions in its growth rates over the study period.

The study's findings support the World Bank (2005) report "*Economic Growth in the 1990s: Learning from a Decade of Reform*" that indicates that growth in the 1990s was far below what was predicted. As noted in the Figure 10, the decline in the growth rate was steepest in Latin America, and Sub-Saharan Africa did not experience any appreciable growth. Though the growth rates across the developing countries were far from expected, the 1990s was not a disaster for economic development. From the standpoint of global poverty, the report claims that the most recent two decades proved to be the most favorable that the world has ever experienced. This was due to rapid and sustained growth in China, and a few other Asian countries including India, and Vietnam. The overall effect is the absolute reduction in the number of people living in extreme poverty, as China and India alone make up nearly one quarter of the World's population.

Figure 10: Economic Growth in Perspective, 1970 - 2000



Source: World Bank (2005): Developing Countries GDP shown as a percentage of GDP per capita of the OECD GDP per capita (total regional GDP over total population).

The study's findings therefore provide evidence to the World Bank (2005) report, which suggests that despite significant policy reform, improvements in the political and external environments, continued foreign aid, and a decade into the transition, many countries had still not caught up to their 1990 levels of output. For example, in Sub-Saharan Africa, successes were few—with Uganda, Ghana, Tanzania, and Mozambique the most commonly cited instances. However, the report also notes that the economies of these countries still remained fragile after more than a decade of policy reforms. In Latin

America, the report indicates that despite the dismantling of the state-led, populist, and protectionist policy regimes, GDP per capita was lower in the 1990s than it was between 1950 and 1980. Interestingly, the report shows that in Vietnam, China, and India, where there were deviations from the full package of reforms (e.g., privatization and trade liberalization), growth was more substantial. China and India increased their reliance on market forces, but their policies remained highly unconventional. With high levels of trade protection, lack of privatization, extensive industrial policies, and lax fiscal and financial policies through the 1990s, these two economies hardly looked like exemplars of the Washington Consensus. Rodrik (2006) sums up his impressions of the 1990s as follows:

The one thing that is generally agreed on about the consequences of these reforms is that things have not worked out the way they were intended. Even their ardent supporters now concede that growth has been below expectations in Latin America (and the “transition crisis” deeper and more sustained than expected in former socialist economies. Not only were success stories in Sub-Saharan Africa few and far in between, but the market oriented reforms of the 1990s proved ill-suited to deal with the growing public health emergency in which the continent became embroiled (p.2).

Similarly, a World Bank official, Kessides (2004), claims that privatization has been oversimplified, oversold, and more importantly, it has been disappointing. He further states:

For much of the 1990s privatization was heralded as elixir that would transform ailing lethargic state enterprises into sources of creative productivity and dynamism serving the public interests. National leaders burdened by large budget deficits and stagnating

economies were outspoken on the need to foster private initiative as a means of promoting prosperity and enhancing the economic opportunities of all citizens. International financial institutions offered advice and promoted this movement in countries that received their aid. ... Recently, the alleged failures of privatization, improper restructuring, and overly rapid deregulation have led to street riots, skeptical press coverage, and mounting criticism of international financial institutions (pp. 52-53).

The statements above support the finding of the study that privatization did not have a significant impact on economic growth of developing countries between 1991 and 2002.

The human capital variable was not significant in any of the model specifications. This result contradicts many other studies that indicate human capital has a significant positive effect on economic growth (Borenstein et al., 1998; Makki and Somarwu, 2004). It is important to note, however, that Sylwester (2005), in study of 29 developing countries finds a positive but insignificant effect of the human capital variable. On the other hand, Nyatepe-Coo (1998) in a study of selected developing countries reports a negative significant relationship between human capital and economic growth. The difference in results could be due to the proxy used for human capital as there is no consensus as to which is the best proxy for human capital. For example, Nyatepe-Coo (1998) used the percentage of working age population enrolled in secondary education, while Sylwester (2005) used the average number of years of schooling obtained by the adult population and this study employed the gross secondary school enrolment.

The inflation variable is negative but never significant in any of the model specifications. The study therefore does not find support for the finding that inflation has a deleterious effect on growth (Romer and Romer, 1998). Easterly and Levine (2002), however, report similar findings which indicate that macroeconomic policies (inflation

and trade openness) do not explain economic development after controlling for institutions.

The significant positive correlation between FDI and economic growth in both regressions with and without the regional dummies provide support for the modernization perspective that suggests that FDI contributes positively to economic growth. The mechanisms through which this happens include: augmenting domestic investment, labor, marketing, and managerial skills; technological spillovers to local manufacturing firms; and increasing tax revenue for government (Baliamourne-Lutz, 2004; Le Vu and Suruga, 2005; Sylwester, 2005; Zhang, 2001).

The negative correlation between the openness and economic growth contradicts other studies that report that integration into the world economy promotes growth (Dollar and Kraay, 2002; Sarel, 1997). Like Easterly and Levine (2002), however, Rodrik (2006) argues that the evidence that macroeconomic policies; price distortions, financial policies, and trade openness have predictable, robust, and systematic effects on national growth rates is quite weak. Rodrik (2006) notes that though fiscal deficits or autarkic trade policies can stifle economic growth; moderate amounts of each are associated with widely varying economic outcomes.

Similarly, Zagha et al. (2006) claim that the effect of trade reform is dependent on country conditions and how the process of liberalization is implemented. They note that some countries increased exports by reducing import tariffs, while others did so by creating export processing zones; or offering exporters incentives, including duty rebates; or making the exchange rate more competitive; or improving trade-related infrastructure, with export liberalization preceding import liberalization. Zagha et al. (2006) assert that

in some cases, trade liberalization coincided with deteriorating export incentives (for example, exchange rate appreciation, as was the case in several South American countries), while in others export incentives were strengthened. Zaghera et al. (2006) argue that trade reforms stimulate growth and help reduce poverty only when export incentives improve, but not when they deteriorate. Consequently, they suggest that trade is an opportunity, not a guarantee, and that it is overly naive to expect that simply opening one's economy or reducing tariffs would automatically increase growth.

The landlocked variable is negatively correlated with economic growth both in regressions with and without the regional dummies, suggesting a negative growth effect on a country being landlocked. Bosker and Garretsen (2006), for example, show that of the geographic variables, being landlocked plays the most significant role in explaining world income differences. Also, the United Nations Report (2005) on landlocked countries indicates that the remoteness of countries from major world markets is the principal reason why landlocked developing countries have not been successful in mitigating their geographical handicap as compared to the developed landlocked countries in Europe. This is because major developed markets surround landlocked developed countries of Europe and their seaborne trade accounts for a relatively small part of their external trade. Their export is mainly high value added products and their distance from the seaport is relatively short. Further, the report notes that high transport costs facing landlocked countries is a far more restrictive barrier to trade for these countries than tariffs. According to the United Nations Conference on Trade and Development [UNCTAD] (2006) estimates based on the IMF balance of payments statistics show that on average landlocked developing countries spent almost two times

more of their export earnings for the payment of transport and insurance services than the average of developed economies.

The positive and significant coefficient of the governance variable in all the model specifications is consistent with the studies of Kottaridi (2005), Ndulu and O'Connell (1999), and Rodrik et al. (2004) that indicate that good governance is important for economic growth. This is because good governance facilitates the development of market supporting institutions and the formalization of property rights, which help in the efficient allocation of resources (North, 1996; Soto, 1996). North (1996) argues that institutions are not only important in establishing efficient markets, but may indeed be the single most important determinant of economic performance. Soto (1996) describes institutions as the missing ingredient needed to spur growth in developing countries. Soto (1996) also claims that the difference between rich and poor countries is that rich countries have good institutions and poor countries generally have bad institutions.

The robustness check of the effect of governance on economic growth with individual governance indicators provides further evidence especially for the important role of government effectiveness, rule of law, and control of corruption in promoting economic growth. This finding shows the importance of countries being able to limit the state's power, enforce contracts, and protect investors to increase the growth rate of their economies (Shirley, 2003).

The cross product regressions show that none of the interaction variables are significantly correlated with economic growth. The study therefore does not find support for the argument that privatization's effect on the economy is dependent on other factors

like foreign direct investment, the degree of openness, and the governance environment. This result, however, does not necessarily mean that the institutional environment or the degree of openness is not important, but rather that they might not have reached the necessary threshold (to complement the privatization process) to have a significant impact on economic growth. As most of the literature on the determinants of privatization in developing countries indicate, privatization policy is much more likely to be crisis-driven and last ditch effort to turn the economy around, rather than a carefully chosen policy with explicit long-term goals to achieve economic development (Banerjee and Munger, 2004; Ramamurti, 2000). Accordingly, it is not surprising that most of these countries have not established the necessary institutional environment needed for privatization to succeed (Kikeri, 1992; Parker and Kirkpatrick, 2005).

Privatization and Income Inequality

The results show that even after controlling for regional blocks privatization did not have a significant effect on income inequality in the developing countries studied. However, the results also show positive and significant coefficient for the Sub – Sahara African (at 5% level) and Latin American dummies (at the 1% level), while the Asian dummy had a negative but insignificant coefficient. These results suggest that while Sub – Sahara African and Latin American countries exhibited greater levels of inequality than the Middle Eastern and North African countries, there was no significant difference in income inequality between the Middle Eastern and Northern African and the Asian countries between 1991 and 2002. The implication is that Latin America and Sub-Saharan Africa experienced greater levels of inequality than Middle Eastern and Northern

African and the Asian countries. This finding is not surprising, as Latin America is known to have the greatest level of income inequality in the world, with Sub-Saharan African countries following at a close second.

Table 11 shows the income inequality for the various regions over the past four decades, and it provides support for the findings of the study on income inequality.

Morley (2001) explains Latin America's high inequality to be due to three main factors:

Table 11: Median Gini Coefficients by Region and Decade

REGION	1960s	1970s	1980s	1990s
Eastern Europe	25.1	24.6	25.0	28.9
South Asia	36.2	33.9	35.0	31.9
OECD and High Income Countries	35.0	34.8	33.2	28.9
Middle East and North Africa	41.4	41.9	40.5	38.0
East Asia and Pacific	37.4	39.9	38.7	38.1
Sub-Saharan Africa	49.9	48.2	43.5	46.9
Latin America	53.2	49.1	49.7	49.3

Source: Deninger and Squire, 1996

highly unequal distribution of education; decrease in the relative wage of unskilled labor from the 1980s through the 1990s; and the fact that the rich in Latin America are much richer relative to the remainder of the population than all the other regions of the world.

Further, the cross product of the privatization and the regional dummy variables results also show that privatization did not have a significant impact on income inequality in any of the regions. The big question then is if privatization does not have a significant effect on income inequality, why is there so much discontent and demonstrations in most countries against privatization, especially in Latin America and Africa (Kayizzi-Mugerwa, 2002; McKenzie and Mookerjee, 2002)? Quoting from Latinbarometer surveys, Kessides (2004) reports that disapproval ratings for privatization were higher in 2002 than in 2000, and those in 2000 were higher than in 1998. In 2002, nearly 90% of the Argentines and 80% of Chileans polled disapproved of privatization.

There are many responses to the question raised above. Kessides (2004), for example, gives two main reasons for the inconsistency between what the theoretical and empirical literature suggest on one hand and the reality on the other. First, it is possible that due to data limitations and perhaps even methodological flaws, statistical models do not accurately measure the true welfare impact of these reforms. Second, it is also possible that public perceptions are subject to systematic bias. This disillusionment, Kessides (2004) argues, has been driven by employee layoffs, price increases, perceived long delays in benefits, and the negative distributional impacts of privatization.

On the other hand, Nellis (2006) argues that privatization's benefits for consumers at large tend to be dispersed among amorphous, unorganized segments of the public, while the average benefits are small for each affected consumer. Mass benefits occur in

the medium term, or at least they accrue to a significant size in the medium term. In other words, while the benefits of privatization are dispersed, in contrast, the costs are concentrated and affect a visible, vocal and urbanized few. These include; dismissed workers represented by powerful public sector unions, bureaucrats in supervisory ministries that lose their authority, and middle-and upper-income consumers about to lose a service long-furnished at a subsidized price. Nellis (2006, p. 18-19) asserts that though the sum of their welfare losses may be much less than the aggregate gain, these actors possess “voice” and access to power and they can and do make their needs and views known. Further, it is easier to mobilize protest against losses, and generate sympathy for the losers, than to engender gratitude for gains. Even more important as Nellis (2006) argues, is the fact that the affected workers and consumers take steps to protect their interests, portraying the loss as a threat to society and not simply to their group’s utility.

FDI is positively correlated with income inequality in all the model specifications. The study therefore does not find support for Tsai’s (1995) assertion that the positive effect of FDI on income inequality may be due to the most studies not controlling for regional groups. The negative impact of FDI on the distribution of income may be associated with convergence of the foreign investors’ and host country elite’s wealth creation ambition, which is a barrier to the trickle-down effect of industrialization predicted by the modernization theories (Beer, 1999). A typical case is when multinational corporations (MNCs) pressure governments to cut welfare expenditures and curb labor unions to reduce their wages, which invariably hurts the lower income classes (Nafziger, 1997). Further, Nafziger (1997) claims that MNCs exacerbate income inequalities by generating jobs, patronage and producing goods that primarily benefit the

richest 20% of the population. On the other hand, foreign investment might create an industrial structure in which monopoly is predominant, leading to what Bornschier and Chase–Dunn (1985) describe as ‘underutilization of productive forces.’ The underutilization of productive forces results in stagnant economic growth, high unemployment levels, and a subsequent increase in income inequality.

The study’s finding of a positive but insignificant effect of inflation on income inequality contradicts most other studies that find inflation hurts the poor the most (Bulir, 2001; Easterly and Fischer, 2001; Romer and Romer, 1998). Easterly and Fischer (2001), for example, argue that inflation may indeed hurt the poor more because the rich are more likely to have access to financial instruments that hedge in some way against inflation. A few other studies, however, support this study’s finding on inflation. For example, Sarel (1997) in a study of 45 developed and developing countries reports that inflation does not have an effect on income inequality. Similarly, Blank and Blinder (1986) argue that there is little or no evidence that inflation is the cruelest tax. Cardoso (1992) also asserts that inflation tax does not affect those already below the poverty line.

Openness is negative but never significant in any of the model specifications. The implication is that integration into the world economy does not have a significant impact on income disparities as reported by Behrman et al. (2001) and Dollar and Kraay (2002). On the other hand, (Tsai, 1995) argues that openness to international competition could discipline domestic monopolistic or oligopolistic activities, leading to efficient allocation of resources and a subsequent decrease in income inequality. The study’s finding on openness, however, does not support any of these assertions. As noted by Zagha et al. (2006), the effect of trade reform is dependent on country conditions and the way the

process of liberalization is implemented. Consequently, it is difficult to make accurate predictions about the effect of openness on the economy.

The positive and significant effect of the landlocked variable on income inequality (INEQ 10%) means that being landlocked has the greatest negative effect on the most poor in the population, and this effect is independent of the regional location. The challenge posed to landlocked countries has in recent times been given attention by the United Nations, which for sometime now has promoted strategies to help reduce poverty and income inequality in landlocked countries, especially in its Decade for the Eradication of Poverty (1997-2006) program.

In furtherance of the goal to reduce poverty and income inequality in landlocked countries, the United Nations in 2003 convened in Almaty (Kazakhstan) an international ministerial conference to enhance transit transport cooperation between landlocked and transit developing countries. In 2004, at the 58th General Assembly Session, the United Nations adopted the Almaty Program of Action that deals with infrastructural development and maintenance, transit policy issues, trade facilitation measures, and technical assistance to developing countries and especially landlocked countries. The adoption of the resolution was in recognition of the fact that apart from poor infrastructure, weak institutional and productive capacities, small domestic markets and more importantly remoteness from world markets plague most of the landlocked countries. These factors make the landlocked countries highly susceptible or vulnerable to external shocks (United Nations, 2004; United Nations Conference on Trade and Development [UNCTAD], 2006).

The governance variable is negative and significantly correlated with income inequality in the regressions with and without regional controls. This finding supports the view that good governance, which is an indication of responsive, noncorrupted, and efficient government, has a positive impact on income distribution. Thus, good governance or institutions affect both the size of the national social pie and how it is distributed. As noted by Acemoglu et al. (2003), institutions not only affect the economic prospects of nations but are also central to the distribution of income among various individuals and groups in society. Likewise, Lopez (2003) claims that good governance would ensure that rent seeking by privileged groups is avoided or at the least reduced and also ensures that government bureaucracies concentrate on enhancing the opportunities and possibilities of the poor.

The privatization and income inequality regression cross product results show that only the privatization and openness interaction variable is significant and positively correlated with income inequality. This means that privatization is expected to worsen income disparities in more open economies. The reason for this finding might be due to the fact that most developing countries opened their economies to investors to purchase SOE without a special reference to the distributional implications of the privatization process. In recognition of this problem, Kikeri and Sunita (1992) assert that governments must pay special attention to developing social safety nets in terms of severance packages, unemployment benefits and redeployment programs to help offset any negative effects of privatization on workers. Similarly, Kessides (2004) claims that the full gains of privatization in terms of its economic and social benefits are dependent on both competition and regulation. The implications of the study's findings are discussed next.

Implications

The main finding of this study is that privatization policy did not have a significant impact on economic growth and income inequality in the developing world between 1991 and 2002. Also, the study finds that geography, institutional infrastructure, and FDI are important factors that explain the disparities in economic growth and income disparities in developing countries. These findings have important policy implications. First, the results of this study and others (Cook and Uchida, 2003; Filipovic, 2005; Yoder et al., 1991) indicate that privatization policy needs to be reconsidered as to its real benefits in the developing world.

Second, policy makers should focus on economy-wide reforms that promote institutional development and macroeconomic stability to stimulate economic development. As noted by Cook and Uchida (2003), the lack of appropriate governmental reforms might be the cause for an insignificant impact of privatization on economic growth. Further, Romer and Romer (1998), claim that policies that lead to lower rates of inflation may lead to high growth rates and subsequent well-being of the poor. Accordingly, if as Zinnes et al. (2001) suggest; change of ownership alone is not sufficient to ensure economic efficiency, then the lesson for developing countries is to develop the necessary competition and regulatory framework to enhance the success of privatization.

Obviously, without the necessary regulatory framework, privatization will only result in public monopolies being replaced with private ones. This point is supported by most of the studies reviewed above, which indicate that privatization's impact is heavily influenced by country conditions, in particular the quality of regulation (Eduardo and

Ugo, 2002). Eduardo and Ugo (2002) observe that distributional equity gains from privatization are driven by the effectiveness of regulation. Similarly, Chisari et al. (1999) argue that how serious a government is about fair distribution of privatization benefits is reflected in how serious it is about regulation.

Third, of all the explanatory variables examined, only governance infrastructure has a significant positive impact on both economic growth and income distribution, which shows the importance of country-specific characteristics and even more important, government leadership in establishing the necessary institutional infrastructure to secure economic development. It is important to note that when the individual governance indicators were used, it is only the government effectiveness and rule of law variables that had a significant effect on both economic growth and income distribution. The rule of law variable was significant at the 5% level in both cases, while the government effectiveness variable was significant at the 1% level in the growth regressions and 5% level in the inequality regressions.

Evidently, the challenge for the developing world is not just ensuring economic efficiency, but also how to correct the impression that even where there have been positive gains; entrepreneurs, business elites, and the well connected in society have benefited at the expense of the poor. Improving the governance infrastructure therefore might be the first and most important step in meeting this challenge. This is because good governance will reduce rent-seeking opportunities associated with non-transparent divestiture process. It is indeed an interesting coincidence as Abdul (2000) has noted that the World Bank's *Privatization: the lessons of experience* and *Governance and Development* were both issued in 1992. The Bank's argument in the governance report is

that failures of its programs were frequently connected to the quality of government or ‘government failure’ (Yarrow, 1999).

This link between privatization and good governance results from a reversal of an approach which involved complete mistrust of the state to one which accepts that state bears the responsibility for the creation of an appropriate institutional framework (Abdul, 2000). In 1995, the World Bank released another report, titled *Bureaucrats in Business*, the underlying argument of this report was that privatization and state sector reforms were dependent on country conditions especially the presence of suitable regulation. The biggest lesson from this study is that in promoting the market economy, the issue is not just reducing the role of the state or by-pass government, but even more important how to make government more accountable (Zagha et al., 2006). As noted by the World Bank Report (2005), privatization is not just about finding “better owners” than government but changing governance to separate the commercial from the political, as government can use a wide range of policies to influence a firm’s decision.

Finally, in the midst of the inconsistency of the results of the privatization studies and the general agreement that the institutional environment matters, it will be important to take note of the Nobel laureate Joseph Stiglitz’ suggestion for a slow and more deliberate privatization as opposed to the current crisis driven and international donor organization’s emphasis on privatization as a conditionality for giving loans to developing countries. In support of this viewpoint, the World Bank (2005) reports that pragmatic and incremental approaches to process of privatization might be more effective. The report further notes that there is no universally appropriate reform model, and that privatization is not necessary or indispensable for every country. This means that

privatization programs need to be explicit in terms of the country-specific conditions; institutional, social, and political characteristics. The World Bank's (2005) observation however is not new. In 1992, the World Bank, in its Policy Research Bulletin made a similar statement as follows:

Privatization is not a blanket solution for the problems of poorly performing SOEs. It cannot in and of itself make totally for the lack of competition, for weak capital markets, or for the absence of an appropriate regulatory framework. But where the market is basically competitive, or when a modicum of regulatory capacity is present, private ownership yields substantial benefits.

Likewise, Zagha et al. (2006) claim that whereas the mere emphasis on trade or private sector reforms can lead to efficiency gains, they will not put the economy on a sustained growth path unless they also strengthen production incentives and address market or government failures that undercut the efforts to accumulate capital and boost productivity. Reforms should therefore not focus on just the efficient use of resources, but also on the expansion of capacity and growth. Zagha et al. (2006) further indicate that countries that are successful at reforms are those that take into consideration the local domestic capacity and conditions in consideration and as such are designed in concert with structural policies that enable the domestic economy to restructure and spread the cost of adjustment in a manner that minimizes output losses.

In fact, this is the idea suggested by the World Bank Report (2005) that better policies can bring efficiency gains and may increase incentives for investment, but without accounting to a growth strategy. This observation by the World Bank' (2005) is based on the premise that efficiency gains will not necessarily induce the behavior of

private investors and public sector that is needed to put an economy on a sustained growth path. Obviously, the incentives needed to expand productive capacity differ from those that are needed to use the capacity better. Certainly, what matters for growth is less the degree to which policies approximate the ideal than the extent to which a development strategy is able to mobilize the creative forces of society and achieve higher levels of productivity (Zagha, 2006). Accordingly, the challenge for developing countries is how to improve and add on to their physical and human capital by both the private and public sectors to enhance productivity.

Limitations and Directions for Future Research

A few limitations of the study are worth noting. First, the lack of consistent data limited the analysis to a maximum of 75 countries in the growth regressions and 60 countries in the income inequality regressions out of the 80 countries studied. Second, the study examined the impact of total privatization and did not address the impact of different methods of privatization on economic development. A few studies have reported differential effects of the various methods of privatization on economic growth (Bennett et al., 2004; Earle, 2002). Third, the type of industries privatized may also have an effect on economic performance. Many studies on privatization of infrastructure, finance, and manufacturing firms indicate differences in the industry effect of privatization. The lack of consistent data on the revenues generated from the various methods of privatization and industries did not allow us to control for these factors. The World Bank's privatization database reports the types of industries privatized, but not the amount generated from each sector, consequently, we are unable to control for any bias that

might be due to differences in the type of industry privatized. Finally, the effect of privatization is dependent on what the privatization proceeds are used for; it may be used to retire debt, saved, transferred to budget or used in capital expenditures. The validity of the findings of the study is therefore limited to the extent that the aforementioned factors impact the growth process.

The implications and limitations of this study point to new directions for research. First, there is the need for studies on the impact of different methods of privatization and the sectors privatized on economic development. Second, longitudinal studies would need to be conducted to identify the dynamic effects of privatization in the different regions of the world as data becomes available. Third, the inconsistency in results suggests the need for more bottom-up studies to complement the global studies. Forth, the policy environment, in particular the roles played by competition and its regulation needs to be examined if the relation between privatization and economic development is to be better understood. Finally, a comprehensive analysis of the triad (growth, income distribution, and poverty) is needed to give direction to policy makers as to the best strategy to promote growth, reduce poverty levels and subsequently reduce income disparities.

Conclusion

The study examined the impact of privatization on economic growth and income inequality in various regions of the developing world between 1991 and 2002. The study finds that privatization did not play a significant role in promoting economic growth and reducing income inequalities in developing countries. Though, the study is one of the first to control for regional groupings in analyzing the impact of privatization in the

developing world, the results reported do not support the hypothesis that privatization boosted economic growth in developing countries between 1991 and 2002.

The results of the study, however, indicate that country conditions including good governance infrastructure is more likely to promote growth and contribute to a reduction in income inequality, which suggests that country-specific characteristics may be more important in promoting growth and reducing income inequality than any economic policy *per se*. Obviously, the quality of government determines the quality and the success of economic decision making. As far back as 1992, the World Bank's report '*Privatization: The lessons of experience*,' indicated that the failures of most its programs were frequently connected to the quality of government. Similarly, Ramamurti (1999) asserts that the problem in many of the developing countries has not been the political reluctance or commitment, but the absence of an adequate infrastructure to support privatization in situations where local buyers have lacked finance and expertise and government have had to extend protection and subsidies. These issues suggest that the privatization process needs to be gradual to give developing countries the opportunity to learn and develop the requisite institutional infrastructure to ensure the success of policy reforms being implemented by most countries in the region.

The inconsistencies in the results of the various studies and findings of this study require a careful analysis of privatization as it has unfolded in the various regions of the world. The future in research with data permitting is to examine how the various sectors privatized, the methods of privatization, and the type of ownership (local or foreign) impact the economy as a whole. In the end, however, the debate should not just focus on the superiority of the private firm over SOEs or vice versa, but more important, how to

create the necessary market supporting institutional environment needed to promote economic growth and reduce income inequality. This should shift the debate from a focus on mere government failure or mistrust of the state to one which acknowledges that the state bears the responsibility for the creation and maintenance of appropriate institutional framework. Clearly, the biggest challenge for developing countries is not merely how to reduce the role of the state but even more important to make it more accountable.

Accordingly, this study argues that privatization and deregulation can have potentially significant positive impact on both economic growth and distributional equity, but this potential effect is dependent on the establishment of effective institutions. We conclude by stating that both the country conditions and market conditions matter in the success of economic reforms of which privatization is a major component.

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Appendix

Table 1A : Privatization Revenues and Economic Growth Rate Data 1991– 2002

Countries	PR/GDP	AGDP	Countries	PR/GDP	AGDP
Angola	0.08	6.88	Ecuador	0.82	1.32
Benin	1.38	5.18	El Salvador	11.49	3.08
Burkina Faso	0.45	5.18	Grenada	1.62	4.48
Burundi	0.45	1.65	Guatemala	6.90	3.45
Cameroon	4.04	4.73	Guyana	2.42	1.57
Chad	0.06	5.82	Haiti	0.46	1.13
Congo Rep.	0.12	2.52	Honduras	1.29	2.67
Cote d'Ivoire	5.34	2.15	Jamaica	4.83	0.77
Eritrea	0.31	3.02	Mexico	11.56	3.87
Ethiopia	4.24	4.57	Nicaragua	0.01	4.48
Gabon	0.06	0.30	Panama	7.77	2.6
Ghana	14.74	4.28	Paraguay	0.28	0.95
Guinea	1.34	4.05	Peru	15.43	2.33
Kenya	2.74	1.25	Uruguay	0.08	-1.43
Lesotho	6.88	2.62	Venezuela	7.02	0.05
Madagascar	1.25	2.30	Algeria	0.03	2.8
Malawi	1.44	2.18	Bahrain	0.14	4.4
Mali	1.76	5.47	Egypt	5.51	4.57
Mauritania	5.19	4.28	Iran	0.02	4.45
Mauritius	6.74	5.4	Jordan	9.39	3.78
Mozambique	6.74	9.28	Lebanon	0.77	1.83
Niger	1.49	3.58	Morocco	16.58	2.88

Table 1A : Privatization Revenues and Economic Growth Rate Data 1991– 2002

Countries	PR/GDP	AGDP	Countries	PR/GDP	AGDP
Nigeria	3.23	1.75	Oman	3.09	4.07
Sao Tome and Principe	0.00	3.00	Qatar	0.00	9.78
Senegal	8.47	5.33	Saudi Arabia	0.00	1.90
Sierra Leone	0.25	-1.78	Tunisia	2.70	4.97
South Africa	2.42	2.27	United Arab Emirates	0.32	4.22
Sudan	0.09	7.32	Yemen Rep.	0.01	4.87
Tanzania	4.96	4.53	Bangladesh	0.18	5.00
Togo	0.99	1.48	India	2.9	5.33
Uganda	4.71	5.62	Nepal	0.01	4.08
Zambia	24.26	2.65	Pakistan	4.43	3.58
Zimbabwe	3.99	-3.22	Sri Lanka	5.88	3.95
Argentina	14.53	-2.12	China	4.00	7.75
Bolivia	0.05	2.62	Fiji	0.11	2.28
Brazil	20.59	1.95	Lao PDR	0.04	5.78
Chile	0.23	3.03	Papua New Guinea	5.42	-0.52
Colombia	4.46	0.85	Philippines	6.09	3.27
Costa Rica	0.02	4.82	Thailand	2.94	0.4
Dominican Rep	4.71	6.18	Vietnam	0.04	5.28

Sources: World Bank Privatization Database; Human Development Report, 2005; World Economic Outlook (2004) and Global Development Network Growth Database

Table 2A: Privatization Revenues, and Income Inequality Data 1991– 2002

Countries	INEQ 10%	INEQ 20%	Countries	INEQ 10%	INEQ 20%
Burkina Faso	26.20	13.60	Ecuador	44.90	17.30
Burundi	19.30	9.50	El Salvador	47.40	19.80
Congo Rep.	15.70	9.10	Guatemala	55.10	24.40
Cote d'Ivoire	16.60	9.70	Honduras	49.10	21.50
Ethiopia	6.60	4.30	Jamaica	11.40	6.90
Ghana	14.10	8.40	Mexico	45.00	19.30
Guinea	12.30	7.30	Nicaragua	15.50	8.80
Kenya	13.60	8.20	Panama	62.30	24.70
Lesotho	105.00	44.20	Paraguay	73.40	27.80
Madagascar	19.20	11.00	Peru	49.90	18.40
Malawi	22.70	11.60	Uruguay	18.90	10.40
Mali	23.10	12.20	Venezuela	62.90	17.90
Mauritania	12.00	7.40	Bahrain	9.60	6.10
Mozambique	12.50	7.20	Egypt	8.00	5.10

Countries	INEQ 10%	INEQ 20%	Countries	INEQ 10%	INEQ 20%
Niger	46.00	20.70	Iran	17.20	9.70
Nigeria	24.90	12.80	Lebanon	9.10	5.90
Senegal	12.80	7.50	Morocco	11.70	7.20
Sierra Leone	87.20	57.60	Tunisia	13.40	7.90
South Africa	33.10	17.90	Yemen Rep.	8.60	5.60
Tanzania	10.80	6.70	Bangladesh	6.80	4.60
Uganda	14.90	8.40	India	7.30	4.90
Zambia	41.80	17.20	Nepal	9.30	5.90
Zimbabwe	22.00	12.00	Pakistan	7.60	4.80
Argentina	39.10	18.10	Sri Lanka	8.10	5.10
Bolivia	24.60	12.30	China	18.40	10.70
Brazil	68.00	26.40	Lao PDR	9.70	6
Chile	40.60	18.70	Papua New Guinea	23.80	12.60
Colombia	57.80	22.90	Philippines	16.50	9.70
Costa Rica	25.10	12.30	Thailand	13.40	8.30
Dominican Rep	17.70	10.50	Vietnam	9.40	6.00

Table 3A: Variables, Symbols, and Sources of Data Collection

Variable	Symbol	Source of Data
Privatization Revenues as a percentage of GDP	PR	World Bank Privatization Database and World Economic Outlook (2004)
INFLATION	INF	World Economic Outlook (2004)
FDI share in GDP	FDI/GDP	Global Development Network Growth Database And UNCTAD FDI database online
Real GDP growth rate	GROWTH	World Economic Outlook (2004) and Global Development Network Growth Database
Real GDP per capita	RGCAP	World Economic Outlook (2004) and Global Development Network Growth Database
Governance	GOV	Kaufmann et al. (2005)
Trade share as a percentage of GDP	OPEN	Global Development Network Growth Database
Secondary School enrolment	SEC.	Global Development Network Growth Database
Share of income of richest and poorest 20% of population.	INEQ20%	Human Development Report, 2005
Share of income of richest and poorest 10% of population.	INEQ10%	Human Development Report, 2005
Population growth rate	POP	Global Development Network Growth Database
Landlocked	LLOCK	http://www.un.org/special-rep/ohrlls/lldc/list.htm

Table 4A: List of Landlocked Countries.

Landlocked country	Region
Bolivia	Latin America
Burkina Faso	Sub-Saharan Africa
Burundi	Sub-Saharan Africa
Chad	Sub-Saharan Africa
Ethiopia	Sub-Saharan Africa
Laos Republic	Sub-Saharan Africa
Lesotho	Sub -Saharan Africa
Malawi	Sub -Saharan Africa
Mali	Sub -Saharan Africa
Nepal	Asia
Niger	Sub -Saharan Africa
Paraguay	Latin America
Uganda	Sub -Saharan Africa
Zambia	Sub -Saharan Africa
Zimbabwe	Sub -Saharan Africa

Table 5A: Variables Used in Study	
INF9102	Inflation 1991-2002
ARGDP9102	Average Real GDP Growth 1991- 2002
PR19102	Privatization Revenues as a percentage of GDP 1991-2002
INEQ10%	Ratio of the richest and poorest 10% of population
INEQ20%	Ratio of the richest and poorest 10% of population
POP9102	Average population growth rate 1991- 2002
FDI9102	Average FDI 1991 - 2002
INIGCAP91	Initial Real GDP per capita 1991
LIRGNICAP91	Log of the Initial Real GDP per capita
LGCAPSQ	Square of LIRGNICAP91
PRIFDI	Privatization and FDI interaction
PRIOPEN	Privatization ad Openness interaction
PRIGOV	Privatization ad Governance interaction
SSA	Dummy Sub –Saharan Africa
LA	Dummy for Latin America
AS	Dummy for Asia
MENA	Middle East and North African countries
PRSSA	Privatization Sub-Saharan Africa interaction
PRLA	Privatization Latin American interaction
PRAS	Privatization Asian interaction
FAC1_2	Governance 1996 – 2002
Voice	Voice and Accountability
POLST	Political Instability
GOVEFF	Government Effectiveness
EEG	Regulatory Quality
Rule	Rule of Law
CORR	Corruption
LLOCK	Dummy for Landlocked

Table 6A: Raw Data for Analysis

Countries	INF9102	ARGDP	PRI8890	PRI9102	INEQ10	INEQ20	GINI	POP9102	FDI8890	FDI9102
Angola	891.15	6.88	0.00	0.08				2.89	0.18	11.9
Benin	7.23	5.18	1.57	1.38				2.57	2.50	2.03
Burkina Faso	4.41	5.18	0.00	0.45	26.20	13.60	48.20	2.38	0.12	0.37
Burundi	13.65	1.65	0.00	0.45	19.30	9.50	33.30	1.9	0.09	0.18
Cameroon	5.05	4.73	0.00	4.04	15.70	9.10	44.60	2.07	-0.35	0.34
Chad	5.87	5.82	0.00	0.06				2.92	0.64	8.42
Congo Rep.	7.04	2.52	0.00	0.12				2.87	0.41	6.00
Cote d'Ivoire	5.84	2.15	0.00	5.34	16.60	9.70	44.60	2.06	0.38	1.64
Eritrea	11.32	3.02	0.00	0.31				2.3		4.59
Ethiopia	5.27	4.57	0.00	4.24	6.60	4.30	30.00	2.17	0.05	1.19
Gabon	4.34	0.30	0.00	0.06				2.21	1.32	-1.60
Ghana	25.99	4.28	0.18	14.74	14.10	8.40	40.80	1.78	0.21	1.92
Guinea	6.92	4.05	0.00	1.34	12.30	7.30	40.30	2.15	0.6	0.57
Kenya	14.13	1.25	0.24	2.74	13.60	8.20	42.50	1.96	0.47	0.29
Lesotho	10.34	2.62	0.00	6.88	105.00	44.20	63.20	0.92	3.18	14.94
Madagascar	16.12	2.30	0.00	1.25	19.20	11.00	47.50	2.85	0.45	0.77
Malawi	30.43	2.18	0.00	1.44	22.70	11.60	50.30	2.04	1.03	0.54
Mali	4.20	5.47		1.76	23.10	12.20	50.50	2.41	0.31	2.08
Mauritania	5.73	4.28	0.00	5.19	12.00	7.40	39.00	2.46	0.41	2.47
Mauritius	6.93	5.40	0.00	6.74				0.83	1.51	1.03
Mozambique	27.6	9.28	0.17	6.74	12.50	7.20	39.6	2.01	0.25	3.99
Niger	5.23	3.58	0.00	1.49	46.00	20.70	50.5	3.02	0.66	0.47
Nigeria	28.13	1.75	0.18	3.23	24.90	12.80	50.6	2.42	3.88	3.83
Sao Tome and Principe	32.54	3.00	0.00	0.00				2.05	0.00	3.16
Senegal	4.19	5.33	0.00	8.47	12.80	7.50	41.30	2.42	0.63	1.32
Sierra Leone	28.87	-1.78	0.00	0.25	87.20	57.60	62.90	1.97	1.73	0.64
South Africa	8.75	2.27	1.25	2.42	33.10	17.90	57.80	1.18	-0.04	1.15

Countries	INF9102	ARGDP	PRI8890	PRI9102	INEQ10	INEQ20	GINI	POP9102	FDI8890	FDI9102
Sudan	63.35	7.32	0.00	0.09				2.16	0.01	1.64
Tanzania	17.39	4.53	0.00	4.96	10.80	6.70	38.20	2.10	0.07	2.30
Togo	6.04	1.48	1.80	0.99				2.12	0.91	1.81
Uganda	8.22	5.62	0.00	4.71	14.90	8.40	43.00	2.78	0.01	2.09
Zambia	60.42	2.65	0.00	24.26	41.80	17.20	52.6	1.7	4.25	3.68
Zimbabwe	45.08	-3.22	0.00	3.99	22.00	12.00	56.8	1.17	-0.16	1.23
Argentina	24.37	-2.12	2.78	14.53	39.10	18.10	52.2	0.87	1.18	2.51
Bolivia	7.86	2.62	0.00	0.05	24.60	12.30	44.7	1.94	-0.06	6.50
Brazil	468.53	1.95	0.04	20.59	68.00	26.40	59.3	1.21	0.44	2.43
Chile	8.47	3.03	0.89	0.23	40.60	18.70	57.1	1.21	3.62	5.37
Colombia	17.99	0.85	0.00	4.46	57.80	22.90	57.6	1.76	1.07	2.40
Costa Rica	15.08	4.82	0.05	0.02	25.10	12.30	46.5	1.76	2.47	3.14
Dominican Rep	10.36	6.18	0.00	4.71	17.70	10.50	47.4	1.5	1.83	3.39
Ecuador	5.33	1.32	0.00	0.82	44.90	17.30	43.7	1.54	1.53	3.38
El Salvador	7.43	3.08	0.00	11.49	47.40	19.80	53.2	1.7	0.26	1.62
Grenada	2.37	4.48	0.00	1.62				0.88	6.30	9.83
Guatemala	10.97	3.45	0.08	6.90	55.10	24.40	59.9	2.61	1.91	1.10
Guyana	16.95	1.57	0.00	2.42				0.44	0.65	11.85
Haiti	18.55	1.13	0.00	0.46				1.88	0.28	0.15
Honduras	16.87	2.67	0.64	1.29	49.10	21.50	55	2.54	1.36	2.30
Jamaica	22.71	0.77	2.80	4.83	11.40	6.90	37.9	0.81	1.33	4.18
Mexico	16.53	3.87	1.80	11.56	45.00	19.30	54.6	1.44	1.11	2.57
Nicaragua	662.71	4.48	0.03	0.01	15.50	8.80	43.1	2.6	0.00	3.98
Panama	1.11	2.60	0.01	7.77	62.30	24.70	56.4	1.49	-2.87	5.03
Paraguay	12.81	0.95	0.00	0.28	73.40	27.80	57.8	2.2	0.66	1.61
Peru	40.03	2.33	0.00	15.43	49.90	18.40	49.8	1.51	0.22	3.17
Uruguay	33.28	-1.43	0.07	0.08	18.90	10.40	44.6	0.58	0.19	0.81
Venezuela	40.4	0.05	0.01	7.02	62.90	17.90	49.1	1.82	0.52	2.8
Algeria	14.57	2.80	0.00	0.03	9.60	6.10	35.3	1.56	0.01	0.69
Bahrain	0.35	4.40	0.00	0.14				2.01		

Countries	INF9102	ARGDP	PRI8890	PRI9102	INEQ10	INEQ20	GINI	POP9102	FDI8890	FDI9102
Egypt	7.88	4.57	0.00	5.51	8.00	5.10	34.4	1.82	2.75	1.11
Iran	22.58	4.45	0.00	0.02	17.20	9.70	43	1.56	-0.09	0.08
Jordan	3.24	3.78	0.00	9.39	9.10	5.90	36.4	2.76	0.43	1.82
Lebanon	17.95	1.83	0.00	0.77				1.28	0.09	0.84
Morocco	3.65	2.88	0.00	16.58	11.70	7.20	39.5	1.60	0.58	2.31
Oman	0.17	4.07	0.00	3.09				2.39	1.30	0.58
Qatar	2.38	9.78	0.00	0.00				2.14		
Saudi Arabia	0.63	1.90	0.00	0.00				2.78		
Tunisia	4.14	4.97	0.14	2.70	13.40	7.90	39.80	1.10	0.66	2.53
United Arab Emirates	3.53	4.22	0.00	0.32				7.35	-2.71	2.00
Yemen Rep.	32.57	4.87	0.00	0.01	8.60	5.60	33.40	3.03	0.00	2.72
Bangladesh	5.13	5.00	0.01	0.18	6.80	4.60	31.80	1.74	0.01	0.18
India	8.23	5.33	0.00	2.90	7.30	4.90	32.50	1.55	0.06	0.49
Nepal	8.63	4.08	0.00	0.01	9.30	5.90	36.70	2.26	0.76	0.28
Pakistan	8.26	3.58	0.03	4.43	7.60	4.80	33.00	2.41	0.54	0.86
Sri Lanka	10.08	3.95	0.30	5.88	8.10	5.10	33.20	1.46	0.49	1.24
China	6.24	7.75	0.00	4.00	18.40	10.70	44.70	0.67	1.00	4.26
Fiji	3.42	2.28	0.00	0.11				0.77	3.30	2.30
Lao PDR	29.53	5.78	0.00	0.04	9.70	6.00	37.00	2.32	3.88	5.10
Papua New Guinea	9.77	-0.52	0.00	5.42	23.8	12.60	50.90	2.33	4.98	3.00
Philippines	7.94	3.27	0.21	6.09	16.50	9.70	46.10	2.06	1.66	1.91
Thailand	3.99	0.40	0.15	2.94	13.40	8.30	43.20	0.7	2.37	2.49
Vietnam	14.76	5.28	0.00	0.04	9.40	6.00	37.00	1.16	0.96	6.45

Country	OPEN9102	INIGCAP91	LIRGNIGCAP	PRIFDI	PRIOPEN	PRIGOV		SSA	LAMERICA	MENA	ASIA
Angola	148.92	1882.48	3.27	11.91	0.95	-0.17	1	0	0	0	
Benin	43.77	1023.53	3.01	60.40	2.80	0.53	1	0	0	0	
Burkina Faso	35.17	892.79	2.95	15.83	0.17	-0.05	1	0	0	0	
Burundi	26.69	833.90	2.92	12.01	0.08	-0.76	1	0	0	0	
Cameroon	52.29	2135.25	3.33	211.25	1.37	-4.03	1	0	0	0	
Chad	55.78	1083.12	3.03	3.35	0.51	-0.05	1	0	0	0	
Congo Rep.	133.84	2092.38	3.32	16.06	0.72	-0.19	1	0	0	0	
Cote d'Ivoire	74.36	2091.39	3.32	397.08	8.76	-2.4	1	0	0	0	
Eritrea	101.56			31.48	1.42	-0.01	1	0	0	0	
Ethiopia	43.09	511.01	2.71	182.7	5.05	-1.9	1	0	0	0	
Gabon	90.83	9104.97	3.96	5.45	-0.10	-0.02	1	0	0	0	
Ghana	91.96	1191.28	3.08	1355.49	28.30	3.6	1	0	0	0	
Guinea	48.96	2452.98	3.39	65.61	0.76	-0.98	1	0	0	0	
Kenya	60.87	1311.74	3.12	166.78	0.79	-2.47	1	0	0	0	
Lesotho	134.19	1267.98	3.10	923.23	102.79	3.11	1	0	0	0	
Madagascar	53.49	898.82	2.95	66.86	0.96	-0.02	1	0	0	0	
Malawi	64.46	654.58	2.82	92.82	0.78	0.10	1	0	0	0	
Mali	64.38	754.13	2.88	113.31	3.66	-0.68	1	0	0	0	
Mauritania	96.24	1385.4	3.14	499.49	12.82	0.02	1	0	0	0	
Mauritius	127.37	9489.48	3.98	858.47	6.94	11.86	1	0	0	0	
Mozambique	49.59	940.66	2.97	334.24	26.89	-1.45	1	0	0	0	
Niger	41.08	935.59	2.97	61.21	0.70	-1.06	1	0	0	0	
Nigeria	79.74	1065.86	3.03	257.56	12.37	-4.96	1	0	0	0	
Sao Tome and Principe	117.47	1453.22	3.16	0.00	0.00	0.00	1	0	0	0	
Senegal	68.05	1482.53	3.17	576.38	11.18	0.04	1	0	0	0	
Sierra Leone	43.47	1154.31	3.06	10.87	0.16	-0.38	1	0	0	0	
South Africa	53.07	7599.92	3.88	128.43	2.78	2.51	1	0	0	0	
Sudan	25.58	1039.00	3.02	2.3	0.15	-0.19	1	0	0	0	
Tanzania	41.82	494.12	2.69	207.43	11.41	-4.26	1	0	0	0	
Togo	77.4	1271.12	3.10	76.63	1.79	-0.38	1	0	0	0	
Uganda	35.11	695.43	2.84	165.37	-9.84	-2.18	1	0	0	0	

Countries	INF9102	ARGDP	PRI8890	PRI9102	INEQ10	INEQ20	GINI	POP9102	FDI8890	FDI9102
Zambia	60.97	1040.23	3.02	1479.13	89.28	-6.73	1	0	0	0
Zimbabwe	69.38	2976.28	3.47	276.83	4.91	-3.70	1	0	0	0
Argentina	24.86	7932.06	3.90	361.22	36.47	9.10	0	1	0	0
Bolivia	48.02	2480.5	3.39	2.40	0.33	0.00	0	1	0	0
Brazil	21.83	6221.51	3.79	449.48	50.03	10.69	0	1	0	0
Chile	59.81	6516.21	3.81	13.76	1.24	0.61	0	1	0	0
Colombia	38.29	4984.73	3.70	170.77	10.70	-1.47	0	1	0	0
Costa Rica	90.35	4873.8	3.69	1.81	0.06	0.04	0	1	0	0
Dominican Rep	90.92	3136.74	3.5	428.23	15.97	0.96	0	1	0	0
Ecuador	55.68	3842.59	3.58	45.66	2.77	-0.44	0	1	0	0
El Salvador	62.78	3561.23	3.55	721.34	18.61	4.76	0	1	0	0
Grenada	118.8	4825.42	3.68	192.46	15.92	1.72	0	1	0	0
Guatemala	44.82	3612.11	3.56	309.26	7.59	-2.69	0	1	0	0
Guyana	204.54	2484.78	3.40	494.99	28.68	0.96	0	1	0	0
Haiti	41.53	963.79	2.98	19.10	0.07	-0.72	0	1	0	0
Honduras	96.56	2155.78	3.33	124.56	2.97	-0.38	0	1	0	0
Jamaica	93.68	3941.86	3.60	452.47	20.19	2.36	0	1	0	0
Mexico	60.86	7371.93	3.87	703.54	29.71	5.41	0	1	0	0
Nicaragua	70.79	2045.83	3.31	0.71	0.04	0.00	0	1	0	0
Panama	145.33	5387.52	3.73	1129.21	39.08	5.95	0	1	0	0
Paraguay	65.76	4948.81	3.69	18.41	0.45	-0.23	0	1	0	0
Peru	32.76	3766.29	3.58	505.49	48.91	2.71	0	1	0	0
Uruguay	45.32	7544.87	3.88	3.63	0.06	0.14	0	1	0	0
Venezuela	39.86	7315.47	3.86	279.82	19.66	-4.39	0	1	0	0
Algeria	55.64	4933.71	3.69	1.67	0.02	-0.04	0	0	1	0
Bahrain	145.45	12030.85	4.08	20.36	0.14	0.17	0	0	1	0
Egypt	41.61	3372.05	3.53	229.27	6.12	1.02	0	0	1	0
Iran	41.72	4024.36	3.60	0.83	0.00	-0.01	0	0	1	0
Jordan	114.1	3303.64	3.52	1071.4	17.09	8.07	0	0	1	0
Lebanon	55.86	4263.24	3.63	43.01	0.65	0.07	0	0	1	0
Morocco	64.12	3726.51	3.57	1063.11	38.30	9.31	0	0	1	0
Oman	88.87	16368.92	4.21	274.61	1.79	5.20	0	0	1	0

Countries	INF9102	ARGDP	PRI8890	PRI9102	INEQ10	INEQ20	GINI	POP9102	FDI8890	FDI9102
Qatar	77.74			0.00	0.00	0.00	0	0	1	0
Saudi Arabia	63.52	12862.99	4.11	0.00	0.00	0.00	0	0	1	0
Tunisia	91.03	5025.46	3.70	245.78	6.83	2.67	0	0	1	0
United Arab Emirates	78.05			24.98	0.64	0.52	0	0	1	0
Yemen Rep.	136.5	927.75	2.97	1.37	0.03	-0.01	0	0	1	0
Bangladesh	32.38	1293.23	3.11	5.83	0.03	-0.09	0	0	0	1
India	25.98	1665.63	3.22	75.34	1.42	0.77	0	0	0	1
Nepal	69.43	1139.11	3.06	0.69	0.00	0	0	0	0	1
Pakistan	55.47	1798.27	3.25	245.73	3.81	-3.71	0	0	0	1
Sri Lanka	35.83	2593.53	3.41	210.68	7.29	0.37	0	0	0	1
China	80.69	1977.23	3.30	322.76	17.04	0.11	0	0	0	1
Fiji	44.91	5013.84	3.70	4.94	0.25	0.05	0	0	0	1
Lao PDR	67.87	1107.22	3.04	2.71	0.20	-0.04	0	0	0	1
Papua New Guinea	93.63	2983.59	3.47	507.47	16.26	2.16	0	0	0	1
Philippines	102.76	2949.8	3.47	625.81	11.63	-2.71	0	0	0	1
Thailand	108.25	5166.63	3.71	318.26	7.32	2.43	0	0	0	1
Vietnam	103.64	1129.78	3.05	4.15	0.26	-0.02	0	0	0	1

Country	LGDCPSQ	VOICE	POLST	GOVEFF	REG9602	RULE9602	CORR	FAC1_2	PRSSA
Angola	10.72	-1.37	-2.02	-1.42	-1.49	-1.47	-1.16	-2.12504	0.08
Benin	9.06	0.46	0.59	-0.15	-0.11	-0.29	-0.42	0.38617	1.38
Burkina Faso	8.71	-0.32	-0.14	-0.39	-0.16	-0.55	-0.34	-0.10767	0.45
Burundi	8.53	-1.42	-1.95	-1.18	-1.18	-0.85	-1.01	-1.68504	0.45
Cameroon	11.09	-0.95	-0.68	-0.67	-0.43	-1.09	-1.07	-0.9971	4.04
Chad	9.21	-0.86	-1.12	-0.53	-0.47	-0.70	-0.78	-0.80173	0.06
Congo Rep.	11.03	-1.23	-1.51	-1.25	-0.94	-1.23	-0.95	-1.60165	0.12
Cote d'Ivoire	11.03	-0.85	-0.65	-0.47	-0.17	-0.75	-0.37	-0.44908	5.34
Eritrea		-1.41	-0.03	-0.22	-0.38	-0.19	0.15	-0.02814	0.31
Ethiopia	7.34	-0.86	-0.72	-0.44	-0.62	-0.33	-0.37	-0.44856	4.24
Gabon	15.68	-0.42	-0.14	-0.70	-0.23	-0.41	-0.85	-0.40368	0.06
Ghana	9.46	-0.22	0.02	-0.03	-0.01	-0.1	-0.41	0.24414	14.74
Guinea	11.49	-1.11	-1.19	-0.60	-0.17	-0.91	-0.38	-0.7313	1.34
Kenya	9.72	-0.67	-0.83	-0.74	-0.33	-0.94	-1.03	-0.89997	2.74
Lesotho	9.63	-0.04	0.59	-0.08	-0.36	-0.14	0.05	0.45144	6.88
Madagascar	8.72	0.21	0.05	-0.46	-0.23	-0.70	-0.28	-0.01906	1.25
Malawi	7.93	0.29	0.31	-0.60	0.03	-0.63	-0.38	0.06915	1.44
Mali	8.28	-0.21	-0.17	-0.40	-0.46	-0.87	-0.61	-0.38661	1.76
Mauritania	9.87	-0.77	0.3	-0.06	-0.35	-0.5	-0.25	0.00306	5.19
Mauritius	15.82	0.97	1.18	0.59	0.47	0.85	0.44	1.75939	6.74
Mozambique	8.84	-0.34	0.12	-0.63	-0.21	-0.4	-0.64	-0.21518	6.74
Niger	8.83	-0.41	-0.2	-0.90	-0.56	-0.89	-0.77	-0.7102	1.49
Nigeria	9.17	-1.09	-1.41	-1.17	-0.75	-1.22	-1.15	-1.53556	3.23
Sao Tome and Principe	10.00	0.76	0.56	-0.69	-0.57	-0.73	-0.35	0.0023	0.00
Senegal	10.06	-0.15	-0.68	-0.03	-0.25	-0.25	-0.35	0.00505	8.47
Sierra Leone	9.38	-1.26	-1.79	-0.90	-1.05	-0.97	-0.99	-1.50855	0.25
South Africa	15.06	0.83	-0.53	0.38	0.31	0.24	0.49	1.03916	2.42
Sudan	9.10	-1.71	-2.28	-1.44	-1.21	-1.29	-0.99	-2.06254	0.09
Tanzania	7.26	-1.12	-0.49	-0.91	-0.37	-0.92	-0.68	-0.85849	4.96

Country	LGDCPSQ	VOICE	POLST	GOVEFF	REG9602	RULE9602	CORR	FAC1_2	PRSSA
Togo	9.64	-0.43	-0.04	-0.59	-0.18	-0.43	-0.98	-0.38486	0.99
Uganda	8.08	-0.74	-1.24	-0.25	0.16	-0.58	-0.73	-0.4618	4.71
Zambia	9.10	-0.23	-0.26	-0.68	0.09	-0.41	-0.82	-0.27728	24.26
Zimbabwe	12.07	-0.88	-0.83	-0.82	-1.13	-0.59	-0.59	-0.92812	3.99
Argentina	15.21	0.39	0.19	0.18	0.33	-0.04	-0.37	0.62608	0
Bolivia	11.52	0.17	-0.16	-0.37	0.57	-0.54	-0.69	0.08899	0
Brazil	14.39	0.42	-0.06	-0.16	0.28	-0.21	-0.01	0.51934	0
Chile	14.55	0.81	0.81	1.30	1.40	1.27	1.39	2.6539	0
Colombia	13.67	-0.36	-1.62	-0.14	0.26	-0.65	-0.49	-0.32865	0
Costa Rica	13.6	1.27	1.07	0.47	0.85	0.75	0.86	1.99252	0
Dominican									
Rep	12.23	0.15	0.04	-0.39	0.19	-0.30	-0.39	0.20305	0
Ecuador	12.85	0.03	-0.72	-0.85	-0.16	-0.60	-0.86	-0.53347	0
El Salvador	12.61	0.03	0.22	-0.26	0.84	-0.38	-0.42	0.41412	0
Grenada	13.57	0.94	0.56	-0.08	0.19	0.31	0.29	1.06034	0
Guatemala	12.66	-0.43	-0.84	-0.47	0.31	-0.74	-0.73	-0.38973	0
Guyana	11.53	0.86	-0.17	-0.22	0.03	-0.13	-0.35	0.39854	0
Haiti	8.90	-0.75	-0.89	-1.41	-1.08	-1.38	-1.13	-1.56873	0
Honduras	11.11	-0.10	-0.1	-0.61	0.07	-0.77	-0.78	-0.29713	0
Jamaica	12.93	0.61	0.14	-0.29	0.47	-0.27	-0.30	0.48814	0
Mexico	14.96	0.01	-0.18	0.17	0.62	-0.30	-0.33	0.46779	0
Nicaragua	10.96	-0.06	-0.13	-0.64	0.04	-0.77	-0.56	-0.23245	0
Panama	13.92	0.51	0.42	-0.17	0.84	0.04	-0.34	0.76631	0
Paraguay	13.65	-0.45	-0.59	-1.08	-0.26	-0.81	-0.92	-0.81315	0
Peru	12.79	-0.35	-0.63	-0.15	0.58	-0.47	-0.14	0.17581	0
Uruguay	15.04	0.88	0.84	0.63	0.88	0.57	0.61	1.76678	0
Venezuela	14.93	-0.13	-0.65	-0.89	-0.26	-0.80	-0.76	-0.62528	0
Algeria	13.64	-1.22	-2.19	-0.78	-0.81	-0.71	-0.59	-1.24304	0
Bahrain	16.65	-1.02	-0.03	0.60	0.91	0.86	0.46	1.1854	0
Egypt	12.45	-0.81	-0.26	-0.09	-0.11	0.17	-0.15	0.18515	0
Iran	12.99	-0.93	-0.37	-0.31	-1.43	-0.57	-0.6	-0.73909	0
Jordan	12.38	-0.24	0.08	0.39	0.36	0.42	0.07	0.85956	0

Country	LGDCPSQ	VOICE	POLST	GOVEFF	REG9602	RULE9602	CORR	FAC1_2	PRSSA
Lebanon								0.09714	0
Morocco	12.75	-0.48	-0.08	0.08	0.14	0.27	0.11	0.56177	0
Oman	17.76	-0.64	0.93	0.92	0.62	1.11	0.69	1.68373	0
Qatar		-0.73	1.15	0.78	0.33	1.06	0.60	1.52953	0
Saudi Arabia	16.89	-1.31	0.03	-0.10	-0.03	0.67	0.16	0.43919	0
Tunisia	13.70	-0.75	0.44	0.81	0.23	0.31	0.30	0.98751	0
United Arab Emirates		-0.62	0.96	0.63	0.74	1.11	0.71	1.6345	0
Yemen Rep.	8.81	-0.78	-1.19	-0.64	-0.54	-0.96	-0.55	-0.85916	0
Bangladesh	9.68	-0.35	-0.54	-0.52	-0.46	-0.70	-0.61	-0.48765	0
India	10.38	0.34	-0.63	-0.12	-0.17	0.11	-0.27	0.26531	0
Nepal	9.34	-0.13	-0.93	-0.62	-0.36	-0.35	-0.45	-0.358	0
Pakistan	10.59	-1.06	-1.02	-0.54	-0.53	-0.62	-0.83	-0.8369	0
Sri Lanka	11.65	-0.23	-1.56	-0.26	0.39	0.06	-0.17	0.06236	0
China	10.86	-1.39	0.09	0.19	-0.19	-0.32	-0.21	0.02691	0
Fiji	13.69	0.02	0.48	-0.07	-0.50	-0.34	0.30	0.42996	0
Lao PDR	9.27	-1.38	0.43	-0.40	-1.21	-1.10	-0.85	-0.89478	0
Papua New Guinea									
Guinea	12.07	0.30	-0.27	0.11	0.39	-0.30	-0.40	0.398	0
Philippines	12.04	0.06	-0.69	-0.62	-0.58	-0.50	-0.64	-0.44563	0
Thailand	13.79	0.14	0.29	0.27	0.44	0.38	-0.29	0.82509	0
Vietnam	9.32	-1.46	0.47	-0.22	-0.62	-0.62	-0.66	-0.43948	0

Country		PRLA	PRME	PRAS	SEC8890	SEC9102
Angola	0	0	0	12.23	15.36	
Benin	0	0	0	11.30	17.46	
Burkina Faso	0	0	0	6.83	9.38	
Burundi	0	0	0	5.07	7.19	
Cameroon	0	0	0	26.93	28.38	
Chad	0	0	0	7.20	10.11	
Congo Rep.	0	0	0	56.33	47.69	
Cote d'Ivoire	0	0	0	21.27	23.07	
Eritrea	0	0	0		22.72	
Ethiopia	0	0	0	14.83	15.87	
Gabon	0	0	0		53.37	
Ghana	0	0	0	37.97	36.63	
Guinea	0	0	0	9.90	11.83	
Kenya	0	0	0	24.37	28.92	
Lesotho	0	0	0	25.57	30.23	
Madagascar	0	0	0	18.43	15.75	
Malawi	0	0	0	7.00	22.32	
Mali	0	0	0	6.07	9.67	
Mauritania	0	0	0	14.40	17.58	
Mauritius	0	0	0	52.07	67.29	
Mozambique	0	0	0	7.60	8.25	
Niger	0	0	0	6.23	6.42	
Nigeria	0	0	0	25.20	29.80	
Sao Tome and Principe	0	0	0		38.60	
Senegal	0	0	0	15.97	16.31	
Sierra Leone	0	0	0	17.43	26.15	
South Africa	0	0	0	71.00	88.08	
Sudan	0	0	0	23.75	24.66	
Tanzania	0	0	0	4.53	5.55	

Country		PRLA	PRME	PRAS	SEC8890	SEC9102
Togo	0	0	0	23.43	28.61	
Uganda	0	0	0	13.33	14.26	
Zambia	0	0	0	23.00	25.48	
Zimbabwe	0	0	0	50.4	45.80	
Argentina	14.53	0	0	70.30	87.46	
Bolivia	0.05	0	0	36.10	79.79	
Brazil	20.59	0	0	38.30	74.89	
Chile	0.23	0	0	74.57	72.75	
Colombia	4.46	0	0	49.40	63.58	
Costa Rica	0.02	0	0	40.73	51.40	
Dominican Rep	4.71	0	0		53.89	
Ecuador	0.82	0	0	56.53	55.16	
El Salvador	11.49	0	0	71.80	79.65	
Grenada	1.62	0	0	27.87	40.94	
Guatemala	6.90	0	0		62.76	
Guyana	2.42	0	0		30.07	
Haiti	0.46	0	0	82.70	66.80	
Honduras	1.29	0	0	20.60	93.64	
Jamaica	4.83	0	0		32.67	
Mexico	11.56	0	0	64.03	78.74	
Nicaragua	0.01	0	0	36.93	44.49	
Panama	7.77	0	0	61.43	67.29	
Paraguay	0.28	0	0	30.40	47.36	
Peru	15.43	0	0	66.30	74.56	
Uruguay	0.08	0	0	78.73	89.25	
Venezuela	7.02	0	0	35.20	47.38	
Algeria	0	0.03	0	61.97	65.07	
Bahrain	0	0.14	0	97.00	97.82	
Egypt	0	5.51	0	54.43	66.37	
Iran	0	0.02	0		88.02	
Jordan	0	9.39	0	53.00	73.97	

Country		PRLA	PRME	PRAS	SEC8890	SEC9102
Lebanon	0	0.77	0	68.00	82.24	
Morocco	0	16.58	0	36.47	44.08	
Oman	0	3.09	0	40.33	66.83	
Qatar	0	0	0	81.33	84.28	
Saudi Arabia	0	0	0	43.33	61.08	
Tunisia	0	2.70	0	44.20	64.95	
United Arab Emirates	0	0.32	0	63.33	75.37	
Yemen Rep.	0	0.01	0		37.47	
Bangladesh	0	0	0.18	19.00	47.16	
India	0	0	2.9	42.00	47.79	
Nepal	0	0	0.01	31.67	34.50	
Pakistan	0	0	4.43	20.67	25.38	
Sri Lanka	0	0	5.88	73.00	75.13	
China	0	0	4	47.33	61.80	
Fiji	0	0	0.11	54.07	72.04	
Lao PDR	0	0	0.04	25.33	40.83	
Papua New Guinea	0	0	5.42	12.63	17.93	
Philippines	0	0	6.09	72.67	77.32	
Thailand	0	0	2.94	28.67	55.07	
Vietnam	0	0	0.04	35.67	51.74	

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VITA

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Doctor of Philosophy (Public Administration and Urban Policy), Old Dominion
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