DEMOCRACY, ECONOMIC GROWTH & INCOME INEQUALITY

INCOME INEQUALITY MATTERS

BY

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Abstract of the Dissertation

Democracy, Economic Growth & Income Inequality: Income Inequality Matters

by

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Can a developing country balance a stable democracy with a well-functioning market economy? Does economic growth come only at the *expense of income equality* and is increased poverty a necessary side effect of rapid growth? This dissertation examines the links between democracy, economic growth, and income inequality. I propose, and my results confirm, that both democratic freedoms and more equal distribution of income will simultaneously stimulate economic growth.

Using a simultaneous equations model, this dissertation adds to the existing models by rigorously testing, across a large sample of countries, democratization, economic growth, and income inequality as they affect each other simultaneously.

My findings show that democracy and income inequality have a mutually reinforcing negative effect on each other. Also my findings indicate that democracy and economic growth have a mutually reinforcing positive effect on

each other. Moreover, democracy stimulates growth, not only on its own accord, but also by working indirectly through income inequality. Democracy reduces income inequality and a more equal distribution of income has a positive and significant effect on growth. Growth, according to my results creates more income inequality.

This research has powerful real-world implications. The lessons to be learned are, firstly, a country that wishes to democratize must simultaneously take measures to reduce income inequality, or else inequality - with its stifling effect on growth - will neutralize the benefits of growth on democratic consolidation. In order to offset the negative effect that growth has on distributional equality and the negative effect inequality has on growth, democratic governments need to take measures that simultaneously increase growth and decrease inequality.

Secondly, and most importantly, democracy and distributional equality are both good for growth. Moreover, more equality in the distribution of wealth is good for both democracy and growth. Therefore, because economic growth does not lead concurrently to an equal distribution of the spoils of an economic boom, governments must step in and take action, initiating policies that will lead to a more equal distribution of income. Only in taking such action can democracy become consolidated and economic growth become sustainable.

DEDICATION

For my mentor, my role-model, my inspiration, my coach, my tutor, my fan, my motivation, my walking dictionary & encyclopedia, my confidant, my friend,

my beloved father, with a song in his heart

James F. Burns
1920 – 1996

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Chapter One

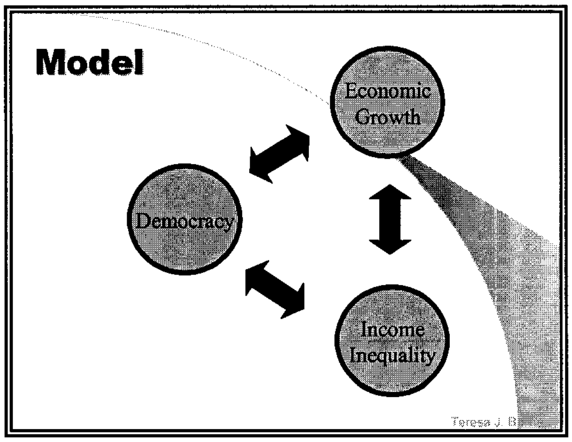
INTRODUCTION

Democratization has become a widespread movement in the developing world throughout the past two decades, as has become the move toward market economy. The recent wave of democratization in developing countries as well as in the former Eastern Bloc countries has ignited a renewed academic interest in the relationship between politics and economics.

The ability of new democratic governments to consolidate a democracy in the face of strict economic adjustments has been questioned by many economic and political experts. Some believe that either economic reform would undermine democracy by placing undue strains on fragile institutions, or that democratic politics would undermine the economic reform policies, generating economic deterioration. Can a developing country balance a stable democracy with a well-functioning market economy? Does economic growth come only at the *expense of income equality* and is increased poverty a necessary side effect of rapid growth? This dissertation examines the links between democracy, economic growth, and income inequality. I propose that although democratic freedoms have the potential to facilitate economic growth, this cannot take place as long as income inequality is increasing.

CONCEPTUAL FRAMEWORK

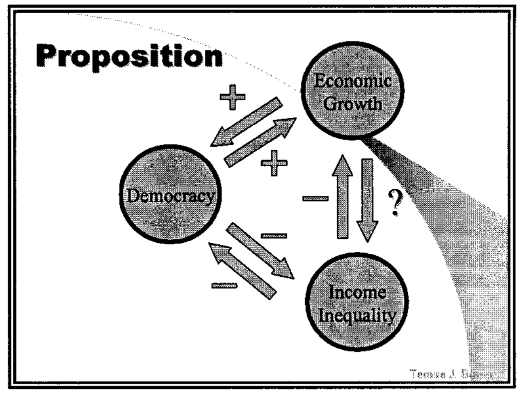
A review of the literature of the academic work that has been done to date in political science, economics, and sociology linking democracy, economic growth, and income inequality shows an astonishing array of contradictions. For each documented claim of a relation between, say, democracy and inequality, there is



an equally forceful and contradictory claim for the opposite relationship. A major factor contributing to the confusion in grasping and comprehending the causal connections, especially the *directions* of these connections, has been the notion that these connections are linear, i.e. that one occurs first and then influences the outcome of the second.

The major contribution of the model proposed in this dissertation is the proposition that these three phenomena - democratization, economic growth, and changes in income inequality - occur concurrently, and thus affect each other *simultaneously.*

Using a simultaneous equations model, this dissertation shows by rigorously testing, across a large sample of countries, democratization, economic growth, and income inequality as they affect each other simultaneously. This dissertation provides a valuable contribution towards understanding the links between these three phenomena.



I suggest that increased levels of democratic freedom lead to a decrease in income inequality and that increased income inequality inhibits democratic development. I hypothesize that an increase in economic growth leads to an increase in democratic freedom, and that an increased level of democratic freedom in a country facilitates economic growth. I propose that increased income inequality leads to a decrease in economic growth, but economic growth does not automatically lead to a decrease in income inequality. If a country wants to increase it economic growth rate, it must create and strengthen democratic institutions, which directly aids economic growth and indirectly assists economic growth through the reduction of income inequality.

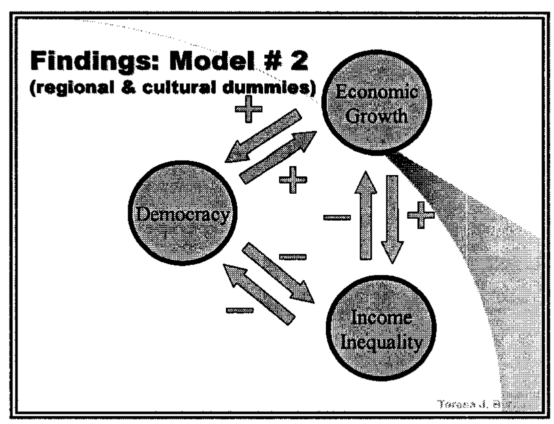
ORGANIZATION OF THIS DISSERTATION

In the first section of this dissertation, I synthesize and categorize the wide range of literature dealing with democracy, economic growth, and income inequality. Taking into account the quantity of research that has been done on these topics over the last twenty years, this has proven to be an ambitious task indeed.

Using data derived from the Summers and Heston, Barro, Gastil, and World Bank data sets, I explore how these three elements, democracy, economic growth, and income inequality, affect each other *simultaneously*. To do so I carry out a two-stage simultaneous regression analysis of my model over a period of 36 years (1960-1996) using measures for democracy, economic growth, and income inequality as the endogenous variables. To ascertain the links between democracy, economic growth, and income inequality, I test these causal connections using two different specifications. The first specification does not control for regional and dummy variables and the second specification adds these controls.

FINDINGS

The results of the second specification, which has stronger theoretical support and displays a better fit, support my hypothesis. My findings show that, as predicted, democracy and income inequality have a mutually reinforcing negative effect on each other, though the determinants are not statistically significant. Also my findings indicate that democracy and economic growth have a mutually reinforcing positive effect on each other, although only the effect of growth on democracy is statically significant.



The relationship between income inequality and growth, however, is more precarious. Growth on its own does not automatically reduce income inequality; in fact my results show that growth creates income inequality. Inequality, at the same time, gets in the way of economic growth, creating a vicious cycle.

A second potentially dangerous trap faced by developing countries that are attempting to democratize and stimulate growth simultaneously, is that, according to my findings, growth helps to consolidate democratic institutions, but growth also produces inequality, which is harmful to democracy.

The good news, however, is that democracy stimulates growth, not only on its own accord, but also by working indirectly through income inequality. Democracy reduces income inequality and a more equal distribution of income has a positive and significant effect on growth.

IMPLICATIONS OF THIS RESEARCH

This research has powerful real-world implications. The lessons to be learned are, firstly, a country that wishes to democratize must simultaneously take measures to reduce income inequality, or else inequality - with its stifling effect on growth - will neutralize the benefits of growth on democratic consolidation. In order to offset the negative effect that growth has on distributional equality and the negative effect inequality has on growth, democratic governments need to take measures that simultaneously increase growth and decrease inequality, e.g. improvements in education and infrastructure, as well as inflation reducing policies.[1]

Secondly, and most importantly, democracy and distributional equality are both good for growth. Moreover, more equality in the distribution of wealth is good for both democracy and growth. Therefore, because economic growth does not lead concurrently to an equal distribution of the spoils of an economic boom, governments must step in and take action, initiating policies that will lead to a more equal distribution of income. Only in taking such action can democracy become consolidated and economic growth become sustainable.

[1] Humberto Lopez (2005). "Pro-growth, pro-poor: Is there a trade-off?" The World Bank (PRMPR) April 20, 2005.

Chapter Two

LITERATURE REVIEW AND THEORETICAL BACKGROUND

In this section I offer a brief summary of the academic work that has been done to date in political science, economics, and sociology linking democracy, economic growth, and income inequality.

DEMOCRACY & ECONOMIC GROWTH

The causal connection between democracy and growth has captivated the attention of scholars across disciplines, making this one of the most growing and dynamic areas of research for economists, sociologists, as well as political scientists. As early as 1959, Seymour Lipset (1959) stated that "[p]erhaps the most widespread generalization linking political systems to other aspects of society has been that democracy is related to the state of economic development."[2]

ECONOMIC GROWTH → DEMOCRACY

↑ Economic Growth ≠ ↑ Democracy. Arat (1988) and Gonick & Rosh (1988) found that increasing economic growth does not necessarily lead to higher levels of democracy. Burkhart and Lewis-Beck (1994) suggest that design, specification, and measurement problems could have led to these "surprisingly weak findings."[3] Muller (1995) suggests that the missing link in these studies may be income inequality. Income inequality negatively affects democracy and this "often counteracts the positive influence of economic development."[4]

↑ Economic Growth → ↑ Democracy. This dissertation follows the reasoning and evidence of studies, such as those done by Jackman (1973), Bollen (1979, 1983), Bollen and Jackman (1985), and Brunk, Caldeira, and Lewis-Beck (1987), which have all found that economic growth has a statistically significant effect on democracy. Burkhart and Lewis-Beck (1994) also found that "economic development has a highly significant impact on democratic performance."[5] A common explanation offered for this connection has been that as a larger number of citizens enjoy increasing economic benefits, they will increase their demands for political freedoms associated with democracy.[6] Moreover, rising incomes make it possible for citizens to consume more "luxury goods," such as education. Well-educated people have a greater tendency to demand more civil rights and political freedoms.[7]

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[2] Seymour M. Lipset, "Some Social Requisites for Democracy," *American Political Science Review*, Vol. 53 (1959): 69-105.
[3] Ross E. Burkhart and Michael S. Lewis-Beck, "Comparative Democracy: The Economic Development Thesis," *American Political Science Review*, Vol. 88, No. 4 (1994): 903.
[4] Edward N. Muller, "Economic Determinants of Democracy," *American Sociological Review*, Vol. 60, Issue 6 (December 1995), 966-982.
[5] Burkhart and Lewis-Beck (1994): 906.
[6] See, for example, Robert Dahl, *Democracy and Its Critics* (New Haven: Yale, 1989).
[7] Karen Pennar *et al.*, "Is Democracy Bad for Growth?" *Business Week* (June 7, 1993): 84-8.

DEMOCRACY → ECONOMIC GROWTH

Arguments have also been made to support reverse causality, claiming that democracy affects economic growth. "It has been increasingly realized," notes Yi Feng, "that political institutions affect economic growth significantly, and it is crucial to identify the political determinants of economic performance so that appropriate political environments can be created to facilitate growth."[8] Assertions have been made both that democracy improves the chance for economic growth and that democracy stifles growth. Each argument has been backed by empirical evidence and well thought out theoretical logic.

↑ Democracy → ↓ Economic Growth. Sirowy and Inkeles (1990) find that democracy gets in the way of economic growth, especially in the developing world.[9] Nascent democracies, according to this argument, are too premature and unstable to implement the kind of sweeping state involvement required to spur development in the present global context.

Another explanation as to why democracy hinders growth assumes that autocratic control and reduced freedom is necessary for a developing country to grow rapidly (Johnson 1964; Gerschenkron 1962; Moore 1966; Huntington

[8] Yi Feng, "Democracy and Growth: The Sub-Saharan African Case, 1960-1992," *The Review of Black Political Economy*, Vol. 25 (Summer 1996): 94.
[9] Larry Sirowy and Alex Inkeles, "The Effects of Democracy on Economic Growth and Inequality: A Review," *Studies in Comparative International Development*, Vol. 25 (1990): 126-157.

1987).[10]

↑ Democracy → ↑ Economic Growth. The argument that democracy promotes economic growth, on the other hand, is based on the assumptions that democratic institutions and guaranteed political rights and civil liberties offer the best opportunity for equitable and sustained growth. Smith (1937), Hayek (1944), Lipset (1959), Friedman (1961), Mises (1981), and Riker & Weimer (1993) all present good examples of this line of thought.[11] Scully (1988) and Grier & Tullock (1989) have backed this argument up with statistically analyses.[12] Feng (1997) detected a "positive indirect effect of democracy on growth through the channel of political stability."[13]

My hypothesis proposes that democracy will have a positive effect on economic growth through two channels. I suggest that democratization will have a positive effect on growth both directly and indirectly through democracy's effect on

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[10] See John W. Johnson, *The Military and Society in Latin America* (Stanford: 1964); Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge: 1962); Barrington Moore Jr., *Social Origins of Dictatorship and Democracy* (Boston: 1966); Samuel Huntington, *Understanding Political Development* (Boston: 1987); cited in Feng (1996): 98.

[11] See Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: 1937); F.A. Hayek, *The Road to Serfdom* (Chicago: 1944); Seymour M. Lipset, "Some Social Requisites for Democracy: Economic Development and Political Development," *American Political Science Review*, Vol. 53 (1959): 69-105; Milton Friedman, "Capitalism and Freedom," *New Individualist Review*, Vol. 1 (1961): 3-10; L.V. Mises, *Socialism: An Economic and Sociological Analysis* (Indianapolis: 1981); and William H. Riker & David L. Weimer, "The Economic and Political Liberalization of Socialism: The Fundamental Problem of Property Rights," *Social Philosophy and Policy*, Vol. 10 (1993): 79-102; cited in Yi Feng, "Democracy and Growth: The Sub-Saharan African Case, 1960-1992," The Review of Black Political Economy, Vol. 25 (Summer 1996): 98.

[12] Gerald Scully, "The Institutional Framework and Economic Development," *Journal of Political Economy*, Vol. 98 (1988): 652-662; Kevin B. Grier and Gordon Tullock, "An Empirical Analysis of Cross-National Economic Growth: 1951-1980," *Journal of Monetary Economics*, Vol. 24 (1989): 259-76.

[13] Yi Feng, "Democracy, Political Stability and Economic Growth," *British Journal of Political Science*, Vol. 27, No. 3 (1997): 396.

income inequality. Democracy reduces distributional inequalities, which in turn stimulates growth.

TABLE 1 **Democracy & Economic Growth**

Author	Growth → Democracy	Democracy → Growth
Jackman (1973)	↑	
Bollen (1979, 1983)	↑	
Bollen & Jackman (1985)	↑	
Brunk, Caldeira, & Lewis-Beck (1987)	↑	
Burkhart & Lewis-Beck (1994)	↑	
Arat (1988)	---	
Gonick & Rosh (1988)	---	
Sirowy & Inkeles (1990)		↓
Johnson (1964)		↓
Gerschenkron (1962)		↓
Moore (1966)		↓
Huntington (1987)		↓
Azam (1994)		↓
Smith (1937)		↑
Hayek (1944)		↑
Lipset (1959)		↑
Friedman (1961)		↑
Mises (1981)		↑
Riker & Weimer (1993)		↑
Scully (1988)		↑
Grier & Tullock (1989)		↑
Feng (1997)		↑
Kormendi & Meguire (1985)		↑
Pye 1966		---
McKinlay & Cohan (1975)		---

↑ *represents an increase in the second phenomenon as a result of the first*
↓ *represents an decrease in the second phenomenon as a result of the first*

DEMOCRACY & INCOME INEQUALITY

A perpetual theme in comparative analyses of democracy and income inequality has been that democracy, with its concentration on political equality, facilitates a more far-reaching social and material equality. Dating back to Aristotle, arguments have been made purporting that at the same time that democracy reduces the inequalities in the distribution of political power, material inequalities will also decrease. In a like manner, it has been suggested that income inequality creates an obstacle that undermines democratic political structures.[14] Data on the distribution of income within nations first became available in the early 1970s and since then numerous cross-national tests have been carried out to test the relationship between the level of political democracy and the degree of income inequality.

DEMOCRACY → INCOME INEQUALITY

↑ Democracy → ↑ Income Inequality. On the one side of the spectrum, Nancy Birdsall, executive vice president of the Inter-American Development Bank, notes that it is ironic that "inequality is growing at a time when the triumph of democracy and open markets" were supposed to "usher in a new age of freedom and opportunity." Quite the contrary, she purports that "democracy has made income gaps in regions such as Latin America more visible and looks more and

[14] Kenneth A. Bollen and Robert W. Jackman, "Political Democracy and the Size Distribution of Income," *American Sociological Review*, Vol. 50, No. 4 (1985): 438.

more like an accomplice in a vicious circle of inequality and injustice."[15] I reject this argument.

↑ Democracy → ↓ Income Inequality. It is the premise of this study that more democracy leads to a decrease in income inequality (Key, 1949; Lenski, 1966; Stack, 1978; Stack, 1980; Weede & Riefenbach, 1981; Weede, 1982; Muller, 1988; Simpson, 1990; Nielsen, 1994; and Nielsen & Alderson, 1995; Hewitt, 1997).

Key (1949) suggests that democratic institutions have a significant effect on income distribution because they offer the opportunity for political competition. He concludes that competition between political parties offers the "have nots" an opportunity to take effective political action and possibly bring about political outcomes that are more advantageous to them. Lenski (1966) and Simpson (1990) expand on Key's argument, suggesting that both elections and the right to organize political opposition empower disadvantaged groups. In a democratic system these groups have more channels open to them to effect a more equal distribution of goods. "When a nation has few democratic rights," elaborates Miles Simpson, "they will be concentrated in the hands of an elite who will use them to their economic advantage. Only when political participation is extended to a critical mass of citizens will economic inequality decline."[16]

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[15] Nancy Birdsall, "Life is Unfair," *Foreign Policy* (Summer 1998).
[16] Miles Simpson, „Political Rights and Income Inequality: A Cross-National Test," *American Sociological Review*, Vol. 55 (Oct. 1990), p. 689.

Stack (1978), Weede (1982), and Muller (1988) provide empirical backing for the hypothesis that democracy reduces inequality.[17] Incorporated into this discussion has also been the idea of economic growth. The reasoning behind this inclusion is that economic development has led to more democratic societies, which have brought about more egalitarian social systems.[18] We take a more detailed look at the relationship between economic growth and income inequality in the next section. Edward Muller (1988), measuring the effect of the democratic experience over time, while controlling for economic growth, found democracy to have a strong negative impact on income inequality. He suggests that the failure of many of his predecessors to find a significant connection has to do with the fact that their measure of democracy was at a single point in time, rather than across time. This would assume that democracy has an immediate effect on inequality - a notion that Muller finds to be "implausible."[19] This dissertation takes this into consideration and measures the effect of democracy on income inequality over a 36 year period.

INCOME INEQUALITY → DEMOCRACY

↑ Income Inequality → ↓ Democracy. Reversing causality, this dissertation also

[17] See Steven Stack, "Internal Political Organization and the World Economy of Income Inequality," *American Sociological Review*, Vol. 43 (1978): 271-72; Erich Weede, "The Effects of Democracy and Socialist Strength on the Size Distribution of Income," *International Journal of Comparative Sociology*, Vol. 23 (1982): 151-65; cited in Edward Muller, "Democracy, Economic Development, and Income Inequality," *American Sociological Review*, Vol. 53, No. 1 (1988): 50.

[18] Jackman, Robert W., "Political Democracy and Social Equality: A Comparative Analysis," *American Sociological Review*, Vol. 39, No. 1 (1974): 29.

[19] Edward N. Muller, "Democracy, Economic Development, and Income Inequality," *American Sociological Review*, Vol. 53, No. 1 (1988): 50-51.

suggests that economic inequality inhibits the development and consolidation of democratic political structures. Dahl (1971) maintains that drastic inequalities in the distribution of material wealth work against democratic regimes. The argument is that concentrated wealth may cause political power to also be concentrated and could enable elites to prevent reforms that would empower the disadvantaged. A second explanation is that these inequalities could lead to frustration and unrest, to which a democratic regime is more sensitive.[20] Rubinson and Quinlan (1977) provide empirical support that inequality negatively affects the level of democracy.

[20] Dahl (1971)

TABLE 2 **Democracy & Income Inequality**

Author	Democracy → Income Inequality	Income Inequality → Democracy
Birdsall (1998)	↑	
Crenshaw (1992)	↑	
Crenshaw (1993)	↑	
Muller (1989b)	↑	
Weede (1990)	↑	
Key (1949)	↓	
Lenski (1966)	↓	
Stack (1978)	↓	
Stack (1980)	↓	
Weede & Riefenbach (1981)	↓	
Weede (1982)	↓	
Muller (1988)	↓	
Simpson (1990)	↓	
Nielsen (1994)	↓	
Nielsen & Alderson (1995)	↓	
Hewitt (1997)	↓	
Gradstein, Milanovic, & Ying (2001)	↓	
Dahl (1971)		↓
Rubinson & Quinlan (1977)		↓
Bollen & Jackman (1985)	–	–

↑ *represents an increase in the second phenomenon as a result of the first*
↓ *represents an decrease in the second phenomenon as a result of the first*

ECONOMIC GROWTH & INCOME INEQUALITY

The developing market economies had favorable economic growth records during the 1960s and 1970s, outperforming the developed market economies. It soon became apparent, however, that large increases in aggregate income measures had done little, if anything, to improve the situation for the poor. Consequently, development theorists redirected their attention from growth maximization to personal income distribution.

ECONOMIC GROWTH → INCOME INEQUALITY

↑ Economic Growth → ↑ Income Inequality. Conventional explanations of the linkage between economic growth and income inequality have illustrated rising income inequality as a result or an unfortunate (but necessary) by-product of high rates of economic growth. Nobel Laureate W. Arthur Lewis, for example, perceived equality and economic development as "two horses [which] will not go in the same direction."[21] According to Lewis (1955), economic growth is "dependent upon the inequality of income."[22] Growth, Lewis contends, is an "inegalitarian process." Development "must be inegalitarian," Lewis (1983) goes on to say, "because it does not start in every part of the economy at the same

[21] W. Arthur Lewis, *The Theory of Economic Growth* (1955): 380; cited in Jerry B. Eckert, "Income Distribution and Development: A Critique of Current Methodology," in Kenneth C. Nobe and Rajan K. Sampath, *Issues in Third World Development* (Boulder: 1983): 37.
[22] Lewis (1955): 428.

time."[23] Kuznets (1955) also suggests that economic growth and structural change lead to rising inequality.[24] According to Kuznets' hypothesis, inequality first increases as workers move from a low to a high productivity sector. The situation improves, however, over the course of development.

↑ Economic Growth → ↓ Income Inequality. According to a World Bank study, "income inequality, as measured by the Gini, is responsive to fluctuations in economic growth." The results of this study indicate that "recession is associated with rising inequality"[25] and vice versa. Fields (2001) performed an extensive review of the literature and methods used to examine the effect of economic growth and income inequality and found the dominant pattern not to be the inverted-U suggested by Kuznets but rather "a fall in inequality over time during the twentieth century."[26]

INCOME INEQUALITY → ECONOMIC GROWTH

↑ Income Inequality → ↑ Economic Growth. Galenson and Leibenstein (1955) and Kaldor (1978) saw the causality running in the other direction. According to these authors, high income inequality leads to more rapid growth. The argument

[23] Lewis (1983)
[24] Kuznets, Simon, "Economic Growth and Income Inequality," *American Economic Review*, 45 (1955): 1-28.
[25] George Psacharopoulos, Samuel Morley, Ariel Riszbein, Haeduck Lee, & Bill Wood, *Poverty and Income Distribution in Latin America: The Story of the 1980s* (The World Bank 1997): 22.
[26] G. S. Fields, *Distribution and Development: A New Look at the Developing World.* NY, Russel Sage Foundation, (2001): 65.

here is centered around savings. When the rich have greater propensity to save than the poor, the aggregate savings are larger, which explains the more rapid growth and capital accumulation. If it is true that the level of savings rises with income, then it follows that a more equitable distribution of resources will decrease the level of savings and thus decrease economic growth.[27] Persson and Tabellini (1994), Forbes (1997), Li and Zou (1998), Forbes (2000) all offer arguments as to why income inequality stimulates economic growth.

↑ Income Inequality → ↓ Economic Growth. Following the lead of Birdsall, Pinckney, and Sabot (1996), I also break with conventional wisdom on this issue. These authors find that high levels of inequality turn out to be a constraint on growth, while low inequality actually spurs growth. They focus in their study on the behavior of poor households. "If returns to labor are sufficiently high," they hypothesize, the poor can "intensify their work effort to generate additional income to provide the funds for high return investments," triggering a "savings and investment boom among the poor."[28] An alternative explanation comes from Felipe Larrain B. and Rodrigo Vergara M., who found in a recent study done at the Harvard Institute for International Development that distributive inequality negatively influences per capita growth. They argue that "inequality in income distribution retards the growth process of countries, because the greater

[27] Barro, Robert J., "Inequality, Growth, and Investment" NBER Working Paper No. 7038 (March 1999).
[28] Birdsall, Nancy, Thomas C. Pinckney, and Richard H. Sabot, *Why Low Inequality Spurs Growth: Savings and Investment by the Poor*, (Inter-American Development Bank Working Paper 327, March 1996): 2.

the inequality, the larger the possibility of social conflict. The mere perception of increased instability has a depressing effect on investment and thus on economic growth."[29] Alesina and Perotti (1996) make similar claims.

Alesina and Rodrik (1994) use the median voter theorem to argue that a more equal income distribution would be good for growth in democracies because "[i]ndividuals who have access to the productive assets of an economy are more likely to be restrained in their efforts to tax them."[30] Birdsall and Londoño (1997) maintain that "[e]conomists have recently put income inequality firmly on the agenda a possible constraint on growth."[31]

My hypothesis states that increasing income inequality, even in an atmosphere of increasing democratic freedoms, stifles economic growth. I go beyond the median voter theorem, however, to propose that income inequality will stifle economic growth even in a non-democratic system, a proposition that has been empirically supported by Larraín B. and Vergara M. (1997). Moreover, unequal distribution of income will directly hinder democratic development, which in turn will have a negative impact on economic growth.

[29] Larrain B., Felipe and Rodrigo Vergara M., *Income Distribution, Investment, and Growth: Development Discussion Paper No. 596* (Harvard Institute for International Development, August 1997).
[30] Alesina and Rodrik (1994): 46.
[31] Birdsall, N. and J. L. Londoño (1997). "Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction." *The American Economic Review* 87(2): 34.

TABLE 3 Economic Growth & Income Inequality

Author	Growth → Income Inequality	Income Inequality → Growth
Lewis (1955)	↑	
Kuznets (1955)	↑↓	
Lewis (1983)	↑	
Psacharopoulos, Morley, Riszbein, Lee, & Wood (1997)	↓	
Fields (2001)	↓	
Galenson & Leibenstein (1955)		↑
Kaldor (1978)		↑
Persson & Tabellini (1994)		↑
Forbes (1997)		↑
Li & Zou (1998, 1999)		↑
Forbes (2000)		↑
Birdsall, Pinckney, & Sabot (1996)		↓
Larrain B. & Vergara M. (1997)		↓
Alesina & Perotti (1996)		↓
Alesina & Rodrik (1994)		↓
Birdsall & Londoño (1997)		↓
Saint Paul & Verdier (1996)		↓
Benabou (1996, Table 2)		↓
Perotti (1996)		↓
Clark (1995)		↓
Weede (1997)		--
Barro (1999)	↑↓	--
Lopez (2005)	↑↓	--

↑ *represents an increase in the second phenomenon as a result of the first*
↓ *represents an decrease in the second phenomenon as a result of the first*

Chapter Three

STATISTICAL DESIGN

Using data derived from the Summers and Heston, Barro, Gastil, Freedom House, and World Bank data sets, I explore how these three elements, democracy, economic growth, and income inequality, affect each other *simultaneously* by carrying out a two-stage least-squared simultaneous regression analysis over a period of 36 years (1960-1996), using measures for democracy, economic growth, and income inequality as the endogenous variables.[32] In this chapter, I leave out the regional and cultural dummy variables, in order to see how much the model can explain without controlling for regions and cultures.

[32] To correct for contemporaneous correlation bias, I have chosen to test my hypothesis using a two-stage least squares regression. To ensure that my results are consistent, I also carry out a three-stage least-squared simultaneous regression analysis, using measures for democracy, economic growth, and income inequality as the endogenous variables. In addition, to examine the linear connections between democracy, economic growth, and income inequality I conduct three pooled time-series cross-sectional analyses of 113 countries across the globe, taking economic growth, democracy, and income inequality as the dependent variables. See Appendix 1.

MODEL SPECIFICATION

Growth = $\alpha + \beta_1$***democracy*** + β_2***inequality*** + β_3***init. GDP*** + β_4***education*** + β_5***investment*** + β_6***inflation*** + ε

Democracy = $\alpha + \beta_1$***growth*** + β_2***inequality*** + β_3***init. GDP*** + β_4***education*** + β_5***defense*** + ε

Income Inequality = $\alpha + \beta_1$***democracy*** + β_2***growth*** + β_3***init. GDP*** + β_4***2education*** + β_5***inflation*** + β_6***oil*** + ε

growth	=	average annual growth rate of GDP per capita (1970 to 1996) (Summers and Heston, "The Penn World Tables, Version 5.6," 2000)
democracy	=	political freedom (Gastil data set, various years; Freedom House 1990; Freedom House, *Freedom Review*, various years)
inequality	=	the average GINI coefficient measuring income inequality (1970-1996) (World Bank data set)
init. GDP	=	initial GDP per capita in 1960
education	=	primary school enrollment in 1960 (Barro data set, 1991)
2education	=	secondary education (males & females) (Barro data set, 1991)
investment	=	investment in 1960 (Summers and Heston 5.6)
inflation	=	average inflation rate from 1960 to 1996 (Summers and Heston 5.6)
defense	=	ratio of nominal government expenditure on defense to nominal GDP (Barro data set)
oil	=	dummy variable for oil-producing countries

GROWTH EQUATION

Growth is defined by the average growth rate in GDP per capita, lagged. I choose GDP per capita to measure economic growth, as it is both easy to quantify and has been linked in many scholarly works to social advantage.[33] Growth is measured for the period of 1960 to 1996 and uses the data adjusted by Summers and Heston for longitudinal comparison.[34] The growth measure is

The growth equation is made up of the endogenous variables, *free* (political freedom) and *gini* (the average GINI coefficient measuring income inequality for 1960-1996), along with the control variables GDP per capita in 1960, primary

[33] See, for example, Barro (1990), World Bank (1991), Eaterly et. al (1992), Mankiw, Romer, & Weil (1992), Fischer (1993), King & Rebelo (1998), and Easterly (1999).
[34] Summers and Heston, "The Penn World Tables, Version 5.6."

school enrollment in 1960, investment in 1960, the average inflation rate from 1960 to 1996.

The Gini coefficients measure how close a given income distribution is to absolute equality or inequality. The inclusion of GDP per capita in 1960 is useful as an indicator of initial economic development and is expected to have a negative impact on growth. This is due to, according to neoclassical models of growth, diminishing returns to capital.[35] Elementary school enrollment in 1960 (taken from the Barro data set),[36] included as an indicator for the initial accumulation of education, has been shown in studies to have a positive relationship with growth.[37] Investment has been shown in numerous studies to stimulate growth. I, therefore, following the lead of Kormendi and Meguire (1985), Barro (1991), Levine and Renelt (1992), and Feng (2003), also include the ratio of domestic investment to GDP as a control variable in this study. Finally, most consider that inflation stifles growth. Stockholm (1981), for example, claims that higher anticipated inflation decreases economic activities, and that in turn lowers investment and growth. Empirical tests have backed this proposition, such as Kormendi and Meguire (1985), Schneider and Frey (1985), and Barro (1997, 1999). I use the average inflation rate, constructed from the GDP inflator

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[35] Robert M. Solow, "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics*, 34 (1956), 65-94.
[36] Robert Barro, "Economic Growth in a Cross-Section of Countries," *Quarterly Journal of Economics*, Vol. 106 (1991): 408-443.
[37] Glick & Sahn (1997); World Development Report (1990).

for the countries in the study. The data are taken from Summers and Heston (2000).

DEMOCRACY EQUATION

To measure the level of democracy in a country, I use a variable termed "political freedom." Political freedom, taken from the Gastil and Freedom House data sets,[38] is used to measure the level of democracy in a country. The variable assesses political rights that enable people to freely participate in the political process. It includes measures such as the right to vote and compete for public office and to elect representatives who have a decisive vote on public policies. Freedom House investigates to what degree the system offers voters the opportunity to freely choose candidates and to what degree the candidates are chosen independently of the state. The survey also considers whether or not the military in a country retains a significant political role, and whether a king maintains substantial power over the elected politicians.

I include in this equation the other endogenous variables, growth and income inequality. Moreover, I include control variables for initial GDP per capita in 1960 and primary school enrollment in 1960. Heliwell's argument that there is a "strong tendency for democracy to become the chosen and maintained form of

[38] R. Gastil, *Freedom in the World* (Westport, CT: Greenwood Press 1978-1990). Freedom House (various years). "Tables of Independent States: Comparative Measures of Freedom." *Freedom Review*.

government as countries get richer and as education levels increase"[39] is convincing.

As an additional control variable for the democracy equation, I include ratio of nominal government expenditure on defense to nominal GDP. Ali and Galbraith (2003) have proposed that "high levels of military spending may reflect the use of violence as a means of social control, notably against trade unions and other egalitarian social forces. It is not surprising," they deduce, "to witness that higher military spending means more societal control and a sacrifice of egalitarian values."[40] A higher degree of social control would also mean a decrease in the individual freedoms associated with a democratic system. I therefore hypothesize that the percentage of government spending for defense will negatively affect democratic development. The data is taken from the Barro data set.

INCOME INEQUALITY EQUATION

To measure income inequality, I use "Gini coefficients." The Gini coefficients used here are taken from an expanded version of the Deininger-Squire data set (Deininger and Squire 1996).[41] These coefficients measure how close a given income distribution is to absolute equality or inequality. As the coefficient moves

[39] Helliwell, "Empirical Linkages between Democracy and Economic Growth," *British Journal of Political Science*, Vol. 24 (1994): 246.
[40] Hamid E Ali and James Galbraith, "Military Expenditures and Inequality: Empirical Evidence from Global Data" (The University of Texas at Austin: UTIP Working Paper NO. 24, October 10, 2003): 2.
[41] World Bank, *www.worldbank.org*

toward 1, the distribution of income approaches perfect equality. As it moves toward 100, the distribution of income approaches absolute inequality. In order to lesson the discrepancy factor, the Gini coefficient requires some systematic adjustment. I apply the averaging method used by Perotti (1996) and Feng (2003). Included in the equation are the other two endogenous variables, growth and political freedom, as well as control variables for secondary education in 1960, initial GDP, inflation, and oil.

In the nineteenth century, John Stuart Mill predicted that the extension of education to a higher portion of the population would bring about a decrease in inequality. This prediction is widely supported by social scientists who believe that, based on supply and demand, the increased availability of qualified personnel stimulates an increase in competition, and this in turn causes a relative decline in jobs with higher wages.[42] According to Jeffrey Williamson, "the rate of skills deepening (that is, the rise in skills per member of the labor force) correlates well (and inversely) with skills scarcity, earnings inequality, and income inequality".[43] As a result of the strong negative correlation that is prevalent in the literature between the spread of education and income

[42] Jaque Lecaillon, Felix Paukert, Christina Morrisson, and Dimitri Germidis, *Income Distribution and Economic Development: An Analytical Survey* (Geneva, Switzerland: International Labour Office 1984), p. 88; Francois Nielsen and Arthur S. Alderson, „Income Inequality, Development, and Dualism: Results from an Unbalanced Cross-National Panel," in *American Sociological Review*, Vol. 60 (Oct. 1995), p. 682.
[43] Jeffrey Williamson, *Inequality, Poverty, and History* (Cambridge, MA: Basil Blackwell 1991), p. 27.

inequality,[44] I include the proportion of the population with a secondary education as a variable in my model. These data are taken from Barro data set.[45]

To control for initial wealth, I use a measure of GDP per capita based on international dollars, which were derived from purchasing-power-parity comparison. These data come from the Summers and Heston (2000)'s data set.

As additional control variables for the income inequality equation, I include inflation and a dummy variable for oil producing nations. Inflation has been shown to exacerbate income inequality and oil revenues are also likely to decrease inequality, at least in the short-run. The re-distributive policies made possible by oil profits have helped to reduce poverty and income inequality in the region, but these policies have not been complemented by non-oil trade diversification and they have allowed governments to postpone serious economic and political reforms that would make growth sustainable.[46]

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[44] Miles Simpson, "Political Rights and Income Inequality: A Cross-National Test," *American Sociological Review*, Vol. 55 (Oct. 1990), p. 689.

[45] Barro, 1991.

[46] World Bank (2004). "Middle East and North Africa Region Strategy Paper." I also believe that oil will have a negative impact on growth and democracy. Oil has enabled many countries to postpone reforms, while at the same time carrying out social and employment policies that are proving increasingly unsustainable. Oil has also allowed states to initiate generous distribution programs to pacify and depoliticize the bourgeoisie and other potential centers of power. I have left oil out of these equations, however, for identification purposes.

Chapter Four

RESULTS OF BASE MODEL

ESTIMATIONS FOR DEMOCRACY

The simultaneous equations model fits pretty well with an R^2 of 0.66 and a mean squared error of 0.18. The signs for initial GDP and initial education level are positive and statistically significant, indicating the higher the initial GDP and initial education level, the higher the level of democratic freedom. Growth, on the other hand, seems to be harmful to democracy in this model, though the determinant is not significant.

Income inequality is an obstacle to democratic development, as expected, but the determinant is not significant. The negative sign could support Dahl's hypothesis stating that drastic inequalities in the distribution of material wealth work against democratic regimes. My findings also support Rubinson and Quinlan (1977) who found that inequality negatively affected the level of democracy.[47]

The percentage of government spending on defense proves also to be a highly significant impediment to democracy across all three equations.

ESTIMATIONS FOR INCOME INEQUALITY

The model does not have a very good fit with an R^2 of 0.25. My findings indicate that initial GDP, education level, and inflation all have a negative impact on income inequality, as expected. Secondary school education attained by males and females proved to be a significant and negative indicator of income inequality, implying the larger percentage of males and females who attain a secondary school education, the lower the distributional inequalities. This supports work done by Lecaillon, Paukert, Morrisson, and Germidis (1984), Nielsen and Alderson (1995), and Williamson (1991).

Democracy and economic growth both increase income inequality, though only democracy is significant. The positive sign for growth supports the theories of Lewis (1955) and Kuznets (1955) who purport that growth will produce inequality, at least initially.

Democracy, according to my findings, also seems to be hazardous to distributional equality when working simultaneously with economic growth, supporting the work done by Birdsall (1998), Crenshaw (1992) Crenshaw (1993), Muller (1989b), and Weede (1990).

ESTIMATIONS FOR ECONOMIC GROWTH

As expected, income inequality, initial GDP per capita, and inflation levels have a negative effect on economic growth. Income inequality and initial GDP are highly significant. The simultaneous equations model has an R^2 of 0.43. My findings on the effect of income inequality on growth support Birdsall, Pinckney,

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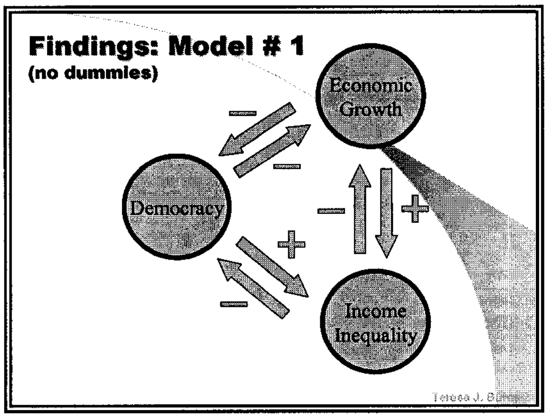
[47] Dahl, 1971; Richard Rubinson and Dan Quinlan, "Democracy and Social Inequality: A Reanalysis," *(footnote continued)*

and Sabot (1996) who maintain that high levels of inequality put a constraint on growth, while low inequality spurs growth.



Initial education level and investment have, as expected, a positive and highly significant effect on growth. The positive effect of education on growth supports the work of Glick & Sahn (1997), among others.

Democracy, when considered in this model, has a negative but not statistically significant effect on growth. This supports work done by Sirowy & Inkeles (1990), Johnson (1964), Gerschenkron (1962), Moore (1966), Huntington (1987), and Azam (1994).

American Sociological Review, Vol. 42 (1977): 611-23.

TABLE 4 *Joint Estimation of Growth, Democracy, and Income Inequality (2SLS) on 113 Countries Across the Globe (no regional or cultural dummy variables)*

Growth	Democracy	-0.004	(0.0157)
	Income Inequality	-0.0009**	(0.0004)
	GDP per capita (1960)	-0.005***	(0.0017)
	Prim. School (1960)	0.022**	(0.0096)
	Investment (1960)	0.001***	(0.0003)
	Inflation Rate (1960-96)	-0.027	(0.065)
	Intercept	0.039**	(0.019)
	R^2 (Root MSE)	0.43	(0.013)
	Adjusted R^2 (Root MSE)	0.38	(0.013)
	No. of Observations	78	
Democracy	Growth	-0.66	(3.61)
	Income Inequality	-0.008	(0.006)
	GDP per capita (1960)	0.06**	(0.25)
	Prim. School (1960)	0.40***	(0.15)
	% Govt Expend. Defense	-2.40***	(0.88)
	Intercept	0.60**	(0.30)
	R^2 (Root MSE)	0.66	(0.18)
	Adjusted R^2 (Root MSE)	0.63	(0.18)
	No. of Observations		
Income Inequality	Growth	40.4	(135.9)
	Democracy	19.1*	(12.0)
	GDP per capita (1960)	-0.95	(1.48)
	Sec. School (1960)	-35.4***	(11.0)
	Inflation	-1.34	(50.0)
	Oil	0.41	(4.39)
	Intercept	39.4***	(4.45)
	R^2 (Root MSE)	0.25	(9.24)
	Adjusted R^2 (Root MSE)	0.19	(9.24)
	No. of Observations	78	

**** Significant to < 0.01, ** Significant to < 0.05, * Significant to < 0.1 (standard errors in parentheses)*

Chapter Five

MODEL VARIATION TO ACCOUNT FOR REGIONAL AND CULTURAL SPECIFICITIES

The results of my base model were inconsistent with my hypothesis. First of all, this model shows that democracy has a negative impact on growth, and growth has a negative impact on democracy, which is exactly opposite of my proposition. Moreover, democracy in this model seems to increase income inequality, which also runs counter to my hypothesis.

Because my hypothesis has a strong theoretical foundation, however, I believe that the problem lies not in the theory itself, but rather in the specification of the model. In order to account for more variance and to increase the explanatory power of my model, therefore, I control for several regional and cultural dummy variables.

As a variation to the democracy equation, I add a variable for Muslim countries. According to Freedom House data, 81% of Muslim countries (38 countries) did not have an electoral democratic system in 2003, as compared the 19% (9 countries) that did. Seventy-seven percent of all non-Muslim countries (112 countries) were electoral democracies in 2003.[48] Because of the lack of experience with a democratic political culture as well as Islam's emphasis on a collective consciousness rather than individualism and individual freedom, I expect that

Muslim societies will be less likely to democratize. Members of Muslim communities are expected to sacrifice individual aspirations and freedoms for the good of the entire community - the *ummah*.

In order to increase the explanatory power of the model, I also include dummy variables for Latin America and Sub-Saharan Africa in the income inequality equation. I have reason to believe that Latin America and Sub-Saharan Africa, given their history of income inequality and only recent tendency towards democratic transition, will exhibit characteristics distinct from the rest of the model. A glance at the Gini coefficients for these areas support this expectation.[49]

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[48] Freedom House. Freedom In The World 2003: Selected Data From Freedom House's Annual Global Survey of Political Rights and Civil Liberties. <www.freedomhouse.org/research/survey2003.htm>

[49] I also expect that Muslim societies, given their tendency to be "intrinsically more equal," will exhibit characteristics distinct from the rest of the model. A glance at the Gini coefficients for these areas supports this expectation. A dummy variable for Islam in the income inequality equation was found to be insignificant and added nothing to the explanatory power of the model.

Growth = $\alpha + \beta_1$***democracy*** + β_2***inequality*** + β_3***init.GDP*** + β_4***education*** + β_5***investment*** + β_6***inflation*** + ε

Democracy = $\alpha + \beta_1$***growth*** + β_2***inequality*** + β_3***init.GDP*** + β_4***education*** + β_5***defense*** + β_6***Islam*** + ε

Income Inequality = $\alpha + \beta_1$***growth*** + β_2***democracy*** + β_3***init.GDP*** + β_4***2education*** + β_5***L.A.*** + β_6***Africa*** + β_7***inflation*** + β_8***oil*** + ε

growth	=	average annual growth rate of GDP per capita (1970 to 1996) (Summers and Heston, "The Penn World Tables, Version 5.6.")
democracy	=	political freedom (Gastil data set, various years; Freedom House 1990; Freedom House, *Freedom Review*, various years)
inequality	=	the average GINI coefficient measuring income inequality (1970-1996) (World Bank data set)
init. GDP	=	initial GDP per capita in 1960
education	=	primary school enrollment in 1960 (Barro data set, 1991)
2education	=	secondary education (males & females) (Barro data set, 1991)
investment	=	investment in 1960 (Summers and Heston 5.6)
inflation	=	average inflation rate from 1960 to 1996 (Summers and Heston 5.6)
defense	=	ratio of nominal government expenditure on defense to nominal GDP (Barro data set)
oil	=	dummy variable for oil-producing countries
Islam	=	dummy variable for countries with more than 50% Muslim population
L.A.	=	dummy variable for countries in Latin America
Africa	=	dummy variable for countries in Sub-Saharan Africa

Chapter Six

RESULTS OF MODEL INCLUDING REGIONAL & CULTURAL CONTROLS

ESTIMATIONS FOR GROWTH

When controlling for Latin America and Africa in income inequality equation, democracy seems to increase economic growth, though not at a statistically significant level. The finding that democracy can stimulate economic growth supports the work done by Smith (1937), Hayek (1944), Lipset (1959), Friedman (1961), Mises (1981), Riker & Weimer (1993), Scully (1988), Grier & Tullock (1989), Feng (1997), Kormendi & Meguire (1985).

As expected, initial GDP per capita, and inflation levels have a negative effect on economic growth. Income inequality and initial GDP are highly significant. This model including regional and cultural dummy variables has a better fit with an R^2 of 0.47 with a mean standardized error of 0.013.

One causal connection that can be clearly mapped out from both these models is that income inequality stifles growth at a statistically significant level. 2SLS and 3SLS estimations of both models verify this conclusion. The addition of regional or cultural variables does not decrease the impeding effect income inequality has upon economic growth. My findings on the effect of income inequality on growth support Birdsall, Pinckney, and Sabot (1996) who maintain that high levels of inequality put a constraint on growth, while low inequality spurs growth. My findings also support the work done by Alesina and Perotti (1996), Alesina and Rodrik (1994). Larrain B. and Vergara M. (1997) also found that distributive inequality negatively influences per capita growth, because the greater the inequality, the larger the likelihood of social conflict.[50]

My findings for the entire growth equation are consistent with main trends in economic growth literature, which leads me to believe that the joint estimations for democracy and income inequality are equally valid.

ESTIMATIONS FOR DEMOCRACY

Income inequality, percentage of government spending on defense, and being a Muslim country all reduce a country's ability to democratize, according to my findings. Both defense spending and Islam are highly statistically significant, indicating that the more a government spends on defense the less democratic tends to be and that Muslim countries are less likely to democratize.[51] The negative sign for income inequality may support Dahl's (1971) hypothesis, as well as Rubinson and Quinlan's (1977) findings, that drastic inequalities in the distribution of material wealth work against democratic regimes.

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[50] Larrain B., Felipe and Rodrigo Vergara M., *Income Distribution, Investment, and Growth: Development Discussion Paper No. 596* (Harvard Institute for International Development, August 1997).

[51] There is no significant difference between the results if I use Middle East & North Africa (MENA) and Sub-Saharan Africa dummy variables in place of the dummy variable for Muslim countries. This leads me to believe that a series of region-specific variables in addition to cultural aspects of Islam contribute to the lack of democratic institutions in these countries, including the region's colonial history and its role as the geo-political battleground between the superpowers and previously the great powers.

Economic growth, as expected, has a positive and significant effect on democracy. This result supports the reasoning and evidence of studies, such as those done by Jackman (1973), Bollen (1979, 1983), Bollen and Jackman (1985), and Brunk, Caldeira, and Lewis-Beck (1987), which have all found that economic growth has a statistically significant effect on democracy. Burkhart and Lewis-Beck (1994) also found that "economic development has a highly significant impact on democratic performance."[52] As a larger number of citizens enjoy increasing economic benefits, they will likely increase their demands for political freedoms associated with democracy.[53]

In addition, initial per capita GDP and initial primary school education attainment both affect democracy positively as expected, but only GDP is statistically significant.

ESTIMATIONS FOR INCOME INEQUALITY

Growth is a positive and significant determinant of income inequality, according to this model. This finding supports Lewis's (1983) Kuznets's (1955) arguments suggesting that economic growth and structural change lead to rising inequality.[54] Initial per capita GDP is also positive, but is not statistically significant.

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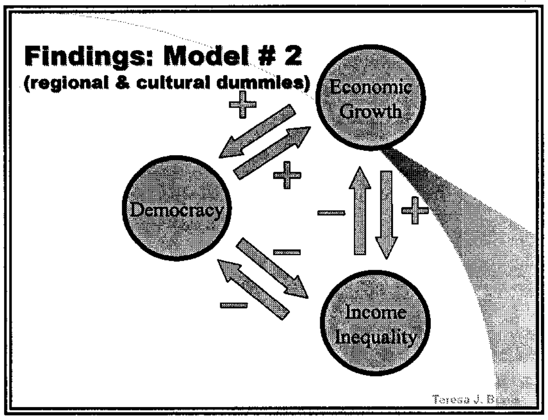
52 Burkhart and Lewis-Beck (1994): 906.

53 See, for example, Robert Dahl, *Democracy and Its Critics* (New Haven: Yale, 1989).

54 Kuznets, Simon, "Economic Growth and Income Inequality," *American Economic Review*, 45 (1955): 1-28.

Higher levels of democracy, according to my findings, can reduce income inequality, though the determinant is not significant. My findings that more democracy leads to less income inequality supports work done by Key (1949), Lenski (1966), Simpson (1990), Stack (1978), Weede (1982), and Muller (1988).

The determinants for secondary education, inflation, and oil are all negative, as expected, but only secondary education for males and females is statistically is a statistically significant determinant of inequality. The R^2 improves from .25 in the base model to .45 when adding regional and cultural dummy variables. This higher R^2 can be partly explained by the inclusion of dummy variables for Latin America and Sub-Saharan Africa, intended to pick up phenomena specific to the regions, but not explained in my model. Dummy variables for both Latin America and Sub-Saharan Africa prove to be positive and highly significant determinants of income inequality. This implies that that different forces - forces specific to the regions and outside of the control variables included in this model - are at work in Latin America and Sub-Saharan Africa than are at work in the rest of the world. A more in-depth study is necessary to isolate and analyze these forces.[55]



[55] In another test, I found that Muslim countries have a negative effect on income inequality, though the determinant is not significant.

TABLE 5 *Joint Estimation of Growth, Democracy, and Income Inequality (2SLS) on 113 Countries Across the Globe + Regional & Cultural Dummy Variables*

Growth	Democracy	0.005	(0.0138)
	Income Inequality	-0.001***	(0.0003)
	GDP per capita (1960)	-0.006***	(0.002)
	Prim. School (1960)	0.019**	(0.009)
	Investment (1960)	0.001***	(0.0003)
	Inflation Rate (1960-96)	-0.023	(0.066)
	Intercept	0.04***	(0.013)
	R^2 (Root MSE)	0.47	(0.013)
	Adjusted R^2 (Root MSE)	0.43	(0.013)
	No. of Observations	78	
Democracy	Growth	5.02*	(3.42)
	Income Inequality	-0.003	(0.005)
	GDP per capita (1960)	0.08***	(0.022)
	Prim. School (1960)	0.09	(0.16)
	% Govt Expend. Defense	-1.64**	(0.849)
	Muslim Countries	-0.18***	(0.06)
	Intercept	0.445**	(0.22)
	R^2 (Root MSE)	0.70	(0.169)
	Adjusted R^2 (Root MSE)	0.68	(0.169)
	No. of Observations	78	
Income Inequality	Growth	266.78*	(142.5)
	Democracy	-3.72	(12.7)
	GDP per capita (1960)	1.02	(1.39)
	Sec. School (1960)	-13.7*	(9.14)
	Inflation	-51.4	(42.4)
	Oil	-2.68	(3.97)
	Africa	13.03***	(3.75)
	Latin America	15.4***	(3.37)
	Intercept	32.8***	(5.68)
	R^2 (Root MSE)	0.45	(7.78)
	Adjusted R^2 (Root MSE)	0.39	(7.78)
	No. of Observations	78	

*** *Significant to < 0.01,* ** *Significant to < 0.05,* * *Significant to < 0.1 (standard errors in parentheses)*[56]

This model represents a clear improvement from the base model in terms of its ability to explain more variance.

[56] I also conducted a 3SLS regression on the data and found the results to be consistent with the 2SLS. See Appendix 4: Variation #3.

Chapter Seven

DEMOCRACY, GROWTH, AND INCOME INEQUALITY: REGIONAL TRENDS

WHY LOOK AT REGIONAL TRENDS?

Is there is any rationale to aggregate countries on a purely geographical basis? Klasen (2003), among many others, has answered in the affirmative.[57] In spite of divergences within a region, inter-regional variation in economic performance, democratization, and income inequality exceeds intra-regional variation.

The economic growth process so highly supported in the 1960s by the "modernization theory" reflected the general consensus that developing countries, regardless of their individual cultures, histories, or religions, could achieve economic prosperity by simply replicating the patterns set forth by the developed countries. It has since become clear that this is not the case. Clearly there are cultural, religious, and social forces at work in the developing countries that transgress borders within the regions but at the same time exhibit clear regional trends. A glance back at Table 5 shows that the dummy variables for regions are highly statistically significant, so much so that it would be negligent to overlook them.

When looking at economic performance, for example, regional aggregations seem to be an appropriate aspect for measurement "as inter-regional variation in economic performance is much larger than intraregional performance."[58] When examining economic growth, for example, regional trends can be exhibited.

TABLE 7 *Economic Growth Data by Region*

Region	GDP per capita (PPP, 1999 dollars)		
	Average		Percentage Change
	1980s	1990s	
East Asia	2,328	3,439	+47.7
Middle East & North Africa	3,371	3,515	+4.3
Latin America & the Caribbean	3,209	4,335	+35.1
Sub-Saharan Africa	975	1,083	+11.1
South Asia	966	1,578	+63.4
Europe & Central Asia	6,209	5,300	-14.7
Total	2,769	3,333	+20.3

Source: World Bank (2002a), Global Poverty Monitoring database.

Granato, Inglehard, and Leblang (1998) have found that Confucian-influenced societies of East Asia achieved higher economic growth than the rest of the world in the second half of the twentieth century. Cultural values such as achievement motivational factors can influence the level of economic growth a country achieves. In an empirical study using data from the World Values Survey, the authors find that cultures emphasizing values such as "thrift" and "determination" such as China, Japan, and Korea have reached higher economic achievement, whereas countries that emphasize obedience and religious faith, such as Nigeria and South Africa, have the lowest economic growth. The

[57] Klasen (2003)

remaining countries in their study, countries in Europe and the New World, including the USA and Canada, fall somewhere in the middle.[59]

Trends in income inequality across regions are even more defined. Over the last two decades Middle Eastern and North African countries have achieved the some of the most equal income distribution levels in the developing world.[60] East Asian countries also have a record of achieving more equal income distribution levels than other developing regions. African and Latin American countries, on the other hand, show clear trends toward high and even increasing inequality. A glance at the Gini-coefficients measuring income inequality in 1990-1992 presents a clear picture of these trends.[61]

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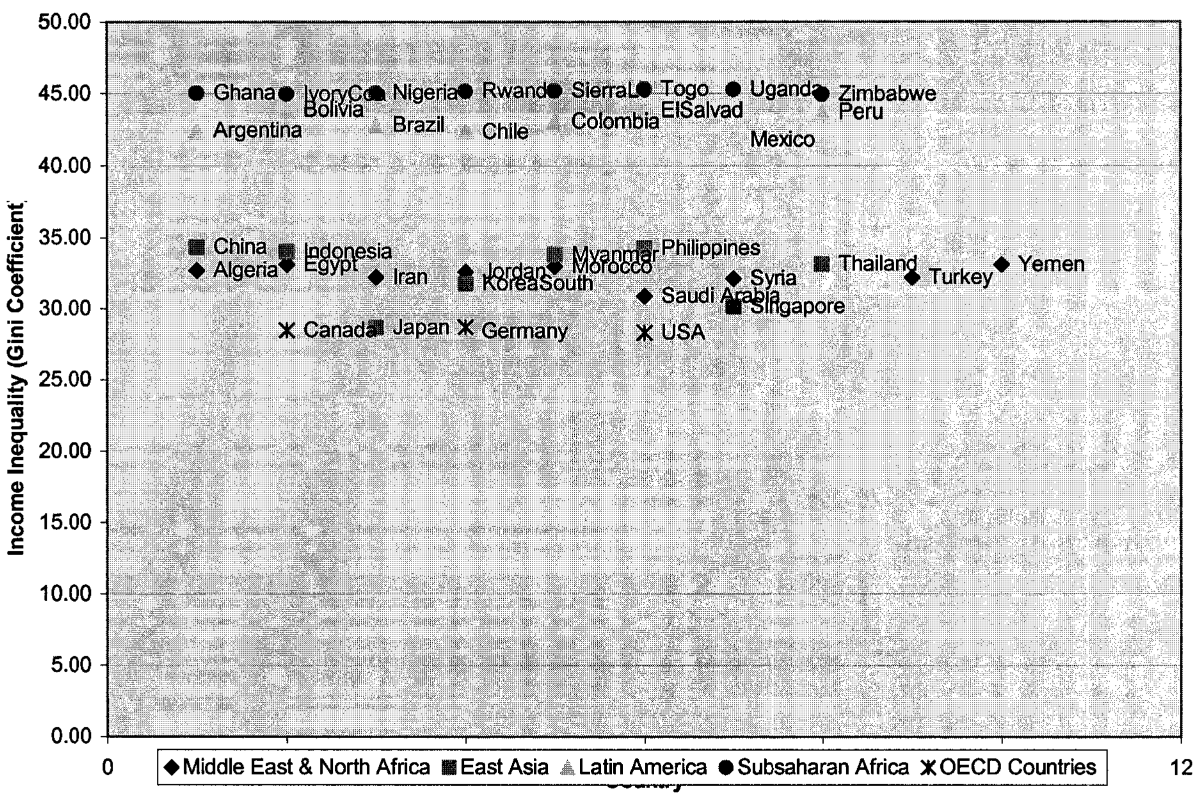
[58] Stephan Klasen (2003) "What Can Africa Learn From Asian Development Successes and Failures?" *Review of Income and Wealth* 49:3 (September 2003): 443.

[59] Jim Granato, Ronald Inglehard, and David Leblang, "The Effect of Cultural Values on Economic Development: Theory, Hypotheses, and Some Empirical Tests" in Mitchell A. Seligson & John T. Passe-Smith, *Development and Underdevelopment* (Boulder: Lynne Rienner 1998).

[60] Richard Adams and John Page, "Poverty, Inequality and Growth in Selected Middle East and North Africa Countries, 1980–2000" in *World Development* Vol. 31, No. 12 (2003): 2043.

[61] These data are taken from the Deininger & Squire (1996) data set just show one moment in time (1990-1992).

Income Inequality 1990-1992



Gradstein, Milanovic, and Ying (2001) have proposed that Muslim, Confucian, and Buddhist/Hindu societies experience little effect on income inequality as a result of increased democratization, while in Judeo-Christian societies democratization significantly decreases income inequality. The authors find Muslim, Confucian, and Buddhist/Hindu societies to be "intrinsically more equal" and suggest that social and cultural aspects, such as informal transfers and stronger family ties, may explain some of the variation.[62]

[62] Mark Gradstein, Branko Milanovic, and Yvonne Ying, "Democracy and Inequality: An Empirical Analysis" World Bank Working Paper No. 2561 (February 26, 2001).

To get a better grasp of the regional trends and specificities, I add into the income inequality equation, dummy variables for three regions, Latin American, Sub-Saharan Africa, and the Muslim World, which all have cultural, religious, and historical specificities that do not fit into the pattern set by the developed countries of Western Europe, the United States, and Canada. I find Latin America and Africa to be a highly significant and positive determinant of income inequality, while the Muslim world had a negative but insignificant effect on income inequality. To better understand some of the cultural, historical, and socio-political trends – many of which are not easily quantifiable – that represent the driving force behind the significance of these regional dummies, I will examine the relationship between democracy, income inequality, and economic growth in these regions in more detail.

LATIN AMERICA

Both empirical and theoretical arguments have enticed me to take a separate look at the linkages between democracy, economic growth, and income inequality in Latin America. After conducting a two-stage simultaneous equations analysis on 113 countries across the globe, I found a dummy variable for Latin America to be a highly significant indicator of income inequality.

The "three legacies of the 1980s" in Latin America, as characterized by Korzeniewicz and Smith, have been (1) stagnant economic growth, (2) an exacerbation of social inequalities, and (3) the consolidation of democratic transitions.[63] Because these legacies led to a collapse of import-substitution industrialization and state-centric models of growth and to new patterns of institutional political and social arrangements in the 1990s, it is pertinent to understand how these three -- democracy, economic growth, and income inequality -- relate to each other and to the Latin American experience.

A series of theoretical motivations also lie behind my decision to include a discussion of trends specific to Latin America. First and foremost of these is the unique history of income inequality in the region. This section takes a brief glance at the historical trends of income inequality and growth in Latin America and elucidates some of the factors that make this area unique.

GROWTH AND DISTRIBUTION IN LATIN AMERICA: A BRIEF HISTORY

The per capita income in Latin America rose by circa 3% a year during the period between 1950 and 1980. Poverty incidence had declined from a calculated 65% in 1950 to about 38% of households in Latin America in 1970, using Altimir's poverty line.[64] In the following decade it dropped even more to an estimated

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[63] Roberto Patricio Korzeniewicz and William C. Smith, "A Great Transformation?" in Korzeniewicz and Smith, *Latin America in the World-Economy* (Westport, Conn.: 1996): 2.

[64] Oscar Altimir, "The Extent of Poverty in Latin America," *World Bank Staff Working Paper no. 522*, (Washington D.C.: World Bank, 1982); cited by Albert Berry, "Confronting the Income Distribution Threat in Latin America," in Albert Berry, *Poverty, Economic Reform, and Income Distribution in Latin America* (Boulder: Lynne Rienner, 1998): 13.

25%.[65] These hopeful numbers led many to believe that benefits of economic growth could "trickle down" and that poverty in Latin America could be eliminated without the use of redistributive policies. Although income distribution did not change much in the region during the 1970s, developments in several Latin American countries were suggesting that improvements could follow. Brazil, for example, experienced a drastic rise in real wages of lower skilled workers during the late 1960s and early 1970s and Columbia witnessed a small increase in real wages in the agricultural sector during that same time period.[66]

These upward moving trends in economic growth were halted abruptly by the economic crises that hit in the late 1970s and early 1980s. The severe economic crisis of the 1980s brought with it sharp declines in both real income and in "access to and quality of social services."[67]

Income inequality, on the other hand, had been increasing in most of Latin America during the 1970s and 1980s despite the rapid growth that had been occurring in some countries in the 1980s and early 1990s.[68] When looking at the

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[65] Berry (1998): 13.
[66] Berry (1998): 14.
[67] Oscar Altimir, "Income Distribution and Poverty Through Crises and Adjustment" in Albert Berry, *Poverty, Economic Reform, and Income Distribution in Latin America* (Boulder: Lynne Rienner, 1998): 44.
[68] Guillermo O'Donnell, "Poverty and Inequality in Latin America: Some Political Reflections," in Victor E. Tokman and Guillermo O'Donnell, *Poverty and Inequality in Latin America* (Notre Dame, IN 1998): 49.

results in Table 5, we can see than rising income inequality is to be expected with rapid growth.

By the end of the 1980s, Latin America exhibited some of the most unequal distributions of income in the world. Although the region had proportionally fewer poor than in other developing countries, its record on income inequality was the worst.[69] According to one study, Latin America had an average Gini coefficient of 0.5 at the end of the 1980s, setting it well above the 0.39 for non-Latin American countries.[70]

Traditional Latin American inequality has been explained in a variety of fashions. Oscar Altimir has offered several explanations, the more statistically significant of which are: (1) agricultural underdevelopment (associated with large inequalities in access to land and land tenure), (2) proportion of labor force in agriculture, and (3) educational level of the labor force.[71]

Birdsall, Pinckney, and Sabot (1996) found these high levels of inequality to be a constraint on economic growth. Their findings offer an explanation as to why Latin America experienced slower growth as compared to East Asia. The outward looking, labor demanding growth strategy adopted by East Asian countries could create the "preconditions for a savings and investment boom by

[69] Nora Lustig, "Introduction," in Nora Lustig (ed.), *Coping With Austerity: Poverty and Inequality in Latin America* (Washington, D.C.: The Brookings Institution 1995): 1-2; Psacharopoulos, George and Samuel Morley, Ariel Fiszbein, Haeduck Lee, & Bill Wood, *Poverty and Income Distribution in Latin America: The Story of the 1980s* (World Bank Technical Paper No. 351, 1997): 15-17.
[70] Psacharopoulos, *et. al.* (1997): 19.

the poor."[72] Such a surge in savings and investment could generate both high return investment opportunities for the poor and high returns to labor, reducing poverty and income inequality, while at the same time stimulating growth. This is a plausible explanation for the growth with equity achieved in East Asia. The inward looking, capital intensive growth strategies prevalent in Latin America, on the other hand, could restrict the labor supply, savings, and investment of the poor, which in turn could lead to both high inequality and low growth.[73]

CONCLUSIONS ON LATIN AMERICA

Clearly there are forces working in Latin America that are unique to those in the rest of the world. The implications of the analysis done by Birdsall, Pinckney, and Sabot is of particular importance when considering Latin America. In Latin America policies have been more biased against the poor and the area has traditionally had a more unequal income distribution than in other parts of the world. Their findings suggest that if economic growth is to be sustained, the poor must contribute to as well as benefit from the development process. "Ensuring that the poor have opportunities to contribute to growth in Latin America is thus

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[71] Oscar Altimir, "Inequality, Employment, and Poverty in Latin America," in Victor E. Tokman and Guillermo O'Donnell, *Poverty and Inequality in Latin America* (Notre Dame, IN 1998): 6.
[72] Birdsall, Pinckney, and Sabot, (1996): 4.
[73] Birdsall, Pinckney, and Sabot, (1996): 4.

not a matter of altruism," they assert, "but of enlightened self-interest."[74] My model further substantiates this claim. Since my model shows that income inequality is harmful to both democratic consolidation and economic growth, it is in the interest of the democratizing and economically developing country's interest to take measures that will both reduce inequality and stimulate growth, such as investment into education.

SUB-SAHARAN AFRICA

Trends in Sub-Saharan Africa also deserve a closer examination in light of the highly significant result of the Africa dummy variable as a positive determinant of income inequality.

The great economic growth potential exhibited in Sub-Saharan Africa during the 1950s and 1960s has yet to be fulfilled. Indeed per capital incomes are not much higher, and in some cases lower, for inhabitants of Sub-Saharan Africa than they were forty years ago.[75] Despite having the building blocks necessary for a developing a successful growth agenda, such as an abundance of land, ample natural resources, and the largest influx of foreign aid per capita in the world,

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[74] Birdsall, Nancy, Thomas C. Pinckney, and Richard H. Sabot, *Why Low Inequality Spurs Growth: Savings and Investment by the Poor*, (Inter-American Development Bank Working Paper 327, March 1996): 19.
[75] Ravenhill: 1.

most Sub-Saharan African countries reached their growth peak by 1980 and, except for a few short lived growth spurts, have been on the decline ever since.[76]

Sub-Saharan Africa is comprised of some forty-eight countries and is home to more than 600 million people. Despite the wide diversity of populations, resources, languages, cultural heritages, and historical backgrounds that exist, the region still shares common problems and challenges.[77]

Two factors pertinent to this study that set Sub-Saharan Africa aside from the rest of the world are the substandard economic performance and the "institutional heritage of neopatrimonial rule"[78] which characterize the region. This section takes a brief glance at these historical trends and elucidates some of the factors that make this area unique.

SUBSTANDARD ECONOMIC PERFORMANCE IN SUB-SAHARAN AFRICA

Sub-Saharan Africa's economies are overridingly rural, and its population is predominantly poor. Development strategies up until the mid-1980s were strongly swayed by ideological orientations. Tanzania, Ghana, and Guinea practiced populist strategies of development, which were characterized by government control of the economy and policies designed to improve public welfare and decrease inequality. Kenya and the Ivory Coast practiced growth-

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[76] Richard B. Freeman and David L. Lindauer (1999). "Why Not Africa?" (National Bureau of Economic Research, Working Paper 6942: February 1999): 1-2.
[77] Peter Lewis, "Development and Change In Africa," in Peter Lewis (ed.), *Africa: Dilemmas of Development and Change* (Westview Press, 1998): 1.

oriented capitalist strategies that encouraged private investment, commerce, and trade, while paying less attention to income inequality. Marxist states that arose in the 1970s, such as Ethiopia and Mozambique, emphasized central planning, state domination of the economy, and collective ownership, while committing themselves to class struggle.[79]

In the 1980s, however, many African governments implemented IMF and World Bank sponsored structural adjustment programs in an attempt to check the deteriorating economic conditions prevalent in most countries. For the past two decades, Sub-Saharan Africa has displayed a net negative economic growth. In the 1990s, for example, Sub-Saharan Africa had a negative (-1.1%) annual per capita GNP growth rate, as compared to a positive 0.5% for Latin America, 2.9% for South Asia, and 6.3% for East Asia and the Pacific.[80]

The external debt in 1989 for Sub-Saharan Africa was $147 billion, making up 99% of its annual gross domestic product and four times its annual export earnings. The level of external debt has doubled in Sub-Saharan Africa when compared to just seven year earlier. The debt service, which totals 46% of the average export earnings imposes devastating burdens on countries' economies.[81]

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[78] Michael Bratton and Nicolas van de Walle, *Democratic Experiments in Africa: Regime Transitions in Comparative Perpctive* (Cambridge 1997): 269.
[79] Peter Lewis, "Political Economy: Crisis and Reform" in Peter Lewis (ed.), *Africa: Dilemmas of Development and Change* (Westview Press, 1998): 359.
[80] Larry Diamond (1998): 265.
[81] Ibid., 265

Citing the World Bank, Ravenhill notes that there exists a real possibility that "per capita incomes will fall below those levels which prevailed when most countries gained their independence 25 years ago"[82] - a shocking prospect indeed.

NEOPATRIMONIAL REGIMES IN SUB-SAHARAN AFRICA

Another factor that distinguishes Sub-Saharan Africa from the rest of the world is the neopatrimonial nature of post-colonial African regimes. In this institutional format, the head of state "maintains authority through personal patronage, rather than through ideology or law."[83]

Michael Bratton and Nicolas van de Walle use this neopatrimonial regime style to contrast political transitions in Africa with other parts of the developing world. Whereas O'Donnel and Schmitter maintain that "there is no transition whose beginning is not the consequence—direct or indirect—of important divisions within the authoritarian regime itself,"[84] Bratton and van de Walle counter that "transitions in Africa seem to be occurring more commonly from below."[85] The authors explain that between November 1989 and May 1991, political reform was initiated by opposition protesters in sixteen out of twenty-

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[82] John Ravenhill, "Africa's Continuing Crises: The Elusiveness of Development," in John Ravenhill (ed.), *Africa in Economic Crisis* (New York: 1985): 1.
[83] Michael Bratton and Nicolas van de Walle, "Neopatrimonial Regimes and Political Transitions in Africa" in Peter Lewis (ed.), *Africa: Dilemmas of Development and Change* (Westview Press, 1998): 277.
[84] Guillermo O'Donnel and Schmitter, *Transitions from Authoritarian Rule: Tentative Conclusions about Uncertain Democracies* (Berkley: 1986): 19.
[85] Bratton and van de Walle (1998): 280.

one cases of transition, while incumbent state leaders initiated reform in only five cases.

According to this argument, it is the "structure of political incentives in neopatrimonial regimes" that helps to explain why "state elites rarely initiate political transitions"[86]:

> *When rule is built on personal loyalty, supreme leaders often lose touch with popular perceptions of regime legitimacy. They lack institutional ties to corporate groups in society that could alert them to the strength of their popular support. Instead, they surround themselves with sycophantic lieutenants who protect their own positions by telling the leader what he wants to hear and by shielding him from dissonant facts. Thus, even skillful personalistic leaders lack a flow of reliable information on which to base sound judgments about the need for, and timing of, political liberalization.*[87]

Sub-Saharan Africa differs, according to Bienen, from both Latin America and the Middle East in that the main objective of the political elite seems to be to hold onto power and in some cases, to reinforce or improve the position of a particular ethnic group. Military leaders in Latin America have "tortured and killed in the name of stability and anticommunism and even departicipation," and the leaders of the Middle East have acted in the name of "Islam," such as Khomeini in Iran, or in the name of "secularism, modernization, and antifundamentalism," such as al-Assad in Syria. But in Africa the elite, who are

[86] Ibid.: 280.
[87] Ibid.: 280.

"less constrained by social constituencies" than elsewhere, do not have a socially oriented political agenda.[88]

When comparing Africa's political elites to those in other countries, Bratton and van de Walle find that "Africa's political big men are relatively unencumbered by legal restrictions on the scope of their decision making."[89] The institutions in Africa are still too weak to play such a role. Corruption has become institutionalized not only in capitalist, but also in former socialist countries in Africa. In the past, a lack of accountability has been apparent. Ruling elites, according to Larry Diamond, have appropriated resources to themselves, their families, kin, as well as to ethnic, political, and business "cronies and clients."[90] All these factors have made democratic transitions more difficult.

In an additional regression (see Appendix 4: Variation #4), I substituted Africa and MENA for Islam and found both dummy variables to be highly significant and negative determinants of democracy. Since Africa is not likely to be democratic, and since democracy stimulates growth, according to my model, Africa is less likely to achieve economic growth under current conditions. Moreover, since Africa is more likely to have high income inequality, which inhibits economic growth at a statistically significant level, African countries'

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[88] Henry Bienen, "Leaders, Violence, and the Absence of Change in Africa," *Political Science Quarterly*, Vol. 108, no. 2 (1993): 273.
[89] Michael Bratton and Nicolas van de Walle (1997): 270.
[90] Diamond (1998): 266.

chances of achieving economic growth is simultaneously reduced through both mechanisms. This picture looks grave for African countries.

Once again, however, my results show that growth is not elusive and can be achieved through several channels. The first channel in which growth can be achieved is through democratization. Countries in Africa need to initiate serious democratic reforms that could in turn stimulate economic growth. The second channel is through reduction in income inequality, which can also be stimulated by democratic reforms and can lead to higher growth rates. To offset the negative effect growth can simultaneously have in distributional equality, governments need to put special focus on programs that can simultaneously increase growth and decrease income inequality, such as investment into education.

MUSLIM WORLD

Theoretical and empirical arguments have motivated me to take a separate look at the Muslim World. A dummy variable for Muslim societies as well as a dummy variable for Middle East and North Africa (MENA) both proved to be highly significant determinants to democratic development. The Muslim World, a region that in the 1970s was plagued by the most unequal income distributions in the world, has seen considerable improvement and is now characterized as one of the most equal in terms of income distribution in the developing world. The share of income going to the poorest quintile of the population is increasing[91] and it is the only low inequality region to further decrease inequality during the last two decades.[92]

The region is also characterized by low levels of poverty. Although poverty in the Middle East and North Africa has increased by 17% during the 1980s and 1990s, it is still less than half of that of other developing areas.[93] When using an international poverty line of $1 per capita a day, the Middle East and North Africa have the lowest incidence of extreme poverty among all regions of the world.[94] Since the early 1980s, however, the annual per capita economic growth of the region has been inferior even to Sub-Saharan Africa[95] and compared to other regions, savings rates are low. Per capita GDP rose only 4.3% in the 1980s and 1990s, which is comparably lower than every region except Eastern Europe and Central Asia.[96]

The countries of the region have followed state-led growth and they tend to have strong states and weak civil societies. Similar to Latin America, the countries in the Muslim world used import substitution strategies to stimulate growth, plunged into balance-of-payments and fiscal crises, and later attempted to rectify these through economic liberalization and structural adjustment.

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[91] Richard Adams and John Page (2003), "Poverty, Inequality and Growth in Selected Middle East and North Africa Countries, 1980-2000" *World Development* Vol. 31, No. 12: 2043.
[92] Adams and Page (2003): 2029
[93] Adams and Page (2003): 2029
[94] World Bank (2004). "Poverty In MENA" <www.worldbank.org> (last updated April 2004).
[95] World Bank (2004) "Better Governance for Development in Middle East and North Africa."
[96] Adams and Page (2003): 2029

There has been some variation in the region in terms of trends in economic growth, income inequality, and democracy. Turkey's economic development, for example, has been marked by more consistent economic growth with high income inequality, while countries such as Egypt and Morocco have experienced shorter growth spurts but more equal income distribution.[97] All the countries of the region, however, share some key characteristics.

When examining the relationship between democracy, economic growth, and income inequality in the Muslim world, two factors play a prominent role in making this region unique, namely the role of Islam in the political and economic structures of the countries and the influence of oil in determining economic growth and distribution.

ISLAM AS A DETERMINANT OF POLITICAL DEVELOPMENT & DISTRIBUTION

Even though income inequality in the Muslim world is decreasing, which could according to my hypothesis stimulate economic growth, the second measure necessary, namely increasing democratization, is lacking in the Muslim world. A large body of Orientalist literature has proposed that the Muslim World is inhospitable to democracy due to such factors as "oriental patriarchy," a rigid patriarchical family structure that extends into society and politics, and the

[97] Öniş (2003): 169.

"autocracy of Islam," which encompasses the notion that the Calif holds influence over both the religious and secular lives of believers.[98] This incompatibility between Islam and democracy, which Huntington presents in his *Clash of Civilizations* (1993), has supposedly given the Muslim world a characteristic that some consider to be "an almost genetic resistance to democracy."[99]

My research has led me to believe that it is not the nature of Islam itself that is incompatible with democracy, but rather other political, social, economic, & cultural factors that underlie the difficulty of countries in the Muslim world to democratize. Helen Rizzo's (2003) recent work supports this analysis. The geo-political, strategic location of the Middle East as a battleground between the superpowers during the cold war[100] and by the great powers of Europe before that has stifled democratic development in the region. High military expenditures as a percentage of total expenditures compared to the rest of the developing world as well as political instability due to Israeli-Arab conflict could also play a role.[101] My results show that military expenditures as a percentage of total expenditures is a highly significant deterrent of democratic development.

Increased political Islam or radicalized Islam can also threaten democratic development in a country. At the same time, a more radical political Islam tends

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[98] Bolbol 1998: 357.
[99] Bolbol 1998: 357.
[100] Öniş (2003).
[101] Stepan and Robertson (2003).

to emerge, according to Ziya Öniş, "in response to inadequate and unequal development as well as limited participation in decision-making."[102] This creates a conundrum as real democratization could give the Islamists control of the state through the democratic process. Because of this, the international community does not put much pressure on the governments in the region to democratize.[103] Moreover, countries of the West have sometimes even hindered a democratically elected Islamic government from taking power, such as was the case in Algeria, or assisted an autocratic leader to stifle Islamic political opposition, such as in Iraq.

Concerning income inequality, Muslim countries have been found to be more equal as religion plays a "redistribution function in an environment where the individual states have been lacking in the provision of social welfare."[104] Gradstein, Milanovic, and Ying (2001) have proposed that Muslim, Confucian, and Buddhist/Hindu societies experience little effect on income inequality as a result of increased democratization, while in Judeo-Christian societies democratization significantly decreases income inequality. The authors find Muslim, Confucian, and Buddhist/Hindu societies to be "intrinsically more

[102] Ziya Öniş (2003). "States, markets, and the limits of equitable growth: The Middle Eastern NICs in comparative perspective," Atul Kohli, Chung-in Moon, and George Sørensen, *States, Markets, and Just Growth: Development in the Twenty-first Century* NY: United Nations University Press: 175.
[103] Bolbol (1998): 365; Teresa Burns and Tamer Balci (2002). "Turkey and the European Union: Influence of Turkish Islamist Groups on Turkey's Candidacy to the European Union," Paper prepared for presentation at the American Political Science Association Annual Meeting (Boston, August 29 - September 1, 2002).
[104] Öniş (2003): 186.

equal" and suggest that social and cultural aspects, such as informal transfers and stronger family ties, may explain some of the variation.[105]

The dummy variables in my model to representing Muslim countries have shown that Muslim countries to have a more equal income distribution, but also have a lower likelihood of democratizing.

OIL AS KEY DETERMINANT OF ECONOMIC GROWTH

The economic history of the region has been influenced by oil, points out Öniş, "which has affected the development prospects of both the productive and the non-productive countries of the region."[106]

A recent World Bank strategy paper has pointed out, however, that due to the influence of oil profits the region's existing approach to poverty reduction is likely unsustainable. The authors point out that "oil windfalls and increased aid flows" have allowed governments in the region to "show great public largess through subsidies and public employment."[107] The re-distributive policies made possible by oil profits have helped to reduce poverty and income inequality in the region, but these policies have not been complemented by non-oil trade diversification and they have allowed governments to postpone serious economic and political reforms that would make growth sustainable.

[105] Mark Gradstein, Branko Milanovic, and Yvonne Ying, "Democracy and Inequality: An Empirical Analysis" World Bank Working Paper No. 2561 (February 26, 2001).

Policies that over the short term have helped improve income equality may have hindered private sector led growth and could ultimately lead to increased poverty in the long run.

Concerning democratization, more oil reserves tend to lead to less democracy. Oil revenues have allowed countries in the Muslim world to "indulge in generous distributive schemes to co-opt and depoliticize the bourgeoisie and other potential centers of power."[108] Spoiled by heavy subsidies, the bourgeoisie has not pressed for regulatory structures such as property rights, and in the absence of such legal and administrative structures, the governments have had no need to exhibit transparency or accountability in governance. The countries in the region were stuck in what Bolbol calls the "'bazaar' mentality," in which "informal networks and patronage relationships override legal procedures."[109]

Similar to Africa, the countries in the Muslim world are having difficulties achieving democratic reforms that could stimulate economic growth. Different from Africa, however, the countries of the Muslim world are starting from a far more equal distribution of the wealth, which can, according to my results, stimulate growth.

[106] Öniş (2003): 187.
[107] World Bank (2004). "Middle East and North Africa Region Strategy Paper."
[108] Bolbol (1998): 370.
[109] Bolbol (1998): 370.

Chapter Eight

CONCLUSIONS

This research has powerful real-world implications. A government that wishes to successfully increase the economic growth rate for its country would, according to my findings, need to simultaneously take measures to increase democratic freedoms and to decrease income inequality. Grasping and comprehending the causal connections between democracy, economic growth, and income inequality, especially the indirect and simultaneous connections, could be a valuable asset for policy makers in new democracies, potential democracies, and for the international community as a whole.

My findings show that, as predicted, democracy and income inequality have a mutually reinforcing negative effect on each other, though the determinants are not statistically significant. Also my findings indicate that democracy and economic growth have a mutually reinforcing positive effect on each other, although only the effect of growth on democracy is statically significant.

The relationship between income inequality and growth, however, is more precarious. Growth on its own does not automatically reduce income inequality; in fact my results show that growth creates income inequality. Inequality, at the same time, gets in the way of economic growth, creating a vicious cycle.

A second potentially dangerous trap faced by developing countries that are attempting to democratize and stimulate growth simultaneously, is that, according to my findings, growth helps to consolidate democratic institutions, but growth also produces inequality, which is harmful to democracy.

The good news, however, is that democracy stimulates growth, not only on its own accord, but also by working indirectly through income inequality. Democracy reduces income inequality and a more equal distribution of income has a positive and significant effect on growth.

The lessons to be learned are, firstly, a country that wishes to democratize must simultaneously take measures to reduce income inequality, or else inequality - with its stifling effect on growth - will neutralize the benefits of growth on democratic consolidation. In order to offset the negative effect that growth has on distributional equality and the negative effect inequality has on growth, democratic governments need to take measures that simultaneously increase growth and decrease inequality, e.g. improvements in education and infrastructure, as well as inflation reducing policies.[110]

Secondly, and most importantly, democracy and distributional equality are both good for growth. Moreover, more equality in the distribution of wealth is good for both democracy and growth. Therefore, because economic growth does not

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[110] Humberto Lopez (2005). "Pro-growth, pro-poor: Is there a trade-off?" The World Bank (PRMPR) April 20, 2005.

lead concurrently to an equal distribution of the spoils of an economic boom, governments must step in and take action, initiating policies that will lead to a more equal distribution of income. Only in taking such action can democracy become consolidated and economic growth become sustainable.

APPENDIX 1:

Joint Estimation of Growth, Democracy, and Income Inequality (3SLS) on 113 Countries Across the Globe (no regional dummy variables)

Growth	Democracy	-0.02	(0.0151)
	Income Inequality	-0.001***	(0.00038)
	GDP per capita (1960)	-0.004***	(0.0017)
	Prim. School (1960)	0.28***	(0.009)
	Investment (1960)	0.001***	(0.00028)
	Inflation Rate (1960-96)	-0.02	(0.06)
	Intercept	0.04**	(0.018)
Democracy	Growth	-1.52	(3.58)
	Income Inequality	-0.008*	(0.006)
	GDP per capita (1960)	0.06**	(0.03)
	Prim. School (1960)	0.44***	(0.15)
	% Govt Expend. Defense	-2.09**	(0.85)
	Intercept	0.60**	(0.30)
Income Inequality	Growth	21.7	(135.6)
	Democracy	19.99*	(11.9)
	GDP per capita (1960)	-1.15	(1.47)
	Sec. School (1960)	-34.1***	(11.03)
	Inflation	-3.38	(48.9)
	Oil	0.37	(4.36)
	Intercept	39.4***	(4.44)
Adjusted R^2 (Root MSE)		0.50	(0.96)
No. of Observations		217	

**** Significant to < 0.01, ** Significant to < 0.05, * Significant to < 0.1 (standard errors in parentheses)*

APPENDIX 2

Estimations of Growth, Democracy, and Income Inequality on 113 Countries Across the Globe

Estimation Method:		Single Equations Model		Simultaneous Equations Models			
		OLS		2SLS		3SLS	
Growth	Democracy	0.018	(0.008)	-0.004	(0.0157)	-0.02	(0.0151)
	Income Inequality	-0.0005***	(0.0001)	-0.0009**	(0.0004)	-0.001***	(0.00038)
	GDP per capita (1960)	-0.006***	(0.001)	-0.005***	(0.0017)	-0.004***	(0.0017)
	Prim. School (1960)	0.02**	(0.007)	0.02**	(0.0096)	0.28***	(0.009)
	Investment (1960)	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.00028)
	Inflation Rate (1960-96)	-0.01	(0.06)	-0.03	(0.07)	-0.02	(0.06)
	Intercept	0.02**	(0.008)	0.04**	(0.019)	0.04**	(0.018)
	Adjusted R^2 (Root MSE)	0.45	(0.01)	0.38	(0.01)	0.50	(0.96)
	No. of Observations	80		78		217	
Democracy	Growth	2.23*	(1.54)	-0.66	(3.61)	-1.52	(3.58)
	Income Inequality	-0.002	(0.002)	-0.008	(0.006)	-0.008*	(0.006)
	GDP per capita (1960)	0.08***	(0.02)	0.06**	(0.25)	0.06**	(0.03)
	Prim. School (1960)	0.3***	(0.10)	0.40***	(0.15)	0.44***	(0.15)
	% Govt Expend. Defense	-2.41***	(0.82)	-2.40***	(0.88)	-2.09**	(0.85)
	Intercept	0.33***	(0.13)	0.60**	(0.30)	0.60**	(0.30)
	Adjusted R^2 (Root MSE)	0.66	(0.17)	0.63	(0.18)	0.50	(0.96)
	No. of Observations	78				217	
Income Inequality	Growth	-94.5*	(65.9)	40.4	(135.9)	21.7	(135.6)
	Democracy	4.04	(5.34)	19.1*	(12.0)	19.99*	(11.9)
	GDP per capita (1960)	-0.43	(1.01)	-0.95	(1.48)	-1.15	(1.47)
	Sec. School (1960)	-20.4**	(8.3)	-35.4***	(11.0)	-34.1***	(11.03)
	Inflation	-11.54	(43.3)	-1.34	(50.0)	-3.38	(48.9)
	Oil	-0.86	(3.5)	0.41	(4.39)	0.37	(4.36)
	Intercept	47.3***	(2.4)	39.4***	(4.45)	39.4***	(4.44)
	Adjusted R^2 (Root MSE)	0.21	(8.31)	0.19	(9.24	0.50	(0.96)
	No. of Observations	80		78		217	

**** Significant to < 0.01, ** Significant to < 0.05, * Significant to < 0.1 (standard errors in parentheses)*

APPENDIX 3

TABLE 5 Comparisons of Model Variations

Model Description:					Growth		Democracy		Income Inequality	
					D → G	II → G	G → D	II → D	G → II	D → II
Base Model	3SLS	.50	.50	.50	↓	↓***	↓	↓	↑	↑*
(no regional	2SLS	.38	.64	.19	↓	↓**	↓	↓	↑	↑*
dummies)	Sing.	.45	.66	.21	↑	↓***	↑	↓	↓*	↑
Model Variation #2	3SLS	.55	.55	.55	↓	↓***	↑	↓**	↑	↑*
(no reg. dummies,	2SLS	.38	.64	.19	↓	↓**	↑	↓**	↑	↑*
Dem: Islam)	Sing	.45	.69	.21	↑	↓***	↑**	↓	↓†	↑
Model Variation #3	3SLS	.64	.64	.64	↑	↓***	↑*	↓	↑*	↓
(Dem: Islam	2SLS	.43	.68	.39	↑	↓***	↑*	↓	↑*	↓
Inc Ineq: L.A.,Africa)	Sing	.45	.69	.41	↑	↓***	↑**	↓	↑	↓
Model Variation #4	3SLS	.64	.64	.64	↑	↓***	↑	↓	↑**	↓
)em: MENA, Africa	2SLS	.43	.70	.36	↑	↓***	↑	↓	↑**	↓
c Ineq: L.A., Africa)	Sing	.44	.71	.41	↑	↓***	↑	↓	↑	↓

*** Significant to < 0.01, ** Significant to < 0.05, * Significant to < 0.1

APPENDIX 4

TABLE 6 *Joint Estimation of Growth, Democracy, and Income Inequality (3SLS) on 113 Countries Across the Globe + Regional Dummy Variables*

Model Variation		Variation # 2 (no reg. dummies, Dem: Islam)		Variation # 3 (Dem: Islam Inc Ineq: L.A., Africa)		Variation # 4 (Dem: MENA, Africa Inc Ineq: L.A., Africa)	
Growth	Democracy	-0.005	(0.02)	0.01	(0.01)	0.007	(0.01)
	Income Inequality	-0.0009**	(0.0004)	-0.001***	(0.0003)	-0.001***	(0.0003)
	GDP per capita (1960)	-0.005***	(0.002)	-0.007***	(0.002)	-0.006***	(0.002)
	Prim. School (1960)	0.02**	(0.01)	0.02*	(0.01)	0.02**	(0.009)
	Investment (1960)	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.0003)
	Inflation Rate (1960-96)	-0.02	(0.067)	-0.03	(0.06)	-0.02	(0.07)
	Intercept	0.04**	(0.02)	0.04***	(0.013)	0.04***	(0.01)
Democracy	Growth	3.89	(4.02)	5.26*	(3.37)	0.7	(3.42)
	Income Inequality	-0.01*	(0.007)	-0.002	(0.005)	-0.003	(0.005)
	GDP per capita (1960)	0.06***	(0.03)	0.09***	(0.02)	0.07***	(0.02)
	Prim. School (1960)	0.13	(0.19)	0.09	(0.16)	0.19***	(0.14)
	% Govt Expend. Defense	-1.77*	(0.91)	-1.84**	(0.82)	-1.58*	(0.81)
	Islam	-0.2***	(0.08)	-0.16***	(0.063)	---	---
	MENA	---	----	---	---	-0.16**	(0.07)
	Africa	---	----	---	---	-0.16***	(0.06)
	Intercept	0.86***	(0.32)	0.42*	(0.22)	0.52**	(0.22)
Income Inequality	Growth	30.2	(135.6)	276.4*	(142.2)	341.1**	(163.9)
	Democracy	19.6*	(11.9)	-1.08	(12.7)	-10.8	(14.1)
	GDP per capita (1960)	-1.08	(1.47)	0.98	(1.40)	1.9	(1.56)
	Sec. School (1960)	-34.7***	(11.0)	-15.6*	(9.0)	-15.3*	(9.5)
	Inflation	10.5	(48.5)	-41.5	(41.8)	-51.2	(44.5)
	Oil	1.6	(4.34)	-1.07	(3.91)	-2.8	(4.25)
	Africa	---	----	14.1***	(3.71)	12.8***	(3.99)
	Latin America	----	----	14.8***	(3.36)	16.5***	(3.8)
	Intercept	39.3***	(4.44)	31.2***	(5.65)	33.9***	(5.9)
	System Weighted R^2 (Root MSE)	0.55	(0.9)	0.64	(0.95)	0.64	(0.87)
	No. of Observations	216		214		213	

APPENDIX 5

MODEL VARIATION #4 SPECIFICATION

In order to test whether it is the culture of Islam per se or rather a series of other variables specific to the region, I replace the Islam variable in the democracy equation with dummy variables for Sub-Saharan Africa and the Middle East and North Africa (MENA).

Growth = $\alpha + \beta_1 \mathit{democracy} + \beta_2 \mathit{inequality} + \beta_3 \mathit{init.GDP} + \beta_4 \mathit{education} + \beta_5 \mathit{investment} + \beta_6 \mathit{inflation} + \varepsilon$

Democracy = $\alpha + \beta_1 \mathit{growth} + \beta_2 \mathit{inequality} + \beta_3 \mathit{init.GDP} + \beta_4 \mathit{education} + \beta_5 \mathit{defense} + \beta_6 \mathit{Africa} + \beta_7 \mathit{MENA} + \varepsilon$

Income Inequality = $\alpha + \beta_1 \mathit{growth} + \beta_2 \mathit{democracy} + \beta_3 \mathit{init.GDP} + \beta_4 \mathit{2education} + \beta_5 \mathit{L.A.} + \beta_6 \mathit{Africa} + \beta_7 \mathit{inflation} + \beta_8 \mathit{oil} + \varepsilon$

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