# Political Institutions and Foreign Debt
# in the Developing World

**Thomas Oatley**
**Department of Political Science**
**UNC at Chapel Hill**
**Oatley@unc.edu**

## Abstract

Why did some developing country governments accumulate large foreign debt burdens in the late twentieth century while others did not? I hypothesize that variation in foreign indebtedness is a product of the impact of regime type on government borrowing and investment decisions. Autocratic regimes will borrow more from foreign lenders and invest fewer of these funds in public goods than democratic regimes. Consequently, autocracies are more likely to develop large foreign debt burdens than democracies. I test this hypothesis by estimating error correction models against a sample comprising seventy-eight developing countries between 1976 and 1998. The analysis suggests that autocratic governments accumulated substantially larger foreign debt relative to their national income than democratic governments. The analysis has implications for the likely consequences of contemporary debt relief initiatives.

Why did some developing country governments become deeply indebted to foreign creditors in the late 20<sup>th</sup> century while others did not? Consider Zambia. One of the world's poorest societies, Zambia spent the last quarter of the 20<sup>th</sup> century as one of its most heavily indebted. By the early 1990s the Zambian government owed more than 200 percent of its national income to foreign creditors. Zambia's experience was not unique. One-third of all developing country governments—more than forty governments in all—entered the 1990s owing on average 220 percent of their GDP to foreign lenders (World Bank 2003). By 2006, the official creditor groups—the Group of Eight, the International Monetary Fund, and the World Bank—forgave this debt in explicit recognition that the amount borrowed far outstretched debt service capacity (see, e.g., Evans 1999).

Not all developing countries became so deeply indebted. Botswana, for example, entered the 1970s slightly poorer than Zambia. Over the next twenty-five years Botswana's government borrowed from foreign creditors. Indeed, Botswana's foreign debt, measured in absolute dollar terms, rose from $17 million in 1972 to more than $700 million in 1997. Yet, Botswana's foreign debt relative to its national income never rose above 50 percent. Botswana's relatively small foreign debt burden also illustrates a broader pattern. One-third of all developing country governments regularly borrowed from abroad to help finance economic development, but never developed serious foreign debt problems.[1]

Understanding this variation is important. How governments manage foreign debt—how much they borrow and how they use the borrowed funds—can profoundly shape development trajectories. The productivity gains that raise income come from adopting new technologies and building infrastructure to support greater economic specialization. Such productivity gains require investment, however, and savings in low-income countries are rarely sufficient to finance the needed projects. Foreign savings can thus play a critical role in development. Borrowing from abroad does not automatically generate economic development, however (see Sachs 2002). Indeed, Zambia's real per capita income fell from $720 in 1972 to $400 in the early 1990s even as its foreign debt burden rose (World Bank 2007). Whether foreign savings facilitates or frustrates development, therefore, depends to a large extent on how governments manage their foreign credit relationships.

We know remarkably little about the factors, especially the political factors, which shape government borrowing and investment decisions. Most published writing on developing country foreign debt emphasizes "bad luck." This bad luck hypothesis suggests that governments accumulated foreign debt in response to adverse global economic developments. Iyoha (2000, 175), for example, states that "a significant proportion of the increase in [sub-Saharan Africa's] external debt since 1982 can be attributed to exogenous factors." Governments borrowed to finance "unexpected and

---

[1]One might be tempted to attribute Botswana's experience to its diamond wealth. Yet, Zambia is also abundantly endowed with natural resources (as are many heavily-indebted countries). As Kenneth Kaunda, former President of Zambia, noted, "We are in part to blame, but this is the curse of being born with a copper spoon in our mouths" (Ross 1999). In fact, governments in many resource abundant societies borrowed against the future income their natural resources would generate. The differences between Botswana and Zambia, therefore, are a consequence of government decisions, not of natural resource endowments (see e.g., Boschini, Pettersson, and Roine 2007). One might also note that many societies that did not become heavily indebted were not richly endowed with natural resources.

unmanageable current account deficits and to finance burdensome debt-service payments" (see also Catão and Sutton 2002; Easterly 2002; Locke and Ahmadi-Esfahani 1998; Manasse, Roubini, and Schimmelpfennig 2003; Oxfam International 2001; Pettifor 2002; Pettifor 2003; Roodman 2001). Even the International Monetary Fund's official discussion of the debt buildup emphasizes exogenous shocks: "worldwide events in the 1970s and 1980s—particularly the oil price shocks, high interest rates and recessions in industrial countries, and then weak commodity prices—were major contributors to the debt build-up" (International Monetary Fund 2000).

The role played by politics in the accumulation of foreign debt has received substantially less attention. William Easterly (2002) argues that governments become deeply indebted because they must borrow against the future in order to keep themselves in power. Yet, this insight cannot account for two-thirds of developing country governments that never became heavily indebted. Perhaps variation in governments' need to borrow against the future reflects differences in the political institutions within which they govern. Different political systems may generate different incentives to borrow and invest. Indeed, the regime type hypothesis developed by scholars as they studied the the Latin American debt crisis of the early 1980s suggests exactly this kind of pattern (see e.g., Haggard and Kaufman 1992; Haggard 1986; Kahler 1986; Nelson 1989; Nelson 1990; Remmer 1986; 1990; 1991). Governments operating within democratic institutions that allow society to constrain their behavior implement different policies than autocratic governments operating within political institutions that restrict public participation in politics. Yet, scholars never evaluated whether regime type could explain variation in foreign debt accumulation, focusing their scholarship instead on whether these regime type differences shaped the politics of macroeconomic stabilization and structural adjustment.

This paper thus explores whether variation in regime type can account for variation in foreign indebtedness among developing countries. I employ Olson's model of fiscal policy to explore how regime type shapes government decisions about how much to borrow from abroad and how much to invest at home (McGuire and Olson 1996; Olson 1993a; Olson 2000). Olson's model links government borrowing and investment decisions to the percentage of the adult population that has the right to participate in politics. The model suggests that a government's incentive to minimize the distortions from high taxes and increase the productivity gains from investment in public goods grows in line with the share of the adult population entitled to participate in politics. More simply stated, autocracies will borrow at a higher rate and invest at a lower rate than democracies. Consequently, autocracies are more likely to become heavily indebted to foreign lenders than democracies.

I test this hypothesis by examining the relationship between three measures of regime type and foreign debt to GDP ratios, controlling for exogenous economic shocks and other factors, in 78 developing countries between 1976 and 1998. The empirical analysis suggests that the political institutions within which governments operate shape their borrowing and investment decisions. Governments in autocracies were substantially more likely to become heavily indebted, relative to their GDP, than governments in democracies. The findings have implications for the broader literature on regime types and economic policy in developing countries, as well as for the success of contemporary debt relief initiatives. I discuss these implications in the conclusion.

# Political Institutions and Foreign Indebtedness

A government's foreign indebtedness (foreign debt / GDP) is a function of how much it borrows from abroad and how it allocates these borrowed funds between investment and consumption. Both decisions are in turn a function of the incentives generated by the political institutions within which governments operate. In the regime type hypothesis I develop here, governments in autocratic political systems borrow relatively more and invest relatively less than democracies. As a consequence, autocracies accumulate larger foreign debt to GDP ratio than in democracies.

This regime-type hypothesis rests on an extension of Mancur Olson's model of fiscal policy (McGuire and Olson 1996; Ndulu and O'Connell 1999; Olson 2000).[2] Olson relates government tax and investment decisions to the share of the adult population allowed to participate in selecting the government (what I call the enfranchisement ratio). He finds that autocracies tax more and invest less than democracies. I apply this logic to foreign debt based on the recognition that a government's decisions to borrow and tax are inextricably linked across time. When a government borrows today, it commits itself to raise revenues via taxation at a later date. Hence, a government decision to borrow today is a decision to tax future income. I extend Olson's model to foreign debt in three steps. First, I elaborate how variation in the enfranchisement ratio shapes government decisions about current period tax rates and investment in public goods. Second, I state the condition discount rates must satisfy in order to extend the relationship between the enfranchisement ratio and tax on current income to tax on future income. Third, I demonstrate how government borrowing and investment decisions shape the evolution of foreign debt to GDP ratios.

***The Enfranchisement Ratio and Tax and Investment Rates:*** Divide society into insiders and outsiders. Insiders are the subset of the adult population authorized to participate in politics and who thus determine the tax and investment rates. Outsiders are the subset of the adult population institutionally excluded from the political process. Call the ratio of insiders to the total adult population the enfranchisement ratio.[3] Political systems thus fall along the continuum defined by the enfranchisement ratio. We assume also that the enfranchisement ratio and control of national income are correlated, such that as the enfranchisement ratio rises, the share of national income represented by the insiders rises proportionally. To facilitate discussion, we call regimes characterized by relatively small enfranchisement ratios autocracies and regimes defined by relatively large enfranchisement ratios democracies.

Insiders in all regimes set tax and investment rates to maximize their income. The tax and investment rates they select are defined by 1/n, where n is the enfranchisement ratio. Consider tax rates first. Taxes create distortions that produce deadweight losses that

---

[2]See also (Adam and O'Connell 1999; Alesina and Rodrik 1994; Boix 2003; Fauvelle-Aymar 1999; Lee 2003; Meltzer and Richard 1981; Ndulu and O'Connell 1999; North 1981; Olson 1993b; Persson and Tabellini 1994; Przeworski 1990).

[3] The logic is similar to the selectorate model (Bueno de Mesquita et al. 2003). The two models differ, however, in an important way. The selectorate model focuses on the winning coalition as a share of the enfranchised and is thus a measure of the exclusivity of the government (winning coalition) relative to those who select the government (the selectorate). The enfranchisement ratio employed here is a measure of the exclusivity of those who select the government (the enfranchised) relative to the total adult population.

reduce national income (Ndulu and O'Connell 1999). Hence, in setting a tax rate that maximizes its income, insiders must select the rate at which the last dollar collected in tax revenue equals the loss of insider income resulting from the negative impact of taxes on national income. The tax rate that establishes this equality is the reciprocal of the enfranchisement ratio. Consider a regime with an enfranchisement ratio of .25. Insiders in this regime maximize their income by taxing until the last dollar of tax revenue reduces national income by four dollars. At this tax rate, the last dollar of tax revenue the regime gains is offset by a one dollar loss of income caused by the four dollar reduction of national income (the regime's share of national income (¼) times the 4 dollars in lost national income). Any other tax rate yields a lower income. If they tax more heavily, the last dollar of tax revenue reduces national income by more then 4 dollars. If they tax less heavily, the last dollar of tax revenue will reduce national income by less than 4 dollars, and the regime's income can rise with a higher tax rate.

Insiders in a regime with an enfranchisement ratio of .66 (that is, a more democratic regime) maximize their income at a much lower tax rate. This regime maximizes its income at a tax rate at which the last dollar of tax revenue reduces national income by 1.5 dollars. At this tax rate, the last dollar of tax revenue that the regime extracts costs the regime 1 dollar in lost revenue (2/3*1.5 dollars in lost national income). Calculating these optimal tax rates for all enfranchisement ratios produces the curve graphed in figure 1. The horizontal axis is the enfranchisement ratio and the vertical axis is the effective tolerance for tax distortions (1/n). The curve illustrates that insider tolerance for tax distortions rises as the enfranchisement ratio falls. In other words, tax rates fall as the enfranchisement ratio rises.[4]

(Figure 1 about here)

The same logic applies to government investment in public goods. Investments in public goods increase national income. All regimes thus have incentive to invest in order to benefit from higher insider income. Yet, regimes invest in public goods in proportion to the share of national income they control. Consider a regime with an enfranchisement ratio of .25. This regime captures one-fourth of the return on every dollar it invests in public goods. It will thus invest in public goods until the last dollar of investment raises national income by 4 dollars. A regime with an enfranchisement ratio of .66 captures two-thirds of the return from public goods investment. This regime thus invests until the last dollar of investment raises national income by 1.5 dollars. The rate of return on investment in public goods that maximizes insider income thus falls as the enfranchisement ratio rises. Consequently, the curve in figure 1 also illustrates the relationship between the enfranchisement ratio and public goods investment. The curve in this context depicts the return on investment in public goods required to elicit government investment as a function of the enfranchisement ratio. The negative slope tells us that the return on investment required to elicit investment falls in line with the enfranchisement ratio. Thus, government investment in public goods rises in line with the enfranchisement ratio.

The model thus nicely highlights how differences in political institutions alter government tax and investment rates. Moreover, the model assumes that all insiders use

---

[4] The discussion assumes that tax rates continue to rise as the enfranchisement ratio falls; it is perhaps more likely that the top rate is bounded at the revenue maximizing rate, such that in some set of autocrats have the same optimal tax rate.

the power of government to maximize their collective income. However, the tax and investment rates that maximize insider income—and therefore the government's tax and investment rate preferences—change in line with changes in the share of the adult population legally entitled to participate in politics. As insider interests become more encompassing of societal interests as a whole, insiders lose more from tax distortions and gain more from public goods investment than a more autocratic regime. As insider interests become more encompassing, therefore, insiders become less willing to accept the tax distortions necessary to transfer income from a dwindling number of outsiders (or among themselves). In addition, the more encompassing the interest represented in government, the more interest insiders have in reaping the gains from investment in public goods. As Ndulu and O'Connell (1999, 55) note, a fully encompassing government "will completely forego" the use of taxes to transfer income from others and simply "benefit over time from overall economic growth."

*Discount rates and government borrowing:* Because a government decision to borrow is a decision to tax future income, the model leads us to expect that government borrowing from foreign creditors will rise as the enfranchisement ratio falls. Whether this is a reasonable extension of the model depends upon how governments weight the future. All governments probably discount the future to some extent and thus all governments are likely to tax future income more heavily than current income. Whether autocracies borrow more than democracies, however, depends upon relative discount rates. In particular, it depends upon whether democracies discount the future more than autocracies.

We know that insiders in autocracies tax current income at a higher rate than democracies. These tax rate preferences apply to future income as long as discount rates are not negatively correlated with the enfranchisement ratio.[5] In other words, autocracies will borrow more than democracies as long as democracies don't discount the future substantially more than autocracies.[6] The logic is straightforward. Because their smaller enfranchisement ratio makes autocracies more tolerant of tax distortions than democracies, autocracies will borrow more than a democracy unless the democracy discounts the future substantially more than the autocracy. The greater the difference in the two regimes' tolerances for tax distortions, the greater the required difference in discount rates. Consider a democracy with an enfranchisement ratio of .9 and an autocracy with an enfranchisement ratio of .3. Because the autocracy's tolerance of tax distortions is three times that of the democracy (1/.3 versus 1/.9), the autocracy will borrow more than the democracy unless the democracy's discount rate is three times as large as the autocracy's discount rate. Hence, autocracies will borrow more than democracies as long as democracies do not discount the future *substantially more than* autocracies.

It seems unlikely that democracies can discount the future substantially more than autocracies. Although we lack comprehensive evidence on regime-specific discount rates,

---

[5] Willingness to tax future income is a function of the enfranchisement ratio ($^1/_n$) and the discount rate (*f*). A government's borrowing rate is thus given by ($^1/_n$)*f*. Government borrowing will rise as the enfranchisement ratio falls as long as *f* is less than ($^n/_1$) for all n.

[6] The required difference is given by the ratio of the share of national income controlled by insiders in each regime is greater than the ratio of the two regimes' discount rates ($n_{dem} / n_{aut} > f_{dem} / f_{aut}$).

existing literature suggests that autocracies discount the future quite heavily (Easterly 1999; Easterly 2002; Leith and Lofchie 1993; Levi 1988; McMillan 1998; Ndulu and O'Connell 1999; Przeworski and Limongi 1993, 55).[7] Although many autocratic rulers remain in office for long periods, the high degree of political instability characteristic of developing societies leads rulers to expect to retain power for a short period. As Easterly (2002, 1680) summarizes, because rulers in autocratic regimes do "not feel secure, the future does not have a strong voice in elite circles." Given that autocracies discount the future heavily, democracies cannot readily discount the future substantially more than autocracies. It seems reasonable to conclude that the amount governments borrow will rise as the enfranchisement ratio falls.

*Borrowing, Investment and the Foreign Debt to GDP Ratio:* Government borrowing and investment decisions are transformed into foreign debt to GDP ratios by the process described by the following equation:

$$\frac{D}{Y} = \frac{\Delta D_t + D_{t-1}}{\Delta[(D_{t-n}*I)mp]_t + Y_{t-1}}$$

where $D$ is foreign debt, $Y$ is GDP, $I$ is the investment rate, and $mp$ is the additional national income generated by each unit of investment ($mp$ is constant across countries and ($0 < mp < 1$)). The foreign debt to GDP ratio thus increases as a function of $\Delta D_t$ and decreases as a function of $[\Delta(D_{t-n}*I_i)mp]_t$. Borrowing and investment rates are in turn a function of the enfranchisement ratio: borrowing ($\Delta D_t$) rises and the investment rate ($I$) falls as the enfranchisement ratio falls.

We can see how the enfranchisement ratio shapes foreign indebtedness by using this equation to construct simulated foreign debt to GDP histories for three prototypical regimes: a democracy, a moderate autocracy, and a full autocracy. I endow each regime with an initial GDP of 1000 units and zero foreign debt. I set $mp$ at 0.1 for all regimes and I set the lag required for an investment in period $t$ to raise GDP at two.[8] Each regime then borrows and invests for twenty periods at different rates for $\Delta D_t$ and $I$. Each regime also repays 10 percent of its total debt per period.[9]

I select values for $\Delta D$ and $I$ that reasonably correspond to our theoretical expectations about regime behavior. The results of the simulation are presented in figure 2. The democracy borrows 10 percent of GDP each period and invests 90 percent of the borrowed funds. As a result, its foreign debt to GDP ratio increases by an average of 3.4 points per period and after twenty periods it owes foreign creditors 76 percent of its GDP.

---

[7] Recent research on leadership tenure, which suggests that leaders in autocracies remain in office longer than leaders in democracies, can be viewed as evidence against the proposition advanced here (see, e.g., Bueno De Mesquita et al. 1999; Bueno de Mesquita et al. 2003; Goemans and Chiozza 2004). Yet, this literature seems less relevant in this instance, however, because insider is the relevant unit of analysis. One's insider status and leadership tenure might be closely linked in autocracies. In a democracy, however, insider status depends not on a particular leader's tenure, but on the continuation of the democratic system.

[8] Thus, given $[\Delta(D_{t-n}*I)mp]$ $mp = .1$ and $n$ equals 2. A 100 million unit investment in period $t$ will contribute 10 million to GDP each year beginning in period $t+2$. The lag length is irrelevant as long as it is constant across regime types.

[9] Adding debt repayment means that $\Delta D_t$ becomes net change of foreign debt (new borrowing minus repaid debt). Without repayment foreign debt grows linearly for all regimes.

The moderate autocracy borrows 12.5 percent of GDP each period and invests almost 50 percent of the funds. Its foreign debt to GDP ratio increases by 4.4 points per period and it owes foreign creditors 95 percent of its GDP after twenty periods. The full autocracy borrows 15 percent of GDP per period and invests 25 percent of the borrowed funds.[10] Its foreign debt to GDP increases by 5.5 points per period and at the end of the twentieth period it owes foreign creditors 115 percent of its GDP.

The simulation thus nicely illustrates how different borrowing and investment rates shape the evolution of foreign debt over time. What is perhaps most interesting is that even relatively small differences in borrowing and investment rates produce substantial differences in total foreign indebtedness over time. And obviously these differences widen if we alter the values for $\Delta D$ and $I$. If, for example, the full autocrat borrows twenty percent of GDP each period and invests 25 percent, its debt to GDP ratio rises to 150 percent after twenty periods.

(Figure 2 about here)

In summary, the accumulation of foreign debt is a function of the enfranchisement ratio. All else being equal, governments in small enfranchisement ratio political systems (autocracies) will accumulate larger foreign debt burdens than governments in large enfranchisement ratio systems (democracies). Autocratic governments will borrow more from foreign creditors than democracies, and will invest a smaller share of these borrowed funds in public goods than democracies. Consequently, autocracies will increase their foreign debt to GDP ratios more than democracies each period. Over time, autocracies will accumulate larger foreign debt to GDP ratios than democracies. I turn now to test this expectation.

## Empirical Analysis

### Data and Methods

I test the regime type hypothesis using observations for 78 developing countries over the period 1976 – 1998. I begin the analysis in 1976 because consistent political and economic data for developing countries is scarce prior to the mid-1970s. I end the analysis in 1998 because the underlying process governing foreign debt changed. By the late 1990s the international community was shifting toward the debt forgiveness regime. The growing importance of debt forgiveness strengthened the importance of external factors on foreign debt accumulation and reduced the relative importance of domestic factors. Consequently, even the most heavily indebted countries of the 1980s and early 1990s ceased to accumulate debt at the same rate. By the beginning of the 21st century, debt burdens for the most heavily-indebted governments fell (ultimately to zero), for reasons having nothing to do with the hypothesized regime type effect. Because the international community's treatment of developing country debt changed so dramatically, I end the analysis in 1998.

Two complications limit our ability to employ standard time series cross sectional regression to explain variation in the level of foreign debt. A first complication arises from the recognition that foreign debt as a share of GDP is a non-stationary time series. A stationary time series has a constant mean and variance. Foreign debt to GDP ratios violate the assumption of a constant mean, as annual average foreign debt rises steadily from about 26 percent of GDP in 1975 to just over 100 percent in the mid-1990s (see

---

[10] These borrowing rates are not unreasonable; Zambia's foreign debt increased by 15 percent of GDP each year from the early seventies through the late 1980s.

figure 2). Figure 2 also suggests that variation around this mean is changing substantially over time. An augmented Dickey-Fuller test for a unit root confirms that foreign debt is non-stationary.[11] Using standard regression techniques to model variation in the level of foreign debt across time and space is thus inappropriate.

(Insert figure 3 about here)

A second complication arises from the interaction between the year-to-year stability of accumulated foreign debt and the rather large changes in political institutions that occur as a consequence of widespread democratic reforms of the early 1990s. The case of Zambia illustrates this complication. For the first thirty years of its independence, Zambia was a highly autocratic political system; Zambia's Polity score for the late 1970s through the early 1990s is -9. Under Kenneth Kaunda's autocratic regime, Zambia accumulated a large foreign debt, which peaked at just slightly more than 200 percent of GDP in 1990. Political reforms initiated in 1990 by the Movement for Multiparty Democracy led to constitutional change and multi-party elections in October 1991. Zambian democratization is fully reflected in Zambia's Polity score, which jumps to 6 in 1991 and remains at this level until 1996. Yet, Zambia's accumulated foreign debt did not fall. Hence, regressing debt against Polity scores in Zambia's case will fail to enlighten us about the relationship between regime type and foreign debt; we might even discover a clearly spurious positive relationship between level of democracy and level of foreign debt.

Many countries display similar patterns: autocratic regimes accumulated large foreign debt burdens in the seventies and eighties, followed by political reform. As a consequence, many newly-established democratic regimes inherited large foreign debt burdens in the early 1990s. This is evident in average Polity scores over time. The average Polity score for the most heavily-indebted countries average -4 or -5 in the early and mid-1980s. By the mid-1990s, average polity scores for these countries had risen to 0.6. For the sample as a whole, Polity scores rise from an average of -3.5 in the early 1980s to 2.5 in the mid-1990s. Regressing the level of foreign debt against Polity scores over time, therefore, is likely to produce misleading results.

I address these challenges by employing an error correction model (De Boef and Keele 2008). The general model takes the following form:

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \beta_0 \Delta X_t + \beta_1 X_{t-1} + \varepsilon_t$$

Not only does this approach correct for our non-stationary dependent variable by employing the first difference, it also allows us to estimate separate short run and long run effects for each independent variable. The short run effect of a change of each X on a change in Y is given by $\beta_0$. The short run effect of the level of each X on change in Y is given by $\beta_1$. The long run effect of each X on the change in Y is given by ($\beta_1 / \alpha_1$) (De Boef and Keele 2008, 190-191).

The dependent variable in the analysis is government debt to all foreign creditors (public and private) as a percent of gross domestic product. This measure includes government debt, government guaranteed debt, use of IMF credit, and short-term debt (World Bank 2002). I estimate models against both the absolute value and the log of this government foreign debt to GDP ratio.

---

[11] I employed an xtfisher test for unit root; as far as I am aware, this is the only unit root test available for a time series cross section data set with an unbalanced panel.

8

I employ three regime type measures.[12] The Polity IV democracy-autocracy index is based on the competitiveness of the political system, the openness and competitiveness of executive recruitment, and constraints on the chief executive (Marshall and Jaggers 2002, 13). This index ranges from -10 (autocracy) to +10 (democracy). Because higher scores are associated with more open political systems, I expect a negative sign on the coefficient for this variable. The second measure is the Freedom House index of political rights. This index measures different dimensions of regime type. It is based on the extent two which the executive and legislature are selected through free and fair elections, the degree to which citizens have the legal right to form political parties, and the extent to which electoral politics directly determine government policy. The index ranges from 1 to 7, with higher scores denoting more exclusive political systems. I anticipate a positive sign on the coefficient for this measure of inclusiveness. The third measure is the size of the winning coalition relative to the selectorate (*W over S*) taken from the selectorate model (Bueno de Mesquita et al. 2003). This measure is derived in part from the Polity index (W) and in part from the Banks index of legislative selection (S). It ranges from 0 to 1, with higher values indicating more open political systems. I expect a negative coefficient on this variable.[13] Each measure provides a distinct coding of a similar underlying theoretical variable, the degree to which the adult population is legally entitled to participate in politics. Finding significant relationships on distinct measures will enhance our confidence in the findings.

I employ two measures of exogenous shocks. *Terms of Trade* measures the change in the ratio between the price a country receives for its exports and the price it pays for its imports. *Terms of Trade* is measured as a three year moving average. As this variable ranges from negative numbers indicating declining terms of trade to positive, the bad luck hypothesis expects a negative sign on the coefficient. *World Interest Rate*, for which I employ U.S. nominal interest rates capture the impact of changes in global financial conditions. World interest rates affect the cost of debt service, and one might expect countries to borrow more heavily in high interest rate periods than in low interest rate periods.

I control for two sets of additional factors. First, I control for structural factors that should influence foreign indebtedness. *Per Capita Income*, measured in constant U.S. dollars, controls for the level of development and the underlying propensity to borrow. This coefficient should be negative, as wealthier countries will have larger pools of domestic savings and consequently less need to import foreign capital. *GDP*, also measured in constant U.S. dollars, controls for country size. I expect larger countries to borrow less than small countries, and thus this coefficient should be negative. *Trade Openness* is the sum of imports and exports as a share of GDP. All else being equal, I expect more open economies to carry larger foreign debt burdens because their greater

---

[12] I employ Polity rather than the Alvarez et al. measure because the Polity index offers a continuous rather than a categorical measure. I discuss below results generated by other regime measures.

[13] While *W over S* might seem to be an exact measure of my selectorate ratio, appearances are deceiving. My selectorate ratio is insiders (the selectorate) as a share of the total adult population. *W over S* is the winning coalition as a share of the selectorate. A score of 1 on *W over S* may, but need not imply the political system is one in which the selectorate includes the entire adult population. Nor is the individual component, *S*, a direct measure of the selectorate ratio, as it is based upon whether a legislature exists (0) and if so whether it is not elected (1) or elected (2), rather than on the share of the population with the right to select the legislature.

export capacity enables them to service a larger debt more comfortably. This coefficient should therefore be positive.

Finally, I control for participation in World Bank/IMF Structural Adjustment Fund and Enhanced Structural Adjustment Fund programs. The relationship between program participation and change in foreign debt could be positive or negative. On the one hand, highly indebted countries should be more likely than less-heavily indebted countries to participate in such programs. Hence, one might expect a positive sign on the coefficients for these variables. On the other hand, if these programs effectively encourage governments to restructure and manage their foreign debt, or make it difficult to borrow from foreign lenders, we might expect participating governments to borrow less than heavily indebted countries that do not participate. In either case, however, it is important to control for participation in the program.

**Findings**

The results of the analysis are presented in table 1. The models perform well. The Wald statistics indicate that each model fits the data well, though the proportion of total variance explained varies across the measures of the dependent variable. In general, models estimated against the first difference of the log-transformed debt to GDP ratios account for substantially greater share of the total variance than models estimated against the first difference of the debt-to-GDP ratios.

(Insert table 1 about here)

We see that the models produce strong support for the hypothesized relationship between regime type and foreign debt accumulation. There is no evidence that a change in Regime Type has an immediate impact on government borrowing. There is substantial evidence of a robust relationship between the lagged *Regime Type* level and change in foreign debt to GDP ratios. Indeed, the estimated relationship between the lagged *Regime Type* level measures and change in the foreign debt to GDP ratio is consistent in direction, in magnitude, and in statistical significance across all of the specifications. The coefficients for the *Polity* score are negative and statistically significant against both measures of change in foreign debt. The negative coefficients in the models tell us that as societies move from highly autocratic to highly democratic, the average annual change in foreign debt falls. I return below to the magnitude and substantive impact of this relationship. The two other measures yield consistent support for the hypothesized relationship. *W Over S*, and the *Freedom House Index* of political rights both return statistically significant coefficients in all models, though our confidence in these estimates is less in the logged Debt-to-GDP models than in the Debt-to-GDP ratios. Moreover, both measures yield coefficients for which the direction of the estimated relationships is consistent with the hypothesis. The coefficients yield the expected negative relationship between *W Over S* and change in foreign debt and the expected positive relationship between the *Freedom House index* and change in foreign debt. In short, the three alternative measures of regime type yield consistent results. The annual change in foreign debt decreases as the political system becomes more democratic.[14]

---

[14]I attain similar results with other measures, including the Bueno de Mesquita et al (2003) *Selectorate* measure, individual components of the broader Polity index (*polcomp* and *parcomp*), and the executive index of electoral competitiveness (*eiec*) from the Database of Political Institutions. These alternative measures are typically statistically significant and correctly signed, though sometimes fall just slightly below conventional levels of significance.

Is the estimated relationship between the lagged level of *Regime Type* and change in foreign debt to GDP ratios substantively important? There are two dimensions to substantive importance. First, does the estimated relationship highlight different borrowing practices across these different political systems? Second, do these differences have a substantively important impact on the accumulation of foreign debt over the long run? We can gain insight into the first question by using Clarify to look at the short-run impact of the lagged level of Regime Type on changes in foreign debt to GDP ratios (see King, Tomz, and Wittenberg 2000).

Figure three displays the expected annual average change in foreign debt for each value of the Polity index as well as the 95 percent confidence intervals. Panel (A) graphs the results for the annual change in the log of Debt-to-GDP; Panel (B) graphs the results for the annual change in the unlogged Debt-to GDP ratio. Notice first that both panels highlight a substantial difference between regime types at the extreme poles of the index. Holding all other variables at their mean (including average foreign debt), the estimates suggest that on average, democracies reduce their foreign indebtedness as a share of GDP while autocracies increase their debt. On average, therefore, the estimates predict a substantively important difference in borrowing behavior.

(Insert Figure 3 about here)

The differences persist even once we recognize the uncertainty inherent in these estimates. The positive rate of debt accumulation in the Debt-to-GDP ratio for a democratic regime at the upper boundary of the 95 percent confidence interval is lower than the rate of debt accumulation for an autocracy at the lower boundary of its 95 percent confidence interval. The two regime types accumulate foreign debt at the same rate only as we move further out along the confidence interval. The regime distinction is less sharp but still evident in the change in the untransformed Debt-to-GDP ratio. Both graphs thus reveal the same basic relationship: low enfranchisement ratio autocratic systems accumulate foreign debt burdens at a faster rate than democratic systems.

Do these different rates of foreign debt accumulation generate large differences in the level of foreign indebtedness over time? For although we find that democracies and autocracies borrow at different rates, this difference might still be too small to have any substantively important impact on the foreign debt ratio each government accumulates over time. One way to conceptualize the substantive impact of political institutions on foreign indebtedness is to ask how much debt a typical autocracy and a typical democracy would accumulate over a twenty-year period, say 1979 through 1998, given the estimated annual increase in foreign debt for each type of regime. For example, take the average debt held by all governments in the late 1970s, roughly 33 percent of GDP. Now allow this debt to grow at the average borrowing rate for the average autocracy for twenty years. The average autocracy score in the 1975-1982 period is -6.3; the estimated annual additional indebtedness for such a government is roughly 4 percent per year. At this rate, after twenty years the foreign debt to GDP ratio for the typical autocratic regime will reach 98 percent. In contrast, allow the same average debt to grow for twenty years at the borrowing rate of the typical democracy. The average polity score for democracies in this period was 8.77. The upper bound of the 95 percent confidence interval suggests a rate of incremental indebtedness for such regimes of about two percent per year. After twenty years, the democratic regime would accumulate foreign debt equal to 49 percent of GDP. These rough estimates highlight how seemingly small differences in annual

borrowing patterns across regime types accumulate over time to very different foreign debt burdens. An average autocracy would owe twice as much as a share of its national income as the average democracy.

These simulated foreign debt accumulation trajectories are reflected in the contrasting real-world experiences of Zambia, Botswana, and Senegal. Highly autocratic Zambia, which is coded -9 on the Polity index until the early 1990s, increased its foreign Debt-to-GDP ratio by an average of 9 points per year between 1975 and 1991. Consequently, its total foreign debt rose from 68 percent of GDP in 1975 to 210 percent of GDP in 1991. In contrast, highly democratic Botswana, coded 9 on the Polity index throughout the period, reduced its foreign debt burden by an average of 1.6 points per year over the same period. As a consequence, foreign debt in Botswana fell from 40 percent of GDP in 1975 to about 15 percent of GDP by the early 1990s. Foreign debt in Senegal, which is coded -1 on the Polity index throughout the period, traced a path midway between Botswana and Zambia. Senegal's foreign Debt-to-GDP ratio grew by an average of 3.2 points per year between 1975 and 1991, as a consequence of which Senegalese foreign indebtedness rose from 20 percent of GDP in the mid-1970s to 70 percent of GDP by the early 1990s. Thus, the estimated relationship is substantively significant on both dimensions: autocracies and democracies accumulate foreign debt at different rates, and these different borrowing rates produce very different levels of foreign indebtedness.

The focus on the short-run relationship understates the total impact of *Regime Type* on Foreign Debt to GDP ratios. The total long run effect is .0375 (.003/.08).[15] Thus, a twenty-unit difference in the Polity index—the difference between a highly autocratic and a highly democratic regime—changes the logged Foreign Debt to GDP ratio by a total of .75 points over the long run. The estimated error correction rate, .08, suggests that this effect is realized over a relatively long period—more than fifteen years. This long-run effect may reflect the impact of democracies' higher investment rate. Investment raises national income which in turn reduces the foreign debt to GDP ratio. Moreover, the larger income facilitates debt repayment, which further reduces the foreign debt to GDP ratio. Hence, when democracies invest a larger share of their borrowed funds than autocracies, we would expect the initial difference in foreign debt to GDP ratios produced to widen over time just as this estimated long run effect suggests.

Turning to the bad luck hypothesis, we see that the models provide only modest support for the assertion that governments borrow in response to negative global economic shocks. The models yield some evidence of a relationship between changes in the global economic environment and changes in borrowing practices. The coefficients for the first difference in *World Interest Rate* in the Foreign Debt to GDP ratio models are all highly significant and indicate a positive relationship between a change in interest rates and a change in Foreign Debt to GDP ratios. Consistent with the bad luck hypothesis, this suggests that global interest rate increases immediately trigger additional increases in the debt to GDP ratio. In addition, the coefficient on change in terms of trade in one model is also (weakly) significant. This coefficient carries a positive sign, however, suggesting that a positive terms of trade shock increases the Foreign Debt to

---

[15] I calculate the long run multiplier following Keele and De Boef (2008). The Bewely transformation estimates the standard error for this long-run effect as .008. The long-run effect is thus significant at the .01 level.

GDP ratio. None of these estimated short-run effects are robust to the log transformation of the dependent variable, however.

The models provide little evidence the exogenous shocks have a long run impact consistent with the bad luck hypothesis. Lagged *Terms of Trade* returned statistically significant coefficients, but only in models estimated against the logged Foreign Debt to GDP ratio. Moreover, the coefficient on the lagged *Terms of Trade* carries a positive sign, indicating that foreign debt to GDP ratios change by larger amounts when terms of trade are improving than when they are deteriorating. Not only is this the exact opposite of the hypothesized relationship, it is consistent with a world in which governments view positive terms of trade shocks as permanent income gains that enable them to service a larger foreign debt. The models reveal no evidence of any short or long-run relationship between the level of the *World Interest Rate* and changes in Foreign Debt to GDP ratios.

Overall, then, the models provide only modest support for the bad luck hypothesis. We find some evidence that interest rate shocks trigger larger changes in governments' foreign debt to GDP ratios. Yet, this evidence is not robust across measures of the dependent variable. We find some evidence that change in Foreign Debt to GDP ratios is related to Terms of Trade. Yet, the estimated relationship is the opposite of that posited by the bad luck hypothesis, and not robust across measures of the dependent variable. Thus, although one cannot conclude from this analysis that bad luck was unimportant, the analysis certainly does little to suggest that bad luck was the dominant factor driving foreign debt accumulation in the developing world.

Finally, these results are robust to the inclusion of the control variables. *GDP* has both immediate and long-term effects on changes in the foreign debt to GDP ratio. An increase in GDP is associated with an immediate reduction in the change in Foreign Debt to GDP Ratio. This may suggest that governments borrow less from foreign creditors in high growth periods than in low growth periods. The negative coefficient for the lagged level of GDP suggests that the Foreign Debt to GDP ratio changes less in large economies than in small economies. Neither *Per Capita Income* nor *Trade Openness* is significantly related to foreign indebtedness. Per capita income returns a moderately significant coefficient in only one of the six models. The coefficients for *Trade Openness* do not even yield consistent results regarding the direction of the relationship. *Trade Openness* yields a negative relationship to change in the log Foreign Debt to GDP ratio and a positive relationship with change in Foreign Debt to GDP ratio, but none of the estimated coefficients approach statistical significance.

Participation in international debt management programs had no impact on foreign indebtedness. *Structural Adjustment Fund* participation fails to return a significant coefficient in any of the models. The negative coefficient suggests that governments that participate in Structural Adjustment Fund programs experience less rapid increases in their debt to GDP ratios than governments that do not participate in such programs. This result is consistent with a causal relationship, as SAF programs require governments to enact policies that should reduce the demand for foreign debt. But the coefficient never approaches conventional levels of statistical significance. This may speak to the high recidivism rate among program participants.

As a final step in the analysis, I evaluated the robustness of the reported results to estimation method and model specification. I estimated the model with the change variables omitted, with and without cross sectional fixed effects. The results were

consistent with, though contained slightly greater uncertainty than, those reported. This is not surprising given that the measures of political institutions are relatively stable across time within countries and thus highly correlated with the country dummies. I also ran the models against a panel constructed from five-year means rather than annual observations. These results were also consistent with those reported above, though with greater uncertainty than is present in the estimates based on annual data. As the number of observations falls from 1,542 to 312, this is not surprising. While these alternative procedures do increase the uncertainty about the estimated relationship between political institutions and change in foreign debt, the relationship evident in the annual data is also evident in these more demanding tests. And as I noted above, I attain consistent results across a very large number of alternative measures of the key theoretical concept. Thus, the results do not appear to be driven by the procedure, by the structure of the data, nor by the specific measures employed.

I also tested whether the estimated relationship between regime type and change in foreign debt to GDP ratios is robust to the inclusion of a large number of other control variables. Natural resource abundance is one obvious concern. Many developing countries are natural resource exporters. Resource-abundant countries are often autocratic and the existence of resource wealth makes them attractive to foreign lenders. Consequently, the relationship between regime type and change in foreign debt ratios identified here might spuriously reflect the relationship between an natural resource abundance and foreign debt. I tested for this by including measures of natural resource dependence in the models (one that measured oil and natural gas exports and a broader measure of primary commodity exports). The natural resource variables never return significant coefficients, and their inclusion did not alter the estimated relationship between political institutions and foreign debt. [16]

## Conclusion

This paper demonstrates that political institutions played an important role in shaping the accumulation of foreign debt by developing country governments in the last quarter of the twentieth century. Autocratic governments accumulated substantially more foreign debt as a share of their national income than governments in democratic political systems. This relationship between regime type and foreign debt burdens is evident with multiple measures of regime type. The relationship between regime type and foreign debt accumulation held even once we controlled for other likely causes of foreign debt accumulation, including the level of development, integration into the global trade system, and participation in international debt management programs supervised by the IMF and World Bank. The analysis not only confirms that variation in political institutions played an important role in foreign debt accumulation, but also suggests that these political institutions have a more systematic impact than the exogenous shocks emphasized by the bad luck hypothesis. Whereas political institutions were always a significant predictor of foreign debt accumulation, the relationship between economic

---

[16] One reviewer expressed the opposite concern: that Botswana's diamond wealth and high democracy score might influence the reported results. I thus estimated the model against a sample that excludes observations for Botswana and estimated a model with a Botswana dummy variable against a sample that includes Botswana. The results from both estimates are substantively identical to those reported here.

shocks and foreign debt accumulation was sensitive to the measure used and model specification.

These findings speak directly to earlier work that explored the relationship between regime type and economic reform in heavily indebted countries. This research hypothesized that autocratic governments would be better able than democratic governments to implement stabilization and structural adjustment programs. When empirical research failed to find evidence of a regime difference, scholars concluded that regime type was not an important causal factor in the debt and adjustment process. This paper suggests that regime type is important, but at a different stage and in a different manner than the earlier literature hypothesized. Earlier literature looked for the impact of regime type in the adjustment process. This paper suggests that regime type differences separate democracies and autocracies long before countries enter economic reform programs rather than once they are within the adjustment process. Regime type shapes the rate at which governments accumulate foreign debt. Differential rates of foreign debt accumulation in turn determine the probability that a government enters an adjustment program. Regime type, therefore, determines the probability of entry into an adjustment program. Because regime type determines entry into adjustment programs, regime type is unlikely to account for differential implementation of adjustment programs.

Regime characteristics do impact reform implementation, but in a manner different than the earlier literature hypothesized (Oatley 2004). Previous literature hypothesized that because autocratic leaders were not constrained by voters, they could more easily withstand public opposition to the short-run cost of economic reform. Hence, autocracies should implement reforms more readily than democracies. This paper suggests that autocratic governments have little incentive to reduce their consumption expenditures or invest in future growth. Thus, once autocrats enter adjustment programs, they have little incentive to implement stabilization and structural adjustment programs. What we should observe, therefore, is precisely the behavior the earlier literature reported, namely autocratic governments generally unwilling to implement economic reform.

The theoretical and empirical research presented here thus offers a compelling account of the full trajectory of foreign debt accumulation and adjustment in developing societies during the last quarter of the twentieth century. Autocratic governments were more likely to accumulate large debts than democracies. As a consequence, autocratic governments were more likely to wind up in IMF and World Bank sponsored adjustment programs than democracies. And once in adjustment programs, autocracies were likely to linger in adjustment programs because they had little incentive to implement meaningful reforms. We would therefore see high rates of recidivism, long spells within IMF and World Bank supervised adjustment programs, and little evident reform progress. This succinctly summarizes the sad trajectory of developing country debt since the mid-1970s.

This paper always provides a useful lens through which to view government behavior within the Multilateral Debt Relief Initiative (MDRI). On the one hand, the findings discourage us from embracing the optimism embodied in the bad luck hypothesis. The analysis reported here suggests that governments who benefit from debt forgiveness will not automatically dedicate the resources freed by this program to projects that enhance social welfare. Low enfranchisement ratio political systems, autocracies, constitute the overwhelming majority of governments eligible for debt relief

under the MDRI. These governments accumulated foreign debt because they had little incentive to care about the negative impact that high debt has on long run economic performance. One expects such governments to consume rather than invest the resources freed up by the MDRI, and perhaps to begin to accumulate new foreign liabilities as well. At present, of course, this expectation can only be a conjecture; debt relief is too recent to evaluate post-relief tendencies. It will prove interesting to return to this question in a few years.

This does not mean that we must be unduly pessimistic, for the results provide some basis for optimism. Societies are not driven ever deeper into poverty by a hostile global economy over which they have little influence. Nor are governments in developing societies innately wedded to bad policy. Instead, governments borrow and invest in response to the political incentives they face. These incentives are a function of the political institutions within which they work. Hence, one can encourage better policies by encouraging political reform. This paper suggests that preventing the reemergence of debt problems in developing countries will require governments to move toward more inclusive political systems. Multilateral and bilateral lenders must also reform their practices. In particular, foreign lenders must be willing to deny loans to governments in autocratic political systems. The World Bank's growing awareness of and emphasis on so-called "governance indicators", of which voice and accountability is an important component, as part of their country evaluations suggests that the international financial institutions recognize the importance of these issues in the development process.

References

Adam, Christopher S. and Stephen A. O'Connell. 1999. "Aid, Taxation, and Development in Sub-Saharan Africa," *Economics and Politics* 11 (November): 225-253.

Alesina, Alberto and Dani Rodrik. 1994. "Distributive Politics and Economic Growth," *Quarterly Journal of Economics* 109 (2): 465-490.

Boix, Carles. 2003. *Democracy and Redistribution*. Cambridge: Cambridge University Press.

Boschini, Anne D.,Jan Pettersson and Jesper Roine. 2007. "Resource Curse or Not: A Question of Appropriability," *Scandinavian Journal of Economics* 109 (3): 593-617.

Bueno De Mesquita, Bruce ,James D. Morrow,Randolph M. Siverson and Alastair Smith. 1999. "Policy Failure and Political Survival," *Journal of Conflict Resolution, Vol. 43, No. 2, 147-161 (1999)* 43 (2): 147-161.

Bueno de Mesquita, Bruce ,Alastair Smith,Randolph M. Siverson and James D. Morrow. 2003. *The Logic of Political Survival*. Cambridge: MIT Press.

Catão, Luis and Bennett Sutton. 2002. Sovereign Defaults: The Role of Volatility. . In *IMF Working Paper*. Washington D.C.: IMF.

De Boef, Suzanna and Luke Keele. 2008. "Taking Time Seriously," *American Journal of Political Science* 52 (1): 184-200.

Easterly, William. 1999. "Life During Growth," *Journal of Economic Growth* 4 (3): 239-276.

Easterly, William. 2002. "How Did Heavily Indebted Poor Countries Become Heavily Indebted? Reviewing Two Decades of Debt Relief," *World Development* 30 (October): 1677-1696.

Evans, Huw. 1999. "Debt Relief for the Poorest Countries: Why Did It Take So Long?," *Development Policy Review* 17 (3): 267-279.

Fauvelle-Aymar, Christine. 1999. "The Political and Tax Capacity of Government in Developing Countries," *Kyklos* 52 (3): 391-413.

Goemans, Hein and Giacomo Chiozza. 2004. "International Conflict and the Tenure of Leaders: Is War Still Ex Post Inefficient?," *American Journal of Political Science* 48 (3): 604-619.

Goemans, Hein E.,Kristian S. Gleditsch and Giacomo Chiozza. 2009. "Introducing Archigos: A Data Set of Political Leaders," *Journal of Peace Research* 46 (2).

Haggard, S. and R. R. Kaufman, eds. 1992. *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State*: Princeton University Press.

Haggard, Stephan. 1986. The Politics of Adjustment: Lessons from the IMF's Extended Fund Facility. In *The Politics of International Debt* edited by M. Kahler. Ithaca: Cornell University.

International Monetary Fund. *The Logic of Debt Relief for the Poorest Countries* 2000 [cited. Available from http://www.imf.org/external/np/exr/ib/2000/092300.htm.

Iyoha, Milton. 2000. An Econometric Analysis of External Debt and Economic Growth in Sub-Saharan African Countries. In *External Debt and Capital Flight in Sub-*

*Saharan Africa*, edited by S. I. Ajayi and M. S. Khan. Washington, D.C: The International Monetary Fund.

Kahler, Miles, ed. 1986. *The Politics of International Debt*. Ithaca: Cornell University Press.

King, Gary,Michael Tomz and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation," *American Journal of Political Science* 44 (April): 347 -61.

Lee, Woojin. 2003. "Is Democracy More Expropriative than Dictatorship? Tocquevillian Wisdom Revisited," *Journal of Development Economics* 71 (June): 155-198.

Leith, J. Clark and Michael F. Lofchie. 1993. The Political Economy of Structural Adjustment in Ghana," in . In *Political and Economic Interactions in Economic Policy Reform: Evidence from Eight Countries*, edited by R. H. Bates and A. Krueger. Cambridge: Blackwell.

Levi, Margaret. 1988. *Of Rule and Revenue*. Berkeley: University of California Press.

Locke, Christopher G. and Fredoun Z. Ahmadi-Esfahani. 1998. "The Origins of the International Debt Crisis," *Comparative Studies in Society and History* 40 (April): 223-246.

Manasse, Paolo,Nouriel Roubini and Axel Schimmelpfennig. 2003. Predicting Sovereign Debt Crises. In *IMF Working Papers*. Washington, D.C.: IMF.

McGuire, Martin C. and Mancur Olson. 1996. "The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force," *Journal of Economic Literature* 34 (March): 72-96.

McMillan, Margaret. 1998. A Dynamic Theory of Primary Export Taxation: Evidence from Sub- Saharan Africa. In *Discussion Papers Series, Department of Economics*. Medford. MA: Tufts University.

Meltzer, Allan.H. and Scott. F. Richard. 1981. "A Rational Theory of the Size of Government," *Journal of Political Economy* 89 (October): 914-927.

Ndulu, Benno J. and Stephen A. O'Connell. 1999. "Governance and Growth in Sub- Saharan Africa," *The Journal of Economic Perspectives* 13 (Summer): 41-66.

Nelson, Joan M. 1989. *Fragile Coalitions : the Politics of Economic Adjustment*. New Brunswick: Transaction Books.

Nelson, Joan M., ed. 1990. *Economic Crisis and Policy Choice : the Politics of Adjustment in Developing Countries*. Princeton: Princeton University Press.

North, Douglass C. 1981. *Structure and Change in Economic History*. New York:: W.W. Norton & Company.

Oatley, Thomas. 2004. "Why are Some Stabilizations Delayed? Re-evaluating the Regime Type Hypothesis," *Comparative Political Studies* 37 (April).

Olson, Mancur. 1993a. "Dictatorship, Democracy, and Development," *American Political Science Review* 87 (September): 567-576.

Olson, Mancur. 1993b. "Dictatorship, Democracy, and Development,," *American Political Science Review* 87 (Summer): 567-576.

Olson, Mancur. 2000. *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. New York: Basic Books.

Oxfam International. 2004. *Debt Relief: Still Failing the Poor* 2001 [cited March 25 2004]. Available from http://www.oxfam.org/eng/pdfs/pp0104_Debt_relief_still_failing_the_poor.pdf.

Persson, T and G. Tabellini. 1994. "Is Inequality Harmful to Growth?," *American Economic Review* 84 (June): 600-21.

Pettifor, Ann. 2002. Resolving International Debt Crises--the Jubilee Framework for International Insolvency. In *An NEF Report*.

Pettifor, Ann. 2003. "Resolving International Debt Crises Fairly," *Ethics & International Affairs* 17 (Fall).

Przeworski, Adam. 1990. *The State and the Economy Under Capitalism.* Chur: Harwood Academic Publishers.

Przeworski, Adam and Fernando Limongi. 1993. "Political Regimes and Economic Growth," *Journal of Economic Perspectives* 7 (3): 51-69.

Remmer, K. L. 1986. "The Politics of Economic Stabilization: IMF Standby Programs in Latin America, 1954-1984," *Comparative Politics* 19 (1): 1-24.

Remmer, Karen L. 1990. "Democracy and Economic Crisis: The Latin American Experience," *World Politics* 42 (3): 315-335.

Remmer, Karen L. 1991. "The Political Impact of Economic Crisis in Latin America in the 1980s," *The American Political Science Review* 85 (September): 777-800.

Roodman, David Malin. 2001. *Still Waiting For The Jubilee : Pragmatic Solutions For The Third World Debt Crisis*. Washington, DC: Worldwatch Institute.

Ross, Michael L. 1999. "The Political Economy of the Resource Curse," *World Politics* 51: 297-322.

Sachs, Jeffrey D. 2002. "Resolving the Debt Crisis of Low-Income Countries," *Brookings Papers on Economic Activity* (1): 1-28.

World Bank. 2002. *World Development Indicators, 2001*. Washington, D.C.: The World Bank.

World Bank. 2003. *Global Development Finance 2003: Striving for Stability in Development Finance.* Washington, D.C.: The World Bank.

World Bank. 2007. World Development Indicators. Washington DC: The World Bank.

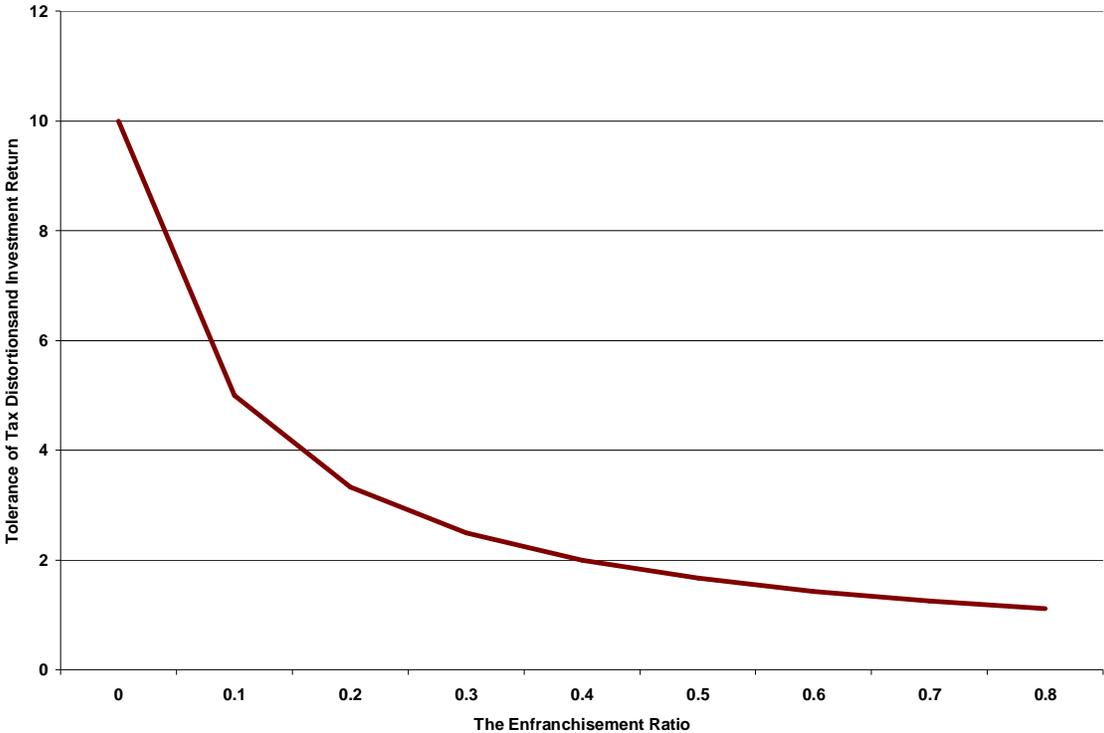**Table 1: Regime Type and Foreign Debt to GDP Ratios: Error Correction Models**

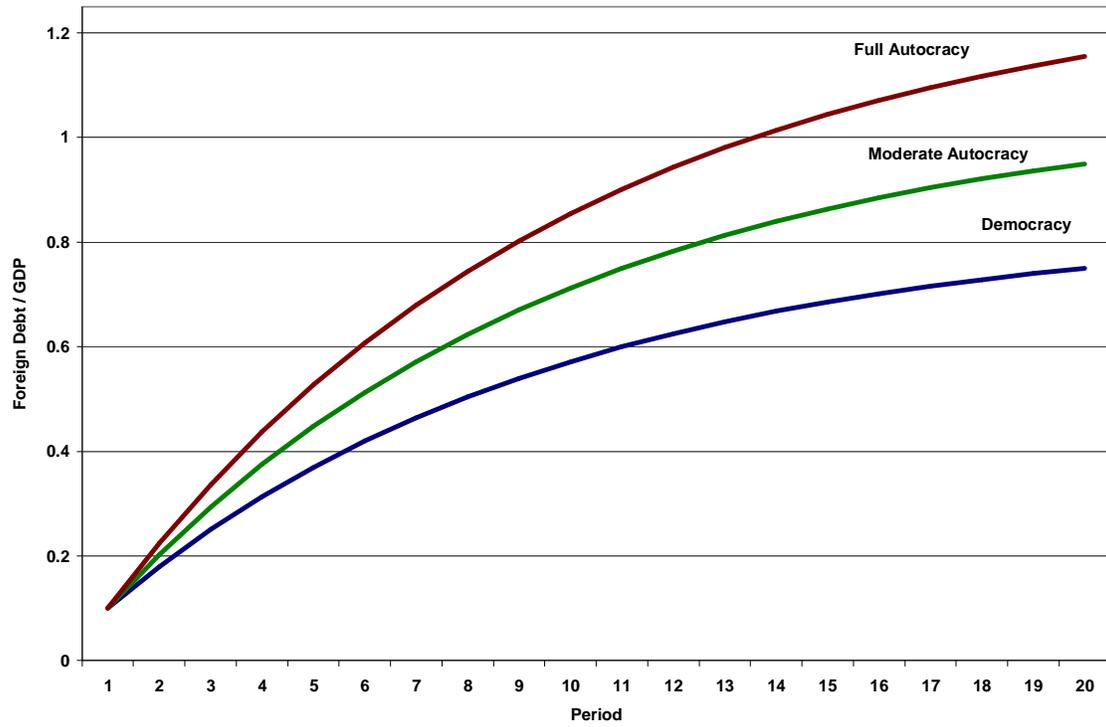| | Log Debt to GDP | | | Debt to GDP | | |
|---|---|---|---|---|---|---|
| | **Polity** | **W Over S** | **Freedom House** | **Polity** | **W Over S** | **Freedom House** |
| **Debt-to GDP $_{t-1}$** | -0.08*** | -0.08*** | -0.08*** | -0.05 | -0.05 | -0.05 |
| | 0.01 | 0.01 | 0.01 | .04 | .04 | .04 |
| **ΔGDP** | -0.88*** | -0.88*** | -0.88** | -95.62** | -95.94*** | -95.78*** |
| | 0.04 | 0.05 | 0.04 | 8.02 | 8.05 | 8.03 |
| **GDP $_{t-1}$** | -0.02*** | -0.02*** | -0.02*** | -1.28*** | -1.21*** | -1.21 |
| | .005 | .005 | .005 | .48 | .48 | .48 |
| **ΔTrade Openness** | 0.03 | 0.03 | 0.03 | 3.86 | 3.95 | 3.77 |
| | 0.04 | 0.04 | 0.04 | 8.46 | 8.46 | 8.48 |
| **Trade Openness $_{t-1}$** | -0.01 | -0.01 | -0.01 | .64 | 1.03 | .69 |
| | .01 | .01 | .01 | 1.63 | 1.58 | 1.63 |
| **ΔPer Capita Income** | 0.02 | 0.004 | 0.005 | -1.17 | -2.57 | -2.20 |
| | 0.07 | 0.07 | 0.07 | 13.11 | 13.26 | 13.14 |
| **Per Capita Income $_{t-1}$** | .01 | .01 | .01 | 1.79* | 1.61 | 1.80 |
| | .009 | .01 | .01 | 1.06 | 1.19 | 1.12 |
| **ΔRegime Type** | -.002 | -.06* | -0.003 | .16 | 2.47 | -.62 |
| | -0.002 | .03 | 0.006 | .27 | 5.73 | .77 |
| **Regime Type $_{t-1}$** | -.003*** | -.04** | 0.01*** | -.27*** | -5.09** | .83*** |
| | .001 | .02 | .003 | .08 | 2.36 | .27 |
| **ΔTerms of Trade** | 0.06 | 0.05 | 0.05 | 14.20* | 13.07 | 13.40 |
| | 0.06 | 0.06 | 0.06 | 8.48 | 8.47 | 8.48 |
| **Terms of Trade $_{t-1}$** | .11* | .10* | .11* | 2.03 | 1.38 | 2.15 |
| | .06 | .06 | .06 | 6.59 | 6.57 | 6.53 |
| **ΔWorld Interest Rate** | .01 | .01 | .01 | 1.67*** | 1.74*** | 1.73*** |
| | 0.01 | 0.01 | 0.01 | .67 | .68 | .68 |
| **World Interest Rate $_{t-1}$** | .004 | .006 | .006 | .45 | .55 | .55 |
| | .005 | .005 | .005 | .40 | .40 | .40 |
| **Structural Adjustment** | -0.02 | -0.02 | -0.02 | -0.47 | -0.55 | -0.35 |
| | .02 | .03 | .03 | 2.76 | 2.89 | 2.81 |
| **Constant** | .81*** | 0.84*** | 0.73*** | 21.97* | 22.54* | 16.17 |
| | 0.13 | 0.14 | 0.14 | 12.27 | 12.89 | 12.66 |
| Observations | 1501 | 1501 | 1501 | 1501 | 1501 | 1501 |
| Countries | 78 | 78 | 78 | 78 | 78 | 78 |
| R-squared | 0.52 | 0.51 | 0.51 | 0.33 | 0.33 | 0.33 |
| Wald chi2 | 766.3 | 746.51 | 814.15 | 227.63 | 223.29 | 218.83 |
| Prob>chi2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Note: Dependent variable is government owned foreign debt as a percentage of GDP. Standard errors are panel corrected.

* p<0.1, ** p<0.05, *** p<0.01

# Figure 1: Taxation and Investment as a Function of the Enfranchisement Ratio

**Figure 2: Foreign Debt/GDP as a Function of Borrowing and Investment Rates**

**Figure 3: Growth of Developing Country Debt**
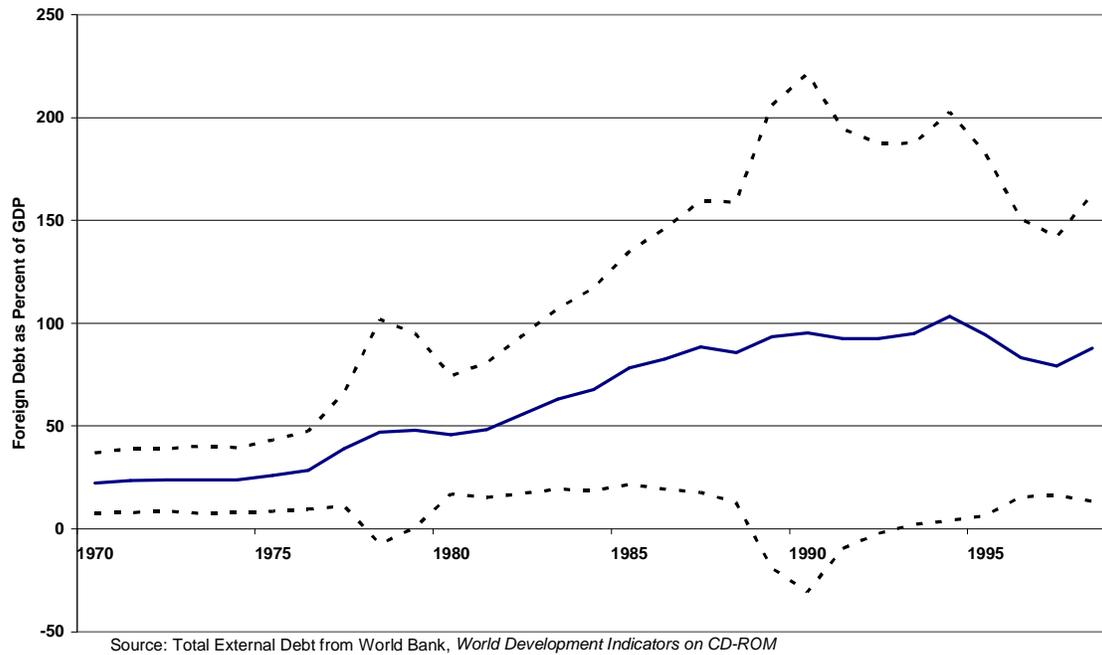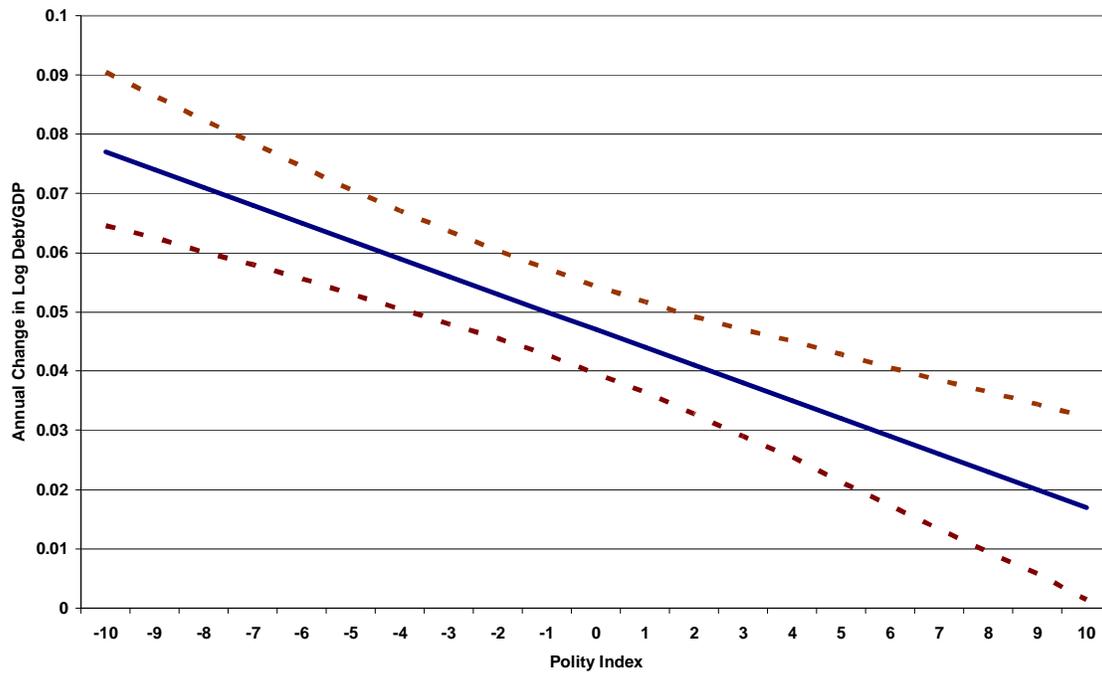**(Foreign Debt as a Percent of GDP)**



Source: Total External Debt from World Bank, *World Development Indicators on CD-ROM*
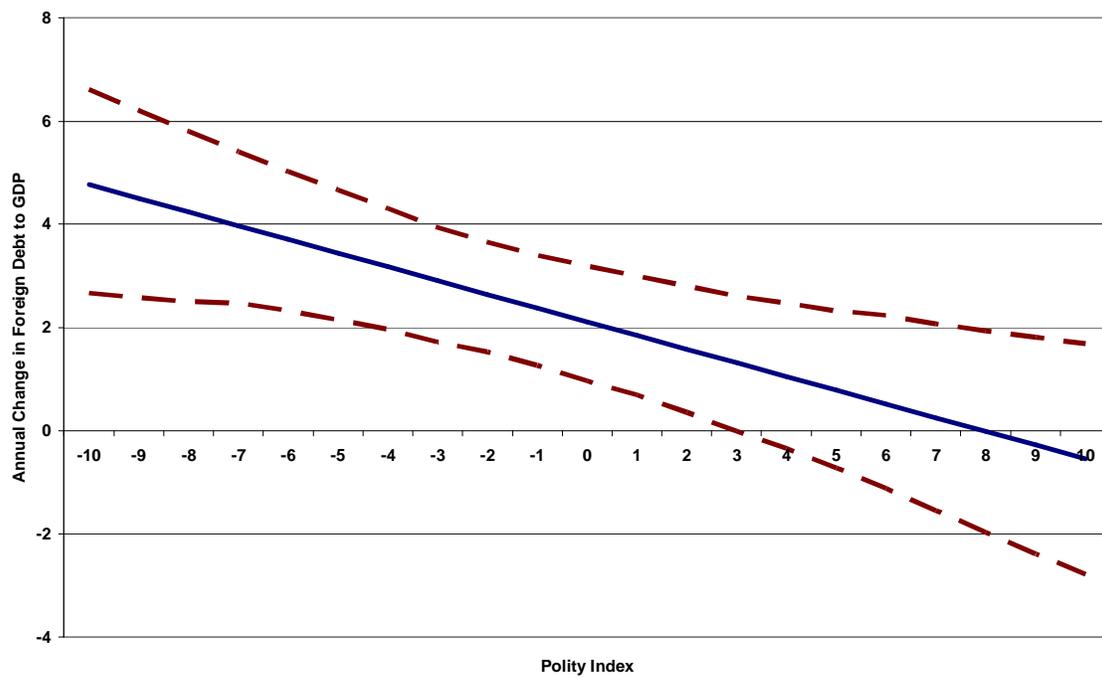
# Figure 4: Regime Type and Expected Change in Foreign Debt to GDP

**Panel A: Regime Type and Change in Log Foreign Debt to GDP**



**Panel B: Regime Type and Change in Foreign Debt to GDP**

## Countries Included in the Analysis

| | | |
|---|---|---|
| Algeria | Gambia | Nigeria |
| Angola | Ghana | Pakistan |
| Argentina | Guatemala | Panama |
| Bangladesh | Guinea | Papua New Guinea |
| Benin | Guinea-Bissau | Paraguay |
| Bhutan | Guyana | Peru |
| Bolivia | Haiti | Philippines |
| Botswana | Honduras | Republic of Congo |
| Brazil | India | Rwanda |
| Burkina Faso | Indonesia | Senegal |
| Burundi | Iran | Sierra Leone |
| Cameroon | Jamaica | Somalia |
| Central African Republic | Kenya | South Africa |
| Chad | Korea | Sri Lanka |
| Chile | Lesotho | Sudan |
| China | Liberia | Swaziland |
| Colombia | Madagascar | Syria |
| Costa Rica | Malawi | Tanzania |
| Cote D'Ivoire | Malaysia | Thailand |
| Democratic Republic of Congo | Mali | Togo |
| Dominican Republic | Mauritania | Tunisia |
| Ecuador | Mauritius | Turkey |
| Egypt | Mexico | Uganda |
| El Salvador | Morocco | Uruguay |
| Equatorial Guinea | Mozambique | Venezuela |
| Ethiopia | Nicaragua | Zambia |
| Gabon | Niger | Zimbabwe |

## Summary Statistics

| | Mean | Standard Deviation |
|---|---|---|
| Change in Debt/GDP | 2.10 | 27.63 |
| Change in Log Debt/GDP | 0.01 | 1.08 |
| Log of Debt/GDP | 3.99 | 0.79 |
| Debt/GDP | 74.23 | 77.55 |
| Log of GDP in US Dollars | 22.65 | 1.83 |
| Log Trade Openness | 3.97 | 0.57 |
| Log Per Capita Income | 7.37 | 0.76 |
| Polity | -1.09 | 7.06 |
| W Over S | 0.51 | 0.29 |
| Freedom House Political Rights | 4.40 | 1.88 |
| Terms of Trade | 0.01 | 0.09 |
| US Interest Rates | 6.82 | 2.69 |