PRIZES FOR DEVELOPMENT: THE POLITICAL ECONOMY OF SUBSIDIZING GOOD INSTITUTIONAL OUTCOMES

by

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ABSTRACT

PRIZES FOR DEVELOPMENT: THE POLITICAL ECONOMY OF SUBSIDIZING
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This dissertation sets out to understand how the effectiveness of foreign aid in promoting

economic growth in low-and middle-income countries could be improved. It does this by

merging the political economy/public choice literature, the industrial organization

literature, and the literature on development aid effectiveness and then developing a

theory based on this previous work.   The dissertation is in eight chapters. Chapter I

introduces and outlines the arguments of the paper and demonstrates that institutions,

more than any other factor, are the fundamental cause of long-run economic growth.

Chapter II reviews the literature on barriers to institutional reform, exploring the political

economy/public choice problems in-depth and demonstrating that countries can get

caught in a trap of non-development and therefore a case for intervention exists. Chapter

III reviews the literature on Official Development Assistance (ODA) effectiveness,

demonstrating that it largely finds that ODA in the form of subsidized inputs such as

capital has failed to achieve its stated objective of facilitating economic growth in low-

and middle-income countries and outlining possible theoretical reasons for this failure. Chapter IV reviews the history of ODA designed to influence policy outputs, such as conditional loans and selective disbursements, finding that such efforts also failed to make ODA directly cause growth, yet arguing that such innovations were a very positive step in the right direction. Chapter V demonstrates empirically that foreign aid has been moving in the right direction by rewarding improved institutions as it is found that changes in ODA are increasingly positively correlated with changes in indicators of institutional quality over time, thus supporting the notion that even though ODA may not support economic growth directly, the future of foreign aid is to function as a mechanism to produce political incentives compatible with the creation of institutions that lead to good economic outcomes. Chapter VI analyzes advantages realized by moving away from the practice of subsidizing inputs and outputs and toward a system where cash-transfer type "prizes" are awarded on a rule-based system. Grants or prizes that are conditioned on pre-defined improvements in institutional and/or economic outcomes solve most of the informational, principal-agent, and political economy problems outlined in the previous chapters. Chapter VII provides further applications by suggesting ways that poor governments can support infrastructure development and spur industrialization at home using the model developed here. Finally, Chapter VIII is a short conclusion that reviews the arguments of the dissertation.

I. Introduction to Institutions

Failures of Earlier Non-Institutional Theories of Development

How can richer nations help poorer nations realize higher rates of economic growth and ultimately achieve convergence?   The financing/investment gap models first pioneered by Harrod (1939) and Domar (1946), Solow (1956) and Chenery and Strout (1966) put forth a model of development which attempted to estimate investment requirements needed to achieve a given growth rate. The investment needs were proportional to the growth rate by a constant known as the Incremental Capital Output Ratio (ICOR).   These models are still largely used by the World Bank and other donors who attempt to fill in the "investment gap" with Official Development Assistance (ODA) or "foreign aid." The theory was simple and intuitive, if output is a simple function of capital and labor, then adding capital to an economy should result in increased investment levels that ultimately translate into higher rates of economic growth.

The application of these simple macroeconomic models, however, largely resulted in a failure to achieve the stated objective of economic convergence in low and middle income nations.   After over US$3 trillion worth of ODA from 1960-2006[1], according to the U.N. Human Development Report (2007), "There are still around 1 billion people

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[1] OECD/DAC, net disbursements, constant 2006 prices.

living at the margins of survival on less than US$1 a day, with 2.6 billion—40 percent of the world's population—living on less than US$2 a day." As this dissertation will show, for a number of unanticipated reasons, the failures of ODA as inputs such as capital are due largely to the fact that not all aid has translated into productive investment and not all investments have translated into real growth. The financing gap approach largely ignored the fundamental role that institutions play in turning capital investments into productive outputs.

While the shortcomings of the financing gap model were becoming apparent by the early 1990s, many development economists began to turn their attention to public policy reform. Williamson (1990) was seen as the defining document in the formation of what became known as the "Washington Consensus," a number of widely adhered to "free market oriented" economic policy reforms deemed necessary to enable growth. However, following a wave of policy reforms in the 1990s concentrated largely in Latin America and Sub-Saharan Africa and based in principal on World Bank and IMF advice, even supporters of the Washington Consensus reforms now agree that results were disappointing in those regions. Interestingly enough, the areas of the globe where the most progress was made in terms of economic growth were China and India, two countries whose approaches to economic policy tended to be the most unconventional! This is not to assume that these two countries could not have done even better under a more liberal policy regime, but according to Rodrik (2006), the debate now is not over whether the Washington Consensus is dead or alive, but over what will replace it.

One reason behind this perceived failure of the Washington Consensus is that deep-seated institutional bottlenecks are generally too complex to fix using small bundles of policy reforms. While policy reforms may succeed in eliminating some of the more obvious distortions and result in a small growth burst in the short run, this is normally not enough to improve the overall functioning of a country's institutions. According to Rodrik (2004), "Institutional functions do not map into unique institutional forms." That is, while desired institutional outcomes may be easy to articulate (e.g. "property rights should be secure"), they are difficult to achieve using standardized solutions. Put yet another way, different institutional forms can result in similar, and desirable, institutional function.

Perhaps even more fundamental to the failure of policy reform efforts are political economy constraints. According to Acemoglu, Johnson, Querubin, and Robinson (2008, p.1) "When…institutions are weak and fail to place checks on politicians and their interactions with politically powerful constituencies, reforms will be undermined and generally ineffective." This is because politicians can normally replace one costly policy distortion with another that performs a similar function in order to maintain coalitional support from those groups that benefit from bad policies. So while Washington Consensus type reforms were not wrongheaded in and of themselves, they failed to recognize the cause of existing policy distortions and focus on institutional solutions.

It soon became clear that both the investment gap model and the Washington Consensus model did not pay adequate enough attention to the institutional features that are specific to each economy. Therefore, the "selectivity" model emerged as a "Second Generation Washington Consensus" model of ODA in the late 1990s/early 21st Century. The selectivity model recognized the importance of institutions and theorized that for aid to be effective, it needed to be disproportionately given to countries with good institutional environments as measured by a growing number of independently produced indicators. As this dissertation will argue, while the selectivity model was another step in the right direction in that it recognized the importance of institutions for growth, it largely missed the mark because it focused too little on creating political incentives for institutional reform and too obsessively with making ODA directly effective at causing economic growth, even as empirical evidence mounted that aid of all types have failed to achieve this "elusive" feat.

What are "Institutions"?

According to Acemoglu, Johnson and Robinson (AJR) (2004, p.29), "Institutions are… the fundamental cause of income differences and long run growth." This conclusion has received increasing acceptance as economists have begun to turn their attention to exploring the role that different sets of unique political and economic formal and informal rules play in enhancing or inhibiting entrepreneurship and growth. They are also exploring the political origins of the creation and maintenance of these institutions.

Unfortunately, the meaning of the term "institutions" is not always clear.[2] Is this term

just a synonym for "economic policy" or "economic outcomes?" The short answer is no,

although good institutions induce good economic outcomes and vice versa. That is,

"good" institutions lead to "good" policies and, thereby, "good" economic outcomes

while good economic outcomes, in turn, reinforce institutional development.

North (1990, p.15) defines institutions as "the formal and informal rules that constrain

human economic behavior." This definition is useful, but lacks concreteness and leaves

many questions unanswered. Rodrik et al. (2002, p.21) assert that "we find it helpful to

think of policy as a <u>flow</u> variable, in contrast to institutions, which is a <u>stock</u> variable.

We can view institutions as the cumulative outcome of past policy actions." This

definition is good in that it recognizes that policies can influence institutional settings.

However, the term "institutions" includes more than the outcome of past policy actions

because, as Douglass North would argue, the rules of interest include informal as well as

formal rules.

For the purposes of this dissertation, institutions are defined as *the framework of political*

incentives that exist in society that shape economic outcomes through the level of

transaction costs, broadly defined. These incentives influence the public policy decisions

that impact outcomes in the long run. Public policy is therefore not exogenous; it is itself

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[2] Institutions are also referred to as "rule of law" and "governance" in the literature, although disagreement
exists as to the exact definition, scope, and overlap of these individual concepts. This dissertation uses
these terms interchangeably at times, but broadly sticks to "institutions" as its concept of choice since it is
the broadest in scope, capturing formal and informal, as well as economic and political, norms of behavior.

a function of preexisting institutions. Some institutions, for example, encourage political leaders to use policy as a means to supply rent transfers to targeted groups in order to shore up support from a small winning coalition. Other institutions create a larger winning coalition and therefore incentivize politicians to produce public policies that result in the creation of wealth-enhancing public goods rather than net wealth-reducing private transfers.   Institutions have their roots in history and often reflect the path-dependent nature of political relationships, which in turn are shaped by past distributions of wealth and power in society. They also reflect past (and present) levels of human capital, since relevant knowledge is required to improve them.

It is important to note here that saying a country has "good institutions" is not equivalent to saying that it has "neo-liberal" or "market fundamentalist" policies.   Two countries can both have good institutions but differ markedly in their approach to public policy. For example, Scandinavian countries always score high on almost all indicators for institutional quality and are among the richest countries in the world, but they also implement redistributive public policies, have large social safety nets, and a relatively equal distribution of wealth compared to other countries with "good institutions." On a *de jure* level, there is no official right to private property in China. *De facto*, however, investors have become very secure that the Chinese government will not expropriate their investments. Therefore, it is possible that a country's official public policy may say one thing, but if there is no confidence in the law, that policy is effectively meaningless.

To say that a government is effective (i.e. is composed of good institutions) does not define its policy choices. According to an econometric analysis by Altman (2008) "Economic freedom[3] is found necessary for higher levels of per capita income and growth largely in terms of threshold effects as opposed to persistent marginal effects." He finds that while secure private property and sound money are necessary conditions for growth, "moderate amounts of labor regulation and big government are not found to be bad for the economy. (p.1)" Moreover, if public policy is taken to an ideological extreme or is simply seriously misguided, it can adversely impact institutions, and this has been demonstrated time and time again in recent history.

Policy decisions can influence the short run growth *rate* of an economy, but in the long run, sound institutions determine the growth *path*. If the government of a country makes a policy mistake, as they sometimes do, a country with sound institutions can be expected to respond to and correct that mistake in at least the medium term, since political incentives exist to create broadly shared growth and the electorate is knowledgeable enough to pinpoint areas where policies can be improved. On the other hand, in a country with poor institutions, this self-correcting tendency is absent because politicians directly benefit from the bad policy and/or the electorate (to the extent one exists) does not understand why the policy is wrongheaded and therefore does not demand correction. Often times they may demand policies that make the situation *even worse*.

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[3] As defined by the Frasier Institute and the Heritage Foundation.

Differences in institutions produce differences in observable economic outcomes across nations by influencing transactions costs. For example, when comparing, the ease of starting a business, hiring and firing workers, trading across boarders and the cost of closing a business between the developed world and most of the developing world using the World Bank's *Doing Business* database (to be discussed further below) it quickly becomes evident that institutional deficiencies do in fact exist and make no immediately justifiable sense. According to this database,

> It takes 153 days to start a business in Maputo (Mozambique), but 2 days in Toronto. It costs $2,042 or 126% of the debt value to enforce a contract in Jakarta, but $1,300 or 5.4% of the debt value to do so in Seoul. It takes 21 procedures to register commercial property in Abuja (Nigeria), but 3 procedures in Helsinki. If a debtor becomes insolvent and enters bankruptcy, creditors would get 13 cents on the dollar in Mumbai, but more than 90 cents in Tokyo. Borrowers and lenders are entitled to 10 main types of legal rights in Singapore, but only 2 in Yemen.[4]

Such differences in transaction costs are stark and highlight real differences in economic opportunities and the quality of governance across nations.

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[4] "Doing Business in 2005, Removing Obstacles to Growth," World Bank, 2004, page 3.

Using any simple indicator of institutional quality such as investor political risk ratings or other more popular measures such as the World Bank's *Doing Business* or *Governance Matters* indicators, it can easily been shown using a cross-section of countries that those with worse scores for measures of "institutional quality" have lower levels of GDP per capita (or have "worse" economic outcomes). For example, across the complete range of countries for which data exists, the correlation coefficient between the World Bank's measure for "Government Effectiveness"[5] and real GDP per capita in 2006 is a remarkable 0.8. In fact, the correlation between institutional and economic indicators often tends to be so strong that they appear to be measuring the same thing.

Income, Institutions, and the Direction of Causality

An important question in the economic literature on the connection between income and institutions is the direction of causality. Perhaps greater income levels are needed in order to fund subsequent institutional development. There may also be no demand for sound institutions unless an economy is growing and there are economic interests to protect through the existence of well-functioning institutions. Indeed, AJR (2005b, p.2) themselves argued that the rise of a class of private merchant traders in the Atlantic were instrumental in increasing the demand for property rights. They argue "in particular, where initial political institutions placed significant checks on the monarchy, the growth

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[5] According to Kaufman and Kraay and Mastruzzi (2007), "Government Effectiveness combines quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies."

of New World and Asian trade after 1500 strengthened merchant groups in favor of constraining the power of the monarchy further, and enabled them to demand and obtain changes in institutions to protect their property rights. These induced changes in political institutions were central to the subsequent process of economic growth." So certainly, the direction of causality here could run both ways and there may be exogenous factors such as geography that account for these differences, creating serious measurement problems.

The causality problem implies that simple correlations and ordinary least squares (OLS) regressions are ill-equipped for the task of determining a causal link from good institutions to increased per capita income. For one, there are too many possible excluded variables. What evidence is there that exogenous variables such as geography and disease are not to blame for these differences? As has been recently argued, it is possible that historical differences in geography shaped the growth path of nations by retarding technological advancement and economic growth through, among other channels, institutional development (see, most importantly, Diamond (1997) and Sachs (2001, 2005)).

Historical examples of the importance of institutions

In order to tackle these issues, economists have used numerous historical examples as well as econometric studies using natural experiments. By way of historical example, the

divergent paths of North and South Korea following their partition in 1948 demonstrates

a case where the choice of institutions mattered more than culture and climate in

development. Maddison (2001) estimates that at the time of separation, North and South

Korea, while having almost identical cultures and climate, had approximately the same

income per capita. While the North, under the leadership of Kim Il Sung, chose to pursue

communism and central control as its method of economic organization, the South

largely chose to mimic the more "capitalist" policies of the West[6]. By 2000, the level of

income in South Korea was $16,100 while in North Korea it was only $1,000. While

neither North nor South Korea were democracies during the beginning of this period, the

South made the transition only after it had achieved significant growth for several

decades.

Other similar historical examples of divergent growth paths among geographical

neighbors abound. Observe the vast income per capita differences in Hong Kong under

largely British institutions vs. mainland China under communism up until at least the late

1970s when the mainland finally shifted course and introduced market based prices and

incentives into the system. Following political liberalization in the 1990s, Zimbabwe has

experienced a growth disaster under President Robert Mugabe's radical land

redistribution policies and inability to achieve macroeconomic stability. Compare that to

the steady progress made by neighbors South Africa and Botswana under leadership more

interested in protecting property rights and limiting inflation. As AJR (2005a) point out,

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[6] Although the South's economic polices were by no means "laissez faire" in that they pursed a
government-led industrial policy, they were certainly more open vis-à-vis the North.

many areas which were once relatively rich (e.g. China, South America, North Africa, and the Middle East) are now relatively poor, and the climate/geography of these areas has not changed significantly over time.

The ability of powerful leaders to make sudden changes in economic performance through radical policy changes highlights the importance of institutions for growth. Differences in living standards just one mile across an artificial border are also difficult to attribute to geography: e.g. United States vs. Mexico and former East vs. West Germany.

Lewis (2004) sought to shed light on this issue by pooling together a number of case studies undertaken by the McKinsey Global Institute which examined productivity differences across countries and their root microeconomic causes. According to Lewis, the key factor affecting differences in economic success is productivity at the industry level. One of his most striking findings is that "regardless of institutional education level, workers around the world can be adequately trained on the job for high productivity (p. ix)." That is, he provides evidence that low-skilled agricultural workers from Latin America can achieve best practice productivity levels in construction simply by working under American management practices. The reason that these same workers can only achieve but a fraction of that productivity in their home countries is due to some form of institutional distortion. He concludes that only *after* these distortions are removed can poor countries begin to make the climb out of poverty.

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Econometrically, the process of disentangling the endogenous effects of institutions on income growth has proven difficult, but evidence on the primacy of institutions continues to accumulate. The most common solution to the direction of causality problem has been the identification of an instrumental variable (IV).[7] AJR (2001a) showed that most of the gap between rich and poor countries today can be explained by an indicator that broadly measures the current level of institutional quality. Using the variation in European mortality rates in former European colonies as an IV for measuring different institutional outcomes, the authors were able to demonstrate that in places where Europeans did not settle (i.e. where mortality rates were high) the colonizers set up "extractive" institutions in order to more easily capture natural resource or human labor rents. These extractive institutions required the creation and maintenance of extreme inequalities which generally entrenched a small group of elites with strong incentives to perpetuate the existing institutional structure. The result was policies aimed at rent maximization for elites at the cost of long-run growth.

In areas where European mortality rates were low (e.g. North America, Australia and New Zealand), Europeans settled and set up institutions conducive to protecting property rights and ensuring equality before the law for their own benefit. The authors also

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[7] An IV is one that is (1) exogenous; (2) correlated with the endogenous variable for which it is to "stand in for" (i.e. instrument) as an independent variable; and (3) not correlated with the dependent variable in any way other than through the independent variable for which it is instrumenting. If an appropriate IV is found, unbiased estimates of the causal effects can be estimated.

presented regression evidence that demonstrated that once the effects of economic institutions on GDP per capita were controlled for, geographical and disease linked variables were rendered insignificant.

Rodrik et al. (2002) undertook a "grand study" of sorts to pool together all of the most influential instrumental variables in the economics literature in order to run a "horse race" to determine which one was the most powerful determinant of income. They combined the AJR (2001a) instrument with the Frankel and Romer (1999) instrumental variable for trade openness (or "integration") with the Sachs (2003) ecologically-based determinant of malaria to estimate the impact of geography. The results of the exercise yielded clear results:

> Most importantly, we find that the quality of institutions trumps everything else. Once institutions are controlled for, integration has no direct effect on incomes, while geography has at best weak direct effects. Trade often enters the income regression with the "wrong" (i.e., negative) sign, as do many of the geographical indicators. By contrast, our measure of property rights and the rule of law always enters with the correct sign, and is statistically significant, often with t-statistics that are very large.

> On the links among determinants, we find that institutional quality has a positive and significant effect on integration. Importantly, integration also has a (positive)

impact on institutional quality, suggesting that trade can have an indirect effect on incomes by improving institutional quality. Our results also tend to confirm the findings of Easterly and Levine (2002), namely that geography exerts a significant effect on the quality of institutions.

Our preferred specification "accounts" for about half of the variance in incomes across the sample, with institutional quality (instrumented by settler mortality) doing most of the work. Our estimates indicate that an increase in institutional quality of one standard deviation, corresponding roughly to the difference between measured institutional quality in Bolivia and South Korea, produces a 2 log-points rise in per-capita incomes, or a 6.4-fold difference- which, not coincidentally, is also roughly the income difference between the two countries. In our preferred specification, trade and distance from the equator both exert a negative, but insignificant effect on incomes (p.4).

However, Glaeser, LaPorta, Lopez-de-Silane and Shleifer (2004, p.6) argue that "the instruments used in the literature for institutions are even more highly correlated with human capital both today and in 1900, and that, in instrumental variable specifications predicting economic growth, human capital performs better than institutions. At the purely econometric level, this evidence suggests that predictors of settlement patterns are not valid instruments for institutions."

It is important here to discuss the relationship between human capital and institutions since Glaeser et al. conclude that human capital is more important than institutions. However, it is very difficult to separate one from the other because each is necessary for the existence of the other. An increase in general knowledge necessarily includes, at least in part, an increase in knowledge about how to better order society. Settlers in the New World brought their human capital with them, and this was very important for subsequent growth vis-à-vis areas of the world that were colonized but not settled by Westerners. But this human capital included, for example, knowledge about how to organize a bureaucracy to achieve desirable economic outcomes, how to better insulate policy decision-making from rent-seekers, and how to structure democracies in order to create larger winning coalitions. Westerners would not have set up the same extractive institutions in the areas they colonized as they did in areas they wanted to settle. Human capital and institutions therefore tend to positively reinforce the other. But they are not, however, one and the same. Professor Roger Congleton[8] noted the antidotal evidence of former European Communist states; all had very high levels of human capital (most received a sound education and rivaled Western liberal states in science and math) but were also relatively very poor because of the institutional setup of their economic system. This simple example is enough to suggest that institutions may be more important than human capital in the form of simple years of formal educational attainment in predicting economic outcomes.

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[8] Conversation held in January 2008.

Geography may have an important indirect impact on development because it may have helped shape the settlement patterns of Westerners with relatively high levels of human capital. Easterly and Levine (2003) find econometric evidence that geographic variables affect development only indirectly through institutions, yet find no evidence that they affect country incomes directly. The theory is that the land endowments of southern continents "lent themselves to commodities featuring economies of scale and/or the use of slave and indigenous labor (sugar cane, rice, silver) and thus were historically associated with power concentrated in the hands of the plantation and mining elite. In contrast, the endowments of North America lent themselves to commodities grown on family farms (wheat, maize) and thus promoted the growth of a large middle class in which power was widely distributed (p.9)." The authors found that the AJR settler mortality variable does most of the work in every specification, and they found no evidence that current macroeconomic policy variables such as trade openness and absence of capital controls are related to income levels once historical institutional conditions are controlled for. However, they do find evidence that macroeconomic variables *indirectly* affect income levels through their direct and beneficial effect on institutions, just as Rodrik et al. (2002) did.

The bottom line of this literature is that institutions are now widely regarded as a (if not the) fundamental determinate of income differences worldwide. However, the direction of causality from good institutional outcomes to good economic outcomes almost certainly runs in both directions. Good institutions will ultimately lead to good economic

outcomes because by definition they lower transaction costs and create incentives for production and ultimately growth. Even without strong incentives to be productive, good economic outcomes can arise via exogenous events from time to time (e.g. the opening of the Atlantic trade in Europe or the discovery of a new technology). When historical circumstances create diffuse and competitive private sector interests in the economy that are independent of the state, it generates political incentives to supply public goods that facilitate the continued growth and expansion of these productive activities.   As a middle class emerges, it normally demands these type of inclusive institutions as a positive feedback loop is created.

The role of politics

Institutions matter for development, and they seem to matter more than any other variable. But regardless of unfortunate historical events such as colonization that led to high levels of inequality and poor protection of property rights, these former colonies are now free to establish their own economic institutions. If "peace, easy taxes and a tolerable administration of justice" are all that are needed for economic growth as originally prescribed by Adam Smith (1776), the question now becomes: Why are these cross country differences in institutions so persistent? Why don't political elites simply make institutions more conducive to private sector growth and simply eliminate inane distortions such as the ones pointed out by the *Doing Business* research?   That is, if the problem is so clear then why is the solution so elusive?

There are a number of competing political economy/"public choice" explanations for why institutions can get stuck in bad equilibria in either a dictatorial or openly democratic regime. In both settings, it may be in the ruling elite's personal interest to limit the openness of the economy in order to produce rent-generating distortions (such as tariffs and regulations that have the intended effect of creating entry barriers) that preserve their political power by appeasing small coalitions of supporters who consume those rents (North, Wallis and Weingast (2006)). These distortions caused by a lack of openness retard the efficiency of institutions over the long run because they become insulated from competitive pressures to improve. The problem is that there is often no viable demand for reform because those outside of the winning coalition see no immediate benefit flowing from reforms while those inside it are fully incentivized to maintain the status quo.

In this sense, a dictator or the winning coalition in any political setting does not act as a residual claimant on national income and hence their interest may not be very "encompassing" (Olson (1993)). Tradeoffs also exist between the supply of public goods that ultimately result in broadly shared wealth and the direct political benefits gained through the creation and transfer of private goods. Facing a political budget constraint, those in power often prefer to shore up support for those within their winning coalition by providing them with private goods (e.g. government jobs, monopoly privileges, subsidized services) rather than producing public goods (e.g. roads, education, health services) that are less able to benefit any particular group directly. Public goods therefore

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go under-produced and the economy systematically under-performs since the government

does not prioritize undertaking activities that lower market transaction costs.

Even in the case of well-functioning democracies with broader winning coalitions,

democracy may produce sub-optimal results. Congleton (2003, p.4) describes three

major problems that open majoritarian democracies may face:

> …if public choice theorists are correct about the properties of simple majority
>
> rule, theory implies that all these tasks can be problematic for majoritarian
>
> governments. (1) The majority cycling problems suggests that democratic
>
> governments may not be able to make decisions. (2) The majoritarian demand for
>
> redistribution may cause democracies to adopt overly-generous transfer schemes
>
> that impoverish democratic societies in the long run. And, (3) elected government
>
> officials may use their powers to subvert the electoral process through which they
>
> are selected.

Caplan (2007) also points out a potential failure of democracy. The problem may not be

that democracy fails to function effectively as the models in classical public choice

assume; but rather the problem may be that it does indeed function effectively.

Democracy, claims Caplan, tends to give people what they want, and therefore finds

himself in agreement with Wittman (1995). However, unlike Wittman, Caplan argues

that this is potentially a *bad* outcome because voters tend to be largely ignorant of what

"good economic policy" is, and in fact systematically demand policies most professional economists would agree are wrong-headed.

Either way, bad institutions tend to be path dependent. According to Easterly and Levine (2003, p.8), "since extractive colonies had already constructed institutions for effectively extracting resources, the post-colonial elite frequently assumed power and readily exploited the pre-existing extractive institutions, sometimes making them even more extractive. According to the endowment theory, differences in endowments shaped initial institutions and these initial institutions have had long-lasting repercussions on private property rights protection and other institutions."

If poor countries could commit to overcoming historical patterns and create institutional improvements it would produce widespread economic benefits through growth. If it were possible for both citizens and political elites to bargain costlessly with each other, this could be achieved since net gains would be created that could be split between the two parties once the growth-inhibiting distortions were eliminated. However, this type of Coasean solution is often not possible since neither side can credibly commit to upholding their end of the bargain, *ex-post*, once reforms are implemented (Acemoglu (2003)). That is, if the political elites implement reforms that weaken their grasp on power and ability to create and deliver rents to supporters, there is nothing preventing the general public from removing them from power and not delivering on promised "side-

payments." Likewise, if citizens deliver "side-payments" (increased taxes?) first, there is

nothing preventing the political elite from reneging on promised reforms.

The role of foreign aid

Countries can get stuck with bad institutional outcomes, detrimental policies and poor

economic outcomes. Finding out how to overcome these political constraints to reform

could not be more critical, as even at the beginning of the 21st century, over 2.7 billion

people (almost half the Earth's population) continue to live in considerable poverty (i.e.

less than US$2 per day). Every year eleven million children die; most are under the age

of five and more than six million from largely preventable causes like malaria, diarrhea

and pneumonia. In some deeply impoverished nations, less than half of the children are

in primary school and fewer than 20 percent go to secondary school. Around the world, a

total of 114 million children do not get a basic education and 584 million women are

illiterate.[9] It is because of such facts about poverty that demand has increased for greater

involvement and larger financial commitments by international organizations and

national donors alike.

But what role, if any, should Official Development Assistance (ODA) play in fostering

institutional development? "Some people think the best way to give aid is though grants.

Others advocate aid embedded in subsidized loans." This quote is taken from Klein and

Harford's (2005, p.3) short book, "The Market for Aid" which was intended to be a quick

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[9] www.unmilleniumproject.org/index.htm

primer on the differing methods employed by international donor community

organizations to distribute aid for the purpose of facilitating economic development.

Contrary to Klein and Harford, however, loans and grants are not the only two options

available to donors. This dissertation argues that a largely untried third-way is available

with significant potential: prizes.

The process of awarding aid targeted at facilitating economic growth can be modeled as a

principal-agent problem. The principal (donor) wants to commit resources to the agent

(political elites in a given nation) to help generate results desired by the principal. Funds

that are given in the form of loans or grants from the principal are used by the agent for

purposes specified by the principal. The principal's assumed objective is to invest its

funds in projects that will generate the highest rates of return toward achieving long-run

economic growth. However, the agent (recipient) in this case typically has better

information about how to achieve the principal's objective than the principal does due to

the agent's localized knowledge. We should therefore expect the political elites in the

client nation to know which activities would be most conducive towards facilitating long-

run sustainable growth in their own country better than the donor. This creates an

asymmetric information problem that can reduce the effectiveness of development

efforts.

The other problem the principal faces is that she cannot perfectly observe how her funds

are being used. Donors typically spend millions on "monitoring and evaluation" but

seem to be continually plagued by "white elephant" projects and charges of misuse of

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funds. Since the infusion of ODA either directly provides or frees up resources available to the agent (i.e. the resources are fungible), the aid recipient can more easily satisfy his own objectives, which for political and self-interested reasons may not be compatible with those of the principal. In this sense, the principal is paying the political elites in a given nation for effort toward achieving the principal's objective. Yet effort, especially for a principal based far away from the agent, is very difficult to monitor.

The agent may therefore be able to use the principal's resources for his own purposes, especially when it is difficult for the principal to credibly commit to "firing" the agent (i.e. cutting off funding). This dilemma becomes even more problematic when we consider that a similar principal-agent problem also exists between sponsor governments of development organizations and agency staffs. That is, elected representatives from sponsor governments want to ensure that their resources are being used for legitimate development purposes but are unable to know with certainty if donor agency staffs are genuinely committed to development goals or are creating opportunities for bureaucratic slack.

Step back once more, and we have the classic voter-politician layer of principal-agent problems. When viewed under the lens of this type of principal-agent model, ODA has perhaps been ineffective and distortionary.

The literature on the subject increasingly supports this view. For example, in a "meta study" on the aid effectiveness literature, Doucouliagos and Paldam (2006) pool together over 100 published studies on the effect of ODA and find that the results reject the conclusion that aid leads to growth. Most recently, in what noted expert Dani Rodrik called "the most comprehensive analysis to date of the cross-national evidence on the effect of aid and growth,"[10] two former heads of the IMF, Rajan and Subramanian (2007, p.1), concluded that

> … we find little robust evidence of a positive (or negative) relationship between aid inflows into a country and its economic growth. We also find no evidence that aid works better in better policy or geographical environments, or that certain forms of aid work better than others. Our findings suggest that for aid to be effective in the future, the aid apparatus will have to be rethought.

Given these findings, it must follow that development aid has largely failed to reform institutions in donors' client nations since we have established that sound economic institutions are necessary for growth. But why has this been the case?

Development aid in the form of loans and grants has been viewed as assuming the role of a "resource curse" in which streams of rents prevent the development of well-functioning institutions. That is, the less the political elite in a given nation need to depend on raising

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[10] Dani Rodrik's Blog, July 16, 2007: http://rodrik.typepad.com/dani_rodriks_weblog/2007/07/aid-can-promote.html

revenue through general taxation, the less responsive they become to the needs of the general public. Even when aid appears successful at achieving targeted objectives, it is not clear that "micro-interventions" in the form of small-scale projects are free of unintended spillovers that ultimately prove distortionary for other sectors of the economy. Since these kinds of small-scale projects are often the result of donor diagnosis, some (most notably Easterly (2006)) have referred to ODA as a form of "central planning" that failed in the former communist bloc. In this view, donors presuppose far too much knowledge and therefore their programs are often counter-productive.

What to come - A new solution proposed

This dissertation argues that if this well-documented problem with ODA is modeled as a simple principal-agent problem, the literature provides a simple solution to that problem. The current system of ODA resembles a situation in which a principal pays an agent for *effort* at working towards the (development) objectives of the principal by supplying *inputs* (i.e. loans and grants for small projects, technical assistance) to the agent. But the principal cannot perfectly monitor the effort of the agent, nor can she properly identify the relevant inputs needed to achieve her objectives because she lacks sufficient localized knowledge. Therefore, instead of paying an agent for effort, the principal can pay the agent for *results*, much like moving from wage compensation to piece rate/commission based compensation in which only *performance* is rewarded.

For example, *inputs* can be thought of as capital for the construction of a new road or technical advice for a major policy reform aimed at reforming a particular aspect of a nation's institutions. The *output* can be thought of as the construction of the road or the implementation of the new policy, while the *outcome* is reduced transportation costs per capita or the impact of the new policy on the overall business environment in that country. Improved ease of doing business, a well-functioning court system that swiftly enforces contracts and the control of corruption are examples of institutional outcomes which lead to good economic outcomes such as growing real GDP per capita.

"Outcome-based aid" would transfer cash in a lump sum to poor country budgets for the achievement of pre-defined benchmarks using a rule-based system that clearly links outcomes to rewards. This would shift the informational requirements away from development organizations and onto client nations, thereby improving the monitoring problem. The aid money would take the form of direct "budgetary support" or "cash transfer" and would not be targeted at small-scale projects or specific policy reforms, thus reducing the principal's knowledge problem of where to best direct ODA and providing direct *incentives* for those who control policy to sacrifice some rents in exchange for efforts at reducing economic distortions and producing more open and improved institutional and economic outcomes. In this sense, we can view this new model of outcome-based aid as "prizes for development."

This dissertation also argues that such a program would not be difficult to implement because donors such as the World Bank already effectively monitor institutional quality through such projects as *Doing Business* and *Governance Matters*. Indeed, the World Bank currently uses it Country Policy and Institutional Assessment (CPIA) scores as a major factor in how it allocates its concessional aid. Similarly, the US government's Millennium Challenge Corporation (MCC) uses a broad array of independently produced measures of institutional quality as the basis for their aid allocation. These two initiatives, along with the recent initiation of the Mo Ibrahim Prize (all to be discussed further below), demonstrate that foreign aid is already moving in the direction argued for in this dissertation, even though the theory behind it has not been well-articulated until now.

The advantage of using independently produced indicators is that they measure institutional *outcomes* and are largely *innocuous*, meaning they do not advocate specific public policy reforms (outputs) that are inherently political in nature. Rather, they grade countries on performance measures that are almost inherently desirable (e.g. reducing the time it takes to register property, controlling corruption, increasing government effectiveness, controlling violence, etc.). The role of development organizations would thus be reduced to monitoring and conditional disbursement as we would move from a discretionary system of disbursement that has largely failed its growth objectives to a rule-based system of disbursement that would leave little room for failure since objectives would need to be met ex-ante. The purpose of the resources disbursed as

"prize money" is therefore *not* to assist in further development, but rather to reward development that has already been achieved, thus properly incentivizing countries to perform.

Other than using prizes as a way to spur general institutional improvements, this dissertation argues that similar policies can be used to advance other objectives. It looks specifically at the problems that donors have encountered financing and advising their client nations on issues related to infrastructure development and expansion and finds problems similar to those analyzed by the principal-agent model developed here. The dissertation also acknowledges that institutions, while a necessary condition for growth, may not be sufficient in the short run. It therefore looks at ways to spur industrialization using the prize/outcome-based model.

Chapter I has demonstrated the importance of institutions for long-run growth, showing that the literature largely agrees that the existence of broad incentives for growth provided by sound institutions is the most important feature for development. The next chapter explores in more detail why governments can't (won't) supply good institutions even when solutions are clear. This will demonstrate that states can get mired in a state of "non-development" and that a "do nothing" approach may not be the answer. Chapter III reviews frequently cited problems with the way in which much of foreign aid is currently disbursed; showing how providing resources for inputs can be ineffective and even make institutions worse due mainly to principal-agent and asymmetric information

type problems. Chapter IV shows how the newer models of foreign aid (i.e. those that

focus on supporting and rewarding outputs such as policy choices and now those that try

to focus on rewarding countries with good institutions), while an important step in the

right direction, were partially misguided in theory and could be altered in order to make

them increasingly effective. Chapter V provides some econometric evidence that foreign

aid is indeed improving over time because it has increasingly rewarded institutional

improvements, perhaps creating incentives for countries to improve.   Chapter VI uses a

principal-agent model of aid to explore its properties and to demonstrate that it can

induce institutional improvements. It shows that an aid system based on directly

rewarding countries for measurable outcomes at the margin can induce significant

improvements by creating incentives for reform and overcoming the informational and

political problems outlined above.

Chapter VII provides some applications of the central theory that can further enhance the

economic growth process. Chapter VIII concludes by proving the central thesis by

deduction. It summarizes the argument, (i) reviewing how good institutions are

fundamental for growth, (ii) bad institutions serve political purposes and become path

dependent, (iii) current aid models can hamper institutional development by not

rewarding good outcomes, and (iv) therefore tying aid in the form of cash transfers for

measured improvements in outcome-based indicators can foster economic growth by

creating greater political incentives to supply the institutional pre-conditions necessary

for private sector expansion.

II. The Political Economy of Weak Institutions

Why Can't (Won't) Governments Reform On Their Own?

Before discussing whether or not ODA has improved or can help to improve the economic situation in poor countries, a fundamental question needs to be asked; that is, if economists have reached a fairly strong consensus that sound institutions are necessary for growth, why aren't required reforms being implemented with or without participation from Western donors?   That is, if less developed countries can simply reform and grow on their own, with some possible limited technical support from more developed countries, why not simply abandon foreign aid altogether?   If we do in fact believe that a pure "tough love" policy is too extreme and that well-targeted aid can play not only a humanitarian role but also assist in achieving more long-run economic goals, it needs to be shown that institutional reform is unlikely to emerge endogenously.   That is, just as with other government interventions, we need to justify foreign aid subsidies by demonstrating that a "market failure"[11] exists that prevents societies from moving to their most efficient institutional frontier on their own.

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[11] This can be a "political market" failure, a coordination failure, or other form of externality whose presence systematically prevents Pareto improvements from being made.

For example, Acemoglu, Johnson and Robinson (2001a) estimated that improving

Nigeria's institutions to the level of those in Chile could lead to as much as a 7-fold

increase in Nigeria's income over the long run.   Likewise, *Doing Business* (2004) found

that a hypothetical improvement on all *Doing Business* indicators to the level of the top

quartile of countries was associated with an estimated 1.4 to 2.2 percent gain in annual

economic growth, an immense improvement for humanity.   Even more recently,

Fedderke, Klitgaard, and Akramov (2008) conclude, using sophisticated estimation

techniques that proxy institutions with governance indicators that "Substantially, our

estimation results confirm an increasing productivity of investment for growth purposes

under rising governance, and they are consistent with rising levels of investment under

improving governance (p.2)

Since it is quite clear that better institutional outcomes are consistent with better

economic outcomes, why can't either the general populace in a democracy through

political pressure or a dictator through unilateral efforts, create institutions that are

conducive to economic growth?

Capacity or incentives?

It may be the case that many poor countries simply lack the capacity to reform on their

own. Their public sector institutions may be so weak and under-funded that they cannot

carry out the basic functions of government, leading to the outcomes observed in *Doing*

Business type indicators.   For example, if the Ministry of Commerce within a given

country cannot keep up with the demand for registering new businesses because it lacks computerized systems, staff human capital, and an adequate budget, registering new businesses may become the burdensome process for entrepreneurs that we observe in practice.   This may lead to one of many possible "traps" whereby government institutions lack the capacity to register businesses, businesses then rationally choose to enter the notoriously less-productive informal sector, and government revenue collection efforts suffer further along with government capacity.   This line of thinking would argue that the direction of causality largely runs from increased income to improved institutions, not the other way around.

Based on this thinking, "capacity building" for public sector organizations has become one of the hottest topics in development economics, with developed countries pouring billions of dollars into related activities (the World Bank has its own unit dedicated to it). However, it is likely that such efforts will have only limited success at achieving improvements in governmental performance if they fail to view institutions as a causal factor related to observed government capacity.

According to an OECD/DAC (2006) paper, one of the most significant barriers to institutional capacity building in many governments is not a lack of skills training and funding (which often can be readily imported), but rather *incentive structures that provide specific public sector organizations little interest to improve their capacity and effectiveness.*   According to that paper,

…whether or not an organization is able to achieve its purposes depends not just on whether it is adequately resourced but on the incentives generated by the way it is resourced under prevailing rules. Organizations or networks of organizations can be viewed as 'open systems', which are in constant interaction with elements of their context. The context provides incentives to the organization(s), stimulating them to act in certain manners. Some incentives foster productivity, growth and capacity development, others foster passivity, decline or even closure (p.10).

The "context" here is the institutional environment in which public sector organizations operate, which as the paper points out, often have much more to do with overall government performance than budget/capacity constraints. Root (2006, p.43-44) provides excellent analysis and historical application:

The inability to perform routine administrative tasks in developing countries is frequently attributed to the lack or funds or competence. For example, it is commonly maintained that the collection of taxes becomes easier as a country or region develops. Yet primitive conditions did not prevent the kings of England in the eleventh century from registering and monitoring all land in their kingdom. In 1055, William the Conqueror's Domesday Book registered the ownership and value of all real property belonging to his subjects. His cadastres were able to surmount the problem of record keeping more successfully than a large number of

developing countries today, whose administrators fail to either register or protect property. The kings of France in the seventeenth century were able to devise incentives for tax collectors to effectively identify and collect 30 percent or more of the production of agricultural commodities. Despite much greater capabilities, many modern governments collect a smaller fraction of or fail to identify total agricultural output. The laments of incompetence and inadequate resources by governments frequently hide intentional misinformation and low motivation. Officials in many countries create disorganization and deliberately underperform to aid corruption. It is not a lack of funds or capacity that causes 'financial uncertainty, poor planning, unrealistic budgeting, inadequate record keeping, irregular accounting, overlapping responsibilities, and institutional fragmentation.' Instead, mismanagement serves as a source of revenue generation, giving officials an incentive to misbehave.

The question of capacity versus institutional incentives essentially goes back to the original "chicken and egg" question of whether institutional reform follows growth or vice versa. The first chapter of this dissertation reviewed the literature on this question and found significant evidence that the direction of causality runs in both directions, but has largely been found to run from institutions to growth. The logic is straightforward: incentives matter. For the same reasons the "financing gap" model failed in donor organizations, additional capital flowing toward "capacity building" will generate negligible returns unless incentives exist within the government to improve performance.

The question of "why no endogenous reform?" now becomes one of political economy because it appears that in both democratic and autocratic settings there is often a general lack of incentive to create institutions that foster the growth of entrepreneurship. This chapter explores the main political failures that prevent societies from becoming "developed."

It is difficult to transform the nature of rent-seeking states

One of the most overlooked facts of development is that there is often no governmental incentive to reform economic institutions if political elites benefit from bad policies. This is most often the case in non-democracies and weak democracies (i.e. those with small winning coalitions and severe principal agent problems) or the "natural state" as outlined by North, Wallis and Weingast (2006). In their model, three types of societies exist: the primitive state, the natural state and the open (or developed) state. The natural state arises out of the "primitive state" as hunter-gatherers benefit from technology gains and agricultural productivity increases. Individuals begin to specialize in the natural state and necessarily become stationary as returns to scale increase, overall output rises, and trade becomes more frequent.

One form of specialization in the natural state is violence, as returns to expropriation outweigh the returns to production for many individuals. The establishment of a government to protect the fruits of society's labor then becomes necessary. The

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problem, according to North et al., now becomes "one of incentives: some individuals must have sufficient incentives to specialize in production; and those specializing in violence must have incentives not to use it against one another or against members of their society (p.11)."

In order to create a stable ruling coalition with compatible incentives to maintain that coalition, a credible commitment mechanism is needed. The upshot of the paper is this: "Natural states limit economic entry to create rents and then use those rents to credibly commit powerful groups to support the state. In other words, natural states use the economic system as a tool to solidify the stability of the ruling coalition (p.4)." Put another way, most natural states solve the problem of instability by relying

> …on one principal mechanism: creating rents and granting rights to individuals or groups to these rents in exchange for political support. Coalitions create and enforce individuals or group rights to the most valuable economic activities, such as milling wheat, producing or selling the most valuable items, trade with neighbors, or the locally defined form of salvation. The flow of rents to each coalition member induces that member to support the coalition. The rents must be large enough to create self-enforcing incentives, which occurs when the present value of the flow of rents each member of the coalition receives exceeds the value of defecting and challenging the state (p.12).

The implications of this theory are immense: "The natural state's systematic 'market intervention' is not the result of misguided policymaking, but fundamental to how they create political order and stability (p.5)." Revisiting the *Doing Business* indicators, we see such stark contrasts as "It takes 153 days to start a business in Maputo (Mozambique), but 2 days in Toronto...it takes 21 procedures to register commercial property in Abuja (Nigeria), but 3 procedures in Helsinki…" etc. etc. A possible reason for these inefficiencies now becomes clear: *these strange regulations which have the effect of limiting entry are in fact designed to limit entry.* The coalitions of elites that support the government are interested in protecting their access to rents, and government entry restrictions are needed to preserve these rents. Those outside of the coalition have no rights to property and know that if they make significant investments in human or physical capital that could serve to compete with elites; the state will eventually expropriate any profits that result. This unwillingness of the state to protect the property rights of those outside of the coalition is consistent with the vastly greater inequality observed in developing (natural) states than in Western states.

Others too have noticed that repressed economies are inherently more conducive to the consolidation and retention of political power than open markets. For example, Congleton (1993) and Acemoglu and Robinson (2001) show that inefficient taxes and transfers can help one ethnic/political group maintain power at the expense of general welfare. In socially divisive countries where little private sector interest exists independent of the state, political power is used to do exactly that, leading to most of the

civil conflict observed between the more heterogeneous societies of the developing world.

Corruption is also a very costly example of this sort of phenomenon. Shleifer and Vishny (1993) model corruption as an unpredictable tax that renders entrepreneurs unable to accurately plan costs and show that the practice is therefore highly distortionary. If political elites really wanted to get rid of corrupt practices, they could easily increase penalties and perform random enforcement. The fact that most do not do this demonstrates that there must be little incentive at the top to enforce anti-corruption measures that could greatly benefit the general public. If opening a business legally takes well over a year and costs more than two years worth of expected revenues, this opens up widespread opportunities for political elites and their cronies to elicit kickbacks from entrepreneurs.

Many have called this type of corruption "efficient" since it can be used to skirt onerous regulations. But this view completely misses the point that the reason for the irrational rules is often bribes in the first place. However, in weak states, corruption can mean the entry of other "violence specialists" that dissipate the rents created by economic distortions and lessen the ability to maintain social order. The goal of political elites in relatively stronger "natural states" is to act like revenue maximizing monopolists over corruption revenues and limit, but not eliminate, entry of corrupt officials.

To a dictator, a thriving private sector may provide little benefit and plenty of future costs. One problem with most modern private sector activity is that it is much more difficult to tax than agricultural production or natural resources. Since private sector assets are more mobile, they are more elastic with respect to tax rates. Perhaps more importantly, capital accumulation creates de facto political power that can challenge the ruling elite's power to extract rents from the populace. Modern private sector activity also tends to be considerably more valuable than traditional sector activity, and the temptation for political elites to expropriate this property is high. According to Azam, Bates, and Biais (2006, p.1), "Once there is predation, the reputation of the current government is ruined and the economy collapses. If citizens are unable to overthrow this government, the collapse is durable."

Why no grand bargain?

Whatever the underlying problem, it is clear that political elites often have little interest in protecting property rights and engineering sound institutions. Given that inefficient policies do in fact persist and are caused at least in part by political factors, Acemoglu (2003) asks: "Why not a political Coase Theorem?" That is, why do inefficient policies persist if their elimination would result in Pareto improvements? Regardless of who holds political power (i.e. the property rights over policy) there should be a strong tendency toward efficiency if the Coase Theorem is applicable.

The paper maintains that inefficient institutions and policies are often chosen not because of differences in beliefs about what should be done to maximize social welfare, but rather because they serve the interests of the politicians or social groups that hold political power. But even if this is so, why wouldn't the political elite "choose policies and institutions that maximize output or social welfare and then redistribute part of the gains to themselves? (p.5)" That is, if simple contracting were possible, the interests of a dictator or ruling elite in the productivity of the state should be "encompassing." According to Acemoglu, the "transactions costs" that prevent Coasean solutions from being achieved in the political sphere are commitment problems on the part of both the government and citizens. Neither can write enforceable contracts, an essential element to the Coase Theorem, because

> "Contracts that the state, or social groups controlling the state, would like to write with others, e.g., the citizens, will be non-enforceable by definition because groups controlling the state cannot commit to not using their power to renege on their promises or to not change the terms of the contract…. Second, if the rulers relinquish their power, the citizens cannot commit to making side payments to them in the future because the former rulers no longer possess political power (p.21)."

The commitment problem here is thus twofold, neither side has the ability to write and enforce the contracts necessary to achieve latent welfare gains. The same problem is

often present in democratic settings as well. While it would be theoretically possible to compensate the interest groups who were made worse off following a change in policy, promises to do so would not be seen as credible.

The problem then, according to the "rent-seeking state" theorists, is clear: even if left alone, many developing countries are caught in a "trap" of non-development because of a lack of incentive to reform on the part of the political elite and no credible way to bargain out of the prevailing equilibrium.   This can be the case in either weak democracies or dictatorships.

Rent-seeking in Weak Democracies

According to mainstream public choice theorists, in democracies that are more prone to principal-agent problems, special interests normally play the role of the coalition supporters and are able to demand and receive significant amounts of protection from duly elected representatives.   Since the general public is largely "rationally ignorant" of the social costs of the rents that are doled out to individual special interests, the situation persists (e.g. Olson (1965), Krueger (1974), and Shleifer and Vishny (1998), Congleton (2001)).   That is, since average voters cannot costlessly observe politician behavior and are largely unable to translate how various political actions ultimately affect their personal welfare, politicians are offered little incentive to provide public goods that enhance general welfare and growth potential. Rather, it affords them a direct incentive

to provide *targeted* benefits (such as patronage jobs and industry protection) to specific individuals or groups with the ability to make the direct connection between political action and changes in their personal welfare, thus supplying them with a direct benefit for offering political support in return.

The upshot of this "rational ignorance" theory is that there is a serious principal-agent problem between voters and politicians that prevents democracies from being efficient and the nature of the problem is the same as in dictatorships: the need to exchange rent for political support. These principal-agent problems tend to be amplified in lesser developed countries where voters are less educated and society lacks effective media and political watchdogs.

Is Democracy Enough?

According to some scholars, the solution to the rent-seeking state dilemma therefore involves strengthening the transmission mechanism from voter preferences to political action; i.e. strengthening democracy. For example, Bates (2006) argues that the solution to persistent problems of bad governance and the resulting bad policy is to increase electoral competitiveness. Democracy, or greater competition for public office, it is assumed, can assuage most inherent principal-agent problems between elected officials and the voters and make it more difficult for politicians to behave opportunistically and exploit their power for private gain. Greater electoral competition therefore results in the

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broadening of the winning coalition and thus to the production of superior bundles of public goods that do indeed reflect voter demands.

The evidence, however, on democracy's effect on growth is mixed. Barro (1996, p.1) was the first to find discouraging results in his now famous growth regressions. In that paper,

> Growth and democracy (subjective indexes of political freedom) are analyzed for
> a panel of about 100 countries from 1960 to 1990. The favorable effects on
> growth include maintenance of the rule of law, free markets, small government
> consumption, and high human capital. Once these kinds of variables and the
> initial level of real per-capita GDP are held constant, the overall effect of
> democracy on growth is weakly negative.

Glaeser, LaPorta, Lopez-de-Silane and Shleifer (2004) also find no evidence that variables which attempt to measure political institutions such as constraints on the executive or judicial independence are in any way directly related to either human capital acquisition or growth. In fact, one of their conclusions is that "poor countries get out of poverty through good policies, often pursued by dictators (p.1)." Collier, Hoeffler, and Söderbom (2006) conclude that among countries that have recently emerged from conflict, democracies are much more likely than autocracies to revert to civil war, imposing dramatic setbacks on their economies.

However, Papaioannou and Siourounis (2004, p.1) "challenge recent empirical findings that democratic institutions have a negligible direct effect on economic growth." They "employ a before-after event study approach and analyze the impact of democratization on growth in countries that have managed to abandon autocratic rule and consolidate democratic institutions" and find that "the dynamic panel estimates imply that democratizations, on average, are associated with an almost one percent increase in real per capita growth."

Shen (2002) uses panel data to uncover the impact of transitions from autocracy to democracy and also finds a positive impact on growth. Shen finds that new democracies experience a substantial boost in per capita growth rates, averaging 1.3 percentage points per year during the first five years after transition; after ten years, the advantage was lower but persistent, an average of 0.5 percentage point per year.

Rodrik and Waczairg (2004, p.8) reach more moderate conclusions. "In the average country in our sample, democratization comes at no discernible cost in terms of growth, and with likely benefits in the form of a short-run boost in growth and reduction in economic volatility. Thus, a priori arguments or casual empiricism cannot be used to justify the postponement of political reform in developing countries on economic grounds. On the other hand, the heterogeneity in countries' growth experiences following democratization suggests that further analysis of the factors conducive to successful political transitions would constitute a fruitful line of inquiry." Based on the conflicting

evidence, it is at least clear that democracy in and of itself may not be enough to trigger

growth, even though it may be a better (at least less risky) option than dictatorship.

Further Democratic Failures

There are multiple theories on democratic failures even in well-functioning political

institutions. Congleton (2003) highlights three major potential democratic failures: (1)

Indecisiveness in majority rule; (2) Redistributive poverty traps; and (3) Majoritarian

takeovers. Arrow (1963) was the first to point out the "cycling problem" inherent in

democracy in which every policy choice can be beaten by another. The impossibility of

simple majoritarian voting rules to achieve stability by themselves can create

indecisiveness that can render democracies unable to function.

The redistributive poverty trap problem was highlighted by Acemoglu and Robinson

(2001) where they present a political model in which society can find itself in a trap

whereby it continuously oscillates between democracy and dictatorship. The model

describes the political situation faced by many Latin American countries in the 20th

century quite well. We may start off in a situation where elites control the government

and choose policies that enrich themselves and leave out the poor, similar to the

dictatorship models described above. This, however, gives the poor a large incentive to

overcome collective action problems and coordinate to start a revolution and institute a

full democracy, especially during economic downturns. The problem with democratic

revolutions of this sort is that the poor, who assume power through the median voter, will demand redistributive policies and will likely elect candidates who promise to undertake such policies. Redistributive policies, while in the immediate interest of the poor, often result in heavily diminished incentives to invest in future projects, especially among the rich who, as we have assumed, control most of the resources in society. This leads growth to become stagnant or negative as living standards (especially for the elite) decline even further, ultimately increasing the incentives of the elites to mount a coup, and the cycle begins again.

Rodrik (1996) wonders why East Asian countries were able to achieve significant growth in the 1980s and 1990s while regions such as Latin America and Africa stagnated and in some cases even declined. One potential explanation is that East Asian countries were able to grow because they had stronger governments which in turn were at least partially a result of the significantly lower levels of income inequality these nations began with vis-à-vis other developing regions. Reviewing the empirical literature on the relationship between inequality and growth, he finds

> …the initial level of income equality around 1960 is shown to be robustly and positively correlated with growth over the next three decades, controlling for other initial conditions such as per capita income and educational attainment. The theoretical models proposed by Alesina and Rodrik (1994) and Persson and Tabellini (1994) to explain this phenomenon rely on a political-economy

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argument. When distributive policy is sensitive to the preferences of the median voter, it can be shown that the equilibrium level of redistribution is increasing the gap between the median voter's income and average income. More equality usually (but not necessarily) goes with a lower difference between median and average incomes. Consequently, and assuming that redistributive policies act as a tax on accumulation, societies with lower inequality will resort to less redistribution and grow faster (p.21).

The other problem that can exist even in well functioning democracies is that majorities may assume control and suppress the rights of minority groups, which predictably involves adverse economic consequences related to conflict and a failure to utilize the potential of a large portion of the labor force. This classic problem should be familiar with anyone who has read the *Federalist Papers* and studied the founding of and rationale for the U.S. Constitution. While the U.S. was able to overcome these problems by codifying minority rights and separating powers, other countries have not fared so well in this regard as many leaders, once in power, ignore often non-credible *de jure* provisions at little *de facto* political cost. Keefer and Teksoz (2007) highlight the wide institutional heterogeneity among countries labeled "democracies," including the fact that many countries with competitive elections have less secure property rights than many other countries without real elections. The authors conclude that competitive elections have relatively little impact on growth or the security of property rights; more important

are political checks and balances, continuous years of competitive elections, and a well-informed citizenry.[12]

The other (and often less noted) potential problem with democracy lies on the demand side of policies. In the case of an open democracy, who is to say that the median voter does not favor extensive barriers to entrepreneurship? Maybe there are widespread beliefs that heavy restrictions on business and trade are necessary for the protection of consumers. Ideology separate from pure self-interest is certainly an important factor that drives the policy choices which ultimately result in institutions. For example, Brennan and Hamlin (2000) attempt to show that appeals to morals and societal norms tend to be more important to voters than economic interests. While ideas such as communism and fascism have largely died out, the persistent pull of populist policies continues to create a demand for political entrepreneurs who are willing to implement ideas that are not well thought out and negatively impact a society's well being in the long run. If the general public is not well-informed on matters of economic policy, populism can be speciously appealing, especially when economic times are bad (Riker (1998), Caplan (2001, 2003, and 2007)).

If institutions are truly democratic, then an inability to reform may be the simple result of differences in belief about what correct policy should be and hence "bad policy" can be purely subjective. That is, maybe policy elites in a given nation sincerely believe that

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[12] Cross-referenced from "Securing the Future: A Strategy for Economic Growth." USAID, December 18, 2007.

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large volumes of regulations and industry protection are necessary to protect the health and welfare of their citizens and refuse to become "slaves of some defunct economist." So it is possible that a nation may have a well-functioning democracy, but the demands of the public are generally opposed to "reform" because rational people can disagree about proper policy.

As Becker (1983) and Wittman (1995) most famously argued, if there are unexploited efficiency gains to be made by reforming bad policy in a competitive democracy, then political entrepreneurs will enter politics and push for such reforms. If there is indeed a problem with democracies producing inefficient institutions, it does not necessarily stem from "democratic failure" but rather from a lack of competition in "democratic markets."

While it may be true that in a more competitive electoral environment politicians can be expected to respond to the demands of voters more accurately, it does not necessarily follow that these demands will be for what mainstream economists largely consider being improved policy. Caplan (2001, 2003, 2007) provides evidence that individual beliefs about proper policy may be systematically biased because typical voters have little incentive to become well-informed about which policies work best for growth, resulting in what he terms voter "rational irrationality." That is, all individuals have "preferences over beliefs" meaning that ideology shorn of sober examination plays a much underappreciated role in the policies that democracies produce. Since individual voters do not directly bear the costs of the electoral decisions they make or the policy views that

they hold, it is likely that their views differ significantly from those well-informed "professionals." Voters, he argues, are thus highly susceptible to specious/populist arguments, especially when times are bad.

To support this claim empirically, Caplan utilizes data from the Survey of Americans and Economists on the Economy, which compares the economic policy views of large samples of Ph.D. economists and the general public. Even after controlling for factors that influence beliefs, such as income and education, Caplan still finds large, statistically significant effects from having a Ph.D. in economics. Specifically, Caplan finds strong evidence for *anti-market* biases, *anti-foreign* biases, *make-work* biases, and *pessimistic* biases among the general public.

Since it has been well established that economic regulation can be used to impose barriers to entry, and barriers to entry result in the creation of rents that politicians can access and distribute, incentives are thereby created for politicians to introduce distortions into the business environment via policy decisions. Just as in a "natural state" setting, political coalitions are still largely built around rent-sharing. However, in well-functioning democracies, politicians need to sell the idea of regulation to voters. To do this, they may create "populist" ideologies that are supportive of extensive government oversight of the economy. The promotion of ideas by self-interested politicians is therefore one method by which voters form populist ideologies. Since many of these ideas are appealing at many levels, they are easy to believe. It is not difficult to see that large numbers of

voters, for example, would prefer the promise of swift government action to correct existing problems rather than longer-term and ultimately more sensible solutions to the problems in question. The systematic biases of voters can therefore be easily manipulated by rent-seeking politicians, for example, by blaming "speculators" rather than government printing presses for inflation problems and "greedy businessmen" for food shortages that result from price controls.

Ultimately, the more difficult problem resulting from voters condoning bad policies is the path-dependant nature of them. Once policies that protect one special interest from competition are in place, it becomes extremely costly politically to get rid of them. Tullock (1975) tells of a "transitional gains trap" whereby termination of existing monopoly-rent-protecting policies will lead to large losses for entrenched interests that outweigh the short-term gains to consumers, making it politically difficult to impose such reforms. The other effect of existing protections is that they create a constituency that normally advances a speciously compelling ideological argument in favor of their preservation. Since voters tend to not be well informed about the distortionary effects of protectionism and entry barriers, they will be more likely to believe the arguments supplied by their beneficiaries in support of these rent-generating policies.

Overcoming Democratic Failures May Require Prerequisites and Time

In light of the possible political failures discussed above, it is clear that the achievement of an effective, open democracy with a sufficiently large and economically literate winning coalition can be problematic. In order to overcome all these problems effectively, democracies may need to evolve institutional and cultural prerequisites slowly over time.

Congleton (2003) stresses the need for such norms in order to overcome the instability, redistributive, and majoritarian takeover problems. Congleton (2001) reviews how stable democracies may have emerged only over long periods of time as the result of a continuing bargaining process between a king and a council, the latter of which eventually evolves into a representative parliament. A possible lesson from this analysis is that open democracy may not be achievable if implemented exogenously or suddenly.

Glaeser, Ponzetto, and Shleifer (2004, p.1) highlight the importance of education for democracy. They employ a model where "schooling teaches people to interact with others and raises the benefits of civic participation, including voting and organizing… As education raises the benefits of civic participation, it raises the support for more democratic regimes relative to dictatorships. This increases the likelihood of democratic revolutions against dictatorships, and reduces that of successful anti-democratic coups." Education also significantly mitigates "voter irrationality" according to empirical work by Caplan (2007).

In sum, for both dictatorships and democracies, the possibility for government failure exists that may prevent institutions from improving endogenously. In dictatorships or non well-functioning democracies where principal-agent problems prevail, political elites and/or special interests are able to use their power to support the existing political regime in exchange for targeted transfers or the imposition of economic distortions that create rents for the elite to consume at the expense of the general good. In democracies not plagued by principal-agent problems, if the distribution of resources in an economy is highly unequal to begin with, has not evolved norms to deal with instability and takeovers, and lacks a well educated populace, then even competitive democracy may not be a solution to overcoming institutional failures. Therefore, a case has been made for a political market failure. An outside intervention, if theoretically justified, may make sense.

The next two chapters of this dissertation outline a brief history on the philosophy behind the provision of foreign aid and demonstrate why efforts aimed at stimulating economic growth in the developing world have largely failed.

III. The Curse of Input-Based Foreign Aid

Overall, a bleak picture of past performance

Easterly (2002) reviewed a growing literature on the fundamental problems associated with traditional forms of international development aid. In this classic book on ODA effectiveness, considerable evidence was presented that appeared to demonstrate that loans and grants from the World Bank and other donors for programmed projects may significantly retard institutional development and may ultimately be counterproductive. Roodman (2004, p.53) also concludes after testing the robustness of a number of prior results on aid effectiveness that "if there is one strong conclusion from this literature, it is that *on average* aid works well outside the tropics but not in them." The author here is alluding to a finding that aid can work better given higher initial levels of development, but does not tend to be effective in the poorest countries of the world, which are almost all located in tropical regions.

However, many in the aid community continue to argue for a "big push" via, at minimum, a doubling of ODA designed to lift the barriers to growth (see, most importantly, Sachs, (2005) and the U.N. Millennium Project (2005) that he leads). These views rest heavily on the belief that underdeveloped regions are stuck in a poverty trap in

which the marginal product of capital is low because of missing business complementarities and lack of scale economies. They believe that large unexploited positive externalities exist in sectors such as infrastructure and that well-targeted ODA can tap them and increase the marginal product of capital.

Most recently, former head of research at the World Bank Paul Collier (2007) staked out the middle ground on the subject in his book on what to do about the world's poorest people, "The Bottom Billion." He concludes, based largely on his own work and on a number of other studies, that

> Aid does tend to speed up the growth process. A reasonable estimate is that over the last thirty years it has added around one percentage point to the annual growth rate of the bottom billion. This does not sound like a whole lot, but then the growth rate of the bottom billion over this period has been much less than 1 percent per year – in fact, it has been zero. So adding 1 percent has made the difference between stagnation and severe cumulative decline. Without aid, cumulatively the countries of the bottom billion would have become much poorer than they are today. Aid has been a holding operation preventing things from falling apart. (p.100).

Other researchers, however, have been seemingly unable to find even this small positive effect for aid. For example, Rajan and Subramanian (2007) use a new instrumental

variable approach to estimate the effect of aid on growth.[13] They find no evidence for a

positive effect of aid on growth and even find considerable evidence for a negative

relationship. Collier himself admits that even given a weak positive relationship, the

returns to additional aid are strictly diminishing. Citing a study by the Center for Global

Development, it is estimated that "when aid reaches about 16 percent of GDP it more or

less ceases to be effective" (p.100). Given that many of the poorest countries are

currently at or not far off that level, he concludes that "we have broadly reached the

limits to aid absorption, at least under existing modalities" (p.100).

Indeed, in a "meta study" on the aid effectiveness literature, Doucouliagos and Paldam

(2006) culled together 537 partial correlations of ODA on growth from various

publications in the AEL (see Figure 1).   They find that, over time: 1) the variation of

these aid effectiveness coefficients is falling due mainly to increasing sample sizes which

are the result of better data and greater availability and 2) the average estimated size of

the effect is falling. At the time of their study, the average coefficient was only +0.04

and by the time the 685th regression coefficient is published, the trend will intersect with

the zero axis.[14]

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[13] They use a two-stage regression. They begin by estimating a donor supply function based on the
characteristics of the donor and recipient. They then use this to estimate expected aid, and instrument that
function in a second stage regression.

[14] The authors find this trend puzzling since over time, it would seem that increased experience would lead
to more effective ODA, yet it appears not to have. The authors aver that since smaller samples lead to
larger variations in results, it is easier to mine data, thus as data accumulates the results should converge
toward true values. If most researchers want to find positive results (as could plausibly be the case early on
when most of this research was being done by development organizations) then the initial positive results
may have been very biased and over time we are seeing convergence to the true association – zero or even
perhaps negative.

This dissertation now turns to the theoretical reasons for why aid in the form of loans and grants can fail. It is first important to distinguish between ODA that is intended to trigger long-run growth from humanitarian aid that is designed to ameliorate short-run crises which may arise at random. The latter is not the subject of this section or the rest of this dissertation.
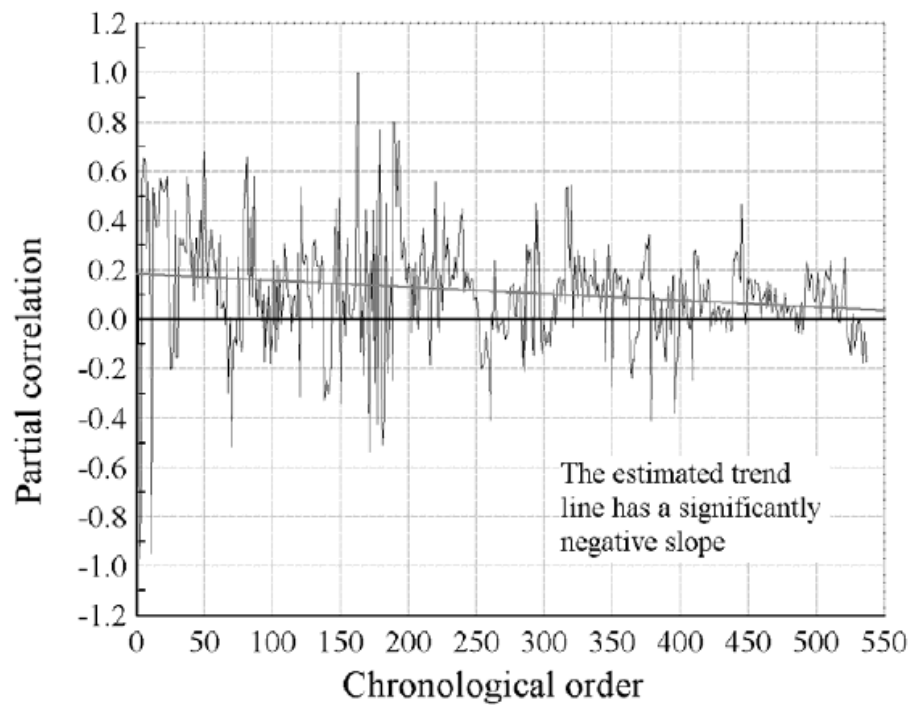
Figure 1 – Estimated Trends of Aid/Growth Coefficients in the Literature

Source: Doucouliagos and Paldam (2006)

The failure of the "financing gap" hypothesis

The financing/investment gap models which can be traced back to Harrod (1939), Domar (1946), Solow (1956) and Chenery and Strout (1966) gave the impression (even if this was not their original intent), that investment was the key to achieving long-run growth and that capital accumulation alone could increase the productivity of labor.   In a simple Cobb-Douglass production function, $Y(t) = [K(t)]^{\alpha} [L(t) A(t)]^{1-\alpha}$, where labor (L) and capital (K) are the key inputs, and the productivity of labor (or the level of technology, or the part of economic growth that is unexplained by traditional inputs) (A) determines their impact on growth (Y).

This type of thinking makes sense, but as Solow (1957) himself soon discovered, the residual, A, explained most (approx. 87.5%) of the variation in cross-national incomes. Therefore, researchers soon understood that most of the observed economic growth that takes place in the real world occurs not through the accumulation of capital, but rather through increasing productivity. However, the use of "financing gap" models somehow persisted in policy arenas such as the World Bank and IMF.

The model which emerged to overtake the neoclassical exogenous growth model was the endogenous growth model first pioneered by Romer (1986, 1990). According to Romer (1994, p.1),

This work distinguishes itself from neoclassical growth by emphasizing that economic growth is an endogenous outcome of an economic system, not the result of forces that impinge from the outside… The empirical work does not settle for measuring a growth accounting residual that grows at different rates in different countries. It tries to uncover the private and public sector choices that cause the rate of growth of the residual to vary across countries.

Romer's model focuses on the importance of knowledge spillovers that result from human and physical capital investment. If good institutions foster increased human and physical capital investment by providing security in property and lowering risk, then Romer's model provides further evidence that human capital and institutions reinforce each other and cause growth to be *increasing*, not decreasing, over time.

But if knowledge is largely non-rival, then we need something to explain its apparent lack of transmission from rich countries to poor countries and the inevitable convergence that should follow. That is, there must be some institutional explanation for why poor countries do not catch up since most knowledge can be easily imported.

The Romer model does not imply that simply adding capital to an economy will in and of itself boost economic growth and create knowledge spillovers. The major reason for this is that in his model, growth is an *endogenous* process that exogenous resources cannot always catalyze. Physical capital in the form of foreign aid cannot spur growth because

the quality of the investment is unclear and the resources can simply be consumed rather than invested. Indeed, Easterly (2001) found that infusions of ODA increased investment levels in just six of 88 countries and that if 1) all ODA was in fact invested and 2) all investment caused growth, Zambia, to use an extreme example, should have had a per capita GDP of US$20,000 by the early 1990s. Instead Zambia's per capita GDP was lower that it had been in 1960, under US$500.

Where does all of this money go if not for productive investment? One candidate, as we will see, is that the money is simply redistributed for consumption as a result of rent-seeking activities or used in the production of support by the political elite. Boone (1996) was one of the first researchers to find that aid neither significantly increases investment nor any human development indicator, but does increase the size of government, while Djankov, Montalvo, and Reynal-Querol (2006) confirm these results using more recent data. So, even when ODA is intended for human capital or other productive investments, there appears to be no easy way for donors to monitor exactly how these funds will be directed as it appears that they are often used by governments or other insiders for their own consumption.

If existing institutions do not create incentives sufficient to justify increased investment activity, greater access to finance will have little positive net effect. That is, if it is nearly impossible to register a business legally, hire and fire workers and acquire necessary permits, then increased access to finance can be expected to make little impact on growth. Even if entrepreneurs are able to jump the multiple hurdles required to open a legal

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business, widespread corruption has an effect similar to an unpredictable tax, making it extremely difficult for entrepreneurs to plan. It has therefore become increasingly clear that while greater access to foreign capital via ODA may have achieved various humanitarian goals, without complementary institutional improvements it cannot facilitate long-run goals of sustainable economic growth.

While Sachs and the U.N. Millennium Project believe that large investments in sectors such as infrastructure can trigger growth, the direction of causality more likely runs the other way: a sound business environment results in sound infrastructure because only then do real demand-driven incentives exist for the creation and maintenance of needed business complements. The donor community constantly complains that many ODA funded projects suffer from a lack of maintenance, but when incentives are taken into account it is not difficult to see why this is the case. Lowering the accounting costs of doing business by providing adequate infrastructure will help spur investment at the relevant margin holding everything else constant, but the more serious problem likely rests with the larger institutional incentives to save, invest and be productive.

The other argument against the "big push" is that there is already no shortage of foreign aid in underdeveloped parts of the world such as Africa. According to the OECD/DAC[15], over the period 1975-2005, Sub-Saharan Africa alone has received over US$350 billion in ODA commitments and received an average of US$25 billion per year over 2001-

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[15] Organization for Economic Cooperation and Development/Development Assistance Committee.

2005. It is theoretically unclear why the marginal product of foreign aid could be expected to suddenly spike past this level, especially when Radelet (2006) finds strong econometric evidence for the diminishing returns to host country growth of foreign aid.

A "curse" of Foreign Aid?

ODA may not only be ineffective, more recent evidence is showing that it could actually be counterproductive to growth objectives. Sala-i-Martin and Subramanian (2003) find robust evidence that a "resource curse" exists, which is when natural endowments such as oil and diamonds hinder institutional development within a nation due to the availability of a persistent stream of exogenous sources of revenue (rents). These rents tend to make governance malfunction because it can (1) prop up poor institutions and lessen the need for reform; (2) create large opportunities for political patronage and corruption; (3) lead to volatile revenues that produce boom and bust cycles; (4) increase demand for populist ideas on how to spend the revenues; (5) increase the supply of government in unproductive activities; (6) lead to an increasingly undiversified economy; and 7) possibly lead to conflict over the resources.

Knack (2000) and Djankov, Montalvo, and Reynal-Querol (2006a) find that foreign aid tends to have similar effects as those described above; it acts as a source of revenue that governments do not need to raise by taxing its citizens, much like natural resource rents.

The exogenous sources of revenue which are unrelated to production create incentives for

rent-seeking activities which have been shown to reduce the growth rates of economies.[16]

One of the most important variables in the formation of well-functioning institutions is

political accountability, and one of the most important aspects in the creation of political

accountability, in turn, is a system of taxation that links the benefits of government

production with the costs of the tax bill to the private sector. When a government does

not need to rely on the taxation of the general public for revenue, the accountability of the

political elite suffers and a gap emerges in the transmission mechanism for the demands

of the general public to the government. This effect can be devastating for the

development of responsive and accountable institutions.

Chaudhry (1997) explores how this phenomenon, through the existence of a source of

exogenous revenue from oil, has retarded the institutions of Middle Eastern nations,

which she dubs "rentier states." According to Chaudhry,

> Unlike welfare states, which are 'redistributive,' rentier states do not exist by
>
> extracting surplus from the local population. Institutional development in
>
> distributive states is thus likely to diverge from classical patterns of state building
>
> as their bureaucracies emerge in response to the need to *allocate* rather than

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[16] Krueger (1974) studies the case of India while Laband and Sophocleus (1992) attempt to measure rent-seeking costs in the United States; both find that these non-productive activities produce serious reductions in national wealth.

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appropriate revenue. (p.31)"[17] "…In Saudi Arabia, as elsewhere, oil revenues bred large, financially autonomous distributive organizations that undercut the development of political and economic institutions in the private sector by displacing old economic groups and creating whole new classes of entitlement groups through state spending. (p.33)"

As an exogenous source of revenue like oil, it is worried that ODA may have similar negative effects on institutional development.

Aid and Political Reform

According to Congleton (2001) and Bates (2006), the need to increase the tax base in order to raise revenues (especially during times of war) was one of the most important historical factors in the European transition from monarchy to democracy. In order to tax more mobile (elastic) sources of revenue, European monarchs (especially in Britain and the Netherlands) had to make concessions to private sector interests represented in parliaments, and these concessions generally took the form of handing over increased power over public policy to elected representatives. This transition was generally efficient because it had the effect of incrementally transferring power to private merchant groups that were interested in protecting private property.

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[17] Emphasis mine.

Mesquita and Smith (2007, p.252) demonstrate using a "selectorate model," that "when recipient politicians depend on a small coalition, their citizens may be harmed by aid. They get policies they do not like, and their leaders remain in office through corruption and rent seeking rather than by producing effective public policy." ODA may therefore prevent the need to make democratic concessions to private groups whose interests are likely to be more encompassing than those of the elites. So there is evidence that infusions of ODA may not only decrease the need of the political elite in a given nation to develop revenue extraction institutions which are efficient in delivering public goods, the "unearned" sources of income may also be used preserve the power of the elites and with it the poor institutions that support their rent consumption habits.

Another major concern is that natural resource and foreign aid revenue inflows can lead to political conflict. "Blood Diamonds" was a poignant 2006 film portraying how the presence of a valuable natural resource helped destroy the institutions of Sierra Leone in West Africa. Rather than engage in socially valuable production, it made sense for rebels in Sierra Leone to divert efforts towards overthrowing the government in order to capture the value of the diamond trade. Foreign aid, it has been argued, can also lead to conflict through similar channels as exogenous sources of revenue are fought over.

The most common example is one of the largest World Bank funded projects in Africa; the US$180 million Chad-Cameroon oil pipeline. The Bank proscribed that all revenue resulting from this project would be put into an offshore account earmarked to finance

education, health, and infrastructure projects for the benefit of the poor.   The Bank

vowed that this money would be closely monitored. However, in 2004 the Bank

discovered that the government of Chad had broken its obviously incentive incompatible

promise, as government revenue stemming from the project was quickly diverted to

purchase arms in order to fight government opponents.   The story of Somalia's civil war

is also often traced back to fights over which faction would control food aid.

The problems with micro-interventions and "Dutch disease"

Another problem with ODA is that it has traditionally been disbursed via micro-

interventions (i.e., small-scale targeted projects), which are likely to be distortionary.

Rajan (2005) writes, "Unfortunately, I'm not sure that even if each micro-intervention

works well by itself, they will all work well together. Interventions could affect each

other and get in each other's way or vie for the same resources. They could also have

adverse spillover effects on the rest of the economy.[18]" In fact, Raghuram Rajan and

Arvind Subramanian (2005a) found that in countries that received more aid in the 1980s

and 1990s, the export-oriented, labor-intensive industries not only grew more slowly than

other industries, but the manufacturing sector as a whole also grew more slowly. They

found that these effects stemmed from real exchange rate overvaluation triggered by

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[18] http://www.imf.org/external/pubs/ft/fandd/2005/12/straight.htm

ODA inflows. By contrast, they note, private flows like remittances did not seem to create these adverse effects.

This view, that exogenous resource inflows foster "Dutch disease"[19] is a major macroeconomic consequence of ODA, especially since the countries which have been able to escape their "developing" status largely accomplished this through export-led growth (i.e. the East Asian "tigers").   According to Rajan et al., there are two channels through which ODA can trigger Dutch disease:

> First, aid inflows could push up the price of some critical resources that are
> common to both the traded and non-traded goods industries. For example, aid
> could be spent on fees to contractors, as well as salaries to engineers, doctors,
> teachers, civil servants, and aid administrators. Because the non-traded goods
> industries (or the social sector) do not have external competition, they can raise
> output prices to compensate for the higher wages. But if the tradable sector
> competes in the same pool for its managers and foremen, then this sector whose
> output prices are fixed by foreign competition will lose competitiveness and
> profitability.

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[19] The term was coined in 1977 by *The Economist* to describe the decline of the manufacturing sector in the Netherlands after the discovery of natural gas in the 1960s. The theory is that a surge in foreign currency resulting from sales of domestic natural resources will harm a nation's export sector by raising the exchange rate and making the manufacturing sector less competitive.

The second channel is that in a flexible exchange regime aid inflows may also push up the nominal exchange rate (for example when the central bank sells the aid inflows in the domestic foreign exchange market), rendering the traded goods sector uncompetitive if wages in that sector do not adjust downwards (p.10).

On top of its macroeconomic effects, ODA via micro-interventions normally presupposes too much knowledge on that part of donor agency staffs empowered with significant discretion for picking and choosing which sectors of an economy to fund. When aid is given to a specific sector, this inevitably impacts prices and wages in other sectors. These "spillover effects" and "leakages" ripple throughout the economy, potentially causing significant distortions to market prices, wages and interest/exchange rates, ultimately leading to resource misallocation that adversely affects not just particular sectors but also the growth of the entire economy. Micro-interventions have therefore been accused of resembling central-planning type experiments that have failed in the past because they lack the localized knowledge necessary to carry out economically useful projects.

Monitoring and Corruption Problems

Even if ODA is well-targeted, it is difficult to monitor effectively which further complicates lending because it opens the door to corruption. Going back to Schumpeter (1939, p.129), "…the banker must not only know what the transaction is which he is

asked to finance and how it is likely to turn out but he must also know the customer, his business and even his private habits, and get, by frequently 'talking things over with him' a clear picture of the situation."

Effective monitoring involved in lending is both difficult and costly and the World Bank has not escaped these problems. The *2001 Annual Review of Development Effectiveness* cited weak monitoring and evaluation as one of the three most important factors contributing to unsatisfactory project outcomes and in 2006 then-World Bank President Paul Wolfowitz spoke of serious ongoing corruption problems that included "clear-cut cases of bribes, kickbacks, manipulation of the contracting process, (and) fraudulent procurement."[20]

Indeed, according to the World Bank's "Integrity Report" for fiscal years 2005 and 2006, the Department of Institutional Integrity (created only in 2005 by Wolfowitz to seriously address the corruption issue within the Bank) had already completed investigations that led to 337 sanctions for fraud and corruption, leading to the banning of 58 firms and individuals from competing for World Bank contracts. The corruption unit's work also led to the firing of 13 World Bank staff and its current website features horror stories of some of the shoddy work performed by contractors and instances where resources were siphoned off to anyone other than the people they were intended to benefit.

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[20] "Wolfowitz anti-graft mission triggers World Bank strife, management dispute." Financial Times, January 23, 2006.

Reinikka and Svensson (2004), for example, use surveys of primary schools in Uganda to find that during the period 1991-95, those schools on average received only 13 percent of the grants that were earmarked for them by donors. The World Bank's problems with monitoring certainly do not stop there. In 2005 the World Bank suspended US$800 million in loans for maternal and children's health in India in response to allegations that illicit payments were going to state and central government officials. There have also been recent allegations of corrupt bidding practices for road projects in Bangladesh, kickbacks to politicians in Argentina involving a World Bank program for poor workers there as well as the resignation of high officials in Kenya linked to projects there.[21]

Since ODA is largely fungible, even if projects are well-targeted and monitored there is no guarantee that the resources that ODA ultimately frees up will not be used for counter-productive or corrupt purposes. For example, Feyzioglu, Swaroop, and Zhu (1998) find that when foreign aid is targeted at education, it is more likely to be offset by reductions in own-government funding of education.

Since most aid recipient nations are plagued by widespread corruption problems, aid may exacerbate existing problems by enriching the very politicians who have incentives to keep other citizen groups poor. In this sense, there is no good way to determine exactly for what purposes ODA is being used by client nations. The bottom line is that all aid is inherently fungible and difficult to monitor. Spending time and effort to monitor who

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[21] Weisman, Steven, "Wolfowitz Corruption Drive Rattles World Bank" *New York Times*, September 14, 2006.

gets what resources and how exactly they will be used has proved fruitless and outside of donor's information feasibility set.   A better option for aid would negate the necessity of any post-disbursement monitoring altogether.

Aid Coordination problems

One solution to the systematic problems associated with ODA in the past as proposed by Klein and Harford (2005, p.5) is enhanced competition between aid agencies in order to spur efficiency. They note that "…the most striking fact about the (aid) industry is how relentlessly competitive pressures are building. There has been a constant stream of new entrants, a steady fall in global and local concentration, and a clear tendency for donors to break out of historical patterns of aid and compete with one another."

But contrary to Klein and Harford, there is no compelling reason to believe that greater competition between aid agencies will result in efficiency gains as seen in the private sector. Indeed, Klein and Harford themselves admit that all aid agencies created since 1945 still exist. If the increasing competition between aid agencies were in fact improving efficiency, then surely at least one of these organizations would have exited the "market."   Greater efficiency could in fact be possible if donors competed with other donors for limited government resources. However it is unlikely that this happens to a significant extent since budget allocations are largely autoregressive and responsive to the requests of the donor agency. One reason for this is that donors tend not to compete

for the same pool of resources. Bilateral donors have a near monopoly on ODA

allocations from their own governments and UN agreements stipulate almost exactly how

much each national government will contribute to multilateral donor operations.   Since

sponsor governments cannot easily monitor the activities and results produced by donors,

it is difficult for them to base resource allocations on program success.

Rather than producing more competition for efficiency, many of the activities of multiple

aid agencies overlap and perhaps even work against one another, increasing the

transaction costs of ODA.   Acharya, Fuzzo de Lima, and Moore (2004, p.8) sum the

situation up well:

> …where there are many aid donors, they are frequently in clear, and sometimes
>
> visible, competition with one another—for attractive projects, for the time and
>
> attention of senior policymakers, for the assistance of good public servants, or for
>
> influence over the policies of the recipient government. This competition can spill
>
> over into their relationship with one another, and lead, for example, to the
>
> "hoarding" of information, and for less than wholehearted engagement in the
>
> processes normally labeled 'donor coordination.'

> [Moreover] a multiplicity of donors in one recipient country can contribute to a
>
> lack of a sense of responsibility for the outcomes of aid. The more donors there
>
> are, the easier it is to assume or assert that the lack of development progress is

someone else's fault; and the greater are the temptations for individual donor

agencies to focus efforts on obtaining good results from their own projects, even

if this impinges adversely on overall aid performance.

Again, as with monitoring, we seem to be faced with a simple principal-agent problem

where now there are multiple principals, each with their own personal objective intended

to satisfy their own principals. Uncoordinated micro-interventions by multiple donors

can thus be expected to make the problem much *worse,* not better.

Incentive compatibility problems within development agencies

Klein and Harford's claim that aid "markets" can react to forces such as competition in

the same way as private markets is dubious at best. There is a sizable difference between

competition among firms and competition among modern donor agencies. The former

has a clearly defined objective function: maximize profits. Donor agencies are non-

profit, and their stated objectives of facilitating economic growth and alleviating poverty

face incentive compatibility problems not seen in normal private sector competition.

This is because results in terms of economic growth and poverty alleviation rarely

directly translate into personal rewards for donor agency staffs. Indeed, Andrew

Crockett, former head of the Bank of International Settlements, led an IMF-appointed

team in thinking about the future of the IMF in early 2007. Mr. Crockett noted the

perversity of the way the IMF pays for itself: "The fund does well when the world economy does badly," he said, which creates a "curious incentive structure."[22]

Following the tradition of Niskanen (1971, 1975), it must be assumed that bureaucracies such as the World Bank act at least in part to maximize both budgets and slack and that donor agency staffs do not fall outside the realm of economic analysis and remain self-interested.[23] Even though many[24] within donor organizations are personally skeptical of the ability of aid as it is currently administered to transform economies, most would certainly not advocate scaling back operations and budgets.[25]

Step back once more and examine the incentives of the politicians that provide the funds for donor countries. More often, donor governments seem more interested in how aid impacts interests within their own nation rather than any developing nations. Witness the widespread bilateral donor practice of granting ODA on the condition that works be implemented by domestic contractors (called "tied aid"). The OECD (2006) estimates

[22] "Funding the Fund", *The Economist*, Feb. 1 2007.

[23] The author of this dissertation has personally worked inside two different development organizations, where it soon became clear that tax-subsidized foreign travel is a heavily weighted variable that most donor staffs seek to maximize.   Such perks drive many project decisions.

[24] This is an observation based on the author's personal experience.   There should be efforts to undertake a formal poll.

[25] Likewise, the objective of bilateral aid agencies appears to be more concerned with donor foreign policy objectives rather than any actual growth.   USAID, the United States' bilateral donor agency, for example, is up-front about its mandate that its operations "advance U.S. foreign policy objectives" and this is especially clear when one observes the disproportionate amount of aid that was directed at Afghanistan and Iraq following the 2001 and 2003 U.S. occupations.   Other donors are less explicit about their true ends, but advancing purely humanitarian and growth-oriented goals that did not ultimately coincide with national interests seems too much of a utopian objective function to be realistic.   According to an OECD report (Jempa 1991), "Although most donors give aid to quite a wide variety of recipients, the importance they attach to individual recipients clearly differs: donors support countries with which they have, or hope to have, strong ties."

that well over half of all aid (58%) is "tied," leading to potentially large inefficiencies.

According to the report, "Aid tying by OECD donor countries has important

consequences for developing countries. Tying aid to specific commodities and services,

or to procurement in a specific country or region, can increase development project costs

by as much as 20 to 30 per cent (p.1)." [26]

This research demonstrates that the activities of many donors are not efficient and part of

the problem is the incentive compatibility problem.   As we have seen, there are two

different layers of principal agent problems: those that exist between the donor and the

client and those that exist between politicians and the donor. One can even step back

once again and add the principal-agent problems that exist between politicians and voters.

Nielson and Tierney (2003) provide a clear example of this sort of principal-agent

problem in action when they review how slow the World Bank was to respond to rising

demands for environmental safeguards on its projects beginning in the late 1970s.

Ultimately, the Bank had to be threatened with the withholding of funding by the U.S.

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[26] One particularly egregious example of this is USAID's policy of buying domestically produced condoms to distribute to nations where HIV is prevalent.   Rather than purchase equal quality condoms at the world market price of 2 cents per condom, USAID purchases them from a plant in Alabama at a cost of 5 cents apiece. USAID defends itself by stressing that workers in Alabama are also poor and low-skilled, so its policy indeed benefits the poor in the U.S. But as economist Alexander Tabarrok points out:

> Condoms could be bought on the world market at 2 cents each so if the plant shuts down USAID can save $13.5 million dollars a year.   The US plant employs 260 people, so every one of those employees could be paid a one-time quitting bonus of $51,923, equivalent to several years of salary of the lowest paid workers. USAID would be indifferent in year one and would have more to spend on foreign aid in every subsequent year.

Taken from: http://www.marginalrevolution.com/marginalrevolution/2006/10/how_to_use_a_co.html

Congress before it finally added environmental impact assessment rules into its procurement practice.

The problem of debt

One of the most focal issues in foreign aid is developing country indebtedness. Since it has been shown that much of foreign aid has been ineffective at triggering growth, it quickly became very difficult for many poor countries to repay multilateral and bilateral donors. Such debt burdens have been shown to be a significant anchor on the long run growth prospects of a nation, which must increasingly allocate its scarce resources to service the interest payments. The problem of unsustainable debt levels results from incentive distortions on the part of both borrowers and lenders not found in private lending markets.

On the borrower side, the political elite in developing nations can face incentives that cause them to behave myopically. A new project benefiting constituents raises the political support for a given policy maker in the short run, while repayments can be the problem of a later government (Buchanan and Wagner (2000)). If politicians do not fully internalize the cost of decisions such as how much to borrow, this can easily lead to an unsustainable debt burden. This problem is especially prevalent in democracies as well as dictatorships where the political elite have a weak coalition and need to shore up support.

Once debt has been over-accumulated, forgiveness by donors through initiatives such as HIPC and MDRI are not a panacea.   Debt forgiveness rewards countries that have mismanaged their fiscal policy and further harms their credit. It also creates incentives to amass further debts and misuse the money since a moral hazard has been created.   Since debt forgiveness is equivalent to a direct government grant, it cannot be expected that the grant will be put to productive purposes if it cannot be expected that a further line of credit will be put to productive purposes.

A form of moral hazard may also exist on the lender side as well. A noted problem with ODA is that donor agencies often feel pressured to lend in order to justify their existence. Often times the size of disbursements is what counts at donor agencies rather than any actual results (Easterly 2006).   Donor agencies are non-profit and funded by outside sources themselves, so little incentive exists to vet the credit worthiness of borrowers. Since donor agency staffs can raise their profile by successfully committing loans to various projects in the developing world and do not internalize the debt burdens imposed, it is likely that over-lending has occurred.

Indeed, the *2001 Annual Review of Development Effectiveness* reported that an "emphasis on lending appears to have limited the Bank's effectiveness in some countries. Lending pressures were reported in five out of thirteen recently evaluated countries." Birdsall, Claessens, and Diwan (2003) found substantial evidence of "defensive lending" in which loans are given by donors in order to finance a nation's existing debt, creating a vicious

cycle and potential poverty trap.   In sum, this mix of incentive structures has created a good deal of bad debt that hampered the development efforts of a number of countries.

Foreign Aid as inputs has failed

This chapter has demonstrated that there is a near consensus in the academic community that foreign aid in the form of inputs toward economic production has largely failed to result in increased rates of growth for developing countries in the past.   Clearly, this model of foreign aid faces seemingly insurmountable theoretical and practical obstacles if the end goal is indeed to facilitate long-run economic growth in client nations.

Among the problems that ODA in the form of inputs faces are: donors have been unable to translate aid into productive investments; aid can result in a "resource curse" that adversely affects governance; "Dutch disease" or exchange rate overvaluation; monitoring problems; coordination problems; principal-agent problems; rent-seeking problems; debt sustainability issues; commitment problems; corruption; and lack of localized knowledge. Most importantly, this type of ODA has largely failed to provide any political incentives to improve the institutions of poor nations, which, as indicated in Chapter I, are the fundamental cause of long-run growth.   In the next chapter, the last two decades of thinking on foreign aid is summarized and analyzed, as the focus in the donor community shifted from subsidizing capital inputs to subsidizing outputs such as government policies beginning in the 1990s and continuing today.

IV. The Next Generation: How the Conditionality and Selectivity Models of Aid Still Fall

Short

Problems with conditionality

When it became clear that simply adding resources to an economy was ineffective at triggering growth (due to the multitude of pitfalls discussed in the last chapter), donors began to discuss the importance of policy reform. Indeed, it was becoming obvious that many lower income countries were pursuing national strategies that were counterproductive in the eyes of mainstream economic theory.   In a highly influential article, Williamson (1990) codified what came to be known as the "Washington Consensus," a number of widely adhered to, largely free-market oriented policy reforms deemed necessary to create the conditions necessary for growth.

According to Rodrik (2006a, p.6), "'Stabilize, privatize, and liberalize' became the mantra of a generation of technocrats who cut their teeth in the developing world and of the political leaders they counseled." In order to push nations towards implementing these growth prescriptions, a new form of aid giving arose that became known as "conditionality."

The way conditionality works is that in order to receive a disbursement of aid, the recipient government is first required to commit to specific outputs, mainly policy reforms. Loan conditions may require "promise" of such reforms as privatization, trade liberalization, implementing standard anti-corruption measures, abandoning industrial policies, revision of public expenditure procedures, or reforming political institutions according to donor preferences. Many came to believe that donor supported marginal changes in policies along textbook lines, should, in the long run, result in improved overall institutional outcomes such as an improved growth environment. Over the past two decades, "development policy lending" (or loans with conditions attached, also known as "adjustment loans"), accounted for 20 to 25 percent of total Bank lending on average.[27] In 2002, adjustment loans accounted for 64 percent of total commitments, demonstrating their increasing importance.

However, one problem with conditionality that quickly arose was one of time consistency, in that it was normally very difficult for donors to enforce their own conditions. Once resources were committed up front, donor promises to cut off borrowers for a failure to implement promised reforms proved not to be credible. According to the World Bank (1998, p.48), "there is a long legacy of failed adjustment lending where there was no domestic constituency for reform ... donors have not been sufficiently selective with policy-based lending." Thomas (2004) reviews several studies

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[27]

http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,contentMDK:20120732~menuPK:268725~pagePK:41367~piPK:51533~theSitePK:40941,00.html

on the topic of enforcement and points out that donors such as the World Bank may have little incentive to carry out threats once conditions are breached by lenders because such enforcement is considerably costly.

So the problem of conditionality becomes a time inconsistency which leads to commitment failures for both principal (donors) and agent (aid recipients). In the end, the loans were not conditional. According to Easterly (2001, pp.115-116), "Lenders face incentives that cause them to give loans even when the conditions of the loan are not met." According to the World Bank (1998, p.51), "since monitoring policy reforms requires some subjective judgment, donors will likely find that governments are making a good effort — whether they are or not — and disburse their funds." Thomas (2004, p.489) claims that "Where staff have greater discretion, the risk of bias is greater."

Canceling a disbursement to an already vulnerable population can cause increased harm to those it was initially intended to help, especially when the fallout affects individuals that have no control over policy decisions made by elites. Perhaps more importantly, failed loans may cause reputational harm to donor staff and the donor institution itself, which often justify their existence not by results but rather through the volume of resources they disburse (see Kanbur 2000). Geopolitical realities can also make it extremely difficult for donors to follow through on promises to cut off recipients that fail to meet conditions, especially if recipient countries also have the ability to punish.

Mosley, Harrigan, and Toye (1995, p.173) observed that *only one country* in the 1980s had been refused the release of a second tranche of an adjustment loan and averred that ''the recipient knows that if it makes amicable noises, plus comparisons with other countries if necessary, it can expect the release of the second tranche within a year as surely as day follows night.'' Killick et al. (1998) found that program effectiveness was undermined by political, bureaucratic, and financial pressures to lend in seven out of eleven cases evaluated. Dollar and Svensson (2000) analyzed 220 reform programs from 1980-1995, and concluded that about one third of these programs had failed. Even among those that succeeded, they concluded that it was far from clear that World Bank involvement had any effect since reform was largely driven by domestic forces.

Another problem with adjustment lending is that it creates a political scapegoat. The political elites in countries that receive adjustment loans and fail to reform often times are able to blame World Bank and IMF policies on their failures, providing corrupt leaders with greater political cover and hence more power to further distort economic outcomes to benefit favored groups.

Taking all of these problems with adjustment lending together, Easterly (2005a, p.1) found no evidence that "adjustment loans" have led to growth, arguing that "None of the top 20 recipients of repeated adjustment lending over 1980–99 were able to achieve reasonable growth and contain all policy distortions. About half of the adjustment loan

recipients show severe macroeconomic distortions regardless of cumulative adjustment loans."

Problems associated with policy advice

The question that remains to be answered from the previous section should be obvious: how do donors know what "good policy" is in the context of a particular country anyway? Washington Consensus based conventional reforms, if successfully implemented, were expected by some (see, for example, Paul Collier and David Dollar (2001)) to cut world poverty rates by half. So it was encouraging when even controlling for the problems associated with enforcing policy conditionality cited above, these donor-driven reform efforts were often implemented to a large extent across Latin America and Africa.

However, in 2005 the World Bank released a report entitled *Economic Growth in the 1990s: Learning from a Decade of Reform*, which to a large extent summarized the experience of the Washington Consensus in the 1990s. This report largely concluded that many of the donor-driven reforms produced disappointing results, as both Latin America and Africa fell further behind.   Empirical evidence supports this finding. Easterly (2005b) and Francisco Rodriguez (2005) show that the data do not, in fact, support the claim that macroeconomic polices, such as the ones explicitly pursued by the Washington Consensus, have large impacts on national economic growth.   Altman (2008) finds that

such variables as price distortions, fiscal policy, state-owned enterprises, and barriers to trade openness can and do impact economies in the extreme, but often have only weak overall impacts at smaller margins.

Rodrik (2006a, p.5-6) does an excellent job outlining the theoretical reasons for this:

> One of the insights of *Learning from Reform* is that the conventional package of reforms was too obsessed with deadweight loss triangles and reaping the efficiency gains from eliminating them, and did not pay enough attention to stimulating the dynamic forces that lie behind the growth process. Seeking efficiency gains does not amount to a growth strategy. Although the report does not quite put it in this way, what I think the authors have in mind is that market or government failures that affect accumulation or productivity change are much more costly, and hence more deserving of policy attention, than distortions that simply affect static resource allocation. They may also be harder to identify. Focusing on the latter instead of the former results in small benefits, and could even turn out to be counterproductive when policy makers face a political budget constraint (more reform in one area means less reform in another).

> A second conclusion is that the broad *objectives* of economic reform—namely market-oriented incentives, macroeconomic stability, and outward orientation— do not translate into unique set of policy actions.

The bottom line I think is this: institutional quality (the "dynamic forces that lie behind the growth process") matter much more for growth than macroeconomic policy reforms that only effect the overall level of national production at the margin.

The optimal policy path of any individual country is highly dependent on the current set of circumstances and constraints faced by the specific country in question. "Cookie cutter" approaches to policy advice from the outside will not work as they do not have the requisite level of localized knowledge necessary to create success because economic circumstances are specific and require unique solutions.

Even when donor-driven policy changes are successfully implemented, these reforms often fail to meet expectations because they are normally contingent on complementary reforms in multiple other sectors. There are often too many potential bottlenecks to cure and too little information available on the part of the donor to identify these constraints to make individual reforms meaningful.

Related to this, another ignored factor in the disappointing results of the Washington Consensus was political economy and the origin of bad policy. Acemoglu, Johnson, Querubin, and Robinson (2008, p.1-3) sum the situation up well:

In most instances, bad policies are adopted because of political economy constraints and distorted incentives facing politicians in many societies with poor general institutions, such as weak checks and balances and lack of political accountability. These institutional weaknesses make it possible for certain constituencies to demand policies that are costly for the society at large and make it beneficial or convenient for politicians to pursue such distortionary policies to satisfy these constituencies or to enrich themselves. The success and effectiveness of policy reform have to be understood in the context of these existing political economy problems.

In this light, the ineffectiveness of many sensible reforms is not surprising. Few people would expect privatisation, financial liberalisation or Central Bank independence to miraculously transform the economy and jumpstart growth in Zimbabwe as long as Robert Mugabe is in power or in Sudan as long as Omar al-Bashir's kleptocratic and genocidal regime remains in place…

… To start with, there will be strong political resistance against reforms from the constituencies initially benefiting from the distortions. These can often negate the potentially beneficial effects of reforms. The extent to which these constituencies can achieve their aims despite reform will depend not only on the nature of policy reform but also on political institutions. When these institutions are weak and fail

to place checks on politicians and their interactions with politically powerful constituencies, reforms will be undermined and generally ineffective.

… This leads to a possible *seesaw effect*: reform in one dimension of policy against the background of powerful and largely unchanged political demands can lead to more intensive use of other distortionary instruments to satisfy the same politically powerful constituencies. For example, when politicians are unable to use monetary policy or cheap loans from the central bank to favoured business and regional interests, they may use more fiscal transfers to satisfy politically powerful constituencies.

The most significant prescription the lessons from the Washington Consensus experiment offer donors is humility. As Easterly (2006) points out, the large "planning" type programs offered by donors assumes way too much information. In contrast to this view are those that continue to support the "financing gap" model. Rodrik (2006a, p.16) notes that, "The U.N. Millennium Project is based on the view that we basically know enough to mount a bold, ambitious, and costly effort to eradicate world poverty. We have successfully identified all the margins that matter, and we better move on all of them simultaneously." In his view, it is just this type of thinking that has created a consensus that the Washington Consensus achieved less than what was expected.

Even though "Washington Consensus" is now largely used in a pejorative sense in the donor community, the promotion of economic liberalization was certainly not all bad. In Williamson's own words[28]:

> The results have been disappointing, to say the least, particularly in terms of growth, employment, and poverty reduction. Should we conclude from this that the Washington Consensus failed?

> …None of (the major criticisms) argues for abandoning what I meant by the Washington Consensus. It doesn't argue for returning to the high inflation of yesteryear. Nor for giving socialism another chance; some want to revive industrial policy, which does not strike me as a promising idea, but is nonetheless a long way from ubiquitous state intervention. Nor for closing economies again. Maybe it would be nice to go back to closed capital accounts, if we could make exchange controls work, but I do not detect a groundswell of support for abandoning export promotion in favor of a new wave of import substitution. Critics criticize, quite understandably, the hypocrisy of Western governments that urge liberalization on developing countries while maintaining trade restrictions on the specific commodities that developing countries are in a position to export to them, or that have pushed intellectual property protection into the WTO. But

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[28] Speech delivered to the Center for Strategic & International Studies, November 6, 2002, Washington, DC. Transcript available here: http://www.iie.com/publications/papers/paper.cfm?ResearchID=488

endorsing those criticisms does not mean returning to the global apartheid of the

days prior to the Washington Consensus.[29]

Indeed, while Washington Consensus-type reforms may not have been sufficient for increased growth as had been hoped, there is still broad agreement that they were successful in popularizing some basic necessary policy conditions that are supportive of growth.

<center>*Problems with selectivity*</center>

Given that it is difficult to condition aid on economic reforms due to multiple commitment problems and that it is difficult for donors to know how to structure reforms in order to trigger growth due to informational problems, yet another new model was needed. In a highly influential article, Burnside and Dollar (2000) found that aid can in fact promote economic growth, but that this was conditional on *preexisting* good policy and institutional environments in the recipient country. That is, when ODA is targeted toward nations that already have "good fiscal, monetary, and trade policies" in place, they argued, there is evidence of a significant positive impact on economic growth. Conversely, in more corrupt settings, ODA's impact was found to be zero or negative. So, rather than try to condition aid on individual policy reforms of questionable value, donors should simply allocate resources on the basis of the existing policy environment.

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[29] Speech delivered at the Center for Strategic & International Studies Washington, DC, November 6, 2002

This movement was another step in the right direction because donors finally began to focus their attention on rewarding measurable outcomes rather than inputs and outputs. It soon launched huge new policy initiatives, the most notable being the United States' Millennium Challenge Corporation (MCC) which was created in 2004 to focus aid on countries that "rule justly, invest in their people, and encourage economic freedom." The MCC echoes Burnside and Dollar when it finds that "Aid is most effective when it reinforces sound political, economic and social policies - which are key to encouraging the inflows of private capital and increased trade - the real engines of economic growth."[30]

The MCC requires low and lower middle income countries to achieve a specified level of policy and institutional performance in order to qualify for disbursements.   To do this they use 17 (largely outcome based) indicators developed by third parties such as the World Bank and Freedom House. The MCC "considers whether countries perform above the median in its income peer group (Low Income and Lower Middle Income) on at least half of the indicators in each of the three policy categories and above the median on the Corruption indicator. A country may be determined ineligible if it performs substantially below average on any indicator (i.e. the bottom 25th percentile) and has not taken appropriate measures to address the shortcoming."[31]

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[30] MCC website, http://www.mca.gov/about/index.php
[31] http://www.mcc.gov/documents/mcc-fy08-guidetoindicatorsandtheselectionprocess.pdf

Even when eligibility "thresholds" are met, "compact" awards are discretionary and are largely contingent on political and budgetary realities. If the MCC commits to a compact, such awards are "one time" in nature, meaning that a country is unlikely to receive multiple compacts on a continuing basis. However, if a nation backslides during the disbursement of the award, the MCC has the right to suspend the compact, and has done so in the past.[32] The awards do not flow directly into the coffers of government through a cash transfer or budget support. Rather, awards are given as an aid package that mainly consists of traditional input subsidies as discussed in Chapter II of this dissertation. The compacts are thus specifically targeted at given sectors and constitute individual projects (mainly infrastructure and capacity building) that are requested by the recipient country and implemented largely by the donor (in this case, the U.S. government).

The general theory behind the MCC, that traditional aid is only effective in good policy environments and that levels of institutional outcomes should influence levels of aid, also underlies the World Bank's IDA Resource Allocation Index (IRAI). The IRAI allocates concessional aid given to low income countries under the International Development Association (IDA) based on Country Policy and Institutional Assessment (CPIA) scores. According to their website[33], CPIA scores "measure the extent to which a country's policy and institutional framework supports sustainable growth and poverty reduction,

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[32] Both the Yemen and Ghana compacts have been held up over political disputes that arose following the initial award.
[33] http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/IDA/0,,contentMDK:20052347~menu PK:2607525~pagePK:51236175~piPK:437394~theSitePK:73154,00.html

and consequently the effective use of development assistance." The result of the CPIA is an IDA country performance rating (CPR). "Use of the CPR ensures that good performers receive, in per capita terms, a higher IDA allocation —i.e., allocations are performance based. A country's overall score is the main element of the CPR."

The main theory behind these initiatives is that good policy environments are necessary for aid to meet its objective of facilitating economic growth. But despite promising initial results, subsequent research found the Burnside and Dollar model lacking in robustness, including Easterly, Levine, and Roodman, (2003), Dalgaard, Hansen and Tarp (2004), Roodman (2004), and Rajan and Subramanian (2005, 2007). When more recent or different periods of data were employed, or different specifications of the model were used, they found the significance of the model no longer held.

On a theoretical level as well, the Burnside and Dollar model appears lacking. If, even as Burnside and Dollar (2004, p.3) agree, "most development economists believe that underlying economic institutions and policies are the main determinants of long-term growth," the selectivity model provides little or no theoretical justification of why ODA should be expected to improve the institutions of selected countries *even further*. That is, if improvements in institutions are the main drivers of growth, it is unclear why aid would suddenly begin to have the effect of improving them beyond some level of development.

In a subsequent essay, Burnside and Dollar (2004, pp.19-20) attempt to argue in favor of their findings by pointing out that "There is a fairly broad agreement that the Marshall Plan accelerated European growth after World War II: this is the ideal example of the model we have in mind…" But Marshall Plan resources can only be said to have helped accelerate the level of income in these post-conflict nations to *previously attained levels,* holding institutions constant. Because the existing "stock of institutional quality" (as measured by human capital and know-how) was largely unchanged (strongly path-dependent), the aid was probably able to help the recipients recover quicker than they would have otherwise because the marginal product of capital was exceptionally high. It is less clear if not downright doubtful, however, that providing large amounts of aid to Germany today would have the same effect, even though Germany probably has better functioning institutions now than it did in the 1940s. The reason, again, is that aid in its conventional form does not facilitate institutional development, which we can think of as the "speed limit" for growth in income.

Even before the obvious examples of Japan and West Germany were around, John Stuart Mill (1848, pp.82-83) remarked on "the great rapidity with which countries recover from a state of devastation." Mill concluded that countries "with the same skill and knowledge which they had before…have nearly all the requisites for their former amount of production." What Mill is suggesting here is that human capital, and ultimately institutions, provides a baseline for development. The quick and dirty lesson that we can draw from this is *not* that aid tends to work well in good institutional environments ala

Burnside and Dollar, but rather that aid can help expedite a nation's process of recovering to formally achieved income levels following war or natural disaster.

Not only may the relationship between institutional environments and ODA effects on growth be spurious, it is also unclear that donors have in fact committed grater levels of aid to better governed countries. According to Alesina and Weder (2002), based on most measures of corruption, *the more corrupt the government is, the more aid it actually receives.* On top of that, they found no evidence that less corrupt governments received more aid or that an increase in foreign aid reduces corruption. Even after a considerably sized literature had appeared on the importance of governance, this result was found to be just as true in 2002 as it was in 1996.

According to Easterly (2003, p.38), "The fundamental problem remains that both the success of past aid to follow conditions and the failure of past aid to follow conditions are both taken as justifications for future aid." That is, despite attempts at greater "selectivity" there is no easy way to overcome credibility problems associated with enforcing conditions. Ultimately, according to Thomas (2004, p.490), "Conditionality and selectivity are not alternatives. Both depend on the ability of the Bank to follow the rules it sets and to subordinate its interest in lending to an interest in development. Selectivity does not solve the problem raised by the enforcement critics."

However, Burnside and Dollar (2004, p.1) stand by their original work and follow up with additional evidence to support their major hypothesis.   Contrary to Alesina and Weder, they find evidence that "in the 1990s the allocation of aid to low income countries favored ones with better institutional quality," finding strong support for the hypothesis that the IRAI Index has been effective at limiting IDA money to those countries with relatively better institutional scores.   They also find further evidence that aid works well in better policy environments but even they themselves "cannot completely reject the hypothesis that aid never works."

The level of ODA committed to a given developing country has therefore not been shown to have a significant and causal impact on growth in either good or bad policy environments, contrary to Burnside and Dollar's original work. Given that it is the case that subsidies for both inputs and outputs in both good and bad policy environments have largely not shown to be related to growth for a variety of theoretical reasons, is there any other possible use of foreign aid?

The only possibility left is for ODA to function as an incentive enhancing mechanism for governments to improve outcomes related to institutional quality, despite the fact that ODA may not, in and of itself, improve growth.   This was, in fact, supposed to be part of the underlying logic of the selectivity model and the creation of the MCC.   Indeed, Sautet, Hooks and Rothschild (2005, p.6) suggest that actual MCC aid money "could be far less important than the policy changes countries undertake to qualify for MCA

assistance." Johnson and Zajonc (2006, p.2) were the first to find some real evidence for this incentive effect:

Even though the MCC is still in its infancy, we find substantial evidence that countries improve their indicators because of the MCC. Candidate countries -- countries that are potential recipients of MCC funds -- are more likely to improve their performance on the indicators used by the MCC and display greater absolute increases on these indicators. Overall, candidate countries reform approximately 25 percent more indicators after the creation of the MCC than before it, compared to poor non-candidate countries. On nine of the thirteen indicators for which data is available, candidate countries are more likely to improve their indicators after the MCC was created, controlling for general time trends using poor non-candidate countries. For some indicators the likelihood of reform is substantially higher. Our best estimates suggest that over 25 percent of candidate countries improve their civil liberties, education expenditure, health expenditure, immunization rate, immunization and regulatory quality indicators because of the MCC. But not all of our results are positive. Some estimates of the MCC incentive effect, particularly those that use measures of reform magnitude rather than likelihood, are negative. Nevertheless, these negative estimates generally are smaller and less statistically significant than the positive estimates. The overall results suggest that the MCC incentive effect is real.

Since there is some initial evidence that the incentive effect is real, we need to discover if in fact donors are creating incentives for improved institutions through their aid giving. If Burnside and Dollar (2004) are correct, donors have been doing a better job of rewarding sound institutions recently. The next chapter of this dissertation tests whether changes in ODA have indeed been correlated with changes in good outcomes, a necessary condition for the existence of an incentive effect.

V. Has Foreign Aid Offered Incentives for Improved Institutions?

The previous two chapters reviewed the literature on the direct causal impact of foreign aid on economic growth and found a bleak picture overall. If ODA is to have an indirect incentive effect rather than a direct impact on growth, it must primarily serve to subsidize the creation of sound institutions by political and policy elites. Going back to elementary theory, for any subsidy to work, payments need to be directly tied to the increase in the production of a particular good and need to be made to the producers of that good. In this case, the good is improved institutional and economic outcomes and the producers of this good are poor countries.[34] Therefore, *changes* in ODA rather than *levels* need to be associated with *changes* in institutional and economic outcomes, not *levels* in poor countries.

One of the problems with the now en vogue "selectivity" model is that it often endeavors to allocate ODA to countries that already have relatively good institutions, but it does not systematically reward countries that *improve* their institutional outcomes. This is necessary if foreign aid is to effectively subsidize good outcomes because, as shown above, ODA needs to create compatible incentives between donors and the political elite in poor countries to design unique institutions that facilitate growth. This section of the

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[34] Or, more specifically, the producers are the political elite in poor countries; this point is developed in the following chapter.

dissertation sets out to discover if, over time, *marginal changes* in ODA are related to *marginal changes* in institutional indicators. The empirics in the literature up until this point have exclusively focused on establishing relationships between levels of such variables as ODA, GDP, and institutional indicators. The model presented in this chapter uses the first differences of these variables in order to establish relationships between marginal movements between them.

The questions to be asked are: 1) What is the relationship between movements in GDP and institutional quality?; 2) What is the relationship between movements in GDP and ODA?; and 3) If a country improves its institutional and economic outcomes, how can foreign aid be expected to respond? With respect to the first two questions, the literature indicates that there should only be a very small if not zero relationship between changes in ODA and changes and GDP, but a strong and positive relationship between changes in GDP and changes in institutional outcomes. If recent bilateral donor efforts such as the MCC and multilateral donor efforts such as IRAI are indeed creating incentives to improve institutions, then we should expect to see an increasingly positive relationship between changes in ODA and changes in institutional quality over time.

One problem is that "good outcomes" and to a greater extent, "good institutions" are difficult to measure and picking a well populated indicator that attempts to index a broad array of "good" outcomes for which there is broad agreement is especially difficult. However, three recent and popular indicators of outcomes stand out: the World Bank's

Doing Business rankings and the World Economic Forum's *Global Competitiveness*

rankings for institutional outcomes, and the U.N.'s *Human Development Index* rankings

for economic outcomes.   Each of these data sets captures a satisfying array of relevant

institutional and economic features that add up to something that can well approximate

general institutional quality.

According to their methodology, "The *Doing Business* indicators measure government

regulations and their effect on businesses, especially on small- and medium-size domestic

firms. The *Doing Business* data is based on research of laws and regulations, with input

and verification from more than 3,000 local government officials, lawyers, business

consultants, and other professionals who routinely administer or advise on legal and

regulatory requirements." The database currently tracks ten major institutional indicators

including: the time and cost of starting and closing a business including obtaining

necessary permits and licenses; the ease of hiring and firing workers, registering property

and getting credit; the degree of protection given to investors; and the difficulty of

enforcing contracts, paying taxes and trading across borders. The data normally refer to

each country's most populous city and is updated on a yearly basis.   The individual

indicators in *Doing Business* are ultimately weighted and combined to produce an overall

"country rank" for ease of doing business.

According to the website of the World Economic Forum, "*The Global Competitiveness*

Report series has evolved over the last three decades into the world's most

comprehensive and respected assessment of countries' competitiveness, offering

invaluable insights into the policies, institutions, and factors driving productivity and,

thus, enabling sustained economic growth and long-term prosperity. Besides hard data

from leading international sources, these indicators include the results of the Executive

Opinion Survey carried out by the World Economic Forum annually. The Survey

captures the perceptions of several thousand business leaders across the countries covered

on topics related to national competitiveness...The *Report* contains a detailed profile for

each of the economies featured in the study as well as an extensive section of data tables

with global rankings covering over 100 indicators."[35]

The U.N. produces the *Human Development Index* (HDI) which, according to their

website, is a

> new way of measuring development by combining indicators of life expectancy,
>
> educational attainment and income into a composite human development
>
> index…The educational component of the HDI is comprised of adult literacy rates
>
> and the combined gross enrolment ratio for primary, secondary and tertiary
>
> schooling, weighted to give adult literacy more significance in the statistic… The
>
> life expectancy component of the HDI is calculated using a minimum value for
>
> life expectancy of 25 years and maximum value of 85 years, so the longevity
>
> component for a country where life expectancy is 55 years would be 0.5. For the

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[35] http://www.gcr.weforum.org/

wealth component, the goalpost for minimum income is $100 (PPP) and the maximum is $40,000 (PPP). The HDI uses the logarithm of income, to reflect the diminishing importance of income with increasing GDP. The scores for the three HDI components are then averaged in an overall index."[36]

The HDI is different from the *Doing Business* and *Global Competitiveness* indicators in that the HDI directly measures *economic* outcomes such as GDP per capita, whereas the other two measure *institutional* outcomes that only indirectly measure economic outcomes.

One advantage of these sets of indicators is that they combine data on institutional and economic outcomes from multiple sources and numerically rank countries based on an index, resulting in a broad-based snapshot of what should closely approximate ordinal rankings of outcomes observed. The other advantage of these indicator sets is that they tend to be policy neutral and apolitical. That is, they don't represent an ideological view of the world and don't focus on policy inputs; rather, they focus on indicators that are largely *uncontroversial*, i.e., almost everyone can agree that improving them is a worthy goal. While ideological battles are normally fought over the *size and scope* of government, institutional indicators such as *Doing Business* and the *Global Competitiveness Report* focus on measuring *effective* governance. The HDI, as well,

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[36] http://hdr.undp.org/en/statistics/indices/hdi/

directly measures outcomes for which there is near universal agreement on their desirability.

If these indicators are all measuring something that approximates desirable outcomes, then we should expect all of their country rankings to be highly correlated. Table 1 is a correlation matrix of the most recent scores for all three indices that demonstrates that it is in fact the case that each of these three indices is, in essence, measuring the same thing.

Table 1 - Correlation Matrix of Institutional Indicators

	Doing Business	UN HDI	WEF GCI
Doing Business	..	0.80	0.82
UN HDI	0.80	..	0.85
WEF GCR	0.82	0.85	..

The problem with these indices, however, is that the data is relatively new (the original set of scores were released in 2003 for *Doing Business* and 2004 for the GCI) which will not soon allow a comparison of changes in scores over time. The U.N. HDI dates back to 1975, but was only done once every five years until 2000 when the U.N. began to conduct the report annually. What is needed then is an indicator for these indicators that is a better populated time series.

One of the most commonly used indicators used to measure various aspects of
institutional quality is the International Country Risk Guide (ICRG) scores.[37]   This is the
only measure that has comprehensive annual country data dating back to 1984.
According to their site,[38]

> The *International Country Risk Guide* (*ICRG*) rating comprises 22 variables in
> three subcategories of risk: political, financial, and economic. A separate index is
> created for each of the subcategories. The Political Risk index is based on 100
> points, Financial Risk on 50 points, and Economic Risk on 50 points. The total
> points from the three indices are divided by two to produce the weights for
> inclusion in the composite country risk score. The composite scores, ranging from
> zero to 100, are then broken into categories from Very Low Risk (80 to 100
> points) to Very High Risk (zero to 49.5 points).
>
> The Political Risk Rating includes 12 weighted variables covering both political
> and social attributes. *ICRG* advises users on means of adapting both the data and
> the weights in order to focus the rating on the needs of the particular investing
> firm.

The "political risk" ICRG indicator is defined as "a means of assessing the political
stability of a country on a comparable basis with other countries by assessing risk points
for each of the component factors of government stability, socioeconomic conditions,

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[37] See, for example, Knack and Keefer (1995), Alesina and Weder (2002) and Burnside and Dollar (2004).
[38] http://www.prsgroup.com/ICRG.aspx

investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality." Table 2 performs a simple correlation test between the most recent ICRG political risk scores and the index scores to see if "political risk" would indeed be an appropriate proxy for institutional and economic outcomes. Higher ICRG scores indicate lower risks to investors while a lower *Doing Business, Human Development Index, and Global Competitiveness* rank indicates relative advantage, so we should expect the scores to be negatively correlated if they are good proxies for one another.

As can be seen, the indicators were strongly correlated to the ICRG political risk indicator, having a correlation coefficient of -0.75 or stronger, indicating a very robust relationship. The ICRG "Political Risk" scores were therefore chosen as an appropriate indicator of institutional quality for the econometric model developed below. The current data set covers 86 developing countries (or countries that receive ODA). [39]

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[39] As of December 2005, the countries with the lowest political risk ratings were Finland (93.5), Luxembourg (93), Iceland (91), and Ireland (90), while the countries with highest political risks were Somalia (26), Iraq (35.5), Congo, DR (36.5), Haiti (38) and Cote D'Ivoire (38). (Côte D'Ivoire)

Table 2 - Correlation Matrix of ICRG Indicators

ICRG Variable	Correlation Coefficient with *Doing Business* Rank	Correlation Coefficient with *Global Competitiveness* Rank	Correlation Coefficient with *HDI* Rank
Political Risk	-0.77	-0.76	-0.81

My specification uses panel data to test the relationship between percent changes in average ODA as reported by the OECD/DAC[40], percent changes in the institutional indicator scores, and percent changes in real GDP per capita over a pair of two different five-year periods.[41] ODA *commitments* in constant (2004) US$ millions, rather than disbursements, were used because the data on disbursements are considerably less accurate according to the OECD. Changes population, government consumption, foreign direct investment (FDI), and external debt are also controlled for in this chapter (See Table 3 for variable descriptions).[42]

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[40] Organization for Economic Cooperation and Development/Development Assistance Committee. See http://www.oecd.org/department/0,3355,en_2649_34447_1_1_1_1_1,00.html for information on aid statistics.

[41] The periods tested are avg.(1996-2000) to avg.(2001-2005); and from avg.(1991-1995) to avg. (1996-2000). Both the full sample and the individual periods are tested.

[42] These controls were chosen for their availability (how well-populated the data set was) and perceived relevance.

In the first model, first differences in political risk scores and ODA are used as independent variables to explain GDP growth.

Formally, the main equations are:

%ΔGDP [from avg.(1996-2000) to avg.(2001-2005); and from avg.(1991-1995) to avg. (1996-2000)] = constant + β%ΔODA [from period averages] + β%Δ ICRG Pol.risk [from period averages] + β%Δ(other independent variables) + ε   **(1)**

These equations are run contemporaneously and, separately, with one year lags, since it is intuitive that changes in the dependent variable may respond to changes in the independent variables only with a lag if, for example, it takes some time for ODA to translate into growth or increases in political risk to translate into real effects on income.[43] The tests are first run as bivariate regressions between first differences in GDP, political risk, and ODA to get a simple look at the potential relationship.

Since the focus of this dissertation is on ODA that is designed to stimulate economic growth, only aid intended for economic and social sectors along with technical assistance is included while ODA for humanitarian and reconstruction assistance are excluded from

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[43] Period averages were chosen due to the fact that ODA tends to be highly variable year on year. The use of period averages smoothes most of that high variance, but any observations where ODA changed by greater than 500% over the period in question were dropped in order to eliminate extreme outliers. Political risk scores, on the other hand, tend to change only slowly over time, so period averages allow for non-marginal changes in these scores.

the data. [44] All too often, researchers lump ODA into one broad category when

attempting to measure its effect on economic growth, which negatively biases the

estimation because a significant portion of the aid was never intended to directly affect

the economy. This specification avoids this pitfall.[45]

Results of this estimation are reported in Tables 4, 5, and 6.[46]

Table 3 - Variable Descriptions

Variable	Description	Source
% Change in ODA	The percentage change in "growth targeted" ODA commitments (total, bilateral and multilateral) in US$millions, using five three year period averages.	OECD, Development Statistics Online
% Change in country political risk (institutional quality indicator)	The change in the political risk score using three and five year period averages.	ICRG
% change in GDP per capita	The change in real GDP per capita over the period	World Bank, WDI
% change in Population	The change in population over the period	Word Bank, WDI
% change in government consumption	The change in central government consumption over the period	World Bank, WDI
% change in external debt	The change in external debt over the period	World Bank, WDI
% change in FDI	The change in foreign direct investment over the period	World Bank, WDI

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[44] In official OECD terms, the data is limited to: Section V: Total Sector Allocable; Section VI.1: General Budget Support; and Section VII: Action Relating to Debt.

[45] If institutions experience a sudden negative shock, it is likely that per capita incomes would as well and the international community, in turn, could be expected to respond with increased levels of ODA. This phenomenon would influence a negative relationship between ODA and institutional quality. By limiting the data to economic and social infrastructure aid, general budget support and debt relief, as well as controlling for changes in per capita GDP over the period in question, this type of relationship should be lessened, but not completely eliminated.

[46] Only changes in ODA and political risk are reported since other independent variables were not significant.

Table 4 – ODA Effects on Economic Growth, bivariate

Dependent Variable: %Change in real GDP per capita			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 161** $R^2 = 0.0255$ **Adjust $R^2 = 0.0194$** **F = 4.16**	**n= 81** $R^2 = 0.0384$ **Adjust $R^2 = 0.0262$** **F = 3.15**	**N = 80** $R^2 = 0.0104$ **Adjust $R^2 = -0.0023$** **F = 0.82**
%Chg ODA	0.03* (0.015)	0.034+ (0.019)	0.021 (0.09)
1 YEAR LAG	**n= 160** $R^2 = 0.0237$ **Adjust $R^2 = 0.0176$** **F = 3.84**	**n= 80** $R^2 = 0.0234$ **Adjust $R^2 = 0.0109$** **F = 1.87**	**n= 80** $R^2 = 0.0223$ **Adjust $R^2 = 0.0097$** **F = 1.78**
%Chg ODA	0.024+ (0.012)	0.025 (0.018)	0.023 (0.017)

**significant at the 1% level
* significant at the 5% level
+significant at the 10% level

Table 5 –Political Risk Effects on Economic Growth, bivariate

Dependent Variable: %Change in real GDP per capita			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 158** $R^2 = 0.1084$ **Adjust $R^2 = 0.1027$** **F = 18.97**	**n= 82** $R^2 = 0.1383$ **Adjust $R^2 = 0.1275$** **F = 12.82**	**N = 76** $R^2 = 0.1446$ **Adjust $R^2 = 0.1330$** **F = 12.51**
%Chg Political Risk	0.29** (0.07)	0.49** (0.14)	0.27** (0.08)
1 YEAR LAG	**n= 158** $R^2 = 0.0852$ **Adjust $R^2 = 0.0794$** **F = 14.54**	**n= 82** $R^2 = 0.0819$ **Adjust $R^2 = 0.0696$** **F = 7.05**	**n= 76** $R^2 = 0.1639$ **Adjust $R^2 = 0.1526$** **F = 14.50**
%Chg Political Risk	0.24** (0.06)	0.40** (0.15)	0.27** (0.07)

Table 6 – ODA and Political Risk Effects on Economic Growth, multivariate

Dependent Variable: %Change in real GDP per capita			
	Full Period	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	n= 158 $R^2 = 0.1040$ Adjust $R^2 = 0.0925$ F = 9.00	n= 81 $R^2 = 0.1382$ Adjust $R^2 = 0.1161$ F = 6.25	n= 77 $R^2 = 0.1251$ Adjust $R^2 = 0.1015$ F = 5.29
%Chg ODA	0.019 (0.015)	-0.02 (0.022)	0.014 (0.025)
%Chg political risk	0.26** (0.07)	0.50** (0.17)	0.26** (0.083)
1 YEAR LAG	n= 157 $R^2 = 0.0924$ Adjust $R^2 = 0.0824$ F = 8.00	n= 80 $R^2 = 0.0761$ Adjust $R^2 = 0.0521$ F = 3.17	n= 77 $R^2 = 0.1611$ Adjust $R^2 = 0.1384$ F = 7.11
%Chg ODA	0.022 (0.013)	0.009 (0.02)	0.022 (0.021)
%Chg political risk	0.22** (0.06)	0.35* (0.17)	0.27** (0.08)

As can be seen, the bivariate regression in Table 4 indicates a possible weakly significant and very small effect of ODA increases on real growth using both periods together and in the most recent period. However, when changes in political risk are controlled for in

Table 6, changes in ODA lose all significance and the coefficients drop to zero in all equations.[47] Political risk is highly significant in all estimations in both the bivariate and multivariate regressions and suggests that, on average, a 1% improvement in institutions is associated with a 0.20% to a 0.50% increase in real GDP per capita over the period averages in question. The R^2 suggests that changes in political risk can account for about 10%-12% of the variation of changes in real GDP per capita over the periods in question, which is considerably high since first difference rather than level variables are used.

This provides some further evidence that ODA has not been directly effective at causing growth as the literature has confirmed, neither in the earlier period or the most recent period in this model, and that political risk (an indicator of overall institutional quality) remains fundamentally important for growth.   It also provides further evidence that economic growth and institutional quality are strongly correlated, with the direction of causality most likely running in both directions.

In the next step, the relationship between ODA and political risk is examined. If donors are creating political incentives to generate good institutional outcomes, then we should expect to see a positive relationship between changes in ODA and changes in political risk. If the opposite is true, then donors are likely creating a disincentive to reform. Bivariate and multivariate results are presented in Tables 7 and 8, respectively.

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[47] Other independent variables were not significant and were thus not reported in Table 6.

Table 7 – ODA and Changes in Political Risk, bivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00))**
NO LAG	n= 163 $R^2 = 0.0409$ Adjust $R^2 = 0.0349$ F = 6.87	n= 84 $R^2 = 0.2729$ Adjust $R^2 = 0.2641$ F = 30.78	n= 79 $R^2 = 0.0110$ Adjust $R^2 = -0.0019$ F = 0.85
%Chg Political Risk	0.95** (0.36)	4.00 ** (0.45)	0.35 (0.38)
1 YEAR LAG	n= 163 $R^2 = 0.0207$ Adjust $R^2 = 0.0147$ F = 3.41	n= 84 $R^2 = 0.2179$ Adjust $R^2 = 0.2084$ F = 22.85	n= 79 $R^2 = 0.0120$ Adjust $R^2 = -0.0001$ F = 0.93
%Chg Political Risk	0.63+ (0.34)	3.82** (0.47)	0.34 (0.35)
2 YEAR LAG	n= 158 $R^2 = 0.0201$ Adjust $R^2 = -0.0170$ F = 1.06	n= 79 $R^2 = 0.0995$ Adjust $R^2 = 0.0878$ F = 8.51	n= 79 $R^2 = 0.0138$ Adjust $R^2 = 0.001$ F = 1.08
%Chg Political Risk	0.31 (0.30)	2.45** (0.84)	0.32 (0.31)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

Table 8 – ODA and Changes in Political Risk, multivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	n= 146 $R^2 = 0.0897$ Adjust $R^2 = 0.0572$	n= 74 $R^2 = 0.3333$ Adjust $R^2 = 0.2843$	n= 72 $R^2 = 0.0841$ Adjust $R^2 = 0.0147$

	F = 2.76	F = 6.80	F = 1.21
%Chg Political Risk	1.16** (0.39)	4.48* * (0.83)	0.68+ (0.39)
%Chg GDP per capita	0.34 (0.45)	-0.27 (0.63)	0.23 (0.54)
1 YEAR LAG	n= 145 R^2 = 0.0591 Adjust R^2 = 0.0253 F = 1.75	n= 80 R^2 = 0.2493 Adjust R^2 = 0.1941 F = 4.52	n= 57 R^2 = 0.0627 Adjust R^2 = -0.0094 F = 0.87
%Chg Political Risk	0.79* (0.35)	3.63** (0.90)	0.64+ (0.34)
%Chg GDP per capita	0.26 (0.48)	0.25 (0.7)	-0.21 (0.56)
2 YEAR LAG	n= 138 R^2 = 0.0201 Adjust R^2 = -0.0170 F = 0.54	n= 69 R^2 = 0.1127 Adjust R^2 = 0.0423 F = 1.60	n= 69 R^2 = 0.0703 Adjust R^2 = -0.0035 F = 0.95
%Chg Political Risk	0.40 (0.32)	1.95* (0.99)	0.39 (0.31)
%Chg GDP per capita	0.19 (0.586)	0.97 (0.94)	-0.59 (0.49)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

Using the entire sample (both periods), it can be seen from Tables 7 and 8 that the model does not do a particularly good job at accounting for much of the variation in changes in ODA. However, our main variable of interest, percent changes in political risk scores, is highly significant when run with no lags on the independent variables. Other variables were not significant.   The sign of the political risk indicator is positive, suggesting that,

over the period averages, increases in political risk scores (or, conversely, institutional improvements) were associated with *increases* in ODA.   This effect remains significant at the 5% level when the independent variables are lagged one year, and the two year lagged indicator loses all significance.

Separating the two time periods, the results in the most recent period produce a relatively well fitting equation and one that indicates that ODA responds both positively and strongly to improvements in political risk (see Figure 2).   From Table 8, in the equation with no lags in the most recent comparison of five-year period averages, *a one percent improvement in political risk scores was associated with a 4.5% increase in ODA*. Such an elastic response by ODA to institutional improvements could indeed provide a significant incentive effect to political elites. In the earlier period however (avg. 1991-1996 to avg. 1997-2001), the relationship appears to break down almost completely. The coefficient on political risk is still positive and significant at the 10% level in the multivariate regression, contemporaneously and with a one-year lag, but the overall fit is much weaker.   In all of the Table 7 and 8 equations, the overall fit of the model deteriorates as the lags placed on the right hand side variables increase.[48]

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[48] This trend holds for even longer lags of three, four and five years.   The use of five year period averages appears to render lag time unnecessary.

It is important to note that since GDP per capita and political risk is correlated, there is a

potential multicoliniarity problem in this particular specification.[49] However, all

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[49] Since the independent variables, changes in political risk and changes in GDP, are both potentially endogenous, a two stage regression is used whereby political risk is estimated in the first equation. Formally, the equations are

$\%\Delta$Political risk = constant1 + $\beta\%\Delta$GDP + $\beta\%\Delta$inflation + $\beta\%\Delta$FDI + $\beta\%\Delta$government debt + $\beta\%\Delta$government consumption + ε **(1)**

$\%\Delta$ODA = constant2 + $\%\Delta$political risk* + ε **(2)**

where $\%\Delta$ political risk* is the estimated value from the first equation. We have already seen that movements in real GDP per capita do a fairly good job of explaining changes in political risk. Added to the equation are variables with well populated time series and likely components of political risk. These include inflation (high rates of inflation are sure sign of bad policies and political institutions), FDI (private foreign direct investors can be expected to react fairly quickly to changes in political risk), and government debt and consumption (significant increases in either should impact political risks).   Results for the full sample and both separate five-year period averages are reported below:

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00))**
NO LAG	n= 107 R^2 = 0.0000 Adjust R^2 = 0.000 F = 0.24	n= 55 R^2 = 0.3379 Adjust R^2 = 0.3254 F = 5.14	n= 60 R^2 = 0.1276 Adjust R^2 = 0.1125 F = 2.74
*%Chg Political Risk**	-0.55 (1.11)	4.56 * (2.01)	1.05 (0.63)
1 YEAR LAG	n= 105 R^2 = 0.000 Adjust R^2 = 0.000 F = 1.81	n= 84 R^2 = 0.2179 Adjust R^2 = 0.2084 F = 22.85	n= 57 R^2 = 0.0738 Adjust R^2 = 0.0569 F = 1.91
*%Chg Political Risk**	-2.42 (1.8)	8.19** (2.85)	1.23 (0.89)
2 YEAR LAG	n= 95 R^2 = 0.000 Adjust R^2 = 0.000 F = 1.36	n= 51 R^2 = 0.2278 Adjust R^2 = 0.2120 F = 8.71	n= 53 R^2 = 0.0518 Adjust R^2 = 0.0332 F = 7.51
*%Chg Political Risk**	-5.53 (4.74)	7.45** (2.52)	1.46 (2.31)

variables had a very low variance inflation factor (VIF), indicating no evidence of

multicoliniarity.[50]   It is also important to note that the bivariate regressions gave roughly

the same coefficient and significance on changes in political risk as a predictor of

changes in ODA.[51]

This model suggests that foreign aid may indeed be becoming more effective at

rewarding institutional improvements in just the last few years, supporting the claims of

Burnside and Dollar (2004).

As can be seen, the result confirm a likely relationship between changes in ODA and political risk in the most recent period and offer little evidence of anything for other periods. Use of the two-stage regression dramatically increases the size of the standard errors in the models, and was therefore not used as the estimation instrument of choice. One difficulty with using first-difference variables with a relatively small sample size is that significant relationships are harder to generate than when using levels. This is especially true when using two-stage instrumental regressions.

[50] The mean VIF was 1.2. The VIF for political risk was 1.21 and 1.19 for GDP.

[51] Performing a Cook-Weisberg test for heteroscedasticity indicates that we can reject the hypothesis that the residuals in the equations have constant variance. However, the distribution of the residuals as seen from a scatter plot did not seem overly heteroscedastic, just skewed slightly to the left.

coef = 4.4820493, se = .83252376, t = 5.38
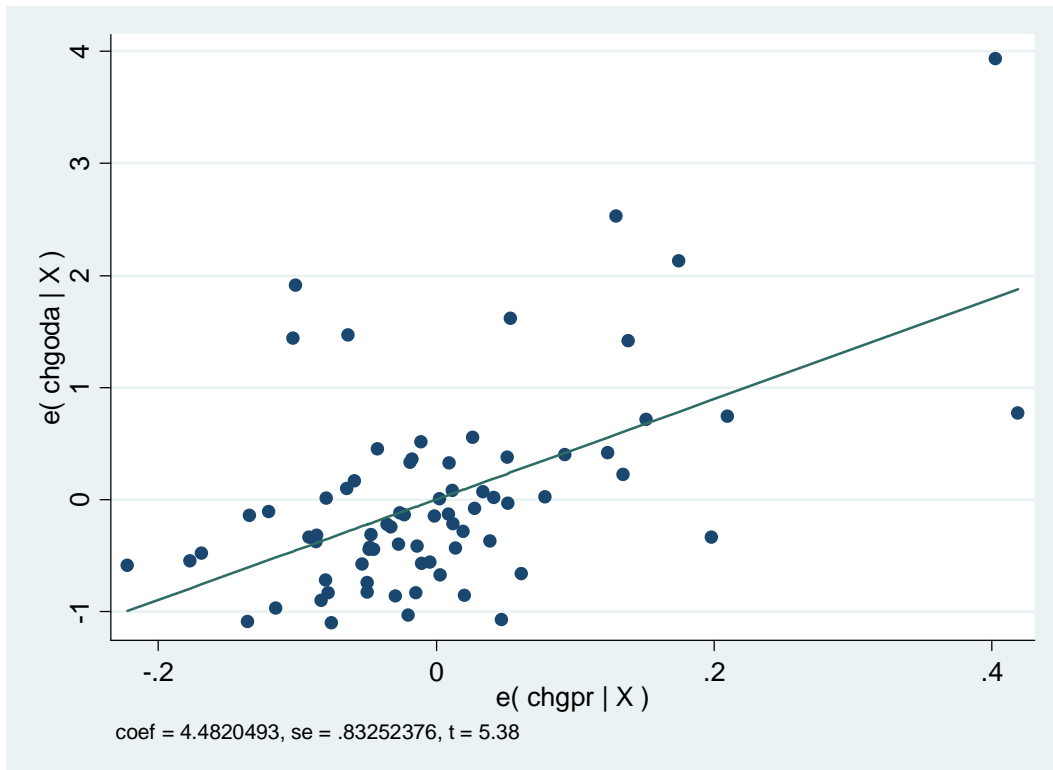
Figure 2 – Percent Changes in Political Risk Scores (x-Axis) and Percent Changes in ODA Between the Period Averages 1996-2000 and 2001-2005.

As a robustness check, changes in the variables over five separate pairs of three-year periods[52] rather than two pairs of five-year periods were run. Results are reported in Tables 8 and 9.

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[52] Avg.(2003-2005) vs. avg.(2000-2002); avg.(2001-2003) vs. avg.(1998-2000); avg.(1999-2001) vs. avg.(1996-1998); avg.(1997-1999) vs. avg.(1994-1996); and avg.(1995-1997) vs. avg.(1992-1994).

Table 9 - ODA and Changes in Political Risk, Three-Year Period Averages,

bivariate

Dependent Variable: %Change ODA						
	All Periods	**From (00-02) to (03-05)**	**From (98-00) to (01-03)**	**From (96-98) to (99-01)**	**From (94-96) to (97-99)**	**From (92-94) to (95-97)**
NO LAG	n = 401 $R^2 = 0.0077$ Adjust R^2 = 0.0052 F = 3.09	n = 84 $R^2 = 0.0266$ Adjust R^2 = 0.0148 F = 2.24	n = 85 $R^2 = 0.0662$ Adjust R^2 = 0.0550 F = 5.89	n = 76 $R^2 = 0.0497$ Adjust R^2 = 0.0568 F = 3.87	n = 76 $R^2 = 0.0086$ Adjust R^2 = -0.0048 F = 0.64	n = 80 $R^2 = 0.0065$ Adjust R^2 = -0.0063 F = 0.51
%Chg Political Risk	0.44+ (0.25)	1.35 (0.90)	1.57* (0.65)	1.86+ (0.95)	0.49 (0.61)	0.30 (0.42)
1 YEAR LAG	n= 401 $R^2 = 0.0031$ Adjust R^2 = 0.0006 F = 1.23	n= 84 $R^2 = 0.0144$ Adjust R^2 = 0.0024 F = 1.20	n= 85 $R^2 = 0.0321$ Adjust R^2 = 0.0204 F = 2.75	n= 76 $R^2 = 0.0285$ Adjust R^2 = 0.0154 F = 2.17	n= 76 $R^2 = 0.058$ Adjust R^2 = -0.0076 F = 0.44	n = 80 $R^2 = 0.0118$ Adjust R^2 = -0.0008 F = 0.93
%Chg Political Risk	0.22 (0.20)	0.71 (0.65)	1.52 (0.91)	1.12 (0.76)	0.3 (0.45)	0.3 (0.31)
2 YEAR LAG	n= 396 $R^2 = 0.0079$ Adjust R^2 = -0.0054 F = 3.15	n= 84 $R^2 = 0.0254$ Adjust R^2 = 0.0135 F = 2.14	n= 80 $R^2 = 0.0013$ Adjust R^2 = -0.0115 F = 0.10	n= 76 $R^2 = 0.0097$ Adjust R^2 = -0.0037 F = 0.73	n= 76 $R^2 = 0.0030$ Adjust R^2 = -0.0104 F = 0.23	n = 80 $R^2 = 0.0926$ Adjust R^2 = 0.0810 F = 7.96
%Chg Political Risk	0.36+ (0.20)	0.90 (0.61)	-0.27 (0.85)	0.72 (0.85)	0.16 (0.21)	0.98** (0.35)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

Table 10 – ODA and Changes in Political Risk, Three-Year Period Averages,

multivariate

Dependent Variable: %Change ODA						
	All Periods	**From (00-02) to (03-05)**	**From (98-00) to (01-03)**	**From (96-98) to (99-01)**	**From (94-96) to (97-99)**	**From (92-94) to (95-97)**
NO LAG	n = 343 $R^2 = 0.0263$ Adjust R^2 = 0.0119 F = 1.82	n = 60 $R^2 = 0.1376$ Adjust R^2 = 0.0577 F = 1.72	n = 81 $R^2 = 0.0878$ Adjust R^2 = 0.0270 F = 1.44	n = 67 $R^2 = 0.1016$ Adjust R^2 = 0.0280 F = 1.38	n = 73 $R^2 = 0.0202$ Adjust R^2 = -0.0529 F = 0.28	n = 62 $R^2 = 0.0968$ Adjust R^2 = 0.0161 F = 1.20
%Chg Political Risk	0.83** (0.3)	2.44* (1.16)	2.06* (0.8)	2.46* (1.09)	0.45 (0.66)	1.09* (0.46)
%Chg GDP per capita	-0.16 (0.33)	-1.45 (0.99)	-0.84 (1.00)	-0.37 (0.9)	0.16 (0.49)	0.35 (0.83)
1 YEAR LAG	n= 340 $R^2 = 0.0148$ Adjust R^2 = 0.0001 F = 1.00	n= 60 $R^2 = 0.0646$ Adjust R^2 = -0.0221 F = 0.75	n= 81 $R^2 = 0.0446$ Adjust R^2 = -0.0191 F = 0.70	n= 67 $R^2 = 0.1106$ Adjust R^2 = 0.0377 F = 1.52	n = 73 $R^2 = 0.0182$ Adjust R^2 = -0.055 F = 0.25	n = 59 $R^2 = 0.0839$ Adjust R^2 = -0.0025 F = 0.97
%Chg Political Risk	0.46+ (0.26)	1.1 (0.98)	1.65+ (1.01)	1.97** (0.9)	0.48 (0.45)	0.76+ (0.42)
%Chg GDP per capita	-0.25 (0.35)	-1.09 (1.23)	-0.29 (0.97)	-0.63 (0.7)	-0.31 (0.72)	-0.42 (0.72)
2 YEAR LAG	n= 331 $R^2 = 0.0149$ Adjust R^2 = -0.0002 F = 0.98	n= 59 $R^2 = 0.0312$ Adjust R^2 = -0.0602 F = 0.34	n= 76 $R^2 = 0.0318$ Adjust R^2 = -0.0373 F = 0.46	n= 66 $R^2 = 0.1003$ Adjust R^2 = 0.0253 F = 1.34	n = 73 $R^2 = 0.0151$ Adjust R^2 = -0.0584 F = 0.21	n = 57 $R^2 = 0.0885$ Adjust R^2 = -0.0009 F = 0.99
%Chg Political Risk	0.11 (0.23)	0.48 (0.89)	-0.24 (0.9)	1.48 (1.01)	0.26 (0.33)	0.47 (0.39)
%Chg GDP per capita	-0.25 (0.32)	-0.11 (1.43)	-0.01 (0.85)	-0.84 (0.67)	-0.29 (0.77)	-1.09 (0.66)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

Per the results, it appears this data set also confirms that there is a likely relationship between changes in ODA and changes in political risk, with the political risk variable entering the contemporaneous multivariate equation in Table 10 showing statistical significance in all but one (an earlier) sub-period, and always with a positive sign.[53] Note that the size of the coefficient on the political risk scores is considerably larger in the latest three periods compared to the earliest two periods, also suggesting an improved tendency for ODA to reward institutional improvements. Using the three year periods, the elasticity of ODA with respect to institutional improvements shows up to be smaller than when using the five year period averages, as the most recent three sub-periods indicate that a 1% improvement in institutions is associated with a 2%-2.5% increase in ODA.

In the next step, bilateral and multilateral aid components are separated out of ODA to see which type of donor is better at rewarding good outcomes.[54] Using the five-year period averages, results are reported in Tables 11-14. Lagged independent variables were excluded from these tables since most of the equations were not significant.

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[53] As with the first data set, the other independent variables showed no clear or significant patterns. However, their addition adds some significance to the political risk variable. The results also lose most significance as the independent variables are lagged once and lose all significance when lagged twice.
[54] Bilateral donors are owned directly by sponsor governments and give aid on a direct country-to-country basis (e.g. USAID is owned by the US government). Multilateral donors such as the World Bank and IMF receive their funding from multiple sponsor governments and hence are called multilateral donors.

Table 11 – Bilateral ODA and Changes in Political Risk, bivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 161** $R^2 = 0.0053$ Adjust R^2 = - 0.0010 **F = 0.85**	**n= 83** $R^2 = 0.1407$ Adjust R^2 = 0.1300 **F = 13.26**	**n= 78** $R^2 = 0.0054$ Adjust R^2 = -0077 **F = 0.41**
%Chg Political Risk	0.43 (0.47)	2.6 ** (0.71)	-0.44 (0.69)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

Table 12 – Bilateral ODA and Changes in Political Risk, multivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 144** $R^2 = 0.0353$ Adjust R^2 = 0.0003 **F = 1.01**	**n= 73** $R^2 = 0.1697$ Adjust R^2 = 0.1077 **F = 2.74**	**n= 71** $R^2 = 0.0806$ Adjust R^2 = 0.0099 **F = 1.14**
%Chg Political Risk	0.81 (0.50)	2.76* * (0.86)	0.53 (0.71)
%Chg GDP per capita	0.38 (0.46)	0.17 (0.58)	-0.2 (0.76)
%Chg Pop	-0.81 (1.41)	-1.31 (1.91)	-1.16 (2.07)
% Chg Gov Consumption	-0.33 (0.47)	-0.06 (0.59)	-1.42+ (0.79)
% Chg. Debt	0.04 (0.1)	-0.07 (0.14)	0.01 (0.14)

Table 13 – Multilateral ODA and Changes in Political Risk, bivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 156** **R^2 = 0.0066** **Adjust R^2 = 0.0001** **F = 1.02**	**n= 82** **R^2 = 0.0094** **Adjust R^2 = - 0.0030** **F = 0.76**	**n= 74** **R^2 = 0.0082** **Adjust R^2 = -0.0055** **F = 0.60**
%Chg Political Risk	-0.51 (0.51)	1.02 (1.17)	-0.39 (0.5)

Table 14 – Multilateral ODA and Changes in Political Risk, multivariate

Dependent Variable: %Change ODA			
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 141** **R^2 = 0.0139** **Adjust R^2 = -0.0226** **F = 0.38**	**n= 73** **R^2 = 0.287** **Adjust R^2 = - 0.438** **F = 0.40**	**n= 68** **R^2 = 0.0541** **Adjust R^2 = -0.0222** **F = 0.71**
%Chg Political Risk	-0.42 (0.56)	1.41 (1.35)	-0.46 (0.59)
%Chg GDP per capita	-0.2 (0.65)	-0.51 (1.01)	-0.34 (0.8)
%Chg Pop		-1.69	0.68

	0.75 (2.00)	(3.32)	(2.35)
% Chg Gov Consumption	0.63 (0.66)	0.11 (1.02)	0.97 (0.88)
% Chg. Debt	0.04 (0.14)	-0.23 (0.25)	0.21 (0.15)

** Significant at 1%
* Significant at 5%
+ Significant at 10%

The results of this test indicate that *bilateral donors have had much greater success in the most recent period at rewarding institutional improvements than have multilateral donors*. Indeed, we can see how the strength of the relationship between bilateral ODA and political risk scores drives the overall relationship over the most recent five-year period averages found above. None of the equations using multilateral aid were significant and in the earlier period the coefficient on political risk was negative. The relationship of improving links between ODA and institutional scores over time was also clear in this exercise.

But why should we expect that bilateral donors are leading the way in linking outcomes to rewards? One possible explanation is that bilateral donors are more directly accountable to their funding source, which is their own government. Since most western governments have relatively sound and responsive institutions, they may be doing an increasingly good job at rewarding the achievement of development objectives, or

conversely, punishing deteriorating governance.[55] Multilateral donors, on the other hand,

receive money from multiple sponsor governments, thus increasing monitoring costs and

diluting accountability. Also, as discussed above, incentives at multilateral organizations

such as the World Bank may exist that reward "moving the money" rather than strict

allocation. That said, it appears that multilateral donors have also improved slightly over

the periods in question, as the coefficient on political risk has gone from negative to

positive, even though neither are significant.

But what if increases in ODA are funding subsequent improvements in institutions? That

is, while it may appear as if ODA is increasingly rewarding institutional improvements, it

may be that ODA is becoming more effective at helping countries develop their

institutions. Indeed, as noted above, much of foreign aid today is given to support the

implementation of donor supported policy and build poor country "capacity" to

implement the sound and credible legal rules that make for good institutions.   This effect

should therefore be more pronounced in later periods.

In order to test this hypothesis, an instrument is needed that is correlated with changes in

ODA, but uncorrelated with changes in political risk. To do this, ODA for education,

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[55] Indeed, the author's inside knowledge of the world's largest bilateral donor, USAID, confirms that this
may be the case. The Agency is under strict Congressional scrutiny and increasing emphasis is placed on
monitoring performance indicators. The staff of the Agency knows that rewarding bad behavior can result
in a Congressional "tongue-lashing" as many members of Congress are strict about limiting aid
disbursements to democratically accountable governments.   Radelet (2006) also makes the case that the
World Bank's use of the IRAI system to make aid allocation decisions is neither as stringent nor as large as
the MCC.

health, population, and water programs only[56] is separated out of total ODA to create "social ODA". Between 1990-2005, social ODA constituted about 10%-15% of total ODA. Since we would not expect foreign aid for such things as basic health, education, population control, and sanitation to have any significant impact on institutional quality or even economic growth at least in the short run, this should serve as a suitable instrument for total ODA, which includes funding for activities such as technical assistance to governments and the private sector to improve their performance which would be expected to impact measured institutional outcomes. Put another way, social ODA should be expected to respond to movements in political risk just as total ODA would since donors are increasingly responding to institutional outcomes with all types of ODA, but we would not, conversely, expect political risk to be affected by movements in social ODA.

Therefore, first-differences in social ODA over the five-year period averages became the dependent variable and changes in political risk and real GDP per capita the main independent variables of interest. If political risk is significantly and positively associated with health ODA, we can infer that the direction of causality almost certainly runs from changes in political risk to changes in ODA.

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[56] Specifically, Section I.1 of the OECD/DAC sector code.

Again, since ODA could be expected to respond political risk scores with a lag, it was also lagged for one and two periods.[57]   Bivariate and multivariate results (with all Table 3 independent variables) for the variables of interest are reported in Tables 15 and 16 respectively.

Table 15 – Test of ODA's Effect on Political Risk, bivariate

	Dependent Variable: %Change in Social ODA		
	Both Periods	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 157** **R^2 = 0.0319** **Adjust R^2 = 0.0257** **F = 5.11**	**n= 84** **R^2 = 0.0293** **Adjust R^2 = 0.0175** **F = 2.47**	**n= 73** **R^2 = 0.0440** **Adjust R^2 = 0.0306** **F = 3.27**
%Chg political risk	2.18* (0.97)	3.36 (2.13)	1.88+ (1.04)
1 YEAR LAG	**n= 157** **R^2 = 0.0234** **Adjust R^2 = 0.0171** **F = 3.71**	**n= 84** **R^2 = 0.0203** **Adjust R^2 = 0.0084** **F = 1.70**	**n= 73** **R^2 = 0.0360** **Adjust R^2 = 0.0224** **F = 2.65**
%Chg political risk	1.73+ (0.90)	2.98 (2.29)	1.58 (0.97)
2 YEAR LAG	**n= 152** **R^2 = 0.0151** **Adjust R^2 = 0.0085** **F = 2.30**	**n= 79** **R^2 = 0.0056** **Adjust R^2 =- 0.0073** **F = 0.43**	**n= 73** **R^2 = 0.0296** **Adjust R^2 = 0.0159** **F = 2.16**
%Chg Social ODA	1.22 (0.80)	1.52 (2.31)	1.24 (0.85)

**significant at the 1% level
* significant at the 5% level
+significant at the 10% level

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[57] Lagging ODA for more than one period did not increase its significance, rather it decreased it.

Table 16 – Test of ODA's Effect on Political Risk, multivariate

Dependent Variable: %Change in Social ODA			
	Full Period	**From (96-00) to (01-05)**	**From (91-95) to (96-00)**
NO LAG	**n= 140** **R^2 = 0.1756** **Adjust R^2 = 0.1448** **F = 5.71**	**n= 74** **R^2 = 0.3231** **Adjust R^2 = 0.2734** **F = 6.49**	**n= 67** **R^2 = 0.1245** **Adjust R^2 = 0.0528** **F = 1.74**
%Chg Political Risk	2.89** (0.69)	4.15** (1.01)	2.72* (1.14)
%Chg GDP per capita	0.83 (0.81)	1.32 (0.8)	-0.04 (1.57)
1 YEAR LAG	**n= 139** **R^2 = 0.1287** **Adjust R^2 = 0.0959** **F = 3.93**	**n= 74** **R^2 = 0.2727** **Adjust R^2 = 0.2192** **F = 5.10**	**n= 66** **R^2 = 0.1067** **Adjust R^2 = 0.0322** **F = 1.43**
%Chg Political Risk	2.51** (0.62)	4.21** (1.07)	2.22* (0.99)
%Chg GDP per capita	0.45 (0.88)	1.61+ (0.88)	-1.35 (1.64)
2 YEAR LAG	**n= 133** **R^2 = 0.0958** **Adjust R^2 = 0.0603** **F = 2.69**	**n= 73** **R^2 = 0.2949** **Adjust R^2 = 0.2423** **F = 5.60**	**n= 65** **R^2 = 0.0958** **Adjust R^2 = 0.0191** **F = 1.25**
%Chg Political Risk	1.96 (0.57)	3.29** (1.17)	1.41 (0.9)
%Chg GDP per capita	-0.54 (0.93)	1.65 (1.2)	-1.98 (1.42)

**significant at the 1% level
* significant at the 5% level
+significant at the 10% level

Results from Tables 15 and 16 confirm a likely relationship between changes in social

ODA and changes in political risk. Controlling for changes in GDP and other

independent variables in Table 16 provides coefficients and fits that are similar to

estimations using total ODA. These results therefore provide evidence that the direction

of causality runs from changes in institutions to changes in ODA as donors are

increasingly likely to reward improvements in outcomes, just as they claim. That is,

since we know that the literature is fairly unanimous that ODA has been ineffective at

directly causing growth and that donors have explicitly attempted to reward institutional

quality in recent years, it seems fairly likely that ODA follows institutional improvements

rather than the other way around.

If this is in fact the case, as much of the data indicate it is, then donors are indeed

beginning to create better incentives for poor nations to improve their outcomes. This

incentive effect should be taken seriously, since it may be an important force behind

improving institutions and ultimately broad-based economic growth worldwide. If,

alternatively, aid rewards bad behavior as many claim it has in the past, then this can

create a considerable perverse incentive for poor countries. While the model employed

here may not be robust enough to reach the definite conclusion that aid is becoming

increasingly performance based, the significant results found here should be considered

compelling since one would expect greater levels of ODA to follow institutional

deterioration if, to use a popular analogy, more doctors are associated with increased

numbers of sick people.

The simple explanation for this finding is learning. Donors now recognize institutions as fundamental and are more able to identify indicators that matter for growth. They also appear to be tying ODA to improvements in these indicators, exactly as they say they are doing.[58]

In sum, the results above lend support to the Burnside and Dollar (2004) claim that donors are becoming more selective about where aid is supplied and casts doubt on the Alesina and Weder (2002) finding that ODA continues to ultimately end up in more corrupt countries (corruption being a vital factor in the determination of political risk).[59] This is a positive result because, as the literature reviewed in Chapters III and IV demonstrated and the simple model in this chapter indicates, ODA, in and of itself, is unlikely to be effective in spurring growth. This being the case, ODA needs to act as a mechanism to create incentives for the political elite in poor countries to supply sound institutions, which have been demonstrated to be fundamental for growth. If it can be successful at spurring the creation of sound institutions, it will ultimately achieve the objective of facilitating economic growth in less developed countries.

Unfortunately, the donor community has focused mainly on increasing the *direct* effectiveness of aid itself and has failed to do an adequate job of articulating the need for

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[58] Concentrating aid on good performers may be easier today than it was during the Cold War area when allocations were more politically-driven than results-driven.

[59] One possible reason for the failure of my results to confirm the Alesina and Weder results is that they looked at *levels* of ODA and corruption whereas this section looked at *changes*. This analysis also benefited from more recent data, which would be especially helpful if ODA is indeed becoming more selective over time.

aid to create proper incentives in order for it to be *indirectly* effective. The donor

community has also over-emphasized *levels* of ODA in terms of *levels* of institutions

while the focus should be on linking *marginal* changes in ODA to *marginal* changes in

outcomes. The next chapter outlines a new foreign aid mechanism that demonstrates this

idea theoretically, showing how ODA can become more effective and properly align the

incentives of the donor (principal) with the recipient government (agent) by linking aid

directly to outcomes.

VI. Why a "Prize" Mechanism Would Improve Aid Effectiveness

This chapter makes the argument that in order to overcome the problems described in

Chapters II, III and IV, foreign aid needs to act as a mechanism to create incentives for

policy makers in poor countries that are compatible with the creation of institutions that

lead to growth.   Since there is no "Political Coase Theorem" that naturally leads to good

outcomes due to commitment problems, donors could play the role of an outside enforcer

and distribute "side payments" to political elites in order to indirectly subsidize sound

institutions. It is clear from Chapter II that both democratic and autocratic regimes can

have incentives to under produce policies and institutions that are conducive to growth.

As shown in the last chapter, foreign aid has begun doing this through recent innovations

in the philosophy of aid giving, but models articulating why it is important to do so are

noticeably lacking.

The remainder of this chapter demonstrates why "prizes for development" (or "good

outcomes") is a theoretically sound idea that is likely to produce the intended results of

donors. It outlines also how such a system, if adopted by the donor community, could

work in practice.   It ultimately argues that while efforts at "selectivity" such as the MCC,

the IRAI, and the "Mo Ibrahim Prize" (discussed below) are a welcome initial move in

the direction of awarding purely "outcome-based" aid and creating proper incentives for

reform, the models could be improved in a number of directions to make them even more effective. Donors could even choose to subsidize economic growth itself directly.

A principal-agent model of ODA

As argued above, the best way to view the donor-poor country relationship is through the lens of a principal-agent problem. To summarize the literature quickly, there are two basic ways in which a principal can compensate an agent. The principal can choose to pay the agent for *effort*, by hiring an agent outright and agreeing to a wage rate, or she can pay the agent for *output*. Effort is often difficult and costly for the principal to monitor because she may not know exactly how much effort is associated with a given level of output and what portion of the output is attributable to the agent's effort and not to exogenous forces and/or pure randomness. Since information is asymmetric between the two parties, a considerable potential for slack on the part of the agent is introduced.

Targeting and rewarding output, however, can also create problems if outputs are not clearly linked to outcomes. A famous example is that of the H.J. Heinz Company in Gibbons (1998). The managers received bonuses only if earnings increased from the prior year. The managers delivered consistent earnings growth by manipulating the timing of shipments to customers and by pre-paying for services not yet received, both at considerable cost to the firm. In this case, targeting a given output (increased earnings year-on-year) did not translate well into desirable outcomes (increased long-run profits

for the firm). Other examples abound in the literature whereby agents emphasized

principal targeted outputs at the expense of overall service quality. These types of

principal-agent problems clearly exist in the donor-poor country relationship because as

discussed in previous chapters, the incentives of poor country elites (agent) are not likely

to be consistent with those of the donor (principal).

To see this, assume that the political elite in a poor country receive utility from the level

of political power that they hold which in turn is a function of the level of rents that they

are able to extract from the populace and distribute among essential coalition supporters

(i.e. the winning coalition).

$$U^E = P^E(R) \tag{1}$$

This level of rent they can extract, in turn, is a function both of national income and the

level of distortions in the economy.

$$R = [(\beta(D)*(Y) + (1-\alpha) X)] \tag{2}$$

$$Y = Y(\beta(D), \alpha X) \tag{3}$$

$$\partial\beta/\partial D > 0 \tag{4}$$

where $0 < \beta < 1$ and $0 < \alpha < 1$. U^E is the utility of the political elites, which is a simple

function of their political power, P^E, where P^E, in turn, is a monotone increasing function

of the level of rents, R, that they are able to extract, consume, and distribute to coalition supporters. Elite rents equal Y, total country income, times β, which is the fraction of that national income that political elites capture plus (1-α) times ODA, X, where α is the fraction of X that does not increase Y, but instead is captured directly by the political elite. (1-α) is assumed to be less than β because of monitoring problems.

In order to create rents to capture, economic distortions (in the form of, for example, entry barriers, unevenly enforced property rights, monopoly privileges, and lack of public goods) must be created because perfectly competitive economies generate no excess returns. So while economic distortions are harmful to the general economy, they are necessary in order to create opportunities for the political elite to extract rent and close off political and economic competition.

The choice variable for the political elites is D, the level of market distortions in society. β(D) is a rent extraction technology which combines economic and political distortions that negatively effect the behavior of non-elites. National income, Y, in keeping with the theme of this dissertation, is a function of the fraction of national income captured by the elite, $\partial Y/\partial \beta < 0$.

This relationship reflects both the effect of distortions on transaction costs and the implicit tax of rent extraction by the political elites. Distortions, may, for example,

reduce the human capital formation, increase information costs, etc., weakening overall institutional quality.

The political elite seek to maximize the level of rent that they consume subject to the negative effect of distortions on total economic output. The political elite's optimization problem can thus be expressed as

$$U^E = P^E \left[\beta(D) * Y(\beta(D), \alpha X) + (1 - \alpha (X)) \right] \tag{5}$$

The first order condition of this optimization problem is

$$\partial U^E / \partial D = P^E [(\partial \beta / \partial D) (Y)] + \beta(D) [(\partial Y / \partial \beta) * (\partial \beta / \partial D)] = 0 \tag{6}$$

From equation 6, by increasing the level of distortions, political elites trade off the gains made from capturing increasing shares of national income $[(\partial \beta / \partial D) (Y) > 0]$ against the losses in overall national income that results, $[\beta(D) [(\partial Y / \partial \beta) * (\partial \beta / \partial D) < 0]]$.

When distortions fall, part of the output increase is captured as rent. Institutions improve as β falls, and decreases in β causes the size of the economic pie to grow, but the share of that pie that can be captured by the economic elite decreases. This implies that the elite are always better off under less than optimal institutions that do not maximize national income, Y. The political elite therefore do not have incentives to eliminate economic

distortions that limit trade or increase transaction costs beyond the point where it maximizes their rent. [60]

Initially, it is assumed that the level of foreign aid, X, that the economy attracts is exogenous. But changes in X may nonetheless affect D*, the level of distortions chosen by the political elite.

$$\partial^2 U^E \partial X / \partial D^2 = \partial D / \partial X = (\partial\beta/\partial D)\,(\partial Y/\partial X) + \beta(D)\,[(\partial^2 Y/\partial\beta\partial X)\,(\partial\beta/\partial D)]\,/\,-(\text{s.o.c}) \quad \textbf{(7)}$$

Mathematically, the effect tends to be ambiguous since $(\partial\beta/\partial D)\,(\partial Y/\partial X) < 0$ and $\beta(D)$ $[(\partial Y^2/\partial\beta\partial X)\,(\partial\beta/\partial D)]$ is likely to be less than zero. If $(\partial^2 Y/\partial\beta\partial X)\,(\beta)$ is greater than $(\partial Y/\partial X)$ then distortions will increase as foreign aid increases. Conversely, if $(\partial^2 Y/\partial\beta\partial X)$ $(\beta) < (\partial Y/\partial X)$ then aid tends to reduce distortions. Empirically, $(\partial Y/\partial X)$ tends to be small (indeed negative in some studies) so it is quite possible that unconditional aid increases distortions.

In the model, thus far, ODA, X, is an unconditional grant that affects the political elite's decision of where to set D through the effect on R and Y. If the principal wants to reduce rather than increase economic distortions, she can do so by making the grants conditional on D, β, or Y.

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[60] Broadening the winning coalition may also imply that the average rents per coalition member would fall, since the political elite would have to spread out captured rents more thinly among the coalition.

To see this, assume that the principal cannot target institutions, β, directly because institutions are too complex and difficult to measure. She can, however, target and measure either the level of distortions in the economy, D, (through such current measures as *Doing Business* or the *Global Competitiveness Report*) or she can target output (e.g. GDP per capita) directly (Y). That is, she can make aid, X, a function of the level of observed distortions in the economy (D) or, more directly, real output (Y). By targeting measurable outcomes, the principal can create incentives for positive institutional change by paying the agent for *results* rather than promised *effort*.

Making X conditional to the function corrects for the principal's monitoring problem because X now shrinks as D increases, making D more expensive at the margin. That is, the principal or granting agency provides conditional grants:

$$X = X(D) \tag{8}$$

or

$$X = X(Y) \tag{9}$$

where $\partial X / \partial D < 0$ and $\partial X / \partial Y > 0$. This outcome based system changes the margin at which elites set D. Setting $X = X(D)$, the optimization problem of the political elite is now solved when D* satisfies:

$\partial U/\partial D = P^E [(\partial\beta/\partial D)(Y) + \beta(D) [(\partial Y/\partial\beta) * (\partial\beta/\partial D) + \alpha (\partial X/\partial D)] + (1-\alpha) (\partial X/\partial D)] = 0$

at D^{**} **(10)**

Note that two new marginal cost terms now appear in the elite's optimization problem, which implies a new D** below that of the original problem (equation 6).

Alternatively, but similarly, if grants are conditioned on national output rather than distortions, X(Y), the first order condition is:

$\partial U/\partial D = (\partial\beta/\partial D)(Y) + \beta(D) [(\partial Y/\partial\beta) * (\partial\beta/\partial D) + \partial Y/\partial\beta] * [\alpha (\partial X/\partial Y) (\partial Y/\partial\beta) (\partial\beta/\partial D)]$

$+ [(1-\alpha) (\partial X/\partial Y) (\partial Y/\partial\beta) (\partial\beta/\partial D)] = 0$ **(11)**

Equations 10 and 11 have straight forward implications. By making X conditional on either D or Y, more of the benefits of reducing economic distortions are "internalized" and the equilibrium level of D is lower than when X is exogenous.

As can be seen (see Figure 3), when levels of X are tied to observable outcomes such as distortion levels or total income, the marginal cost of distortions increases from MC to MC'. By increasing D, the political elite still sacrifice the total output available to capture, Y, but, from equation 10, they now also lose some of ODA that increases Y, [α $(\partial X/\partial D)$], and the share of ODA that they capture for themselves, [$(1-\alpha)$ $(\partial X/\partial D)$].
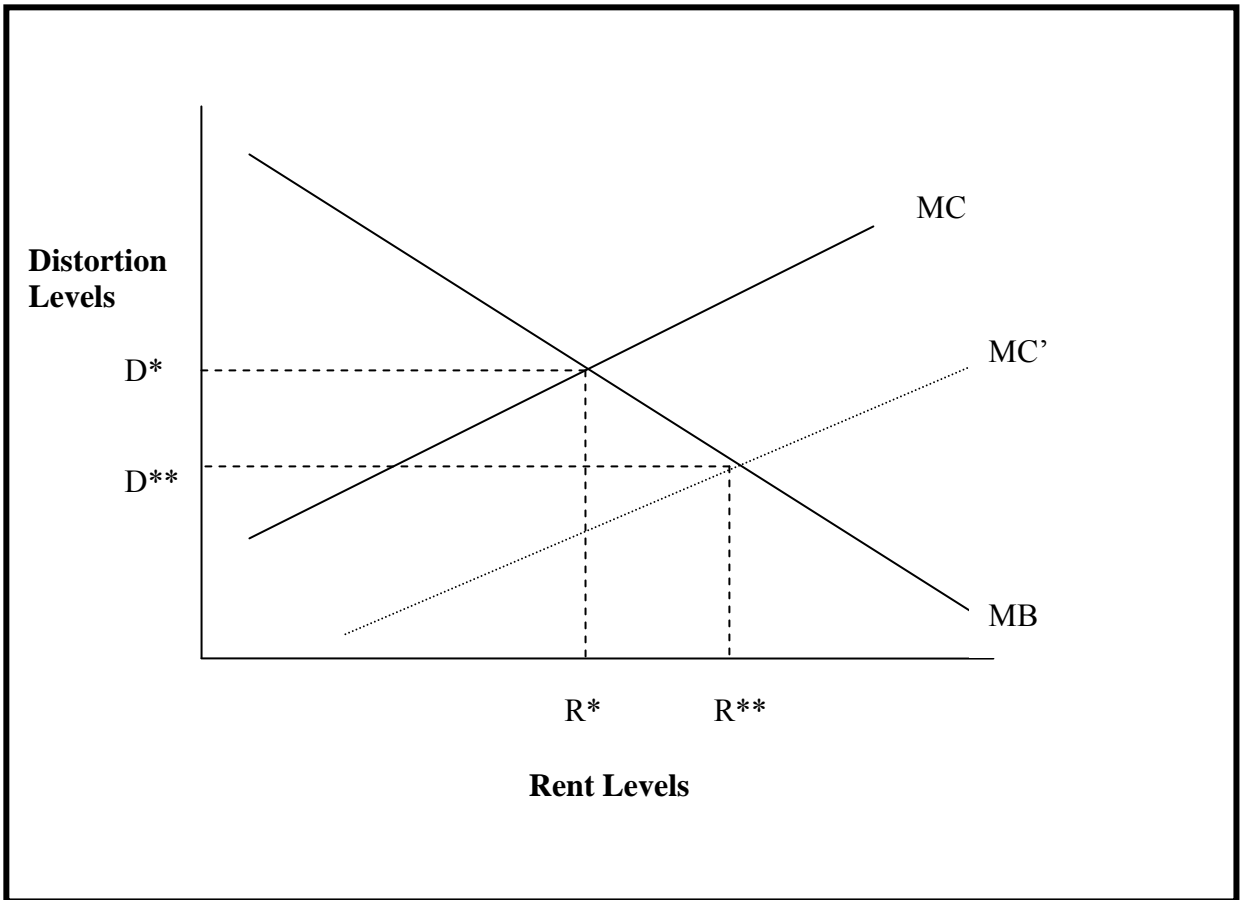
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Figure 3 – The Effect of Conditioning Grants on the Elite's Optimization Problem

In effect, the conditional aid formula is a tax on distortions used to extract rents. Notice that under this policy, the effectiveness of ODA, α, *does not have to change* to generate this effect.

Better incentives between the principal and the agent are, however, created because the principal no longer commits resources to the agent until her objectives of lower observed

levels of D (through indicators such as the World Bank's *Doing Business* or *Governance Matters*), less rent extraction (smaller β), or higher observed levels of Y (such as real GDP per capita) are met. The agent, poor country political elites, now has incentives to reduce or eliminate political and market distortions that retard economic growth and to adopt other institutional improvements, because not doing so involves giving up ODA that could otherwise be partially captured as rent.

Note that, by targeting measurable transaction cost outcomes, D, or output itself, Y, the principal (donor) can create political incentives that induce institutional reform.

This type of mechanism also avoids the effort-monitoring problem faced by the principal in the first case by shifting the responsibility for the achievement of the principal's objectives to the agent. All that is required of the principal is the ability to monitor outcomes effectively and credibly award the promised resources when institutional or economic outcomes are improved.   Since ODA that is a direct function of institutional or economic outcomes is essentially a reward for the achievement of a donor goal, this type of mechanism can be thought of as "prizes for development."

The Advantages of Prizes for Development

The current system of aid is one based largely on input and output subsidies, which are similar to unconditional aid described above because they are not directly linked to the

achievement of the principal's ultimate objectives. This type of system can also be considered *ex-ante* payments (or payments for effort) where the outcomes that result from the principal's resources are unknown at the time of disbursement and "effort" by both recipients and donors requires heavy monitoring.   In an *ex-post* system (or payments made only after principal-targeted outcomes have been achieved), the principal defines an objective (improved institutional and economic outcomes here), a reward for achieving it, and the terms of the contract.   The elites in a given nation can then decide the least cost method for achieving the principals' objective using their local knowledge advantage subject to their own political constraints.

In order to fund effort, a principal must know *what type of effort* will achieve her objectives. According to Davis and Davis (2004), "The main benefit of a prize system is to focus innovative efforts on problems for which solutions otherwise do not seem to be forthcoming." This result could not be more fitting than in the context of funding development.   Donors know the outcome they want to achieve but do not know how best to concentrate efforts at achieving it, especially in diverse institutional settings where policies do not translate well into outcomes. A system of prizes for institutional and economic outcomes, on the other hand, would shift the informational requirements onto agents who are better informed about how to overcome their own complex political constraints.   Poor nations would be free to decide for themselves the most politically and cost-effective method for achieving results, creating institutions which are "home-grown" with localized knowledge.

In the literature, these types of *ex-post* payment systems are referred to as either "tournament" type systems or "prize" systems. A prize system is different than a tournament system in that tournament systems are based on relative performance compared to other agents, while more than one contestant can theoretically win a prize because rewards can be triggered when an agent achieves a targeted outcome relative only to a personalized benchmark. Therefore, this type of mechanism design is similar to pure piece-rate (commission-based) compensation where outputs are clearly defined and translate into positive outcomes. The prize system would define goals and distribute awards on a strict *rule-based* system to as many poor countries that achieve and sustain individually targeted benchmarks for development outcomes.

The "prize" for achieving pre-defined improvements in outcomes could accrue directly to the elite-controlled budget of the poor country, giving the elite full ownership of the prize. In the model presented here, once benchmarks were achieved, the prize money would be triggered automatically and the largely untied resources would flow directly into government coffers as "budget support" or a simple "cash transfer." No follow-on monitoring of the use of the money would be necessary because the elites would largely be allowed to allocate the resources with broad discretion. The prize system would therefore specifically target money toward the political elites in charge of policy and reward them directly for undertaking reforms that led to measurable improved institutional or economic outcomes. Rather than disbursing awards in the form of various small-scale projects selected by donors, more directly rewarding those responsible for

reforms will provide greater *political* incentives for reform. Since those in charge of policy have the best knowledge and ability to affect institutional changes it makes sense to target resources at them directly.   In this way, the prize mechanism achieves the only currently realistic goal of ODA, which is to create real and compatible incentives to improve outcomes among the political elite that control poor countries.

According to the game-theory literature (see, for example, Dixit and Nalebuff (1995)), when facing a problem of commitment, one of the first solutions to look for is a credible outside enforcer. If an outside enforcer could credibly commit to delivering the necessary side payments to either political elites in dictatorial settings or interest groups in democratic ones once institutions are reformed, the commitment problem preventing a move to Pareto superior institutional outcome could be overcome.   In this way, the World Bank and other donors could act as the outside enforcer of an implicit agreement between political elites and the general public to make social welfare enhancing reforms.

Acemoglu's (2003) Political Coase Theorem could become closer to reality. That is, political elites would adopt reforms that weaken their grip on power and access to rents, but would be credibly compensated by donors (outside enforcers) for doing so. The democratic interests opposed to reform could also be more easily pacified through this proposed method of enforceable "side-payments." For example, government officials could agree to use the prize money to provide credible compensation to interests which were adversely affected by meeting prize benchmarks. The outside payments

could therefore overcome the political problem often referred to as the "transitional gains trap" (Tullock, 1975) where the termination of a particular rent-creating program would lead to large losses for certain entrenched interests that work against reforms.

In order for this system to work, however, donor commitments need to be credible. As discussed in Chapter IV, one of the problems with the conditionality model was time-inconsistency where by a poor country would promise to make policy reforms, receive an ODA commitment, and then fail to make the requisite reforms. One of the problems with this model is that donor targeted policies for reform were essentially chosen on an ad hoc basis and the disbursement of aid was explicitly discretionary, not rule-based. The outcome based prize model avoids this pitfall to an extent by predefining the outcomes (not policies which are more difficult to define) to be targeted and the associated reward for achieving those outcomes. By moving from a discretionary to a rule-based system that clearly links donor resources to pre-defined outcomes, it becomes more difficult for donors to "cheat" and make an ODA disbursement to a country that has clearly not achieved indicator benchmarks. While it is still possible for donors to cheat, if the rule-based system was administered transparently, this would be less of a problem.

In order for ODA to be based on a system of "prizes" triggered by the achievement of institutional and economic benchmarks, the indicators that monitor outcomes need to be well-defined. The indices mentioned in Chapter V, (i.e. *Doing Business*, and the *Global Competitiveness Report*) would all do a fine job as measures of institutional outcomes, as

would the World Bank's *Governance Matters* scores.[61] The U.N.'s Human Development

Index (HDI) would be a preferred measure of economic outcomes such as GDP per

capita, literacy, and life expectancy. These data are widely used and cited and contain just

the sort of outcome-based indicators discussed in this dissertation and are already being

effectively monitored. The World Bank could therefore use its own research to define

institutional improvements, while other donors could conceivably use their own set made

up of different indicators produced by third parties (such as the U.S.'s Millennium

Challenge Corporation does to an extent now) or use the World Bank's.

The advantage of institutional and economic targets such as these is that they are

uncontroversial and non-policy based. For example, while privatization may be a

politically charged policy issue, it is difficult to object to making it easier to start a

business and legally appropriate the proceeds from its operation, net of formal taxes.

Corruption is a universal villain, and simply targeting and rewarding its observed

reduction may be a better option than attempting to impose anti-corruption programs in

poor countries that were designed in Washington DC.

As discussed above, donors have made the mistake of attempting to micro-manage the

policy sets chosen by their client nations, most notably through the advocacy of a

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[61] The *Governance Matters* indicators score governments on six difference outcome based variables: Voice and Accountability; Political Stability and Absence of Violence; Government Effectiveness; Regulatory Quality; Rule of Law; Control of Corruption.

"Washington Consensus" on proper reform legislation. Since policy does not map well into institutional and economic outcomes due mainly to political economy constraints, donors should instead focus directly on outcome-based goals that are widely accepted and are less political in nature.[62] By doing so, they would indirectly incentivize the creation of improved institutions, since improved institutions are assumed to be necessary for improved outcomes.

Rewarding Outcomes: An Illustration

As an example of how a "prize" model would work in general, one of the more widely discussed *Doing Business* indicators is used here: starting a business. In high income (OECD) nations, it takes an entrepreneur an average of 19.5 days at an average cost of 6.8% of Gross National Income (GNI) per capita to legally register a business. In Sub-Saharan Africa, by contrast, it takes an average of 63.8 days and 215.3% of GNI per capita to do the same. If the World Bank chose to target this type of distortion, it could set up specific targets and rewards for improvements to these indicators and the length of time these improvements persist. Only World Bank client nations (i.e. low and middle income nations) would be allowed to compete. For example, a payment schedule to any given recipient country may look something like Table 17.

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[62] For example, macroeconomic and fiscal issues such as government size and tax rates are normally ideologically dependent issues; reasonable people can disagree about them. Indicators such as *Doing Business* don't require governments to do away with business regulation either; they just aim to ensure that the regulation is efficient and is intended to protect consumers, not political elites and special interests.

Table 17– An Example of a Prize System

Avg. time*avg. cost to start a business	Initial Award	Sustained 3 years since award	Sustained 7 years since award
20% improvement from initial benchmark, sustained for two years	US$10 million	US$5 million	US$2.5 million
25% improvement from new benchmark, sustained for two years	US$20 million	US$10 million	US$5 million
25% improvement from new benchmark, sustained for two years	US$30 million	US$15 million	US$7.5 million

Table 17 uses completely arbitrary numbers of course, and any such system would want to scale the prize amounts by country to equalize the per capita amount of money ultimately received. The prize system would also want to help ensure against retrogression once targets were hit by providing additional rewards for the maintenance of benchmarks. The more a nation improves, the more it could be rewarded on the margin until final targets/goals are achieved and maintained.[63]

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[63] If marginal political costs rise with marginal institutional improvements, then it would make sense to increase the size of the award for each successive achievement of a benchmark. Once a nation receives a disbursement after reaching a specific target, the nation would not, of course, be allowed to dip below it and reach it again for another award.

Table 17 also focuses on just one aspect of potential market distortions, namely lowering the cost of starting a business. But making it easier and less costly to start a business will likely achieve little if, for example, it remains difficult to hire and fire workers, enforce contracts, and close a business should it fail. Reforms must ultimately work together; else one remaining bottleneck will thwart the effort.[64] Therefore, the outcome indicators would have to be combined and indexed in such a way as to insure that not just some of the components of institutional improvement are addressed. Using a multiplicative formula, rewards would be more than proportionately increased when improvements move together. For example, higher scores would trigger awards according to a formula that could look something like

$$Y = \text{OPEN} * \text{HIRE} * \text{CLOSE} * \text{CONTRACT} * \text{TRADE} * \text{TITLING} * \text{TAXES}$$

where each variable represents an individual score specific to a given *Doing Business* indicator. Of course, Y could be an overall index score consisting of any number of variables from different sources such as the annual reports listed above. A payment schedule such as shown in Table 17 could be employed here using overall index scores as triggers. Using a multiplicative index in the reward formula provides political elites with incentives to target efforts at alleviating the worst aspects of their institutional environment. Since political capital is scarce in both democratic and autocratic regimes,

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[64] Reviewing the *Doing Business* indicators, it is evident that if just one of these aspects is seriously deficient, it can negate gains made in other aspects. For example, even if opening a business is easy, if a forward-looking entrepreneur expects she will not be able to easily access credit, or file for bankruptcy if the business fails, the enterprise will be less likely to enter the market.

such a system would help to direct political resources to their highest valued use, given that the highest valued use of political capital cannot be known by donors.

Monitoring the outcome indicators

The prize system imposes almost no additional monitoring costs, especially since the indicators are based on measurable outcomes and prizes would take the form of simple cash transfers. The prizes would be lump sums, paid to the government treasury and largely unmonitored.[65] Allowing the government to use the money for its own priorities not only creates ownership over the prize and incentivizes political elites to improve outcomes; it eliminates the systematic problems associated with micro-interventions whereby resources can be misallocated by ill-conceived donor interventions in particular markets or sub-regions.

Other additional activities would also be unnecessary since donors could simply use the research already being funded by the World Bank or U.N., or use their own preexisting indictors infused with different third party indicators as the MCC does now. Rules should be highly transparent (the data would be reported regularly as it is now) and

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[65] Realistically, donors will almost certainly place de jure constraints on the use of the funds. But so long as these conditions were not overly restrictive, given the fungibility of money it would not significantly dilute the incentive effect. The MCC claims that its compact projects are chosen by the host country, but the agency can and does veto these proposals if they do not meet some minimum criteria. The prize system could work on a similar basis, but with minimally restrictive baseline criteria.

disbursements should be impartial since they would be rule-based (discretion would be largely taken away from donor staffs).

A rule-based system is essential since it provides poor countries with certainty that awards are directly linked to achievements. Discretion in award-making lowers political incentives because it creates potential commitment problems and weakens the direct link from action to reward.

Since the incentives for cheating and corruption in performance monitoring are increased under this system, there would be some increase in monitoring costs associated with collecting the data for the indices on which the prize is to be based. The donors would likely have to hire independent consultants to carry out the task of ensuring non-biased and accurate data collection.

Donors would be well advised to hire more than one private and independent consulting group to perform the work and agree *ex-ante* on how to combine the differing results into an overall consensus score. They should also hire another layer of monitors on top to observe the data gathering consultants. Since donors would no longer have to worry about designing individual projects under a prize system, more than enough resources should be available to ensure that the benchmarks are well monitored and fair. Participating countries, would, of course, in turn have to accept all the terms and conditions for open access to monitors.

The best set of outcome indicators to target--institutional outcomes or economic outcomes--is an empirical issue. Institutional outcomes are more indirect and are measured in terms of the level of distortions that exist in society along the lines that *Doing Business* does now. While the evidence is substantial that good institutions lead to good economic outcomes (see Chapter I) there is still no consensus among economists. Subsidizing economic growth by basing prizes on sustained increases in real per capita GDP would bypass institutions and target the end objective of ODA directly. This would have the effect of inducing institutional outcomes since sound institutions are necessary for growth.

While targeting GDP per capita and other economic outcomes such as those in the *Human Development Index* directly may ultimately make sense, it also involves potential problems. Firstly, it may invite political elites to engage in activities that increase short-run rates of growth at the cost of long-run sustainability. This type of behavior has been noted among private corporate CEOs whose bonuses are based in part on current profits. That is, books can get "cooked" and ill-advised short-run public investment schemes designed to temporarily boost recorded GDP may be undertaken in order to meet prize benchmarks.

Second, while political elites are able to more or less directly control policy, the link from policy to growth is considerably less direct than the link from policy to observed market distortions and bad institutional outcomes. In order for subsidies to work effectively,

they must reward producers for the production of goods over which they exercise at least some control. Politicians produce policies, which over time result in institutions that either encourage or discourage growth. Since we have established that targeting and rewarding the production of specific policies directly is fraught with difficulties, the next closest target is observable institutional outcomes.

Third, economic growth contains a significant random component and is not a linear function of institutional quality in the short-run. This is because economic growth can often take quite a while to become established and flourish, even in a sound enabling environment. If real growth rather than improved institutions were targeted, the lag between institutional outcomes and growth outcomes may create a political disincentive to pursue available prizes. Political elites could also easily get discouraged if efforts at creating real growth were not rewarded within a reasonable period of time, especially considering that political time horizons tend to be short. Of course, there also exists a considerable lag between policy actions and institutional outcomes, but it would seem at first that political elites would have more direct influence and control over the length of this lag. If we assume that growth follows institutions which follow the level of market distortions which in turn follow policy actions, at least we are assured that political elites experience only one of these lags, not two or three.

There may be other good reasons why, for example, Western leaders do not receive

equity futures in their country's GDP. This is essentially what the prize system could

effectively do for the political elites in poor countries with respect to their own GDP.

A brief history of the use of prizes to achieve desired outcomes and their application to

development

If an outcome-based system of foreign aid can be thought of as "prizes," subsidies for

inputs and outputs can be thought of as akin to providing research grants to an agent in

order to make progress toward an outcome desired by the grantor. Indeed, most analysis

of prize systems vs. grant systems have focused on the scientific/R&D sector[66] such as

McClellan (1985) and Hanson (1998).   Kremer (1998), for example, points out the main

benefit of prizes over grants in this sector: that direct government funding of research

through grants faces considerable asymmetric information problems since it is difficult

for government principals to ensure that private research "agents" are maximizing effort

and focusing those efforts on areas with the highest expected return to the general public,

not the scientists themselves.

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[66] While most of the literature on the use of prize systems is largely limited to the scientific/R&D sectors, there have been some recent applications to other sectors. The World Health Organization and the World Bank have both proposed the use of prizes as incentives to induce greater efficiency in the distribution of vaccines financed by donors in poor nations.   Kremer (2000), Kremer and Zwane (2002) and Masters (2003) have suggested the use of prizes to promote innovation to increase Third World agricultural productivity.   Others (Gibbons (1998), Prendergast (1999)) have reviewed the sizable literature on structuring compensation for optimal incentives in firms by analyzing tournaments, piece rates and salaries. These authors largely find that piece rate compensation (which can be viewed as a prize-type incentive) tends to work very effectively as a method to spur researcher/worker productivity.

In order to determine which type of incentive system works best for scientific innovation under different circumstances, Wright (1983) used the probability of success and the elasticity of research supply as key variables.   Wright showed that prizes tend to be optimal in situations where the supply of research is low (i.e. when there does not exist a large contingent of experts specialized in the relevant field) and there is limited information on the likelihood of success.

The history of the use of prizes to achieve a principal's objective in just those types of situations is a relatively long and successful one, beginning most notably with the British Longitude Prize of 1714. According to Sobel (1997, p.121):

>…'The Discovery of the Longitude is of such Consequence to Great Britain for the safety of the Navy and Merchant Ships as well as for the improvement of Trade that for want thereof many Ships have been retarded in their voyages, and many lost...' Parliament, in 1714, voted to offer a reward (£10,000 for any method capable of determining a ship's longitude within one degree; £15,000, within 40 minutes, and £20,000 within one half a degree) 'for such person or persons as shall discover the Longitude.'

John Harrison, an English clock maker, was the man who ultimately solved the problem of measuring longitude. "While most efforts had focused on a precise catalogue of stars, to be used together with the moon's position to determine longitude, Harrison attempted

to build a precision clock which kept the time of the home port. This, together with determination of the local time using the height of the sun, would allow mariners to calculate longitude."[67] In 1730 he began to build several spring-driven clocks, finally succeeding in 1761 with a determination of longitude to better than half a degree. After some initial skepticism by Parliament about the previously unthought-of method, Harrison was finally awarded the full prize in 1773.

The first notable American innovation tournament of this type was the Orteig Prize, a US$25,000 reward offered in 1919 by hotel owner Raymond Orteig to the first allied aviator(s) to fly non-stop from New York City to Paris or vice-versa. In 1927, Charles Lindbergh won that prize, becoming one of the most famous people on Earth for one of the most successful technological demonstrations in history.

The Ansari X-Prize is modeled after the Orteig prize, and is one of the most recent and talked about use of this type of "conditional grant" to spur innovation. Sponsored by the X-Prize Foundation, this US$10 million prize (the largest in history) was offered to any private group that could successfully fly a spacecraft capable of carrying three people to 100 km and then within two weeks repeat the flight.   On October 4, 2004, Mojave Aerospace Ventures won the Ansari X-Prize for the flight of SpaceShipOne, built by aerospace designer Burt Rutan and financed by Paul Allen. Before the competition's conclusion, however, 26 teams from seven nations had competed in the Ansari X-Prize

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[67] http://en.wikipedia.org/wiki/Longitude_prize

Competition with all types of different aircraft – from balloons, to airplanes to traditional

rockets.[68]

These widely varying attempts to win the aforementioned prizes demonstrate the

advantages of a prize system: since no one really knew how best to determine longitude,

build a long distance plane, or put a private group of individuals into space, the prize

induced several different approaches, many of which failed, but one that ultimately

succeeded in each case. Since in each one of these cases the principal was not certain

which method would work best to achieve her objective, the use of a prize-type system

tapped the collective "wisdom of crowds" to achieve the principal's desired innovation.

That is, since the principal knows "what" but not "how," having to pick a winner of a

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[68] Other recent examples of successful prize tournaments include Colin Nederkoorn, a 23-year-old shipping broker, who created a prize-based contest to figure out how to install Windows on an Intel-based Mac. The prize: a pot donated by interested parties all over the Internet, begun by an initial $100 from Mr. Nederkoorn. While the pot eventually grew to over $10,000, many doubted that such a system could ever work, claiming that compatibility between the two systems was technologically impossible. The naysayers, however, were eventually proved wrong when Jesus Lopez, a programmer from San Francisco, collected the pot which had grown to $13,854 after he successfully wrote a software patch and detailed instructions that do indeed make it possible to install Windows XP on a Macintosh.

Even the U.S. federal government appears to be joining the prize movement with the June 2006 House of Representatives passage of the "H-Prize" legislation by a vote of 416-6. "The measure would award four prizes of up to $1 million every other year for technological advances in hydrogen production, storage, distribution and utilization. One prize of up to $4 million would be awarded every second year for the creation of a working hydrogen vehicle prototype. The grand prize, to be awarded within the next 10 years, would go for breakthrough technology." This type of simple prize system stands in sharp contrast to previous federal hydrogen programs, including the US$1.7 billion grant-based hydrogen research program that President Bush first detailed in 2003. It will be interesting to see which program yields faster and cheaper results.

A similar, yet much larger, environmental prize called the "Virgin Earth Challenge" was announced by airline tycoon Richard Branson in February of 2007.   The billionaire offered a $25 million prize for the first person to come up with a way of scrubbing greenhouse gases out of the atmosphere in an effort to spur technologies designed to combat global warming.   The winner will have to discover a way of removing one billion metric tons of carbon gases a year from the atmosphere for 10 years -- with $5 million of the prize being paid at the start and the remaining $20 million at the end.

grant with limited information is less effective than making the researchers anyone who wants to participate.

In development terms, since the donor does not have good information on which types of capital inputs or policies will lead to her growth objective, it is better to specify "what" ("the outcome") not "how" ("the inputs or policies") and allow the individuals with the greatest knowledge on how to achieve the outcome (i.e. local political elites) to do so by creating compatible incentives to do so. Political elites could also establish "sub-contests" that would set a prize for designing the most cost-effective means for achieving targeted outcomes. Dispersed experts could be expected to come together in order to make rival proposals to political elites for achieving targeted outcomes.

Agent efforts toward the outcome can also be greater under the prize system. Peter Diamandis, the creator of the Ansari X-Prize, estimates that a prize can leverage funds' orders of magnitude larger than the prize amount itself. A typical prize means "ten to 40 times the amount of money gets spent" on the principal's objective, compared to about "50 cents on the dollar of value" received by university grant giving.[69] For example, transatlantic fliers spent a combined US$400,000 to win the US$25,000 Orteig Prize while the 26 teams competing for the US$10 million Ansari X-Prize spent an estimated US$100 million. While this is not necessarily socially efficient (the social surplus generated by private spacecraft could be assumed, for the sake of argument, to be less

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[69] "All Shall have Prizes", *The Economist*, March 3, 2007.

than $100 million)[70] it succeeds in delivering a higher expected return to the principal vis-à-vis a grant system.

Of course, this scenario does not directly apply to the foreign aid model proposed in this dissertation because the only "contestant" is the individual poor country itself (countries would not compete against each other) and the political elites are the only group that is capable of achieving the prize because there cannot be multiple ownership of policy outcomes in a single country. This being the case, political elites as a unified group (or single contestant) would never plan to invest more than the prize money to achieve a targeted outcome unless the targeted outcome was itself valuable to the political elites as well as the donor.

As noted above, political elites could also award "sub-prizes" to individuals who come up with the most cost-effective (and, of course, politically appealing) program designed to, for example, reduce corruption in order to meet the conditions for the donor-supplied prize. We can imagine that such private efforts to solve the multiple-targeted institutional problems would be substantial given a large enough share of the total donor prize available for solving each specific problem, even up to the point where the combined private investment to solve each of the individual-targeted institutional problems is greater than the total donor prize for an improved institutional portfolio based on some index.

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[70] More formally, all contestants invest resources to win the prize up to the point where marginal investments equal marginal improvements in their expected probability of winning the prize multiplied by the prize money. This calculated marginal benefit of investment is also, of course, discounted by the expected chance that others will win the prize first.

The other advantage of the prize system is that it self-selects contestants who are most

certain they can accomplish the task. With research grants, it may be possible to locate

well-qualified and hard working researchers, but normally not the ones that possess the

most innovative ideas.   In a grant system, if research fails, the researchers still received

the grant. In a prize system, researchers who fail get nothing, so incentives exist that

promote the participation of only the innovators with the highest potential to solve the

target problem. In the development context, the political elite may not themselves know

how to achieve a particular outcome, but may be able to credibly promise to share the

prize amount with the individual(s) who can devise the most workable and

cost/politically effective strategy to solve targeted institutional problems. This would

likely generate significant knowledge imports as well as mobilize domestic experts by

creating a large pool of potential problem solvers.[71]

Despite this considerable body of research indicating that when desired outcomes are

well-specified but how to achieve them are not, prize-type systems tend to be more

successful at achieving results than grant-systems, surprisingly very little work has been

done across a broader range of applications that focuses specifically on prizes as a

method to best deal with the fundamental incentive compatibility problems associated

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[71] The website of the X-Prize Foundation largely mimics these arguments:

> The X PRIZE model is very unique. Rather than awarding money to honor past achievements or directly funding research, the X PRIZE spurs innovation by tapping into our competitive and entrepreneurial spirits. We are now evolving the X PRIZE Foundation into a world-class prize institute to create additional radical breakthroughs for the benefit of humanity. We are actively researching the feasibility of new prizes in space, energy, genomics, education, nanotechnology, and prizes in the social arena… Put simply: offer a large enough cash prize with a well thought out set of rules, and you will achieve a solution.

with any relationship in which some entity (a principal) pays another entity (an agent) to achieve the former's objectives.

Mo Ibrahim, the Sudanese billionaire entrepreneur who owns the pan-African mobile phone company Celtel International, was probably the first public figure to make the connection between prizes and economic development with the October 2006 announcement of the Mo Ibrahim Prize for Achievement in African Leadership.[72] According to the website for his foundation:

> The Mo Ibrahim Prize for Achievement in African Leadership will be awarded to a former African executive Head of State or Government who has demonstrated excellence in African leadership. Unprecedented in its scale and scope, the Mo Ibrahim Prize consists of US$5 million over 10 years and US$200,000 annually for life thereafter. A further US$200,000 per year for good causes espoused by the winner may be granted by the Foundation during the first ten years.[73]

> The "Ibrahim Index" will rank country progress based on indicators of sustainable economic development; human development; health and education; transparency and empowerment of civil society; democracy and human rights; and rule of law and security. This index is being developed under the direction of Professor Robert Rotberg, Director of the Program on Intrastate Conflict and Conflict

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[72] An article version of this dissertation was presented at the Annual Meeting of the Public Choice Society in March of 2006, six months prior to the Mo Ibrahim announcement.
[73] http://www.moibrahimfoundation.org/the-prize.html

Resolution at the Kennedy School of Government, Harvard University, and will first be published in September of 2007.   Based on those rankings, a committee of six individuals, led by former U.N. General Secretary Kofi Annan, "the Committee will assess every sub-Saharan African leader who has left office in the last three years on their exercise of leadership. The Foundation will announce the first winner of the Prize on 22nd October 2007… Eligible candidates will have taken office through proper elections and left having served the constitutional term stipulated when taking office.

The Mo Ibrahim prize is an innovative idea on many counts.   First, it recognizes that governance issues (or institutions) are the most important feature preventing African development. Second, it defines the outcomes that it desires, but not the inputs or processes to obtain them; and third, it provides direct incentives to reform governance and improve institutions to those who have the most power and ability to reform governance and improve institutions.   The only real criticism available in the media about the idea is that the size of the award is probably too small to adequately incentivize good governance in Africa.   The Mo Ibrahim Prize for Achievement in African Leadership is similar in some respects to the model proposed here in that it aims to create incentives for reform by directly rewarding politicians for improvements in institutional outcomes. However, there are a number of notable differences.

One of the problems with the design of the Mo Ibrahim model is that it limits eligibility for the prize to democratically elected leaders who have recently stepped down.

Unfortunately, one of the main problems in Sub-Saharan Africa is autocratic-type leaders who refuse to step down because the perks of their office provide them with the opportunity for massive rent consumption. The Mo Ibrahim Prize offers no incentive for the Robert Mugabe's of the world to improve the institutions of their countries because they have already been disqualified.

The other problem with this model is that the awards are not disbursed on a rule-based system which distorts expectations and uncouples the direct link between the achievement of outcomes and awards. That is, the Mo Ibrahim Prize is similar to the Nobel Prize in that it uses *ex-post* discretionary judgment to determine winners based upon generally defined achievements, whereas the outcome-based system is similar to commission-based compensation in that it uses ex-ante defined rules to define the value of specific targets and benchmarks. The problem with the former is that leaders do not know the precise awards associated with various institutional outcomes so it becomes uncertain whether or not investments in institutional improvements are worth the economic and political costs. Even if reform takes place, there is no assurance that prize money will be received because awards are discretionary. No matter the level of effort put forth by the political elite, it is possible that another African leader will be subjectively judged to have had more success and win the prize. Under the Mo Ibrahim model, institutional benchmarks are not designed specifically for each country, so it is unclear to the political elite what exactly is targeted and the award for achieving a benchmark.

In this developmental setting, unlike in the R&D sector where technology tends to be non-exclusive, only an individual poor country can achieve institutional reform for itself, other countries cannot achieve it for them. Therefore, multilateral competition for the prize actually reduces incentives to achieve the targeted outcomes because in individual countries the benefits of the prize are discounted by uncertainty and the possibility that someone else will win. The winner of the Mo Ibrahim prize gets credit for improving the institutions in one country, but this does little to nothing for the institutions in other countries that stand little chance of winning. In order to maximize incentives and be fully credible, the prize money should be benchmarked to marginal institutional targets specific to each poor country and should disburse automatically once targets are met.

While not a perfect model, the Mo Ibrahim Prize is probably the best prototype seen yet for a prize-based aid system and deserves greater attention. As of this writing, it probably lacks the necessary resources to create incentives sufficient to have a significant impact on overall African governance. Rather than complain about this as a shortcoming of the program, donors should jump on this bandwagon and support similar initiatives.

Possible problems and concerns

One of the quickest objections that one hears to "prizes for development" is that it is merely "bribing" dictators and politicians to reform along Western lines. In a sense, this is exactly right; the disbursements can be seen as a bribe or a reward, but this is the point

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of the suggested program of prizes: *providing a direct personal incentive for political elites to adopt institutional improvements*.

If we are to take the cynical "public choice" view of politicians as self-interested individuals with objectives more aligned with maintaining power and maximizing rent extraction than producing policies compatible with long-run economic growth (as this dissertation has done), then the approach to foreign aid proposed here is proper because directly tying personal benefits to socially desirable achievements is the only way to properly align political and social objectives. Also, it should again be stressed that political elites in poor countries are already able to siphon off significant shares of foreign aid for their own purposes without any prior socially desirable achievements to show for it due to pervasive monitoring problems faced by donors. We do not yet have any effective means of curing these monitoring problems, so we should simply accept their existence and maximize the potential of foreign aid given this constraint.

Since governments are free to allocate the disbursements as they best see fit, similar to a surprise tax revenue infusion, this in and of itself could be distortionary. The money inflow could cause problems related to Dutch Disease and create a "resource curse." But it must be kept in mind that the resource curse has had the effect of causing institutions to *deteriorate*; cash infusions in the form of a prize would reward institutional *improvements*, and therefore would at least ensure that progress has been made. *The point of the disbursement following the achievement of benchmarks is not to aid in*

further development, it is only to provide political incentives to undertake activities that result in improved institutional outcomes.

The disbursement of prize money, however, might reduce institutional development in the period after the prize is granted. Corrupt elites can be expected to misuse a significant fraction of the money to influence future policy decisions. In a one shot game, the first best outcome would likely be for a donor to promise the outcome-based subsidy and then "cheat" by failing to deliver the resources as promised once institutional benchmarks were met. In this way, the reform has been made and the prize money would not be used by political elites to reward favored interests, which is often the root cause of economic policy distortions in the first place. But we live in a world of repeated games, so credible commitments by donors to deliver promised disbursements are essential to the prize scheme.

Another problem with paying for results are that it shifts risks onto the agent who is often less able to absorb them as is the principal. It can also lead to something called "multitasking," where the agent focuses only on observable output at the expense of non-incentivized aspects of a job, causing the overall quality of an agent's efforts to suffer. But neither of these drawbacks appears to be overly problematic in this context.

Grants and loans are beneficial if the agent lacks sufficient up-front resources to achieve a desired result. Take, for example, medical research on AIDS, where the R&D

represents a large fixed cost, the payoffs for success may be quite large, but the probability of success will likely be low. In this case, potential "agents" (researchers) may not have the personal funds to invest in such a risky venture up front and would require a "principal" (typically some non-profit organization) to supply the necessary capital for the project.

In the case of developing nations, however, access to financing has been shown to be less of a problem in recent years in that most have increasingly easy access to private financing on top of their own budgets. However, it may be the case that improving institutional quality is a very costly endeavor that many poor nations may not be able to afford on their own. If this is the case, then it may be possible for governments to simply borrow against the prize given so that they can prove to a private lender that institutional improvements could be achieved with a little up-front support.   Since prize disbursements are guaranteed, they could prove sufficient as a bank assurance of repayment, provided that the government seeking funds was seen as credible in its promise to achieve targeted results.   It is likely that private lenders have much greater incentives to monitor and ensure that claims of reform are credible than do donor organizations.   In reality, however, it can be almost certain that donors would be willing to lend money to governments viewed as serious reformers that honestly lack the necessary resources to carry out institutional improvements.

The system of aid prizes in this context would indeed also shift risk away from principals (donor institutions) and onto client nations. But in this context, shifting "risk" onto the recipient nations is exactly what is desirable because they can more effectively employ resources toward their highest valued use due to the informational advantages of localized knowledge. Also, the concept of "risk" for developing nations here is almost meaningless, because it seems unlikely that large-scale costly experiments would need to be conducted in order for governments to figure out, say, the best way to reduce business entry costs.

The other problem noted with prize-type systems is that the objective needs to be well defined or else the agent may over-devote efforts to improve the benchmarked aspects for which the prize is based at the expense of other, less observable yet important aspects. In the context of awarding prizes for development, international donors would need to ensure that economic goals were in fact well-defined and that the achievement of these economic goals would not come at the expense of non-economic/political goals.

Would such a system harm non-targeted institutions? Under some conceivable scenarios maybe, since political efforts to reform spurred on the potential for prizes may take priority over liberal-democratic demands. However, it should be reiterated that targeted institutional outcomes would be innocuous in that almost everyone can agree that they are "good" for a majority of individuals, at least in the long run. This is not another attempt to impose Western standards on Eastern and Southern countries. Good outcomes

such as reductions in measured corruption and increased access to infrastructure are the goals, but how to get there is completely up to individual poor countries. Indeed, good outcomes often come from diverse mixes of policies at the local level, one-size fits all has been a failure.

While good economic outcomes do not necessarily require democratic political outcomes, the former certainly cannot be expected to hinder the latter. A thriving private-sector interest in government has been shown to be a necessary condition for a well-functioning liberal democracy in the long run. Ultimately, policies that strengthen the private sector are likely to strengthen democratic institutions as well (philosophical support for this claim includes, most famously, Hayek (1944), Lipset (1959) and Friedman (1967)). [74]

To be socially efficient, the size of the prize is also important. If it is too small, the prize will attract less than the socially optimal amount of resources. If it is too large, it will divert resources from other more efficient uses. Donors will not be able to internalize the social benefits from institutional reform in particular countries, which will make it difficult for them to find the socially correct price (prize) for reform, especially since the social value of the prize may only be revealed *ex-post*.

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[74] While many empirical studies have explicitly studied the link between political freedom and its effect on economic growth, considerably much less work has been done on economic freedom's effect on political freedom. Indeed, it is often difficult to disentangle the direction of causality in these types of studies. However, Farr, Lord and Wolfenbarger (1998) employ the Granger-causality method in an effort to control for this endogeneity problem and find evidence that economic openness Granger-causes economic well-being which in turn Granger-causes political openness.

In practice, the size of the prize(s) ultimately depend on the willingness of donor countries to lend to the pool, which would, to an extent, internalize the costs and benefits to the donor, but not the poor country, of committing resources. Donors themselves would decide which countries they would most prefer to improve and divert resources toward that country's particular prize pool, therefore deciding for themselves the relevant trade-offs. While it would likely be optimal for donors to pool prize money for similar development goals, this would be a coordination issue that donors would have to learn to deal with, since some donors may want to reward different aspects of development.

Even with all of its potential benefits, anther objection is that a prize system is unlikely to be popular with either recipient nations or donors and is therefore not feasible in practice. This criticism is accurate, but does not affect the theory.

Hanson (1998) points out that prizes as a method to subsidize research became unpopular among agents in the 19th Century mainly because prizes are specific and dependant solely on results, hence the resources cannot be used to fund the desired activities of the agent/researcher. Once a grant or a loan has been rewarded *ex-ante*, there is always room for slack on the part of an agent because effort monitoring by the principal is imperfect. With a prize system, results can be achieved with minimum cost because there is no incentive for slack on the part of the agent since all input costs are borne by him and his "profit" is the difference between the prize and the cost of his effort. Poor nations could therefore be expected to complain about the prize system.

A prize system would likely be unpopular with donor agencies as well because it would remove future award discretion from their organization's staffs. Effort on the part of donors to effectively determine where to distribute resources would no longer be needed since prizes would disburse automatically to eligible nations that achieve specified targets. In this sense the "top-down" approaches by development agencies as lamented by Easterly (2006) would cease to exist, being replaced instead with "home-grown" institutions using only local know-how. Therefore, a potential problem with the institution of the prize model would indeed meet significant resistance from the donor community. However, since the donor community has already moved in the direction of performance-based aid through the creation of the MCC and the CPIA, moving further in that direction does not seem particularly difficult.

How Sustainable are Institutional Improvements?

The last objection to a system of *ex-post* prizes considered here is the most common and likely most serious. That is, even if prize money is disbursed over time to ensure maintenance of benchmarks, how sustainable are institutional improvements? Even though the method suggested here offers continued payments for improving and sustaining improvements in index scores over time, what is to prevent a nation from backsliding once the prize money is disbursed or there are no longer any new heights to reach?

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It is asserted that since institutional improvements are likely to cause private sector growth, this will create constituencies that benefit from the reforms and create pressure to maintain them. While this dissertation has focused mainly on the supply side of policies and institutions by looking at the incentives of the political elite, institutional reforms are ultimately demand-driven. In order to create and maintain this demand, a private sector interest that is independent of the state needs to exist. This is precisely what most poor countries are missing.

Using the political economy approach, we understand that political elites with a small winning coalition need to create and share rents in order to stay in power, and in order to do that they need industry to be dependent on the state and outside entry by private firms to be heavily regulated. As institutions are improved at the margin, private sector interests begin to take hold and gain influence, and this can create a positive feedback loop since growing private sector power independent of the state implies a broadening winning coalition. A broadening winning coalition, in turn, implies greater incentives among the political elite to supply public rather than private goods as democratic accountability improves. Greater supplies of public goods, again in turn, lead to lower transaction costs, increased efficiency, and ultimately greater economic growth. In this way, economic growth and sound institutions are self-reinforcing.[75]

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[75] Refer to the discussion in Chapter I about the endogeneity of institutions and growth and the empirical results found in Chapter V.

In order to test the hypothesis that institutional improvements are durable, the ICRG political risk scores were again utilized. Using the changes in the two five-year period averages[76] used in Chapter V, a very simple visual test was used. Over the earlier period, there were 41 total countries that improved their political risk score by 10 percent or greater. Out of these top performing countries, only nine (about 22%) had their scores subsequently deteriorate by 5 percent or greater in the later period, indicating that institutional gains are more likely to be consolidated than lost.

In order to check the robustness of this simple test result, another data set with a long time series was utilized. Gwartney and Lawson (2005) provide "economic freedom" scores that are widely used indicators of institutional quality that date back to 1970. While these scores are not ideal because they use preferred *policies* as part of the basis for their scores, they are the only other data set with a long enough time series to test the hypothesis that institutions do not tend to revert to a mean.

Since the sample size beginning in 1980 increases significantly to 102 countries, 1980 is used as the beginning point.[77] The scores are reported in five year intervals, but

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[76] Percent change from the 1991-1996 average to the 1997-2001 average and the percent change from the 1996-2000 average to the 2001-2005 average.

[77] The scores range from 1 to 10, with 10 being the "most efficient" and 1 being the "most repressed." The index score is based on five major indicators: Size of government (in terms of expenditures, taxes and enterprises); Legal structure and security of property rights; Access to sound money; Freedom to trade internationally; and regulation of credit, labor and business.

beginning in 2000 they are reported every year. Therefore 1980, 1985, 1990, 1995, 2000, and 2003 (the latest observation in the set) are used as data points. Of the countries with scores in 1980, the average score was 5.1 with a standard deviation of 1.1. After 1980, 81 of those 102 countries experienced an institutional improvement of 1 full point on the index score or greater. Of those that improved significantly (i.e. almost a full s.d. relative to 1980 scores) just 10 (about 12%) subsequently experienced deterioration in their score of .5 or greater and only three countries (Zimbabwe, Argentina and Kuwait) subsequently lost the full point previously gained. Most of this deterioration in score was due to large negative shocks such as war (e.g. Congo and Kuwait) or currency crises (e.g Thailand and Argentina) and reversion to previous highs had either occurred (e.g. Kuwait and China) or can be expected to occur (e.g. Argentina, Indonesia and Thailand).

Using this simple test it appears that, at least over the past 25 years, institutional improvements have been relatively sustainable once achieved, probably due to some underlying path dependency. Therefore, if institutional reforms could be catalyzed using the prize method, they would likely be sustainable and effective at increasing the prospects for economic growth and increased standards of living in the developing world over the long run.

A new future for ODA?

This chapter has demonstrated that aid should be outcome-based in order to improve its performance at achieving its stated objectives of spurring long run economic growth. Since those that control policy in the economy (the "political elites") have preferences for non-zero levels of market distortions due to the need to extract rent, the incentives of donors and poor country governments are not aligned and the result is a principal-agent problem that greatly hinders ODA effectiveness. Outcome-based aid, or "prizes for development," can create real political incentives for reducing the level of market distortions in the economy, thereby inducing the creation of improved institutions. If aid does not reward good outcomes though targeted subsidies, it will not create compatible incentives to supply reform.

Input (capital) and output (policy) based aid is subject to the problems and pitfalls associated with informational, political, and principal-agent constraints outlined in Chapters III and IV whereby the incentives of the poor country elite are not aligned with those of the donor. If aid is abandoned, states could remain stuck in one of the political economy traps outlined in Chapter II. Now that it has been demonstrated that "prizes for development" could be an effective method to align the interests of the general public with those of the political elites, the next chapter develops further applications.

VII. Suggested Applications

Infrastructure as a starting point

While a fully rule-based, conditional, system of aid disbursed for targeted institutional improvements has not yet been attempted in practice, a similar system is currently being employed by the World Bank to expand the reach and efficiency of infrastructure services across the developing world. The program is called the Global Partnership for Output Based Aid (GPOBA) and it arose mostly due to the inability of donors to overcome the principal-agent and informational problems associated with traditional forms of funding energy, water, transportation, telecom and health projects with inputs. GPOBA is a step in the right direction for ODA programs in general, and the program's initial successes at achieving donor targets in these sectors provides support for the theory that such a system should be extended to include more general and long-run growth-oriented objectives. In the infrastructure sector, the program should ultimately move to target not outputs but rather outcomes as argued in this dissertation.

Problems with traditional forms of donor financed infrastructure

In February 2006, a confidential document was published by the World Bank entitled "Infrastructure: Lessons Learned from the Last Two Decades of World Bank

Engagement." The document (to which the author of this dissertation was a contributor) was meant to serve as a primer to the then newly installed President Paul Wolfowitz on avoiding "white elephant" projects and other policy mistakes. Infrastructure projects were placed back on the center of the Bank's agenda in 2003 following a sharp decline in that sector's share of total Bank lending in the 1990s, when infrastructure was viewed as a "sunset" sector for the Bank. With a renewed emphasis placed on this sector, it was important to review why a significant number of projects had failed to produce expected returns in the past. The Bank therefore wanted to use "Lessons Learned" in part to produce financial and economic models that would better ensure high social and economic returns.

As in most financial and economic analysis, however, getting the assumptions right is where the real difficulties lie. In the past, the Bank has had some notable problems estimating (1) demand and sales; (2) macroeconomic risks; (3) construction costs; (4) actual investment contributions; (5) operation and maintenance costs; (6) currency risks; (7) political risks; (8) tariff rates; (9) tariff and accounts payable collection rates; and (10) operational efficiency (i.e. ability to control system losses and overstaffing). To cite a well known example, almost all of these factors were a problem in the Bank-financed El Cajon Power Project in Honduras.

In that project, according to the OED Project Performance Audit Report, demand for electricity in the first five years after El Cajon (1986-1990) was lower by an average of

29% when compared to the appraisal estimates for each corresponding year in the period (1). Sales increased at an average 9.3% per year, lower than the 11.3% forecasted at appraisal, due to lower than expected sales to neighboring countries as a result of changes in political (7) and economic growth conditions (2).

After commissioning the El Cajon Project in 1985, ENEE's (the project company) cash flow deteriorated further because of the heavy debt service arising from the project cost overrun (10% higher than appraisal estimates) (3), compounded by the devaluation of the dollar against other currencies (6). ENEE contribution to investment was US$84 million or 25% lower than expected at appraisal for the period 1980-1985, while the government's contribution amounted to US$153 million and was 45% higher than expected at appraisal for the total period 1980-1987 (4).

Up to 1984, electricity tariffs increased in line with the appraisal estimates and reached about US-cents 8.5/kWh. But in 1987, the average tariff decreased to approximately US-cents 7.5 /kWh, as compared to US-cents 10/kWh estimated at appraisal (8). Liquidity problems were also caused by ENEE's inability to collect payments from government entities. In all categories of national consumers, with the exception of the commercial group, ENEE's collection performance was judged unsatisfactory (9). Other aspects that

contributed, though to a lesser degree, to the financial deterioration of ENEE were the

high system losses and increase in the number of employees (5,10).[78]

These were just the problems the Bank encountered estimating the financial and

economic costs and benefits of proposed projects. The Bank also admitted that it

responded late to environmental and social concerns about its projects, as it was,

according to the document, "only in the 1990s that safeguard policies and transparency

and accountability mechanisms placed environmental and social sustainability firmly in

the Bank's development paradigm." It pushed privatization as a "universal cure" when

their lack of knowledge of local circumstances produced failed projects and social

backlash. Corruption has also been an on-going problem since they require procurement

and it is especially difficult to monitor the true costs of inputs and the quality of the final

product with respect to infrastructure projects.

An output-based alternative

Partially in response to noted past failures in financing infrastructure through subsidized

capital inputs, the Bank developed a new model early in the 21st century called "Global

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[78] Other more recent examples of financial problems in Bank projects arising from a failure to adequately anticipate a combination of the aforementioned risk factors include: Morocco, Water Supply V (1,8,9,10); Yemen, Taiz Water Supply Pilot (7,4); Mexico, Water & Sanitation II (2,8,9); Nigeria, State Water 1 (2,7); Haiti, Port-au-Prince Water Supply Project (9,10); Uganda, Ug Power Iii (8,9,10); Lebanon, Power Sector Restructuring (7,9,10); Malawi, Power V (8,9,10); Argentina, Yacyreta II Power (7,4); Niger, Transport Infrastructure Rehabilitation Project (2,5,7,8); Algeria, Dz-highways Vi (7,10); Indonesia, Railway Efficiency Project (5,7,8); Ghana Second Telecommunications Project (7,8,9).

Partnership for Output Based Aid" (GPOBA), based in part on the premise that the best way to achieve results in the infrastructure sector was to award subsidies to contractors only *after* specified targets were met. In contrast to upfront input subsidies, output-based aid makes it less difficult for donors to ensure that their objectives are in fact met. Conversely, input subsidies tend to be poorly targeted, poorly monitored, and tend to benefit the better-off, more politically powerful customers. According to an OBA working paper[79] (2005, p.1):

> The OBA approach is performance-based because it strongly links the payment of service providers to their delivery of specified services, or outputs. This payment on outputs transfers performance risk to the service provider. The provider largely self-finances the service, receiving reimbursement mostly after the verification of successful delivery. By contrast, in other approaches donors or governments (or both) pre-fund "inputs," so there is commensurately less transfer of performance risk to the service provider.

The OBA website claims that it can help improve aid effectiveness by increasing accountability; improving transparency; increasing value for money; and reducing economic distortions. A major goal of GPOBA has been to leverage private sector money for public sector purposes by subsidizing user-fees and tying that subsidy to the delivery of services. This has involved entering into contracts with private service

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[79] Available at http://www.gpoba.org/documents/OBApproaches_What_is_OBA.pdf

providers in order to meet pre-defined performance targets. The subsidies usually take

the form of cash payments. According to Brook and Petrie (2001, p.3), many developing

countries—and many organizations in these countries— have adopted aid schemes with

output-based elements:

> ▪ In Chile, subsidies for water services to low-income households flow to
>
> providers only when a qualifying household has received the service and paid its
>
> share of the bill... Guinea has also used an output based subsidy scheme for water:
>
> an International Development Association credit was used to ease the transition to
>
> cost-covering tariffs…
>
> ▪ In Haiti and Romania primary health care providers in rural areas receive
>
> compensation based on their delivery of defined basic services, with an emphasis
>
> on preventive care …
>
> ▪ In Peru telecommunications companies compete to expand and sustain
>
> services in rural areas on the basis of the smallest subsidy required…

In terms of a principal-agent model, by defining what services need to be delivered in

order for subsidies (aid) to be disbursed, the aid agency is able to shift a significant

amount of risk onto the contractor and provide direct incentives for the successful

achievement of service goals. All the principal must do under these types of schemes is

monitor compliance with service goals. Therefore, it is important for the principal to

focus on the completeness of the contract by ensuring that goals are well defined. Earlier

models of aid, by focusing on financing facilities or other inputs, faced the problems

discussed above related to a lack of localized knowledge, lack of incentive on the part of the client nation or contractor to perform, and other monitoring failures.

As of April 2007, there had already been 66 GPOBA funded projects initiated which included output-based subsidies of over US$150 million.[80]   While it is still too early to make an empirical determination of the overall success of the GPOBA model, initial successes across a number of countries and sectors has led to increasing enthusiasm for the scheme.

An outcome-based alternative

While GPOBA is another excellent idea in that it targets real *outputs* rather than inputs, it doesn't go far enough in the direction of prizes, which target *outcomes*.   A prize-based model would involve the simple selection of targets for infrastructure services (outcomes) and a disbursement of aid in the form of pure cash transfer for their achievement. Just like the examples in Chapter V, the World Bank or other donors could set benchmarks and "prizes" for their achievement, leaving the "how" completely under the discretion of the eligible client nations.   Rather than promote a policy of privatization based on Western experiences, the eligible nation would be empowered to choose whichever policy it wished to pursue in order to meet the pre-defined outcomes set by donors. The

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[80] GPOBA website: http://www.gpoba.org/gpoba/index.asp

client nation could choose to contract with whomever they wished and use any model they felt would best achieve results.

In the developing world, for example, the lack of access to clean, piped drinking water is a huge and continuing problem. In terms of Table 17, the World Bank could simply define benchmarks for improvements to water access and water quality and award a "cash transfer" to the government for their achievement. By rewarding outcomes rather than inputs or even outputs, all information requirements are shifted onto the agent as incentives become compatible and are maximized given existing constraints. Donors would no longer have to pick and choose projects to fund and the aspects of the output to subsidize as they normally do in a GPOBA contract.

The targets set would be separate for each individual country depending on their current development status, since not every country will be able to achieve the same access and quality. Of course, targets need not be set for just one individual sector; the prize could be some function of a broad range of general infrastructure goals including, for example, access to electricity, information technology, and/or paved roads.

Table 18 – Prizes for Infrastructure: A Water Example

% of people with access to an improved water source * avg. water quality	Initial Award	Sustained 2 years since award	Sustained 5 years since award
20% improvement from initial benchmark	US$100 million	US$25 million	US$10 million
25% improvement from new benchmark	US$200 million	US$50 million	US$20 million
25% improvement from latest benchmark	US$500 million	US$75 million	US$35 million

The potential problems in "prizes for infrastructure" are the same as those faced in "prizes for institutional reform," and so are the solutions. To many in the donor community, the problem faced by poor countries is still largely one of a "financing gap" or an inability to afford Western luxuries such as piped water, toilets, and access to paved roads. They therefore see no way for them to achieve performance goals without up-front financial support from Western donors. But to those who take the political economy view, the problem faced by poor countries is and has been an "incentive gap" in the form of rational unwillingness on the part of the political elite to perform the proper role of government. The real problem is that most elites prefer targeted transfers for private benefit over the production of public goods and care little about the plight of the politically powerless poor. If these incentives are transformed, the problem can be overcome.

Even so, infrastructure remains costly and many states cannot in fact afford to provide their citizens with adequate public goods in the short run. The beauty of rewarding outcomes through prizes, however, is that they would allow states to leverage their own resources along with the resources of private investors against the prize for performance. Since this has the effect of shifting risk onto the state, it provides incentives to produce results at the lowest possible cost, ensuring a lack of slack. If the political elite could be incentivized to rearrange their budget priorities in a more efficient manner, targets could conceivably be met at a substantially lower cost than the prize amount itself, providing a direct political incentive to meet targets.

What about the potential for cheating and multitasking? Again, the role of the donor would have to be to ensure that targets were well-defined and were independently verified in order to deflect accusations of politically-based data collection. The problem of sustainability is also an issue here, but phasing out subsidies for the maintenance of benchmarks should ensure that new infrastructure access is adequately maintained in the short run, while creating a habituated constituency for their long-term maintenance. As with microeconomic institutions and living standards in general, it is rare that infrastructure access drops off and does not quickly recover to previously attained levels.

A more effective industrial policy

Most economists worry about government-led industrial policies "crowding out" the private sector. While most of these fears are not misplaced, a noticeable void often replaces sincere attempts to replicate the perceived successes of some governments at promoting industrial activity within their own borders. What many economists forget is that while better functioning markets and increased rule of law may encourage growth eventually, it can often take considerable time for a country to reap the benefits of sound institutions.

According to Rodrik (2006b, p.2), "The implicit view is that once the 'economic fundamentals'—macroeconomic stability and well-functioning markets – are in place, structural transformation is an automatic process…In reality, the expansion of manufacturing activities in low-income environments is fraught with externalities and spillovers of all kind." Most importantly, it takes time for institutions to be viewed as credible among potential investors. Normally, countries need to amass quite a considerable track record of stability before perceived political risks fall to levels where foreign and domestic investment flows reach critical mass and grow at increasing rates.

Second, institutions are not always the problem in the short and even medium run. Other constraints include the education and skills of the local population, geographical location, and more complex coordination problems that prevent investors from coming together and building increasing return industries. This is why it is important for the governments of under-developed countries to make every attempt to "crowd in" investment by

subsidizing the positive externalities that industrialization undoubtedly brings.[81] If they

can do this as efficiently as possible, sincere governments can have success in speeding

up the process of economic growth and creating a virtuous cycle of institutional and

income gains.

But there are good reasons why industrial polices are, according to Rodrik, "still frowned

upon"[82] by many economists. The classic objection is that support for industry requires

the government to select winners, and bureaucrats normally lack sufficient information

and incentives to do a good job at these types of activities. Since subsidies ultimately

require taxes, government industrial policies can crowd out other, often more efficient,

private sector activity.   Most often, industrial policies have necessarily consisted of

protectionism in one form or another. This industry protection, rather than supporting

growth by insulating domestic firms from outside competition until they are able to

compete on an international scale, actually led to industrial decline as domestic firms,

undisciplined by market pressures, never developed.

A third major objection to domestic industrial policies is that they encourage rent-seeking

and ultimately corruption.   Once favored firms get entrenched, it is difficult for the state

to dislodge itself from the industry as the political costs of deregulation grow along with

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[81] Most notable among these positive externalities are increasing know-how and growing market size
though integration into the international economy.
[82] Ibid. p.3

the number of political supporters who could lose jobs and wealth from freer competition. This has arguably been the case in many Latin American countries.

A final objection applies to East Asian countries that were once viewed as having implemented successful industrial policies. The problem is that even while governments can sometimes successfully promote industrial expansion in the short and medium run by handing out subsidies, the system soon sows the seeds of its own destruction as a crisis in one form or another ultimately hits. This can result from the government's unique ability to hide the true costs (or often risks) of its policies for a considerable period of time, building up institutional problems until the rot in the system is exposed and the entire system collapses.

What is needed is a method to incentivize domestic industry to expand its operations that does not pick winners, does not involve direct protection, does not encourage rent-seeking, and is administered transparently. Going back to our original model, the problems that tend to plague government industrial policy are informational (bureaucrats have trouble picking winners), principal-agent (the government cannot effectively monitor protected firms to ensure that they are not slacking but instead using their period of protection to adopt international best practices and expand), and political (politicians and protected firms become co-dependent and corruption necessarily spreads). The solution to these pervasive problems in development and policy also follows the model of this dissertation.

Industry protection is nothing more than a broad hidden subsidy to a sector or firm.

Protection can therefore be thought of as an input supplied by a government (principal) to

an agent (a firm or cluster of firms) in order to achieve an increase in a specific output

(good they produce) for the ultimate purpose of achieving a specific outcome (i.e. greater

world market share in the sector). We have discussed at length in Chapter VI the

inherent problems associated with paying an agent for effort rather than for performance.

Flowing from the model presented in this dissertation is a solution to the problem: award

firms cash prizes for the achievement of pre-defined outcomes such as increases in firm-

specific global market share in specific sectors.

A prize awarded to firms for increasing their global market share would link subsidies

directly to desired outcomes and limit distortions that often result from industrial policies.

"Prizes for industrialization" would not involve bureaucrats "picking winners" because

the competition would be open to all firms in a given sector.   For example, the

government could target broad sectors such as "apparel" or "machinery" manufacturing

and set benchmarks for percentage increases in firm-specific global market shares over a

specified period of time that would trigger the cash award to shareholders. All firms

achieving, say, a 15% increase in their global market share in their specific sector over

five years would receive the prize.[83] The prize / conditional subsidy therefore, would be

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[83] So an apparel manufacturing firm would qualify in this example if it began with a global market share of,
say, 0.00045% and ended with 0.0005075%, a 15% increase in global market share. Upper and lower
limits would need to be set for overall market share to prevent monopolization and "fly by night"
operations respectively.

open to all firms competing in a given sector and would provide all firms with an equal chance of achieving targets since they would be based in percentage improvements in firm-specific market shares.

This type of subsidy would avoid direct protection and its debilitating effects of insulating firms from global competition. In fact, it would ensure that the firm had become *more* competitive before it received the subsidy. If the creation and administration of the prize system for industrialization were done transparently and, most importantly, disbursements were *rule-based*, then this would have the effect of limiting the rent-seeking, which is the usual bi-product of industrial policies. Since who gets what will be pre-determined at the outset of the program, this should limit incentives to rent-seek provided governments can credibly commit to the rules of disbursement.

Monitoring the indicators is of course the big issue here and governments would have to ensure that credible and independent international consulting firms were able to collect firm level data accurately and without outside influence. Participating firms would more than likely be required to hire an independent auditor both when they enter the competition and when they make a claim to have achieved prize benchmarks. Independent government commissions would also likely need to be established in order to regulate the competition.

One of the external benefits that would perhaps be generated by the competition engendered by this system is the influx of foreign expertise to help firms achieve their growth targets. In this way, the system feeds on itself to produce a virtuous cycle of learning, growth, and further learning by doing. The prizes would also spur risk-taking in that they would raise the expected rates of return to many investment projects. They would also create new incentives for coordination among firms to merge and form the industry clusters so necessary for increasing returns. This need to subsidize risk-taking most often stems from already below optimal rates of investment that in turn stems from a lack of institutional credibility and a culture that is new to global entrepreneurship. More developed countries, by contrast, have likely already achieved optimal levels of investment, and therefore prizes for industrialization may not be the best use of tax revenue.

One objection to this model is that it is basically a regressive income tax. But this is not the case since corporate taxes tax firm level income *flows* from year to year. The prize system would award the achievement of a *stock* variable, such as an increased global market share in a given sector, with a one-time cash infusion. It is likely to be optimal to separate the prize from the tax system, but it is conceivable that governments would choose to work the scheme through the tax code.

Another objection is the possibility of contract incompleteness; that is, how would the government define sectors and participants? This doesn't seem to be too difficult a

problem to solve since the firm would likely apply to participate in one sector, with

approval dependent upon a government regulator.   The terms of the contest would be

simple because it would only focus on measuring and monitoring one main outcome:

either direct firm-specific growth or increases in global market shares.   Rewarding

expanding profits would probably not be optimal, because greater profits can be achieved

by decreasing scale in an industry, and the government's interest is to subsidize industrial

expansion so as to subsidize the positive externalities that go along with it.

So we now have established a plausibly workable method for creating incentives for

political elites to supply institutional improvements and for the private sector to supply

the entrepreneurship and risk-taking necessary for expedited growth.   The application of

the prize model need not stop there.   Prizes for peace are an obvious next application.[84]

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[84] Hopefully, it is clear from earlier arguments presented in this dissertation what such a prize system would
look like and why the Nobel Peace Prize falls short!

VIII. Summary and Conclusions

Overall, the main point of this dissertation is simple: directly subsidize good outcomes in order to increase the equilibrium level of good outcomes. This dissertation has demonstrated the importance of creating a foreign aid mechanism that creates political incentives for reducing market distortions and ultimately inducing institutional reform. "Prizes for development" does this optimally by tying foreign aid to the achievement of benchmarks that measure institutional or perhaps economic outcomes through a rule-based system that transfers ODA disbursements directly to the budgets of developing countries.

Chapter I demonstrated the growing consensus among economists that institutions are the fundamental cause of long-run growth. That is, unless private property is protected, public goods are provided, starting and closing a business is simple, laws are predictably and swiftly enforced, and corruption is controlled, accumulation cannot take place to an extent where convergence with rich western countries with sound institutions will ever occur. Chapter II demonstrated that political economy externalities exist that justify outside intervention. Many times, the political elite in a given nation will have little incentive to improve the institutions of their own nations because such actions may result in a loss of rents or office tenure. In "natural states" politically imposed barriers to entry

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create rents that can be distributed as private goods among a small group of regime supporters rather than as public goods that benefit broader segments of society. Market distortions and poor institutions thus become the main mechanism through which governments sustain themselves. In poorly functioning democracies, principal-agent problems can lead to the same result. Even in well functioning democracies, problems such as majority cycling, inequality, state capture, and lack of voter knowledge may prevent the creation of a sound institutional framework for economic growth.

Chapter III demonstrated that earlier modes of disbursing ODA were fundamentally flawed because they were unable to overcome inherent principal-agent, informational, and political problems. Providing inputs for individual projects is doomed to fail because it ultimately provides no incentive for the political elite in both dictatorships and democracies to improve their institutions. Chapter IV reviewed the attempt by donors in the 1990s to improve ODA performance by conditioning aid on outputs such as policy changes. Such efforts proved to be disappointing because of commitment problems on the part of donors under a discretionary system as well as informational constraints related to region-specific knowledge of "effective public policy." Political constraints also resulted in "see-saw" effects whereby reform in one area would be offset in another, resulting in similar outcomes which maintain political equilibrium.

In the early 21st Century the focus shifted to the "selectivity" model, whereby ODA was to be tilted to favor developing countries that either had or were working towards the

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creation of, relatively sound institutions. This model of making aid more directly

effective at causing growth also failed because the logic and empirical work behind it was

shown to be flawed. However, the selectivity model was a step in the right direction, a

step toward creating political incentives for institutional improvement, even if ODA itself

was still unrelated to growth. In Chapter V, regression analysis was used to test the

hypothesis that aid rewards good outcomes. The data showed that changes in non-

humanitarian aid were indeed positively related to changes in the indicator for

institutional outcomes in the more recent period, but not in the earlier period. This

finding is encouraging, because in order to subsidize good outcomes, basic theory

dictates that marginal changes in ODA need to be a direct function of marginal changes

in outcomes. While this improvement can be attributed in part to the rise of the

selectivity model and such programs as the MCC and the World Bank's CPIA, there is

still room left to enhance the incentive-creating effects of ODA even further because

current aid models are still obsessed with the direct effectiveness of aid.

Chapter VI of this dissertation outlined a new model of foreign aid that is conditional and

completely outcome based, and demonstrated why it solves the issues discussed in the

first four chapters. "Prizes for development" solves the principal-agent problem by

shifting all responsibility for improvements in outcome-based indicators onto the client

nation. It also addresses the political economy constraints to development by targeting

measurable economic and institutional outcomes and providing the political elite with

real incentives to eliminate distortions since payments are made in the form of a rule-

based cash transfer. This should have the effect of inducing broader institutional reform and creating an enabling environment for growth.

Untied, ad-hoc aid projects should continue only to address immediate humanitarian needs. Small-scale endeavors will always be necessary to improve standards of living when needs are obvious. Providing mosquito nets to Africans to protect against the spread of malaria and ensuring that rural villages in East Asia do not starve following a drought remain necessary types of endeavors. With regard to activities that cause economic growth however, the donor community needs to come to grips with its own powerlessness and realize that past attempts to spur growth via ODA infusions to small scale projects have failed.

Chapter VII developed several natural applications of the outcome-based aid programs advocated in this dissertation. It was argued that both infrastructure and industrial policies can be driven forward by such aid programs in a manner that is likely to be more effective than older unconditional and ad hoc subsidies.

Policy makers are nearing a consensus that in order for long-run sustainable growth to be achieved, aid programs must induce institutional improvements, which is evidently necessary for the development of a thriving private sector. The presence of prizes for development could channel local knowledge into the creation of institution improving

innovations and further applications to industrial policy could better incentivize risk-taking by the private sector to speed up the growth process as efficiently as possible.

The goal of a system of development prizes is to overcome problems associated with weak institutions, which often stand in the way of reform because the interests of the political elite are best served by preserving existing distortions. By making it personally profitable for the political elites to improve institutions, development goals can be achieved at a much lower cost and with fewer distortions. Such a system could be beneficial in both autocratic and democratic settings since in each case elites or special interests exist that are able to prevent reform. Prizes can serve as credible compensation to losers from the reform.

The clear and largely uncontroversial outcomes argued for in this dissertation may also help to overcome the problem of the citizenry falling victim to belief in specious or "populist" public policy by "institutionalizing" proper national targets. That is, if outcomes are clearly publicized and rewarded by donors, then these issues may become increasingly more difficult to demagogue or ignore by politicians. In this regard, the prize system could become a focal and easy to understand system with significant educational properties that democratic reformers could rally around.

In sum, the policies proposed by this dissertation attempt to reform the way in which development aid is dispersed in order to account for the political, informational, and

principal-agent type constraints to institutional reform. Unfortunately, reforming the

present system of aid organizations is also a difficult problem to overcome. How to go

about reforming international agencies, however, is a topic left for future research.

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