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**The Effectiveness of Foreign Aid: The  
Role of Political Institutions**

A thesis submitted to

**Trinity College, University of Dublin**

For the degree of

**Doctor of Philosophy**

By

**Jennifer Brett**



Thesis 9593

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## Summary

This thesis investigates the effect of political institutions on the effectiveness of aid. More specifically, the thesis examines the use of aid under different political institutional frameworks. This thesis aims to fill two gaps in the current literature. First, the role of political institutions has been investigated in a rudimentary manner to date. Instead of utilising measures of institutional quality, this thesis presents measures of actual political structures, and models the behaviour of aid recipient governments under such structures. The second gap this thesis aims to fill is the lack of alternative dependent variables in aid effectiveness studies. Rather than employ the standard dependent variable of economic growth, this thesis uses several measures of public goods expenditure. Using these dependent variables demonstrates how governments use aid and whether they pursue pro-poor policies or seek to misuse and abuse the aid that they receive.

The thesis carries out an empirical analysis using a dataset derived from several sources, such as, the World Bank, the IMF, Transparency International, and from individual academics. The full dataset covers 121 countries from 1960 to 2008. Although, the countries and time period varies between chapters. The current aid and political institutions literature is used to develop theoretical frameworks of the relationship between political institutions and aid. In particular, the thesis considers the role of political institutions in creating political accountability. Where institutions create political accountability, political actors respond to the incentives created by this accountability. These frameworks are tested using statistical methods.

The findings of this thesis indicate that political institutional frameworks do affect the decisions recipient governments make in relation to aid. Political accountability can result in



aid having a positive effect on public expenditure. Political constraints, or ‘checks and balances’, encourage governments to invest more aid in social expenditure such as, health and education. When such constraints do not exist, rent seeking behaviour occurs, which lessens the positive impact of aid and diverts aid funds to sectors where there are rent-seeking opportunities to avail of. In addition, political accountability created through decentralisation can lead to more aid being invested in local public goods. Fiscal decentralisation results in more aid invested in local health. In addition, aid has a positive impact on local education expenditure when fiscal and political decentralisation coincides. However, political accountability can produce adverse effects for public goods expenditure. Personalist electoral rules, which create closer ties between voters and their individual representative, tend to dampen aid’s effect on education expenditure in presidential systems.

This thesis concludes that political institutions have a significant impact on the use and effectiveness of aid. However, in order to investigate the impact of institutions, this thesis stresses the need to move away from subjective measures of institutional quality and toward measures of institutional structures. This research also questions the suitability of the traditional aid effectiveness dependent variable, economic growth. There are several challenges associated with that dependent variable and this thesis demonstrates the appropriateness and less problematic nature of alternative dependent variables. Finally, the findings indicate that a country classified as ‘democratic’ is not more likely to use aid effectively. The political structure of the recipient country, whether democratic or not, is the crucial mediating factor.

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## *Chapter 1*

### **Introduction: Foreign Aid and Political Institutions**

Since the beginning of foreign aid transfers, there have been critics who question if aid ‘works’. Many have readily criticised aid as doing no good, even having adverse effects, and argue that it should be halted. Easterly and Pfitze (2008) write that \$2.3 trillion of foreign aid has been given in the past 50 years with little economic growth to show for it. Moyo (2010) argues that aid is a destructive force that has bred corruption and incompetence and has actually impeded economic growth. These are undoubtedly serious accusations against foreign aid but they do raise the question of how is it determined if aid ‘works’ or not? Certainly, a percentage of aid is abused and misused, although, this percentage remains unknown and unquestionably varies between countries and across time. Despite its criticisms, there is ample evidence to conclude that some percentage of aid does ‘work’. This is seen in successful immunisation programmes against malaria and tuberculosis, the provision of drugs for HIV/AIDS, the construction of health clinics and schools, the provision of school textbooks, and so on. This evidence indicates that aid can and does work, and crucially, can produce positive outcomes for those living in poverty. Often those who criticise aid, such as Easterly and Pfitze and Moyo above, do so, because it

does not appear to have generated economic growth. However, whether this is a correct, and the sole, identification of aid ‘working’ is questionable.

This thesis does not add to the literature on the question of whether aid works or not.

This has been a long-running debate often involving back-and-forth wrangling between researchers. As mentioned above there are sufficient examples of aid being effective and having indisputable positive outcomes. Hence, it is assumed from the outset of this thesis that aid can be effective. However, it is acknowledged that not all aid is effective. This then leads to the question; if aid can be effective, why, at times, is it clearly not? To answer this question this thesis focuses on the variation in political structures across recipient countries and attempts to identify the political structures under which aid is most effective, or most likely to ‘work’. More specifically, the thesis investigates the impact of political institutions, namely checks and balances, decentralisation, and personalist electoral rules. Investigating the effect of conditional factors on aid’s effectiveness has been popular in recent years, since the seminal Burnside and Dollar (2000) article declared that aid was more effective in countries with “sound” economic policies. However, to date, the literature has only “fleetingly” looked at how political factors condition the effectiveness of aid (Wright and Winters, 2010; 68).

This thesis investigates the political institutional structures that shape the incentives of political actors who receive aid rather than examining the overall *quality* of institutions. A measure of the quality of political institutions has been included as a control variable in several aid-growth studies. The most frequently used measure is the International Country Risk Guide (ICRG), which is an aggregated measure of bureaucratic efficiency, rule of law and corruption (Knack and Keefer, 1995; Burnside and Dollar, 2000; Easterly, et al., 2003; Brautigam and Knack, 2004;

Clemens, et al., 2004). The ICRG measure has faced criticism and Mosley, et al. argue, “The indicator itself hardly convinces in its ability to capture comprehensively the quality of a country’s policies and institutions for promoting growth” (2004; 218). Other measures of institutional quality used in aid studies include a corruption index (Calderon, et al., 2006) and the Freedom House measure of democracy (Knack, 2004).

Much of the debate on the effect of institutional quality ties closely to the larger debate on ‘good governance’. Good governance and institutional quality are linked by concepts such as accountability, transparency, bureaucratic efficiency, corruption, and more. In reality, these two terms are often used interchangeably with both having broad definitions and acting as an umbrella for several similar concepts. Riddell (2007) claims that in the past 10-15 years, donors have come to believe that good governance is central to understanding why aid is effective, and as a result, they have shown a greater interest in institutional quality as well. Good governance is expected to assist the effectiveness of aid by removing the risk of corruption, reducing poor fiscal and monetary policy, and lowering bureaucratic inefficiencies. But the actual links between governance and aid effectiveness remain unclear, not least because there is no agreed definition of good governance – see table 1.1 for a list of definitions used by some of the main development organisations. ‘Governance’ is an all-embracing concept; therefore, labelling a problem as a consequence of poor governance does little to identify exactly what the problem is and how it might be addressed. It is accepted knowledge that good governance is in some way linked to aid effectiveness but there is little knowledge on what aspects of governance matter for the use of aid, and how such aspects affect the use of aid.



**Table 1.1: Definitions of Good Governance**

Good governance is characterised by participation, transparency, accountability, rule of law, effectiveness, equity, etc.	OECD
Good governance refers to the management of government in a manner that is essentially free of abuse and corruption, and with due regard for the rule of law.	IMF
Inclusiveness and accountability established in three key areas: “selection, accountability and replacement of authorities (voice and accountability; stability and lack of violence); efficiency of institutions, regulations, resource management (regulatory framework; government effectiveness); respect for institutions, laws and interactions among players in civil society, business, and politics (control of corruption; rule of law)	World Bank
Characterized as “participatory, transparent...accountable...effective and equitable....promotes the rule of law.... ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision-making over the allocation of development resources”	UNDP
“seven key governance capabilities: To operate political systems which provide opportunities for all people...to influence government policy and practice; Provide macroeconomic stability....to promote the growth necessary to reduce poverty; Implement pro-poor policy; Guarantee the equitable and universal provision of effective basic services; Ensure personal safety and security...; Manage national security arrangements accountably...; Develop honest and accountable government....”	DFID
Democratic governance: “transparency, pluralism, citizen involvement in decision-making, representation, and accountability;” focusing particularly on five areas: “legislative strengthening, decentralization and democratic local governance, anti-corruption, civil-military relations, and improving policy implementation”	USAID

Sources: OECD, 2006; IMF, 2007; Grindle, 2007

The existing indicators of governance have been labelled as poor (Wright, 2006; Riddell, 2007), which exasperates this problem. Indicators of governance have been criticised for being subjective and reliant on a few interviews of ‘experts’, on whom the quality of the response entirely depends. Such indicators can also have large margins of error and systematic error since often they do not vary over time and the same experts are used repeatedly.

There is also criticism that measures of governance are endogenous by construction – countries with good economic outcomes may get ratings that are more favourable, and this is reinforced if an indicator uses ratings from other organisations that use the same methods to construct their ratings. The issues listed above are problematic, but the most relevant problem for this thesis is that these subjective indicators do not describe the underlying political processes that determine how leaders will use aid.

This thesis argues that it is better to model the behaviour of political actors who receive aid under different institutional structures than to utilise a measure of good governance or institutional quality. The examination of institutional effects over the use of subjective ‘quality of institutions’ or ‘good governance’ indicators marks a positive development in the understanding of the use and impact of aid (Wright, 2006). Looking at specific political institutions gives us a sense of the causal mechanisms that may lie underneath the relationship between good governance, or institutional quality, and aid effectiveness. This is an essential step in understanding how aid works once it enters a recipient country, yet the area of institutional structures is a relatively unexplored aspect of aid. Joseph Wright argues, “Very few researchers have looked at *how political constraints impact recipient countries’ incentives to invest aid*” (2007, 36). As a result, there remains a high level of uncertainty as to what *dimensions* of institutions matter most for the effective use of aid (Grindle, 2007; 2; Riddell, 2007; 373).

Political institutions matter for the use of aid because they create incentives to which leaders respond and constrain the decisions that leaders can make. In a sense, this can be summarised as political accountability. Political accountability stems from political institutions and the level and quality of accountability is heavily determined by institutional structures. When we consider ‘good governance’, a key aspect is the

existence of some form of political accountability (see definitions in table 1.1). However, political accountability is also directly related to several other aspects of good governance, such as corruption, government efficiency, and citizen involvement. The interest in how political accountability affects a government's policy-making is a core focus of this thesis. It is expected that a government's use of aid is affected by political accountability, with the effectiveness of aid improving as governments face higher levels of political accountability.

Investigating the impact of aid under different institutional contexts then requires the consideration of two questions; who is a leader accountable too and, how does this affect their policy-making? This thesis considers different groups to whom a leader may be accountable. Institutions such as elections make leaders accountable to a large number of people, and often this is what is meant when political accountability is referred to – accountability to an electorate. However, leaders and governments can also face political accountability to other political institutions. Effective checks and balances make them accountable to institutions such as the legislature and judiciary, and demonstrating this form of accountability is crucial to making 'credible commitments'. In terms of how accountability affects policymaking, the thesis investigates the effect of political institutions on governments' use of aid in policy-making. The thesis considers the effect of high and low political accountability, i.e., whether governments are accountable to many or few citizens and/or institutions. Rather than focusing on aid's impact on policy outcomes, such as economic growth, this thesis focuses on policy output, i.e. the relationship between aid and the spending policy that is formed by government. The policy output of interest is the level of public goods expenditure. This means that the dependent variable in this thesis is not economic growth as is usually the case in aid

effectiveness studies. Instead, different forms of public goods expenditure are utilised as dependent variables.

The next section of this introduction chapter outlines the impact of political institutions on aid via the channel of political accountability. This is followed by a brief justification of the use of an alternative dependent variable and a short description of public goods expenditure. The final section of the introduction is an outline of the remaining chapters in the thesis.

## **Aid and Political Accountability**

How does political accountability affect public goods provision by governments? This thesis considers two ways in which accountability generates constraints and incentives that increase a government's propensity to invest in public goods, and thereby invest aid in public goods. Two chapters, five and six, consider the affect of needing to demonstrate accountability in order to attract investment and to generate national economic growth. Both of these chapters consider the role of making 'credible commitments' in governments' decision to generate human capital. Two other chapters, seven and eight, consider the incentives created by being accountable to an electorate. When a government is accountable to a broad electorate as opposed to a small, elite group, they are more likely to provide public goods rather than private goods. However, in democracies where all leaders are accountable to a broad electorate, political institutions can create further incentives and constraints that affect political accountability. For example, the electoral system can create incentives for politicians to provide private goods to core constituents rather than public goods for the whole electorate.

It is often assumed that leaders' main concern is their own political survival; therefore, leaders are likely to respond to incentives that increase their chances of political survival. For many leaders survival depends on re-election by a large number of voters. For others, it means maintaining the support of a small or elite group in society, such as the military. In a democracy, a leader is accountable to a large segment of the electorate. In an authoritarian regime, the group a leader is responsible to is likely to be much smaller. The composition of that group will differ across types of authoritarian regime, for example, one-party states versus military regimes, but the size is likely to be similar – small relative to the size of the population. The size of a group a leader is responsible too affects the type of policy that they make. In general, where a leader is accountable to a large percentage of the population, as in a democracy, they have an incentive to provide public goods. It is extremely expensive to provide private goods to a large number of people so providing public goods is a more efficient way of retaining the support of voters. Of course, even those who did not vote for the leader will benefit from such goods. In such an environment, aid is used to fund the provision of these public goods. If a leader is accountable to a small group, as in most authoritarian regimes, then they have an incentive to provide private goods. These private goods are used to retain the support of that core group the leader needs in order to stay in power. Since the size of the group is small, it is cost efficient to provide private goods from which others can be excluded. When this arises, it is likely that such leaders will use aid to provide these private goods. This theory is outlined by Bueno de Mesquita, et al. (2003) in *The Logic of Political Survival*, and is used to explain a range of policy decisions by leaders, such as the decision to go to war and the use of aid. They

identify the group a leader is accountable to as the winning coalition, which is the political institution crucial to determining levels of political accountability.

Of course, the winning coalition is a very general political institution and there are more specific institutions within a country that will condition policy output. As will be demonstrated in subsequent chapters, political institutions create incentives for private goods provision in democracies. The presence of personalist electoral rules brings elected officials closer to smaller groups of voters, thereby incentivising private goods provision (Carey and Shugart, 1995). The decentralised structure of a country can also influence how local politicians respond to citizens – as will be demonstrated below, the presence of sub-national taxation and direct elections influence the impact of aid at the local level.

The need to demonstrate that a government is accountable is also crucial for attracting private investment. A critical factor of investment is a perceived low risk of expropriation by investors, due to the ability of leaders to make credible commitments (North and Thomas, 1973; North, 1990). Leaders can make credible commitments when they are politically constrained from reneging on agreements at a later date. These constraints generally come in the form of other political institutions such as the legislature or judiciary whose agreement is also needed to form and alter policy. When leaders are constrained, they have an incentive to invest in public goods, such as health and education, since this will help to attract investment. In addition, since those leaders who create credible commitments have a desire to increase the country's income, they will invest in public goods as this has a direct, positive impact on economic growth. Under such conditions, aid can be used by governments to provide these public goods.

Overall, this thesis emphasises the importance of political institutions for creating incentives for the use of aid. Regardless of the type of institution examined, the general intuition remains the same: political institutions determine levels of political accountability that create incentives and constraints that affect the use of aid in policy-making.

Working from the assumption that aid can be effective this thesis concludes that aid's ultimate effectiveness is partially dependent on the political institutional environment. Other factors will undoubtedly influence the use of aid and its eventual effectiveness, but understanding the role that political institutions play is a crucial step in understanding where and why aid is most likely to assist those it is intended to help.

### **The Dependent Variable: Public Goods Expenditure**

Rather than using the standard dependent variable, economic growth, this thesis uses public goods expenditure as the dependent variable.<sup>1</sup> The form of public goods expenditure differs across chapters but the three forms utilised are total public investment, public health expenditure, and public education expenditure<sup>2</sup>. The argument against economic growth, as an indicator of aid effectiveness, is outlined in detail in chapter four. The main points against its use include, the complex nature of growth, the marginal impact aid is likely to have on growth, and its questionable suitability to determine if aid is 'working' if the aid is not given with the intention of increasing growth in the first place.

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<sup>1</sup>There are examples of other aid studies that do not use economic growth as the dependent variable. For

<sup>2</sup> In Chapter seven, sub-national health and education expenditure data are used.

Public goods expenditure is a broader indicator of aid effectiveness than economic growth. It identifies where aid is being spent and highlights the existence of 'pro-poor' government policies, i.e. policies that aim to bring about poverty reduction. In addition, the relationship between aid and public goods expenditure is much less complex than the relationship between aid and growth, making it much more straightforward to detect a relationship. The difficulty of establishing a relationship between aid and growth is that there are too many steps between receiving aid and the outcome of economic growth. Establishing if, and how, aid impacts growth is virtually impossible. However, the act of spending aid is one of the immediate steps a recipient government takes. Therefore, establishing a connection between the amounts of aid received and government expenditure is more straightforward.

Analysing aid's impact on public goods is important since the provision of adequate public goods is crucial to dealing with poverty in developing nations. Public goods such as health and education are basic resources that tend to be under-supplied and under-developed in poorer countries. Further, the prevalence of HIV/AIDS in many developing countries puts added pressure onto the health services of those countries. Moreover, these sectors serve as a foundation for the development of the overall economy. Improvements in education and health have 'spillover' effects into other sectors and assist improvements in overall economic performance. Education and health are also the focus of many donor programmes and so there may be some pressure on recipient governments to invest aid in these areas. McGillivray and Morrissey argue that donors can influence, at least partially, how aid is allocated (2000, 424-5). Finally, education and health outputs such as infant mortality rates, life expectancy, and school enrolments numbers are some of the most frequent social



indicators used to assess the effectiveness of aid. This may encourage governments to invest aid in these areas in order to demonstrate the 'proper' use of aid.

These points suggest that not only is public goods expenditure a more suitable dependent variable than economic growth, but there is a value in determining if aid does have a positive impact on public goods expenditure and under what conditions this impact is greatest.

## **Chapter Outline**

Chapter two provides an overview of a selection of the literature relating to how political institutions create incentives. This chapter also gives a summary of the development of the aid-growth debate over time and the role of politics and political institutions in this debate. Finally, the chapter identifies where this research fits into the overall debate on aid. Chapter three gives an overview of foreign aid. The first half of this chapter gives a brief synopsis of the history of aid. The second half describes the aid data used in this thesis, illustrating the variation in aid across countries and regions and over time. Chapter four presents a typical aid-growth analysis and in addition, there is a critical discussion on the use of economic growth as the dependent variable.

Chapters five, six, seven, and eight provide the core theoretical and empirical contributions of this thesis. Chapter five investigates the relationship between aid and public goods expenditure at different levels of political constraints, i.e. checks and balances. Political constraints are viewed as necessary for governments to make credible commitments and attract private investment. The willingness to be constrained also signifies that such governments are concerned with increasing the wealth of the country by generating economic growth. It is expected that political

constraints encourage government investment in public goods that generate human capital, as this attracts investment and directly increases growth. Constraints also prevent the occurrence of rent seeking among political leaders, so aid should be more effective at higher levels of constraints. The results show that when constraints are low aid has a strong and a positive impact on total public investment. This implies that rent seeking in public investment is popular among political elites who are unconstrained. Leaders divert funds to public investment since it provides rent-seeking opportunities. However, aid's impact on social sector expenditure, particularly health spending, is greatest when constraints are high and suffers at low levels of constraints.

Chapter six builds on chapter five by continuing the analysis of constraints and public goods but uses disaggregated aid data. The effect of health aid and education aid on public goods expenditure is examined at different levels of political constraints. The results lend support to the findings in chapter five; political constraints lead to more aid invested in public goods. Health aid is found to have a positive and significant effect on public health spending when governments are constrained. At the lowest levels of constraints, there is some evidence of the fungibility of health aid. Education aid has a positive effect on education spending, but the effect is small and the results are not significant.

In chapter seven, the focus switches to the impact of decentralisation on aid's relationship with public goods expenditure at local levels. Rather than using a general measure of decentralisation, this chapter investigates the impact of fiscal decentralisation and political decentralisation, operationalised as sub-national taxation and the presence of direct elections respectively. This chapter uses local education and health expenditure as the dependent variable. Both forms of

decentralisation are expected to increase political accountability at the local level and hence, improve the effectiveness of aid, that is, aid has a positive impact on local public goods expenditure. The results indicate that sub-national education expenditure is positively affected by aid when local governments have fiscal autonomy and are directly elected. When there are no direct elections, i.e. local officials are appointed, aid has a negative impact on local education expenditure. This relationship becomes stronger as the level of sub-national taxation increases, suggesting that fiscal decentralisation does not lead to a positive relationship between aid and education expenditure. Aid also has a positive relationship with local health spending when local governments only have fiscal autonomy. However, when there are direct elections, aid was found to have no significant impact on local health spending.

Finally, chapter eight turns to the mediating effect of the electoral rules on aid's relationship with education expenditure. The chapter is concerned with how the electoral rules can generate 'personalism', that is, create incentives for politicians to cultivate a personal vote rather than a party vote. When politicians have an incentive to generate a personal vote they are more likely to seek and provide private goods to certain segments of the electorate. When the party vote is crucial, then the reputation of the party is best served in the provision of broad based public goods that benefit large parts of the electorate. Where the incentive to cultivate a personal vote is strong and so personalism is high, more aid is expected to be diverted to private goods and so aid's impact on public goods expenditure lessens. Chapter eight also considers the effect of government type. It is expected that personalism is more prevalent in presidential systems, due to the lack of party discipline and hence, lack of control party leaders have over members. The chapter finds that, on average, aid's

effect on education expenditure is unaffected by levels of personalism. However, when presidential and parliamentary systems are analysed separately, personalism does have an impact on aid's relationship with education spending. In presidential systems, aid has a greater impact on education spending when personalism is low – although, even at high levels of personalism, aid still has a positive impact on education spending. The opposite effect is found in parliamentary systems. Aid's impact on education spending is stronger at the highest levels of personalism.

Chapter nine is the concluding chapter. In this chapter, there is an overview of the main findings of the previous chapters, a summary of the main contributions and limitations of this thesis, some points for future research, and a brief discussion on the role of political institutions in the effectiveness of aid, including how this thesis fits into the previous aid effectiveness research.

## **Conclusion**

This thesis contends that political institutions matter for the use of aid. Certain political structures create an environment conducive to a positive relationship between aid and public goods spending. This thesis does not use indicators of institutional quality or good governance to measure the effect of institutions but rather models the effect of different institutional structures on the behaviour of political actors. The causal mechanism through which political institutions affect the use of aid is political accountability. Political institutions create political accountability and different levels of political accountability will affect how leaders decide to use aid. If aid is used well it is expected to be invested in public goods. This positive investment in public goods is expected to have a positive knock-on

effect on economic growth. However, linking aid to economic growth is exceedingly difficult given the complex nature of the relationship whereas the impact of aid on public goods expenditure is much more direct.

This research will identify the channels through which institutions can have an effect on the use of aid. There is a dearth of research in this area, and an understanding of how institutions affect the use of aid needs to be developed. This thesis will contribute to that knowledge, presenting several findings that suggest how political institutions can improve the use of aid in recipient countries.

## *Chapter 2*

# **Political Institutions and Political Behaviour and the Foreign Aid Debate**

It would be impossible to cover all the literature written on foreign aid in the last few decades. Even focusing on the last ten years would be difficult given the extensive coverage given to the topic of foreign aid. There are many ways by which aid can be examined and this has led to a vast array of literature. However, there are two central strands to the aid effectiveness literature – theoretical, why aid is expected to work (or not), and empirical, investigating if aid does indeed work<sup>3</sup>. The theoretical literature is especially focused on aid's relationship with investment and savings and their impact on economic growth. The empirical literature deals with questions relating to the actual 'effectiveness of aid'. One common question is why aid is often perceived to be ineffective and how can it be made more effective. To answer this question, some researchers examine aid's relationship with growth

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<sup>3</sup> Aid allocation is a third important area of the general aid literature, but for this thesis the focus is on aid effectiveness, for which the aid allocation literature is not as relevant.

and/or other social indicators, others focus on the amount of aid and its volatility, and more recently, attention has turned to the environment that aid operates in.

Given the multitude of ways that the effectiveness of aid can be examined it comes as no surprise that the literature is then vast. Further, analysis of the effectiveness of aid is fraught with difficulties and there is an on-going debate surrounding the ability to determine the effectiveness of aid. The most common approaches taken by those who investigate the effectiveness of aid is to analyse the aid-growth relationship and, in recent times, the environment in which aid operates<sup>4</sup>. The research in this thesis feeds into these two strands, although the central focus of the thesis is investigating the conditions under which aid operates. The aid-growth relationship is examined briefly; though, the main concern of this thesis is aid's relationship with public goods expenditure. Of greater importance to this research is the attempt to identify the environment within which aid is expected to be effective. As will be outlined later in this literature review, many studies have applied this approach using a range of variables, from the quality of the economic policies to the climate of the recipient country.

The approach taken by this study is to focus on the political institutional framework in recipient countries. The impact of political institutions has been previously considered, usually briefly, in the aid effectiveness literature and this is outlined later in this chapter. However, this research adopts a new approach. Traditionally investigating the impact of political institutions has involved using a measure of the *quality* of institutions within a recipient country. This study instead focuses on how political institutional frameworks are expected to create incentives to which leaders

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<sup>4</sup> A third approach is to consider the indirect impact of aid on growth via savings and investment. These three approaches, aid's impact on savings and investment, aid's direct impact on growth, and the conditional effect of aid have been classified as three distinct strands by Doucouliagos and Paldam (2008, 2009, 2011).

respond. This research models the impact of institutions on the use of aid by modelling the behaviour of political actors who receive aid under differing institutional arrangements. The aim of this research is to gain an understanding of why and how political institutions affect the use of aid. One of the aims of the thesis is to determine the casual mechanism through which institutions can lead to the use of aid that is more effective.

The causal mechanism identified by this thesis is the relationship between political institutions and political accountability – how is the use of aid affected by high or low levels of political accountability? Political accountability levels can lead to the investment of aid in either public or private goods. The argument can be summed up in an extremely simplistic manner: Public goods are provided when accountability is high and private goods are provided when accountability is low, because leaders respond to narrow and specific needs and target private goods to meet these needs, or because leaders can avail of rent-seeking opportunities and misuse aid. Of course, the actual relationships between these effects are much more complicated, but the overarching assumption is that political institutions create incentives and constraints to which political actors respond. Such responses affect how leaders' decide to use aid. This approach to political behaviour, the rational choice approach, has also been examined extensively in the political science literature. It has been praised and criticised, but its usefulness for examining the behaviour of political actors is undeniable. In relation to this thesis, the rational choice approach is used to aid the understanding of how aid policy comes to be determined in a recipient country. The behaviour of political leaders is examined in a rational-choice approach and their expected use of aid under different institutional structures is outlined.



This chapter is divided into two broad sections. The first section focuses on political institutions. The focus of this discussion is divided into two parts. The first part outlines *what is an institution* and how is it viewed from a rational-choice perspective? The section below argues that political institutions do create constraints that restrict the behaviour of leaders and incentives that make it more likely that they will opt to take a certain action. The second part of section one asks *through what mechanism do political institutions affect how political leaders use aid?* This thesis is concerned with the relationship between political institutions and political accountability. Political accountability is the mechanism through which leaders' use of aid will be determined.

The second section of this chapter discusses a selection of the literature on foreign aid. This literature is selected based on all or one of three factors. 1) its relevance to this thesis, i.e. the conditional aid-growth studies and studies that focus on aid and institutions, 2) the literature is well known and influential in the aid effectiveness debate (for example, Burnside and Dollar (2000)), and, 3) the literature offers an comprehensive overview of the Aid Effectiveness Literature (AEL), such as Doucouliagos and Paldam (2008, 2009). The discussion focuses on two aspects of the foreign aid literature. The first is an overview of the long-running debate on aid effectiveness and the quantitative studies that have searched for a relationship between aid and growth. The second aspect is an outline of the literature that considers the broad role of politics in the effectiveness of aid. This is followed by a more specific discussion on the relationship between aid and political institutions and the space in that literature that this research fills.

## Political Institutions and Political Behaviour

There are a number of approaches to studying political institutional theory<sup>5</sup>, but the rational choice approach is the most suitable for this research. This approach focuses on leaders responding rationally to incentives and constraints created by political institutions. Before outlining the rational choice arguments, a necessary point to consider is *what is an institution?* There is no single definition of an institution but for the purposes of the rational choice approach most definitions emphasis the role of rules and constraints on the behaviour of political actors. Kiser and Ostrom define an institution as the “rules used by individuals for determining who and what are included in decision situations, how information is structured, what actions can be taken and in what sequence, and how individual actions will be aggregated into collective action” (1982, 179). Similarly, North’s definition of an institution is, “the humanly devised constraints that shape human interaction” (1990, 3). This thesis will hereafter use North’s definition of an institution.

### *Rational Choice Theory: Explaining Political Behaviour*

The rational choice approach offers a logical and simple model that was derived from economic theory, focusing on how people were rationally motivated by money and the possibility of making a profit. This led to the development of formal and predictive models of behaviour. Early rational choice models focused on the rational individual and his/her preferences whilst viewing institutions as irrelevant as the “rational man...is an atom unconnected to the social structure in which he or she is

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<sup>5</sup> Peters (2005) identifies seven different approaches; Normative, rational choice, historical, sociological, empirical, interest representation and international.

embedded” (Shepsle, 1989; 134). Later, rational choice theorists turned to institutions to develop the rational choice approach so as to “explain characteristics of social outcomes on the basis not only of agent preferences and optimizing behaviour, but also on the basis of institutional features” (Shepsle, 1989; 135). Rational choice institutionalism has been applied to many political contexts to explain political behaviour and outcomes. In particular, much work has been carried out on the legislature (Shepsle and Weingast, 1995; Tsebelis and Money, 1997, Cox and McCubbins, 2001) but also the cabinet (Laver and Schofield, 1990; Laver and Shepsle, 1995) and electoral systems, and many more.

At the core of the rational choice approach are egotistical behavioural characteristics: The individual is primarily concerned with maximising his/her own utility. The focus is not on the possible range of motivations that humans could have, but purely on the costs and benefits associated with certain actions. Institutions are necessary to constrain individual behaviour and create incentives that are conducive to certain behaviour. Rational choice institutionalism therefore, focuses on the importance of political institutions as mechanisms for channelling and constraining individual behaviour.

The model of rational choice institutionalism is based on four assumptions. The first is that individuals are the central actors in the political process. The second assumption is that individuals act rationally in order to maximise their personal utility. Peters states that “the fundamental argument of the rational choice approaches is that utility maximization can and will remain the primary motivation of individuals, but these individuals may realize that their goals can be achieved most effectively through institutional action and find that their behaviour is shaped by the institutions” (2005, 48). The third assumption is that institutions aggregate

rules that shape individual behaviour. Institutions establish rules that create incentives and constraints to which individuals respond rationally. Subsequent behaviour becomes shaped by these institutions as they are able to “shape the preferences of individuals and to manipulate the incentives available to members” (Peters, 2005; 67). The final assumption is that most individuals will respond in the same way to institutions thereby creating patterns of behaviour.

There are three versions of the rational choice approach to institutions, institutions as rules (or rules-based models), principal-agent models, and game theoretic models. This thesis adopts the institutions as rules approach<sup>6</sup>. Rules are vital. If left alone, individuals would be too individualistic or would behave too rationally, and therefore, some means of structuring their behaviour are required for the collective good. Institutions are designed to constrain the behaviour of individuals to produce more socially desirable outcomes. They prevent ‘collective irrationality’ whereby individuals acting in a self-maximising manner would produce sub-optimal outcomes for society. These rules create incentives and constraints to which actors respond, while still seeking to maximise their utility they must do so within a rule set: “...the individual politician is expected to manoeuvre to maximise personal utilities, but his or her options are inherently constrained because they are operating within the rule set of one or more institutions” (Peters, 2005, 48).

However, rational choice theory has been criticised for being an overly simplified approach to individual behaviour and as a result, many models have been criticised as trivial and worthless and others, just misleading (Shapiro; 2006). Green and Shapiro (1994) criticised the rational choice approach, questioning its ability to explain successfully empirical events in political science. They argued that the

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<sup>6</sup> See Peters (2005) Chapter 3 for an outline of the other two approaches.

theory's claim that it can better explain phenomena than other theories is overly ambitious. They assessed this by examining the rational choice models in four areas: the paradox of voter turnout, social dilemmas such as free riding, cycling, and legislative behaviour, and spatial theories of electoral competition. Their results suggested that evidence is selected in a biased fashion to fit the theory. Therefore the contributions made by rational choice theory to these areas are "few, far between and considerably more modest" than theorists have claimed (1994; 179) and "little of what has been claimed for rational choice theory is backed up by the empirical results" (1994; 196).

Diermeier (1995) responded by criticising Green and Shapiro for attacking rational choice for pathologies that exist even in successful research models. In addition, Green and Shapiro do not offer a comparative analysis that shows rational choice theories are more likely to display these pathologies than non-rational theories. Cox (1999) furthers the criticism of Green and Shapiro by claiming that they limit their selection of cases to what they define as 'formal' models of rational choice thereby omitting many important and interesting models of rational choice such as Fiorina's 'Retrospective Voting' and Ostrom's 'Governing the Commons'. Cox also argues that they selected only one model with a reputation for a strong empirical performance, the others being "notoriously without such reputations ... [or] ...remained largely theoretical" (1999; 153). In addition, the simplified model that rational choice utilises has been noted for its considerable analytical strengths. Its simplification allows the researcher to focus on the essentials of the theory from which logical models can be built as well as allowing for clear assumptions to be made (Shapiro; 2006).

The rational choice approach has also been criticised for failing to explain where existing institutions come from (Shepsle, 1989; Peters, 2005). This worthy question requires a full examination in its own right. However, the origins of institutions are not of concern for this research, which is focused on the *effects* of political institution, for which the rational choice approach is readily able to provide explanations.

### *Political Accountability: A Determinant of Aid Policy*

As outlined above, political actors are expected to act rationally in response to the incentives and constraints created by the institutions in place. This research asks the question; *through what mechanism do political institutions affect how political leaders use aid?* The common thread through this thesis is the relationship between political institutions and political accountability. Political accountability is the mechanism that will affect leaders' decisions to spend aid wisely or to abuse the aid they receive. Political accountability can be regarded as a relationship between political outcomes and sanctions. Outcomes are actions and explanations of actions from public officials. Sanctions are carried out by the citizens, for example, at elections voters can either (re)elect officials or choose to sanction officials and not to (re)elect. Manin, et al. (1999) combined these two strands to define political accountability: "Governments are 'accountable' if citizens can discern representative from unrepresentative governments and can sanction them appropriately, retaining in office those incumbents who perform well and ousting from office those who do not" (1999, 10). In a similar vein, Schedler identified two basic features of accountability: answerability (by public officials) and enforcement (by accounting

agencies) (1999, 14). Schedler's definition is broader, and more suitable for this thesis, in that it encompasses the role of other political institutions and organisations, such as the legislature, rather than just citizens in being able to provide enforcement or sanctions on the executive.

The literature on political accountability argues that increasing the accountability of leaders results in improved decision-making and hence, more effective governance. This can occur in two ways but both involve the constraint of leaders' power. The first way to increase a leader's political accountability is to make them accountable to other political institutions. The second way is to make them accountable to an electorate. Both of these forms of accountability are developed further below.

It is argued that when governments are accountable to other institutions, such as an effective legislature, abusive and arbitrary policy-making is reduced. The basic argument is that governments need to be institutionally restricted in order to carry out their tasks successfully. By requiring the consent of other actors to change policy or by delegating control of policy to another actor, a leader can remove the option to renege on policy and this decreases the potential for arbitrary or abusive policy making (MacIntyre, 2003; 21). This has been referred to as the ability to make 'credible commitments' (North and Weingast, 1989; Weingast, 1993). When political leaders enjoy wide discretion, no matter what they promise about future policy action, if their interests later require them to renege on their commitments, they will not hesitate to do so (MacIntyre, 2003; 21). Under such circumstances, leaders are unable to make 'credible commitments'. As with rational choice theory, the early developments on the problem of making a credible commitment began in economics. Thomas Schelling's (1960) early work on this topic modelled the notion on commitments in the context of nuclear deterrence. However, it was the work of

Douglass North, on the need for stable and secure property rights for economic development that brought significant attention to the role of credible commitments. The role of institutions for bringing about credible commitments is central. As North and Weingast highlight:

“A ruler can establish [credible] commitments in two ways. One is by setting a precedent of “responsible behaviour”, appearing to be committed to a set of rules that he or she will consistently enforce. The second is by being constrained to obey a set of rules that do not permit leeway for violating commitments. We have very seldom observed the former, in good part because the pressures and continued strain of fiscal necessity eventually lead rulers to “irresponsible behaviour” and the violation of agreements” (1989, 804).

The emergence and role of legislatures is very much linked to this argument. When leaders required the approval of a legislature for policy decision, the occurrence of arbitrary decision-making was greatly reduced. This in turn eased the concerns of private investors and increased the level of investment, hence the identification of constraints and ‘credible commitments’ as pertinent for economic growth: “The introduction of new political institutions was critical to constraining the power of the political executive, which in turn provided a more stable and secure environment in which the investors were less discouraged by the risk of capricious policy action” (MacIntyre, 2003; 20).

Several studies have found that containing the risk of arbitrary government decision-making is causally connected to higher rates of investment and economic growth (Borner, et al., 1995; Clague, 1997). For investors, when the risk of arbitrary or abusive policy-making is low, they are more secure in making long-term investments, which in turn, promote growth. Douglass North (1981, 1990) identified the emergence of property rights as an example of constraints on political leaders,



which encouraged private investment and assisted the economic development of Western Europe in the Middle Ages. The link across such studies, regardless of the policy area, are the propositions that problems of credibility can produce negative outcomes and that political institutions can create constraints on executive power, which mitigates the problem of credibility. The effect of political constraints, and the need to make 'credible commitments', on the use of aid is examined in chapters five and six.

The second way that political accountability affects policy-making is by making governments accountable to an electorate. As with the existence of other institutions, the presence of an electorate means political leaders are constrained in the policy decisions that they can make. When accountable to an electorate, a government is restricted from making decisions that only benefit a small percentage of the population. If levels of political accountability are low leaders may only be responsive to narrow and special needs and so policy that is produced will not be broadly targeted at enhancing overall societal welfare but rather will be "narrowly targeted pork and rents that address the shoring up of political support" (Cox and McCubbins, 2001; 47). Hence, policy takes on a private rather than a public focus. North and Weingast argue that it is essential "...whether the state produces rules and regulations that benefit a small elite and so provide little prospect for long-run growth, or whether it produces rules that foster long-run growth" (1989, 805-6).

Where leaders are accountable to a large group, they are more likely to create rules that benefit society overall. This is demonstrated in the model developed by Bueno de Mesquita, et al. (2003) that outlined both how political institutions determine the level of political accountability of leaders and how this level of political accountability affected the behaviour of leaders. They identified two political

institutions that determine a leader's level of accountability: the *selectorate* and the *winning coalition*. These institutions determine a leader's propensity to spend resources on public goods, which benefit the whole of society, or on private goods, which only benefit the members of the winning coalition. In a large coalition system, where political accountability is high, policy has a public goods focus and so foreign aid has a positive impact on societal welfare and economic performance. In a small coalition system, i.e. low political accountability, policy focuses on private goods aimed at the coalition's members to ensure their loyalty. In order to reward the winning coalition, the leader uses aid, while also using aid for his/her private purposes. The effect of political accountability to an electorate is examined in chapters seven and eight. However, rather than examining the size of the group to whom a leader is accountable these chapters examine the effects of accountability within specific political structures, namely decentralisation and personalist electoral rules and regime type.

When political accountability is low, there is a greater risk that political leaders will partake in rent-seeking behaviour. Rent seeking occurs when an individual or an organisation attempts to gain income by capturing economic rent through manipulation or misuse of the economic or political environment, instead of earning profits through economic transactions and the creation of additional wealth. Rents arise with the availability of 'unearned income', i.e., the extraction of economic value without providing any input to productivity, such as the profit from selling natural resources or from owning land (Klitgaard, 1990; Ades and Di Tella, 1996; Svensson, 2000; Tavares, 2003). Rent seeking also arises through government created regulations that allow governments or public officials to collect rents, such as bribes or future favours. Keefer and Knack claim that in order to protect their

privileged access to natural resources, or other exogenous sources of rents, governments restrict citizen influence on political decisions and political careers, i.e. few or no checks and balances and no elections (2007; 567). Moss, et al. (2006) also claim that leaders for whom unearned income is a leading source of revenue are less accountable to their citizens and under less pressure to maintain popular legitimacy.

Aid is an example of 'unearned' income, similar to rents from natural resources. Tavares claims aid is "ripe territory for corruption" (2003, 100) and the World Bank reports that rapid increases in aid flows increase opportunities for corruption (1989, 27). Therefore, aid combined with an environment of low political accountability is at risk from being abused through rent-seeking behaviour since the opportunities for corruption are easier to avail of. The occurrence of rent seeking is possible for both concepts of political accountability outlined above. Potential investors express concern regarding rent seeking and expropriation by governments, as this leads to the potential risk of their investments. Where leaders cannot make credible commitments due to a lack of political constraints, they are also in a position to avail more readily of rent-seeking opportunities. Where leaders are not accountable to an electorate, there are lower levels of monitoring and so opportunities for rent seeking increase.

### **The Foreign Aid Debate: The Effectiveness of Aid**

The argument of whether or not aid is effective is a long-running debate. Several systemic problems impede the effective use of aid and these problems exist on both sides of the aid relationship. Donors create problems due to a number of factors including; distortions caused by their political, strategic and commercial interests;

fluctuations in aid volumes from year to year; the multiplicity of donors, aid funds, projects, and programmes; incentives within aid agencies not being in line with the best interests for recipients; and, finally, wider donor policy, such as trade, failing to complement or assist aid policy (Riddell, 2007; 358-366). Donors can and have done much to make aid more effective in the post-Cold War climate. Ever more aid is given untied, donor aid agencies have become increasingly professional and autonomous, and donors are signing up to more coherent and structured aid programmes such as the Millennium Development Goals. However, many of the problems listed above still persist.

There has also been considerable literature on what the recipient can do to make the aid it receives more effective. Riddell highlights numerous difficulties recipient countries face in terms of using aid effectively, such as, commitment, capacity, ownership, and the quality of governance (2007, 369-373). The concept of good governance in recipient countries has become a central concern for donors since the mid-1990s (Riddell, 2007; 372). For academics too, good governance has become a popular topic. This thesis is building on that work, although the issue of political structures in recipient countries is the focus, rather than measures of quality of governance.

This section of the chapter begins with an overview of the economic theory that justifies the provision of aid. The economic theory behind aid is based on the neo-classical growth model, which identified inputs into the growth process. Finally, the role of political institutions in the current aid literature will be outlined.

## *The Debate of the Effectiveness of Aid*

### *i. The Economic Theory*

A necessary question to consider is *why should aid lead to growth*. The most common explanation is based on the neo-classical growth model, which assumes that aid increases public investment. This investment increases capital accumulation and domestic output (Hansen and Tarp, 2000; 12) and aid, by financing schooling and increasing human capital can lead to total factor productivity growth. Evidence does support that aid is effective in increasing capital accumulation (Hansen and Tarp, 2000; 12) particularly increasing public investment. However, Boone found that while aid causes government consumption to rise, there is no evidence that the poor in society benefit; “the results imply that most or all aid goes to consumption, it increases the size of government, but it has no significant impact on poverty indicators” (1996, 315). Rather, the elite in society benefits most from aid receipts (1996, 319).

Hansen and Tarp (2000) describe the economic theory of aid as having evolved over three ‘generations’. The first generation of studies concentrates on the Harrod-Domar model. This model focuses on a savings constraint as the obstacle to growth in developing countries. Aid can induce saving, which then leads to investment and subsequently, growth. Two-gap models (Chenery and Strout, 1966) expanded the Harrod-Domar model by introducing a second constraint, an import constraint. Chenery and Strout claimed that developing countries have a shortage of foreign exchange to purchase needed imports. Developing countries will experience one of these constraints at different times, but aid can act like a financial supplement. Most

developing countries suffer from foreign exchange constraints as all available foreign exchange is used to purchase imports. Extra finance is required to import new capital goods and technical assistance for investment and aid can help fill this gap and so increase economic growth. Aid can also help increase domestic savings by acting as an income transfer that can lead to growth. The outcome depends on how the aid is used; if it is invested, output can increase, and aid can be effective but if aid is consumed it will have little or no impact.

The second generation of studies are based on the neo-classical growth model and examine the direct relationship between aid and growth. In such models investment is the key driver of growth and the relationship between aid and investment is examined. The neo-classical growth model equates the economic growth rate with a country's levels of labour and capital. In its simplest form, the growth of output per capita depends on the capital per worker and the initial level of output. Assuming diminishing returns and a constant rate of population growth, an increase in capital per worker would increase the output per worker. The key assumption of the neoclassical growth model is that poor countries would catch-up rich countries, assuming they could achieve higher output growth. The convergence of income per capita would imply a negative relationship between the initial level of output per capita and output growth over time. Thus, countries with lower levels of output per capita in the initial period would experience faster rates of output growth. Consequently, the output per capita and the standard of living would approach to the level in rich countries. Policy implications from this model imply that the essential requirement to boost economic growth in a country with low initial level of output per capita is to increase the amount of capital per worker. This could be done by

increasing the level of public and private investment in infrastructure. Aid is one tool by which investment can be increased.

More recently, the third generation of aid studies, from the early 1990s to the present has broken new ground (Hansen and Tarp, 2000). Panel data covering many years and across a large number of countries are now commonly used. New explanatory variables such as institutional context and economic policy have been incorporated into the analyses. The problem of endogeneity has been recognised and is now accounted for (or as far as possible), usually through the inclusion of instrumental variables. Finally, the aid growth relationship is often assumed to be non-linear. Aid is subject to diminishing rates of return, and there is a limit to the amount that countries are able to absorb (Sogge, 2002; 173). This has been estimated to be around 16% of GNP (Collier, 2007; 100).

#### *The On-going Debate: The Disputed Findings*

These three 'generations' of aid theory have been accompanied by studies attempting to apply the theory to real-world data. However, the primary justification that aid will lead to economic growth is consistently disputed across these studies. Early critics of aid include Morgenthau (1962) who argued that aid was unlikely to alter political and social conditions in a recipient country, as these changes are unwanted by the leaders of that country. Friedman (1958) and Bauer (1971) also claimed that aid was ineffective because politicians in recipient countries would not use the aid as the programme had intended. Recipients would also consume the aid rather than invest it because of a lack of domestic savings and therefore, a lack of investment opportunities. Overall, it was argued, aid only benefited the political elite.

However, statistical analyses claiming to find a relationship between aid and economic growth began to emerge. Early studies include Papanek (1972) who carried out cross-country regressions and found a significant and positive relationship between aid and growth for three time periods between 1950 and 1965. Papanek (1973) also examined thirty-four countries in the 1950s and fifty-one countries in the 1960s and found aid to have a positive effect on growth, more so than other economic variables. However, these studies failed to consider the direction of causality in the aid-growth relationship.

Mosley (1980) was the first to instrument for aid but did not find a significant relationship between aid and growth in a cross-country study of eighty-three countries from 1970-77. Mosley, et al. (1987) carried out both non-instrumented and instrumented analyses of the aid-growth relationship. They found no significant relationship between aid and growth in the 1960s, 1970s or from 1980 to 1983. Instrumented results for the 1970s were also not significant. However, Mosley, et al. did use a different definition of aid than previous studies; gross ODA rather than net ODA and therefore, they do not control for repayments. They state in a footnote that they did find net ODA to be significant at the 10% level but they do not investigate this further.

In the 1990s, a new approach to studying the effects of aid arose called the 'conditional' strand (Clemens, et al., 2004; 7). The aim is to identify the salient characteristics of countries in which aid has had a positive impact on growth. Of these studies, one of the most influential has been by Burnside and Dollar (2000). Burnside and Dollar (2000) found an interaction term of aid and the quality of the recipients' economic policies to be positive and statistically significant. This suggested that aid has a positive impact upon growth in countries with good



economic policies, but aid has little impact in countries with poor policies. The indicator of policy was composed of four variables: trade openness, inflation, budget surplus, and government consumption. Burnside and Dollar included countries outside the former Eastern bloc only and covered the period 1970 to 1993 by dividing it into six four-year periods. They also used a different dataset than previous studies. Their measure of aid called Effective Development Assistance is the grant component of concessional loans plus actual grants to give a more accurate measure of levels of aid. Previous studies did not distinguish between grants and concessional loans (such as those already mentioned: Papanek, 1972, 1973; Mosely, 1980, 1987).

In a similar vein, Collier and Dollar (2002) urged donors to focus on countries with high levels of poverty but also good policies. They called this the “poverty efficient allocation of aid”. Collier and Dollar determined that aid productivity could be nearly doubled if allocated in a poverty-efficient manner. They came to the same conclusion as Burnside and Dollar despite using a different model specification. They include the former Eastern bloc countries and carry out the analysis over a longer time period, 1974-93, and they only carry out OLS and so do not control for endogeneity. They also use different control variables and add four region dummy variables. Most importantly, they use a different policy measure than Burnside and Dollar. Collier and Dollar use the overall score from the World Bank’s Country Policy and Institutional Assessment (CPIA). This is a combined rating of twenty factors rating a country’s policies and institutions. However, despite these changes they also find the aid-policy interaction term to be significant.

Dalgaard, et al. (2004) also adopted the conditional strand finding a significant and positive relationship between aid and long-run growth when climate-related

conditions in recipient countries were controlled for. They focus on the percentage of a country's landmass that is located in the tropics. They argue that this is a determinant of growth and of how effective aid is likely to be. Both aid and the aid-tropics interaction term are significant, the first positive and the second negative, indicating that aid is less effective in the tropics but that, on average, it does have a positive effect on growth.

Guillaumont and Chauvet (2001) include a measure of economic vulnerability to their analysis. They argued that aid is more effective in environments that have terms of trade difficulties, other external shocks, or natural disasters, as aid provided a stabilising effect. Their environment index was composed of four indicators: the volatility of agriculture value added, volatility of export earnings, long-term terms of trade trends, and a log of the population. Unlike most aid studies, which use four-year periods, they used twelve-year periods in the analysis. They carried out OLS and instrumented regressions and found the interaction term of aid and the environment to be significant and negative, implying that aid is more effective in worse environments. In a later study, Chauvet and Guillaumont (2003) use a narrower index of economic vulnerability that focuses on external shocks and terms of trade. Their results support their previous findings. Economic vulnerability to external shocks, which is by itself a negative factor of growth, helps to enhance aid effectiveness, i.e. aid's impact is higher in economies that are more vulnerable. Chauvet and Guillaumont (2003) also find some evidence that aid may influence policy. According to their findings, the poorer previous policy is, the stronger the improvement of policy induced by aid. Third, political instability, which is itself a negative factor of growth, reduces the effectiveness of aid.

Doucouliafos and Paldam (2008, 2009) have carried out meta-analyses on the aid effectiveness literature (AEL). Their papers cover all aid effectiveness studies, 105 up to January 2005. These studies assess aid's impact on savings and investment, directly on growth, and aid's impact under different conditions. Their results make for grim reading. According to their results, aid does not have a significant effect on growth. They also analysed conditional terms. The 'good policy' model reveals that the aggregate coefficient to the interaction between foreign aid and policy is very close to zero. They conclude that good policies help increase growth, but they do not appear to influence the marginal effectiveness of aid. However, they do find the aid-institutions variable to be robust. Aid-institutions conditionality appears to be an important indirect effect through which aid contributes positively to growth, and warrants further investigation (2008).

Above is a sample of the many aid effectiveness studies carried out in recent decades. These studies have been outlined here as they are relevant to this thesis and/or are seminal studies in the overall literature; however, several of these studies have been met with several criticisms. The most common criticism of aid effectiveness studies using regression analysis with economic growth as the dependent variable is that the results are not robust. Not only do the studies use different model specifications, but countries and years also vary widely. Roodman (2007) found that the findings of a number of studies were highly sensitive depending on the model specified and the data used. He carried out robustness tests on seven studies by changing the control variables, using different measures of aid and 'good' policy, changing the time period used, removing outliers, and expanding the dataset. In particular, the results from Burnside and Dollar (2000) and Collier

and Dollar (2002) were not robust. Overall Dalgaard, et al.'s results were quite robust, although Roodman noted they were sensitive to outliers. Rajan and Subramanian (2008) also found weak but mixed support that aid works better in some geographical settings, lending further support to Dalgaard, et al.'s findings.

Easterly, et al. (2003) updated the data used by Burnside and Dollar from 1970-93 to 1970-97 and filled in some missing data in the original dataset. They found Burnside and Dollar's results not to be robust as they are highly sensitive to the data used. Hansen and Tarp (2001) also found that by adding aid-squared and policy-squared variables to the independent variables in the Burnside and Dollar instrumented regression, the aid-policy interaction term was no longer significant. However, aid and aid-squared are significant, the first positive the second negative, which suggests aid is effective, but it has diminishing returns. Hansen and Tarp also criticise Burnside and Dollar for failing to take account of country-level fixed effects and for not considering the possible endogeneity of some independent variables. Hansen and Tarp use the Arellano-Bond Generalised method of Moments (GMM) to counter these problems. They also add the change in aid and the change in aid squared as independent variables. The results from this analysis are the same as before with aid and aid squared remaining significant and in the same direction.

This section highlights the dispute that exists in the aid literature regarding the quality of the quantitative analysis in aid effectiveness studies. There is no common model specification and datasets can differ enormously resulting in large differences between studies. This highlights a number of points. First, robustness tests should be carried out more frequently. As outlined above, some studies can withstand many checks, but many cannot. There is a need for researchers to be more careful and honest with the results they produce since many can be easily questioned, even by

adding additional years to the analysis, as is the case of the Burnside and Dollar study. Second, there should be some agreement over model specification. While within the conditional strand, researchers will continue to look for more possible country specific factors, other variables could be agreed upon. In the studies above, there were two different measures of 'good' policy and three measures of aid. By alternating these measures, extremely different results emerge, as noted by Roodman.

### *Aid and Politics*

In the last two decades, academics have noted the importance of politics in aid effectiveness. Donors have also begun to focus one again on the impact of 'politics' on the use of aid. Politics first received attention from donors in the 1970s, but this focus shifted in the 1980s as economies in industrialised countries suffered from high inflation and recession and neo-liberal ideologies of some larger donors influenced aid agencies and discouraged the role of government in recipient countries (Riddell, 2007; 34). Today, literature on political economy has become popular in order to "understand better the links between some of the main weaknesses impeding the greater impact of aid and the different political forces and processes operating within aid-recipient countries" (Riddell, 2007; 374). Studies carried out by donors have come to the conclusion that politics and context matters yet they have still been criticised for failing to gain an adequate understanding of the political context and history of the recipient countries in which they expect aid to work (ibid).

In the academic literature too politics has been receiving much more attention. In particular, the emergence of the ‘conditional strand’ (outlined above) has assisted the inclusion of politics and political institutions into aid effectiveness studies. Of these articles, perhaps the most influential has been Burnside and Dollar’s seminal argument on the importance of ‘good’ economic policies. This article attracted much attention and much criticism, especially for its methodology, as outlined above. Yet despite this criticism, the article has fuelled recognition of the role recipient governments and institutions play in the effective use of aid.

*i. Aid and Political Institutions*

To date, recipient countries’ political institutions have not proven to be a central priority for donors. Alesina and Dollar (2000, 40) found that “in explaining aid flows, political and strategic considerations [of donors] are at least important and arguably more important, than the recipient’s policy or political institutions”. Moreover, “aid flows respond to democratisation episodes, but not systematically to policy reform. It is not typically the case that large changes in aid (either up or down) precede political or economic reform” (2000, 55). Nunnenkamp and Thiele also claimed “the reactions of most major donors to changes in institutional and policy conditions proved to be fairly weak” (2006, 1189).

There has been a growing interest in the role of political institutions within the academic literature. Although, it can be still argued that in the current literature, insufficient attention and consideration has been given to the role institutions can play in providing effective aid. To date the focus of studies on political institutions has primarily been on the *quality* of these institutions. Even if the focus of a study is

not on institutions, it is now commonplace for a measure of the quality of institutions to be included as a control variable.

Yet, existing indicators are poor measures of institutional quality. The most frequently used is the International Country Risk Guide (ICRG), which is an aggregated measure of bureaucratic efficiency, rule of law and corruption (Knack and Keefer, 1995; Burnside and Dollar, 2000; Easterly, et al., 2003; Brautigam and Knack, 2004; Clemens, et al., 2004). This measure has been criticised. Mosley, et al. claimed that “the indicator itself hardly convinces in its ability to capture comprehensively the quality of a country’s policies and institutions for promoting growth” (2004, 218). Other measures of institutional quality used in studies include a corruption index (Calderon, et al., 2006) and the Freedom House measure of democracy (Knack, 2004). Yet, there remains a high level of uncertainty as to which political institutions matter most and how different political institutions impact upon the use of aid as aggregate measures also fail to capture these effects.

The essential development in aid effectiveness studies is to move away from studies of institutional quality toward the investigation of the underlying political processes that shape the incentives of actors who receive aid. It is necessary to model the behaviour of political actors who receive aid under different institutional arrangements. With the exception of Joseph Wright, little research has been conducted on different political institutional configurations and the effectiveness of aid. In his most recent analysis, Wright (2010) found that personalist electoral rules lessened the impact of aid on economic growth and public goods expenditure. Wright (2007) investigated the impact of binding and non-binding legislatures on authoritarian regimes’ use of aid. His findings on authoritarian legislatures and aid

effectiveness are “consistent with our expectations that legislatures should have a positive impact on aid effectiveness in [authoritarian] regimes where legislatures constrain the confiscatory power of the regime” (2007, 41).

Wright also found that dictators with longer time horizons used aid more effectively compared to those with short time horizons (2008). He claimed that there were three factors causing this effect. First, longer time horizons create greater incentives for dictators to invest in public goods. Second, a short time horizon encourages the misuse of public funds as dictators want to secure personal wealth. Third, the threat of challengers due to short time horizons results in public funds not being used for effective investment, but rather funds are used for the repression of the opposition and pay-offs to supporters. Finally, in an early study, he examined the impact of different electoral systems and personalist institutions<sup>7</sup> on the use of aid (2006). Aid is found to increase growth in democracies with less personalist institutions and closed list PR (Wright, 2006). Overall, Wright notes that these results show the “usefulness of looking directly at how political institutions...can shape the incentives aid recipients have over the use of aid” (2007, 41-42). However, the extent of research in this area is limited with further analysis of some institutions required. Moreover, some institutions such as federalism or decentralisation have not been examined at all.

Recent developments in the study of aid have seen an increased interest in the relationship between governance and the effective use of aid, but the understanding behind this relationship remains poor, and the link between governance and political

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<sup>7</sup>Personalist institutions are political institutions that lead to greater direct and ‘personal’ contact between elected politicians and voters. In such systems, politicians need to cultivate a personal vote rather than needing high levels of power within their party. Examples of such institutions include open-list PR and multiple ballots.



institutions has not been sufficiently investigated. As Riddell notes, “labelling problems as elements of bad or weak governance does not get us very far in identifying what precisely the main problems are, how they might be addressed, and in what sort of order” (2007, 373). Since aid usually goes directly to recipient governments, the behaviour of leaders is crucial in determining how aid is used. Political institutions structure leaders’ behaviour in terms of how they manage policy that determines how the aid is to be utilised.

The future direction of research in relation to aid effectiveness should be examining the “need to devote resources to understanding better the political economy of each country to which they provide aid, focusing especially on trying to isolate and understand the nature and effects of the constraints which limit the ability of aid to work more effectively” (Riddell, 2007; 377). As outlined in the first section of this chapter, political institutions have a key part to play in determining the constraints that political leaders encounter. An extensive analysis of the political institutions in recipient countries is required, to which this research aims to contribute.

## **Conclusion**

It is clear from the above literature that the debate over the effectiveness of aid is contentious, complex, and one that is fraught with difficulties. This reflects the difficulty in examining the relationship between aid and economic or social outcomes. This partially accounts for the myriad of ways in which this research has been approached. There is a strong desire to determine the impact of aid and to answer the question of whether or not it is ‘effective’, so it has been assessed and considered from every possible angle. This thesis is concerned with one approach

that, to date, has received relatively little attention. As noted above, there has been a growing interest among academics and donors alike in the role of ‘politics’ in the effectiveness of aid. But the examination of ‘politics’ in terms of political institutions and their ability to create incentives and constraints has not been carried out in great detail. The work of Joseph Wright, outlined above, remains the only thorough evaluation of the impact of political institutions on the impact of aid.

The above discussion of the political institutions literature highlights the influential role that political institutions could play in the use and the subsequent effect of aid. The relationship between political institutions and policy outcomes is clearly elucidated in the literature. Political institutions create incentives to which political decision makers respond. These incentives then determine the form that subsequent policies take. Viewing aid in this manner is extremely helpful when trying to understand why aid is not as effective as it is assumed it should be. The political institutions within a recipient country will determine how that aid that flows into the country will be used – will it be invested or siphoned off by corrupt officials? The political institutions in a country could help answer that question.

Of course, different institutions will have differing effects and some institutions’ impact is easier to deduce than others are. The specific institutions that this thesis will examine are decentralisation and the combined effect of government system type and electoral rules. The effect a federal or decentralised state has on the use of aid at the local level is unknown and requires further investigation. Previous work on electoral rules indicates that aid is likely to have a bigger impact on public goods expenditure under systems that create incentives for candidates to see a party-vote rather than a personal vote. However, the effect of personalism is likely to be different depending on the government system type – presidential or parliamentary.

Both of these institutions and their expected effects are outlined in detail in chapters seven and eight.

This research attempts to fill the gap in the knowledge of the relationship between the effectiveness of aid and political institutions that exist within a recipient country. In the subsequent chapters, the role of political institutions will be examined in several forms. A general approach will be adopted in chapters five and six where levels of political accountability measured as the total number of political constraints in a political system will be investigated. This is followed by a more specific examination of different political institutions, in chapters seven and eight, and their impact on the use of aid. It is hoped that this research will provide some answers to the questions that surround the use of aid and will shed some light on the unresolved debate of where or when aid can indeed be effective.

## *Chapter 3*

### **Foreign Aid: A Brief History and Some Trends**

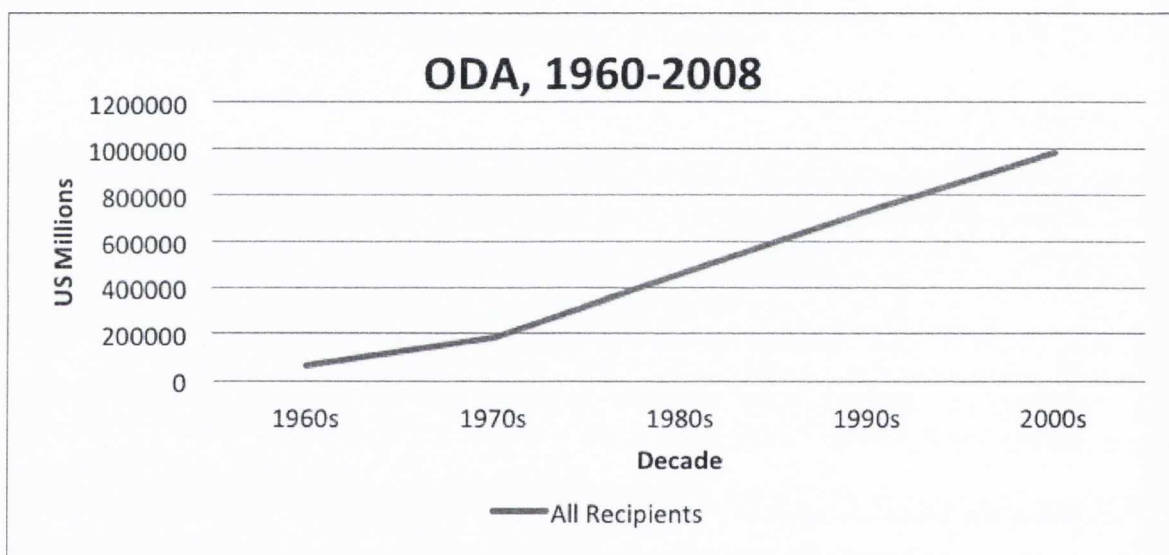
Before investigating the impact of aid under different institutional contexts, this chapter provides a brief history of aid and then details the variation in the variable, aid as a percentage of GDP<sup>8</sup>. As will be demonstrated below, there is much variation in terms of where aid is distributed and the amount distributed over time. This chapter begins with a historical overview of aid from the 1960s to the present. This overview serves to outline the origins of foreign aid as we know it today and the popular trends in aid over time that have been reflected in policy approaches adopted by donors. This is followed by an outline of net ODA levels and the aid data used in this research, aid as a percentage of GDP. The aim of the second section is to examine the variation in the level of aid over regions, decades, and recipients' income levels.

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<sup>8</sup> Aid is measured as total net Official Development Assistance (ODA) received in US current dollars. Data is from the OECD (OECD, 2010a). ODA is defined as “flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character” (OECD glossary, 2009). ODA only includes aid aimed at improving human or economic welfare so military aid is excluded. Aid is measured as a percentage of GDP in current US dollars. Data for GDP are from the World Development Indicators (World Bank, 2010a).

These two sections discuss some of the key trends in levels of aid over time. The main trend has been the rise in aid overtime. Aid has increased consistently since the 1950s. It is now regarded as a key part of international relations with more countries becoming donors and no country ever halting its aid programme<sup>9</sup> (Riddell, 2007; 22). There have been short periods of stagnation, but overall, there has been an upward trend, as can be seen in figure 3.1.

**Figure 3.1: ODA (Bilateral) in US Million dollars, 1960-2008**



Source: OECD, Stat Database 2011

There was a decline in aid at the end of the 1990s but in the 2000s, aid levels have been at their highest on record (see figure 3.1). Net ODA disbursements were \$135 billion US dollars in 2006, \$139 billion in 2007, and \$165 billion in 2008 (OECD, 2010a). Despite the record levels of aid, a majority of donors has never reached the UN-set target of 0.7% of donors' gross national income (GNI)<sup>10</sup>. A second trend is

<sup>9</sup> This was the case until January 2009 when Latvia cut its aid budget by 100 per cent, thereby ceasing to be a donor country shortly after becoming one.

<sup>10</sup> Five countries reached or surpassed the target in 2008 – Denmark, Luxembourg, the Netherlands, Norway and Sweden.

that the political and commercial interests of donors have consistently distorted the development objectives of aid. From the very early days of aid transfers, donors' economic interests have played a central role in aid. Political and security reasons have also driven donors to give aid. In particular, the Cold War had a detrimental effect on the potential effectiveness of aid since aid was often not given with the intention of generating growth, but rather to ensure the support of allies in developing countries.

The second section of this chapter details the variation in aid levels across countries and regions, and over time. Levels of aid have varied over time for several reasons: beliefs over the importance and impact of aid have altered, the nature and extent of humanitarian disasters and the coverage they have received in the media has changed dramatically, the economic and financial conditions and the political and strategic influences in both donor and recipient countries have changed over time, and fluctuations in aid varies between donors. There is no single reason for the dips and rises in the amounts of aid given. However, the historical overview of aid does demonstrate the notable importance of new aid policy directions adopted by donors and how this affects the levels and direction of aid flows.

### **Aid: A Historical Overview 1960s-2000s**

The beginning of aid is often credited to the Marshall Plan, the aid given to Europe by the United States in the aftermath of World War II. However, this is an incomplete picture of the origins of aid. Large-scale aid transfers from the United

States and the United Kingdom can be traced back to the 19<sup>th</sup> Century<sup>11</sup> (Hjertholm and White, 2000; 5). It was common for aid to be given to colonies by the British and the French in the 1920s, and the United States gave aid to Latin America. Early aid was given in order to achieve political and economic objectives of the donor. From 1896, the United States gave food surpluses in order to develop markets abroad and gave over six million tonnes of food aid to Europe after World War I. The 1929 Colonial Development Act providing grants and loans to colonies for infrastructure was passed by the United Kingdom's parliament in order to obtain inputs for British manufacturing. Aside from donor countries, international organisations, such as the International Labour Office (ILO), were strong advocates for development aid prior to the Marshall Plan. The UN, in its charter of human rights, sought higher living standards for all countries via cooperation between states. It also promoted development as a tool for international peace and security.

At the Bretton Woods Conference in 1944, the framework for modern aid-assisted development was conceived. The World Bank and International Monetary Fund (IMF) were established. The World Bank would facilitate capital investment for reconstruction while the IMF would manage the world financial system. At the end of World War II, it was clear that Europe would need a massive cash injection to return to previous levels of development. Even though the initial role of the World Bank had been to fund reconstruction in Europe by pooling together resources from several countries, the United States acted alone in providing aid to Europe through the Marshall Plan from 1948 to 1952<sup>12</sup>. The success of the plan allowed the United

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<sup>11</sup> The earliest form of aid noted by Hjertholm and White (2000) is the 1812 Act for the relief of the Citizens of Venezuela in the United States.

<sup>12</sup> The World Bank was in charge of earlier transfers of aid to France in 1946 and to the Netherlands, Luxembourg, and Denmark in 1947.

States the ability to influence foreign policy, and win allies as well as keeping the United States economy afloat while the markets around it were in turmoil. Clearly, there had been strategic benefits to giving aid to Europe. Moreover, the aid had been a success. Reconstruction in Europe was well under way by the end of the 1950s so the attention of donors turned elsewhere. Since the United States had given aid directly to Europe, funds held by the World Bank and IMF could now be directed toward other regions, particularly Africa. If aid had worked in Europe, why could it not work elsewhere? However, aid transfers to countries outside of Europe began with little or no empirical or theoretical evidence that aid could actually increase growth, or indeed would improve development in the long-term (McGillivray, et al., 2006).

The late 1950s to late 1960s are considered the ‘glory years’ for development aid (Riddell, 2007; 29). Aid to developing countries rose rapidly with many of the newly independent countries emerging in the 1950s and 1960s, particularly in Sub-Saharan Africa, seeking assistance. Support for aid was high. Many more countries became donors and donors provided greater amounts of aid. There was a general perception that aid ‘worked’ and agreement over how it should be used.

“...it was widely assumed that poor countries lacked the financial capital to spur development. In the wake of the Marshall Plan success, it became a widely accepted view that investment capital was critical for economic growth. In the absence of any significant domestic savings and lacking the physical and human capital to attract private investment, foreign aid was seen as the only way to trigger higher investment, which would thus lead to higher economic growth” (Moyo, 2010; 13).



Aid was regarded as a success, although there were sometimes different objectives for the different parties. For the developing countries receiving aid, it seemed to be having a positive impact. Economic growth in developing countries, including Sub-Saharan Africa, was common and in the early 1960s, aid focused on financing large investment projects which was intended to spur long-term development (Moyo, 2010; 14). Donors also saw aid as a way to achieve foreign policy objectives. Aid from the United States was popular as it was seen as a tool to prevent countries from “going communist” (Hjertholm and White, 2000; 11).

By the beginning of the 1970s, the ‘first wave of aid delusion’ began. Appeals for further increases in aid were ignored. Instead, aid as a percentage of donors’ GNI dropped and many large donors decreased their aid budgets. However, as the 1970s continued, interest in aid again resurfaced and aid levels expanded again: Aid quadrupled from \$6.8 billion in 1970 to \$27 billion by 1980. Several factors drove this rapid increase. First, rising food prices and decreasing commodity prices, due to the oil crisis, shifted the objective of aid from creating growth to tackling poverty directly. This new approach was led by the World Bank and the ILO (Hjertholm and White, 2000; 12). In 1973, Robert McNamara, the head of the World Bank, declared in a speech that the World Bank’s focus was now on tackling poverty. Creating growth was deemed an insufficient way to solve the problem of poverty, instead, programmes now were intended to target the poor directly and new approaches were needed to carry this out. Donor countries followed suit. Moyo notes that,

“...by the beginning of the 1970s the growth-orientated strategy was widely believed in policy circles to have failed in its mission to deliver sustained economic growth. Mounting numbers of people living in a state of absolute poverty, increasing levels of unemployment, rising income inequality,

worsening balance of trade positions and a growing sense that sustained growth – real sustained growth – could not occur without materially improving the livelihood of society's poor demanded a new aid strategy" (2010, 17).

A second factor behind the aid rise was the increased activity of the UN. The UN declared the 1970s the second 'Decade of Development' and its members formally adopted the 0.7% of GNI target, to be reached by 1975. Third, oil had an impact on aid in the 1970s. There was a slight downturn in aid levels due to the oil crises but there were increases again by the end of the 1970s, partially to deal with the consequences of the oil crises (Riddell, 2007; 33). Leading oil exporters, such as Saudi Arabia, Kuwait and Qatar, became prominent players in the aid world in the 1970s. They were donating 5 per cent of all ODA at the beginning of the 1970s, but by 1980, they were providing over a third of all ODA from Development Assistant Committee countries. Finally, donors began to focus on the Least Developed Countries (LDCs) in the 1970s. It was recognised that these countries had special needs that had to be addressed separately from low-middle and middle income developing countries.

The 1980s signalled substantial changes to development policy and as a result, to aid delivery. In 1979, the second oil crisis led to increases in interest rates that created in a debt crisis across the developing world and many developing countries were unable to meet their debt repayments. High inflation and recession in industrialised countries led to cuts in government expenditure, including aid programmes. The IMF focused on restructuring the debt of developing countries and conditions for meeting debt repayments were attached to aid. This heralded the beginning of 'structural adjustment' and what would become known as the 'Washington

Consensus'. The Washington Consensus was a package of specific monetary and fiscal policy reforms. In order to achieve these reforms it became common for donors to impose more conditions, and more complex conditions, to the aid they gave. The process of 'structural adjustment' became synonymous with aid: "The key problem was now seen to be (low) growth, and the solution to be the addressing of constraints which donors believed were depressing potential growth, without which poverty could never be reduced, never mind eradicated" (Riddell, 2007; 35). Developing countries were instructed to stabilise their economies and implement the elements of the structural adjustment programme. This included the opening up of markets, privatisation of state assets, adoption of more export-orientated, less protective trade policies, and the lowering of government expenditure in all areas, including in health and education.

Donors reverted to the previous objective of creating economic growth and switched "their main focus to what they perceived to be the core impediments to growth" and away from directly tackling poverty (Riddell, 2007; 34). The rise of neo-liberal thinking that advocated smaller government and open economies considerably influenced leaders in industrialised countries, most notably Ronald Reagan in the United States and Margaret Thatcher in the United Kingdom. These policies were packaged into a new development policy that encouraged the adoption of similar policies in aid recipient countries, especially those in Africa (Moyo, 2010; 20).

Despite the worldwide recession in the 1980s and the focus on adjusting developing economies, aid almost doubled from \$27 billion to \$53 billion between 1980 and 1990. The economic crisis ended in most industrialised countries, and as a result,

government expenditure rose again, including expenditure on aid programmes. Donors also had to deal with the consequences of the structural adjustment programmes. The worsening conditions of some developing countries and growing opposition to structural adjustment among donors led to urgent appeals for increases in aid (Hjertholm and White, 2000; 13). The 1980s also saw an increase in awareness of emergencies among donors and a growing percentage of ODA was devoted to humanitarian purposes. This increased attention was caused by two main factors; first, the number of recorded disasters had been steadily rising, from 16 in the 1960s, to 29 in the 1970s, to 70 in the 1980s (Riddell, 2007; 36), and second, the media substantially increased the coverage of several of these disasters, such as the Ethiopian Famine in 1984.

The beginning of the 1990s saw yet another drop in aid levels and the re-emergence of aid fatigue. After 1992, aid levels fell by more and for longer than they had at the beginning of the 1980s. Several factors were behind this decline. First, the end of the Cold War altered the aid-giving practices of the United States and the Soviet Union, which had provided large amounts of aid. There were also feelings of a 'new beginning' in a post-Cold War world where perhaps aid was not as essential. Second, many principal donors experienced large budget deficits that led to cuts in aid. Finally, the 1990s brought fresh concerns regarding the effectiveness of aid and its impact on some recipients. The notion of 'aid dependency' became popular. Proponents of this theory argued that aid was "detrimental to development as it encouraged recipients to depend continually on aid as a source of finance, thereby discouraging the expansion of domestically created revenue and self-servicing development" (Riddell, 2007; 38). In addition, several academic studies emerged

that claimed they found aid did not 'work'. Some of these studies, such as those by Boone (1994, 1996) were widely cited in the media.

Another growing concern for donors was the issue of governance. Moyo claims that donors, assessing the lack of success in aid since the 1960s, "now laid the blame for Africa's economic woes at the door of political leadership and weak institutions" (2010, 22). Therefore, the 1990s saw a focus on the need for 'good governance' in recipient countries in order for aid to be effective and for there to be sustained economic growth. The end of the Cold War was a large factor in the change of focus for donors: "donors have now awarded or withdrawn aid on the basis of governance issues, whereas in the Cold War period they happily supported any 'friendly regime' (friendly to the West, not necessarily the bulk of the country's inhabitants)" (Hjertholm and White, 2000; 14). Hjertholm and White also argued that some countries, no longer of strategic importance in the post-Cold War environment, saw aid decline significantly (2000, 14). On the other hand, funds for humanitarian aid doubled in the 1990s - more people were affected by disasters and there was a large increase in post-Cold War conflicts.

The end of the 1990s and beginning of the 2000s were a time for extensive debate and discussion on aid. The 2000s saw a refocus on poverty as the primary purpose of aid and donors promised increases in aid levels. As before, the World Bank and the UN were central actors in this push. In 2000, the UN held the Millennium Development Summit where donors signed up to the Millennium Development Goals and there were calls for more aid. After the terrorist attacks in the United States in September 2001, there was a rapid increase in levels of aid. This was

linked to the wider political and strategic concerns of some donors, but also reflected the general upswing in aid giving that had been taking place. At the Monterrey Conference in 2002, donors again pledged to meet the 0.7% of GNI target. In 2005 before and at the G8 Summit, donors committed themselves to reaching the 0.7% by 2015 and 0.56% by 2010. Many of the leading donors also agreed to provide more aid for Africa. The 2000s, therefore, had become the time period when the largest levels of aid were given, with promises of more to come. Moyo (2010) has described the 2000s as the era of 'glamour aid' with celebrities heading campaigns appealing for further aid and debt cancellation, holding discussions with world leaders, attending G8 summits, and organising mass fundraising events. The risk from this, claims Moyo, is that "honest, critical and serious dialogue and debate on the merits and demerits of aid have atrophied" (2010, 27).

The financial crisis that began in 2008 and affected most of the developed world has resulted in cuts to aid programmes in several donor countries, such as Ireland and Italy, with threats of more cuts to come. Therefore, the end of the 2000s is likely to see a drop in overall aid levels. However, the policy approach remains similar with the importance of 'good governance' and the role of politics remaining popular among donors.

## **Aid: The Data**

According to the data from the OECD (2010a), the total amount of ODA given to recipient countries between 1960 and 2008 is just over \$2.4 trillion US dollars. This is a significant amount of money although it is spread across five decades and over a large number of countries. The average amount of aid as a percentage of developing countries' GDP between 1960 and 2008 for developing countries in this study is 4.3%<sup>13</sup>. However, there is much variation - the standard deviation is 9.6%. Of the data used in this thesis, the lowest level of aid received is 0.0002% of GDP (Slovenia in 2001) and the highest is 97% of GDP (Liberia in 2008)<sup>14</sup>.

Variation between countries and regions can be examined in two ways: absolute ODA figures and aid as a percentage of GDP. Table 3.1 ranks the top 20 recipient countries in terms of absolute ODA received from 1960 to 2008 (in US million dollars). As will be seen later in this chapter, there is a substantial difference between countries in terms of the absolute amount of aid received, and the ration of that aid to a country's GDP. Perhaps not surprisingly, Egypt has received the largest amount of aid in the time period. This could be surprising given that Egypt is not considered an extremely poor or undeveloped country but, mainly due to its strategic and political position in North Africa and the Middle East, it has received substantial amounts of aid. Of the 20 in countries table 3.1, 10 are located in Sub-Saharan Africa. This is an expected trend, given that aid is often most associated with that region and it is where there is deemed to be greatest need for it. It may, however,

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<sup>13</sup> Appendix 3A lists all the countries used in this thesis. However, the countries and years included in each chapter vary according to the availability of necessary data.

<sup>14</sup> Appendix 3B provides tables of a breakdown of the aid/GDP data across decades and regions.

strike some as unexpected that the highest placed Sub-Saharan country is fifth on the list of overall ODA recipients. Further, despite the recent media focus on African countries such as Ethiopia and Somalia, Tanzania has received the largest amount of ODA in Sub-Saharan Africa.

**Table 3.1: Top 20 Countries by Net ODA Received, 1960-2008. Source: OECD, 2010a**

Country	Net ODA 1960-2008 (US\$ Millions)
Egypt	49218.02
India	41854.62
Indonesia	39861.37
Bangladesh	24659.15
Tanzania	24133.19
Pakistan	23576.21
Nigeria	22249.49
Philippines	20308.05
Mozambique	19245.89
Congo, Dem. Rep.	18295.08
Ethiopia	16474.44
Sudan	14881.6
Kenya	14751.02
Zambia	13723.65
Morocco	12866.88
Cameroon	12661.82
Senegal	11746.26
Sri Lanka	11341.17
Bolivia	11184.35

Source: OECD, Stat Database 2010a

Another interesting trend to investigate is the change in countries' positions in the aid rankings over time. Data for the top recipient countries across the decades are given in table 3.2. Some countries consistently appear in the top 10 recipients of aid. India received substantial amounts of aid from the 1960s, although dropped down the list in the 2000s. Similarly, Egypt has consistently received high amounts of ODA. Another



country that could be considered a 'strategic' beneficiary of aid is Pakistan. Apart from the 1990s, it has been a top recipient since the 1960s. Its reappearance in the top 10 countries in the 2000s is undoubtedly linked to its strategic relationship with the United States after 2001 (Anwar and Michaelowa, 2006).

Another trend is the emergence of Sub-Saharan African countries into the top 10 recipients, especially from the 1980s onwards. In the 1960s, the highest recipient in Sub-Saharan Africa was the Democratic Republic of Congo, which was tenth on the list of all recipients. The number of Sub-Sahara African countries increased to two in the 1970s, three in the 1980s, four in the 1990s, and six in the 2000s. This large shift toward countries in Sub-Saharan Africa signifies the greater recognition among donors to tackle poverty, particularly in the 2000s with the launch of the Millennium Development Goals, which focus heavily on the world's poorest countries.

An additional trend in aid volumes has been the rising level of ODA, as already highlighted in Figure 3.1, above. But the spread of aid between recipient countries has also altered. The ratio of the amount of aid given to the top recipient to the amount given to the tenth recipient has decreased over time. In the 1960s, the difference between the first and tenth recipient was nine times the value. In the 2000s, this has dropped to 2.9 times. Overall, larger amounts of aid are now given to several countries rather than one or two countries receiving significantly more times the level of aid than the rest.

**Table 3.2: Net ODA to Recipients by Decade (figures are US\$ millions). Source: OECD, 2010a**

1960s		1970s		1980s	
	<i>Net ODA (\$)</i>		<i>Net ODA (\$)</i>		<i>Net ODA (\$)</i>
India	9907	India	6571	Egypt	14086
Pakistan	3957	Indonesia	5126	Indonesia	8996
Korea, South	2419	Bangladesh	3709	India	8001
Algeria	2332	Egypt	3342	Bangladesh	7815
Brazil	2178	Pakistan	3339	Tanzania	5418
Turkey	1877	Papua New Guin.	2238	Philippines	5102
Indonesia	1535	Korea, South	2210	Pakistan	4883
Egypt	1193	Tanzania	1867	Sudan	4169
Chile	1067	Congo, DR	1475	Kenya	3993
Congo, DR	1022	Philippines	1408	Thailand	3973
1990s		2000s			
	<i>Net ODA (\$)</i>		<i>Net ODA (\$)</i>		
Egypt	22317	Nigeria	19688		
Indonesia	14735	Congo, DR	11038		
India	10678	Tanzania	9692		
Philippines	8980	Indonesia	9469		
Bangladesh	7493	Ethiopia	8600		
Mozambique	7250	Mozambique	8547		
Thailand	6999	Egypt	8281		
Tanzania	6791	Sudan	8072		
Cote d'Ivoire	5288	Pakistan	7051		
Ethiopia	4457	India	6697		

Source: OECD, Stat Database 2010a

The impact of aid can also be assessed by examining the percentage of GDP that the aid received equates to. The figures and graphs below outline the level of aid as a percentage of GDP across regions and over time. This section of the chapter begins by demonstrating the variation in aid levels across the world's regions. This is followed by a review of aid levels over the decades from the 1960s to the 2000s. The

final section shows data for aid recipients of different income levels with particular focus on the least developed countries.

### *Regional Aid*

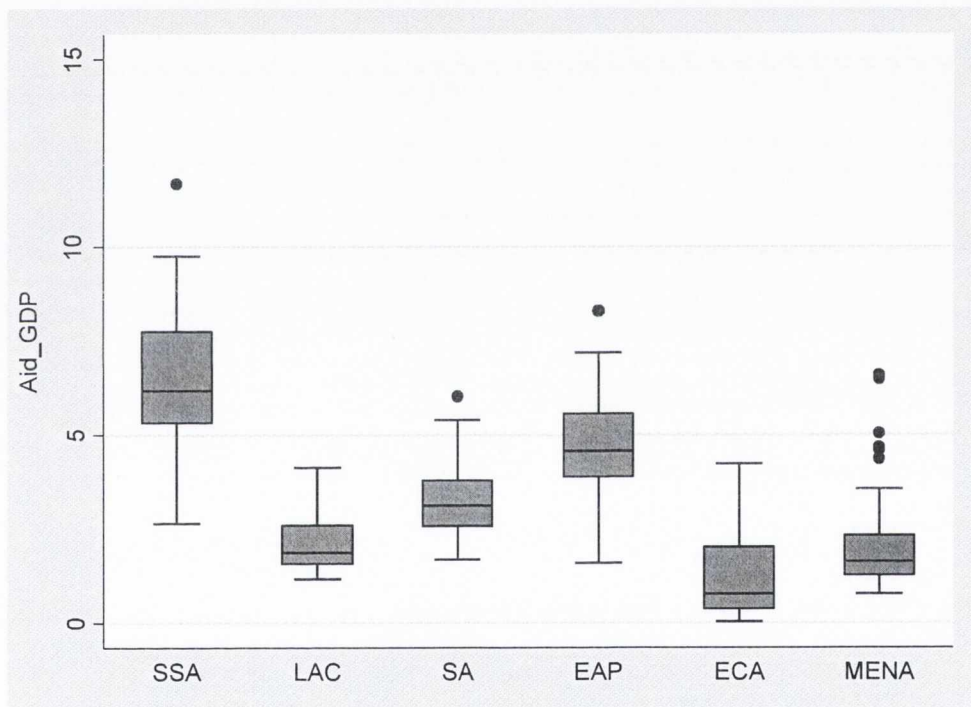
The average aid/GDP is highest in Sub-Saharan Africa (6.7%), followed by East Asia and the Pacific (4.9%), South Asia (3.3%), Latin America and the Caribbean (2.2%), Europe and Central Asia (2.1%), and the Middle East and North Africa (2%) (Of course, these averages do not reflect the extensive variation *within* regions, which is discussed below). The box plots in figure 3.2 show the variation between regions<sup>15</sup>. Sub-Saharan Africa has received the most aid in terms of GDP. The length of the box and the whiskers at either end demonstrates the considerable level of variation between countries in the region. Europe and Central Asia has, on average, the lowest levels of aid/GDP but there is still substantial variation in this region. The box plot demonstrates that some countries have aid levels much higher than the median for that region. Another low aid/GDP region, Latin America and the Caribbean, has the least amount of variation between countries. The MENA region generally has low levels of aid/GDP, but it has more outliers than any other region suggesting that some countries are highly aid-dependent within the region. In South Asia, there is also not much variation as the length of the box and the whiskers are not long. However, in East Asia and the Pacific there is quite extensive variation and the median aid/GDP level is second only to Sub-Saharan Africa. Two main points can be taken from figure 3.2. First, Sub-Saharan Africa is clearly the most aid-dependent region. Even allowing for the extensive variation in the region, its median level of aid/GDP is significantly higher than the median value for the other regions.

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<sup>15</sup>Sub Saharan Africa = SSA; Latin America and the Caribbean = LAC; South Asia = SA; East Asia Pacific = EAP; Europe and Central Asia = ECA; The Middle East and North Africa = MENA

Second, there is extensive variation between and within regions. While much of the focus of the aid debate is often on Sub-Saharan Africa, the box plots in figure 3.2 show that other regions of the world receive extensive amounts of aid as a percentage of their GDP and aid dependency is also quite high in several countries outside of Africa. However, many countries that receive aid are not heavily dependent on it as it equates to only a small fraction of their overall GDP.

**Figure 3.2: Average Aid as a Percentage of GDP 1960-2006, by Region**



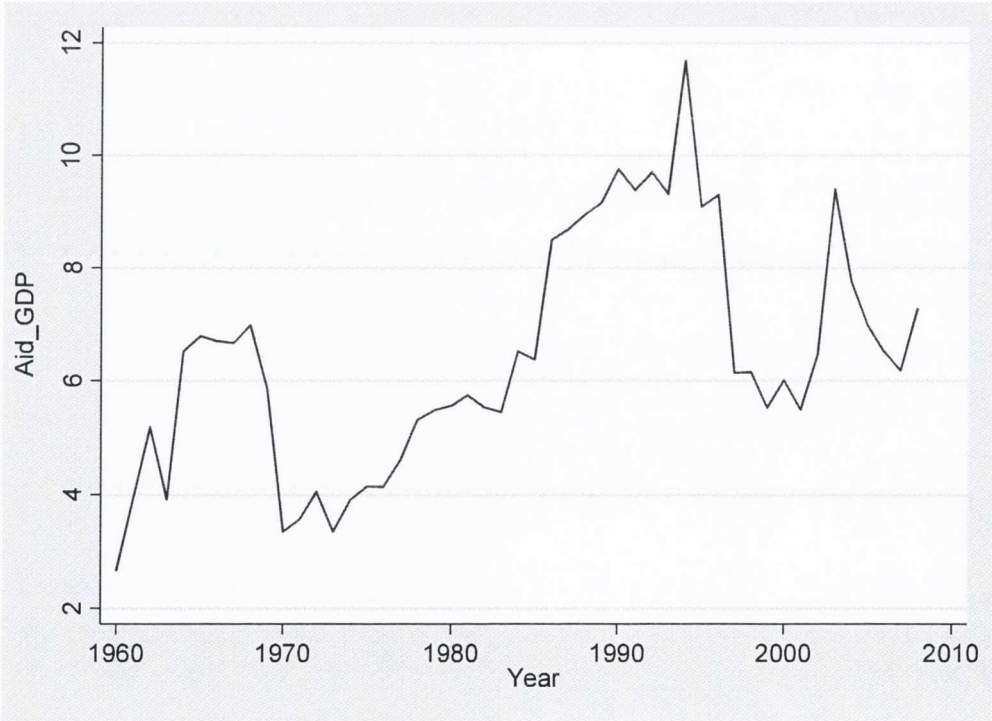
The line in each box represents the median level of aid/GDP for that decade

Source: OECD, Stat Database 2010a

Figure 3.3 shows Sub-Saharan Africa's dependence on aid has fluctuated over time but has remained consistently high since the late 1970s. Aid to Africa shares a similar pattern with overall aid trends, outlined in the first section of this chapter. Total aid dropped in the early 1970s and slightly in the early 1980s and peaked in the late 1990s, when aid levels were at their highest. Aid dropped in the early 2000s, only to increase again, but recent recessions in the industrialised world appear to

have led to a drop in aid levels as there is a decline in the late 2000s. Sub-Saharan Africa is the most aid dependent region. If all the 121 aid-recipient countries used throughout this research are ranked in terms of aid as a percentage of GDP between 1960 and 2008, 34 out of the 50 highest recipients are in Sub-Saharan Africa. However, this masks the extensive variation within that region. In more developed countries in the region, such as South Africa and Nigeria, average aid/GDP from 1960 to 2008 is 0.24% and 0.7% respectively. It is not surprising that neither of these countries are classified as Least Developed Countries (LDCs.) At the other end of the scale, Guinea-Bissau is the most aid dependent region of the last few decades with average aid/GDP equal to 21.7%. Mozambique is second with 18.8%. The UN classifies both of these countries as LDCs.

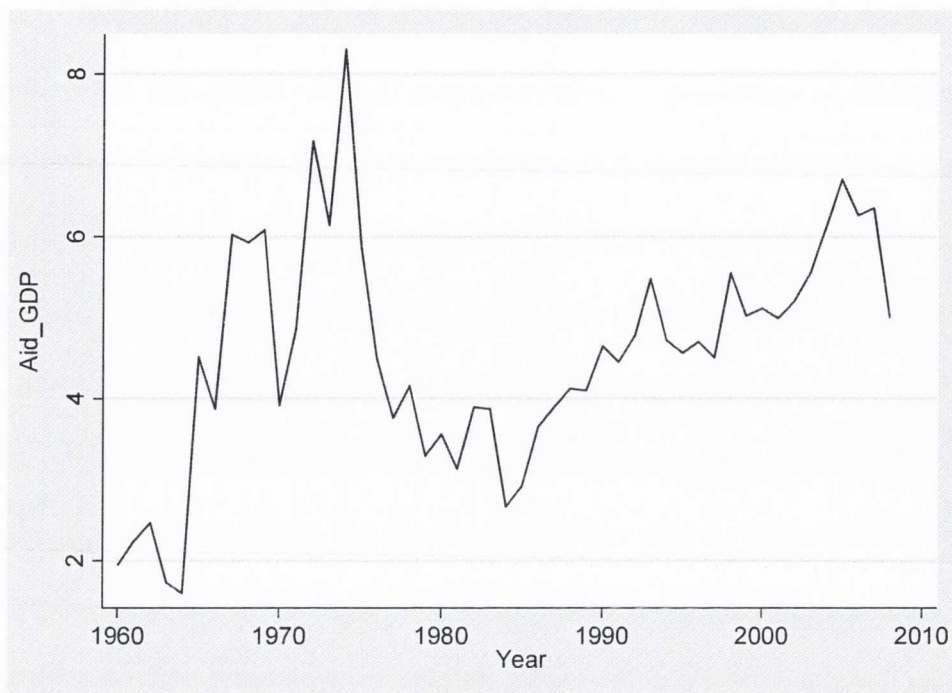
**Figure 3.3: Aid/GDP in Sub-Saharan African Countries, 1960-2008**



Source: OECD, Stat Database 2010a

Trends in aid/GDP in East Asia and the Pacific are shown in figure 3.4. The region experienced its highest levels of aid/GDP in the 1970s. Rapid economic development in many East Asian economies in the 1990s and their continued success in the 2000s has meant that aid does not form a central part of the economy in many of these countries. However, countries in East Asia and the Pacific are the most aid-dependent countries, on average, after countries in Sub-Saharan Africa. This may seem surprising given the success associated with the East Asian 'Tiger Economies', but two points are important. First, the financial crisis in 1997 resulted in those successful countries seeking financial assistance. Second, there is substantial variation between countries in this region. This division seems to be between the island nations in the Pacific and those countries of East Asia. Over time, average aid/GDP has been high in countries such as Papua New Guinea (10.8%), Samoa (14.5%), and the Solomon Islands (16%). In contrast, aid/GDP has been very low in countries such as Thailand (0.6%), Singapore (0.25%), and Malaysia (0.43%).

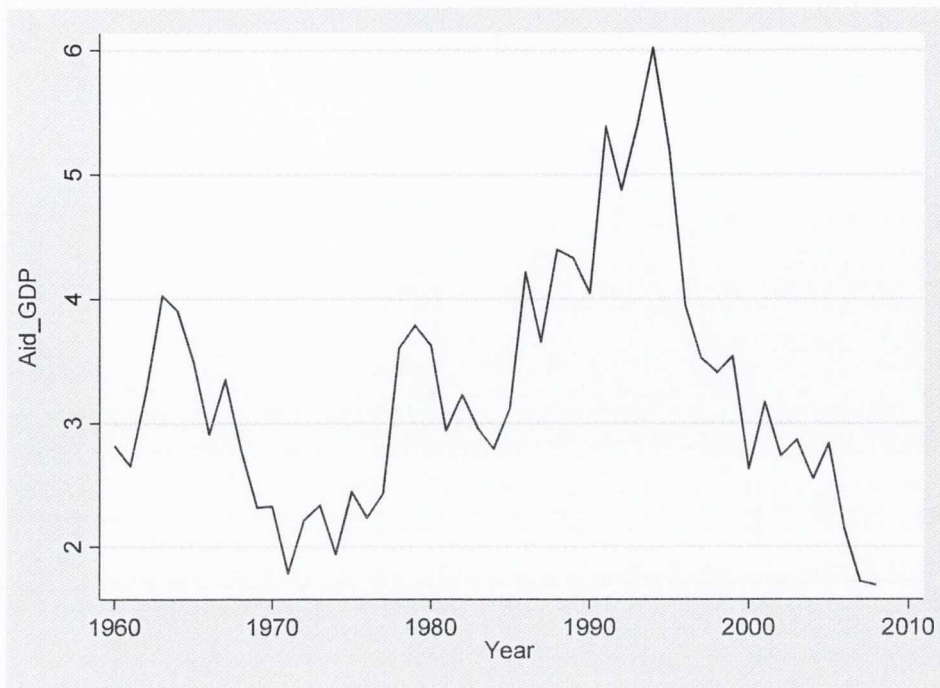
**Figure 3.4: Trends in Aid/GDP in East Asian and Pacific Countries, 1960-2008**



Source: OECD, Stat Database 2010a

Figure 3.5 shows the trend in aid/GDP in South Asia from 1960-2008. Aid/GDP to South Asia peaked at 6% in the early 1990s, but in general, aid/GDP has been quite low in this region. However, once again, this masks variation between countries. Countries such as Pakistan receive extensive amounts of aid from the United States but over 1960-2008 average aid/GDP was 2.7%. In India, aid makes up only a small percentage of GDP (0.7%). Smaller countries are more aid-dependent: Bhutan is the most aid-dependent country in the region by some distance (9%), followed by Nepal (4%).

**Figure 3.5: Trends in Aid/GDP in South Asian Countries, 1960-2008**

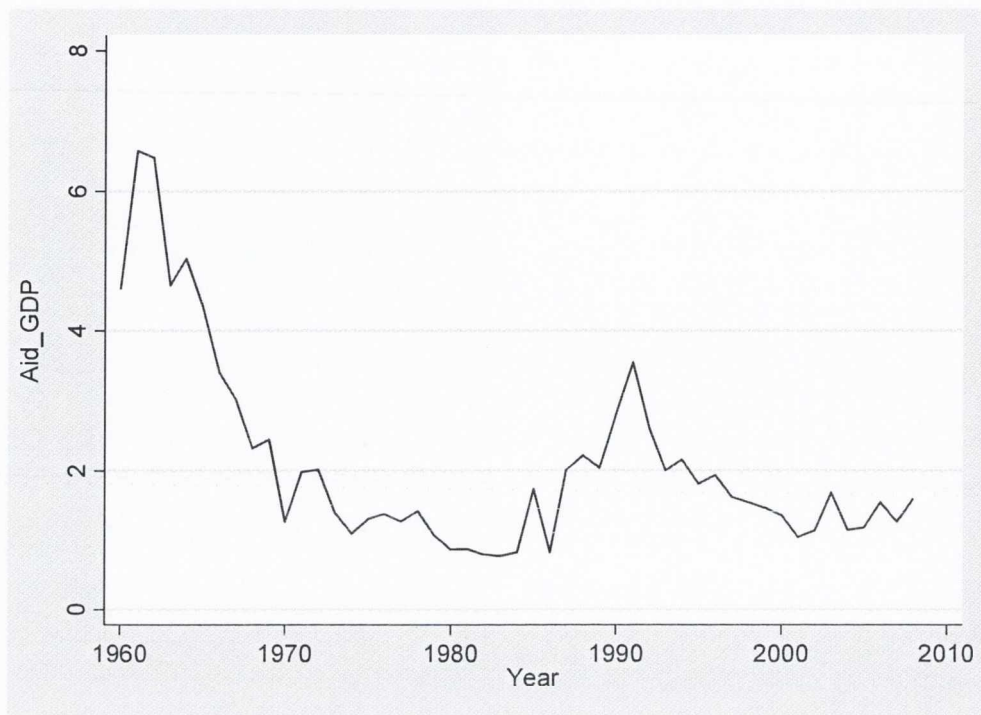


Source: OECD, Stat Database 2010a

Figure 3.6 shows aid/GDP over time for the Middle East and North Africa. The MENA region has generally received low levels of aid/GDP. Aid/GDP levels were quite high in the 1960s, but since the 1970s, it has been between approximately 1-2% of GDP. There is a spike in the early 1990s that represent large jumps in aid to Egypt, Jordan, and Syria. As before, there is a large variation between countries. Oil-rich countries such as Saudi Arabia have received low levels of aid – in the case of Saudi Arabia and Kuwait, an average of 0.009% from 1960 to 2008. Djibouti is the most aid-dependent country (12.7%) with Jordan the second most aid dependent (5.2%). Egypt, a recipient of large amounts of aid from the United States does not display high levels of aid dependency with average aid/GDP equal to 3%.



**Figure 3.6: Trends in Aid/GDP in Middle East and North African Countries, 1960-2008**



Source: OECD, Stat Database 2010a

The tendency of oil-rich countries in the MENA region not to be aid dependent is one that applies to oil-rich countries in other regions. Table 3.3 shows the average aid/GDP from 1960 to 2008 of the Organisation of Petroleum Exporting Countries (OPEC). The 11 countries<sup>16</sup> are in three regions, the Middle East and North Africa, Sub-Saharan Africa, and Latin America and the Caribbean. Algeria and Angola have the highest rates of aid/GDP, but those percentages are still below the average level of aid/GDP across all developing countries. Further, Angola only joined OPEC in 2007. These figures demonstrate the low levels of aid dependency when an alternative revenue source is available to governments.

<sup>16</sup> There are 12 OPEC members, but Iraq is not included in the analysis in this thesis.

**Table 3.3: OPEC Members, Average Aid/GDP 1960-2008**

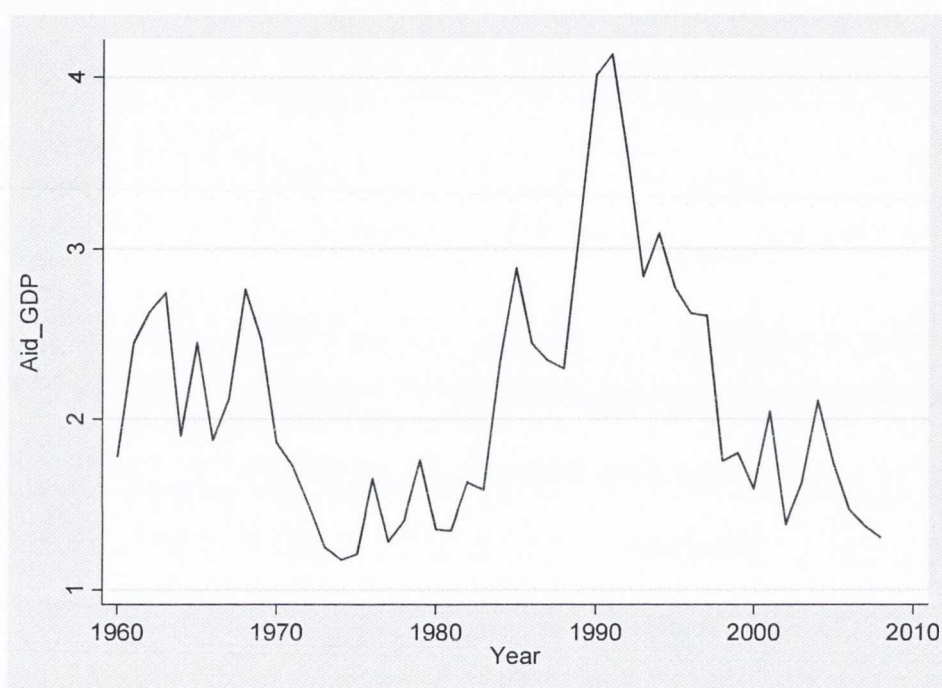
	<b>Aid/GDP</b>
<b>Country</b>	<b>(%)</b>
<b>Algeria</b>	2.2
<b>Angola</b>	2.3
<b>Ecuador</b>	0.1
<b>Iran</b>	0.01
<b>Kuwait</b>	0.001
<b>Libya</b>	0.002
<b>Nigeria</b>	0.07
<b>Qatar</b>	0.001
<b>Saudi Arabia</b>	0.01
<b>United Arab Emirates</b>	0.002
<b>Venezuela</b>	0.06

Source: OECD, Stat Database 2010a

Aid/GDP trends for Latin America and the Caribbean is shown in Figure 3.7. The main point from the graph is the spike in aid in the late 1980s and early 1990s. This rise coincides with the rise in aid to assist several countries following the emergence of the Debt Crisis in the 1980s. Apart from that spike, aid/GDP levels have been quite low since the 1960s demonstrating the usually low levels of aid dependence in this region. However, Nicaragua and Suriname both have quite high aid/GDP levels of 8 and 7% respectively. Haiti, which is classified as a LDC, and the only one in the region, has also received high levels of aid/GDP over time, averaging at 5.5%. Nicaragua's high aid/GDP can be partially contributed to very high levels of aid/GDP in the early to mid-1990s. At this time, the country was in poor economic

condition following conflict between the government and the ‘Contras’ guerrillas. Further, United States aid rose dramatically following the defeat of the Sandinistas in the 1990 elections.

**Figure 3.7: Trends in Aid/GDP in Latin America and the Caribbean Countries, 1960-2008**

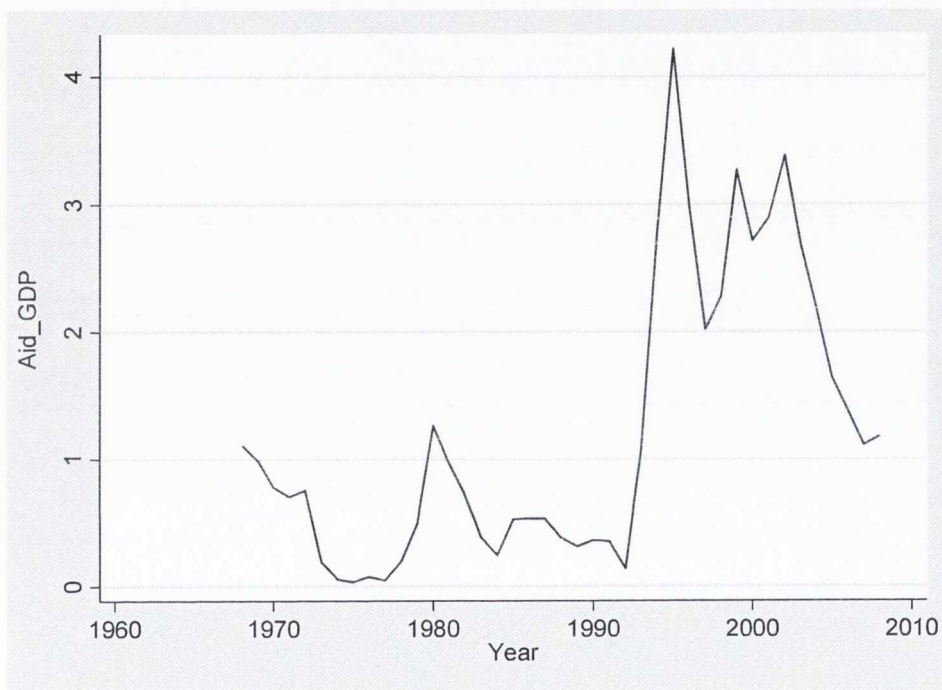


Source: OECD, Stat Database 2010a

Figure 3.8 shows aid/GDP levels for Europe and Central Asia. The OECD does not have data for countries in this region for all of the 1960s and so this is missing from figure 3.8. Between the 1970s to the early 1990s, aid/GDP levels were extremely low, under 1% of GDP. The spike in aid in the early 1990s represents the emergence of independent Central and Eastern European states following the collapse of the Soviet Union. The graph shows that in the mid-2000s aid/GDP began to drop sharply highlighting the economic development of countries in this region, especially those in Eastern Europe, and so a reduction in the need for aid. The lowest

aid/GDP levels where in Belarus (0.01%) and Slovenia (0.03%) with the highest levels in Bosnia-Herzegovina (10.8%). In Central Asia, Kyrgyzstan has the highest average level of 4.7%.

**Figure 3.8: Trends in Aid/GDP in Europe and Central Asia Countries, 1960-2008**



Source: OECD, Stat Database 2010a

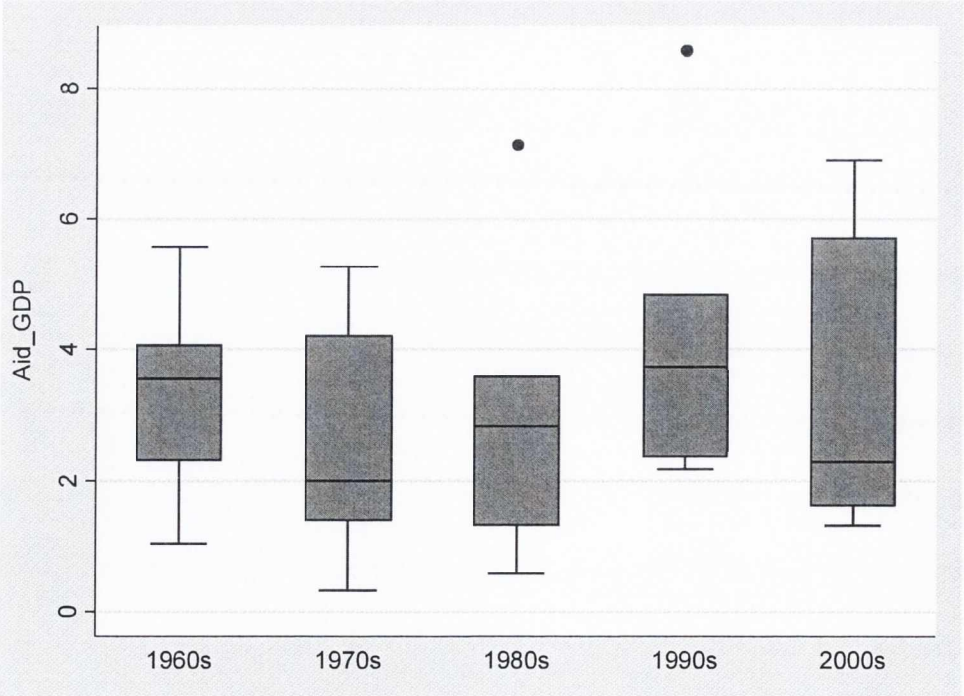
*Aid over the decades*

The box plot below demonstrates the variation in aid/GDP levels over decades from the 1960s to the 2000s. Median levels of aid/GDP were highest in the 1960s and there was quite extensive variation in this decade. In the 1970s, there was a drop in the median level of aid/GDP to 2%. Despite this fall in median aid levels, the box plot shows that there was extensive variation and many countries were still receiving high levels of aid/GDP. Median levels of aid/GDP increased in the 1980s and again in the 1990s. These decades also had much less variation between countries than

previous decades. The outliers in the 1980s and 1990s are Sub-Saharan Africa with average aid levels of 7.12% and 8.6% for these decades. In the 2000s, median aid/GDP levels have dropped significantly to just over 2%. However, the box plot demonstrates that the 2000s have the most variation between regions with the upper whisker reaching aid/GDP levels of approximately 7%.

Average aid/GDP levels have varied across decades and mirror the median levels discussed above. In the 1960s, aid/GDP averaged 3.4%, and in the 1970s, it was 2.5%, its lowest level. Aid/GDP rose in the 1980s to 3.1% and again in the 1990s 4.2%, its highest level. Average aid/GDP fell in the 2000s to 3.4%. This is higher than the median level reported above, again demonstrating the variance between countries.

**Figure 3.9: Box Plot of Aid/GDP average levels across Decades, 1960s to 2000s**

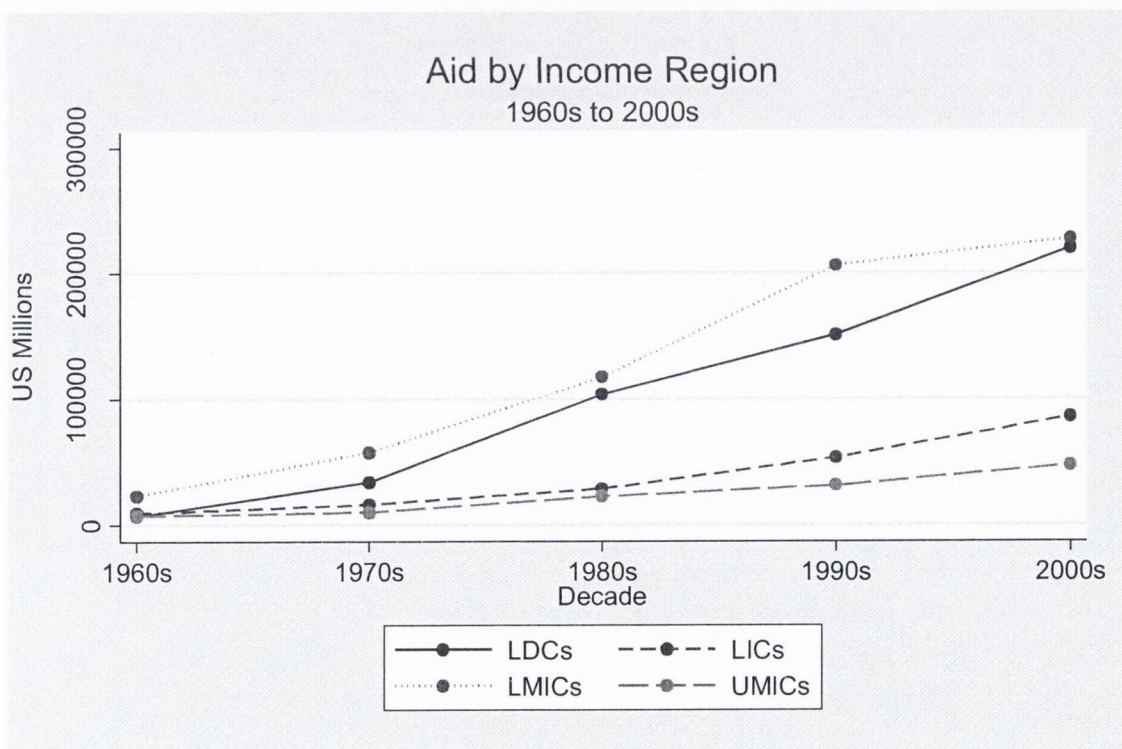


The line in each box represents the median level of aid/GDP for that decade  
 Source: OECD, Stat Database 2010a

### *Aid and Income Levels*

The disparity between the need for aid and the distribution of aid has been well-documented (McGillivray and White, 1994; Collier and Dollar, 1999, 2001). A general conclusion of aid allocation studies is that middle income countries receive a significant share of aid compared to lower income countries. Figure 3.10 shows that Lower Middle Income Countries (LMICs) have consistently received the highest levels of ODA since the 1960s. The Least Developed Countries (LDCs) have received the second highest amount, while Low Income Countries (LICs) (low-income countries that are not LDCs) and Upper Middle Income Countries (UMICs) have received the third and fourth highest amount respectively.

**Figure 3.10: ODA to Different Income Regions**



Source: OECD, Stat Database 2010a

The gap between LMICs and the LDCs has decreased in the 2000s, which could be a reflection of the Millennium Development goals that encouraged donors to focus on the poorest countries with the worst development indicators. However, this pattern of distribution does highlight that poverty is often not the main factor behind giving aid for many donors. Aid has long been used for strategic reasons, and while this has declined since the end of the Cold War, it remains a part of aid allocation. Riddell comments that in “2004, almost \$9bn was provided in official aid (OA) to countries considered by the ORCD/DAC as too rich to qualify for ODA, almost \$1bn going to countries classified by the UN as ‘high human development’ countries. At the other end of the scale, in 2003/4, the total amount of aid (ODA) channelled by OECD/DAC donors to the 65 poorest countries and territories in the world amounted to only \$31.4bn out of a total of \$73.8bn” (2007, 102-3). This is less than half of all ODA in 2004 going to the world’s poorest countries.

Table 3.4 shows the net ODA figures for all recipients and for LDCs only. The third column shows the percentage of aid received by LDCs as a percentage of aid received by all countries. ODA to LDCs was only 12 per cent of all ODA in the 1960s. However, this was in a period before there was a conscious effort to identify and target LDCs. The push to focus on poverty began in the 1970s when aid to LDCs rose to 18 per cent. By the 2000s, aid to LDCs has only risen to 22 per cent of all ODA given, the same figure as it was in the 1980s. The figures in table 3.4 also clearly highlight that the rises in absolute levels of aid have not equated to the same level of rises in aid to LDCs.

**Table 3.4: Aid to All Recipients and to LDCs Only, 1960s to 2000s. Source: OECD, 2010a**

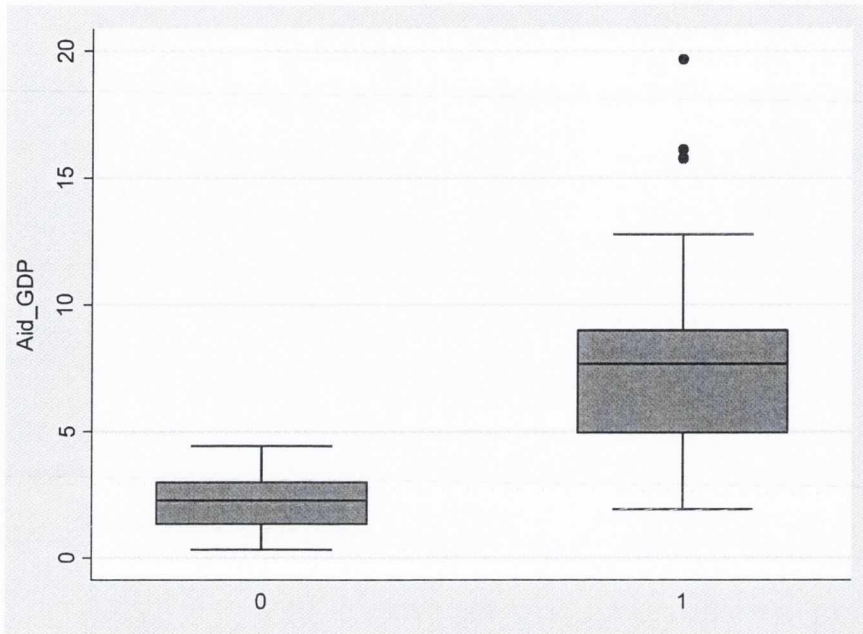
	<b>All recipients (\$)</b>	<b>LDCs (\$)</b>	<b><i>Per cent to LDCs</i></b>
1960s	60,255	7,036	12
1970s	191,120	33,940	18
1980s	460,471	103,242	22
1990s	735,376	150,578	20
2000s	988,831	219,613	22

Source: OECD, Stat Database 2010a

The LDCs are the poorest countries in the world with consistent low levels of growth and generally higher than average aid/GDP. LDCs in this chapter are listed in Appendix 3C. The UN identified 49 LDCs in 2010 and there are data for 39 of these countries in the dataset. Average aid/GDP levels for LDCs are 8.1%, compared to 2.3% for all non-LDC developing countries. The box plot in figure 3.11 demonstrates the large variation of aid/GDP levels between LDCs (1) and non-LDCs (0). The median level of aid is much higher in LDCs, around 8% compared to approximately 2% for non-LDCs. The variation in levels of aid is also much greater. One hundred per cent of the observation range from just above 0% to just below 5% for non-LDCs. For LDCs, the range is roughly 2-13%. There are also four outliers in the LDCs group with aid/GDP levels of above 15%; these are Guinea-Bissau (21.7%), Mozambique (18.8%), the Solomon Islands (16%), and Eritrea (15.5%).



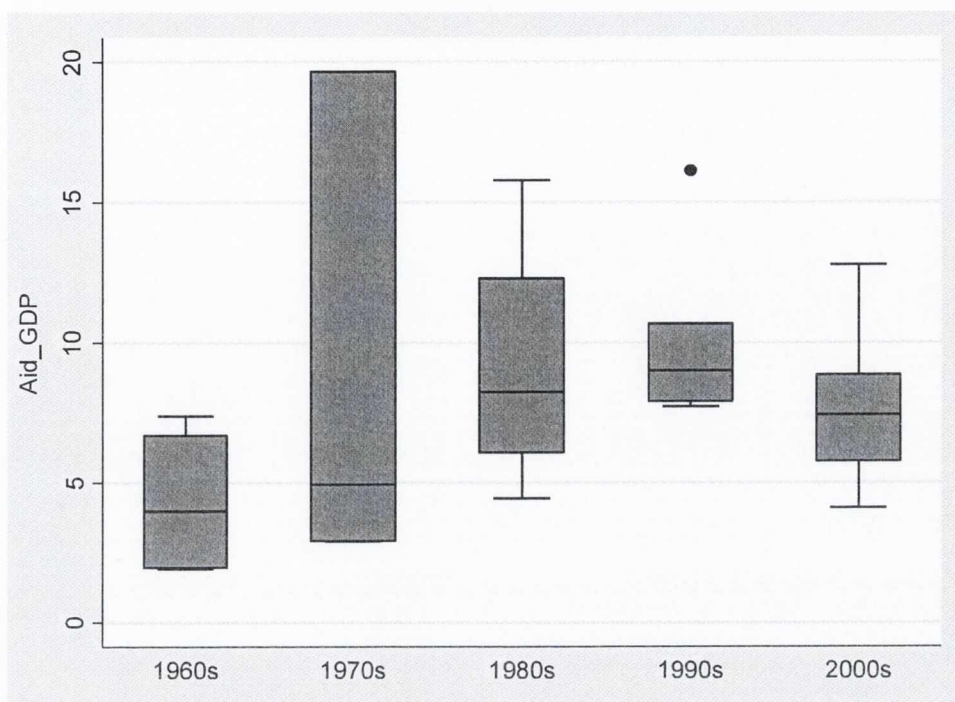
**Figure 3.11: Box Plot of average Aid/GDP levels to LDCs and non-LDCs 1960s-2000s**



The line in each box represents the median level of aid/GDP for that group  
Source: OECD, Stat Database 2010a

The box plot below in figure 3.12 shows changes to aid/GDP levels in LDCs over time. Since the 1960s, aid/GDP levels in LDCs have grown. The 1970s, which saw the launch of a policy focus on poverty, has the most substantial level of variation with the box extending from approximately 3% to nearly 20%. While the extent of variation did decrease in the 1980s, the box plot shows that the median level of aid/GDP did increase. It increased again in the 1990s, although there was a further reduction in the level of variation. In the 2000s, there is more variance but the median level of aid/GDP in LDCs has decreased.

**Figure 3.12: Box Plot of average Aid/GDP levels in LDC 1960s-2000s**



Line in each box represents the median level of aid/GDP for that decade

Source: OECD, Stat Database 2010a

## Conclusion

There is extensive variation in the variable, aid as a percentage of GDP, across and within regions, and over time. The aid variable shows extreme variance, ranging from countries who receive less than 1% of the equivalent of their GDP to countries that show clear signs of aid dependence. Across time, these variables have experienced considerable fluctuation. The 1960s represented a time of low aid giving, but aid increased over time to peak in the 2000s.

This variation over time and across regions has been shown in the graphs above. However, the graphs do not reveal the full extent of the variation. Within regions,

there are vast differences between countries. As noted above, in Sub-Saharan Africa aid/GDP in more developed countries, such as Nigeria and South Africa, is, on average, below 1%, while it is closer to 30% in other, poorer countries. This extensive variation does not just apply to the poorer region of Sub-Saharan Africa. In the wealthier East Asia and the Pacific, there are also great differences between states. Countries such as South Korea and Thailand have average aid/GDP levels of 2.7% and 0.8% respectively. This is in comparison to countries such as Laos where aid/GDP has been, on average, 13.1%. In particular, many of the Pacific islands have shown a notable dependency on aid. The Solomon Islands have an average aid/GDP level of 26.5%, this itself ranging from 15% to 40% over the decades.

Variation in aid levels exists between countries in terms of their wealth. Surprisingly, lower middle-income countries receive more aid than the least developed countries. Upper middle-income countries also still receive a substantial amount of aid. This reflects that the reasons for giving aid are not simply to help the poorest people. Rather, the full story behind aid allocation is much more complex.

The variation in aid over time and across countries is essential for the analysis in this thesis. Quite clearly, aid levels vary significantly between developing countries. Therefore, we expect outcomes of aid to differ across countries as well. The aim of this thesis is to examine the relationship between aid and public goods expenditure, under different political institutional contexts. However, the following chapter carries out a typical aid-growth study, meaning the dependent variable is economic growth. The chapter seeks to explain the impact of aid/GDP on levels on economic

growth across a broad range of developing countries with varying levels of institutional quality

## Appendix 3A: Countries by Region

<b>Sub-Saharan Africa</b>	<b>Latin America and the Caribbean</b>	<b>South Asia</b>
Angola	Argentina	Bangladesh
Benin	Bahamas, The	Bhutan
Botswana	Barbados	India
Burkina Faso	Belize	Nepal
Burundi	Bermuda	Pakistan
Cameroon	Bolivia	Sri Lanka
Cape Verde	Brazil	
Central African Republic	Chile	<b>East Asia and the Pacific</b>
Chad	Colombia	Brunei Darussalam
Comoros	Costa Rica	Cambodia
Congo, Dem. Rep.	Dominican Republic	Fiji
Congo, Rep.	Ecuador	Indonesia
Cote d'Ivoire	El Salvador	Korea, South
Equatorial Guinea	Grenada	Lao PDR
Ethiopia	Guatemala	Malaysia
Gabon	Guyana	Mongolia
Gambia, The	Haiti	Papua New Guinea
Ghana	Honduras	Philippines
Guinea	Jamaica	Samoa
Guinea-Bissau	Mexico	Singapore
Kenya	Nicaragua	Solomon Islands
Lesotho	Panama	Thailand
Liberia	Paraguay	
Madagascar	Peru	<b>The Middle East and North Africa</b>
Malawi	Suriname	Algeria
Mali	Uruguay	Bahrain
Mauritania	Venezuela, RB	Djibouti
Mauritius		
Mozambique	<b>Europe and Central Asia</b>	Egypt, Arab Rep.
Niger	Azerbaijan	Iran, Islamic Rep.
Nigeria	Belarus	Jordan
Rwanda	Bosnia and Herzegovina	Kuwait
Senegal	Croatia	Lebanon
Sierra Leone	Cyprus	Libya
South Africa	Georgia	Morocco
Sudan	Kazakhstan	Oman
Swaziland	Kyrgyz Republic	Qatar
Tanzania	Macedonia, FYR	Saudi Arabia
Togo	Moldova	Syrian Arab Republic
Uganda	Slovenia	Tunisia
Zambia	Tajikistan	United Arab Emirates

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Zimbabwe

Turkey

Turkmenistan

Ukraine

Uzbekistan

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**Appendix 3B: Aid as a percentage of GDP (Source: OECD, Stat Database 2010a)**

**3B1: Average Aid/GDP by decade**

<b>Decade</b>	<b>Aid/GDP</b>
<b>1960s</b>	3.35
<b>1970s</b>	2.5
<b>1980s</b>	3.05
<b>1990s</b>	4.24
<b>2000s</b>	3.36

**3B2: Average Aid/GDP by region**

<b>Region</b>	<b>Aid/GDP</b>
<b>SSA</b>	6.66
<b>LAC</b>	2.11
<b>SA</b>	3.30
<b>EAP</b>	4.67
<b>ECA</b>	2.01
<b>MENA</b>	1.90

**3B3: Average Aid/GDP by region by decade**

<b>Region</b>	<b>Decade</b>	<b>Aid/GDP</b>
<b>SSA</b>	1960s	5.56
<b>SSA</b>	1970s	4.20
<b>SSA</b>	1980s	7.12
<b>SSA</b>	1990s	8.59
<b>SSA</b>	2000s	6.90
<b>LAC</b>	1960s	2.32
<b>LAC</b>	1970s	1.48
<b>LAC</b>	1980s	2.14
<b>LAC</b>	1990s	2.93
<b>LAC</b>	2000s	1.63
<b>SA</b>	1960s	3.15
<b>SA</b>	1970s	2.51
<b>SA</b>	1980s	3.52
<b>SA</b>	1990s	4.53
<b>SA</b>	2000s	2.48
<b>EAP</b>	1960s	3.96
<b>EAP</b>	1970s	5.26

<b>EAP</b>	1980s	3.59
<b>EAP</b>	1990s	4.84
<b>EAP</b>	2000s	5.70
<b>ECA</b>	1960s	1.05
<b>ECA</b>	1970s	0.33
<b>ECA</b>	1980s	0.59
<b>ECA</b>	1990s	2.37
<b>ECA</b>	2000s	2.10
<b>MENA</b>	1960s	4.07
<b>MENA</b>	1970s	1.40
<b>MENA</b>	1980s	1.33
<b>MENA</b>	1990s	2.18
<b>MENA</b>	2000s	1.32

### 3B4: Average Aid/GDP for LDCs and non-LDCs

	Aid/GDP
<b>Non-LDC</b>	2.25
<b>LDC</b>	8.10



### Appendix 3C: Least Developed Countries in Dataset

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Angola	Haiti
Bangladesh	Lao PDR
Benin	Lesotho
Bhutan	Liberia
Botswana	Madagascar
Burkina Faso	Malawi
Burundi	Mali
Cambodia	Mauritania
Cape Verde	Mozambique
Central African Republic	Nepal
Chad	Niger
Comoros	Rwanda
Congo, Dem. Rep.	Senegal
Djibouti	Sierra Leone
Equatorial Guinea	Solomon Islands
Ethiopia	Sudan
Gambia, The	Tanzania
Guinea	Togo
Guinea-Bissau	Uganda
	Zambia

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## *Chapter 4*

# **The Aid-Growth Model and Moving on From Economic Growth**

The countless aid effectiveness studies that have been produced since the 1970s have traditionally concluded that aid is ‘effective’ if it has a positive impact on economic growth. These aid-growth studies have produced mixed results with some reporting that aid has a positive effect on growth while several others find a negative effect and many more find no effect. From such results claims have been made that aid ‘works’ and advances economic growth, but also claims that it does not have a positive impact and may even had adverse effects and, therefore, aid should be greatly restructured (Easterly, 2003) or halted altogether (Moyo, 2010). This chapter carries out an aid-growth analysis using the most widely cited variables in recent aid-growth studies and the most common statistical methods, namely OLS regression and panel data with instrumental variable analysis (2SLS). Throughout this chapter, the variables and methods used will be assessed and frequent criticisms considered. In particular, this chapter contends that economic growth is not a

suitable dependent variable for assessing the effectiveness of aid. This argument is outlined below in the discussion section. The subsequent chapters in this thesis use an alternative dependent variable – public goods expenditure. The merits of this alternative were discussed and outlined in chapter one.

This chapter has two purposes. The first is to assess the suitability of economic growth as a dependent variable in aid effectiveness studies. Although it is the most widely used dependent variable in aid effectiveness studies, its appropriateness is questionable. The second purpose is to investigate the impact of political institutions on the use of aid and its subsequent impact on growth. The impact of political institutions on the use of aid is the main focus of this thesis and this investigation is begun in this chapter with the most frequently used, but rudimentary, measure of political institutions in aid-growth studies, the International Country Risk Guide's measure of institutional quality. The overall aim of this thesis is to refine those political institutional conditions under which aid is most effective and this aim is pursued in later chapters.

In order to examine the impact of aid on growth under different levels of institutional quality, an interaction term between aid and institutional quality is included in the regression model. Interaction terms between aid and a perceived influential mediating variable are popular in recent aid effectiveness studies. This new approach is called the 'conditional' strand (Clemens, et al., 2004; 7). The aim is to identify the important characteristics of countries in which aid has had a positive impact on growth. The intention is that aid works but is mediated by conditions existing within a recipient country. Interaction terms of aid and another independent

variable are interpreted, as the effectiveness of aid on growth is directly dependent on an existing condition in a recipient country. The most popular of these 'conditional' variables has been measures of economic policy, or a more general measure of good governance (such as Burnside and Dollar, 2000).

An interaction term of aid and institutional quality (the ICRG measure) will be included in the analysis below. This examines if aid is more effective in an environment with high institutional quality. Interacting aid with economic policy is the most frequently used interaction term in aid-growth studies (Hansen and Tarp, 2000; Collier and Dollar, 2002; Dalgaard, et al., 2004), following the interest generated by the Burnside and Dollar article. However, aid will be interacted with political institutions in this chapter for two reasons. First, it takes into account the growing interest in the effect of political institutions on the effectiveness of aid. Second, since the long-run interest of this thesis is the effect of political institutions on the use of aid it is appropriate to include an interaction term between aid and political institutional in this chapter.

The findings of this chapter demonstrate the difficulty of detecting a relationship between aid and economic growth. The results show that aid has no substantively significant impact on growth at any level of institutional quality. Even when the models are analysed without the interaction term, the direct effect of aid has a significant impact on growth in only one of the models. There is some evidence that aid may have an impact on growth when a lagged-aid variable is used to deal with the endogenous relationship between aid and growth, however, the significance of this result is questionable. Furthermore, the interaction term is negative in two of the

models, suggesting that, despite conventional wisdom, aid's impact on growth is largest at lower levels of institutional quality.

This chapter is outlined as follows. The next section discusses the theory behind aid's impact on growth. This is followed by a description of the common variables and methods used in aid-growth studies, and those used in this study. The results of the models are then presented. The final section offers a discussion on the suitability of economic growth as an indicator of aid effectiveness.

## **Aid and Growth: The Theory**

In the post-World War II climate, the successes of the Marshall Plan in Western Europe lead many donors to believe that foreign aid could assist countries in achieving economic development. However, the theoretical justification for this belief was ambiguous. The existing aid literature, using a variety of model specifications and statistical methods, investigates the impact of aid on growth, identifying 'effective' aid as increasing economic growth (Burnside and Dollar, 2000; Hansen and Tarp, 2000; Hansen and Tarp, 2001; Clemens, et al., 2004; Dalgaard, et al., 2004). Both traditional growth theory and new growth models are utilised to illustrate how aid can possibly affect economic growth through a highly diverse set of channels. This section of the chapter considers two crucial questions, the first is *why should aid lead to growth*, and the second is, *why should institutional quality matter for aid effectiveness?*

Development economists began to highlight the role of economic growth in the 1950s. The theory developed at this time identified capital formation and large-scale investment as the crucial elements of growth (Nurske, 1953, Lewis, 1954). It was believed that foreign aid could supply the finance for the necessary capital and this would lead to developing countries having self-sustaining growth, (as with the Marshall Plan (Moyo, 2010)) although extremely little empirical research was undertaken to examine the relationships between aid and growth (McGillivray, et al., 2006; 1033).

These early development models were known as 'gap models'. They declared that insufficient levels of savings and foreign exchange restrict the rate of economic growth. Therefore, foreign aid acts as a necessary supplement that fills these gaps and enables developing countries to reach a target rate of growth. The first and most recognised of these gap models is the Harrod-Domar growth model. The model presumes that there is a surplus supply of labour and that growth is restricted only by the availability and productivity of capital (McGillivray, et al., 2005). The availability of capital, also identified as the level of investment, is a product of the amount of savings. Therefore, it is necessary for governments to raise the level of savings or boost the productivity of capital to reach a target growth rate (ibid.). Frequently, the level of savings in developing countries is too low to attain the target growth rate. However, since foreign aid can act as a financial supplement it can relieve the savings restraint. This allows for an increase in investment and hence, a higher rate of growth.

Chenery and Bruno (1962) and Chenery and Strout (1966) identified a foreign exchange gap. They highlighted that developing countries are unlikely to have the export earnings required to import capital goods for investment (McGillivray, et al.,

2005). As with the savings and investment model, foreign aid can help fill this gap. Bacha (1990) and Taylor (1990, 1994) identify a third gap. Several developing country governments do not have the ability to raise sufficient revenue to achieve a required level of investment. When a government receives foreign aid, they can ease this gap, so long as the aid is used for investment purposes. In sum, gap models state that foreign aid can act as a supplement to savings, foreign exchange, and domestic revenues. This allows for a higher level of savings and investment, which leads to a higher growth rate.

More recent growth models acknowledge that the impact of aid on growth is likely to be affected by intervening factors that may help or hinder its effect on growth (such as Burnside and Dollar, 2000). These models build on the neo-classical growth model.

The neo-classical growth models outlines the factors that affect growth and that can explain the variation in growth rates between countries. Weil (2009) outlines a model that contains factor accumulation, productivity and fundamentals. Factor accumulation is physical capital (machines, infrastructure, etc.) and human capital (education and health). Productivity is the “effectiveness with which factors of production are converted into output” (Weil, 2009; 513). Weil identifies two components to productivity, technology (in the form of research and development, the dissemination of information and scientific advance) and efficiency (the organisation of the economy, political institutions). Fundamentals underlie these factors. The main fundamental factor is government behaviour. This would include government expenditure on education and health, investment in technical progress and the efficiency of the economy. Other possible factors include geographical

factors, culture, and natural resources. However, Weil acknowledges that the impact of these factors is more difficult to determine.

Aid can be incorporated into the neo-classical model to explain level of economic growth. Aid can contribute to the accumulation of both physical and human capital. It can be used by governments to purchase machinery and to invest in infrastructure, thereby increasing physical capital. It can also be used by governments to invest in health and education, which can have a positive impact on human capital. The theoretical argument of this thesis is that political leaders are incentivised by political institutions to use aid effectively, identified in this thesis as investment in the social sector (education and health). While the focal point of this thesis is not on aid's relationship with economic growth, it is still important to understand how aid interacts with other factors that ultimately impact growth. In terms of productivity, the presence of effective institutions is also central to this thesis. Weil identified institutions as being crucial to the efficient use of the factors of production. This research also identifies institutions as being crucial for the efficient use of aid, so that its potential impact on growth can be achieved.

Other aid studies that build on the neoclassical growth model, such as Burnside and Dollar, state that the impact of aid on growth will be greater when there are fewer policy distortions affecting the incentives of economic actors. Both the incentive to invest aid and its subsequent productivity as capital are affected by various policy distortions that can lower the return to capital. Policy decisions affect the productivity of capital and the fraction of the aid that is actually invested. Interaction effects are at work between aid and policy, hence the inclusion of interaction terms of aid and policy in aid effectiveness studies.



Hansen and Tarp (2000; 15) do acknowledge that a better theoretical explanation is needed about the aid-growth process. However, theory has been important in influencing the specification of aid-growth models. Theory has also played a critical role in influencing both the perceptions about how aid affects growth and the necessary conditions that must be in place for the impact to be positive. However, the growth process is complex; it depends on an intricate range of interacting parts, and is influenced in many ways. In short, it is not possible to explain the complete growth process in basic analytical frameworks. The same can be said for the impact of aid on growth – it too is likely to be complex, with aid directly influencing growth in many possible ways and being affected by a range of external factors as well. However, it is possible that useful insights can still be gained from the models adopted in the cross-country literature on growth when proper care is taken to do this in a coherent and analytical manner.

The second crucial question to consider is; *why should institutional quality matter for aid effectiveness?* Institutional quality can be considered as one of the distortions in the neo-classical growth model that hinders the effective use of aid. High institutional quality implies lower levels of corruption, more bureaucratic efficiency, and good policy-making. Low institutional quality, on the other hand, suggests high corruption, a lack of transparency, and inefficiency in bureaucracy and policy-making. There is a large body of literature on the vital role of institutions in economic growth (Acemoglu, et al., 2001, 2003, 2005; Rodrik, 2004; Rodrik, et al., 2004). Most development economists assume that underlying economic institutions and policies are the main factors in determining long-term growth. Hall and Jones (1999) argue, “Differences in capital accumulation, productivity, and therefore

output per worker are fundamentally related to differences in *social infrastructure* across countries. By social infrastructure we mean the institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output.” Similarly, Acemoglu, et al. (2001) conclude, “Many economists and social scientists believe that differences in institutions and state policies are at the root of large differences in income per capita across countries.” There is fairly broad agreement that the Marshall Plan accelerated European growth after World War II since the aid was entered into an environment with pre-existing solid institutions and social infrastructure (Burnside and Dollar, 2004; Moyo, 2010). Burnside and Dollar (2004) and Baliaoune-Lutz and Mavrotas (2009) both find a positive and significant impact of an interaction term between aid and institutional quality on growth, indicating strong political institutions improve aid’s effectiveness.

This section of the chapter has outlined the theoretical argument underlying two central issues to aid effectiveness. This first argument examined why aid is expected to produce economic growth. This is the oldest and most investigated point in the aid literature. However, as was outlined above, it remains a disputed point, with many flaws existing in the theoretical framework and many difficulties posed for an empirical analysis. The second central issue is in relation to political institutions. This is a consideration of recent popularity, examined in conjunction with the popular issue of ‘good governance’. The focus of the institutional argument has to date been on institutional quality, which is expected to promote the positive use of aid. The relationship between aid and growth under different levels of institutional

quality is examined empirically below. The next section outlines the data used in this analysis.

## **Methodology and Data**

A cross-sectional time series analysis is carried out on panel data from 84 countries. The list of these countries is provided in Appendix 4B. The study analyses the data over the period 1965 to 2008. The data are collapsed into eleven four-year time periods<sup>17</sup>. By doing this, the interdependencies between observations are reduced and there are less missing data.

The dependent variable is economic growth or, annual GDP per capita growth<sup>18</sup>. Data are from the World Development Indicators (World Bank, 2010a). Aid is measured as net Official Development Assistance (ODA) over current levels of GDP in US dollars. Data for ODA are obtained from the OECD (2010a) and GDP data are taken from the World Development Indicators. An aid-squared term is included in the analysis to control for diminishing returns of aid. This is included in this analysis as it has been a standard inclusion in recent aid-growth studies (Hansen and Tarp, 2000; Collier and Dollar, 2002; Clemens, et al., 2004; Dalgaard, et al., 2004; Rajan and Subramanian, 2008).

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<sup>17</sup> The time period selected by which to collapse data varies across studies. Burnside and Dollar (2000) and Easterly, et al. (2003) use four-year periods. Rajan and Subramanian (2008) used five-year time periods. Guillaumont and Chauvet (2001) unusually used twelve-year periods in their analysis. The most common selection is four-year time periods and so this is used in this chapter.

<sup>18</sup> A lagged dependent variable, to control for preceding levels of economic growth, is not included. This is due to the problems associated with lagged dependent variables when they are used in statistical analysis. See Achen (2000) and Keele and Kelly (2000).

There is much variation in the aid-growth literature regarding the selection of control variables, although there is some convergence across the most recent studies (Burnside and Dollar, 2000; Hansen and Tarp, 2000; Dalgaard, et al., 2004). All these studies build aid-growth equations by drawing on the large empirical literature on growth (such as Levine and Renelt, 1992; Easterly and Rebelo, 1993; Fischer, 1993; Sachs and Warner, 1995; Barro, 1997). This recent empirical growth literature provides guidance concerning the economic, political, and social variables that affect growth. The selection of variables in aid-growth studies could be regarded as arbitrary. Certainly, the growth literature does identify other variables that are linked to economic growth, such as educational levels and population growth, that are generally not included in aid-growth analyses, but it is impossible to account for all possible effects on economic growth. Bearing this caveat in mind it is still necessary to select economic and political control variables. Therefore, this aid-growth analysis will use the generally accepted economic, institutional, and social variables used in several previous studies and derived from the economic growth literature. These variables used in are outlined below.

GDP per capita in current US dollars is a standard inclusion in aid-growth studies and acts as a proxy for a country's economic development. The second economic variable is a measure of trade openness, which acts as a proxy for a country's trade policy. This measure is used in several studies, such as Persson and Tabellini (1999). It is the average of the total amount of imports and exports as a percentage of GDP. Third, the rate of inflation is used as a proxy for the quality of a country's monetary policy. A value of one is added to inflation and the log of this number is used. The fourth economic variable is government consumption, which acts as a control for the

quality of a country's fiscal policy. Data for these variables are taken from the World Bank's World Development Indicators (2010a).

Three social and institutional variables are included which are also selected based on their inclusion in recent aid-growth studies. The first of these political measures is the institutional quality measure. The measure used in this chapter is the International Country Risk Guide (ICRG) measure. In the dataset, this ranges measure from 1.6 for Iran to 9.5 for Singapore. The mean value is 4.5 and the standard deviation is 1.5. This is the most frequently used institutional measure in aid studies (Knack and Keefer, 1995; Burnside and Dollar, 2000; Easterly, et al., 2003; Clemens, et al., 2004; Brautigam and Knack, 2004). It is an aggregated measure of bureaucratic efficiency, rule of law and corruption. It has been criticised as the same value is held throughout the analysis. Whilst it is acceptable to assume that institutions do change slowly, it is not likely that they remain unchanged over decades. Further, it has been questioned as to what extent one single measure is able to capture the quality of institutions within a country. This measure is far from desirable, but as it has been used in several previous and typical aid-growth studies, it will be used here.

To control for levels of political and social stability a measure of ethnic-linguistic fractionalisation is used and a variable for the number of assassinations in a country. These two variables are combined in an interaction term in the analysis below. The ethno-linguistic fractionalisation variable is the 'Index of Ethno-linguistic Fractionalisation'. It measures the probability that two randomly selected people from a given country will not belong to the same ethno-linguistic group. The variable ranges from zero to one with zero representing the most homogenous society. Easterly and Levine (1997) claimed that ethnic fractionalisation is correlated

with bad policies and poor economic growth. This measure was developed in 1960 and the value of this variable remains constant for each country over time, based on the assumption that ethno-linguistic fractionalisation changes slowly. The assassinations variable has been used by several studies to capture the level of civil unrest. Data are from Jones and Olken (2009) and measures if there was an assassination plot, an assassination attempt, or a successful assassination in a country in a given year.

In line with recent aid-growth studies, regional control variables are also included in the analysis to control for regions that receive particularly high levels of aid. Dummy variables for three regions are included: Sub-Saharan Africa, Central America, and the Franc Zone.

As stated in the introduction, an interaction term of aid and institutional quality (the ICRG measure) will be included in the analysis below, which examines if aid is more effective in an environment with high institutional quality. There is wide variation between aid effectiveness studies in relation to the independent variables included. The justification for the inclusion of these variables is often questionable resulting in the credibility and reliability of such studies to be questionable. Further, this is by no means an exhaustive list of the variables used in studies. Other possible variables include corruption (Mosley, et al., 2004; Calderon, et al., 2006), democracy (Svensson, 1999), other financial flows (Mosley, et al., 1987; Durbarry, et al., 1998), savings (Mosley, et al., 1987; Durbarry, et al., 1998) and infant mortality rate (Mosley, et al., 2004). However, as noted above, it is impossible to include all determinants of growth. By using the empirical growth literature for guidance, it is at least possible to select the most relevant variables for inclusion. A

list of all the variables included in this analysis and their sources are given in appendix 4A.

### *Endogeneity*

Endogeneity is a problem that aid-growth studies must contend with. Aid flows are influenced by a country's situation. If donors are motivated by suffering in recipient countries then the lower the growth and the higher the suffering in these countries the greater the desire to give aid and to alleviate the suffering. Therefore, it is possible to find a negative correlation between aid and economic growth, but this does not demonstrate that aid causes growth to fall. In fact, a negative relationship between aid and income per capita is well established (Trumball and Wall, 1994; Alesina and Dollar, 2000).

The decision to give aid and its allocation is ultimately a political decision – it is made by governments and financed by public funds. The motivation behind such decisions can be divided into two blocs, altruistic and donor interests (Riddell, 2007; 91-92). That donors have their own interests has become something of conventional wisdom in the aid world (Tarp and Hjertholm, 2000; Sogge, 2002; Browne, 2006)<sup>19</sup>. If this is the case then aid is not allocated to those most in need, or indeed, to those that used it particularly well in the past. Clearly non-developmental factors have been critical in the past and continue to be so in the allocation of aid. However, the extent of the importance of these factors varies over time and across donors.<sup>20</sup>

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<sup>19</sup>Although, there is not a complete consensus on the extent of donors' non-altruistic motivations in the literature, see Lumsdaine (1993).

<sup>20</sup>For example, in 2001 the Development Assistance Committee (DAC) recommendations on Untying Official Development Assistance to the least developed countries (LDCs) were published. Between 2001 and 2003, the percentage of untied aid from DAC members to LDCs rose by nearly 20%. More and more countries are making the decision to give all aid untied. Further, recent studies suggest that in the post-Cold War era the strong link between aid and former colonies has weakened (Riddell, 2007; 93).

The problem of the endogeneity of aid remains prominent in the current aid-growth literature (Burnside and Dollar, 2000; Hansen and Tarp, 2000, 2002; Clemens, et al., 2004; Dalgaard, et al., 2004). The solution most frequently proposed is instrumentation. Instrumentation involves using a variable that is correlated with the endogenous independent variable but is not correlated with the error terms. This variable is called an instrument. There are two important characteristics of an instrument. The first is that the instrument itself is exogenous and not endogenous like the variable it is instrumenting for. The second characteristic is that the instrument is correlated to the instrumented variable but is also uncorrelated to the error terms. Efficiency increases the more highly correlated the instrument variable is with the endogenous variable while remaining uncorrelated with the error terms. For aid-growth studies, this means finding instruments that are correlated to the aid variable and likely to influence aid allocation without directly affecting growth. Aid has been instrumented using a variety of variables across a number of studies. Table 4.1 shows the instruments used in three different aid-growth effectiveness studies.

However, there are limits to instrumentation. There are consequences to poor instruments - estimates may not be consistent. With weak instruments, tests of significance have the incorrect size, and confidence intervals are wrong. The main problem with instruments is that good instruments, that is, instruments that are exogenous and highly correlated to the instrumented variable, are actually quite rare, that is, there might not be a high correlation between the instruments and the endogenous variable. Wright and Winters (2010) argue that many instruments are not plausibly exogenous.



Using a lagged aid variable as an alternative to instrumenting for aid is another possibility, as this too could control for the endogenous relationship (Rajan and Subramanian, 2008). One problem surrounding the use of lagged terms is choosing the length of the lag. Lagging by too few years means that the problem of endogeneity is likely to still exist. However, using a large number of years means much data is lost.

**Table 4.1: Examples of Instruments used for Aid in Aid-Growth Regressions**

<b>Burnside and Dollar (2000)</b>	<b>Hansen and Tarp (2000)</b>	<b>Clemens, et al. (2004)</b>
Dummy for Egypt	Dummy for Egypt	Dummy for Egypt
Franc Zone dummy	Arms imports (t-1)	Arms imports
Central America dummy	Policy (t-1)	Policy <sup>2</sup>
Arms imports (t-1)	Policy*log (population)	Policy <sup>2</sup> (t-1)
Log of population	Policy*log (initial GDP per capita)	Policy*log (population)
Policy*log (Population)	Policy*log (initial GDP per capita) <sup>2</sup>	Policy*log (initial GDP per capita)
Policy*log (Population) <sup>2</sup>	Policy*aid(t-1)	Policy*log (initial GDP per capita) <sup>2</sup>
Policy*log (initial GDP per capita)	Policy *aid <sup>2</sup> (t-1)	Policy(t-1)*aid(t-1)
Policy*log (initial GDP per capita) <sup>2</sup>	Aid(t-1)	Policy(t-1)*aid <sup>2</sup> (t-1)
Arms imports (t-1)*policy	Aid <sup>2</sup> (t-1)	Aid(t-1)
		Aid <sup>2</sup> (t-1)
		Log repayment (t-1)
		Policy(t-1)

This chapter conducts an instrumental variable analysis on the aid-growth model. Data for these instruments are taken from the WDI and the instruments are listed in Appendix 4C. The chosen instruments are outlined based on the justifications provided in the existing aid literature that has utilised such instruments. Most aid-growth studies use instruments that fall into five categories 1) lagged aid variables 2)

political ties to donor countries 3) population variables, and 4) GDP variables, and 5) Country and/or region dummy variables.

Hansen and Tarp (2000, 2001) and Clemens et al (2004) use lagged aid variables as instruments in their analysis, as they assume lagged aid levels are associated with current growth levels. To measure the political ties to donors, and the strategic interests of those donors, a lagged arms import variable is used (as in Hansen and Tarp, 2000). It has been noted that aid allocation has been affected by the strategic interests of donors. This arms imports variable captures the strategic relationships between donors and recipients but such relationships are unlikely to be affected by the economic growth rates of a recipient country, hence this would serve as a suitable instrument.

Instruments for GDP and population are frequently included as instruments in aid-growth studies. GDP is included since low-income countries are more likely to receive aid (Burnside and Dollar, 2000) Population is included since aid relative to GDP per capita is higher for countries with small populations (as included in Boone, 1996). Studies on aid allocation have consistently shown that poor people in countries with large populations receive less aid per capita than those in smaller countries (Riddell, 2007; 104).

Dummy variables for Central America and the Franc Zone in Sub-Saharan Africa are included due to the high level of aid allocated to these regions. This again is representative of the strategic interests of donors, particularly the United States (in Central America) and France (in the Franc Zone). The instruments used in this

study are listed in Appendix 4D and are representative of the variables used in recent aid-growth studies<sup>21</sup>.

However, both instrumented and lagged aid variables will be examined in this chapter and the results will be compared. A four-year lagged aid variable is used which should be a long enough time period to combat endogeneity but sufficient data will still be retained.

## Results

Table 4.2 shows the results for three regression models<sup>22</sup>. Model 1 is an OLS regression using the aid/GDP variable, model 2 includes the lagged aid variable, and model 3 uses instrumental variable analysis. Model 1 shows the results for the OLS regression of aid/GDP on growth, including the interaction term between aid and the ICRG measure of institutional quality<sup>23</sup>. The interaction term is not significant in model 1. It is also, surprisingly, negative, suggesting that aid's impact on growth is

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<sup>21</sup>Tests were conducted on these instruments to test for their significance and validity. The strength of the instruments was tested in the Stata package using **estatfirststage** after the *ivregress* model. The R squared figures are all high suggesting that there is not a weak instrument problem. This is supported by a high F test (the thumb rule being F greater than 10). The Hansen test was used to test the validity of the instruments. The results of this test could not reject the null hypothesis at the 99% or 95% confidence interval levels, suggesting that the instruments are valid. These tests suggest that these instruments are plausibly exogenous to the aid variable and are therefore, suitable to use in this analysis.

<sup>22</sup> The analysis uses Panel Corrected Standard Errors (PCSE). The White Test and the Breusch-Pagan/Cook-Weisberg Test are significant, thereby providing evidence of heteroskedasticity. This is remedied through the inclusion of robust standard errors in the model. The Wooldridge Test is also significant meaning there is first order autocorrelation in the data. The model is adapted to control for first order correlation and PCSE also controls for contemporaneous correlation. There are concerns within the data regarding the presence of country-specific effects over time. This can be remedied by using Fixed Effects models. It is not suitable to do the analysis in this chapter with a Fixed Effects model, because the political institutions variable is fixed over time. Carrying out the analysis with fixed effects would result in the political institutions variable being dropped from the model. However, in the remaining chapters, all models are also carried out with Fixed Effects. The results of these models are discussed in the appendix.

<sup>23</sup> Each of the three models was carried out without the inclusion of the interaction term. The results were very similar with significance levels and the R<sup>2</sup> remaining virtually the same.

stronger at lower levels of institutional quality, and that at higher levels of institutional quality aid has a negative impact on economic growth. The direct effect of aid is positive, implying that when aid has a positive effect on growth at the lowest level of institutional quality. However, the coefficient for aid/GDP is not significant. The direct effect of institutional quality is significant and positive but this result cannot be interpreted independently of the interaction term. An examination of the marginal effects of aid on economic growth at different levels of institutional quality demonstrates that aid does not have a significant impact on growth at any level of the ICRG measure.

**Table 4.2: Effect of Aid on Economic Growth when ICRG is equal to Zero**

Variable	Model 1	Model 2	Model 3
	<i>OLS</i>	<i>Aid lagged four years</i>	<i>2SLS</i>
<b>Aid/GDP</b>	0.114 (0.148)	0.299** (0.135)	0.003 (0.208)
<b>ICRG</b>	0.334** (0.130)	0.398*** (0.129)	0.227* (0.125)
<b>Aid/GDP*ICRG</b>	-0.026 (0.025)	-0.043* (0.023)	0.011 (0.037)
<b>Aid/GDP Squared</b>	0.000 (-0.002)	-0.001 (-0.002)	-0.001 (0.002)
<b>GDP</b>	0.000*** (0.000)	0.000*** (0.000)	0.000* (0.000)
<b>Openness</b>	0.021** (0.010)	0.016 (0.010)	0.022** (0.010)

<b>Inflation</b>	-0.585***	-0.572***	-0.709***
	(0.120)	(0.121)	(0.121)
<b>Government Expenditure (%GDP)</b>	-0.021	-0.026	-0.123***
	(0.031)	(0.030)	(0.034)
<b>Ethnic Fractionalisation</b>	-0.006	-0.007	-0.006
	(0.008)	(0.008)	(0.007)
<b>Assassinations</b>	9.355**	9.579**	10.381***
	(3.900)	(3.893)	(3.759)
<b>Ethnic*Assassinations</b>	-0.133*	-0.145*	-0.145**
	(0.074)	(0.075)	(0.070)
<b>Sub-Saharan Africa</b>	-1.452***	-1.634***	-0.700
	(0.552)	(0.542)	(0.498)
<b>Central America</b>	-1.104*	-1.101*	-1.756***
	(0.620)	(0.611)	(0.568)
<b>Franc Zone</b>	-1.218**	-1.225**	-1.584***
	(0.594)	(0.590)	(0.550)
<b>Constant</b>	2.759***	2.337**	4.328***
	(0.951)	(0.951)	(0.976)
<b>N</b>	593	589	474
<b>R<sup>2</sup></b>	0.15	0.42	0.35

\* 10% level; \*\* 5% level; \*\*\* 1% level

Standard errors in parentheses

Data are analysed using Panel Corrected Standard Errors with AR(1) control and robust standard errors

Therefore, the OLS regression does not produce any significant results to support the arguments that aid increases or decreases economic growth. Among the other control variables, GDP, the level of trade openness, and inflation have a significant impact

on growth. The interaction term of ethnic fractionalisation and assassinations is significant, only at the 10% level, and negative indicating that higher levels of both reduce economic growth. However, since the analysis in model 1 is carried out as an OLS regression, it does not contend with the problem of endogeneity.

Models 2 and 3 both attempt to contend with the problem of the endogeneity of aid, but use two different methods. Model 2 uses a lagged aid variable. Aid/GDP is lagged by four years. In model 3, an instrumental variable analysis is carried out<sup>24</sup>. The results are quite similar for both model 2 and model 3, apart from the direction of the coefficient for the interaction term. In model 2, the interaction term is negative and significant at the 10% level, suggesting that aid has a positive impact on growth at low levels of institutional quality. This corresponds to the finding from model 1 when OLS regression was carried out.

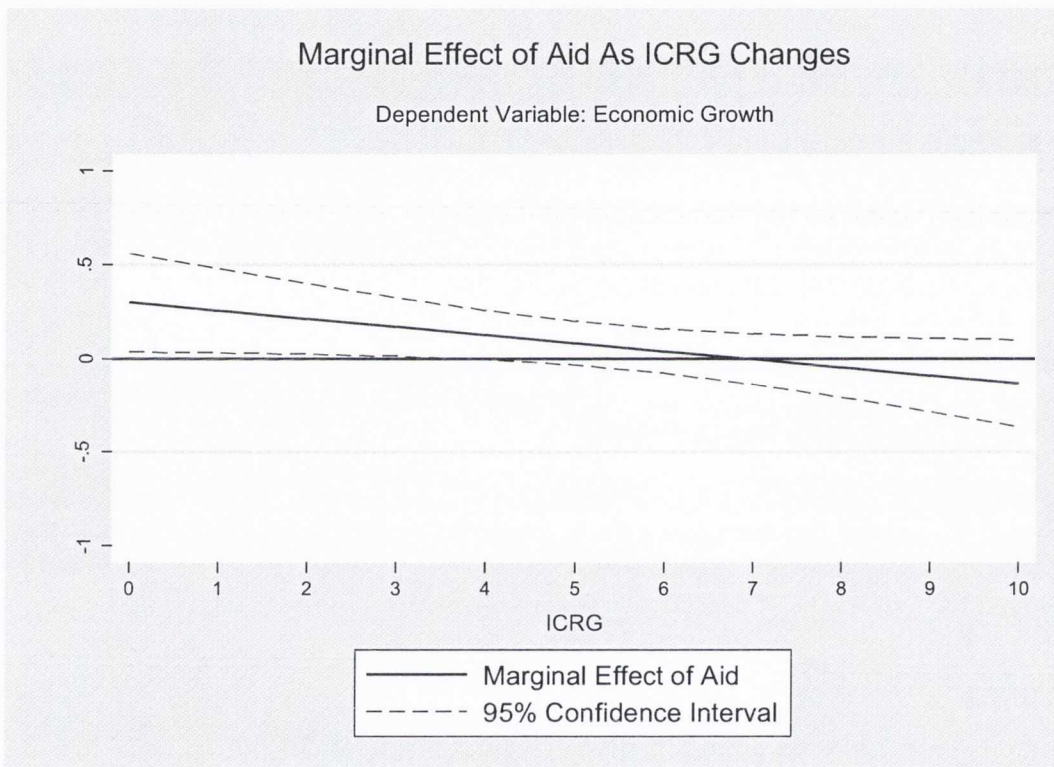
Figure 4.1 shows the marginal effects graph for model 2, when the aid variable is lagged by four years. It depicts the negative relationship between aid and economic growth as the ICRG measure increases. This is against the conventional wisdom that would expect aid to be more effective in a good institutional environment. The graph implies that aid's impact on growth decreases as the institutional quality rises and that above a certain level of institutional quality, aid has a negative effect on economic growth. This could suggest that the environment matters less when larger amounts of aid are given. However, the relationship between aid and economic growth is only significant at lower levels of institutional quality, approximately in

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<sup>24</sup> Two-stage least squares (2SLS) is a special case of the instrumental variables approach used to produce a consistent estimates when an explanatory variable is correlated with the error terms. In 2SLS, each endogenous covariate is regressed on all valid instruments in a first stage regression, and then the fitted values for each endogenous covariate are used instead of the covariate in a second stage regression. Because the instruments are exogenous, the predicted values of the endogenous covariates provide approximations that are uncorrelated with the error term.

the range of zero to three. Further, this relationship is barely significant as the lower bound of the confidence interval is extremely close to zero suggesting that the result is not substantively significant.

**Figure 4.1: Marginal Effects of Lagged Aid on Economic Growth as ICRG Changes (Model 2: Aid Lagged by Four Years)**



Source: Brambor, et al, 2006

In model 3, where aid is instrumented, the interaction term is positive, although not significant. An examination of the marginal effects of aid on growth at different levels of the ICRG for model 3 demonstrates the positive relationship between aid and growth as ICRG increases, but the figure shows that the effect of aid on economic growth does not differ substantially across the ICRG scale. In fact, the impact of aid on growth is almost constant (as is suggested by the size of the

interaction term coefficient in table 4.2). Further, there is no significant relationship between aid and economic growth at any level of the ICRG.

### **Discussion: The Fallacy of the Aid-Growth Study**

The results above imply that the quality of political institutions does not lead to aid having a positive impact on growth. Overall, the results are not substantively significant. The most robust results do suggest that aid's relationship with growth is strongest at lower levels of institutional quality. This is contrary to the conventional wisdom, which encourages donors to give aid to strong institutional environments. The results here do not support such advice. The remainder of this discussion will provide a detailed argument that outlines the challenges of using economic growth as the dependent variable. The issue of the institutional quality measurement is returned to in the conclusion.

Despite being the most common indicator of aid effectiveness, economic growth's suitability as a dependent variable for aid effectiveness studies is highly questionable. To date, the debate on aid has broadly focused on whether aid 'works' or does not work, and whether more or less aid should be given. Advocates on both sides of these debates use the results of aid-growth studies to support their case. It is possible for both sides to do this due to the mixed results produced by such studies. Currently, there is such a lack of consensus on aid's impact on growth that Roodman (2007) refers to the state of the literature as "anarchy". For the most part<sup>25</sup>, neither side has given serious consideration to the appropriateness of the dependent variable,

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<sup>25</sup> Wright and Winters (2010) do note that the current research agenda of aid-growth studies has stalled due to the general limitations of cross-country growth regressions.



economic growth, in aid effectiveness studies. The reasoning behind economic growth as the default dependent variable is not satisfactory. Aid may have been originally given to boost economic growth, but this does not mean that quantitative analyses can detect that relationship. Moreover, aid policies have changed over time meaning the intent of donors has not always been to have a direct impact on economic growth. Overall, it is clear that economic growth does not adequately assess the impact of aid.

One obstacle to assessing aid's impact on growth is that the causes of economic growth itself are not fully understood. The growth process is extremely complex and there remain disagreements over the sources of growth. Riddell points out "some of the most complex econometric models established to measure the different sources of growth acknowledge that a major part of growth still remains unexplained" (2007, 174). Rodrik, et al. presented a detailed growth model but admitted that their model still only "accounted for about half" of the variance in their sample of countries (2004, 136). Growth theory has traditionally focused on human and physical accumulation, and later, technological change. Further additions include factors such as geography and climate, trade and economic integration, political institutions, such as property rights and rule of law, the role of culture, ethnicity and religion, historical factors such as colonialism, and the quality of governance, which may include the level of corruption or the mismanagement of economic policy. The list is long, and still growing. Rodrik sums up the current mood of those analysing economic growth by stating, "The kind of consensus that existed 10-15 years ago about the appropriate policy framework for economic growth has almost disappeared" (2005, 1).

The complexity of the growth process calls into question the ability to assess aid's impact on growth. As has been highlighted above, aid is just one possible impact on growth out of a long list. If growth is complex, then it seems highly probable that the way in which aid interacts and affects growth is also likely to be complex. Riddell argues that "if the most effective way to promote growth...remains provisional, experimental, and difficult to quantify, with no clear and simple template across countries, then the way that aid might further [growth] likewise remains imprecise, continually open to change across countries, within countries, at different periods of time" (2007, 174).

Moreover, evidence indicates that the impact that aid has on growth is relatively small. Rajan and Subramanian (2008) use a simple growth model that concludes that even under the most optimistic assumption about aid (optimistic in the sense that all the aid is invested and none of it is wasted or consumed) the impact of aid should be positive but relatively small in magnitude. Rajan and Subramanian (2008) calculate the impact of aid on growth rates as the capital share income multiplied by the fraction of aid received and this is then multiplied by the output capital ratio. Assuming that all aid is invested and using a value of capital share in income of 0.35 (which they take from Bosworth and Collins, 2003) and using a value of 0.45 for output capital ratio (Rajan and Subramanian, 2008 – the average for developing countries in their regression sample), the magnitude of the regression coefficient suggested by the theory is 0.16%. That is equal to a 1% increase in the ratio of aid to GDP and should at the most raise the long-run growth rate by 0.16%, even on the most optimistic assumption that all aid is usefully invested. If half of all aid is wasted or consumed, the coefficient value should be close to 0.1. If public investment, financed by aid, has some spillover effects and, therefore, has an effect

on productivity growth, the impact of aid could be slightly higher. Aid invested in human capital such as education could also lead to total factor productivity growth. In sum, it is unlikely that aid by itself, no matter how well used, will lead to substantial and direct increases in growth, but it could lead to a greater increase if it is accompanied by policies that increase total factor productivity. Either way, detecting the direct impact of aid on growth is extremely difficult, not because it does not exist but because the impact is likely to be too small for a simple statistical model to identify.

Of course detecting a relationship between aid and growth becomes less urgent when it is considered that growth is not the only aim of aid, and is often not the intended aim of aid. Clemens, et al. outline this point:

“...economic growth is not the sole objective of foreign aid, and in some cases it is not the objective at all. For example, much of the aid that is given following natural disasters is aimed at supporting immediate consumption and humanitarian needs, not building productive capacity. Similarly, aid provided to build political systems or support democracies has growth as only a secondary and distant objective. And of course much aid is given primarily for political purposes” (2004, 1).

Historically aid has been given for strategic and political reasons, diminishing the arguments that propose that aid is given with the intention of generating economic growth. Aid has often been given to governments for geo-political reasons (Frey and Schneider 1986; Schraeder, et al., 1998; Alesina and Dollar 2000; Neumayer 2003; Andersen, et al., 2006; Easterly and Pfutze 2008; Dreher, et al., 2009). Aid given by the United States and the Soviet Union during the Cold War was not intended to create growth but rather to support allies. Some authors claim that the geo-political strategic determinants of aid have diminished since the end of the Cold War (Neumayer, 2005; Dollar and Levin, 2006; Hyde and Boulding, 2008; Claessens, et

al., 2009). However, factors other than the ability to generate growth clearly still play a role in donors' aid allocation decisions. For example, France's focus on its ex-colonies in Africa with which it has extensive trade links and the United States' large aid allocations to Pakistan, Iraq, and Afghanistan have more to do with United State's security than the growth potential in these countries.

In addition, the impact of different types of aid on growth is likely to vary extensively. Clemens, et al. (2004) found that aid given for infrastructure and as budget support could have an almost immediate impact on growth, that is, over a four-year period. However, trying to detect the impact of education aid on growth is much more intricate:

“No one should expect that aid provided to halt environmental degradation or to build democracies would affect growth in four years. Even aid for education and health programs, which may have a strong impact on long-run growth, should not be expected to influence growth in four years. Strengthening primary education systems and reducing infant mortality might support growth in twenty years, but not four. In a cross-country growth regression with observations of just four years, these aid flows aimed at longer-term growth should be expected to have zero (or perhaps a tiny positive) correlation with growth” (Clemens, et al., 2004; 2).

However, Rajan and Subramanian's thorough analysis of aid on growth, including examining short and long term effects of aid, found no significant effect of aid on growth. Finally, the mixed results that aid-growth studies have produced and the questionable robustness of the findings has been highlighted in previous chapters (Roodman, 2007)

This is not to say that the same or similar problems outlined above could not arise with a different dependent variable. However, it is possible to identify dependent

variables that are more closely linked to aid. This means it is more likely that a more robust relationship between aid and the dependent variable could be established.

Riddell sums up the main conclusion: “it would seem over-ambitious to believe it possible to quantify precisely the relationship between aid and growth...across countries and, possibly, within countries, even within a particular country” (2007, 174-5). Despite these caveats, quantitative analyses possess many benefits. Large-N quantitative studies are the only way to analyse a large number of countries simultaneously and to control for a number of conditions. Qualitative studies have proven to be informative in understanding how aid can be effective, but these studies tend to focus on specific projects or programmes and are not suitable for seeking to determine patterns in the use or misuse of aid across recipients. Therefore, it is urgent that dependent variables that are more suitable are sought so that aid’s impact across developing countries can be assessed in a more adequate manner.

## **Conclusion**

The models above examine if aid’s impact on economic growth is mediated by the quality of political institutions in the recipient country. The findings imply that institutions may have some impact on aid’s effectiveness. However, the results are mixed. There is some weak evidence for the claim that aid’s impact on growth is greater at higher levels of institutional quality. However, there is stronger evidence to suggest that aid can have a positive impact on growth but this impact is positive at low levels of institutional quality. At high levels, aid’s impact is actually negative. This result is surprising as it is contrary to the conventional wisdom that claims aid should be more effective in a good institutional environment. But if good

institutional quality enhances growth, as is indicated by the economics literature, and if higher growth leads to less need for aid, the relationship between institutional quality and aid would be negative. However, as highlighted in the results section, these findings are questionable and do not appear to be substantively significant. The marginal effects graph (figure 4.1), showing the significant results, also shows that the result does not substantively differ from zero.

Overall, this chapter questions the suitability of using economic growth as the dependent variable in aid effectiveness studies. The points discussed above outline the problems associated with using growth as the dependent variable. To conclude, it is recommended that alternative dependent variables be used in order to assess the impact of aid. The remaining chapters in this thesis use different forms of public goods expenditure as the dependent variables. The remaining chapters also alter the measure of political institutions. In the remainder of this thesis, the focus is on the effect of political institutions as structures rather than their quality. This means that the behaviour of political actors is modelled under different political institutional frameworks. It is assumed that such research will provide a much better understanding of how and why political institutions matter for the use of aid, instead of assessing what impact, if any, the quality of such institutions has on the use of aid.

## Appendix 4A: Variable Codebook

<b>Variable Name</b>	<b>Variable Description</b>	<b>Source</b>
<b>Aid/GDP</b>	Aid as a percentage of GDP	OECD (2010a) and World Bank (2010a)
<b>Institutional Quality</b>	ICRG - aggregated measure of bureaucratic efficiency, rule of law and corruption	Easterly, et al. (2003)
<b>GDP</b>	The lagged log of initial GDP	World Bank (2010a)
<b>Inflation</b>	Annual rate of inflation + 1, logged	World Bank (2010a)
<b>Openness</b>	The average of total imports plus total exports as a percentage of GDP	World Bank (2010a)
<b>Budget</b>	Budget Surplus/Deficit as a percentage of GDP	World Bank (2010a); Easterly, et al. (2003)
<b>Financial Depth</b>	Measure of development of financial system (M2) as a percentage of GDP, lagged one year	World Bank (2010a)
<b>Assassinations</b>	Number of assassinations per 1000 population, decade average	Easterly and Levine (1997)
<b>Ethnic Fractionalisation</b>	Index of ethno-linguistic fractionalisation, 1960. Measures probability of that two randomly selected people from a given country will not belong to the same ethno-linguistic group. Ranges from 0 to 1.	Easterly and Levine (1997)
<b>Ethnic/ Assassinations</b>	Interaction term of Ethnic fractionalisation and assassinations	
<b>Log population</b>	The log of total population	World Bank (2010a)
<b>Openness SW</b>	The Sachs Warner openness measure	Easterly, et al. (2003)

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<b>Aid<sup>2</sup></b>	Aid/GDP squared	
<b>Aid/Institutional Quality</b>	Interaction term of Aid/GDP and Institutional Quality	
<b>Arms imports</b>	Lagged measure of total arms imports as percentage of GDP	World Bank (2010a)
<b>Sub-Saharan Africa</b>	Dummy variable for Sub-Saharan African countries	
<b>East Asia</b>	Dummy variable for East Asian countries	
<b>Franc Zone</b>	Dummy variable for countries in Franc Zone	
<b>Central America</b>	Dummy variable for Central American countries	
<b>Egypt</b>	Dummy variable for Egypt	

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## Appendix 4B: Countries in Analysis

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Algeria	Guinea-Bissau	Pakistan
Angola	Guyana	Panama
Argentina	Haiti	Papua New Guinea
Bahamas	Honduras	Paraguay
Bahrain	India	Peru
Bangladesh	Indonesia	Philippines
Bolivia	Iran	Saudi Arabia
Botswana	Jamaica	Senegal
Brazil	Jordan	Sierra Leone
Brunei	Kenya	Singapore
Burkina Faso	Korea	South Africa
Cameroon	Kuwait	Sri Lanka
Chile	Lebanon	Sudan
Colombia	Liberia	Suriname
Congo Dem. Rep. (Zaire)	Libya	Syria
Congo, Rep.	Madagascar	Tanzania
Costa Rica	Malawi	Thailand
Cote d'Ivoire	Malaysia	Togo
Dominican Republic	Maldives	Trinidad & Tobago
Ecuador	Mali	Tunisia
Egypt	Malta	Turkey
El Salvador	Mexico	Uganda
Ethiopia	Morocco	United Arab Emirates
Gabon	Namibia	Uruguay
Gambia	Nicaragua	Venezuela
Ghana	Niger	Viet Nam
Guatemala	Nigeria	Zambia
Guinea	Oman	Zimbabwe

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## Appendix 4C: Instruments for Aid in Model 3, Table 4.2

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Arms imports lagged  
Central America country dummy  
Franc Zone country dummy  
log(population)  
log(population)<sup>2</sup>  
log(GDP)  
log(GDP)<sup>2</sup>  
aid lagged 1 year  
aid<sup>2</sup> lagged 1 year  
Institutional quality<sup>2</sup>  
log(population) x institutional quality  
log(GDP) x institutional quality  
log(GDP)<sup>2</sup> x institutional quality  
aid x institutional quality (lagged)  
aid<sup>2</sup> x institutional quality (lagged)

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## *Chapter 5*

# **Aid and Public Goods Expenditure: The Role of Political Constraints**

How aid is spent is a crucial determinant of its ultimate effectiveness. If aid is spent on immunisation programmes or school textbooks and basic school equipment, it is likely to be effective in the sense that it will bring benefits to the public. However, if aid is used to bloat government expenditure or to fund corrupt government contracts, then any benefit from aid will be severely limited, or will not arise at all. Therefore, it is of interest to consider what may influence governments when they choose how to spend aid. How aid is spent will depend on a multitude of factors, one being the incentives in place for leaders to invest aid in public goods versus the incentives to misuse aid through rent seeking. The political institutional environment can create or reduce such incentives.

This chapter argues that political constraints create incentives for leaders to invest aid in public goods. When constrained, leaders can make credible commitments that encourage inward, private investment, as the risk of government expropriation is low. Such investment helps promote economic growth. To attract this investment, leaders need to provide some basic public goods, such as infrastructure, and a healthy and educated population to supply a workforce. Further, such leaders should seek to enhance economic growth directly by investing in activities that indirectly increase economic growth, i.e. public goods such as health and education. When leaders are unconstrained, aid is less likely to be invested in public goods. This is because such leaders have little incentive to invest in public goods since they cannot make credible commitments and so cannot attract private investment. Further, without constraints aid is more likely to be abused as the risk of rent seeking by leaders is high. Social expenditure, such as health and education, is negatively affected by the practice of rent seeking.

The chapter examines three forms of public goods expenditure: total public investment, public health expenditure, and public education expenditure. The findings of the chapter lend support to the hypothesis that political constraints on a country's leaders lead to the more effective use of aid. Aid's impact on health expenditure increases as the number of constraints increases and there is some evidence that higher levels of constraints divert more aid to education, but the results are not significant. Unexpectedly, aid's impact on public investment decreases as the number of constraints increases. However, this could reflect the readily available opportunities for rent seeking in public investment. There is some evidence that aid has a negative impact on public investment above a certain number of constraints. One possible reason for that result could be that the presence of IMF and World

Bank austerity programmes lead to cuts in government spending in countries where leaders were constrained. These points are discussed further below.

The following section outlines the relationship between aid and various forms of government expenditure and the impact of constraints on public goods investment. This is followed by an outline of the data used and results of the analysis. The final sections provide a discussion and conclusion.

### **Aid, Public Goods Expenditure and the Role of Political Constraints**

Olson defined a public good as “the common or collective benefits provided by the government” (1971, 14). A public good is identified by two characteristics; it is non-excludable and non-rival. A good that is non-excludable can be defined as “...any such good that, if any person X in a group...consumes it, it cannot be withheld from the others in that group” (Olson, 1971; 14). Samuelson developed the notion of a good being non-rival, that is, a good “which all enjoy in common in the sense that each individual’s consumption of such a good leads to no subtraction from any other individual’s consumption of that good” (1954, 387). Head (1962) later labelled this characteristic “jointness of supply”. Public goods enhance overall welfare of a state’s citizens although the variety provided is different across states, depending on tastes and needs. Examples of pure public goods are rare, but regardless this is a useful term and many goods do approximate the definition, such as national defence and public education. The opposite of a public good is a private good, that is, it is both rival and excludable. Public and private goods should be seen as existing on either end of a continuum on which different goods can be placed, closer to one end or the other.

For the purpose of the analysis in this thesis it is necessary to assume certain goods contain more public attributes than private attributes and hence can be placed closer to the public end of the continuum.

The dependent variable in this chapter, 'public goods expenditure', has three alternative operationalisations: total public investment, public education expenditure, and public health expenditure. Total public investment measures the overall level of capital government expenditure on fixed assets. This includes both tangible and intangible assets to be used in the production process, such as roads, buildings, and computer software. It does not include military expenditure or investment in human capital and knowledge creation, for example, teachers' wages. Public education expenditure and public health expenditure measure the government's expenditure in these areas. There are a number of reasons for focusing on these two public goods. First, these basic resources tend to be under-supplied and under-developed in poorer countries. Further, the prevalence of HIV/AIDS in many developing countries puts added pressure onto the health services of those countries. Second, these sectors serve as a foundation for the development of the overall economy. Improvements in education and health have 'spillover' effects into other sectors and assist improvements in overall economic performance. Third, education and health are the focus of many donor programmes and so there may be some pressure on recipient governments to invest aid in these areas. McGillivray and Morrissey argue that donors can influence, at least partially, how aid is allocated (2000, 424-5). Finally, education and health outputs such as infant mortality rates, life expectancy, and school enrolments numbers are some of the most frequent social indicators used to assess the effectiveness of aid. This may encourage governments to invest aid in these areas in order to demonstrate the 'proper' use of aid.

This is not to say that these goods are perfect embodiments of 'public' goods. In fact, in relation to health and education it is very plausible to imagine circumstances under which these goods could approximate private goods. In terms of being unable to deny access to such goods, in both cases fees for access to education and healthcare can ensure that segments of society can be excluded from access to such goods. Likewise, where resources are limited, it is plausible that the more people accessing education and health will affect the use of these goods for other individuals.

However, as Hicken and Simmons (2008) argue, despite education not meeting the strict requirements for a pure public good, it does produce externalities that are traditionally associated with public goods. Such positive and potentially growth enhancing externalities include, technological innovation, higher levels of labour productivity and greater investment in physical capital (Hicken and Simmons, 2008; 110). The same argument can be made for health expenditure, which also produces similar positive externalities relating to productivity and improved education.

It is true however, that governments can still allocate public funds for the social sector in a particularistic way, such as favouring a particular ethnic group or geographical region and allocating a disproportionate level of funds to that group/region. Under these circumstances, goods such as health and education could be considered as 'collective' goods rather than public goods. Although similar, such goods benefit the members of a specific group rather than the public as a whole. However, the collective goods definition still holds that it is difficult to exclude anyone that is in the group from accessing these goods. Such a relationship could emerge under particular institutional arrangements, which encourages political leaders to favour allocation of public goods to one group over another.



For the purposes of this thesis, health and education are defined as public goods. This is because often these goods do meet the requirements of public goods, and on a continuum between public and private goods, they are frequently positioned toward the ‘public’ end of the scale. As outlined above, it is recognised that under certain circumstances health and education are not public goods, as people are denied access and limited resources mean the use by one affects the use by another. This point is particularly relevant to the results in chapter 8, where the effect of personalism on education expenditure is investigated.

The relationship between aid and public goods expenditure has not been thoroughly investigated. Of those studies that do consider aid’s impact on government fiscal policy, most use total government expenditure as the dependent variable. Boone (1996) finds evidence that aid increases the size of government spending by approximately three quarters of the aid receipts. Remmer (2004) also finds evidence that aid increases overall government expenditure. She argues that aid is translated into increased consumption but not investment in development goals; “the implication is that aid dependence fosters more aid dependence, rather than the realization of the development goals sought via development assistance” (2004, 88). Pack and Pack (1990) also found that aid increased government expenditure in Indonesia. However, in a later study they claim that the proportion of revenue that aid makes up affects the impact of aid on domestic policy (Pack and Pack, 1993).

Whereas the research on aid and expenditure is limited, the literature on political constraints is extensive. For the purposes of the chapter, it is only necessary to focus on one part of the political constraints literature – the relationship between constraints, credible commitments, and investment. Within the current literature, there is a consensus that political constraints on government are central for effective

or good governance and are crucial to attract investment and lead to economic development. The key role of political constraints is to bring about credible commitments, which are crucial for investment and economic growth (Levy and Spiller, 1996; Henisz, 2000a,2000b, 2002; Henisz and Zelner, 2001). Governments face a credible commitment problem when there is a risk that they can renege on a commitment or contract at a later date. North and Weingast described the role of constraints as making leaders “constrained to obey a set of rules that do not permit leeway for violating commitments” (1989, 804). Douglass North (1981, 1990) developed some of the most significant work in this area, emphasising the importance of the emergence of secure and stable property rights for the economic development of Europe in the Middle Ages. Henisz (2000a) argues that a government’s ability to credibly commit not to interfere with private property rights is crucial if a country is to obtain the long-term capital investments necessary to generate economic growth. Property rights help generate growth by encouraging investments with long-term payback periods and reduce the incentive to deliberately run-down a resource base. A lack of a credible commitment postpones investment, depresses savings, encourages capital flight, and, increases the black market economy (Henisz 2000a).

The emergence of constraints can be viewed as a simple cost-benefit analysis. For leaders allowing themselves to be constrained, there must be a benefit from such constraints to counter the cost of forgoing some power or autonomy. In the case of political representation, leaders allowed the emergence of parliaments in return for higher taxation: “representative government first came about in early modern Europe when monarchs in England, France, Spain and Austro-Hungary were compelled to relinquish some of their authority to parliamentary institutions, in exchange for the

ability to raise taxes” (Ross, 2004; 229). Douglass North also argued that such cost-benefit analysis led to the emergence of “a representative body reflecting the interests of constituent groups and their role in bargaining with the ruler. This concept, consistent with the origin of parliaments, estate generals, and *cortes* in early modern Europe, reflects the need of the ruler to get more revenue in exchange for which he or she agrees to provide certain services to constituent groups” (1990, 49). Such basic models of cost-benefit are used to explain the emergence of property rights and the effective rule of law, which applies to political leaders and citizens (North and Thomas, 1973). North (1990) used this simple model to explain why property rights emerge in some systems:

“At first approximation we can say that property rights will be developed over resources and assets as a simple cost-benefit calculus of the costs of devising and enforcing such rights, as compared to the alternatives under the status quo. Changes in relative prices or relative scarcities of any kind lead to the creation of property rights when it becomes worthwhile to incur the costs of devising such rights” (North, 1990; 51).

The main concern of this chapter is the benefit of economic development. If it is a leader’s desire to obtain economic development and, therefore, higher levels of national wealth, then he/she will accept the necessary constraints to create an environment conducive to investment. This chapter examines whether such governments also have an incentive to invest in physical and human capital. Previous literature concludes that when governments seek to enhance the growth of the country there are incentives for them to invest in both human and physical capital (North and Thomas, 1973; Jones, 1981; North, 1981). If a leader is effectively constrained so that they can make credible commitments that encourage capital investment, it is also necessary that they provide some infrastructure and a

productive workforce to satisfy, and further attract, private investors. Acemoglu, et al. write that “countries with better *‘institutions’*, more secure property rights, and less distortionary policies will invest more in physical and human capital, and will achieve a greater level of income” (2001, 1369). Lopez-Casasnovas, et al. also claim that low levels of human capital represent a barrier to development and impede competitiveness (2005, 2). Consequently, if a leader is incentivised to constrain themselves so as to attract investment and create economic growth, they also have an incentive to invest in physical and human capital – in the forms of health and education. Such investment not only attracts private investors, it also has a direct, positive effect on economic growth.

Capital investment is considered crucial for economic growth as it helps to increase overall productivity, especially by providing infrastructure. The World Bank (1994) has described public investment in capital goods as the ‘wheels’ of economic activity. However, the role of human capital is also regarded as a statistically significant determinant of growth. Lopez-Casasnovas, et al. summarise the importance of human capital for economic growth:

“Sustained growth depends on levels of human capital whose stocks increase as a result of better education, higher levels of health, and new learning and training procedures. Without a labor force with some minimal levels of education and health, a country is incapable of maintaining a state of continuous growth” (2005, 2).

There is now a substantial body of research focusing on the link between health and wealth (Fogel, 1994; Schultz, 1997; Strauss and Thomas, 1998; Rivera and Currais, 1999; Bloom and Canning, 2000; Bhargava, et al., 2001; Case, 2001; Mayer-Foulkes, 2001; van Zon and Muysken, 2001; Barro and Sala-i-Martin, 2004). Conclusions from such research suggest that good health raises levels of human

capital, and this has a positive effect on both individual productivity and on economic growth. Better health increases workers' productivity by reducing incapacity, debility, and absenteeism through sickness, and increases the opportunities an individual has of obtaining better-paid work. Further, good health leads to higher levels of education by increasing levels of schooling and academic performance. Moreover, good health provides a spillover effect since resources spent on preventative health treatments are instead available for alternative uses.

Education has also been recognised as a determinant of economic growth. Many growth studies demonstrate a positive effect of education on economic growth (Barro, 1991; Barro and Sala-i-Martin, 1992, 1995). The theoretical growth literature identifies three main mechanisms through which education can affect economic growth. First, the 'Human Capital' theory claims that education can increase the human capital in the labour force, which increases workers' productivity and, therefore, the level of output (Mankiw, et al., 1992). Second, education can increase the innovative capacity of the economy, and gaining knowledge of new technologies, products, and processes help to increase growth (Lucas, 1988; Romer, 1990; Aghion and Howitt, 1998). Finally, education can assist the dispersal and spread of new information necessary to implement effectively new technologies, such as in industrialisation and mechanisation (Nelson and Phelps, 1966; Benhabib and Spiegel, 1994; Zeira, 2009).

The evidence from several studies implies that the quality of education, measured by the knowledge that students gain, calculated as tests of cognitive skills, is substantially more important for economic growth than just the quantity of schooling received (Barro, 2001; Wößmann, 2002, 2003; Bosworth and Collins, 2003; Coulombe and Tremblay, 2006; Jamison, Jamison, and Hanushek, 2007). This

emphasises the need for broad investment in education in order to provide adequate facilities and teachers if education is to have an impact on economic growth.

While higher levels of political constraints can lead to higher levels of government investment in physical and human capital, low levels of constraints are likely to reduce the incentives to invest. When a government cannot or chooses not to make credible commitments, it is less likely to attract private investment. Therefore, there is little to gain from investing in domestic physical and human capital, as it has no incentive to provide infrastructure and raise the productive capacity of its citizens. Another factor is that unconstrained governments can use rent seeking to gain income, but such income is not reliant on sustained economic growth and investment across several productive areas. When constraints are low or do not exist, rent seeking is generally more prevalent. Buchanan (1980, 1983) argues that rent seeking is likely to occur if governments lack constraints and can easily assign and transfer property rights. Keefer and Knack (2007) also argue that governments seeking rents have an incentive to ensure constraints are weak or non-existent. In order to protect their privileged access to rents, governments restrict citizens' influence on political decisions and political careers. Hence, in such systems there are few or no checks and balances and no elections. Further, such governments have no reason to make credible commitments to citizens and no reason to refrain from expropriation since citizens do not expect them to do so and citizens have little or no means of punishing political leaders.

Rent seeking has a particularly negative effect on social expenditure (Delavallade, 2006; De la Croix and Delavallade 2009). When rent seeking is prevalent, health and education expenditure is lower since these sectors do not lend themselves easily to corrupt practices on the part of those who make budgetary decisions (Tanzi 1998;

Mauro, 1997, 1996). In such an environment, aid is likely to be siphoned off or diverted to areas where rent-seeking opportunities exist<sup>26</sup>. One such area is capital investment, such as infrastructure, where rent-seeking opportunities are considered to be high (Shleifer and Vishny, 1993; Tanzi and Davoodi, 1997). If leaders do divert funds towards public investment for rent seeking purposes, then the actual level of public investment would increase, but the capital output would probably remain the same level and be of low quality.

This chapter examines the effect of different levels of political constraints on the relationship between aid and public goods expenditure. It is expected that political constraints create an environment conducive to expenditure on public goods. Consequently, aid received by constrained governments is more likely to be invested in the physical and human capital with the aim of increasing national income. This proposition is based on two factors. First, governments that demonstrate the ability to make credible commitments wish to attract investment and generate economic growth, hence they invest in physical capital to improve infrastructure and in human capital to provide an educated, healthy, and productive workforce. Further, health and education have a direct, positive effect on economic growth, meaning governments seeking to increase income can enhance growth directly by investing in the social sector. Second, governments that are constrained are restricted from rent seeking and so the risk of abuse of aid is considerably reduced. Therefore, it is expected that aid will have a positive impact on public expenditure at medium and

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<sup>26</sup> However, as a caveat, Mauro (1996) did question the relationship between health expenditure and rent seeking. He suggests that the health sector may offer sufficient opportunities for rent seeking because of some of the large-scale capital expenditure involved. The portion of health aid designated for such large health projects is classified by the OECD as 'health infrastructure'. This is aid designated for district-level hospitals, clinics and dispensaries and related medical equipment. An examination of this data shows that health infrastructure only surpasses 10% of total health aid once, for all other years, health infrastructure ranges from 3.4 to 6.5% of total health aid. At such a small percentage, it seems unlikely that this would be sufficient to distort heavily the effect of health aid.

high levels of constraints, but will have no impact or a negative impact on public expenditure at low levels of constraints, due to the low incentives to invest in physical and human capital and the rent-seeking incentives created by a lack of constraints. However, in relation to physical capital, it is possible that the opposite relationship would be found. Since rent seeking opportunities are generally most prevalent in areas of capital expenditure, unconstrained leaders would divert funds, including aid, towards physical investment if they were hoping to partake in rent seeking activities. In this case, public investment would be higher at low levels of constraints.

It is important to mention the issue of fungibility. Fungibility refers to the effect whereby aid given to governments for a particular area of expenditure causes them to divert their own finances away from this expenditure area. As a result, spending in such areas frequently decreases, since the incoming aid does not match the funds diverted elsewhere by governments. Fungibility has received quite extensive coverage in the aid literature and was the key concern of the World Bank's report *Assessing Aid* (World Bank, 1998). McGillivray and Morrissey (2000, 2001) have readily criticised this focus on fungibility. The main problem with such studies is that it is necessary to determine first how much aid donors intended to spend on different sectors, something that is exceedingly difficult to establish. A second issue is that aid ineffectiveness is as likely to be due to low productivity of aid-financed investments as to aid being diverted to unintended uses. Finally, donors may be fully justified in trying to prevent aid from being used for military spending but otherwise are no better informed than recipients regarding which components of expenditure are best for promoting growth or reducing poverty. Thus, the final allocation of the aid will be somewhere between the positions of the donor and the recipient. The



outcome depends upon the bargaining power of each player and the ability of the recipient to implement effectively expenditure plans.

An alternative approach to examining fiscal behavior is through fiscal response models. This study takes an approach closer to that taken by fiscal response models than fungibility studies. However, fiscal response studies are largely concentrated in the realm of economics, and the role of political institutions, rather than aid, in determining the fiscal behavior of leaders has not been considered. In fact, the role of political institutions is not considered in any way. Heller (1975) argued that all leaders face a similar problem: allocating revenue among various expenditure categories subject to budget constraints. Such studies determine how aid may induce government behavior that undermines or enhances the positive impact of aid. The studies have come to several conclusions. First, it is not evident that aid increases consumption spending by more than it increases investment spending. In addition, aid can reduce the tax effort, aid is associated with a reduction in borrowing, and the impact of aid varies by country (McGillivray and Morrissey, 2001; 29).

A final note is on the relationship aid has with the budgetary process. This thesis is examining the effect of bilateral aid, that is, aid given from the donor government to the recipient government. This does not include aid that donors give through or directly to NGOS (which one would not expect to have a direct impact on government expenditure). This thesis assumes a simple and straightforward model of the budgetary process. Obviously, in reality such processes can be quite complicated, but for the purpose of a large-N analysis a broad and simple model is required. The model assumes that the recipient government receives aid and that this aid becomes part of their overall budget. This is very much like aid given as budget support, either general or sector specific. General budget support is given as non-

earmarked aid and is intended to boost state expenditure (Riddell, 2007; 199). Sector specific aid is aid that is earmarked for a particular sector, such as education or transport. In such cases, aid is transformed into government expenditure. In cases of sector specific aid, if the aid is used as intended then expenditure in those sectors should increase. In the case of general budget support, if the government is incentivised to invest in the social sector, then expenditure in areas such as health and education should increase to correspond to the additional budgetary revenue the government has access to.

In this chapter, and in chapters 7 and 8, an abstract approach is taken, where the effect of overall aid on public expenditure is examined. However, in chapter 6, the aid figures used are aid given specifically for education and health. This approach is closer to the model described above, but is not used throughout the thesis due to the limited availability of data for disaggregated aid.

## **Methodology and Data**

### *Political Constraints: POLCONIII*

The index POLCONIII (Henisz, 2002) is used to measure the level of political constraints in the analysis in this chapter, and the following chapter. Witold J. Henisz constructed the variable. Henisz (2000) developed the first Political Constraint Index (POLCON), and then redeveloped this to POLCONIII in a later publication (Henisz, 2002). The index “estimates the feasibility of policy change (the extent to which a change in the preferences of any one actor may lead to a change in government policy)” (Henisz, 2002). Similar to other measures of

constraints or 'checks and balances', POLCONIII begins by coding countries that have no effective constraints with the lowest score. However, POLCONIII also takes account of the effect of the diminishing returns of each additional constraint (something that is overlooked in other measures of constraints, such as the CHECKS variable from the Database of Political Institutions). Henisz allows for this diminishing return as previous theoretical findings, such as those of Tsebelis (1995), find evidence for the diminishing marginal returns to the addition of constraints.

Henisz uses a basic spatial model of political interaction to determine the extent to which any political actor, for example, the executive or the legislature, is constrained in his or her choice of future policies. The first step in the construction of the POLCONIII index is the identification of the number of independent branches of government with veto power over policy change in each country. Henisz does this by taking data from the Polity IV database. It is then assumed that the ideological preferences of each of these branches and the status quo policy are independently and identically drawn from a uniform, unidimensional policy space (Henisz, 2002). By making such an assumption, Henisz is able to derive a quantitative measure of political institutional constraints using a simple spatial model of political interaction.

The second step is to adjust this measure by allowing for the level of alignment across the branches of government. Henisz does this by using data on the party composition of the executive and legislative branches. Henisz notes that alignment across government branches increases the likelihood of policy change reduces the number of effective political constraints. The third step is to modify further the measure in order to measure the level of preference heterogeneity within each legislative branch. The higher the level of within-branch heterogeneity the higher are the costs of overturning policy for aligned branches. Vice versa, lower within-branch

heterogeneity lowers the cost of overturning policy for an opposing branch. In the completed index, the possible score for a country ranges on a scale from zero (not constrained) to one (most constrained).

As mentioned above, POLCONIII does take into account diminishing marginal returns to the addition of an additional veto point. Henisz (2002) notes that the functional form of the rate of diminishing returns is not arbitrary in POLCONIII, but instead, it is derived from the spatial model. Likewise, instead of assuming that the inclusion of a new party to a coalition adds one new and full veto player, POLCONIII considers the impact of that party on the fractionalisation of the legislature (the probability that two random draws will belong to the same party). Henisz utilises the fractionalisation measure as it is often used by political scientists to gauge the complexity in managing a coalition. Finally, POLCONIII does not use different procedures to calculate the constraints value for Presidential and Parliamentary systems. The same methodology is used for both systems of government. However, the index does produce valuable differences in the scores for the two political systems. Henisz argues that the differences between the two systems again emerge from the spatial model instead of from an ad hoc construction.

Unfortunately, there are also problems with the POLCONIII index. Henisz notes that as fractionalisation data were not available at the level of the opposition and the majority, the fractionalisation of the entire legislature was used as an imperfect proxy. In the earlier index, POLCON, Henisz noted that while judicial independence is clearly a vital constraint on political actors, it is unclear whether it emerges or can be sustained independently of an independent legislature and, therefore, whether it should be considered as an entirely independent constraint. Given the uncertainty

relating to the inclusion of a judicial independence variable, Henisz excluded it from the POLCONIII index.

While recognizing these limitations, the POLCONIII index remains a powerful measure of political constraints. It does directly measure the feasibility of a change in policy given the structure of a country's political institutions, i.e. the number of constraints in the political system. Further, the ideological preferences of the political actors that occupy the political institutions are also incorporated into the model. The 'Preferences' of these actors refers to the partisan alignment of the actors and the heterogeneity or homogeneity of the preferences within each institution (Henisz, 2002). Finally, the scope of the POLCONIII index makes it a truly valuable tool for researchers of political constraints and political structures. The index has been calculated for virtually all countries in the post-war period, giving it extremely broad scope in terms of countries and time.

The main results of Henisz's calculations are detailed in Appendix 1 of his 2002 paper. In summary, the main assumptions of the POLCONIII index are (Henisz, 2002):

- (1) Each additional constraint (a branch of government that is both constitutionally effective and controlled by a party different from other branches) provides a positive but diminishing effect on the total number of constraints on policy change
- (2) Homogeneity of party preferences within an opposition branch of government is positively correlated with constraints on policy change.

In the dataset constructed for this chapter, POLCONIII ranges from 0 to 0.59 with a mean value of 0.31.

### *The Dependent and Control Variables*

There are three dependent variables tested in the chapter. The first is *total public investment as a percentage of GDP*. Data are from Guy P. Pfeffermann, Gregory V. Kisunko, and Mariusz A. Sumlinki (2001)<sup>27</sup>. Total public investment measures the overall level of government expenditure on fixed assets. This includes both tangible and intangible assets to be used in the production process, such as roads, buildings, and computer software. It does not include military expenditure. Public investment excludes investment in human capital and knowledge creation, for example, teachers' wages.

It is important to distinguish between public investment as a form of government expenditure and government expenditure as a variable in its own right. As defined above, public investment is capital government expenditure on fixed assets. The variable 'government expenditure as a percentage of GDP' is a measure of current government expenditure that is, short-term or day-to-day expenditure, so capital expenditure, i.e. expenditure on fixed assets is excluded from this figure.

The second and third dependent variables are total education expenditure measured as *total public education expenditure as a percentage of total expenditure* and total health expenditure measured as *total public health expenditure as a percentage of total expenditure*. Data are from Nooruddin and Simmons (2006) and are updated

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<sup>27</sup>Missing data are filled in from Easterly, Rodriguez, and Schmidt-Hebbel "Public Sector Deficits and Macroeconomic Performance" (Statistical appendix) (1994) and Bruno and Easterly (1998).

with data from the World Development Indicators (World Bank, 2010a). Aid as a percentage of GDP is included in all of the models. Aid is measured as net Official Development Assistance (ODA) over current levels of GDP in US dollars. Data for ODA are obtained from the OECD stat database (OECD, 2010a) and GDP data are taken from the World Development Indicators (World Bank, 2010a).

The control variables change with the dependent variable used. In the first and second models, 'total public investment' is the dependent variable. The model for public investment is based on the theoretical model for the determination of public investment derived by Turrini (2004) and the Tanzi and Davoodi (1997) model. Tanzi and Davoodi include GDP as a proxy for economic development since different levels of economic development may require different levels of public investment. The remainder of the control variables predominantly determine the availability of revenue for investment in public goods. Tanzi and Davoodi and Turrini include total government revenue as a percentage of GDP. Turrini also includes central government debt and total government expenditure to control for the state of the public finances and so the availability of resources for investment. Turrini, and Knack and Keefer in their paper (2007), control for the cost of public investment since the level of investment is likely to be influenced by the cost. The real interest rate is included to control for the cost of public investment (Turrini, 2004).

The third and fourth models examine sector public goods expenditure with total education expenditure and total health expenditure as the dependent variables respectively. GDP is included in both models since Wagner's Law states that the emphasis on social spending should increase as GDP per capita increases (Nooruddin and Simmons, 2006; 1014). The demographic structure heavily

influences social sector spending. The education expenditure model includes the percentage of the population under the age of 14. This is expected to have a positive relationship with education spending. The percentage of the population under the age of 14 and the percentage of the population over the age of 65 are included in the health expenditure model. Both of these variables should have a positive relationship with health expenditure. Both the education and health expenditure models include a measure of the literacy rate. This acts as a proxy for the tendency of the government to have previously invested in the social sector and as a proxy for the probability of the public to be informed and their ability to demand spending from their governments in social sectors. All the above data are obtained from the WDI (World Bank, 2010a).

A variable for the policy position of the governing party is often included in studies of determinants of social expenditure and is included in both models. The strength of the left-wing parties in a political system has been described as the driving-force behind welfare state expansion (Huber, et al., 1993; Schmidt, 1997; Huber and Stephens, 2001). Left-wing governments are also associated with higher levels of social spending such as education and welfare (Castles, 1982, 1989; Schmidt, 1996). A binary variable is included in both models for the presence of a left-wing government, and is coded as one if a left-wing party leads government. The data are from the DPI (Beck, et al., 2001). A measure of the level of democracy is also included since democracies are more likely to spend more on social expenditure. Data are the Polity score from the Polity IV database.

Two tests were carried out to investigate if aid/GDP was endogenous to government expenditure: the Wu-Hausman test and the Durbin-Wu-Hausman test (Durbin, 1954; Wu, 1973; Hausman, 1978). These tests were carried out with the instruments



outlined in chapter 4. The instruments in chapter 4 were tested and found to be plausibly exogenous to aid (the theoretical justification for the instruments was also outlined in chapter 4). The same instruments were again tested in this chapter against the expenditure dependent variables. In chapter 4, the tests did confirm that aid was endogenous to growth, however, in this chapter aid was not found to be endogenous to the dependent variables. As a result, no instrumental variable analysis is carried out. However, the aid variable is lagged by one year due to the delay in donors disbursing aid and the implementation problems that often occur in spending agencies (McGillivray and Morrissey, 2001; 19). Usually there is not a substantial delay in the dispersion of aid so a one-year lag will be sufficient.

Wooldridge warns against unnecessarily carrying out instrumental variable analysis as there is an “important cost of performing IV estimation when  $x$  and  $u$  are uncorrelated: the asymptotic variance of the IV estimator is always larger, and sometimes much larger, than the asymptotic variance of the OLS estimator” (Wooldridge, 2006; 516).

A full list of the variables used in this analysis and their sources is provided in Appendix 5C. The total number of countries in the dataset is 122 but the number of countries included in each analysis differs depending on the model since the availability of data for the dependent variables varies. Countries are included in the sample if they received aid in the specified time-period and if there are available data. Public health expenditure has data for all 122 countries. Public education expenditure has data for 119 countries<sup>28</sup>. The variable with most data missing is total public investment. There are data for 82 countries. However, the number of

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<sup>28</sup> Data are missing for Algeria, Bosnia-Herzegovina, and Eritrea.

observations in each model decreases further due to missing data for the control variables.

The time-period of each analysis varies depending on the dependent variable. Total education expenditure data are available from 1977 to 2008, although there are a lot of missing data. Health expenditure data are available only for 2003 to 2007. Public investment data are for 1975 to 1998. The data are collapsed into 4-year periods when possible in order to reduce interdependencies of the data and the effect of missing data. Data for health expenditure are not collapsed to averages due to the low number of years covered. The full list of all recipient countries used is provided in Appendix 5A.

All models below are analysed using Panel Corrected Standard Errors (PCSE). The Wooldridge Test for Autocorrelation (Wooldridge, 2002; Drukker, 2003) detected first order autocorrelation in the data. Heteroskedasticity was detected by the Breusch-Pagan/ Cook-Weisburg test (Breusch and Pagan, 1979; Cook and Weisburg, 1989). As mentioned in Chapter 4, PCSE can correct for both these problems. The model used robust standard errors and controls for first order serial correlation and contemporaneous correlation. The Parks method (Parks, 1967) could also have been used here but this was decided against given the tendency of the Parks method to underestimate standard errors and therefore yield overconfident results (Beck and Katz, 1995)<sup>29</sup>.

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<sup>29</sup>Due to concerns over country-specific effects not remedied through the PCSE model, a fixed effects analysis is also carried out on all the models below. The results of these models are shown and discussed in the annex.

## Results

Table 5.1 shows the results for model 1 and model 2, where ‘total public investment’ is the dependent variable. Model 1 is the base model and includes no control variables. The interaction term is negative, which indicates that as the number of constraints increases, the effect of aid on public investment decreases. The direct effect of aid is positive meaning aid has a positive effect of public investment when constraints are at the lowest level – zero. The marginal effects graph for model 1 shows that as the number of constraints increases, aid’s effect on public investment lowers. At all values of constraints other than zero, the relationship between aid and public investment is negative. The graph also demonstrates that when constraints are equal to zero, aid’s relationship with public investment is significant. It is not substantively significant as the lower confidence interval is very close to zero. The relationship is not significant at any other level of constraints.

**Table 5.1: The Effect of Aid/GDP on Total Public Investment**

<i>Dependent Variable</i>	<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>
		<i>Total Public Investment</i>	<i>Total Public Investment</i>
	<b>Aid/GDP</b>	0.267** (0.095)	0.941*** (0.330)
	<b>Constraints</b>	-2.517* (1.359)	4.466 (4.493)
	<b>Aid*Constraints</b>	-0.562* (0.336)	-1.279*** (0.911)
	<b>GDP</b>		-0.213 (0.390)

<b>Debt</b>		-0.046**	
		(0.019)	
<b>Interest Rate</b>		-0.101**	
		(0.049)	
<b>Government Revenue (%GDP)</b>		0.548***	
		(0.141)	
<b>Government Expenditure (% GDP)</b>		-0.330*	
		(0.198)	
<b>Constant</b>	8.388***	5.543	
	(0.482)	(9.627)	
<b>R<sup>2</sup></b>	0.27	0.71	
<b>N</b>	407	45	

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

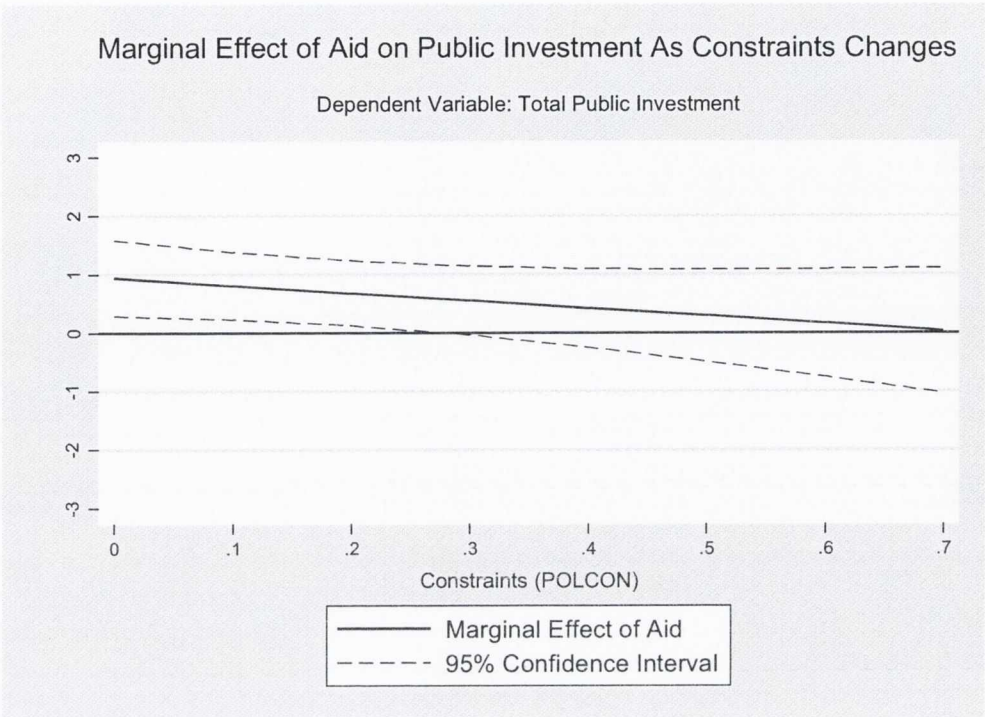
P values: 1% \*\*\* 5% \*\* 10% \*

In model 2, the control variables are added. Unfortunately, this reduces considerably the number of observations (from 407 to 45). This is due to the lower number of countries for which there are data available and the amount of missing data among the control variables. However, a broad range of countries is still covered by this model although there are a limited number of observations for each (see Appendix 5B for a list of the countries included in model 2). Such a low number of observations do affect the robustness of the findings, but the results are similar to model 1. The interaction term is significant at the 1% level and is negative again, which suggests that when the executive has no constraints, the relationship between aid and public investment is strongest. This implies that public investment is likely to be higher where a leader is completely unconstrained, which supports the findings

of the rent-seeking literature – public investment is inflated to take advantage of rent seeking opportunities. Also in model 2, Aid/GDP, the direct effect of aid, is positive and is significant at the 1% level. This suggests that at the lowest level of constraints, aid's effect on public investment is positive.

Figure 5.1 shows the marginal effect of aid on total public investment under different numbers of constraints. Aid's impact on public investment is greatest when a leader is completely unconstrained but lessens as the number of constraints increases. However, unlike the results for model 1, aid's impact on public investment is always positive, although at the highest level of constraints, aid's impact on public investment barely differs from zero. The relationship between aid and total public investment is only significant when the number of constraints ranges from zero to 0.25. The relationship is not significant for all values above this. This result is against the theory that expects a stronger relationship between aid and public investment at higher levels of constraint. Instead, the opposite effect is found. Possible reasons for this finding will be considered in the discussion section below.

**Figure 5.1: The Marginal Effect of Aid on Total Public Investment as the Number of Constraints Changes (Model 2)**



Source: Brambor, et al, 2006

Debt and Government Revenue are also significant at the 1% level and have a negative and positive effect respectively on public investment. Constraints, Interest rate, and Government Expenditure are significant at the 10% level and in the expected direction.

**Table 5.2: The Effect of Aid/GDP on Public Education and Public Health Expenditure**

<i>Dependent Variable</i>	<b>Variable</b>	<b>Model 3</b>	<b>Model 4</b>
		<i>Education Expenditure</i>	<i>Health Expenditure</i>
	<b>Aid/GDP</b>	-0.020 (0.035)	0.005 (0.071)
	<b>Constraints</b>	0.174 (0.985)	-0.013 (2.082)
	<b>Aid*Constraints</b>	0.123 (0.117)	0.673** (0.311)
	<b>GDP</b>	-0.058 (0.111)	0.053 (0.246)
	<b>Population over 65 years</b>		0.353* (0.200)
	<b>Population under 14 years</b>	-0.013 (0.024)	0.121 (0.078)
	<b>Left-wing Government</b>	0.376 (0.364)	-0.698 (0.572)
	<b>Literacy Rate</b>	0.017** (0.007)	0.045** (0.021)
	<b>Polity</b>	-0.021 (0.029)	0.177** (0.076)
	<b>Constant</b>	4.375* (2.405)	-1.371 (7.770)
	<b>R<sup>2</sup></b>	0.24	0.47
	<b>N</b>	207	146

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation. Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

Table 5.2 shows the results for models 3 and 4. In model 3, education expenditure is the dependent variable. The interaction term is not significant in this model. It is positive, but an examination of the marginal effects of aid for model 3 shows that aid has no significant effect on education expenditure at any levels of constraints. The direct effect of aid on education expenditure is negative. This suggests that at the lowest level of constraints aid has a negative relationship with education expenditure. Above the constraints value of zero, aid does have a positive effect on education spending, and this effect increases as the number of constraints rises. The results perhaps suggest that the negative relationship between aid and education expenditure at low levels of constraints demonstrates the fungibility of aid when leaders are unconstrained. However, due to a lack of significance in the model it is not possible to interpret these results.

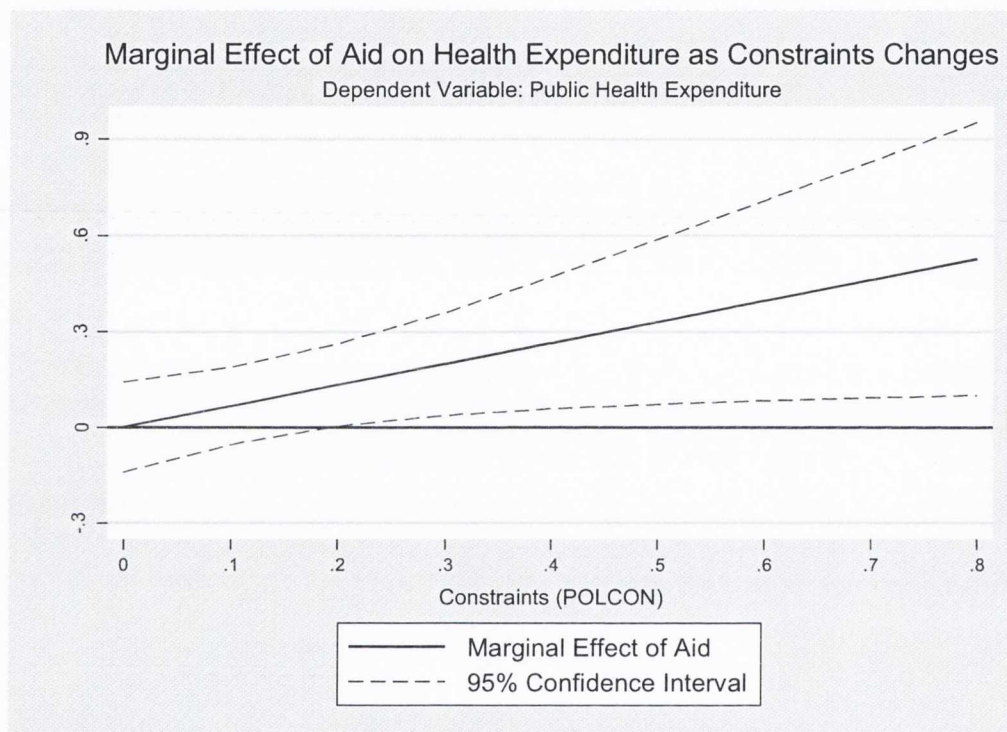
In model 4, the dependent variable is health expenditure. The interaction term is positive implying that more aid is diverted to health as the number of constraints increases. This finding implies that aid is more likely to be spent on health where the executive is constrained. The direct effect of aid is positive, suggesting that even when constraints are equal to zero, aid has a positive effect on the level of health expenditure. However, the effect of aid on health expenditure when constraints are at the lowest level barely differs from zero.

The effect of aid on health expenditure is clearer in figure 5.2, which shows the marginal effects of aid on health expenditure at different levels of constraints. The graph shows a positive relationship between aid and health expenditure as the number of constraints increases. Aid's impact on health expenditure is lowest when a leader is completely unconstrained, i.e. the constraints variable is equal to zero. The relationship between aid and health spending is significant at above a



constraints value of approximately 0.25. However, the lower confidence interval is quite close to zero, implying that there may be some uncertainty over the substantive significance of the relationship at the 95% level<sup>30</sup>.

**Figure 5.2: Marginal Effect of Aid on Public Health Expenditure as the Number of Constraints Changes (Model 4)**



Source: Brambor, et al, 2006

As a robustness test, an alternative measure of constraints is also tested. The alternative measure is the CHECKS variable from the World Bank's Database of Political Institutions (Beck, et al., 2001). The correlation coefficient between

<sup>30</sup>There are possible concerns over the use of certain control variables that may be endogenous to growth. The models were re-analysed with such variables removed to investigate the impact of possible endogenous control variables. In model 2, the Debt variable is dropped for possible endogeneity. However, this does not affect the results of the model. The removal of the literacy rate and polity variables has no effect on the results of model 3, which still do not produce any significant results. In model 4 the constraints variable is now significant at the 5% level, and the direct effect of aid becomes negative. However, the findings from the interaction term are the same (see marginal effects graph in the appendix).

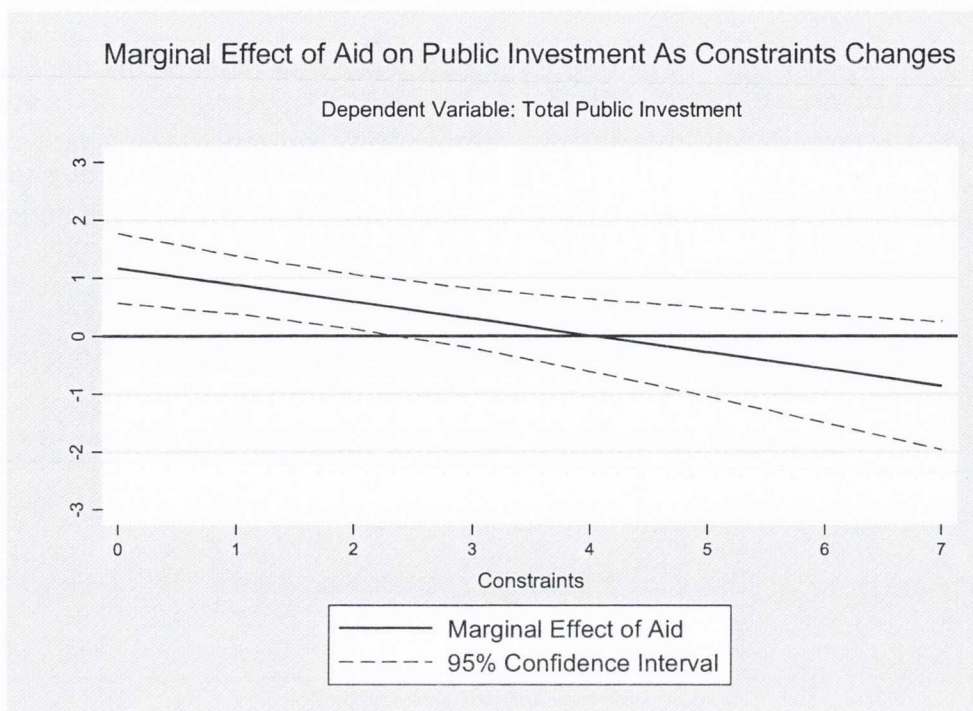
POLCONIII and CHECKS is 0.34, implying that although both are measurements of constraints they are adopting different measurement approaches. The range of the CHECKS variable is 0 to 7, once outliers have been removed, with zero representing an unconstrained leader<sup>31</sup>. The CHECKS index does take into account the intricate relationship between veto points, party preferences, and preference heterogeneity. However, it also assumes that there is a linear relationship between the number of veto points and the level of constraints on policy change, i.e. it does not allow for the diminishing marginal returns of each additional constraint. The CHECKS index calculates the number of adjusted veto points in parliamentary systems as increasing linearly, with each addition of a party to the ruling coalition adding a new, complete veto point. However, this does not take into account the relative size of the parties in the coalition.

Overall, the results produced with the alternative measure of constraints are extremely similar. When public investment is the dependent variable, the interaction term between aid and constraints is negative, as it was in model 2 above. However, the marginal effects graph shows some difference in the relationship. In figure 5.1, above, the effect of aid barely differed from zero at high levels of constraints, in the marginal effects graph below, figure 5.3, a negative relationship between aid and public investment can be seen at the higher level of constraints. But, in both models, the effect of aid on public investment is greater at the lowest levels of constraints.

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<sup>31</sup> The CHECKS variable is recoded for this chapter so that zero has a value. In the Database of Political Institutions (DPI), the lowest value of the variable is one.

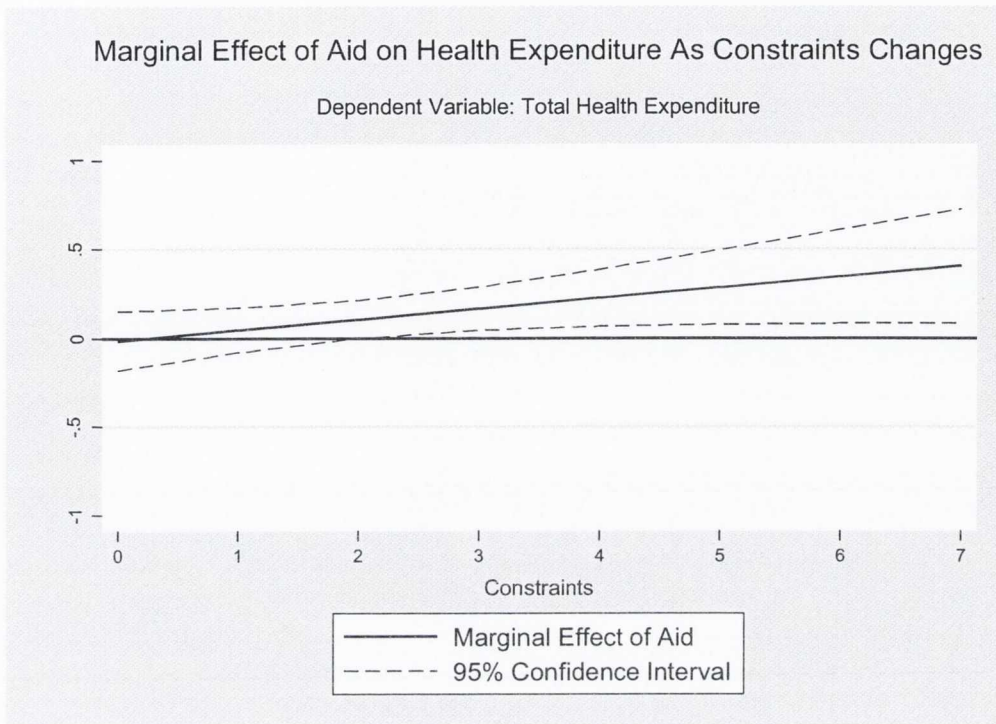
**Figure 5.3: Marginal Effect of Aid on Public Investment as the number of Constraints (CHECKS) Changes (Robustness Test)**



Source: Brambor, et al, 2006. Note: Marginal Effects for Model 2 with alternative measure of constraints

When the alternative constraints variable was used in the education model, the results were similar. Overall, there was no significant relationship between aid and education at any level of constraints. The only noticeable difference was that the effect of aid did not differ from zero at any level of constraints when the CHECKS variable was used. Figure 5.4 shows the marginal effect of aid on health expenditure when the constraints variable is CHECKS. As in model 5.2 above, the interaction term between aid and constraints is positive. In addition, the direct effect of aid is approximately zero when constraints are zero, but the impact of aid increases as the number of constraints rises.

**Figure 5.4: Marginal Effect of Aid on Health Expenditure as the number of Constraints (CHECKS) Changes (Robustness Test)**



Source: Brambor, et al, 2006. Note: Marginal Effects for Model 4 with alternative measure of constraints

The robustness tests provide further support for this chapter’s findings. By using two different measures of constraints, exceedingly similar results are produced for all models.

## Discussion

The results above indicate that political constraints matter for the use of aid; aid’s impact on government spending varied depending on the political context. Political constraints seem to encourage the use of aid for health expenditure. No significant relationship was detected between aid and education expenditure, at any level of

constraints. Contrary to expectation, aid's effect on public investment was strongest at the lowest level of constraints, although aid still had a positive effect on public investment at medium levels of constraints and no effect at high levels of constraints in model 2.

As expected, aid is positively correlated with health expenditure at high levels of constraints. This supports the argument outlined above; when leaders are constrained and are able to make credible commitments, which encourage private investment, they also have an incentive to use aid to invest in the health of their population. This increases the productivity of the workforce and has an overall direct, positive effect on economic growth. A similar argument was made for education expenditure. However, there is no significant evidence to support this. Aid's effect on education expenditure does increase as the number of constraints rises, suggesting that an environment with political constraints leads to more aid invested in education. However, the relationship between aid and education expenditure was not significant at any level of constraints, even for two different measures of political constraints. The relationship between aid and education expenditure is negative at the lowest level of constraints, implying that there is some evidence of fungibility of aid in the education sector, but only when leaders are unconstrained. Fungibility could suggest that unconstrained leaders divert funds away from social expenditure, such as education, towards areas where there are rent-seeking opportunities, or they choose to use the funds for their own means. Equally, fungibility could demonstrate governments reallocating resources to areas ignored by donors. However, evidence of fungibility is only witnessed at the lowest levels of constraints and it seems doubtful that leaders who are resistant to constraints would reallocate resources from social expenditure to other areas also likely to benefit the population as a whole.

Unexpectedly, aid is positively correlated with public investment at low levels of constraints. There are a number of possible factors behind this finding. First, some leaders cannot make a credible commitment but are not interested in rent seeking. Such governments are unable to attract private investment as they lack credibility, and so they must increase public investment in order to offset the lack of private investment. The problem with this conclusion is that such governments generally have no interest in promoting growth. Often these governments have short time horizons, hence their inability to lower uncertainty for private investors (Keefer and Knack, 2007). This makes it implausible that these governments would focus on genuine increases in public investment. The second factor takes an opposing view, and was already referred to in the theoretical section above. It is assumed that unconstrained leaders are more likely to partake in rent-seeking activities, which are particularly prevalent in public investment, for example, in large capital projects such as bridges or roads. When such leaders receive aid, they are more likely to divert it to public investment so that they can avail of rent-seeking opportunities. This means that observed public investment increases, but the quality and amount of infrastructure produced is lower<sup>32</sup>. Keefer and Knack (2007) favour this explanation in their study of governance and public investment: when checks and balances are weak and rules are strong, governments face fewer constraints from rent seeking. Similarly, Acemoglu (2005) argues that strong leaders are freer to extract revenues for their own benefit.

A final point in relation to public investment concerns the negative relationship between aid and public investment at higher levels of constraints in the robustness

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<sup>32</sup> Everhart and Sumlinski (2000) support this conclusion as they found that more corrupt countries have more telephone faults per 100 lines, more electrical system losses as a percentage of output and a lower percentage of paved roads.

test (figure 5.3). An explanation for this relationship could be the effect of compliance with donor conditionality. Aid with conditions attached to induce economic and political reforms became popular after the 1982 debt crisis when the World Bank and IMF intervened in many developing countries particularly in Latin America and Sub-Saharan Africa. In the 1980s, donors of bilateral aid also adopted similar conditions. Conditionality programmes set by the World Bank and IMF predominantly aim to decrease budget deficits by lowering government expenditure and investment and are similar across states: “while IMF programs differ across countries, they share an emphasis on reducing the role played by the state in the economy” (Nooruddin and Simmons, 2006; 1002-3). A 1986 IMF study found that reducing central government expenditure was required in 91% of programmes and reducing budget deficits as a share of GDP was required in 83% (Cornia, 1987; 50-1). In order to reduce budget deficits, it is generally regarded as easier to reduce expenditure than to raise revenue. This would have affected government capital investment in areas such as infrastructure. This is particularly true in developing countries as often they lack the extractive capacity to collect revenue.

The conditions set by the World Bank and IMF are more likely to be complied with in political environments where leaders are somewhat more constrained. Examining the data for constraints shows that several Latin American countries that received World Bank and IMF aid had medium/high constraints levels the mid-1980s and early 1990s. Latin American countries were generally quite successful in complying with or at least making strong attempts to comply with the conditions. Conversely, countries in Sub-Saharan Africa were notoriously less compliant with the loan conditions and frequently targets were not met. Martin Meredith notes that this did not halt the flow of aid to Africa from the World Bank or IMF. His point examines

government expenditure rather than government public investment, but a similar outcome is likely for both areas.

“Most governments, however, were reluctant to make a radical break with the past and soon discovered that there were no serious penalties involved. Aid kept coming. Kenya agreed to undertake the same set of agricultural reforms four times during the 1980s; it failed to reduce the size of the civil service, and it made little effort to liberalize the economy. Yet the grants it received rose from 1% of gross domestic product in 1980 to more than 3% in 1990. In some cases where ‘non-compliance’ went too far, aid programmes were sometimes suspended but always remained open for ‘negotiation’” (Meredith, 2006; 373)

With the exception of Mauritius, no country in Sub-Saharan Africa in the dataset has a medium to high level of constraints. Several Sub-Saharan countries have a score of zero, that is, no constraints on executive power, including Kenya, described by Meredith above.

## **Conclusion**

The relationship between aid and different forms of government expenditure varies with the number of political constraints that leaders must endure. In general, it is assumed that political constraints lead to the more effective use of aid and higher levels of public goods expenditure. The results above lend some support to this hypothesis, although the conclusions are not so straightforward. The models above produced results that suggest how aid is used differently across recipient countries. A low level of political constraints leads aid to bloat the size of public investment, without producing tangible benefits. Aid has a positive impact on health expenditure



when a leader is constrained, and aid may also have a positive effect on education as constraints increase, although, this result was not significant.

Overall, these results indicate a number of essential points for donors to consider. The first is a need to be aware of the political context in recipient countries. The use of aid will vary depending on political conditions, and risk of aid being abused increases under certain political environments. Second, data for observed levels of public investment should be used with caution. Public investment is a preferred mechanism for extracting rents, hence where rent seeking is high, observed public investment is also likely to be higher. A final point to consider is the mode of aid given. Allocating aid as general budget support should only be done after donors have assessed the political environment of the recipient country. It does appear that where governments have an interest in promoting growth then aid as general budget support is likely to be used as effectively as possible.

**Appendix 5A: List of Countries with Average Constraints  
(POLCONIII) value and Aid/GDP 1975-2008 (Source: Henisz, 2002)**

<b>Country</b>	<b>Aid/ GDP</b>	<b>POLCON III</b>	<b>Country</b>	<b>Aid/ GDP</b>	<b>POLCON III</b>
Algeria	0.47	0.10	Kuwait	0.01	0.16
Angola	2.31	0.16	Kyrgyzstan	4.80	0.10
Argentina	0.04	0.34	Laos	6.93	0.00
Azerbaijan	1.05	0.00	Lebanon	1.16	0.09
Bahamas	0.03	0.33	Lesotho	9.66	0.05
Bahrain	0.03	0.00	Liberia	14.24	0.00
Bangladesh	2.60	0.18	Libya	0.02	0.00
Barbados	0.42	0.25	Macedonia	2.33	0.47
Belarus	0.10	0.00	Madagascar	5.12	0.27
Belize	4.38	0.27	Malawi	9.51	0.13
Benin	5.38	0.23	Malaysia	0.37	0.32
Bhutan	9.04	0.00	Mali	9.10	0.14
Bolivia	4.30	0.34	Mauritania	7.72	0.00
Bosnia- Herzegovina	10.89	0.00	Mauritius	1.29	0.33
Botswana	5.01	0.21	Mexico	0.04	0.24
Brazil	0.05	0.36	Moldova	3.17	0.32
Brunei	0.05	0.00	Mongolia	7.00	0.11
Burkina Faso	7.61	0.07	Morocco	1.36	0.29
Burundi	10.03	0.03	Mozambique	18.82	0.14
Cambodia	9.32	0.14	Namibia	2.26	0.31
Cameroon	3.09	0.00	Nepal	4.49	0.13
Cape Verde Is.	16.20	0.15	Nicaragua	9.36	0.25
Cent. African Rep.	7.02	0.16	Niger	7.76	0.14
Chad	5.73	0.00	Nigeria	0.62	0.12

<b>Chile</b>	0.15	0.27	<b>Oman</b>	0.09	0.00
<b>Colombia</b>	0.37	0.38	<b>Pakistan</b>	1.52	0.16
<b>Comoro Is.</b>	9.69	0.11	<b>Panama</b>	0.69	0.25
<b>Congo, Dem. Rep</b>	6.04	0.02	<b>Papua New Guinea</b>	10.18	0.52
<b>Congo, Rep</b>	4.72	0.08	<b>Paraguay</b>	1.05	0.21
<b>Costa Rica</b>	1.26	0.36	<b>Peru</b>	0.83	0.33
<b>Cote d'Ivoire</b>	2.63	0.05	<b>Philippines</b>	1.17	0.21
<b>Croatia</b>	0.22	0.37	<b>Qatar</b>	0.01	0.00
<b>Cyprus</b>	0.51	0.35	<b>Rwanda</b>	11.02	0.04
<b>Djibouti</b>	12.66	0.00	<b>Samoa</b>	14.45	0.39
<b>Dom. Rep.</b>	0.73	0.37	<b>Saudi Arabia</b>	0.01	0.00
<b>Ecuador</b>	0.76	0.22	<b>Senegal</b>	6.09	0.19
<b>Egypt</b>	3.11	0.15	<b>Sierra Leone</b>	7.73	0.08
<b>El Salvador</b>	3.00	0.36	<b>Singapore</b>	0.26	0.03
<b>Eq. Guinea</b>	9.98	0.00	<b>Slovenia</b>	0.03	0.53
<b>Eritrea</b>	15.46	0.00	<b>Solomon Is.</b>	15.48	0.46
<b>Ethiopia</b>	5.08	0.05	<b>South Africa</b>	0.24	0.32
<b>Fiji</b>	2.38	0.33	<b>Sri Lanka</b>	3.49	0.34
<b>Gabon</b>	1.58	0.00	<b>Sudan</b>	2.22	0.01
<b>Gambia</b>	8.92	0.12	<b>Suriname</b>	6.76	0.33
<b>Georgia</b>	3.07	0.41	<b>Swaziland</b>	2.90	0.00
<b>Ghana</b>	4.04	0.12	<b>Syria</b>	0.55	0.07
<b>Grenada</b>	3.47	0.23	<b>Tajikistan</b>	3.86	0.22
<b>Guatemala</b>	1.09	0.33	<b>Tanzania</b>	11.10	0.06
<b>Guinea</b>	3.92	0.11	<b>Thailand</b>	0.52	0.40
<b>Guinea-Bissau</b>	21.66	0.11	<b>Togo</b>	5.36	0.00
<b>Guyana</b>	5.07	0.23	<b>Tunisia</b>	1.91	0.02
<b>Haiti</b>	7.39	0.10	<b>Turkey</b>	0.25	0.37
<b>Honduras</b>	3.99	0.26	<b>Turkmenistan</b>	0.35	0.00

<b>India</b>	0.38	0.45	<b>Uganda</b>	4.65	0.09
<b>Indonesia</b>	1.27	0.08	<b>Ukraine</b>	0.22	0.35
<b>Iran</b>	0.06	0.05	<b>United Arab Emirates</b>	0.02	0.00
<b>Jamaica</b>	2.03	0.32	<b>Uruguay</b>	0.20	0.35
<b>Jordan</b>	4.67	0.13	<b>Uzbekistan</b>	0.76	0.00
<b>Kazakhstan</b>	0.41	0.00	<b>Venezuela</b>	0.03	0.35
<b>Kenya</b>	4.18	0.18	<b>Zambia</b>	8.81	0.13
<b>Korea, South</b>	0.52	0.40	<b>Zimbabwe</b>	2.42	0.12
			<b>Overall</b>	4.28	0.18

**Appendix 5B: Countries in Model 2 (Total Public Investment Analysis)**

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Algeria	Korea, South	Philippines
Belize	Lesotho	Rwanda
Burundi	Madagascar	Sierra Leone
Cameroon	Mauritius	Sri Lanka
Egypt	Mexico	Tunisia
Guatemala	Morocco	Uruguay
India	Nepal	Zambia
Indonesia	Papua New Guinea	Zimbabwe
Kenya	Peru	

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## Appendix 5C: Variable Codebook

Variable Name	Description	Source
<b>Aid</b>	Aid as a percentage of GDP, lagged by 1 year	OECD (2010a)
<b>Constraints</b>	The number of institutional constraints or 'checks' in a political system	Beck, et al. (2001)
<b>Aid*Constraints</b>	Interaction term of Aid and Constraints	
<b>Total Public Investment</b>	The overall level of capital government expenditure on fixed assets. Includes both tangible and intangible assets. It does not include military expenditure or investment in human capital and knowledge creation.	Pfeffermann, et al. (2001).
<b>Total Education Expenditure</b>	Total public education expenditure as a percentage of total expenditure	Nooruddin and Simmons (2006)
<b>Total Health Expenditure</b>	Total public health expenditure as a percentage of total expenditure	Nooruddin and Simmons (2006)
<b>Government Expenditure (%GDP)</b>	Total current government expenditure as a percentage of GDP	World Bank (2010a)
<b>GDP</b>	The lagged log of initial GDP	World Bank (2010a)
<b>Government Revenue (%GDP)</b>	Total government revenue as a percentage of GDP	World Bank (2010a)
<b>Population over 65</b>	The percentage of the population over 65	World Bank

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<b>years</b>	years	(2010a)
<b>Debt</b>	Total central government debt as a percentage of GDP	World Bank (2010a)
<b>Interest Rate</b>	The real interest rate (percentage)	World Bank (2010a)
<b>Population under 14 years</b>	The percentage of the population under 14 years	World Bank (2010a)
<b>Left-wing Government</b>	Coded 1 if a left-wing party leads government	Beck, et al. (2001)
<b>Literacy Rate</b>	The total literacy rate	World Bank (2010a)
<b>Polity</b>	Level of democracy or autocracy, range -10 to 10	Polity IV

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**Appendix 5D: Average Public Goods Expenditure across  
Country (Source: Pfeffermann, et al., 2001 and Nooruddin and  
Simmons, 2006)**

	<b>Education Expenditure</b>	<b>Public Investment</b>	<b>Health Expenditure</b>
<b>Algeria</b>	.	11	10.1
<b>Angola</b>	8.7	.	4.8
<b>Argentina</b>	12.5	5.4	14.6
<b>Azerbaijan</b>	20.2	.	3.5
<b>Bahamas</b>	18.8	.	14.9
<b>Bahrain</b>	12.7	.	9.5
<b>Bangladesh</b>	13.1	5.5	7.7
<b>Barbados</b>	17.8	.	12
<b>Belarus</b>	14.5	.	10.2
<b>Belize</b>	17.8	11.4	7.4
<b>Benin</b>	16.3	8.7	11.3
<b>Bhutan</b>	14.6	.	8.4
<b>Bolivia</b>	19	8	10.6
<b>Bosnia-Herzegovina</b>	.	.	13.2
<b>Botswana</b>	18.3	.	13.8
<b>Brazil</b>	13.5	6	5
<b>Brunei</b>	11	.	6.7
<b>Burkina Faso</b>	17.2	.	15
<b>Burundi</b>	17.8	10.4	10.3
<b>Cambodia</b>	13.9	2.9	13
<b>Cameroon</b>	16.5	8.9	8.1
<b>Cape Verde Islands</b>	15.3	23.5	11
<b>Cent. African Rep.</b>	17.4	8.3	11.3



<b>Chad</b>	8.9	7.6	13.8
<b>Chile</b>	15.7	5.9	16.7
<b>Colombia</b>	15.6	6.9	19.4
<b>Comoro Is.</b>	23.8	15.4	8.4
<b>Congo, Dem. Rep</b>	12.6	5.5	5.9
<b>Congo, Rep</b>	15	9.5	5.3
<b>Costa Rica</b>	23.1	6	22.2
<b>Cote d'Ivoire</b>	23.4	7.7	4.7
<b>Croatia</b>	9.1	.	15.6
<b>Cyprus</b>	13.7	4.5	6.5
<b>Djibouti</b>	14.9	.	12.2
<b>Dom. Rep.</b>	13.2	6.7	10
<b>Ecuador</b>	18.6	7.8	7.9
<b>Egypt</b>	13.4	12.4	7.2
<b>El Salvador</b>	18	4.4	14.9
<b>Equatorial Guinea</b>	3.8	10.8	7.3
<b>Eritrea</b>	.	.	4.2
<b>Ethiopia</b>	14	6.5	10.2
<b>Fiji</b>	17.6	.	9.2
<b>Gabon</b>	12.1	12.7	14
<b>Gambia</b>	12.5	9	11.8
<b>Georgia</b>	10	.	5.6
<b>Ghana</b>	20.2	5.6	8.5
<b>Grenada</b>	13.3	14.2	8.8
<b>Guatemala</b>	14.6	3.7	14.5
<b>Guinea</b>	22.3	7.3	4.8
<b>Guinea-Bissau</b>	11.9	22.6	4.5
<b>Guyana</b>	13.7	16.4	11.9
<b>Haiti</b>	12.9	4.6	8.3

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<b>Honduras</b>	16.5	7.6	17.9
<b>India</b>	11.1	8.5	3.7
<b>Indonesia</b>	15.1	8.3	5
<b>Iran</b>	17.7	8.7	11.6
<b>Jamaica</b>	12.5	8.7	4.5
<b>Jordan</b>	15.3	13.9	10.7
<b>Kazakhstan</b>	16.1	.	10
<b>Kenya</b>	20.7	8.2	8.3
<b>Korea, South</b>	16.9	6.8	10.9
<b>Kuwait</b>	11.6	.	6.4
<b>Kyrgyzstan</b>	22.9	.	9
<b>Laos</b>	9.7	.	4.5
<b>Lebanon</b>	11.9	.	11.1
<b>Lesotho</b>	22	19.3	7.9
<b>Liberia</b>	13.6	7.8	13.7
<b>Libya</b>	16.2	.	6.1
<b>Macedonia</b>	15.9	.	16
<b>Madagascar</b>	16.6	6.6	12.4
<b>Malawi</b>	13.5	10.4	20.1
<b>Malaysia</b>	20.6	11.3	7.5
<b>Mali</b>	20.5	5.6	12.2
<b>Mauritania</b>	14.7	13.2	4.8
<b>Mauritius</b>	13.4	7.4	9.2
<b>Mexico</b>	21.2	6.3	16.2
<b>Moldova</b>	20.1	.	11.5
<b>Mongolia</b>	17.3	.	10
<b>Morocco</b>	23.5	10.7	5.4
<b>Mozambique</b>	15.1	17.3	14.3
<b>Namibia</b>	19.6	9.4	11.3

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<b>Nepal</b>	11.6	5.9	9.1
<b>Nicaragua</b>	13.6	8.8	16.2
<b>Niger</b>	17.3	5.7	13
<b>Nigeria</b>	15.9	8.8	6.3
<b>Oman</b>	17.8	.	5.9
<b>Pakistan</b>	7.9	8.8	3.1
<b>Panama</b>	16.6	7	11.8
<b>Papua New Guinea</b>	15.8	6.9	9
<b>Paraguay</b>	12.6	5.4	14
<b>Peru</b>	17.8	5.1	15.5
<b>Philippines</b>	14.5	5.1	6.3
<b>Qatar</b>	10.1	.	10
<b>Rwanda</b>	21.6	7.1	18.1
<b>Samoa</b>	13.4	.	12.5
<b>Saudi Arabia</b>	19.1	.	8.9
<b>Senegal</b>	23.4	4.9	11.2
<b>Sierra Leone</b>	16	4.9	7.8
<b>Singapore</b>	13.8	.	7.1
<b>Slovenia</b>	12.6	.	13.4
<b>Solomon Is.</b>	13	9.1	15.7
<b>South Africa</b>	19	.	10.5
<b>Sri Lanka</b>	9.1	9.5	7.9
<b>Sudan</b>	11.2	4.6	6.5
<b>Suriname</b>	19.3	.	12.5
<b>Swaziland</b>	20.6	.	11
<b>Syria</b>	12.6	.	6.2
<b>Tajikistan</b>	19.2	.	4.6
<b>Tanzania</b>	15.1	8.3	12.4
<b>Thailand</b>	22.7	7.5	12

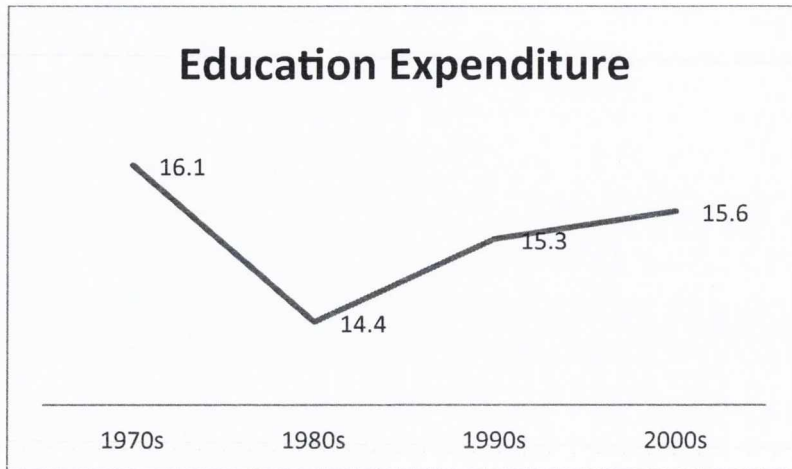
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<b>Togo</b>	21.1	10.2	7.8
<b>Tunisia</b>	17.8	13.4	9.1
<b>Turkey</b>	14.9	8.5	11.3
<b>Turkmenistan</b>	24.5	.	11.4
<b>Uganda</b>	16.5	3.8	9.8
<b>Ukraine</b>	19.6	.	9.3
<b>United Arab Emirates</b>	19.3	.	8.6
<b>Uruguay</b>	13	4.3	16.3
<b>Uzbekistan</b>	22.8	.	7.7
<b>Venezuela</b>	18	10.3	8.3
<b>Zambia</b>	11.2	14.9	14.6
<b>Zimbabwe</b>	12.4	6.5	8.9
<b>Total</b>	15.9	8.7	10.2

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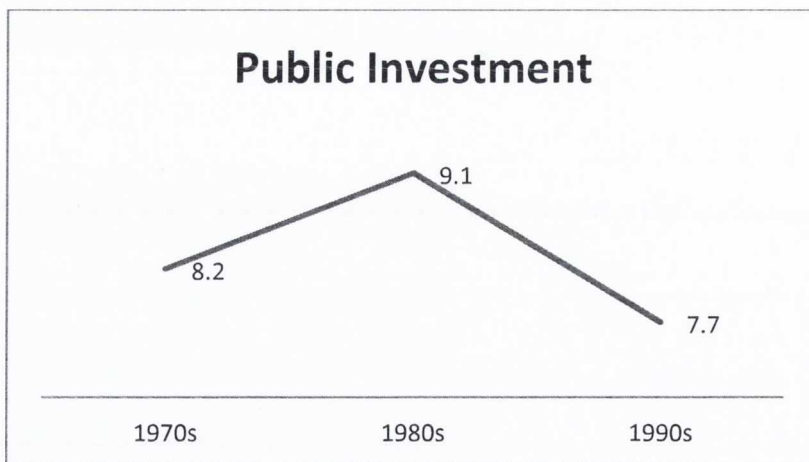
## Appendix 5E1: Average Public Education Expenditure over Time

(Source: Nooruddin and Simmons, 2006)



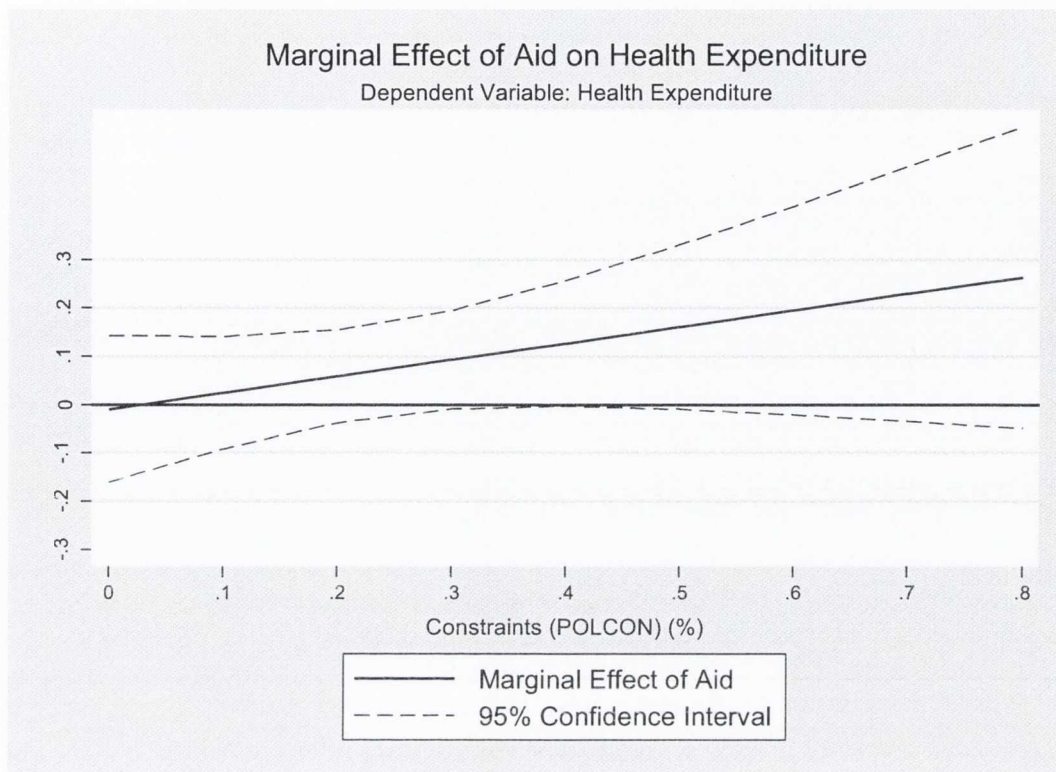
## Appendix 5E2: Average Public Investment over Time (Source:

Pfeffermann, et al., 2001)



### Model 4: Marginal effect of Aid on Public Health Expenditure with Literacy

Rate and Polity variables removed



Source: Brambor, et al, 2006



## *Chapter 6*

# **The Benefits of Political Constraints: The Effects of Health Aid and Education Aid on Public Spending**

In recent years, there has been a massive increase in aid designated for the health and education sectors. Donors and international organisations recognise the importance of health and education for reducing poverty and increasing economic growth. This recognition is apparent in the Millennium Development Goals, several of which relate directly to health and education, including infant mortality, maternal mortality, and universal primary education<sup>33</sup>. In addition, while debate continues over aid's effect on economic growth, several examples of successful aid programmes have been identified in the health and education sectors such as immunisation programmes, HIV/AIDs treatments, and higher rates of primary

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<sup>33</sup> Of the eight Millennium Development Goals, three are directly related to health – Goal 4: reduce child mortality by two-thirds. Goal 5: Reduce maternal mortality by three-quarters. Goal 6: Halt and reverse the spread of HIV/AIDs, malaria and other diseases - and one is directly related to education – Goal 2: achieve universal primary education.



school enrolments<sup>34</sup>. However, the use of health and education aid is dependent on the incentives governments have to invest in the social sector. If governments have an incentive to invest in human capital, then both health aid and education aid are likely to increase spending on health and education, which can lead to positive social outcomes. This chapter builds on the work of chapter five by investigating the role of political constraints for creating incentives that lead to an environment conducive to investment in human capital. This chapter differs from chapter five by using data for disaggregated aid, specifically, health aid and education aid. A disaggregated approach to aid effectiveness avoids the complexity of macro level aid effectiveness studies, which are hampered by the extreme difficulty of accounting for all factors that have a potential impact on the relationship between aid and economic growth. Further, critics of aid tend to ignore the fact that donors give different types of aid and that these different types of aid often have different purposes. The specific purposes aid is meant to serve, such as the improvement of education facilities and health services, is often overlooked by studies that narrowly focus on the aid-growth relationship. However, which type of aid can reasonably be expected to affect the level of education and health spending in a recipient country? Aid such as humanitarian aid and aid for physical infrastructure are unlikely to affect government investment in education and health. Hence, it is valuable to disaggregate aid data.

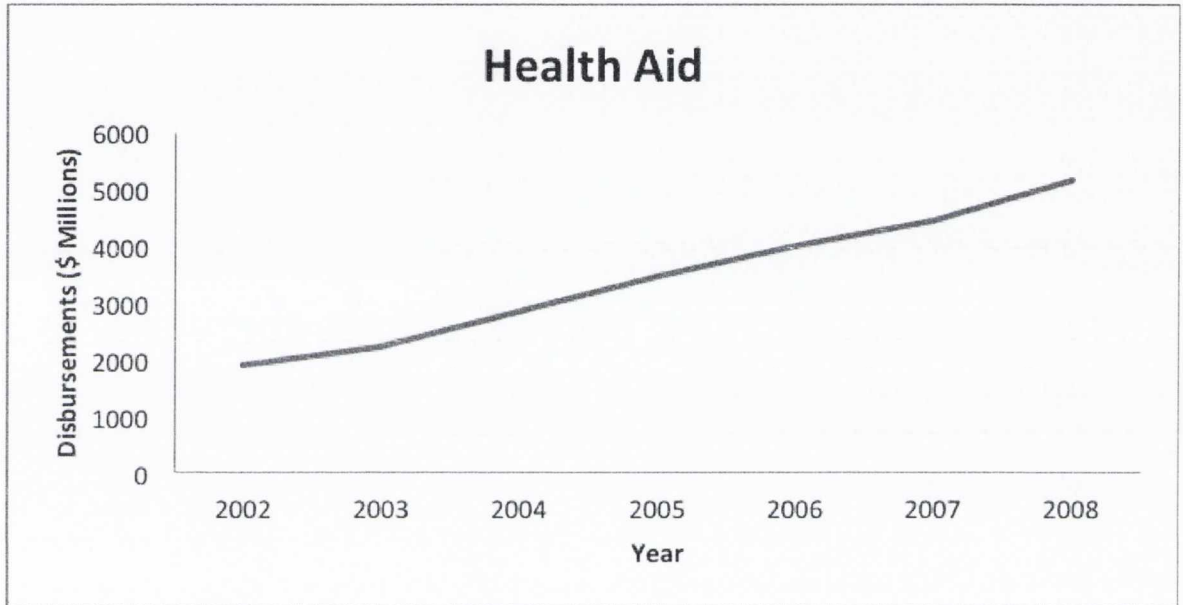
This is a timely analysis given the approaching deadline for the Millennium Development Goals and the large increases in the disbursement of aid designated for the health and education sectors. The amount of health aid disbursed by donors has

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<sup>34</sup>Further, economic growth has not been proven essential for improvements in health. There are many examples of countries that have improved health outcomes with little or no economic growth and vice versa (Cutler, et. al., 2006). Estimates suggest that economic growth explains less than half of the overall improvements in health in the past fifty years in developing countries (Bloom, et. al., 2004, WHO, 1999).

risen every year since 2002, when data for disaggregated aid disbursements became available from the OECD. This is shown in Figure 6.1. Health aid has risen from \$1,899 million in 2002 to \$5,151 in 2008, more than doubling the amount of aid in six years.

**Figure 6.1: Health Aid 2002-2008 (Source: OECD 2010b)**



The rise in education aid has been even larger over the same period. Figure 6.2 shows the increase in education aid from \$2,326 million in 2002 to \$6,744 million in 2008.

**Figure 6.2: Education Aid 2002-2008 (Source: OECD 2010b)**

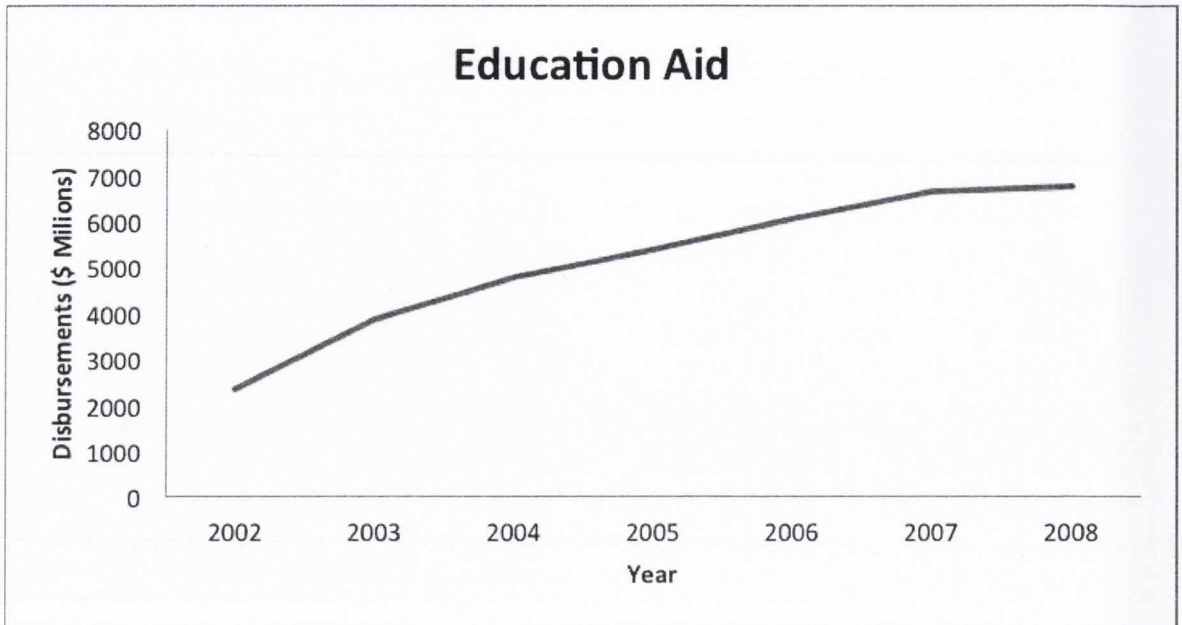


Table 6.1 shows the allocation of education and health aid to the top 25 recipient countries from 2002 to 2008. The top 25 countries received 64% of education aid and 74% of health aid in this period. In terms of regional allocation, countries in Sub-Saharan Africa dominate both lists. Fourteen of the top education aid recipients are in Sub-Saharan Africa and nineteen of the twenty-five recipients of health aid are in that region.

**Table 6.1: Education and Health Aid Allocation, Top 25 Countries 2002-2008****(Source: OECD, 2010b)**

<b>Country</b>	<b>Education Aid (\$ Millions)</b>	<b>Country</b>	<b>Health Aid (\$ Millions)</b>
India	3122	India	2854
Morocco	1916	Pakistan	1176
Indonesia	1375	Ethiopia	1154
Bangladesh	1316	Tanzania	1050
Pakistan	1259	Nigeria	1012
Ethiopia	1056	Ghana	869
Algeria	1012	Congo, Dem. Rep.	824
Tanzania	980	Bangladesh	810
Turkey	885	Indonesia	802
Mozambique	857	Uganda	789
Egypt, Arab Rep.	855	Mozambique	766
Tunisia	828	Zambia	643
Senegal	806	Kenya	566
Cameroon	714	Senegal	493
Uganda	707	Malawi	441
Mali	680	Egypt, Arab Rep.	419
Zambia	606	Madagascar	388
South Africa	574	Sudan	381
Ghana	539	Rwanda	363
Burkina Faso	527	Bolivia	336
Kenya	522	Burkina Faso	329
Madagascar	495	Niger	312
Nigeria	432	Cambodia	301
Lebanon	410	Angola	300
Bolivia	405	Mali	299

However, South Asia is a significant recipient of aid and overall, India receives significantly more education and health aid than any other country. For education aid, three of the top five countries are in South Asia, whereas only two Sub-Saharan African countries appear in the top ten recipients. The larger populations of South Asian countries do contribute to this distribution. However, Nigeria, one of the world's most populous countries, appears near the bottom of the list, suggesting that population size is not necessarily a significant determinant of allocation. Sub-

Saharan African countries are more prevalent in the list of health aid recipients, implying that health aid is more of a focus for donors to Sub-Saharan Africa. Of all the education aid given to the top 25 countries, 42 per cent (\$9,497 million) was given to countries in Sub-Saharan Africa, compared to 64 per cent (\$11,278 million) of health aid to the top 25 countries.

Despite this large and rapid increase, research examining the effect of health aid on health spending and education aid on education spending is scarce (as is research examining the effects of these forms of aid on outcomes, such as literacy rate or infant mortality rate). Further, the existing literature has produced often mixed or inconclusive results. An overview of this existing literature is provided in the following section. The results of this chapter find that political constraints create a positive environment for the use of health aid: health aid's impact on health expenditure increases as the level of political constraints rises but health aid has a negative relationship with health expenditure at the lowest levels of constraints. Education aid has a positive relationship with education expenditure. However, there is no significant relationship between education aid and education expenditure at any level of constraints. This chapter is structured as follows: the next section outlines previous research on the effect of health and education aid. This is followed by a description of the data used and an outline of the results. The last sections provide a discussion and conclude.

## **Health Aid and Education Aid: A More Direct Impact of Aid?**

This chapter builds on chapter five and again considers the effect of political constraints on the use of aid. The effect of political constraints is discussed in detail in chapter five. Therefore, in this chapter that material will not be repeated. Instead, this section will provide an overview of disaggregated aid and a review of research carried out on the effect of health and education aid. Research on the outcomes of health aid and education aid is scarce. As a consequence, there is uncertainty over what effect health aid and education aid have, and whether they are regarded as effective at all.

Cassen (1986) and White (1998) both called for a disaggregated analysis of aid. However, to date, the varied nature of aid has received only limited consideration in the empirical literature. Cassen and White focused on the difference between project and program aid and commodity and technical assistance. They expected that the macroeconomic effects of these different types of aid would vary. Cassen did note that technical assistance seemed, in general, to be successful, and there was evidence of successful agriculture projects in India. However, most empirical analyses on the effectiveness of aid continued to utilise aggregated aid data, using total ODA figures. A recent survey on the aid-growth literature reiterated the need for disaggregated analyses of aid. Harms and Lutz (2005) concluded that “it is not surprising that a variable as aggregate as official development assistance does not have a robust effect on growth”.

To date, most ‘disaggregated aid’ studies investigate the differential impact of project and programme aid, or general budget support, or the difference between aid given as grants and loans. Jones (2000) examines the effect of programme aid in the

form of Sector Wide Approaches or “SWAps”. Overall, he finds disappointing results in relation to SWAps, but does note some success in relation to specific sectors, namely, education, health, and road building. Eilor’s (2004) study of a SWAp for education in Uganda finds that the aid did lead to an increase in primary school enrolment rates. However, she does question the downgrading of other education objectives and the sustainability of the expansion in the long-term. Mavrotas (2005) analyses data for project aid, programme aid, technical assistance, and food aid to Uganda. He finds that the different aid categories have different effects on important economic variables. For example, unlike project aid, programme aid is positively correlated with public investment. The World Bank published a report that assessed the impact of technical assistance from 1971 to 1991. The report concluded that the outcomes of technical assistance varied, but overall, the impact was disappointing, especially in Sub-Saharan Africa (Riddell, 2007; 206).

Lister (2006) studied the effect of general budget support in seven countries and finds evidence of success in five cases. Lister notes that there is variation across countries, but in general, there is a relationship between budget support and an increase in the level of key services provided. Cordella and Dell’Ariccia (2003) find that budget support is less effective than project aid in an environment of poor macroeconomic policies, and vice versa. Gupta, et al.,(2003) argue that aid given as loans is generally correlated with higher domestic resource mobilisation. However, aid given as grants has the opposite effect. Odedokun (2004) supports the finding that grants reduce domestic revenue, but only for lower-income recipient countries – he does not find evidence to support this for higher-income countries. Cordella and Ulku (2004) clarify this finding by arguing that the negative effects of grants have a

minor effect in poor and badly governed recipient countries. Cohen, et al. (2006) argue that where capital market failures occur, loans may be superior to grants so long as debt sustainability is maintained. Dreher, et al. (2006) investigate the varying effects of both project aid and budget support and grants and loans in their analysis of United State's aid.

Thus far, the sectoral dimension of disaggregated aid has received less attention in the aid literature. Three recent papers examining the effects of health aid find contrasting results. Lu, et al. (2010) find that health aid given to governments has a negative and significant effect on domestic government health spending. They credit this to the fungibility of health aid – aid given to governments for health expenditure causes them to divert their own finances away from health expenditure. Farag, et al. (2009) find a similar “substitution” effect. They claim that a reduction in health government spending is associated with an increase in health aid, especially in low-income countries. Mishra and Newhouse (2007) mainly focus on health aid's impact on infant mortality rates<sup>35</sup>. They find that health aid has a significant and positive effect on infant mortality. Mishra and Newhouse also briefly examine the effect of health aid on health spending. In contrast to the two papers mentioned above, they find evidence that doubling health aid is associated with a 7 per cent increase in health spending per capita. This indicates that for the average aid recipient, a one-dollar increase in health aid per capita is associated with a more than US\$1.50 increase in health spending per capita. Mishra and Newhouse conclude that health aid is not fungible: “health aid ‘crowds in’ health spending by attracting additional domestic resources allocated toward health. This could occur, for example, if aid

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<sup>35</sup> Mishra and Newhouse claim that their paper presents the first study of the effect of health aid on health outcomes (2007,5)



allocated towards building health facilities required additional doctors and nurses” (2007, 28)<sup>36</sup>.

In relation to education aid, there is a similar dearth of research. Dreher, et al. (2008) find a higher per capita education aid significantly increases primary school enrolment rates. On average, their results indicate that increasing education aid by 1 per cent of a recipient country’s GDP leads to an increase of primary school enrolment rates of 2.5 – 5 per cent. Michaelowa (2004) and Michaelowa and Weber (2007) find some evidence of a positive relationship between aid spent in the education sector and primary school enrolment and completion. Their results suggest that, on average, an increase in education aid by 1 per cent of a recipient country’s GDP leads to an increase in primary completion rates by 1.6 per cent per annum. However, the effect is quite small, therefore, according to their estimates, to reach an increase in primary completion rates by 1.6 percentage points, aid allocated to education would have to increase by at least 200 per cent. Further, Michaelowa (2004) and Michaelowa and Weber (2007) find that the political environment is also important for the effectiveness of education aid. Under very positive political conditions,<sup>37</sup> aid to education always has a positive effect while its effect is always negative under conditions of extreme oppression. Michaelowa and Weber (2008) examine the impact of education aid to primary, secondary, and tertiary levels. The effect of aid to education reaches about 2.5 percentage points for an increase in the aid budget by 1 per cent of recipient countries’ GDP. They find that the maximum coefficient values are similar for primary, secondary, and tertiary education.

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<sup>36</sup> They do find some evidence that *overall* aid may be fungible and “crowd out” domestic health expenditure.

<sup>37</sup> Political conditions are measured with the Freedom House index of political rights and civil liberties. Very positive political conditions equate to a low score on the Freedom House index.

Overall, there is a lack of research into the effects of disaggregated aid. This has partially been driven by a lack a data for disaggregated aid and an overly strong focus on total aid figures. The previous research for health aid is inconclusive, with the limited research done producing conflicting findings. The effect of education aid seems to be positive, although, the actual impact that education aid has is small. In this analysis the effect of health and education aid on health and education spending is examined with the inclusion of political institutions as a mediating variable. This inclusion of the political context in the analysis aims to shed some insight into the different findings outlined above.

## **Data and Methodology**

Data for health aid and education aid are from the Creditor Reporting System (CRS) from the OECD Stat database. One noted problem with the CRS is the under-reporting of aid. However, since the donors do this underreporting it is not systematically related to the recipient countries. In this chapter, data for aid disbursements are used rather than aid commitments. It does mean that they are fewer data available, as the CRS provides fewer years of disbursement data. However, it reflects a more accurate picture of the relationship between health and education aid and expenditure. Mishra and Newhouse state that the correlation between health aid commitments and health aid disbursements is 0.66, implying quite large discrepancies in terms of what some donors commit, and what they actually give. Further, since donors are more likely to over-commit than to disburse more than was committed, using aid commitments is likely to underestimate the impact of health and education aid.

In the CRS, the sector number 110:I1 identifies education aid and the sector number 120:I2 identifies health aid. Health aid is composed of two parts: general health and basic health. General health covers health policy and administration management, medical education/training, medical research, and medical services. Basic health covers basic health care, basic health infrastructure, basic nutrition, infectious disease control, health education, malaria control, tuberculosis control, and health personnel development. Education aid is composed of four parts: education (level unspecified), basic education, secondary education, and post-secondary education. Education (level unspecified) covers policy and administration, training, and research. Basic education covers early childhood and primary education and basic life skills. Secondary education aid includes aid for secondary and vocational schools. Finally, post-secondary education includes higher education and advanced technical and managerial training. The breakdown and description of both types of aid are provided in Appendices 6A1 and 6A2. The data for health and education aid are gross disbursements in current USD millions, and both are calculated as a percentage of GDP. Data for GDP are from the World Development Indicators (WDI) (World Bank, 2010a) and are in current USD millions<sup>38</sup>.

As in the previous chapter, the variable POLCONIII (Henisz, 2002) measures the level of political constraints, which estimates the number of independent veto points over policy outcomes and the distribution of preferences of the actors that inhabit them. The variable ranges from zero to one with one representing the highest level

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<sup>38</sup> As in Chapter 5, the Wu-Hausman test and the Durbin-Wu-Hausman (Durbin, 1954; Hausman, 1978; Wu, 1973) test were both not significant suggesting that disaggregated aid is not endogenous to health or education expenditure. The same instruments as used in Chapter 5 were used here to test the endogeneity of aid to the dependent variables. Again, aid is lagged by one year, however, due to delays in donor's disbursing aid and the implementation problems that occur in spending agencies (McGillivray and Morrissey, 2001). To lag beyond one year seems unnecessary and would sacrifice data. Data for health and education aid disbursements are only available from the OECD from 2002 to 2008. With the lagged aid variables, the available data are reduced to 2003 to 2008.

of constraint. A full description of the variable and details of its construction is outlined in chapter five and available from Henisz (2002). The dependent variables are public health expenditure as a percentage of total government expenditure and public education expenditure as a percentage of total government expenditure, both of which were used in chapter five. The models analysed in this paper are identical to models 3 and 4 in chapter five and therefore, the control variables for both models are the same (the justification for these controls is outlined in chapter five). The control variables are GDP per capita, the percentage of the population over 65 years (model 1 only), the percentage of the population under 14, the literacy rate, the presence of a left-wing government, and a measure of the level of democracy, measured as the Polity measure. Data for the above variables are from the World Development Indicators (World Bank, 2010a) except for the left-wing government data, which are from the Database of Political Institutions (Beck, et al., 2001) and the Polity measure, from the Polity IV (Polity IV, 2010) dataset. All variables are listed in Appendix 6C.

There are 46 countries in the dataset, listed in Appendix 6B. All countries included in the analysis are recipients of either health aid, or education aid, or both. Health and education aid data for more countries are available from the CRS, but unfortunately, missing data for the control variables reduces the number of countries in the sample to 46. Due to data restrictions, the time-period in the analysis is short – 2003-2007. However, since the dependent variable is expenditure, the effect of the aid should be detectable in the short-term. There is still a need to carry out research over a longer time-period and this will become possible as more data on aid disbursements and public expenditure becomes available.

## Results

Table 6.2 shows the results of the multiple regressions of health aid on health expenditure and education aid on education expenditure. Both models are analysed using Panel Corrected Standard Errors<sup>39</sup>. In model 1, the relationship between health aid and health expenditure is examined. The interaction term between health aid and constraints is significant at the 5% level and positive, implying that health aid has a positive effect on health expenditure as the number of constraints increases. The effect of health aid on health spending for each one-unit increase in constraints is quite large, suggesting that an increase in the number of political constraints has a clear, positive effect on health expenditure. When constraints equal zero, i.e. when a leader is completely unconstrained, aid has a negative relationship with health expenditure. This may reflect the low levels of health expenditure in countries where leaders are unconstrained. It also indicates that there is evidence of fungibility in health aid, but only at low levels of constraints.

The direct effect of the constraints variable is negative and significant, although only at the 10% level. Among the control variables, the percentage of the population under 14 and over 65 are both in the expected direction, positive, and the variable for the population under 14 is significant at the 10% level. The variables for the literacy rate and the measure of democracy are also positive, as expected, and significant at the 5% level. The measure for the left-wing government is surprisingly negative.

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<sup>39</sup>As in Chapter 5, all models in this analysis are analysed using Panel Corrected Standard Errors (PCSE). The Wooldridge Test for Autocorrelation (Wooldridge, 2002; Drukker, 2003) detected first order autocorrelation in the data used in the analysis. Heteroskedasticity was also detected by the Breusch-Pagan/ Cook-Weisburg test (Breusch and Pagan, 1979; Cook and Weisburg, 1989). The PCSE model used in this chapter controls for AR(1) serial correlation and includes robust standard errors.

**Table 6.2: The Effect of Health and Education Aid on Health and Education Expenditure**

<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>
<i>Dependent Variable</i>	<i>Health Expenditure</i>	<i>Education Expenditure</i>
<b>Health Aid</b>	-1.260 (1.758)	
<b>Education Aid</b>		1.192 (3.570)
<b>Constraints</b>	-4.158* (2.251)	-9.497** (4.042)
<b>Health Aid*Constraints</b>	9.596** (4.004)	
<b>Education Aid*Constraints</b>		6.867 (9.695)
<b>GDP</b>	0.000 (0.000)	0.000 (0.000)
<b>Population over 65</b>	0.308 (0.219)	
<b>Population under 14</b>	0.159* (0.087)	0.089 (0.101)
<b>Left-wing Government</b>	-1.162* (0.642)	0.345 (1.037)
<b>Literacy Rate</b>	0.078** (0.028)	0.029 (0.074)
<b>Polity</b>	0.188** (0.083)	0.270 (0.200)
<b>Constant</b>	-2.774	10.925

	(4.896)	(9.156)
<b>N</b>	167	70
<b>R<sup>2</sup></b>	0.54	0.57

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

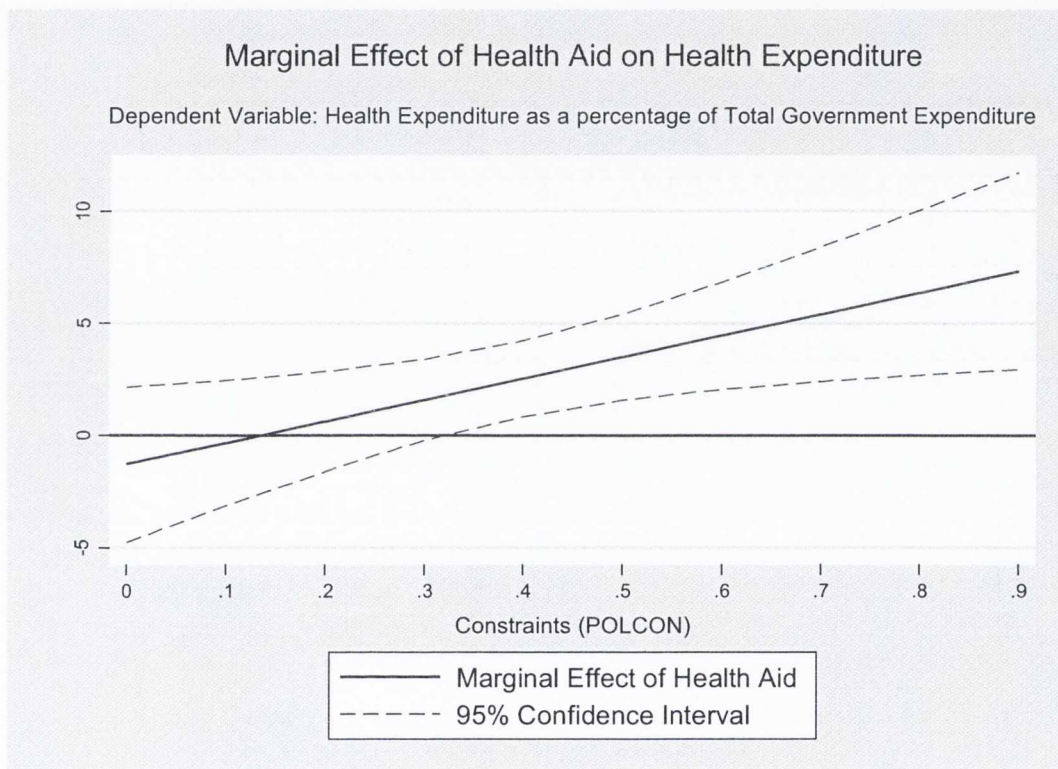
This significant literacy rate variable may suggest that a literate electorate is able to make demands from their government for social spending or may also act as an additional constraint, with literacy indicating a better ability to monitor and obtain and process information on the government. The significant coefficient could also indicate a pattern of past health spending and suggests that such behaviour is likely to see more aid spent in the area. The positive coefficient for the polity (democracy) variable lends support to the theory that democracies spend more on health<sup>40</sup>.

Figure 6.3 shows the marginal effect of health aid on health expenditure as the number of constraints increases. The relationship between health aid and health expenditure is positive as the number of constraints increases. The graph shows that the relationship between health aid and health expenditure is significant for all values of constraints above 0.3. The relationship is strongest when constraints are between 0.4 and 0.5, as this is when the confidence intervals are at their narrowest. Above the value of 0.5, the relationship is still significant, but the certainty decreases as the confidence intervals broaden. When constraints are equal to zero and 0.1, health aid has a negative relationship with health expenditure. Health aid has a positive impact on health expenditure for all constraints values above

<sup>40</sup> As in chapter 5, there are concerns regarding the endogeneity of certain control variables in the models. The removal of polity and literacy rate from the education model (model2) has no effect on the results and the interaction term remains non-significant. For the health model (model 1) the R-squared figure is not greatly affected. The interaction term is still significant, but the size of the overall effect does decrease.

approximately 0.125. This finding lends support to the argument above that health aid would have a positive impact on health expenditure at medium and high levels of constraints. It also supports the argument that health aid's impact on health expenditure is negative at low levels of constraints.

**Figure 6.3: The Marginal Effect of Health Aid on Public Health Expenditure as the number of Constraints Changes (Model 1)**



Source: Brambor, et al, 2006

In model 2, education expenditure is the dependent variable. The interaction term is positive, suggesting that as the number of constraints increases, the relationship between education aid and education expenditure becomes stronger. The direct effect of education aid is positive; implying that, unlike health aid, there is no evidence of fungibility at low levels of constraints. However, an examination of the



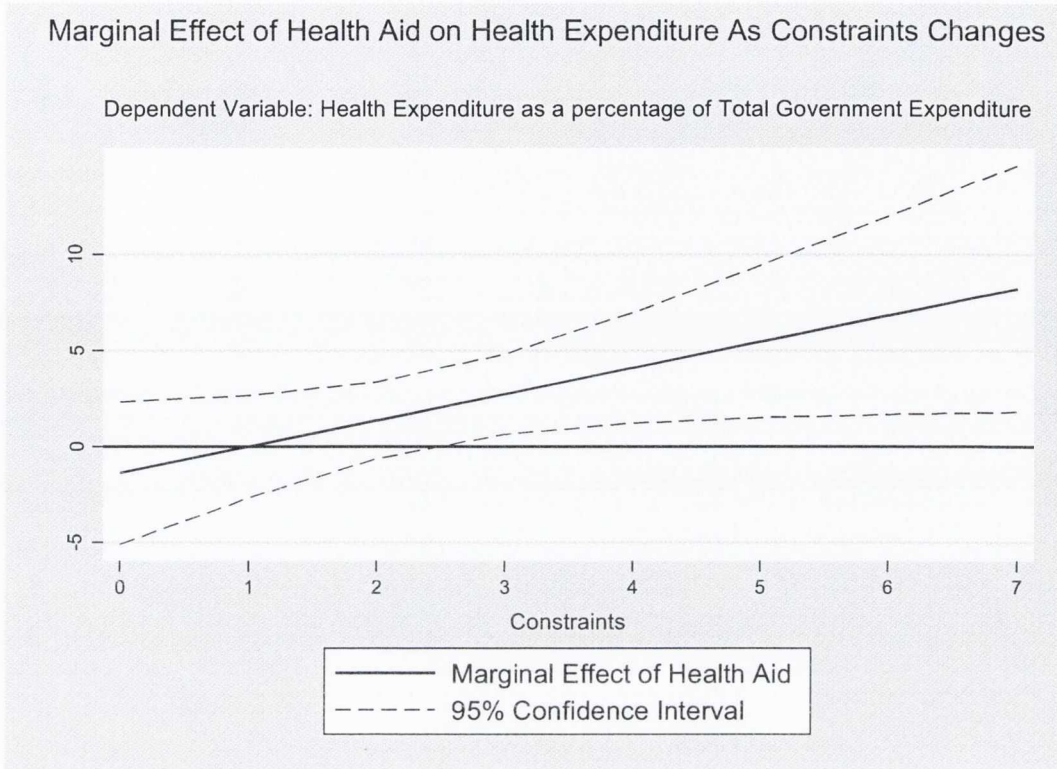
marginal effects graph reveals that the relationship between education aid and education spending is not significant at any level of constraints. Only the POLCON measure of constraints is significant in model 2. It is significant at the 5% level and negative. The control variables in model 2 are not significant.

As in Chapter 5, a robustness test is carried out with the alternative political constraints measure, the CHECKS variable from the World Bank's Database of Political Institutions (Beck, et al., 2001)<sup>41</sup>. The robustness test shows that when using an alternative measure of constraints the interaction term between health aid and the checks variable remains positive and significant at the 5% level. The marginal effects graph is shown in figure 6.4. This shows that the CHECKS variable produces a similar relationship between health aid and health expenditure. Health aid's effect is negative when checks is equal to zero and when constraints equal one, aid's effect does not differ from zero. The relationship between health aid and health expenditure becomes positive for all values above one and becomes significant when the CHECKS variable is above 2.5. This robustness test adds further evidence to the argument that constraints lead to a greater and positive effect of health aid on health expenditure. The interaction term between education aid and CHECKS is positive, but as in the model with POLCONIII, the variable is not significant. Further, the marginal effects show that the relationship between education aid and expenditure is not significant at any level of CHECKS.

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<sup>41</sup> The CHECKS variable is recoded for the chapter so that zero has a value. In the DPI, the lowest value of the variable is one.

**Figure 6.4: The Marginal Effect of Health Aid on Public Health Expenditure as the number of Constraints Changes (Robustness Test)**



Source: Brambor, et al, 2006

## **Discussion and Conclusion**

The above findings imply that by using disaggregated aid data, significant relationships can be detected between aid and specific sector expenditure. Health aid can have a positive impact upon public health expenditure but this depends on the institutional environment. While the interaction term in the education aid model is positive, the results are not statistically significant. Therefore, it is not possible to conclude that the institutional context has a positive impact on the use of education aid. The results in model 1 suggest that where leaders are effectively constrained by political checks and balances, aid is more likely to be positively associated with social expenditure. The higher the level of constraints, the greater the impact of health aid on health expenditure. The findings in relation to health support the results of Mishra and Newhouse (2007), who found that health aid increased health expenditure. However, the results in this chapter stress that context is crucial. Health aid can increase health expenditure, but only does so under certain political conditions. At the lowest levels of constraints, zero and one, health aid had a negative relationship with health expenditure. This could provide evidence of the fungibility of health aid. This lends some support to the findings of Lu, et al. (2010) who argued that health aid was fungible, causing a reduction in overall levels of health expenditure. However, evidence of the fungibility of health aid is found only at low levels of constraints. This indicates that when leaders are constrained, health aid has a positive impact on health expenditure and there is no evidence of fungibility.

In relation to education aid, the findings of this chapter cannot lend support to previous finding in the literature. No significant relationship is not found between

education aid and education expenditure, although there is evidence of a positive relationship between the two variables as the number of constraints rises. This is similar to the findings of the literature outlined above; however, that literature examined education aid's impact on education outcomes not spending. That literature concluded that education aid had a positive effect on primary school enrolment rates. Finally, the results in this chapter do lend support to Michaelowa and Weber's (2007) findings that political conditions matter for the effective use of education aid.

The above results support the theoretical argument outlined in chapter five and the findings of that chapter. The results suggest that governments which choose to constrain themselves in order to make credible commitments and attract investment are interested in investing in human capital. Hence, in these countries, aid is used effectively and leads to increased social expenditure. The reasons these governments invest in human capital is twofold. First, in order to attract investment leaders must provide human capital and the two main drivers of human capital are health and education. A healthy population is a more productive workforce with lower levels of sickness and absenteeism. Health is also a statistical determinant of education, and in turn, an educated workforce is essential to attract investment. Second, health and education are both significant determinants of economic growth and so directly increase a country's income levels.

On the other hand, unconstrained leaders have no incentive to invest in human capital. First, lacking in credibility they are unable to attract investment. Second, instead of promoting economic growth, they seek income through rent seeking and/or expropriation. Previous findings imply that rent seeking by governments adversely affects health and education expenditure. With few or no rents to obtain

from the social sector, rent-seeking governments instead divert funds, such as aid, towards areas where there are rents to avail of. There is some debate over the effect of rent seeking on health spending as certain aspects of health expenditure can be classified as large, capital projects where rents may be available. The findings of this chapter support the former argument. In an environment where rent seeking is less likely, due to a higher level of constraints on government, health aid has a greater impact on health expenditure, suggesting that aid funds are not being diverted from health care.

These findings stress the importance of institutional structures when allocating aid. This is not a simple democratic, non-democratic dichotomy. Non-democracies can have several political constraints. Rather this requires a more in-depth understanding of the political structures that surround a recipient's leader and hence the likelihood that he/she will invest health aid where it is intended to go. Constraints suggest that leaders are able to make credible commitments that act as a signal to investors that they can invest capital at low risk. Such leaders should also care about ensuring long-term investment and economic growth. Hence, there is an incentive for constrained governments to invest in human capital, such as health and education.

A final point is to stress the importance of using disaggregated aid data. As was demonstrated above, the use of disaggregated aid data is becoming increasingly popular. However, the focus of aid effectiveness studies is still on aggregate aid figures, despite some of the problems with such data mentioned in this chapter. There is much potential for future research in this area, as more data for more years and more sectors becomes available. It is possible that through such research a clearer and stronger understanding of the effect of aid can be determined.

## **Appendix 6A1: Creditor Reporting System (CRS) details on Health Aid Components (Source: CRS, OECD 2010b)**

### **HEALTH (120)**

#### **Health, general (121)**

##### Health policy and administrative management (12110):

Health sector policy, planning and programmes; aid to health ministries, public health administration; institution capacity building and advice; medical insurance programmes; unspecified health activities.

##### Medical education/training (12181):

Medical education and training for tertiary level services.

##### Medical research (12182):

General medical research (excluding basic health research).

##### Medical services (12191):

Laboratories, specialised clinics and hospitals (including equipment and supplies); ambulances; dental services; mental health care; medical rehabilitation; control of non-infectious diseases; drug and substance abuse control [excluding narcotics traffic control (16063)].

#### **Health, Basic (122)**

##### Basic health care (12220):

Basic and primary health care programmes; paramedical and nursing care programmes; supply of drugs, medicines, and vaccines related to basic health care.

Basic health infrastructure (12230):

District-level hospitals, clinics and dispensaries, and related medical equipment, excluding specialised hospitals and clinics (12191).

Basic nutrition (12240):

Direct feeding programmes (maternal feeding, breastfeeding, and weaning foods, child feeding, school feeding); determination of micro-nutrient deficiencies; provision of vitamin A, iodine, iron etc.; monitoring of nutritional status; nutrition and food hygiene education; household food security.

Infectious disease control (12250):

Immunisation; prevention and control of malaria, tuberculosis, diarrheal diseases, vector-borne diseases (e.g. river blindness and guinea worm), etc.

Health education (12261):

Information, education, and training of the population for improving health knowledge and practices; public health and awareness campaigns.

Health personnel development (12281):

Training of health staff for basic health care services.

## **Appendix 6A2: Creditor Reporting System (CRS) details on Education Aid Components (Source: CRS, OECD 2010b)**

### **EDUCATION (110)**

#### **Education, Level Unspecified (111)**

##### Education Policy and administrative management (11110):

Education sector policy, planning and programmes; aid to education ministries, administration and management systems; institution capacity building and advice; school management and governance; curriculum and materials development; unspecified education activities

##### Education facilities and training (11120):

Educational buildings, equipment, materials; subsidiary services to education (boarding facilities, staff housing); language training; colloquia, seminars, lectures, etc.

##### Teacher Training (11130):

Teacher education (where the level of education is unspecified); in-service and pre-service training; materials development.

##### Education Research (11182):

Research and studies on education effectiveness, relevance and quality; systematic evaluation and monitoring

#### **Basic Education (112)**

##### Primary Education (11220):



Formal and non-formal primary education for children; all elementary and first cycle systematic instruction; provision of learning materials

Basic life skills for youth and adults (11230):

Formal and non-formal education basic life skills for young people and adults (adults' education); literacy and numeracy training

Early childhood education (11240):

Formal and non-formal pre-school education

**Secondary Education (113)**

Secondary Education (11320):

Second cycle systematic instruction at both junior and senior levels

Vocational Education (11330):

Elementary vocational training and secondary level technical education; on-the-job training; apprenticeships; including informal vocational training

**Post-secondary Education (114)**

Higher Education (11420):

Degree and diploma programmes at universities, colleges and polytechnics; scholarships

Advanced technical and managerial training (11430):

Professional-level vocational training programmes and in-service training

## Appendix 6B: Countries in Analysis

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Algeria	Honduras	Philippines
Angola	India	Samoa
Argentina	Jamaica	Senegal
Bolivia	Lao PDR	South Africa
Botswana	Lesotho	Sri Lanka
Brazil	Libya	Tajikistan
Cambodia	Macedonia, FYR	Tanzania
Central African Republic	Malawi	Trinidad and Tobago
Chile	Mexico	Tunisia
Costa Rica	Moldova	Turkey
Cote d'Ivoire	Mozambique	Turkmenistan
Croatia	Namibia	Uruguay
Dominican Republic	Nigeria	Uzbekistan
El Salvador	Papua New Guinea	Zambia
Ghana	Paraguay	
Guatemala	Peru	

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## Appendix 6C: Variable Codebook

Variable	Description	Source
<b>Health Aid/GDP</b>	Health Aid as a percentage of GDP	OECD (2010b) and World Bank (2010a)
<b>Education Aid/GDP</b>	Education Aid as a percentage of GDP	OECD (2010b) and World Bank (2010a)
<b>Constraints</b>	Number of political constraints, range from 0-1	Henisz (2002)
<b>Health Aid*Constraints</b>	Interaction term of health aid and constraints	
<b>Education Aid*Constraints</b>	Interaction term of education aid and constraints	
<b>GDP</b>	GDP in current USD millions	World Bank (2010a)
<b>Population 65 years plus</b>	Percentage of the population aged 65 years or more	World Bank (2010a)
<b>Population 14 years and under</b>	Percentage of the population aged 14 years or under	World Bank (2010a)
<b>Left-wing Government</b>	Presence of a left-wing government	Beck, et al. (2001)
<b>Literacy Rate</b>	Percentage of the population literate	World Bank (2010a)
<b>Polity</b>	Measurement of level of democracy	Polity IV

## *Chapter 7*

# **Making Aid Effective: Generating Political Accountability through Fiscal Decentralisation**

In recent decades, there has been a global trend toward decentralisation. This is particularly pertinent in relation to the developing world, especially since the 1990s (Smoke, 2001; Hankla, 2008). Bardhan notes that "...decentralization has been at the centre stage of policy experiments in the last two decades in a large number of developing and transition economies in Latin America, Africa and Asia" thereby "...introducing more intergovernmental competition and checks and balances" (2002, 185).

In particular, *fiscal* decentralisation has been popular, that is, the decentralisation of expenditure and revenue responsibilities to lower levels of government. Oates comments that fiscal decentralisation is "in vogue" (1999, 1120) and its popularity extends to developing countries: "In the developing world, we likewise see

widespread interest in fiscal decentralization with the objective of breaking the grip of central planning that, in the view of many, has failed to bring these nations onto a path of self-sustaining growth” (1999, 1120). Bahl and Linn also note the “rash of government commissions and policy changes in the area of allocating fiscal responsibilities to local governments, the actual restructuring of intergovernmental grant systems, and the special fiscal powers and responsibilities that have been given to large cities” (1994, 2).

The World Bank report in 2000 investigated the spread of decentralisation in developing countries noting that, in the 1990s, both fiscal decentralisation and the reform of local government were among the most prevalent trends in development (World Bank, 2000). Further, international development agencies, especially the World Bank, and bilateral donors have increasingly encouraged a more significant fiscal role for local government in developing countries (Bahl and Linn, 1994; Smoke, 2001; Bardhan, 2002).

Despite the strong support for fiscal decentralisation in the developing world and among international donors, the debate on the perceived impact of fiscal decentralisation in developing countries is not agreed upon or, frequently, positive. The decentralisation literature highlights many benefits that are expected to come from decentralisation and fiscal decentralisation in particular (Tiebout, 1956; Oates, 1972; Brennan and Buchanan, 1980). These supposed benefits helped drive the move toward fiscal decentralisation in developing countries, but there are doubts as to whether the benefits experienced by industrialised countries have transferred to developing countries or are likely to do so (Bahl and Linn, 1994; de Mello and Barenstein, 2001; Bardhan, 2002). Evidence of this difficult transfer seems apparent,

since despite costly and extensive efforts many attempts at reform have only modestly progressed toward the end goal of fiscal decentralisation (Smoke, 2001; 1).

The impact of this rapid spread of fiscal decentralisation in developing countries has been examined in relation to its effect on economic growth (Davoodi and Zou, 1998; Thornton, 2007), regional inequality (Rodriguez-Pose and Ezcurra, 2009), and corruption (Fisman and Gatti, 2002; Arikan, 2004). To date, there has been no quantitative analysis of the effect of any form of decentralisation on the use and effectiveness of aid. It remains unknown whether the introduction of decentralised structures in developing countries should help or hinder the ultimate effectiveness of aid.

This chapter investigates the following research question: what is the impact of fiscal decentralisation on the effectiveness of aid? It has been claimed that fiscal decentralisation increases political accountability, which would support the effectiveness of aid, but this chapter contends that the *design* of fiscal decentralisation matters. The chapter considers the conditions under which fiscal decentralisation is likely to have the most positive impact on the effectiveness of aid since these conditions should create an environment where local political accountability is maximised. The first of these conditions is that local governments should have some level of genuine fiscal autonomy, i.e. local tax revenue. The second condition is that fiscal decentralisation should be conducted in conjunction with political decentralisation, that is, the election of local government rather than the appointment of local officials. If these two conditions are met, then fiscal decentralisation should generate high levels of political accountability at the local level, which should lead to governance that is more effective and increase the

likelihood that aid will be used effectively. These conditions for effective fiscal decentralisation are expanded upon in the literature review and theory section below.

In this chapter, fiscal decentralisation is measured as sub-national taxation as a percentage of total sub-national revenue. This takes into account the level of fiscal autonomy of local governments. By collecting taxes from local citizens, the local government generates a higher level of political accountability. This is by no means a complete measure of fiscal autonomy but represents an improvement on previous measures. The standard measure used in fiscal decentralisation studies is sub-national government expenditure as a percentage of total government expenditure. This measure is flawed since it does not consider the level of fiscal autonomy a local government has and, therefore, is an extremely crude measure of fiscal decentralisation.

Effective aid is identified through two dependent variables in this chapter: sub-national education expenditure and sub-national health expenditure. These are good examples of public goods that effective local governments would invest in and that the public generally support investment in. In addition, these forms of expenditure are negatively affected by corruption and 'local capture', and so they should especially benefit from increased political accountability. Most quantitative studies examining the impact of decentralisation have used national indicators such as economic growth and corruption. This chapter focuses on outcomes that are much more closely related to the actions of local government, i.e. their expenditure behaviour. Most of the previous studies that examine the effect of fiscal decentralisation on public goods output are qualitative single-case studies. The results of these studies are generally positive. In the city of Porto Alegre in Brazil, Santos (1998) found that participatory budgeting in the municipal government, when

local citizens and business interests are invited to discuss investment and expenditure, was linked to nearly a doubling of enrolment in primary and secondary schools between 1989 and 1996. In Bolivia, Faguet (2001) found that increased decentralisation lead to a rise of public investment in education in three-quarters of the municipalities. Further, the increased investment in education was larger in municipalities with lower literacy rates and fewer public schools.

The findings of this chapter lend some support to these results. Local education expenditure is positively affected by aid when local governments have fiscal autonomy and they are directly elected. Aid also has a positive relationship with local health spending when local governments have fiscal autonomy, but direct elections have no significant impact on health spending. The following section outlines a detailed definition of fiscal decentralisation and the extent of the variation in decentralisation across countries is described. This is followed by an outline of the relevant literature that is then used to develop a set of hypotheses. Then the methodology and data used in this chapter will be outlined. The results and a discussion section follow and the final section will conclude.

### **Definition: Fiscal Decentralisation**

Decentralisation as a broad concept can be defined as the “transfer of authority and responsibility for public functions from a central government to subordinate governments” (von Braun and Grote, 2000; 3). However, as Bahl and Linn note decentralisation “takes different forms in different countries, depending on the objectives driving the change in governance” (1994, 1). These objectives may



include improved public service provision, increased political accountability, or increased fiscal responsibility at lower levels of government.

The focus of this chapter is fiscal decentralisation: the “devolution of authority over public revenue and expenditure to lower-level government<sup>42</sup>” (Enikolopov and Zhuravskaya, 2007; 2262). The concept is also frequently referred to as ‘fiscal federalism’ (Oates, 1972) and both these terms are used across the literature interchangeably. The term used in this chapter is *fiscal decentralisation* to avoid any confusion over the inclusion of non-federal states that are fiscally decentralised.

The sample of countries in this analysis includes both federal states and non-federal states, with varying degrees of decentralised structures. A federal state is a form of government structure that is decentralised, but in federal states there is a formal constitutionally bound division between the central and local governments<sup>43</sup>. It is expected that within a federal system there is some level of fiscal decentralisation although not necessarily a higher level than in a non-federal state. Nine countries in the dataset are formally federal states – Argentina, Brazil, Ethiopia, India, Malaysia, Mexico, Papua New Guinea, Pakistan, and Venezuela.

Other than fiscal decentralisation, there are two main alternative forms of decentralisation: political and administrative. Political decentralisation is another aspect of decentralisation examined in this chapter. It can be defined as giving “local citizens and their representatives more power in any type of decision making, including setting standards and legal frameworks” (von Braun and Grote, 2000; 3).

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<sup>42</sup>Definitions of fiscal decentralisation do not vary greatly. For example a similar definition from de Mello and Barenstein is “the assignment of expenditure functions and revenue sources to sub-national levels of government” (2001, 3).

<sup>43</sup>Taking Riker’s (1964) definition of a federal state, a state is classified as federal if it possess the following three characteristics; 1) there are (at least) two levels of government which rule the same land and people, 2) each level has at least one area of action in which it is autonomous, and 3) there is some guarantee of the autonomy of each government in its own sphere.

Political decentralisation also involves elections taking place at the local level to select local government officials rather than being appointed by the central government, referred to as 'administrative subordination'. Administrative decentralisation "redistributes authority, responsibility and resources among different levels of government. Suitable capacities and institutional strength are a precondition for the effectiveness of this" (ibid). It does not generally involve the distribution of political decision-making power or fiscal power.

There are several ways that fiscal decentralisation can be operationalised. A very crude and basic measure is to identify a country as federal or unitary. However, this makes the incorrect assumption that federal states automatically have higher levels of fiscal decentralisation. The most frequently used measure of fiscal decentralisation is *sub-national expenditure as a percentage of total government expenditure*. The higher the percentage is the higher the level of fiscal decentralisation. A less utilised measure that is used in this chapter is *sub-national taxation as a percentage of total sub-national revenues and grants*. This measure is the share of total local government revenue that is made up of local and provincial tax revenues. Again, the higher the percentage, the higher is the level of decentralisation. This measure also considers some level of fiscal autonomy, which the previous two measures do not<sup>44</sup>.

In the dataset, there is extensive variation between countries in terms of their levels of fiscal decentralisation. There are 55 developing countries in the dataset. Nine countries are federal states and the remaining countries are decentralised to (widely)

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<sup>44</sup>There are two other measures also mentioned in the literature. Sub-national revenue as a percentage of total government revenue is highly correlated with sub-national expenditure as a percentage of total government expenditure. In this dataset, the correlation is 0.96. Another possible measure is vertical imbalance. This is the degree to which the sub-national government relies on the central government to provide revenue in order to support sub-national expenditure. The higher this measure is, the more dependent local government is on central government, and hence the less financially independent local government is. This implies a weaker form of fiscal decentralisation.

varying degrees but are all constitutionally unitary states. Table 7.1 shows the average fiscal data for the level of sub-national expenditure and taxation for each country in the dataset over the time period 1972 to 2000. Federal states are in italics. It is clear from a brief view of the federal states is that there is extensive variation between them.

**Table 7.1: Average fiscal data by country, 1972-2000 (Source: World Bank, 2010b)**

<b>Country</b>	<b>Sub-national Expenditure as % of Total Government Expenditure</b>	<b>Sub-national Taxation as % of Total Sub-national Revenue &amp; Grants</b>
<i>Argentina</i>	38.0	77.7
<b>Bahrain</b>	3.2	
<b>Bangladesh</b>	3.8	
<b>Benin</b>	4.1	
<b>Bolivia</b>	21.7	48.3
<b>Botswana</b>	5.3	5.4
<i>Brazil</i>	34.2	54.2
<b>Burkina Faso</b>	3.5	
<b>Cameroon</b>	5.7	
<b>Chile</b>	6.6	49.9
<b>Colombia</b>	28.1	39.7
<b>Congo, Dem. Rep.</b>	1.5	
<b>Congo, Rep.</b>		69.6
<b>Costa Rica</b>	3.8	55.1
<b>Cyprus</b>	2.1	48.9

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<b>Dominican Republic</b>	3.4	19.5
<b>Ecuador</b>	18.9	63.3
<b>El Salvador</b>	5.8	
<i>Ethiopia</i>	2.3	66.5
<b>Gambia, The</b>	4.2	65.2
<b>Guatemala</b>	4.6	55.3
<b>Honduras</b>	6.8	47.2
<i>India</i>	45.5	46.2
<b>Indonesia</b>	11.9	16.0
<b>Iran, Islamic Rep.</b>	3.0	62.8
<b>Jordan</b>	5.9	53.7
<b>Kenya</b>	6.4	39.4
<b>Korea, Rep.</b>	31.3	20.5
<b>Madagascar</b>	5.4	54.0
<b>Malawi</b>	7.1	45.9
<i>Malaysia</i>	19.1	14.4
<b>Mauritius</b>	4.4	21.9
<i>Mexico</i>	21.1	71.2
<b>Mongolia</b>	35.1	49.5
<b>Morocco</b>	5.8	43.4
<b>Nicaragua</b>	6.5	69.9
<i>Pakistan</i>	29.2	62.2
<b>Panama</b>	2.4	73.9
<i>Papua New Guinea</i>	9.3	14.4
<b>Paraguay</b>	4.2	48.7
<b>Peru</b>	30.5	38.9
<b>Philippines</b>	10.1	35.1
<b>Senegal</b>	45.8	94.1

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<b>Sri Lanka</b>	3.2	29.3
<b>Sudan</b>		20.0
<b>Swaziland</b>	1.7	69.0
<b>Thailand</b>	10.5	44.9
<b>Trinidad and Tobago</b>	4.8	5.0
<b>Tunisia</b>	5.4	40.3
<b>Turkey</b>	50.7	
<b>Uganda</b>	8.2	48.6
<b>Uruguay</b>	9.3	
<i>Venezuela</i>	3.1	11.6
<b>Zambia</b>	5.1	52.7
<b>Zimbabwe</b>	20.7	14.4

Sub-national expenditure as a percentage of total government expenditure ranges from 1.5% (Democratic Republic of Congo) to 50.7% (Turkey). This demonstrates the large variation among developing countries but also the complete lack of decentralisation in certain countries. The variation of sub-national taxation as a percentage of total sub-national revenues and grants is even more notable, ranging from 5% (Trinidad and Tobago) to 97% (Senegal).

Table 7.2 displays the variation between federal and unitary states in terms of their average level of fiscal decentralisation. Local governments in federal states have, on average, much higher levels of expenditure as a percentage of total government expenditure. They also obtain more of their revenue from local taxes. However, it was noted in table 7.1 that there is also much variation among those nine federal states.

**Table 7.2: Variation in Fiscal Decentralisation between Unitary and Federal states (Source: World Bank, 2010b)**

	<b>Sub-national Expenditure<sup>a</sup> (%)</b>	<b>Sub-national Taxation<sup>b</sup> (%)</b>
<b>Unitary States</b>	9.8	44
<b>Federal States</b>	25.2	53.8

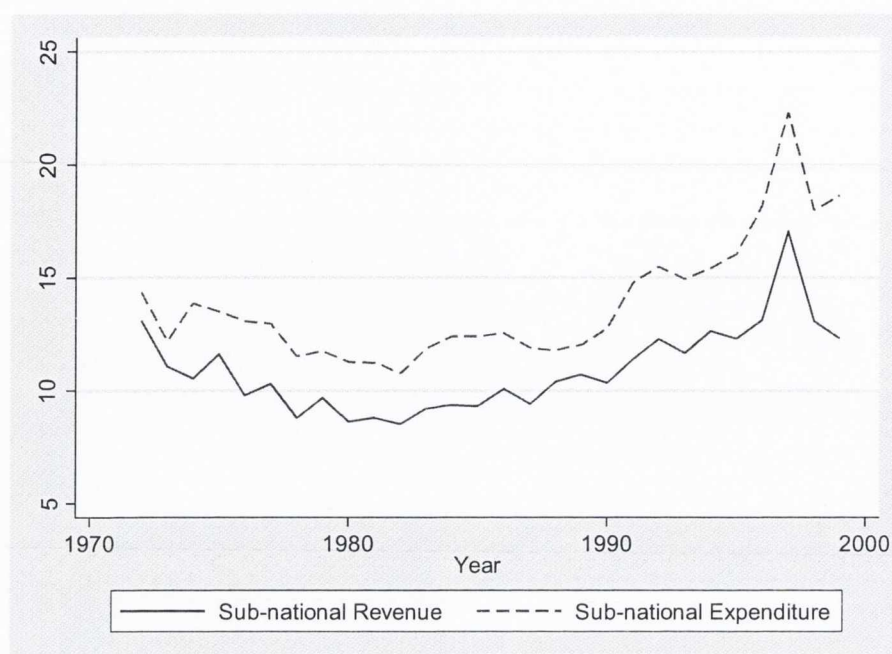
Notes:

<sup>a</sup>: as a percentage of total government expenditure

<sup>b</sup>: as a percentage of total sub-national revenue and grants

The growing trend over time in fiscal decentralisation is demonstrated in figure 7.1. It shows that fiscal decentralisation has generally risen steadily since the 1970s with a particularly fast growth period in the 1990s. This fast growth period is probably representative of the strong support for decentralisation from international organisations and aid donors already mentioned in the introduction of this chapter. However, it does not seem as though the focus on decentralisation has remained as strong given the drop in the late 1990s and 2000s. Figure 7.1 also indicates that sub-national expenditure is consistently greater than the local revenue received by local governments implying that many decentralised governments are not fiscally responsible and consistently spend more than they take in.

**Figure 7.1: Average Sub-national Expenditure and Sub-national Revenue 1972 to 2000**



Source: World Bank 2010b

Figure 7.2 displays sub-national taxation as a percentage of total sub-national revenues over time. Sub-national taxation composes approximately half of overall sub-national revenue indicating that in developing countries the norm is for sub-national governments to receive financial support from central government in the form of intergovernmental transfers and grants. The level of sub-national taxation remained quite steady over time until a sharp drop in the late 1980s. It increased again in the 1990s but it has not returned to the high levels of pre-1990. This demonstrates that a rise in fiscal decentralisation was not necessarily matched with a rise in fiscal autonomy since, as shown in figure 7.1, the level of sub-national revenue increased in this time period. However, as noted in table 7.1 above there is wide variation between countries in terms of the level of sub-national taxation.

**Figure 7.2: Average Sub-national Taxation 1972 to 2000**



Source: World Bank 2010b

Table 7.3 shows the differences between regions in terms of their level of fiscal decentralisation but also in terms of their variation on the dependent variables, sub-national education, and health expenditure, and the level of aid they receive. Sub-Saharan Africa and the Middle East and North Africa are, on average, less fiscally decentralised. South Asia is the region with the highest level of fiscal decentralisation, but it also contains two large federal states – India and Pakistan. Sub-Saharan Africa has the highest levels of aid as a percentage of GDP, almost 4% higher than the nearest region, the Middle East and North Africa. Sub-national education expenditure is lowest in Sub-Saharan Africa, but data are missing for the Middle East and North Africa and Europe regions. Sub-national health expenditure is lower than sub-national education expenditure suggesting that central governments may generally retain more control over health expenditure or that local government control only some health needs.



**Table 7.3: Fiscal Decentralisation and Dependent Variable Data by Region, 1972-2005 (Source: World Bank, 2010b)**

	<i>Sub-national Expenditure</i>	<i>Sub-national Taxation</i>	<i>Sub-national Education</i>	<i>Sub-national Health</i>	<i>Aid/GDP</i>
<b>Sub-Saharan Africa</b>	<b>8.5</b>	47.1	<b>9.3</b>	9.6	<b>8.7</b>
<b>Latin America &amp; Caribbean</b>	14.2	51.0	21.4	9.1	2.3
<b>Middle East &amp; North Africa</b>	<b>3.7</b>	54.8			4.9
<b>East Asia and Pacific</b>	15.8	29.8	26.0	7.5	3.6
<b>South Asia</b>	<b>27.1</b>	42.3	23.1	<b>5.5</b>	3.9
<b>Europe</b>	16.0	48.9			1.0

The following section outlines the relationship between fiscal and political decentralisation and political accountability and helps to generate hypotheses for the expected impact of fiscal decentralisation on aid.

### **Fiscal and Political Decentralisation and the Creation of Political Accountability**

Decentralisation has been proposed by some to be the panacea to many ills, but for others, it is a further curse for developing countries. There are several claims, both positive and negative, relating to the effects of decentralisation. On the positive side, it is claimed that decentralisation promotes transparency and accountability (Huther and Shah, 1998; Manor, 1999; Gurgur and Shah, 2002; Crook, 2003) and creates intergovernmental competition, which produces an incentive to provide high quality

government services (Weingast, 1995; Breton, 1996). However, there are have been several criticisms directed at decentralisation, including the accusation that it exacerbates corruption (or at least does not reduce it) (Treisman, 2000, 2007; Tanzi, 2002). It has been argued that this is because of greater intimacy and frequency of interactions between elected individuals and citizens (Prud'homme, 1995; Tanzi, 1995). Further, it has been claimed that in a fragmented system it is more difficult to supervise political actors and a corrupt individual needs only to bribe a small segment of the government (Wolfinger, 1974).

Aside from corruption, concerns stem from placing too much responsibility on administrations that cannot cope as they lack resources, such as trained civil servants (Manor, 1999; Shah, 2003). In addition, decentralised governments might not attract high quality politicians since the rewards are more significant at national level and the office holds more prestige and power (Tanzi, 1996; Brueckner, 1999; Persson and Tabellini, 2000). The power of regional elites who hijack regional/local governments to boost their own position may also be strengthened (Bardhan and Mookherjee, 2001; Smoke, 2006). Gerring and Thacker claim that decentralised systems necessitate the use of side payments and exchanges to solve co-ordination problems (2008, 82). These are not done in the best interest of the overall public welfare. Side payments increase costs and exchanges may lead to poor policies being implemented as little regard is given to the bill being passed only what X can get from Y for supporting Y's bill.

This chapter focuses on the relationship between fiscal decentralisation and political accountability, and on how fiscal decentralisation is expected to increase political accountability. Hankla notes "most of the benefits that accrue from decentralization are related in some way to the improved accountability and transparency of regional

government” (2008, 641). It is claimed that the type of decentralisation will considerably influence the extent of political accountability and hence the opportunities for rent-seeking behaviour. Fisman and Gatti (2002) find that fiscal decentralisation in government expenditure is consistently associated with lower measures of corruption across countries. Lederman, et al. (2005) found that where expenditure is more decentralised to smaller units there might be less corruption thanks to more transparency regarding finance.

It is pertinent for levels of political accountability whether revenue generation and expenditure, or just expenditure, is decentralised (Careaga and Weingast, 2000; Rodden, 2000; Fisman and Gatti, 2002). Allocating responsibility for revenue collection to local governments is not only associated with lower corruption but also, tying local expenditure to local revenue generation can prevent local politicians ignoring the financial consequences of mismanagement (Fisman and Gatti, 2002; 329). Rodden argues that a stronger tax-benefit link, clearer information, stronger incentives for monitoring, and benchmark competition will not arise if taxation remains centralised (2003, 702). De Mello and Barenstein (2001) find that a weak positive correlation between sub-national tax revenues and governance but a strong relationship between sub-national non-tax revenues, such as user charges for local government services, and government.

Taxation has historically been correlated with the emergence of representation and higher levels of political accountability: “representative government first came about in early modern Europe when monarchs in England, France, Spain and Austro-Hungary were compelled to relinquish some of their authority to parliamentary institutions, in exchange for the ability to raise taxes” (Ross, 2004; 229). Douglass North claims that a ruler can bring about social order and enforce property rights in

exchange for tax revenue. This leads to the emergence of “a representative body reflecting the interests of constituent groups and their role in bargaining with the ruler. This concept, consistent with the origin of parliaments, estate generals, and *cortes* in early modern Europe, reflects the need of the ruler to get more revenue in exchange for which he or she agrees to provide certain services to constituent groups” (1990, 49).

Huntington argued that the “lower the level of taxation, the less reason for the public to demand representation” (1991, 65). It corresponds that when governments have a low need for taxes they are less inclined to provide political representation. Anderson claims that freedom from taxing citizens can “release the state from the accountability ordinarily extracted by domestic appropriation of surplus...the state may be virtually completely autonomous from its society, winning popular acquiescence through distribution rather than support through taxation and representation” (1987, 10). This argument has been applied to the Middle East where the ability of the political elite to finance themselves with non-tax revenue, mainly through oil resources, allows them to not provide representation and, therefore, ensures low levels of political accountability (Anderson, 1987; Crystal, 1990). A similar argument has been applied to several resource rich countries in Sub-Saharan Africa (Yates, 1996; Clark, 1997, 1998).

Political decentralisation in the form of direct elections for local government also has a role to play in generating political accountability. Many scholars advocate the use of direct elections for local government (Bird and Vaillancourt, 1998; Manor, 1999). Hankla claims, “Without the incentives for responsiveness that come with election...sub-national leaders are less likely to provide citizens with the quality and level of government that they desire” (2008, 641). However, there is the risk of

“local capture”: when the influence of special interests on public policy is higher at the local compared to the central level (Enikolopov and Zhuravskaya, 2007; 2262) (See also Blanchard and Shleifer, 2001; Bardhan, 2002; Sonin, 2003). This indicates that ‘administration subordination’ may be a better option, i.e. the appointment rather than election of local politicians. In fact, Hankla asserts that “...the extent of capture of local governments relative to that of the central government is a critical determinant of the welfare impact of decentralization” (2008, 194).

Riker (1964) contends that appointing local officials does not improve decentralisation outcomes because they are not accountable. Administrative subordination weakens local accountability because by focusing on pleasing their bosses, appointed officials may stop caring for the preferences of the local population even though they know them better than central politicians do (ibid). However, Enikolopov and Zhuravskaya (2007) find that administrative subordination does not significantly affect the outcomes of fiscal decentralisation. In young democracies, like most democratic developing countries, elections are often not efficient so do not produce ‘accountable’ politicians (Bardhan, 2002). Blanchard and Shleifer (2001) argue that appointing local politicians is a feasible and effective second-best solution to problems of regionalist policies and local capture. As a result, developing countries are less likely to achieve increased levels of political accountability. Weak institutions of local democracy and political accountability increase the probability of ‘capture’ of local governments. Hankla states, “Political accountability in poor countries is particularly affected by the likelihood of corruption or capture by interest groups. While local government may have better local information and accountability pressure, they may be more vulnerable to

capture by local elites, who will then receive a disproportionate share of spending on public goods” (2002, 192).

Even apart from direct elections, the impact of decentralisation is likely to differ in the alternative environment of developing countries. Much of the literature relating to the effects of decentralisation focuses on developed countries. The assumptions of Tiebout’s model (1956), that decentralisation allows for more effective provision of public goods, are not suitable for developing countries as the population lacks mobility and so cannot move to a jurisdiction which provides preferable public goods. Further, information, accounting, and monitoring systems are weak, so funds do not necessarily reach the intended beneficiaries. In addition, developing countries have more administrative problems. Tax collection is generally not a focus of developing countries and most local governments are provided with centrally collected revenue (Bardhan, 2002; 189). There is also a lack of technical and administrative capabilities and often the quality of staff in bureaucracies is low (ibid).

The above literature demonstrates the wide array of viewpoints on decentralisation. Clearly, there are many possible positive and negative effects. Therefore, it is crucial to identify the conditions under which decentralisation is most likely to lead to an effective outcome. The focus of this chapter is on the conditions that are likely to increase political accountability. Higher levels of local political accountability create an environment at the local level in which aid is more likely to be used effectively and to have beneficial outcomes. The next section outlines the framework through which this outcome is expected to occur.

## **Aid and Fiscal Decentralisation: Hypotheses**

It is assumed that political leaders receive aid and they determine its allocation. A percentage of aid is allocated to local governments. The decentralised structures in place will affect the use of aid, that is, impact upon its ability to increase sub-national education and health expenditure. This will occur because a well-designed fiscally decentralised structure should improve political accountability thereby ensuring governance that is more effective and the more effective use of aid.

The first hypothesis predicts that aid's impact on sub-national education and health expenditure is greater when sub-national taxation is higher. It has already been claimed that decentralisation is more effective when both revenue generation and expenditure is decentralised, not just expenditure. Taxation is traditionally associated with improved representation and political accountability. If this were true, then it would be expected that local governments with taxing powers would provide governance that is more effective. Therefore, the tax-raising abilities of local government are expected to impact upon the use of aid. When local governments rely more on local taxes for revenue sources they are more likely to exercise fiscal restraint and better fiscal management and, therefore, overall higher levels of good governance. Collecting local taxes from local citizens also increases levels of political accountability to those citizens and will increase the desire of local citizens to monitor the workings of the local government. This diminishes the opportunities for rent-seeking behaviour and reinforces the need for good governance. These combined effects resulting from a high level of dependency on local taxes should increase the likelihood that aid will be effective, i.e. have a positive impact on sub-

national education and health expenditure. Therefore, hypothesis 1 predicts that a higher level of sub-national taxation leads to the more effective use of aid.

*Hypothesis 1: Where sub-national taxation is a higher proportion of total government revenues, aid has a greater positive impact on sub-national education expenditure and sub-national health expenditure.*

The second condition for effective fiscal decentralisation was corresponding political decentralisation, operationalised as the direct election of local officials. Direct elections are seen to increase the responsiveness of local officials to the needs of their electorate. It also holds local officials accountable to local citizens since they can be voted out of office. Therefore, it would be expected that local elections encourage good governance and the effective use of aid. Hypothesis 2a predicts that a local government that is directly elected should have higher levels of political accountability. If these local officials also collect local taxes, they are more directly linked to the local citizens and held to a higher level of accountability since local residents not only participate in the local elections, but they also demand accountability via the payment of local taxes. In such an environment, it is expected that aid will be used more effectively.

*Hypothesis 2a: Where sub-national taxation is a higher proportion of total government revenues and there are local elections, aid has a greater positive impact on sub-national education expenditure and sub-national health expenditure.*

Hypothesis 2b, considers an environment where there are no direct elections. This examines whether sub-national taxation is sufficient for effective local government alone when there are no local elections. In this context, local taxation may not



produce sufficient accountability levels, and so sub-national education and health expenditure are not positively impacted by aid.

*Hypothesis 2b: Where sub-national taxation is a higher proportion of total government revenues and there are no direct elections, aid does not have a positive impact on sub-national education expenditure and sub-national health expenditure.*

The next section outlines the methodology and the data used.

## **Methodology and Data**

There are 55 countries in the dataset covering the years 1973 to 2000. A full list of countries is provided in Appendix 7A. These years are collapsed into seven four-year time periods. The countries selected are those who received ODA in the specified time-period and for which there are data available. The data for fiscal decentralisation are from the World Bank's Fiscal Decentralization Indicators (2010b). Unfortunately, this means the countries in this chapter are restricted to those covered by the Fiscal Decentralization Indicators.

All variables used in the analysis are outlined below. A codebook of all variables is provided in Appendix 7B. The aid variable is measured as total net ODA as a percentage of GDP. Once again, Aid/GDP is lagged by one year. As in chapters five and six, statistical tests showed that aid was not endogenous to government expenditure, but aid is lagged by one year to allow for delays in the dissemination of aid. Fiscal decentralisation is measured as *sub-national taxation revenue as a percentage of total sub-national revenues*. A measure of total sub-national revenue as a percentage of total government revenue is included in the analysis to control for

total revenue levels. Data for both variables are taken from the World Bank Fiscal Decentralization Indicators (2010b).

There are two dependent variables: sub-national education expenditure as a percentage of total sub-national expenditures and sub-national health expenditure as a percentage of total sub-national expenditures. These are public goods typically supplied by local governments. The greater the level of fiscal decentralisation the greater the local government's impact on education and health expenditure will be. The mean value of sub-national education expenditure is 17.7%. The data range from 0.02 to 54.5%. The mean value for sub-national health expenditure is 8.5%. The data range from 0.03 to 29.4%. Data are from the World Bank Fiscal Decentralization Indicators (World Bank, 2010b).

Political decentralisation is operationalised as the presence of local elections. Data are taken from the World Bank's database of political institutions (DPI). There are two variables in the DPI – one for local elections at the state level and one for local elections at the municipal level. Unfortunately, there are a lot missing data for both of these variables, so they are combined to create one binary variable in this analysis representing the presence of local elections (1) or not (0). Appendix 7C is a list of all countries that have had local elections for a sustained period between 1975 and 2000 and those that have had no or infrequent local elections. Countries for which there are no local election data are also listed.

The models examining the impact of direct elections/no-direct elections include a control variable for the level of corruption. This controls for the risk of the local capture of local government officials. It is expected that the presence of corruption will diminish the positive effect of direct elections. Data are the Corruption

Perception Index (CPI) from Transparency International. Data are available from 1980. The data ranges from zero to 10 with 10 representing the lowest level of corruption. Missing data are supplemented by data from the corruption index from the International Country Risk Guide (Easterly and Levine, 1997; Easterly, 1999). The data range from zero to six with zero representing the highest level of corruption and six, representing the lowest. Since the corruption data are from measures with different scales, the data are normalised so that the range is zero to one, with one representing the lowest level of corruption<sup>45</sup>.

The remaining control variables were previously outlined in chapters five and six. They are GDP, the percentage of the population under 14 years, and the percentage of the population over 65 when local health expenditure is the dependent variable, and the literacy rate. A measure for the presence of left-wing governments is not included since there are no data for the ideological position of local governments, only national governments. A measure of whether a country is democratic is included since democracies are expected to spend more on public goods. This is the Polity measure from the Polity IV dataset, ranging from +10 (democratic) to -10 (autocratic).

Three regional control variables are included in the analysis below. South Asia has higher than average sub-national expenditure and below the average sub-national health expenditure. The East Asia and the Pacific region has lower than average sub-national taxation and Sub-Saharan Africa has lower than average sub-national education expenditure.

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<sup>45</sup>Data are normalised by the formula  $d/d(\max)$  where  $d$  equals a value on the scale and  $d(\max)$  equals the maximum value of the scale.

## Results

Table 7.4 shows the results for the affect of aid on sub-national education and health expenditure at different levels of sub-national taxation<sup>46</sup>. In model 1, the dependent variable is sub-national education expenditure. The interaction term suggests that the impact of aid is positive but that the impact across values of sub-national taxation is almost constant. This is confirmed by examining the marginal effects, which show that aid has a constant effect on sub-national education expenditure at all levels of sub-national taxation and that these results are not significant at any level of sub-national taxation. The direct effect of aid on sub-national expenditure is negative. This implies that when there is no sub-national taxation, i.e. at zero, aid's impact on local education expenditure is negative. Among the control variables in model 1, the level of sub-national revenue is significant and positive as is the literacy rate variable. The dummy variable for Sub-Saharan Africa is highly significant and negative highlighting the low levels of sub-national education expenditure in that region.

Model 2 in table 7.4 shows the results for aid's impact on sub-national health expenditure at different percentages of sub-national taxation. The interaction term between aid and sub-national taxation is significant at the 1% level. However, the marginal effects graph, figure 7.3, shows that the marginal effect is barely significant when taxation is equal to 0%. When sub-national taxation is between zero and 40%, the relationship between aid and sub-national health expenditure is not significant. However, at all percentages above 40% the relationship is

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<sup>46</sup>As in the previous chapters, the models in this analysis below are analysed using Panel Corrected Standard Errors (PCSE). Once again the PCSE controls for AR(1) serial correlation and uses robust standard errors.

significant. The relationship is strongest around the 50% point where the confidence intervals are narrowest. The coefficient for the direct effect of aid is negative in table 7.4, but figure 7.3 shows that aid's impact on sub-national health is positive when sub-national taxation is above 25%. This implies that in an environment without sub-national taxation, aid has a negative relationship with local health expenditure.

Overall, the results lend support to hypothesis 1. Aid's impact on local health expenditure increases as local taxation increases. The results for model 2 also show that the Polity variable is significant and positive suggesting that democracies do spend more on health care at the local level. As in model 1, the dummy variable for Sub-Saharan Africa is significant and negative demonstrating the lower levels of sub-national health expenditure.

**Table 7.4: Impact of Aid on Sub-National Education Expenditure and Sub-National Health Expenditure at Different Levels of Sub-National Taxation**

<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>
<i>Dependent Variable</i>	<i>Sub-National Education Expenditure</i>	<i>Sub-National Health Expenditure</i>
<b>Aid/GDP</b>	-0.243 (0.502)	-0.435* (0.243)
<b>Sub-National Taxation</b>	-0.187*** (0.060)	0.018 (0.032)
<b>Aid*Sub-National Taxation</b>	0.001 (0.012)	0.017*** (0.006)

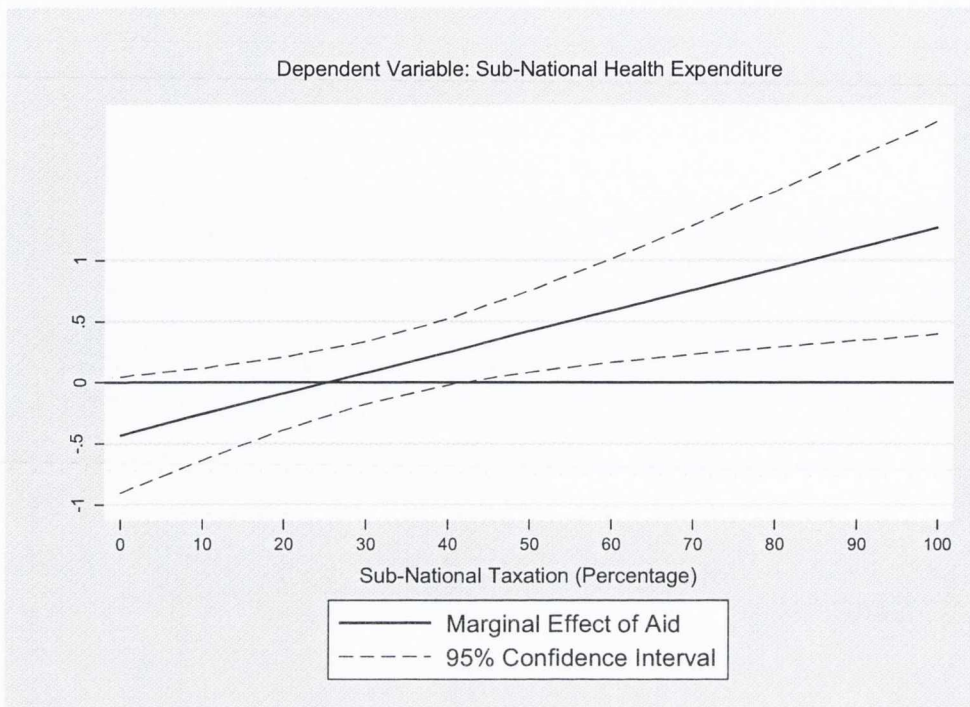
<b>Sub-National Revenue</b>	0.430***	0.128
	(0.094)	(0.089)
<b>GDP</b>	-0.001	-0.001
	(0.001)	(0.001)
<b>Population Under 14 years</b>	0.088	0.216
	(0.241)	(0.145)
<b>Population Over 65 years</b>		0.806
		(0.853)
<b>Literacy Rate</b>	0.131**	-0.043
	(0.062)	(0.103)
<b>Polity</b>	-0.184	0.318***
	(0.160)	(0.106)
<b>Sub-Saharan Africa</b>	-10.233***	
	(3.021)	
<b>South Asia</b>		-9.835**
		(4.918)
<b>Constant</b>	12.467	-1.421
	(10.169)	(12.261)
<b>N</b>	194	179
<b>R<sup>2</sup></b>	0.31	0.33

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 7.3: Marginal Effect of Aid on Sub-National Health Expenditure as the Percentage of Sub-National Taxation Changes**



Source: Brambor, et al, 2006

Table 7.5 displays the results for aid's impact on sub-national education expenditure when the cases are divided into sub-sets of whether there are direct local elections or not. In model 3, the results show aid's effect on local education spending as the level of sub-national taxation changes and when there are local elections. In model 4, the results show aid's effect when there are no direct elections. In model 1, which did not consider the impact of direct election, aid had no significant impact on education expenditure at the sub-national level at any level of sub-national taxation. In table 7.5, the results for model 3 show that the interaction term is significant at the 5% level and is positive. This indicates that when there are direct elections, aid's impact on sub-national education expenditure increases as the level of sub-national taxation increases. The marginal effect of aid is shown in figure 7.4. It shows that the

relationship between aid and local education expenditure is significant when sub-national taxation ranges from zero to 30%. Above this level, the relationship becomes stronger, but it is not significant. The graph also shows that aid's impact on education spending only becomes positive when sub-national taxation is above 55%.

When there are no direct elections, results shown in model 4, the interaction term between aid and sub-national taxation is negative and significant at the 1% level. The marginal effects graph, figure 7.5, shows that this relationship, when sub-national taxation is equal to zero, is barely significant. The relationship between aid and local education expenditure is only significant when taxation is above 60%. This suggests that when there are no direct elections and local officials are instead appointed, aid is likely to have the most substantial impact on sub-national education expenditure the lower the level of local fiscal autonomy.

In model 3, none of the control variables are significant, except sub-national revenue, which is only significant at the 10% level. In model 4, lower levels of corruption are significantly associated with higher levels of education expenditure when there are no local elections. The Sub-Saharan Africa dummy variable is negative and significant, although with an extremely large standard error. The coefficient for the dummy variable is not significant in model 3.



**Table 7.5: Impact of Aid on Sub-National Education Expenditure at Different Levels of Sub-National Taxation with and without Direct Local Elections**

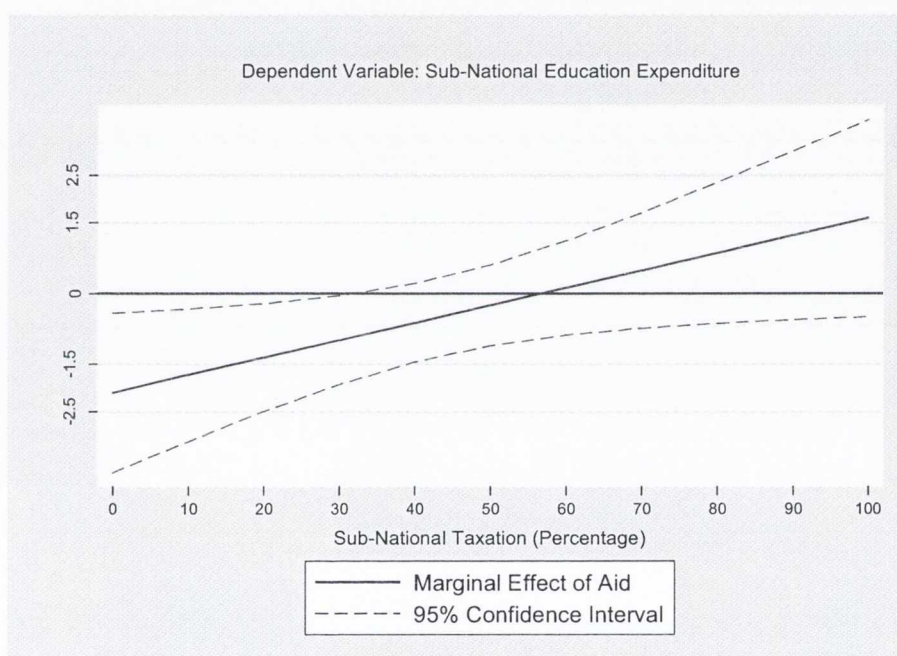
Variable	Model 3	Model 4
	<i>Elections</i>	<i>No Elections</i>
<b>Aid*GDP</b>	-2.090** (0.858)	7.730* (4.616)
<b>Sub-National Taxation</b>	-0.593*** (0.164)	-0.134 (0.148)
<b>Aid*Sub-National Taxation</b>	0.037** (0.016)	-0.293*** (0.112)
<b>Sub-National Revenue</b>	0.495* (0.258)	0.185 (0.258)
<b>GDP</b>	-0.001 (0.001)	-0.005* (0.003)
<b>Population Under 14 years</b>	-0.661 (0.975)	0.236 (0.567)
<b>Literacy Rate</b>	0.299 (0.194)	-1.366* (0.709)
<b>Polity</b>	-0.172 (0.364)	0.003 (0.229)
<b>Corruption</b>	5.747 (4.795)	8.603** (4.287)
<b>Sub-Saharan Africa</b>	-1.818 (14.354)	-46.954** (19.175)
<b>Constant</b>	32.668 (44.589)	131.355** (57.128)

<b>N</b>	62	45
<b>R<sup>2</sup></b>	0.66	0.58

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

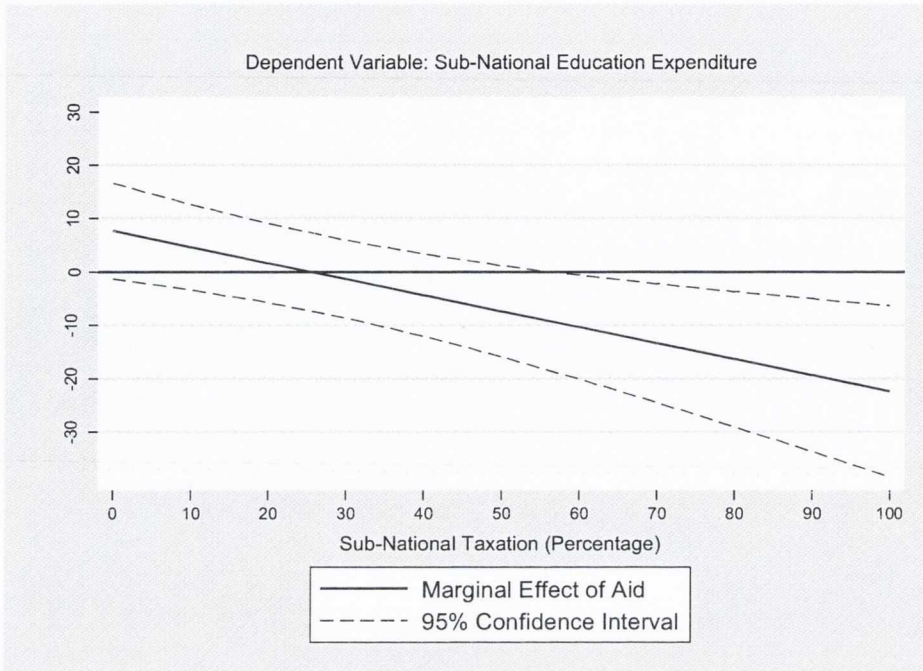
Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 7.4: The Marginal Effect of Aid on Sub-National Education Expenditure as Sub-National Taxation Changes when there are Direct Local Elections**



Source: Brambor, et al, 2006

**Figure 7.5: The Marginal Effect of Aid on Sub-National Education Expenditure as Sub-National Taxation Changes when there are no Direct Local Elections**



Source: Brambor, et al, 2006

Table 7.6 shows the same two models but with sub-national health expenditure as the dependent variable. In table 7.4 and figure 7.3 above, aid had a positive and significant impact on local health expenditure as the level of sub-national taxation increased. However, when the sub-set of election and no election cases are examined there is no significant relationship. The interaction term is not significant in either model in table 7.6. An examination of the marginal effects of these two models shows that there is no significant effect of aid on health expenditure at any level of sub-national taxation.

**Table 7.6: Impact of Aid on Sub-National Health Expenditure at Different Levels of Sub-National Taxation with and without Direct Local Elections**

Variable	Model 5	Model 6
	<i>Elections</i>	<i>No Elections</i>
<b>Aid/GDP</b>	-0.075 (0.372)	-1.273 (1.267)
<b>Sub-National Taxation</b>	-0.162** (0.069)	0.001 (0.059)
<b>Aid*Sub-National Taxation</b>	0.001 (0.008)	0.033 (0.041)
<b>Sub-National Revenue</b>	0.323*** (0.069)	0.477*** (0.158)
<b>GDP</b>	0.000 (0.000)	-0.001 (0.001)
<b>Population Under 14 years</b>	-1.479* (0.778)	-0.302* (0.169)
<b>Population Over 65 years</b>	-4.767*** (1.247)	-0.227 (0.979)
<b>Literacy Rate</b>	0.467*** (0.129)	-0.258** (0.106)
<b>Polity</b>	-0.088 (0.284)	0.190 (0.120)
<b>Corruption</b>	5.055*** (0.989)	-0.122*** (0.692)
<b>South Asia</b>	5.239 (6.184)	
<b>Constant</b>	37.310 (40.073)	38.140 (11.522)

<b>N</b>	58	45
<b>R<sup>2</sup></b>	0.85	0.72

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Among the control variables in model 5, sub-national revenue and the literacy rate are highly significant and positive. The corruption variable is also significant and positive, implying that countries with lower levels of corruption have a positive impact on sub-national health expenditure.

Surprisingly, the percentage of the population under 14 years and the percentage of the population over 65 years are both negative although, only the variable for the population over 65 years is significant at a high level. In model 6, when there are no direct elections, the corruption variable is highly significant but is now negative, suggesting that higher levels of corruption are associated with more health expenditure. This may highlight the intervention of the central government in areas with higher levels of corruption rather than allowing local government further powers. Sub-national revenue is again highly significant and positive. The percentage of the population under 14 years and the literacy rate are both significant but are also negative<sup>47</sup>.

<sup>47</sup>To investigate the possible endogeneity of some of the control variables used in the models, the models were ran again with variables removed. The removal of the variable for GDP does not affect the results across the models. In model 1 when literacy rate and polity are dropped, the interaction terms remains not significant and the R-squared is not affected. The model most affected by the removal of these two variables is model 2. In this model, the removal of polity does not affect the results, but the literacy rate variable does seem to be necessary for the significant relationship between aid and sub-national health expenditure (the relationship does remain positive). In models 3-6, the removal of polity and literacy rate does not affect the overall findings of the models. While the R-squared figure does decrease across the models, the results of the interaction terms are unchanged (although in model 4 the size of the impact of the interaction does decrease).

## Discussion

The above findings suggest that the design of decentralisation is important for the effectiveness of aid. Two aspects of decentralisation were considered in the above analysis, the level of fiscal autonomy held by local governments and the presence of direct elections of local officials. However, the impact of aid under these conditions varied with the dependent variable used. The first set of models tested hypothesis 1 and examined the impact of aid under different levels of sub-national taxation, but did not consider the effect of direct elections. Hypothesis 1 predicted that aid would be more effective as sub-national taxation increased, due to the higher levels of political accountability associated with revenue generation. There was no significant relationship found between aid and sub-national education expenditure at any level of sub-national taxation. In fact, aid's effect on sub-national education expenditure barely varied at any level of sub-national taxation. However, there is evidence to support hypothesis 1 when the dependent variable is sub-national health expenditure. The interaction term between aid and sub-national taxation is significant and positive. The marginal effects graph demonstrated that the relationship between aid and local health spending is positive and significant at higher levels of sub-national taxation. This indicates that when local governments are more dependent on local taxes they are more likely to subsequently invest this revenue in public goods such as health care. This supports the arguments found in the taxation literature that claim taxation is necessary to make political leaders responsive and accountable to citizens. Aid's impact on health expenditure is negative at low levels of taxation, with the strongest negative impact occurring when sub-national taxation is equal to zero. This suggests that when local government is not accountable to local citizens through taxation they decrease investment in popular public goods. However, the

relationship between aid and health expenditure is not significant at these low levels of sub-national taxation, as demonstrated in figure 7.3.

The second set of models testing hypothesis 2a and 2b added the condition of local elections to the previous model. Hypothesis 2a predicted that aid would be more effective when local tax collection coincided with local elections since this generated higher levels of political accountability. As with the first set of models, the results varied with the dependent variable used. The results for this model imply that when there are local elections aid had a positive impact on local education spending at high levels of sub-national taxation. However, the relationship between aid and education expenditure is only significant at the lower levels of sub-national taxation, although there is a positive trend as sub-national taxation increases. Surprisingly, aid has a negative effect on education expenditure at low levels of taxation, even when there are direct elections. This could suggest that both local elections and local elections are required to generate sufficient accountability to local citizens. It could be that, without local taxation, local government are dependent on central government funds and their expenditure is restricted. This result supports the argument that local elections ensure that local leaders are more responsive to local needs and so invest more heavily in basic public services, but this is possibly only at higher levels of taxation. It could also support the argument that local elections put pressure on local governments to meet populist demands and it does not necessarily reflect an ability to pay adequately for such services.

When there were no direct elections, i.e. local officials are appointed, aid has a negative impact on local education expenditure, and this relationship becomes stronger as the level of sub-national taxation increases. This lends some support to hypothesis 2b, that is, without local elections local leaders are less responsive to

local needs despite collecting taxes from these citizens. This indicates that when there are no local elections, education expenditure is lower the more fiscal autonomy the local government has. This finding could be viewed in two ways. The first is that local elections are needed to make local leaders genuinely accountable and responsive to local citizens and needed to use aid most effectively, taxation-raising abilities are not sufficient. The second is that free from meeting populist demands to win elections, local officials are more likely to be fiscally responsible if they rely on their own revenue generation. The greater the dependence on local taxes the more fiscally responsible they are and so less inclined to have high levels of expenditure, even in education. Alternatively, since the relationship between aid and local education expenditure is strongest when sub-national taxation is 0%, i.e. when the local government has no fiscal autonomy and are not directly elected, the result could suggest that without direct elections aid has a bigger impact on local education expenditure when the central government plays a more significant role in local government affairs. It may be that when there are no local elections it is better that central governments keeps a higher level of control over local governments, i.e. does not grant them fiscal autonomy to raise their own revenue.

When the dependent variable was local health expenditure no support was found for hypothesis 2a and 2b. As predicted by hypothesis 2a, the relationship between aid and sub-national health expenditure is positive, but it is a weak relationship and not significant at any level. When there are no elections, the relationship between aid and health expenditure is still positive but is also not significant at any level. The results seem to suggest that the presence of elections is not crucial for expenditure on local health yet local elections seem valuable for expenditure on local education. This could be a reflection of how alternative forms of decentralisation make leaders



accountable to different sectors of society, which have different demands. The wealthy in society are likely to pay more taxes and are possibly more inclined to demand investment in health care since it is cheaper for them to pay for education. The poor are more likely to demand education provision, especially investment in primary education, but since they pay low or no taxes, direct elections are the best way that they can make political leaders respond to their needs.

## **Conclusion**

This chapter has approached the study of the impact of decentralisation in several innovative ways. First, it has not used the traditional measure of fiscal decentralisation, sub-national expenditure as a percentage of total government expenditure. The reason for not using this measure is simply that it does not represent an adequate measure of fiscal decentralisation since it does not consider the level of fiscal autonomy that a local government has. It is acknowledged that the measure of sub-national taxation does not perfectly measure this either, but it does represent an improvement in how fiscal decentralisation is operationalised. The second innovation is a combined analysis of two aspects of decentralisation design. This chapter contends that the design of decentralisation should matter for the outcome of effective aid. The results in this chapter vary markedly when local taxation is considered in conjunction with direct elections.

Finally, this chapter questions the use of national measures to study the impact of decentralised structures. Obviously, it is necessary to understand the impact of decentralised structures on the overall condition of a country, such as the impact on economic growth and on corruption. However, it is questionable that it is really

possible to establish a strong relationship between these variables, given the multitude of intermediate steps that exist between the decentralised structures at the local level and the final outcome of economic growth. A second point is that analysing the impact of decentralised structures on local conditions seems to have been overlooked, at least in terms of quantitative studies. This is an oversight since the intention of fiscal decentralisation is at least not initially economic growth, but the improved provision of public goods at the local level. It, therefore, seems to be an omission not to consider the impact that fiscal decentralisation has on public goods expenditure at local levels. Several qualitative studies, some of which were outlined in the literature review section above, have found decentralisation to lead to increased public goods provision. This implies that fiscal decentralisation may encourage increased public goods expenditure from which the poor in society are likely to benefit from. This is a justification for the strong push toward fiscal decentralisation in developing countries that occurred in the 1990s.

The findings of this chapter suggest that the effectiveness of aid is impacted upon by decentralised structures. If decentralisation is structured in a way to create political accountability, i.e. through revenue generation at the local level and local elections, then aid can have a positive impact on public goods expenditure. However, different areas of expenditure seem to be affected by decentralisation in different ways. The ability of local governments to raise their own revenue through taxation has a strong and positive effect on health expenditure. However, this seems to have no impact on education expenditure. On the other hand, the presence of direct elections in conjunction with taxation-raising abilities leads to increases in education expenditure as the level of taxation increases. In countries with no direct elections, aid's impact on education expenditure is negative as the level of taxation increases.

This may be due to whom leaders are made accountable to through different forms of decentralisation. Accountability through tax-collection alone is likely to make the government accountable to those who can afford to pay tax. Their demands may be different to those in society who must use elections to make their leaders responsive. Since the spread of decentralisation has been so extensive throughout the developing world in recent decades, issues such as these require further examination since to date there has been a lack of research into decentralisation's impact on aid.

## Appendix 7A: Countries in Analysis

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Argentina	Ethiopia	Pakistan
Bahrain	Gambia	Panama
Bangladesh	Guatemala	Papua New Guinea
Benin	Honduras	Paraguay
Bolivia	India	Peru
Botswana	Indonesia	Philippines
Brazil	Iran	Senegal
Burkina Faso	Jordan	Sri Lanka
Cameroon	Kenya	Sudan
Chile	Korea, South	Swaziland
Colombia	Madagascar	Thailand
Congo, Dem. Rep.	Malawi	Trinidad-Tobago
Congo, Rep.	Malaysia	Tunisia
Costa Rica	Mauritius	Turkey
Cyprus	Mexico	Uganda
Dom. Rep.	Mongolia	Uruguay
Ecuador	Morocco	Venezuela
El Salvador	Nicaragua	Zambia
		Zimbabwe

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## Appendix 7B: Variable Codebook

<b>Variable Name</b>	<b>Variable Description</b>	<b>Source</b>
<b>Aid/GDP</b>	Aid as a percentage of current GDP, lagged by 1 year	OECD (2010a) and World Bank (2010a)
<b>Sub-national Expenditure</b>	Sub-national expenditure as a percentage of total government expenditure	World Bank (2010a)
<b>Sub-national Taxation</b>	Sub-national taxation as a percentage of total sub-national revenue	World Bank (2010a)
<b>Aid*Sub-national Taxation</b>	Interaction term between Aid/GDP and Sub-national taxation	World Bank (2010a)
<b>Sub-national Revenue</b>	Sub-national revenue as a percentage of total government revenue	Beck, et al. (2001)
<b>Elections</b>	Binary Variable; 1, yes; 0, no	
<b>Corruption</b>	1-7, high to low corruption levels	ICRG
<b>Literacy Rate</b>	Percentage of the population literate	World Bank (2010a)
<b>GDP</b>	The lagged log of initial GDP	World Bank (2010a)
<b>Population Under 14 Years</b>	Percentage of the population under 14 years	World Bank (2010a)
<b>East Asia and the Pacific</b>	Dummy variable for East Asian countries	
<b>South Asia</b>	Dummy variable for South Asian countries	
<b>Sub-Saharan Africa</b>	Dummy variable for Sub-Saharan African countries	

**Appendix 7C: Countries with sustained period of local elections from 1975 to 2000 and countries with no or very few episodes of direct elections. Source: Database of Political Institutions (Beck, et al., 2001)**

Local Elections		No Local Elections	Missing Data
Chile	Madagascar	Bangladesh	Cyprus
Congo, Dem. Rep.	Malaysia	Burkina Faso	Ecuador
Ethiopia	Mauritius	Cameroon	Iran
Argentina	Mexico	El Salvador	Kenya
Bahrain	Mongolia	Guatemala	Uganda
Benin	Nicaragua	Indonesia	Zambia
Bolivia	Pakistan	Malawi	
Botswana	Panama	Morocco	
Brazil	Papua New Guinea	Paraguay	
Colombia	Peru	Sudan	
Congo, Rep.	Philippines	Swaziland	
Costa Rica	Senegal	Thailand	
Dom. Rep.	Sri Lanka	Zimbabwe	
Gambia	Trinidad-Tobago		
Honduras	Tunisia		
India	Turkey		
Jordan	Uruguay		
Korea, South	Venezuela		



## *Chapter 8*

# **Aid and the Effect of Personalism: Variation under Government System**

An important distinction between electoral systems is their tendency to generate incentives for politicians to cultivate a personal vote. Some electoral systems place a premium on building and maintaining the party label, whereas personalist electoral systems create strong links between elected officials and voters. One insight from the previous literature is that electoral systems that create incentives for personal-vote seeking ahead of party-vote seeking are more likely to result in higher levels of private good provision and lower levels of broad public goods expenditure (Nielson, 2003; Hallerberg and Marier, 2004; Wright, 2010). Politicians in highly personalist systems have strong incentives to target government spending to narrow constituencies since they want to make themselves known to voters and to demonstrate their ability to provide for the constituency. This chapter examines the



effect of such incentives on the use of foreign aid in democracies. Since electoral systems that cultivate a personal vote are correlated with lower levels of public goods provision and higher levels of pork-barrel politics, it is expected that aid's impact on public goods expenditure is negatively affected by the presence of a personalist electoral system. However, the effect of regime type is also likely to contribute to personalism's effect on aid. Presidential systems have been noted for exacerbating the effect of personalism. Hence, the impact of aid should be lowest in presidential regimes with high levels of personalism.

This chapter contributes to the limited research on the relationship between foreign aid and political institutions by investigating the impact of personalist electoral rules on the relationship between aid and education expenditure. This author is aware of only one other study that has examined how foreign aid combines with different electoral systems. Joseph Wright's paper (2010) focuses on aid's impact on economic growth in developing countries. He finds that aid is positively correlated with growth at low levels of personalism, whereas aid is negatively correlated with growth at high levels of personalism. Wright also finds a significant relationship between aid and public goods expenditure. Aid has a positive impact on public goods expenditure in countries with low levels of personalism but has a negative impact when personalism is high. This chapter builds on that work but also considers the effect of personalism on aid in parliamentary and presidential regimes. Wright focused on developing countries in his study, countries that predominantly have presidential systems. This chapter investigates if the negative effect of personalism is widespread, or if it is especially driven by presidential systems.

The previous literature indicates that personalism should be more prevalent in presidential regimes, but to date, it has not been considered if this has a detrimental

effect on the impact of foreign aid. The findings of the chapter imply that when a broad sample of countries is examined, the effect of personalism on the use of aid is practically neutral. However, when only presidential regimes are examined, it is found that high levels of personalism are harmful to the use of aid, as it lowers the impact of aid on education expenditure. The reverse relationship is found in parliamentary regimes, but this relationship is only significant higher levels of personalism. This chapter is structured as follows: the next section outlines the literature on personalism and public goods. This is followed by an outline of the data used, a presentation of the results, and the final section, which provides a discussion and conclusion.

### **The Personal Vote and Government Type: The Use of Foreign Aid**

Foreign aid is given with the intention of providing public goods that benefit society broadly. All citizens share pure public goods, no member of the society can be excluded from the use of the good and, the use of the good by one member does not diminish the benefit available to other members. Personal vote-seeking incentives lead legislatures to focus on providing private or 'local' public goods. A 'local' public good has the features of a public good, but benefits only a predefined subset of the whole population. For example, the building of a sports facility in a particular community may be equally available to all members in that community, but its benefits do not extend to neighbouring communities, or to the country as a whole. Cox and McCubbins (2001) hypothesise that legislators facing personal vote seeking incentives will focus on providing "private or local public goods" since these goods are 'targetable' for which the individual legislator can claim credit. A legislator can

aim these policy initiatives at prospective constituents and his or her constituents alone, and then credibly claim sole responsibility for a modest proposal that clearly had the district's interests at heart.

The incentives to cultivate a personal vote derive from a country's electoral rules. Carey and Shugart (1995) identified three electoral rules that lead to high levels of personalism: the ballot structure, the level of vote pooling, and the number of votes each voter has. The first rule is the *Ballot*. This measures the degree of control that party leaders exercise over access to their party's label. There are two aspects of control considered - control over party endorsements, and control over ballot rank in list systems. These elements together determine the degree of authority leaders' exercise over rank-and-file politicians through control over ballots. When leaders exercise strong ballot control, the incentive for a politician to cultivate a personal reputation is minimised, but when ballot control is weak, personal reputation is more valuable. Under an open-list system, party leaders have no formal control over the order of election, and candidates have strong incentives to develop their own personal constituencies. Party leaders may retain some level of control in an open-list system as they could still control who receives the party nomination through the process of candidate selection<sup>48</sup>. However, if candidates are selected via primaries or caucuses then the party leader has little control over the candidates who are then incentivised to carry out personal vote seeking.

The next electoral rule, *Pool*, measures "whether votes cast for one candidate of a given party also contribute to the number of seats won in the district by the party as a whole" (Carey and Shugart, 1995; 421). Vote-pooling means that a vote for any

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<sup>48</sup>Unfortunately, adequate data on parties' candidate selection methods are difficult to obtain, especially for developing countries.

candidate of a given party is counted first as a vote for the whole party list for the purpose of determining how many seats are to be allocated to the list. Such systems include list PR systems. Once the vote is cast, votes for all candidates or lists are pooled to determine how many seats the party as a whole wins. When votes are pooled this way, a candidate's election depends on the ability of his/her entire party to attract votes. The party reputation, then, is at a premium relative to personal reputation. Votes are also pooled across candidates or across factions, rather than across entire parties. Pooling across candidates takes place under the single transferable vote formula (including the alternative vote system), where voters can designate to whom their votes should be transferred if they are not needed to elect their first choice, or if their first choice is too unpopular to be elected. If no vote pooling occurs, candidates are elected based on their personal ability to attract votes. Clearly, under such conditions, the value of personal reputation is at its greatest relative to the collective reputation of the party. Such systems include the single non-transferable vote (SNTV) formerly used in Japan, and systems that use primary elections that allow voters to select from among candidates within parties, such as in the United States.

The '*Votes*' aspect distinguishes between electoral systems in which voters are allowed to cast only a single vote for a political party, multiple votes, or only a single vote for a candidate. When voters simply choose once from among the various parties, party reputation is high, and there is relatively little incentive for candidates to cultivate a personal reputation. An example is a closed-list system. When voters can cast more than one vote, they might be allowed to cast votes for a certain number of candidates either within party lists, or across parties. Alternatively, voters might be allowed multiple votes over time, as when primaries

are used to determine nominations, or when run-off elections are used to select from among top competitors in a first round of voting. Under all of these systems, the fact that votes are cast for individual candidates means that a politician's personal reputation is more valuable than when votes are cast only for parties.

However, when multiple votes are cast, personal reputation is less valuable relative to party reputation as when all candidates are competing simultaneously for the same indivisible support of each voter. When multiple votes are cast simultaneously, the candidates from one party can run as a bloc, rather than running against each other. When a separate primary determines nominations, intraparty competition takes place among a subset of all candidates, but party reputation is critical in the general election. Finally, in run-off elections, second round competitors need to broaden their appeal beyond the core group of voters whose support allowed them to survive the first round. When each voter casts one vote, for either a candidate or a party faction, such as in, single non-transferable vote (SNTV), double simultaneous vote, alternative vote systems, and open-list PR, intra-party competition takes place simultaneously with interparty competition. Voters cannot spread their support neither across members of the same party or across multiple parties. Everyone competes against everyone else at once. Under these conditions, personal reputation is at a premium relative to party reputation.

Carey and Shugart (1995) predict that as party leaders increase their control over the ballot, votes are pooled to the level of the party, and voters are restricted to a single vote for one party, enhancing the party's reputation will become the most efficient means of winning re-election. In such a situation, personalism is low. This low incentive to cultivate a personal vote "greatly enhances the prospects of a more

programmatic or national form of responsiveness” (Crisp, et al., 2004)<sup>49</sup>. Therefore, low levels of personalism are expected to be associated with a greater supply of broad-based public goods. Hence, in such environments more aid should be used to provide public goods. The three factors outlined above, ballot, pool, and vote, are combined in this chapter to create a single measure of personalism. Such a measure has been utilised in previous research to investigate the effect of personalism in several policy areas (Wright, 2010; Hickens and Simmons, 2008; Hallerberg and Marier, 2004). The construction of this index is outlined in the ‘Data’ section below.

While electoral rules play an important part in determining levels of personalism, the impact of electoral rules is affected by the context that they operate within. The effect of the district magnitude has already been considered in several studies (Lancaster, 1986; Carey and Shugart, 1995; Hallerberg and Marier, 2004; Chang and Golden, 2007; Wright, 2010)<sup>50</sup>. This chapter examines another conditioning effect: government system type. The impact of personalist electoral incentives is expected to be more notable in presidential than parliamentary systems. Rose-Akerman (2001) argues that presidents do have incentives to provide public goods, as they must appeal to a broad constituency, but this incentive can be undermined by the legislature. In particular, legislatures may demand special treatment in return for their support. On the other hand, parliamentary systems, also likely to provide public goods, tend to have more disciplined parties, which in turn allow the executive to

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<sup>49</sup>Of course, this chapter is making the assumption that politicians are office-seeking and therefore their primary concern is (re)election. This is a standard and acceptable assumption to make and one that is generally held to have a high level of truth behind it.

<sup>50</sup>While some disagreement remains, it is generally concluded that as the district magnitude increases in closed list systems, party reputation overrides the personal reputations of list members in drawing voter support. However, when there is intra-party competition, rather than decreasing, the importance of personal reputation actually increases with the district magnitude. The logic is that, as the number of other co-partisans from which a given candidate must distinguish herself grows, the importance of establishing a unique personal reputation, distinct from that of the party, also grows. The effect of the district magnitude is incorporated into the personalism index in this paper. This is outlined in the ‘Data’ section below.

control the legislatures' behaviour. Rose-Akerman argues that the Westminster style system is the most effective for the provision of public goods, given the high level of party discipline and strong party leaders (2001; 39).

Presidents, more so than prime ministers, are likely to need to 'buy' support in order to get their policy passed which involves taking from funds for public goods to pay for private goods. Levels of party discipline tend to be lower in presidential systems so rather than relying on party leaders to deliver the votes of party members in the legislature, presidents often have to form voting blocs with party factions or individual legislatures (Mainwaring and Linan, 1997). Crisp, et al. note: "In presidential systems, legislatures are more free to respond to the electoral incentives that govern their own fates than is the case in parliamentary systems" (2004, 833).

Ames (1995) found high levels of 'pork' in Brazil. The executive controls most pork-barrel projects and low levels of party discipline means he/she makes deals with legislatures to exchange their support (vote) for pork. As a result, Ames claims that Brazilian legislators pay little attention to national issues, preferring to focus on local concerns. Constitutional changes in Brazil in 1988 increased legislative centralisation, granting party leaders more power and increasing the president's power in relation to legislative agenda setting. However, this does not necessarily reduce private good provision since now parties are likely to seek consensus internally before the bill goes to the floor and this still involves making deals with legislatures in order to ensure their support when the bill does reach the floor. Therefore, while this may reduce the level of 'pork' a stronger president and party discipline by no means eradicates the incentive to provide such private goods. Even though personalism is expected to be greater in presidential systems, it is necessary to note that there is extensive variation between presidential systems. In Venezuela,

party discipline is very strong. The party leaders cast votes for the entire party and the members adhere to party policy (Coppedge, 1994). Argentina also displays a high level of party discipline (Jones, 1997) while in Uruguay parties are undisciplined and factionalised. Such variation means that under some presidential regimes, personalism is likely to be low.

In parliamentary systems, personalism does still occur, however, it is often mediated by the power of party discipline. Examples of this include the United Kingdom and Ireland. Personalism could be perceived as quite high in both of these countries. In the United Kingdom, voters cast a ballot for an individual representative, encouraging candidates to develop a personal reputation. In Ireland, the need for a personal vote is intensified by intra-party competition between candidates due to the multi-member districts. However, in both countries, once elected, candidates tend to toe the party line. The party discipline in both countries is evident in the existence of a party whip and the control over political careers held by the political parties.

In sum, electoral systems that create incentives to cultivate a personal vote lead to higher levels of personalism in the political system. This can occur in both presidential and parliamentary systems, but the impact of personalism is expected to be lessened in parliamentary systems by stronger party discipline. In presidential systems, the force of party discipline is often lacking and so individual legislatures can demand 'pork' or funding for local public goods in return for their vote. It is expected that high levels of personalism have a negative impact on aid's relationship with education expenditure. If this hypothesis is correct, the interaction coefficient between aid and personalism should be negative.



## Data and Methodology

Data are analysed for a sample of 92 countries. Countries are included if there are available data and if the country is classified as a democracy. Countries are classified as democracies if they score a four or higher on the POLITY IV measure of democracy (Polity IV, 2010)<sup>51</sup>. OECD countries that have never received ODA are included in the dataset to increase the number of observations, which is quite low when restricted to developing countries. For these countries, the aid variable is recorded as zero in the dataset<sup>52</sup>. The full sample of countries in the analysis is listed in appendix 8A. The years of data for each country will vary since not all countries were democracies for the full period under analysis (1975-2004) and the availability of data varies. Appendix 8B shows the years for which countries in the analysis were classified as democracies. As in the previous chapters, data for aid are taken from the OECD stat database (OECD, 2010a). It is net ODA in current US millions. Aid is calculated as a percentage of GDP. Data for US current GDP are taken from the World Bank's World Development Indicators (WDI) (2010a). The dependent variable is the level of public education expenditure as a percentage of total expenditure. Research suggests that personalist political institutions cause inefficient education spending in developing democracies (Hicken and Simmons, 2008). Education is also considered one of the most typical forms of public goods expenditure. As was discussed in Chapter 5, education is not a pure public good and at times, it can be considered a collective good, or in extreme cases, a private good. The effect of this is considered in the results and discussion below.

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<sup>51</sup>Six is often used as the cut-off point for democracies in the Polity score. However, by using six many young democracies, mostly developing countries, are excluded. Hence, a value of four is used as the cut-off point in this analysis.

<sup>52</sup>While it is not the norm for aid effectiveness studies to include countries that did not receive aid, there is a precedent. See Kosack and Tobin (2006)

To measure the level of personalism an index is constructed, based on the three components of electoral rules identified by Carey and Shugart (1995) as central to personal vote seeking: ballot, pool, and vote. Data for each component and the coding of each component are from Seddon, et al. (2002).

- *Ballot* measures the relative strength of political parties and voters in determining candidates' access to the ballot and their probable chance of being elected. A code of zero means that voters can only choose a party and cannot demonstrate a preference for any individual, and a code of one means that voters can choose among a limited set of candidates. Seddon, et al. code systems where there are high formal and informal barriers to independent candidates as one. Electoral systems are coded as two when voters choose from a fundamentally unrestricted set of candidates.

- *Pool* measures the extent to which a candidate can utilise his party's reputation for electoral success. A score of zero means votes cast are pooled across the whole party to determine the allocation of seats. *Pool* is coded as one if votes are pooled at the sub-party level, and it is coded as two if votes are cast for a candidate that contributes to the candidate's success only. Therefore, higher levels of *Pool* indicate greater levels of personalism.

- *Vote* measures the number of votes that a voter can cast. A code of zero means a single vote for a party, one means multiple votes across candidates who may or may not be from the same party, and a code of two means a single vote for a single candidate.

Table 8.1 shows the correlation coefficients for the three components of the Personalism Index. All three are quite highly correlated and statistically significant, especially ‘Ballot’ and ‘Vote’. However, none of the correlation coefficients are high enough to suggest that these variables do not explain different aspects of the electoral rules.

**Table 8.1: Correlation Coefficients for Pool, Ballot, and Vote**

	<b>Ballot</b>	<b>Pool</b>	<b>Vote</b>
<b>Ballot</b>	1.000 (2605)		
<b>Pool</b>	0.5484*** (2579)	1.000 (2582)	
<b>Vote</b>	0.7165*** (2579)	0.5586*** (2582)	1.000 (2582)

The number of observations is in parentheses;  
P values: \*\*\* = 1%

The construction of the personalism index is based on the standard construction of the variable as used previously in similar studies (Wright, 2010; Hallerberg and Marier, 2004)<sup>53</sup>. To construct the index, first, calculate the sum of the three components, second, add one to this value, and third, include the effect of the district magnitude. If the system has a closed list and is not a plurality, the personalism index is divided by the log of the district magnitude. This captures the effect that the impact of the personalism vote should decrease as the district magnitude increases in a closed list system (Carey and Shugart, 1995; Wright, 2010). In all the other cases, the log of the mean district magnitude is added to the personalism index. This reflects the notion that the incentives to cultivate a personal vote should increase under an open-list and plurality system as the district magnitude increases (ibid.).

<sup>53</sup> A more simple measure was also created – the average of the ballot, pool, and vote. This was analysed too and produced highly similar results to the measure outlined above. However, the range of the average measure was limited from zero to two.

The Personalism Index ranges from zero to seven, with a mean value of 3.9. The range is similar for both parliamentary and presidential systems. Data for the district magnitude are the log of the mean district magnitude and are taken from Golder (2005). Additional data for the district magnitude comes from the Database of Political Institutions (DPI) (Beck, et al., 2001). Table 8.2 shows the average value of the personalism index for each country included in the analysis, although in the analysis the value can change annually.

**Table 8.2: Average Personalism Index by Country 1975-2004 (Source: Seddon et al, 2002).**

Country	P index	Country	P index	Country	P index
Argentina	1.31	Greece	4.59	Niger	2.42
Australia	3.99	Guatemala	5.44	Nigeria	6.00
Austria	4.13	Guinea-Bissau	1.58	Norway	3.92
Bangladesh	6.26	Guyana	0.61	Pakistan	6.00
Belarus	7.00	Haiti	5.00	Panama	4.16
Belgium	3.90	Honduras	1.85	Papua New Guinea	6.00
Benin	1.50	Hungary	2.90	Paraguay	1.55
Bolivia	2.87	India	6.00	Peru	1.24
Botswana	6.95	Indonesia	0.79	Philippines	4.95
Brazil	4.28	Ireland	4.60	Poland	4.91
Bulgaria	1.30	Italy	4.55	Portugal	0.94
Canada	6.00	Jamaica	6.00	Romania	4.90
Cent. Af. Rep.	7.20	Japan	4.41	Senegal	4.83
Chile	1.30	Kenya	5.95	Sierra Leone	1.00
Colombia	3.78	Korea, South	4.94	Slovenia	5.09
Comoro Is.	4.00	Latvia	4.30	South Africa	3.85
Congo, Rep.	5.00	Lesotho	6.23	Spain	1.83
Costa Rica	1.10	Lithuania	3.01	Sri Lanka	4.67
Cote d'Ivoire	5.92	Madagascar	5.01	Sudan	6.00
Croatia	2.26	Malawi	4.64	Sweden	2.62
Cyprus	3.42	Malaysia	6.00	Switzerland	3.96
Denmark	4.92	Mali	3.37	Thailand	5.87
Dom. Rep.	1.62	Mauritius	3.47	Turkey	2.55
Ecuador	1.98	Mexico	5.34	UK	6.00
El Salvador	1.57	Mongolia	6.21	USA	6.00
Fiji	6.00	Mozambique	0.88	Ukraine	3.50
Finland	5.12	Namibia	0.54	Uruguay	7.00

France	5.06	Nepal	6.00	Venezuela	1.70
Gambia	6.08	Netherlands	0.92	Zambia	6.00
Germany	3.57	New Zealand	5.36	Zimbabwe	5.63
Ghana	6.00	Nicaragua	2.46		

To identify the government type, data are taken from the Database of Political Systems (DPI) from the World Bank (Beck, et al., 2001). The data are coded as zero if it is a parliamentary systems and one if it is a presidential system. For countries identified as semi-presidential systems, these were considered on an individual basis. In some cases, the president is predominantly a ceremonial position, but in others, such as France and Guyana, the president occupies a much more powerful position than the Prime Minister occupies and in the case of Guyana, he/she can dissolve the legislature. In such cases where the president's position has significant executive power, the regime was classified as a presidential regime. A number of control variables are included in the models. The first is the log of GDP. As GDP increases, governments tend to invest more in public goods. This trend has been labelled 'Wagner's Law'. Public goods expenditure is heavily affected by population demographics. Since a youthful population is likely to need higher education expenditure, the percentage of the population under the age of 14 is controlled for. The literacy rate is controlled for as this acts as a proxy for the ability of the population to monitor the government and indicates a pattern of government expenditure in the social sector. This is preferable to including a lagged dependent variable on the right-hand side of the equation<sup>54</sup>. Data for these variables are from the World Development Indicators (World Bank, 2010a). Appendix 8C provides a codebook for all variables in the analysis.

<sup>54</sup>Including a lagged dependent variable can negatively affect the results of a regression analysis. See Achen (2000)

## Results

The results for models one to four are shown in table 8.3<sup>55</sup>. Model 1 is the base model and includes no control variables. The interaction term between aid and personalism is negative, implying that at higher levels of personalism, aid's effect on education expenditure is lower. However, the size of the coefficient for the interaction term is extremely small, suggesting that any change in the interaction term is very small, and the overall effect of the interaction is almost constant across the different values of the personalism index. The direct effect of aid is negative, indicating that aid has a negative effect on education expenditure even when personalism is equal to zero.

Model 2 includes the control variables outlined in the data section above. Once again, the interaction term is negative. As in model 1, the size of the coefficient for the interaction term is very small and the effect of personalism appears to be constant across all values.

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<sup>55</sup>As in the previous empirical chapters, two tests were carried out to investigate if aid/GDP was endogenous to government education expenditure. The Wu-Hausman test and the Durbin-Wu-Hausman test (Durbin, 1954; Hausman, 1978; Wu, 1973) were both not significant. As a result, no instrumental variable analysis is carried out but the aid variable is lagged by one year in. All models in this analysis are analysed using Panel Corrected Standard Errors (PCSE).

**Table 8.3: The Effect of Aid interacted with the Personalism Index on Public Education Expenditure**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
<b>Aid/GDP</b>	-0.007 (0.060)	0.082*** (0.027)	-0.506 (0.339)	0.085*** (0.020)
<b>P-index</b>	0.140** (0.071)	0.162** (0.070)	0.041 (0.086)	0.083 (0.108)
<b>Aid*P-index</b>	-0.002 (0.014)	-0.002 (0.011)	0.124** (0.053)	-0.007 (0.008)
<b>GDP</b>		-0.059 (0.060)	-0.043 (0.073)	0.113 (0.097)
<b>Literacy Rate</b>		0.031*** (0.006)	0.068*** (0.010)	0.015* (0.008)
<b>Population under 14 (%)</b>		-0.037** (0.016)	-0.039 (0.026)	-0.026 (0.031)
<b>Constant</b>	3.991*** (0.303)	3.658** (1.705)	-1.288 (2.406)	0.435 (3.079)
<b>R<sup>2</sup></b>	0.32	0.46	0.64	0.38
<b>N</b>	307	295	173	116

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

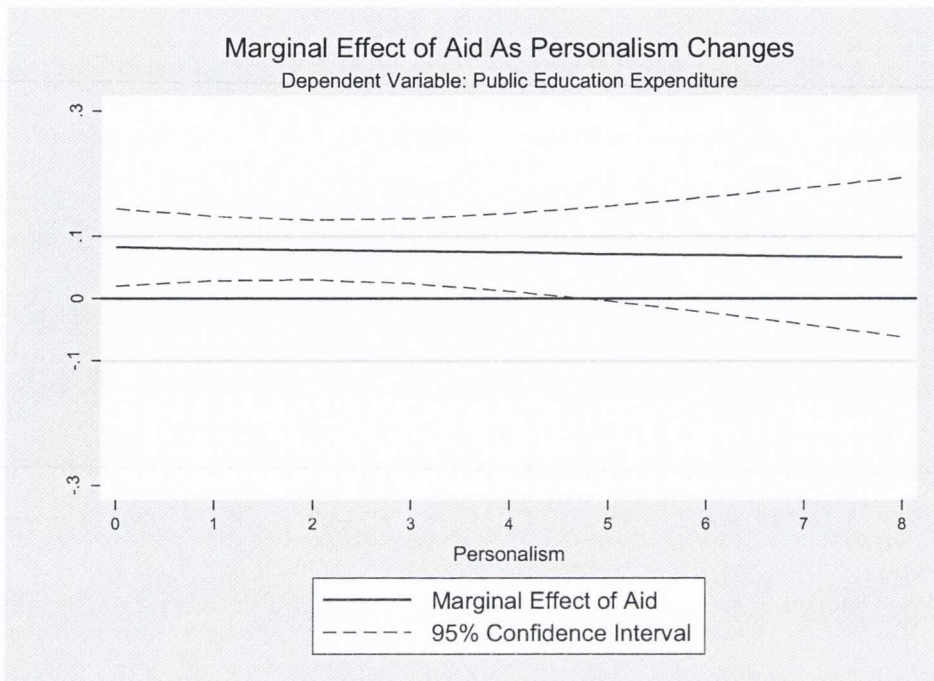
The direct effect of aid is now positive, indicating that aid's impact on education expenditure is positive when personalism is at its lowest level. Figure 8.1 shows the marginal effect of aid on education expenditure as the level of personalism changes for model 2. The graph shows a slightly decreasing relationship between aid and education spending as personalism increases, however, the size of the marginal effect is small, as noted by the size of the coefficient in model 2. In figure 8.1, it is

apparent that the overall effect of personalism on aid's impact on education expenditure is practically neutral. Further, aid has a positive relationship with education spending at all levels of personalism. The relationship between aid and education spending is significant at the 95% level for low and medium values of personalism.

Models three and four examine the effect of personalism on parliamentary and presidential systems only. In model three, only parliamentary systems are examined. The interaction term is positive, suggesting that as the level of personalism increases, so too does aid's effect on education expenditure. The marginal effects graph, figure 8.2, shows the positive relationship between aid and education spending. The direct effect of aid is negative and at low levels of personalism, aid has a negative relationship with education expenditure, although figure 8.2 implies that relationship is not significant. The relationship between aid and education expenditure is significant at the 95% confidence level for higher levels of personalism. Given the large number of industrialised countries in the sample, the model was also analysed with a control variable for long-term OECD members, and, therefore, established democracies. The results remained the same however, with a positive interaction term and a negative direct effect of aid. This is a surprising result as it suggests that in parliamentary systems, low levels of personalism are associated with lower levels of education expenditure. This is contrary to conventional wisdom, which expects personalism to be associated with lower levels of public goods expenditure. However, these results suggest that this is not the case in parliamentary systems, where personalism is positively associated with education spending.



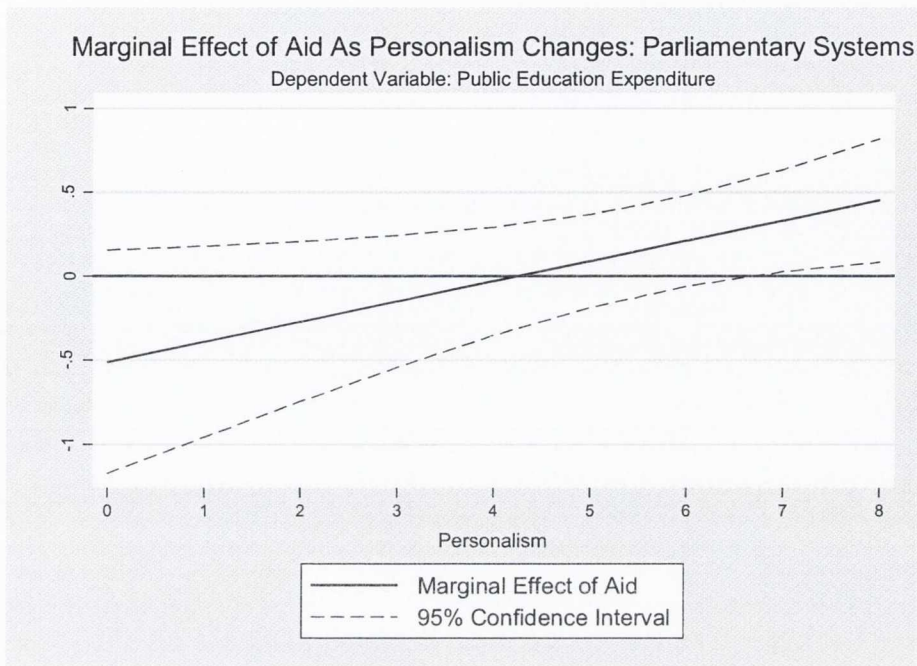
**Figure 8.1: Aid's Marginal Effect on Education Spending as Personalism Changes (Model 2)**



Source: Brambor, et al, 2006

This result could be affected by the sometime ‘collective good’ nature of education expenditure. In such cases, politicians target education expenditure at certain groups, such as their constituency or ethnic group. This is done to generate support among these voters. Under such circumstances, aid expenditure would be higher as levels of personalism increased.

**Figure 8.2: The Marginal Effect of Aid on Education Expenditure as Personalism Index Changes: Parliamentary Systems Only (Model 3)**

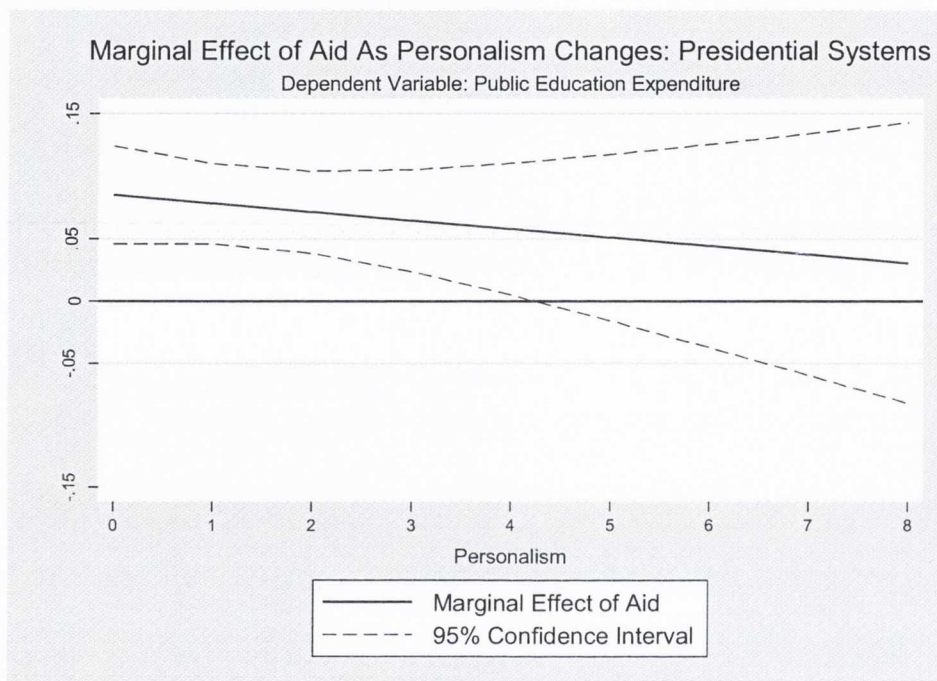


Source: Brambor, et al, 2006

In model four, only presidential regimes were examined. The interaction term is negative when presidential systems alone are examined. This implies that aid's relationship with education expenditure is strongest when the p-index is equal to zero, and that personalism has a negative effect on aid's relationship with education expenditure in presidential systems. This is the opposite of the effect found when parliamentary systems were examined. Figure 8.3 shows the marginal effect of aid on education spending at different levels of personalism in presidential regimes. The graph does demonstrate the negative relationship between aid and education as personalism rises, but it also indicates that the marginal effect of aid does not vary considerably as the level of personalism changes. Further, the effect of aid is positive is all levels of personalism. An examination of the marginal effects for

model 4, suggests that the relationship between aid and education expenditure is only significant at low and medium levels of personalism, up to approximately a value of four on the p-index.

**Figure 8.3: The Marginal Effect of Aid on Education Expenditure as Personalism Index Change: Presidential Regimes Only (Model 4)**



Source: Brambor, et al, 2006

The model was also analysed with semi-presidential regimes excluded<sup>56</sup>. Given that semi-presidential regimes could have unique attributes, their inclusion in the sample may alter the results. The remaining observations in the sample are for pure presidential systems. Examining the marginal effects of this sample shows that the

<sup>56</sup>Twenty-four observations are removed when semi-presidential systems are dropped from the sample. The countries excluded are, France, Guyana, Kenya, Madagascar, Mongolia, and Senegal.

results do not differ when semi-presidential regimes are removed. The direction and size of the effect of aid is virtually identical<sup>57</sup>.

The final two model, model 5, is shown in table 8.4. Model 5 is identical to model 2 except for the inclusion of a variable to control for the effect of government system variation. This assesses the effect of whether a country is a parliamentary or presidential regime. The variable is coded zero for parliamentary systems and one for presidential systems. The system variable is negative and significant at the 1% level, implying that, on average, presidential systems have lower levels of education spending. In model 5 the size of the coefficient of the interaction term is small, as was the case for all other models containing the full sample. This implies again that the marginal effect of aid on education spending is almost constant across all levels of personalism when the full sample of countries is analysed. An examination of the marginal effects shows this to be true. The relationship between aid and education expenditure is almost identical to the graph for model 2, above. The direct effect of aid is positive which implies that aid's impact on education spending is positive for all levels of personalism. This result suggests that once the system type is controlled for the effect of personalism on the use of aid is negligible.

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<sup>57</sup>As in the previous chapters, the models were re-analysed with the removal of possible endogenous control variables. In model 2 if the variable for literacy rate is removed, the results are not significant at any level. However, the pattern of the relationship between aid and education expenditure remains unchanged – the effect is constant across all levels of personalism. The removal of the literacy rate does not affect the results in models 3 and 4. In model 3, the direction of the coefficient remains the same and the marginal effects graph is unchanged. The only noticeable difference is a slight decrease in the R-squared figure. In model 4, the lower confidence interval is slightly closer to zero at the lowest levels of personalism, however, the results remain significant. In fact, the confidence intervals are closer together, therefore suggesting a stronger relationship, when personalism ranges from 2-4.

**Table 8.4: The Effect of Aid interacted with the Personalism Index on Public Education Expenditure SYSTEM Control**

	<b>Model 5</b>
<b>Aid/GDP</b>	0.081*** (0.023)
<b>P-index</b>	0.088 (0.071)
<b>Aid*P-index</b>	0.000 (0.010)
<b>GDP</b>	-0.023 (0.062)
<b>Literacy Rate</b>	0.035*** (0.007)
<b>Pop. Under 14 (%)</b>	-0.002 (0.019)
<b>System</b>	-1.023*** (0.281)
<b>Constant</b>	2.099 (1.881)
<b>R<sup>2</sup></b>	0.53
<b>N</b>	295

Analysed using Panel Corrected Standard Errors. Models use robust standard errors and control for AR(1) autocorrelation.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

## Discussion and Conclusion

The results of this chapter indicate that personalism in a political system does affect the use of aid. However, this effect varies depending on the form of government system. In presidential systems, low levels of personalism appear to foster higher levels of aid investment in education expenditure. At all levels of personalism, aid has a positive relationship with education expenditure, but aid's impact is lowest when personalism is high. Electoral rules that foster incentives for personal vote seeking create an environment that is more conducive to private goods provision and results in less aid being diverted toward public goods, such as education. In parliamentary systems, the reverse relationship is found. Aid's impact on education expenditure is strongest at high levels of personalism. The marginal effects graph suggests that the relationship between aid and education expenditure is negative at the lowest level of personalism, but this finding is not significant at the 95% level. However, the positive relationship between aid and education expenditure at medium and high levels of personalism is significant.

Overall, the results do not find personalism to affect education spending when the full sample of countries is examined. In models 1, 2, and 5 above, the affect of personalism does not affect aid's relationship with education spending. It is only by dividing countries into two sub-samples, based on government system type, that the effect of personalism becomes apparent. The literature, as outlined earlier in this chapter, expects personalism to be more prevalent in presidential systems. The results here support that conclusion. Aid's impact on education expenditure lessens as the level of personalism grows. However, the results here do not find personalism to be particularly damaging in presidential regimes. Higher levels of personalism are

associated with a lesser relationship between aid and education expenditure, but the effect of aid on education expenditure is positive for all levels of personalism and the decrease from low to high levels of personalism is not substantial (see figure 8.3). It was surprising to find that aid's impact on education expenditure is greater at higher levels of personalism. The literature on personalism implies that the presence of personalism is detrimental to public goods expenditure. The results here suggest that this is not the case in parliamentary systems. High levels of party discipline may mean that even in personalist regimes, parties focus on public goods provision rather than private goods provision. The negative effect at low levels of personalism could indicate that some parliamentary systems provide such little contact between voters and politicians that there is a poor response to meeting local demands or needs for public goods. However, as noted in the results section above, these findings were not statistically significant.

As noted in the results section, this finding could also be related to education expenditure not being a public good at all times. In certain countries it is undoubtedly true that education can be a collective or even a private good. When it is a collective good it is targeted to certain groups in society, but other groups are excluded. Where personalism is high in parliamentary systems, it is plausible that politicians use education expenditure to generate support among their set of voters. This would happen in the case of a politician targeting his/her constituency with disproportionate levels of education expenditure. The effect of this is likely to vary across parliamentary regimes, depending on the extent to which politicians rely on a party versus a personal vote. In the case of Ireland, where STV leads to high levels of personalism, attempting to direct funds towards a constituency in order to win popularity has been documented.

Mozambique and India represent positions at either end of the personalism scale. Mozambique is a presidential republic and is classified as a low-personalism country. This score is generated by a PR list electoral system for the legislature and a high district magnitude – the country is one electoral district with 250 seats. Azevedo (2009) notes that patron-client relationships still exist in Mozambique but they are *within* the party. The power of political parties over the career progression of legislatures makes obedience to the party a top priority for politicians. This is a similar case to that made by Ames (1995), who argued that the constitutional changes in Brazil increased party discipline and moved some of the ‘pork-seeking’ into the internal workings of the party. However, prior to these constitutional changes, Brazil was a prime example of a highly personalised presidential system.

India is a parliamentary system and a highly personalised system, where legislatures are generally considerably reliant on pork-barrel politics (Hicken and Simmons, 2008). Contrary to the findings in this chapter, it has been noted that the high levels of personalism in India’s parliamentary democracy has been damaging to public goods provision in the country. Sharma argues; “even the many well-conceived and well-intentioned poverty alleviation and long-term development programs succumb to partisan and pork-barrel distributive politics, depending on the proclivities of dominant economic interests and influential government officials” (1999; 239). On the other hand, Botswana, a parliamentary democracy with a high level of personalism, has high levels of education expenditure has is regarded as the success case of Sub-Saharan Africa. Martin (2008) notes that Botswana’s government pursued growth promoting strategies, which included providing public goods, such as education. Currently, the government in Botswana provides almost free education and adult literacy has increased from 34 per cent in 1981 to 81 per cent in 2006.



Female students represent the majority of students at primary, secondary and university levels.

This chapter adds to a growing literature that is concluding that personalism in developing countries has a negative effect on policy outcomes. Wright (2010) finds that personalism negatively affects aid relationship with growth and health and education expenditure. Hicken and Simmons (2008) finds personalism results in less efficient education spending, dampening the marginal effect of such spending on literacy rates. With such consequences, it is likely that aid will not deliver as many benefits as possible in democratic developing countries with personalist institutions. The findings of this chapter do support Wright's claim that personalism has a negative effect on growth, since lower, and less efficient, investment in public goods such as health and education, is likely to have an adverse effect on growth in the long term. However, this chapter calls into question the use of samples that only include developing countries. The risk of this is that presidential regimes are far more common in developing countries than in industrialised countries. Therefore, while previous articles may have found an effect of personalism in developing countries, it may actually be driven by the prevalence of presidential regimes in developing regions. As the above findings suggest, high levels of personalism do not appear to be a negative force for aid when in parliamentary regimes. Given that this result held when OECD industrialised democracies were controlled for, it does not appear that this result is driven by older democracies.

These results stress the importance for donors of recognising differences between democracies. Donors who give aid to only to democracies in the belief that it is more likely to generate development and growth in such environments should consider that this might not be the most effective way to deliver results. While democracies

are generally regarded as using aid more effectively, the institutional structure of each democracy clearly affects how aid is ultimately used. Electoral incentives are not the sole way in which institutional differences affect the use of aid, but they are a fundamental institutional feature. Electoral rules that create incentives for personalism can lead to the less effective use of aid. But that effect of personalism is conditional on another institutional feature: government system type. A common difference between democracies is whether they are presidential or parliamentary regimes. The results above show that the effect of personalism is greatest under presidential regimes. But under parliamentary systems, the existence of personalism does not seem to have a negative effect on the use of aid. Overall, presidential systems are expected to spend less on education, but within presidential systems, the existence of personalism further reduces the impact that aid will have on education. But these are not the only way that democracies differ. There are several alternative political structures adopted by democratic countries (Lijphart, 1999). It is likely that the use and effectiveness of aid will be affected differently by the varying structures among democratic countries.

These results highlight the importance of institutions for the use of aid. This chapter has focused on two specific institutions and on democracies only (non-democracies may hold 'elections' but not elections classified as 'free and fair' and so may not produce the same incentives for politicians). The incentives to cultivate a personal vote produced by electoral rules have adverse effects on the use of aid. The government type within democracies further affects this relationship. This finding demonstrates the importance of understanding the incentives created by institutions and how these are likely to interact with the use of aid.

## Appendix 8A: Democratic Countries (Polity score of 4 or more)

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Argentina	El Salvador	Lithuania	Poland
Australia	Fiji	Madagascar	Portugal
Austria	Finland	Malawi	Romania
Bangladesh	France	Malaysia	Senegal
Belarus	Gambia	Mali	Sierra Leone
Belgium	Germany	Mauritius	Slovenia
Benin	Ghana	Mexico	Sth. Africa
Bolivia	Greece	Mongolia	Spain
Botswana	Guatemala	Mozambique	Sri Lanka
Brazil	Guinea-Bissau	Namibia	Sudan
Bulgaria	Guyana	Nepal	Sweden
Canada	Haiti	Netherlands	Switzerland
Central African Rep.	Honduras	New Zealand	Thailand
Chile	Hungary	Nicaragua	Turkey
Colombia	India	Niger	UK
Comoro Is.	Indonesia	Nigeria	Ukraine
Congo, Rep.	Ireland	Norway	Uruguay
Costa Rica	Italy	Pakistan	USA
Cote d'Ivoire	Jamaica	Panama	Venezuela
Croatia	Japan	Papua New Gun.	Zambia
Cyprus	Kenya	Paraguay	Zimbabwe
Denmark	Korea, South	Peru	
Dom. Rep.	Latvia	Philippines	
Ecuador	Lesotho		

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**Appendix 8B: List of Years Democratic (i.e. Polity Score of four or more)**

<b>Argentina</b>	1975	<b>Guatemala</b>	1996-2004	<b>Nigeria</b>	1979-1983
	1983-2004	<b>Guinea-Bis.</b>	1994-1997	<b>Nigeria</b>	1999-2004
<b>Australia</b>	1975-2004		2000-2002	<b>Norway</b>	1975-2004
<b>Austria</b>	1975-2004	<b>Guyana</b>	1992-2004	<b>Pakistan</b>	1975-1976
<b>Bangladesh</b>	1991-2004	<b>Haiti</b>	1990		1988-1998
<b>Belarus</b>	1992-1994		1994-1998	<b>Panama</b>	1989-2004
<b>Belgium</b>	1975-2004	<b>Honduras</b>	1981-2004	<b>Papua New Gun.</b>	1976-2004
<b>Benin</b>	1991-2004	<b>Hungary</b>	1989-2004	<b>Paraguay</b>	1992-2004
<b>Bolivia</b>	1982-2004	<b>India</b>	1975-2004	<b>Peru</b>	1980-2004
<b>Botswana</b>	1975-2004	<b>Indonesia</b>	1999-2004	<b>Philippines</b>	1987-2004
<b>Brazil</b>	1985-2004	<b>Ireland</b>	1975-2004	<b>Poland</b>	1989-2004
<b>Bulgaria</b>	1990-2004	<b>Italy</b>	1975-2004	<b>Portugal</b>	1976-2004
<b>Canada</b>	1975-2004	<b>Jamaica</b>	1975-2004	<b>Romania</b>	1990-2004
<b>Cent. Af. Rep.</b>	1993-2002	<b>Japan</b>	1975-2004	<b>Senegal</b>	2000-2004
<b>Chile</b>	1989-2004	<b>Kenya</b>	2002-2004	<b>Sierra Leone</b>	1996
<b>Colombia</b>	1975-2004	<b>Korea, South</b>	1988-2004		2002-2004
<b>Comoro Is.</b>	1975	<b>Latvia</b>	1991-2004	<b>Slovenia</b>	1991-2004
	1990-2004	<b>Lesotho</b>	1993-1997	<b>South Africa</b>	1975-2004
<b>Congo, Rep.</b>	1992-1996		2000-2004	<b>Spain</b>	1977-2004
<b>Costa Rica</b>	1975-2004	<b>Lithuania</b>	1991-2004	<b>Sri Lanka</b>	1975-2004
<b>Cote d'Ivoire</b>	2000-2001	<b>Macedonia</b>	1991-2004	<b>Sudan</b>	1986-1988
<b>Croatia</b>	2000-2004	<b>Madagascar</b>	1992-2004	<b>Sweden</b>	1975-2004
<b>Cyprus</b>	1975-2004	<b>Malawi</b>	1994-2004	<b>Switzerland</b>	1975-2004
<b>Denmark</b>	1975-2004	<b>Malaysia</b>	1975-1994	<b>Thailand</b>	1992-2004

<b>Dom. Rep.</b>	1978- 2004	<b>Mali</b>	1992- 2004	<b>Turkey</b>	1975- 1979
<b>Ecuador</b>	1979- 2004	<b>Mauritius</b>	1975- 2004		1983- 2004
<b>El Salvador</b>	1983- 2004	<b>Mexico</b>	1994- 2004	<b>UK</b>	1975- 2004
<b>Fiji</b>	1975- 1986 1990- 2004	<b>Mongolia</b>	1992- 2004	<b>Ukraine</b>	1991- 2004
<b>Finland</b>	1975- 2004	<b>Mozambique</b>	1994- 2004	<b>Uruguay</b>	1985- 2004
<b>France</b>	1975- 2004	<b>Namibia</b>	1991- 2004	<b>USA</b>	1975- 2004
<b>Gambia</b>	1975- 1993	<b>Nepal</b>	1990- 2001	<b>Venezuela</b>	1975- 2004
<b>Germany</b>	1975- 2004	<b>Netherlands</b>	1975- 2004	<b>Zambia</b>	1991- 1995
<b>Ghana</b>	1979- 1980 2001- 2004	<b>New Zealand</b>	1975- 2004	<b>Zimbabwe</b>	2001- 2004
<b>Greece</b>	1975- 2004	<b>Nicaragua</b>	1990- 2004		1975- 1982
		<b>Niger</b>	1992- 2004		

## Appendix 8C: Variable Codebook

<b>Aid/GDP</b>	Aid as a percentage of GDP, lagged by 1 year	OECD (2010a)
<b>Personalism</b>	Measure of level of personalism	Seddon, et al., 2002
<b>Aid*Personalism</b>	Interaction term of Aid/GDP and Personalism	
<b>GDP</b>	The lagged log of initial GDP	WDI (2010a)
<b>Total Education Expenditure</b>	Total public education expenditure as a percentage of total expenditure	WDI (2010a)
<b>Population under 14 years</b>	The percentage of the population under 14 years	WDI (2010a)
<b>Literacy Rate</b>	The total literacy rate	WDI (2010a)
<b>OECD</b>	Long-term member of the OECD	OECD (2010)
<b>System</b>	Government system type; coded 1 for presidential systems, and 0 for parliamentary systems	Beck, et al. (2001)



## *Chapter 9*

# **Conclusion: Political Institutions and the Impact of Aid on Public Goods Expenditure**

This thesis sought to determine the impact of different political institutional structures on the use of aid. As stated at the beginning of the thesis, this research assumes that aid can be effective. There is much evidence of aid being used to provide essential services and having a positive impact on standards of living in developing countries. The question then is, if aid can ‘work’, why does it sometimes not? The thesis aims to answer this question by investigating whether differences in political institutional structures can account for the variation in the effectiveness of aid. To date, the impact of political institutions on the use and effectiveness of aid has been largely overlooked. Political institutions have been included as control variables in several aid effectiveness studies, but such variables measure the



‘quality’ of institutions, as opposed to understanding how institutional structures affect the choices governments’ make in relation to aid.

The findings of this research conclude that political institutions do influence governments’ use of aid and certain institutional structures create positive incentives for leaders to invest aid in public goods. This research identified the main causal mechanism through which institutions affect governments’ choices as political accountability: the idea that when political leaders must face some level of accountability this creates constraints or provides incentives that ultimately affect their behaviour.

The main findings of the thesis are chapter specific and were summarised within the respective empirical chapters. The main empirical and theoretical findings from these chapters are outlined below. This is followed by a discussion on the limitations of this research and the potential for future research. The final section presents the policy implications and overall significance of this thesis.

## **Main Empirical and Theoretical Findings**

There were four core chapters in the thesis that presented the main empirical and theoretical contributions of the thesis. These findings are summarised on a chapter-by-chapter basis in this section.

Chapter five investigated how different levels of political constraints, also referred to as ‘checks and balances’, affect the use of aid. The results in chapter five indicate that political constraints matter for the use of aid since aid’s impact on government spending varied depending on the political context. The chapter concluded that

higher levels of constraints lead to higher levels of public health expenditure. This finding supported the theoretical argument outlined in chapter five. When leaders are constrained and are able to make credible commitments, private investment is encouraged as the risk of expropriation by governments is reduced. This encourages leaders to use aid to invest in the health of their population to increase the productivity of the workforce, which further attracts investment, and has an overall direct, positive effect on economic growth.

Contrary to expectations, aid's effect on public investment was strongest at the lowest level of constraints, although the relationship was positive at medium levels of constraints and had no effect at high levels of constraints. The chapter argued that unconstrained leaders are more likely to partake in rent-seeking activities, which are particularly prevalent in public investment. When such leaders receive aid, they are more likely to divert it to public investment so that they can avail of rent-seeking opportunities. This means that observed public investment increases, but the quality and amount of infrastructure produced is lower.

No significant relationship was detected between aid and education expenditure, at any level of constraints, but the interaction term between aid and constraints was positive. Moreover, the relationship between aid and education is negative at the lowest level of constraints. This implies that there is some evidence of fungibility of aid in education, that is, aid given to governments for education expenditure causes them to divert their own finances away from education expenditure. However, this only occurs when leaders are unconstrained. To test the robustness of these results, an alternative measure of constraints was used. This was the CHECKS index from the Database of Political Institutions (Beck, et al., 2001). The results from the robustness test supported the original findings. However, the relationship between

aid and public investment became negative at high level of constraints. This is a possible effect of IMF and World Bank conditions that resulted in reductions in overall government and capital expenditure. Such conditions were more likely to be complied with in countries with effective constraints on governments.

Chapter six built upon chapter five by examining the effect of political constraints on the relationship between disaggregated aid, health aid and education aid, and public health and education expenditure. The results suggested that health expenditure benefits from health aid in an environment of medium and high constraints. The findings in relation to health support previous research that found health aid increased health expenditure, however, the results in chapter six stress that context is essential. Health aid can increase health expenditure, but only does so under certain political conditions. At the lowest levels of constraints, zero and one, health aid had a negative relationship with health expenditure. This could provide evidence of the fungibility of health aid, however, only at low levels of constraints. This implies that when leaders are constrained, health aid has a positive impact on health expenditure and there is no evidence of fungibility.

In relation to education aid, the findings of this chapter lend support to previous finding in the literature. While a significant relationship is not found between education aid and education expenditure, there is evidence of a positive relationship between the two variables as the number of constraints rises. This is similar to the findings of previous literature, which concluded that education aid increased primary school enrolment rates. Further, these results lend support to Michaelowa and Weber's (2007) findings that political conditions matter for the effective use of education aid. As in chapter five, a robustness test was carried out with the

alternative measure of constraints. The result from the robustness test supports the original results.

Chapter seven provided the first analysis of specific political institutions – fiscal and political decentralisation. The findings of this chapter indicate that the design of decentralisation is crucial for the effectiveness of aid. Two aspects of decentralisation were considered, the level of fiscal autonomy held by local governments and the presence of direct elections of local officials. There was no significant relationship found between aid and sub-national education expenditure at any level of sub-national taxation. However, when the dependent variable was sub-national health expenditure the interaction term between aid and sub-national taxation was significant and positive. This suggests that when local governments are more dependent on local taxes they are more likely to subsequently invest this revenue in public goods such as health care. This supports the arguments found in the taxation literature, which claim that taxation is necessary to make political leaders responsive and accountable to citizens. The findings also imply that when local government is not accountable to local citizens through local taxation, they decrease investment in popular public goods.

The second set of analyses in chapter seven divided the sample into countries with and without local elections. The results suggest that when there are local elections, aid had a positive impact on local education spending at high levels of sub-national taxation. Aid has a negative effect on education expenditure at low levels of taxation, even when there are direct elections. This could indicate that both local elections and local taxation are required to generate sufficient accountability to local citizens. This result supports the argument that local elections ensure that local leaders are more responsive to local needs and so invest more heavily in basic public

services, but possibly only at higher levels of taxation. It could be that without local taxation, local governments are dependent on central government funds and their expenditure is restricted. It could also support the argument that local elections put pressure on local governments to meet populist demands, but this does not reflect an ability to pay adequately for such services. When there were no direct elections, i.e. when local officials are appointed, aid has a negative relationship with local education expenditure. Aid does have a positive impact on education expenditure when there are no or low levels of local taxation. However, at medium and high levels of sub-national taxation, aid has a negative relationship with local education expenditure. This could be evidence of greater fiscal responsibility when local governments collect their own taxes, but are not subject to the pressures of local elections.

When the dependent variable was local health expenditure, no significant relationship was found between aid and health spending at any level of sub-national taxation with or without direct elections. The results seem to suggest that the presence of elections are not crucial for expenditure on local health yet local elections seem important for expenditure on local education. This could be a reflection of how alternative forms of decentralisation make leaders accountable to different sectors of society, which have different demands. The wealthy in society are likely to pay more taxes and are possibly more inclined to demand investment in health care since it is cheaper for them to pay for education. The poor are more likely to demand education provision, especially investment in primary education, but since they pay low or no taxes, direct elections are the best way that they can make political leaders respond to their needs.

Chapter eight presented the last empirical analysis of the thesis. This chapter examined the effect of personalist electoral rules on the relationship between aid and public education expenditure under different democratic government types. The effect of aid on education expenditure across the full sample of countries implied that personalism has little effect on aid's relationship with public education expenditure. Different results emerged when the sample was divided into presidential and parliamentary countries. This chapter concluded that personalist electoral rules lowered the impact of aid on education expenditure in presidential regimes. However, under parliamentary regimes, personalism does not appear to have a negative effect on education expenditure. This could be driven by factors already outlined in the personalist and presidential literature, such as, low levels of party discipline, the separation of the executive and legislature and the power of the legislature *vis-a-vis* the executive. In parliamentary systems it is possible that the effect of personalism is somewhat mediated by strong party discipline.

Chapter eight is an addition to a growing literature that is concluding that personalism in developing countries has a negative effect on policy outcomes. However, this chapter calls into question the use of samples that only include developing countries. The risk is that presidential regimes are far more common in developing countries than in industrialised countries. Therefore, while previous articles may have found an effect of personalism in developing countries, it may actually be driven by the prevalence of presidential regimes in developing regions. The findings in chapter eight suggest that personalism does not appear to be a negative force for aid when in parliamentary regimes. Given that this result held when OECD industrialised democracies were controlled for, it does not appear that this result is driven by older democracies.

The results in chapter eight stress the importance for donors of recognising differences between electoral democracies. Democracies may be similar in that they hold elections deemed to be free and fair, but there are significant differences between democracies in terms of the institutional structures they possess, how these institutions interact, and the effect such institutions have on political behaviour and policy output. While democracies are generally regarded as using aid more effectively, the institutional structures of each democracy clearly affect how aid is ultimately used. The results in chapter eight demonstrate this point with different effects produced under different government system types.

The results of this thesis, outlined above, provide an essential contribution to the literature on aid effectiveness. There is a gap in the aid literature in relation to the impact of political institutions. To date, there has been little research conducted on the role of political institutional frameworks in creating constraints that structure the behaviour of aid recipients. This thesis adds to the work carried out by Joseph Wright, who is one of the few researchers to examine the role of political institutions in the effectiveness of aid (2006, 2007, 2008, and 2010). The findings here support his general conclusions – political institutions create structures that either hinder or help the effectiveness of aid.

### **Limitations of Research and Future Research**

While all attempts have been made to present a thorough and accurate body of research in this thesis, limitations of this work can be identified. Public goods expenditure may be a more suitable dependent variable than economic growth, but it too faces challenges. A significant limitation of this research is that it only

investigates a limited part of the process of aid effectiveness. How aid is spent is the first of many steps in the process of aid's use and effectiveness. Unfortunately, numerous issues can hinder the effectiveness of aid once it has been spent. Governments may have the best intentions and may do their best to spend aid wisely, but it may still have little impact on in terms of improving overall societal welfare. The journey between receiving aid and its ultimate effectiveness is a long process, with many steps. What this research does provide however, is a fresh approach to examining the use of aid, and a shift away from the highly problematic economic growth variable. It is also more realistic to think of aid effectiveness as a process, on which the first step is how the aid is spent. Further research is required into different steps of that process, such as, bureaucratic efficiency and distribution methods.

A second limitation of this research is one that is common to all quantitative aid studies – the data. The reliability of aid data from institutions such as the OECD and World Bank has been questioned, although no adequate alternative exists. Another problem with the data used here is the reliability of data for developing countries and the level of missing data. This is an unfortunate consequence of studying developing countries. However, the research of developing countries and aid remains such an essential and worthwhile endeavour that accepting and admitting these limitations becomes a necessary part of the research. If the alternative is not to study the use and effectiveness of aid, then the best option seems to be to use the available data while being aware of their limitations. In order to tackle the problem of data reliability and availability, data have been used from a number of sources and as many countries as possible have been included to provide a large sample.



Since the examination of the effect of political institutions on the use and effectiveness of aid remains a relatively under-researched area, there remains potential for further research. The first possibility is the use of qualitative studies. Qualitative case studies would complement the work carried out in this thesis. A more in depth understanding of the effect of institutional features on aid could be examined through interviews and case studies. Investigations into how political institutions affect decision-making and the expenditure of aid could be examined on a country-by-country basis. Such research would provide opportunities to examine the causal mechanisms in more detail and gain a better understanding of how political institutions affect politicians' behaviour and how this affects their spending decisions and the use of aid. For example, from this thesis, a more detailed investigation into the effects of fiscal and political decentralisation could reveal more insights. This could create a clearer picture of how local tax collection or local elections influence the expenditure of aid by local politicians and how they react to the demands of a local electorate. In particular, qualitative research could shed light on the links between politicians and voters at the local level and examine if there are differences between accountability via elections and accountability via taxation.

A second area of possible future research is the investigation of the impact of other institutional features, both in terms of quantitative and qualitative research. Within this research four institutional features were considered: political constraints, decentralisation, personalism, and government system (although in conjunction with personalism). This is by no means an exhaustive list of relevant political institutions. Some potential aspects for future research include, the role of presidential versus parliamentary systems, the power of elected presidents, the effectiveness of the

bureaucracy, and the power of the legislature vis-a-vis the executive. All of these institutional structures are likely to have an impact on how aid is used.

A final avenue for further research is the use of disaggregated aid data. With the release of additional disaggregated data, there is potential for much research in this area. Current disaggregated aid studies have often examined the effect of health and education aid, as is done in this research. However, there are other possibilities, such as aid for transport and infrastructure. The disaggregated aid data provides an opportunity to examine the relationship between a specific form of aid and an outcome it should directly influence, for example, health aid and health expenditure. This is an improvement on the use of overall aid figures, which contains aid data for several, often diverse, areas. Unfortunately, data for disaggregated aid disbursements, as opposed to commitments, are still scarce. Data for aid disbursements produce a more accurate reflection of the size of aid's impact. However, in order to establish the long-run effect of disaggregated aid it is necessary to use data for aid commitments until more aid disbursement data becomes available.

## **Policy Implications**

There are two main policy implications from this research. The first is recognition of the potential importance of political institutions for aid effectiveness. The results of this thesis emphasise that political structures should be a central concern for donors and development agencies when they seek to provide aid effectively. The second policy implication is recognition of the need for greater analysis of the meaning and effect of 'good governance'. This thesis does not attempt to create or use a

subjective measure of governance quality. Such measures are frequently a mix of several separate indices, which are all identified as vital components of governance. The problems with such measures were outlined in chapter one. Instead, this research examines the political structures in aid recipient countries and models their predicted affect on the behaviour of governments.

The role of political institutions in aid effectiveness has been examined more often in recent years, but their impact on the effectiveness of aid remains a highly under-researched area. The inclusion of measures of institutional quality in aid-growth studies from the late 1990s led to some conclusions that the institutional environment was relevant to the use and effectiveness of aid, but such research is hindered by the limited and questionable measures of institutional quality. Further, a measure of institutional quality was included in such studies only as a control variable (as in Burnside and Dollar, 2000), but was not considered in its own right as a crucial mediating variable between aid and growth. At the same time, the interest in 'good governance' among donors emerged and grew rapidly. Both donors and academics claimed that good governance was crucial for the effectiveness of aid and attempted to assess the effect of governance on aid effectiveness. However, finding ways to identify and measure this concept remain difficult. What is clear from recent policy approaches is that donors, NGOs, and scholars who are playing a role in aid effectiveness recognise the importance of political institutions. What remains unclear is the way in which institutions affect aid. It is this gap in the aid research that this thesis aims to partially fill.

The link between governance and institutional structures was not clearly identified. Good governance was, and remains, a popular concern for those involved in the aid industry but how and why political institutions might help or hinder governance was

not assessed in any considerable detail. The focus was very much on subjective indicators that measured the quality of governance. Many of these measures contained aspects of political institutions, such as the quality of the bureaucracy and the level of corruption. However, there was little attempt made to move beyond this towards investigating political structures and their relationship with governance, for example, the relationship between weak political institutions and the rise of corruption. While political institutions were deemed influential, they were not rigorously analysed or tested in relation to aid.

While it is now considered conventional wisdom that 'good governance' matters for the use of aid, defining and identifying 'good' governance remains a challenge. Similar to the closely related concept of 'institutional quality', indicators of good governance are subjective measurements that combine an array of indicators such as, accountability, transparency, corruption, bureaucratic quality, and several more. Such measures have been criticised for their level of subjectivity and questionable accuracy. The approach taken by this research is to seek a more objective way of understanding the effects of institutions and the causal mechanisms behind 'good governance', that is, the mechanisms that increase aspects of governance, such as accountability, and lower the risk of rent-seeking or corrupt behaviour. Such developments are important as they create an understanding of why good governance is good for the use of aid. By modelling the behaviour of leaders and identifying causal mechanisms through which aid affects social and economic outcomes, a better understanding of where and why aid is effective can be developed.

In order to investigate these causal mechanisms this thesis has examined four aspects of institutional structures; a general measure of the number of political

constraints in a political system, the level of fiscal and political decentralisation, and the interactive effect of personalism from electoral rules and government system type (presidential or parliamentary). The results from the empirical chapters, outlined above, demonstrate the impact that these structures have on the relationship between aid and public goods expenditure. Overall, the findings of the chapters indicate that political institutions can create incentives to which leaders respond, and such incentives encourage them to use aid more effectively, or in this case, direct aid towards social expenditure.

The results of this research also question the allocation of aid to electoral democracies only. First, the research shows that it is not necessarily *democratic* processes that make for effective aid. Institutions also exist in non-democratic regimes, and if these institutions provide constraints on government then aid's probability of producing benefits improve. This in turn has a knock-on effect for how 'good governance' is identified. Good governance is often tied to the existence of democracy. However, this thesis demonstrates that a more critical factor is the institutional environment. Where constraints exist, corruption is likely to be lower and there are incentives to invest aid wisely. A second reason to question the allocation of aid to democracies is that there are significant differences between democracies that affect how aid will be used. Chapter eight demonstrated the negative effect of personalist electoral systems on the use of aid in presidential systems, but found the opposite effect in parliamentary systems. If donors are to show preference to democratic countries, then they should be aware of the variation between democracies and the consequences of such differences for the effectiveness of aid.

A final implication of this thesis is in relation to the use of dependent variables other than economic growth. Despite the increasingly disputed use of economic growth as an indicator of aid's effectiveness, the attempt to establish a link between aid and economic growth remains a popular pursuit. In 2010 alone, several more articles were published that investigate what effect, if any, aid has on economic growth (Andaleeb and Idrees, 2010; Ang, 2010; Arndt, et al., 2010; Bjerg, et al., 2010; Doucouliagosa and Paldam, 2010; Kilbya and Dreher, 2010; Minoiua, and Reddy, 2010; Selaya and Thiele, 2010;)

The focus on economic growth, and its ability to consume the aid effectiveness debate, is surprising and unfortunate. It is surprising because it appears to be a particularly challenging dependent variable to use in order to identify the effectiveness of aid. It is worthwhile to investigate whether aid has an impact on economic growth. However, as previously outlined (particularly in chapter four), there is a myriad of reasons why economic growth is not an entirely satisfactory dependent variable for aid effectiveness studies. Just some of these reasons include, the complexity of the growth process, the many steps between aid and economic growth, the range of ways in which aid may affect growth, and the range of motivations for giving aid, of which generating economic growth is just one. It is unfortunate that economic growth remains the dependent variable of choice because there are many other possibilities by which 'effective' aid can be identified. One alternative was examined in this thesis – public goods expenditure. It would seem apparent that for aid to be effective, it has to begin by being spent on areas that have some hope of promoting growth, reducing poverty, and raising living standards. However, there has been little research carried out on the effect of aid on government expenditure. Of the existing studies, the focus is on overall government

expenditure, or government consumption. The results from such studies suggest that aid does increase overall government consumption, but as Boone (1996) discovered, this does not necessarily lead to beneficial outcomes for society overall.

The aim of this research was to build on those existing aid-expenditure studies by investigating in detail where aid is spent. This led to the examination of three forms of expenditure: public investment, public health expenditure, and public education expenditure. Examining the effect of aid on these forms of expenditure determines when aid is spent on social spending and when it is spent on capital projects. In particular, the relationship between aid and social expenditure is pertinent. This indicates the impact that aid is likely to have on social indicators and overall living standards. It also indicates the extent to which a government adopts pro-poor policies, that is, policies that place poverty reduction as the central objective of government policy. In such environments, it is more probable that benefits to the poor can be identified, which implies that aid is 'working'.

The research presented in this thesis adds to a large, existing literature on the topic of foreign aid. However, the work presented here offers an essential and novel approach to understanding where and how aid 'works', that is, where it provides tangible benefits to those in need. Examining aid is a worthwhile endeavour. The aid industry continues to grow with each decade. The amount of aid given is at its highest recorded level, there are more NGOs working in and for developing countries than ever before, the professionalism of donor aid agencies, and their involvement in government, is at its peak. Yet, aid also faces mounting criticism. This criticism of aid is nothing new, but there is a growing voice against it and a seemingly growing body of evidence against it too.

It is correct to question and criticise aid, but its merits must also be considered – aid can and does improve and save lives. This does not mean that criticism of aid should be ignored; instead, it needs to be considered carefully and answered if possible. The results of this research attempts to answer some of the critical questions about aid, mainly, why so often it does not seem to ‘work’. This is a difficult question to contend with. There is not much clarity over what percentage of aid ‘works’ or does not work. Attributing some success story to aid can be difficult, likewise, blaming aid as the cause of a series of ills can also be difficult to establish. While recognising the difficulties in establishing relationships between aid and some outcome, this thesis aimed to identify certain conditions where aid was more likely to produce positive outcomes.

The first step in determining the effectiveness of aid in this thesis was to reject the traditional dependent variable, economic growth, since it is unable to provide adequate answers to such questions. The second step was to examine a crucial, yet generally overlooked conditioning effect on aid – the political institutional environment. The results of this research provide insights into the crucial role that political institutions play in the effectiveness of aid. Political institutions do affect the relationship between aid and public goods expenditure, suggesting that the political institutional structure in recipient countries affect how their governments will choose to use the aid they receive.

This highlights a point that is being increasingly made by conditional aid studies: understanding the effect of aid is not simple and straightforward. The results of conditional studies imply that it is not easy to dismiss aid as always ineffective or damaging. If aid is to be given to improve development and living standards, then donors now have much to consider when it comes to assessing where aid is likely to



be effective and why. Unfortunately, it can also make giving aid exceedingly complex when the number of conditioning factors becomes too many: 'good' economic policies, climate, geographic location, and an array of political structures. However, political institutions are a relatively straightforward aspect to assess. By examining and understanding the workings of a country's political system, donors can design aid programmes tailored to country specific structures. With such information, there is a greater possibility of aid reaching the intended beneficiaries, and producing the wished-for positive outcomes.

## **Annex**

### **Fixed Effects Results: Discussion**

#### **Chapter 5**

In model 1 the results are similar to the PCSE model. The interaction term is negative. In the PCSE model the interaction term was significant at the 10% level, which is not the case when analysed using fixed effects. The marginal effects of model 1 show that the relationship is not significant at any level of constraints – the same as for the PCSE model. The direct effect of aid is now negative and is not significant. The constraints variable is negative and significant at the 1% level. In the PCSE model the constraints variable was also negative and significant at the 10% level.

In model 2 there is a significant change between the PCSE and Fixed Effect model results. The interaction term is now positive. This would suggest that the marginal effect of aid on public investment increases as the level of constraints increases, which is against the theory outlined in Chapter 5. However, this result is not significant at any level of Constraints (as shown in Figure 1). The direction of the coefficient changes for other variables too. Most notably the aid coefficient is now negative, as is the constraints variable.

In model 3, the results for the Fixed Effects model similar to the PCSE results. The coefficient is positive in both models and size of the effect is small. Figure 2 shows the marginal effects graph, which shows that the effect of aid on education expenditure is significant at when constraints are equal to 0.3 to 0.5. This is not a strong effect as the lower confidence interval is very close to zero. Also, the effect of aid is effectively constant across all levels of constraints. The only significant control variable is the literacy rate variable, and its coefficient remains positive.

In model 4 the results are again very similar between the two models. However, with fixed effects, the relationship between aid and health expenditure is significant at all levels of constraints, whereas with the PCSE model it was only significant above levels of approximately 0.2.

## **Chapter 6**

In model 1 the results are quite similar, as the direction of the interaction term remains positive. An examination of the marginal effects shows that the relationship between aid and education expenditure as constraints changes is very similar, as the relationship is still significant at higher levels of constraints. The main difference is the size of the effect, which is smaller under a fixed effects model.

The results for model 2 are different in the sense that the size and direction of coefficients change. However, the overall result remains the same – no significant relationship between education aid and education expenditure is found at any level of constraints.

## **Chapter 7**

When using fixed effects, the findings from model 1 are now significant. Figure 5 shows the marginal effect of aid on sub-national education expenditure. As the level of sub-national taxation increases, the effect of aid on local education expenditure decreases. When using the PCSE model, no significant result was found.

The results for model 2 are also very similar. The direction of the interaction term is still positive. However, the strength of the findings does weaken as the lower bound confidence interval is very close to zero at higher levels of sub-national taxation.

In model 3 the results do vary from the PCSE model. The direction of the coefficient for the interaction term changes direction to negative. Figure 7 shows the marginal effect of aid on sub-national education expenditure as sub-national taxation increases, when there are direct elections. The effect is significant at higher levels of taxation, suggesting that as sub-national taxation increases, the impact of aid on local education expenditure decreases.

Model 4 produces the same finding under the fixed effects model – as sub-national taxation increases, the marginal effect of aid decreases when there are no direct elections. Combined these findings suggest that direct elections do not affect aid's impact on local education expenditure and that higher levels of sub-national taxation lead to lower levels of education spending (perhaps reflecting greater levels of fiscal management and responsibility when reliant on taxation).

Model 5 does not produce a significant result, as was the case when modelled with PCSE.

Model 6 is now significant when modelled with fixed effects. The findings suggest that when there are no direct elections the interaction terms between aid and local health spending is negative. The marginal effects are shown in figure 10. The relationship is significant, but the robustness of the results is questionable as the lower bound confidence interval is very close to zero.

## **Chapter 8**

In model 1 the direction of the coefficient of the interaction term changes direction, but the overall results remain the same – there is no significant relationship found between aid and education expenditure at any level of the P-Index.

In model 2, the coefficient moves from negative to positive, but the size of the coefficient remains small, so the finding is effectively the same. The effect of aid on education expenditure is constant across all values of the P-Index when all countries are analysed.

Model 3 produces the same finding – in parliamentary regimes, the affect of aid on education expenditure increases as the level of personalism increases. This is significant at higher levels of personalism in both models.

Model 4 produces the same size coefficient and in the same direction for the interaction term. However, under fixed effects, the lower bound confidence interval moves just below zero, meaning the significant relationship disappears.

### *Results of Models with Fixed Effects*

## **Chapter 5**

### *Model 1*

<b>Variable</b>	<b>Model 1</b>
<b>Aid/GDP</b>	-0.063 (0.134)
<b>Constraints</b>	-4.035*** (1.499)
<b>Aid*Constraints</b>	-0.333 (0.440)
<b>Constant</b>	9.945*** (0.582)
<b>N</b>	407
<b>R<sup>2</sup></b>	.05

Analysed using fixed effects. Models use robust standard errors.  
Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

### *Model 2*

<b>Variable</b>	<b>Model 2</b>
<b>Aid/GDP</b>	-0.523** (0.195)
<b>Constraints</b>	-5.958** (2.052)

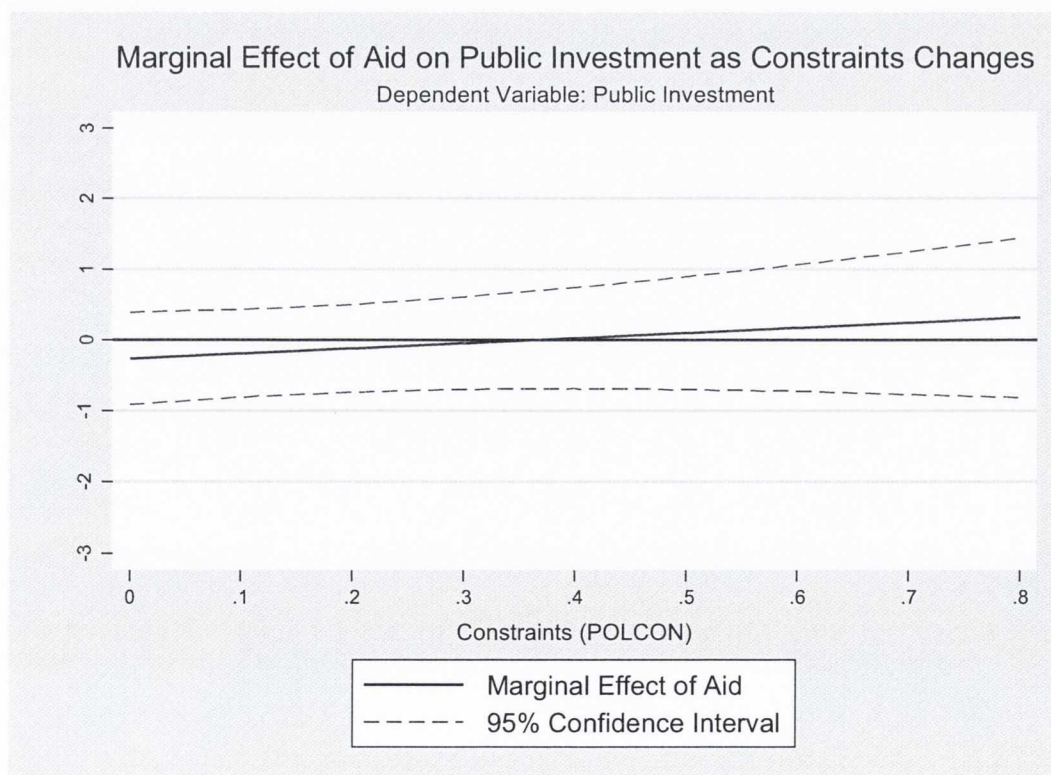
<b>Aid*Constraints</b>	0.643
	(0.612)
<b>GDP</b>	0.000**
	(0.000)
<b>Debt</b>	0.012
	(0.032)
<b>Interest Rate</b>	-0.005
	(0.039)
<b>Revenue as a percentage of GDP</b>	1.305**
	(0.469)
<b>Government Expenditure as a Percentage of GDP</b>	0.309
	(0.189)
<b>Constant</b>	-17.123*
	(9.938)
<b>N</b>	45
<b>R<sup>2</sup></b>	.40

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 1: Model 2**



Source: Brambor, et al, 2006

Model 3

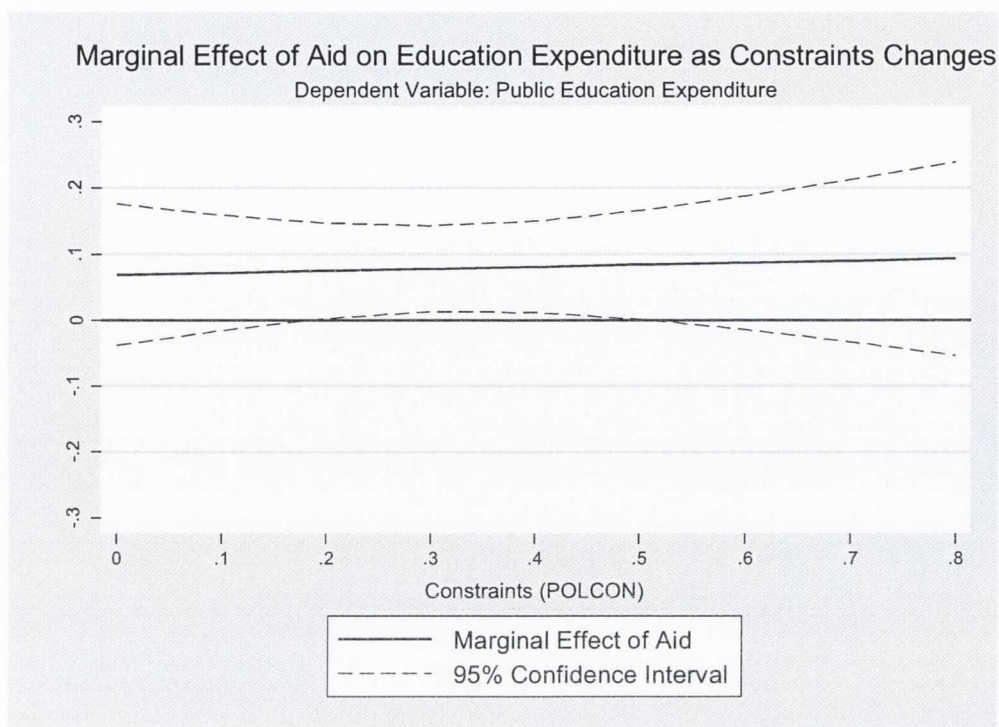
Variable	Model 3
<b>Aid/GDP</b>	0.069 (0.059)
<b>Constraints</b>	0.579 (0.825)
<b>Aid*Constraints</b>	0.029 (0.139)
<b>GDP</b>	0.170 (0.201)
<b>Population under 14 years</b>	-0.017 (0.030)
<b>Left-wing Government</b>	-0.047 (0.193)
<b>Literacy Rate</b>	0.034** (0.015)
<b>Polity</b>	0.022 (0.028)
<b>Constant</b>	-2.343 (5.315)
<b>N</b>	207
<b>R<sup>2</sup></b>	.26

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 2: Model 3**



Source: Brambor, et al, 2006

*Model 4*

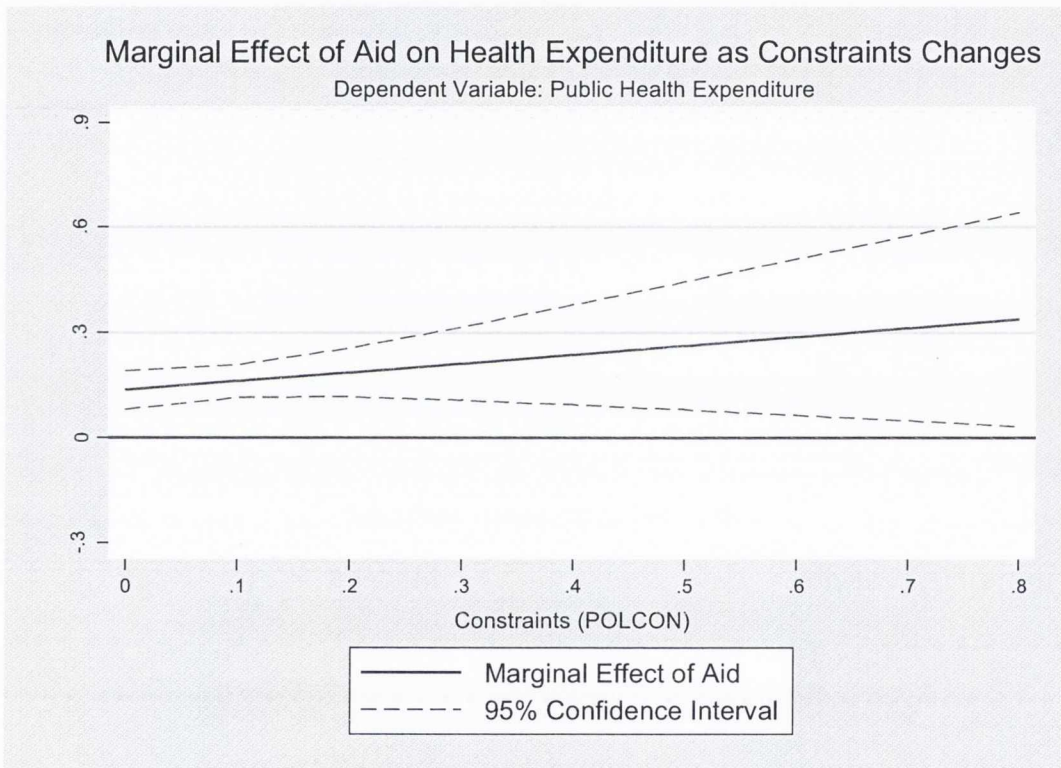
Variable	Model 4
<b>Aid/GDP</b>	0.137*** (0.029)
<b>Constraints</b>	1.657 (1.427)
<b>Aid*Constraints</b>	0.253 (0.213)
<b>GDP</b>	0.598 (0.393)
<b>Population over 65 years</b>	1.040 (0.751)
<b>Population under 14 years</b>	0.431* (0.238)
<b>Left-wing Government</b>	-0.371 (0.457)
<b>Literacy Rate</b>	0.136*** (0.030)



<b>Polity</b>	0.001
	(0.115)
<b>Constant</b>	-35.386**
	(18.206)
<b>N</b>	146
<b>R<sup>2</sup></b>	.14

Analysed using fixed effects. Models use robust standard errors.  
Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 3: Model 4**



Source: Brambor, et al, 2006

## Chapter 6

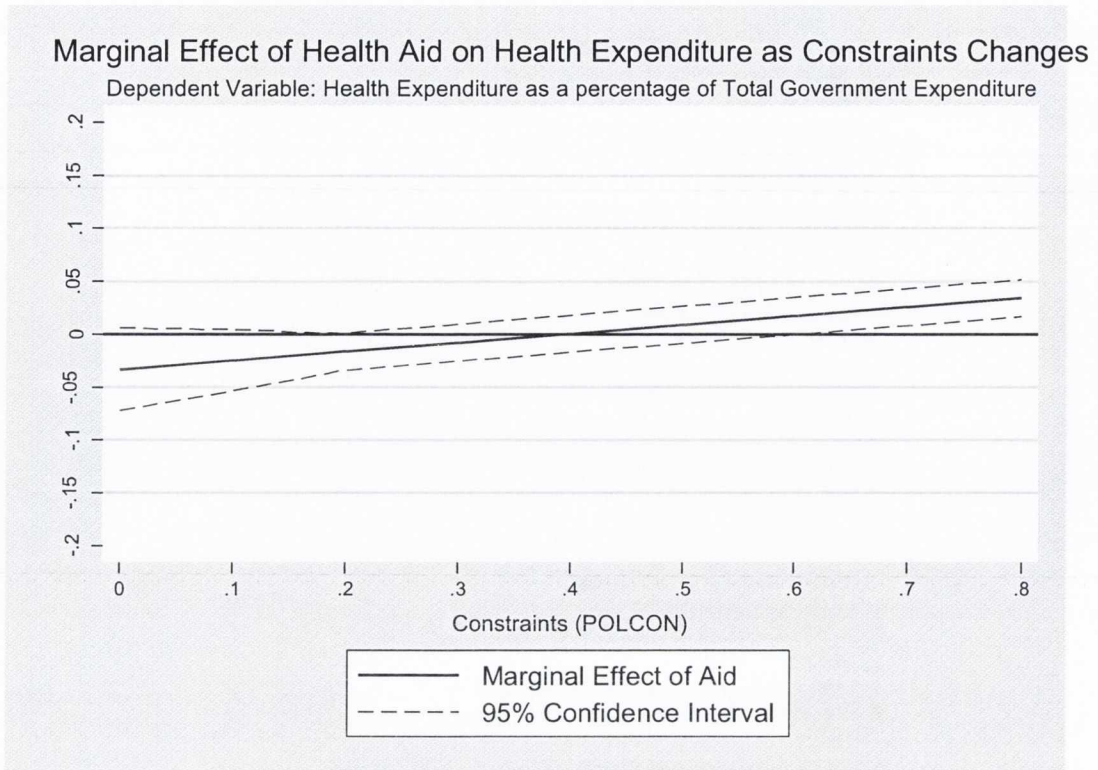
Variable	Model 1
<b>Health Aid</b>	-0.033 (0.020)
<b>Constraints</b>	3.080 (2.469)
<b>Health Aid*Constraints</b>	0.084 (0.051)
<b>GDP</b>	0.000 (0.000)
<b>Population over 65 years</b>	2.537 (1.969)
<b>Population under 14 years</b>	0.452 (0.415)
<b>Left-wing Government</b>	1.038** (0.527)
<b>Literacy Rate</b>	0.240 (0.258)
<b>Polity</b>	0.033 (0.237)
<b>Constant</b>	-39.377 (27.837)
<b>N</b>	167
<b>R<sup>2</sup></b>	.14

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 4: Model 1**



Source: Brambor, et al, 2006

*Model 2*

Variable	Model 2
<b>Education Aid</b>	-0.009 (0.045)
<b>Constraints</b>	-0.452 (3.065)
<b>Education Aid*Constraints</b>	-0.024 (0.126)
<b>GDP</b>	0.000 (0.000)
<b>Population under 14 years</b>	-0.499 (0.768)
<b>Left-wing Government</b>	0.853 (0.831)
<b>Literacy Rate</b>	0.301 (0.789)
<b>Polity</b>	-0.129

	(0.800)
<b>Constant</b>	5.890
	(82.697)
<b>N</b>	70
<b>R<sup>2</sup></b>	.14

Analysed using fixed effects. Models use robust standard errors.  
Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

## Chapter 7

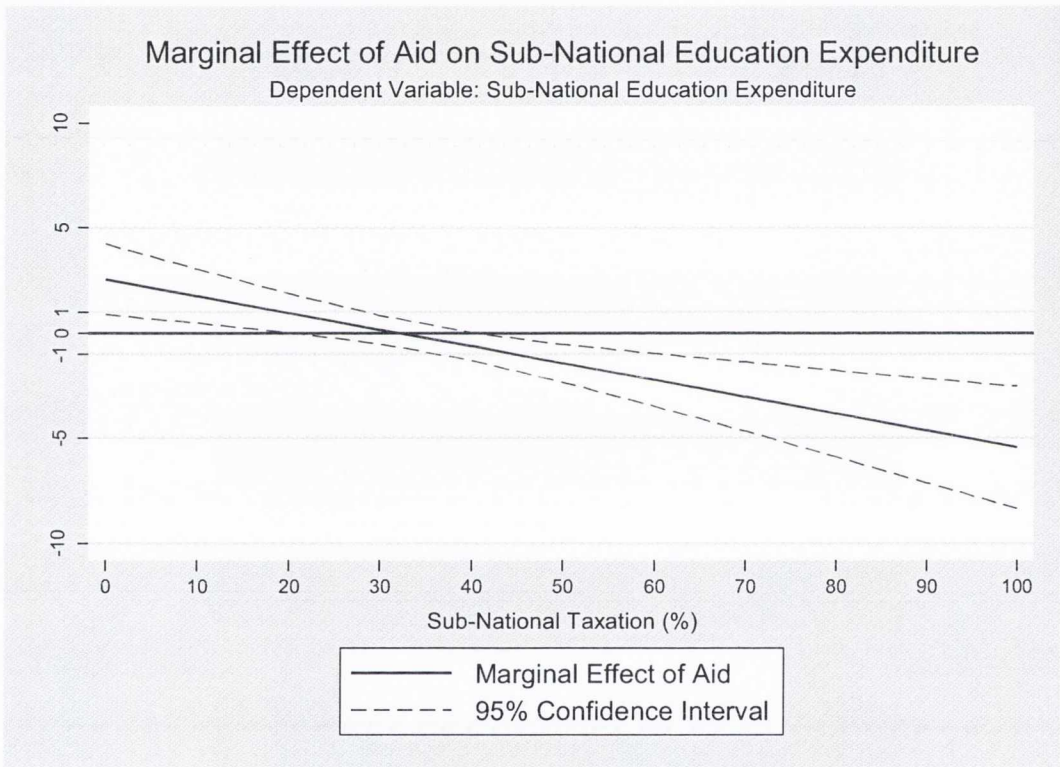
### Model 1

Variable	Model 1
<b>Aid/GDP</b>	2.191**
	(1.049)
<b>Sub-National Taxation</b>	-0.041**
	(0.139)
<b>Aid*Sub-National Taxation</b>	-0.064
	(0.022)
<b>Sub-National Revenue</b>	-0.194
	(0.178)
<b>GDP</b>	0.002***
	(0.001)
<b>Population under 14 years</b>	1.578***
	(0.355)
<b>Polity</b>	0.283**
	(0.104)
<b>Constant</b>	-
	42.173**
	(17.906)

N	194
R <sup>2</sup>	.29

Analysed using fixed effects. Models use robust standard errors.  
 Standard errors are in parentheses.  
 P values: 1% \*\*\* 5% \*\* 10% \*  
 Literacy rate and Sub-Saharan Africa dropped

**Figure 5: Model 1**



Source: Brambor, et al, 2006

Model 2

Variable	Model 2
<b>Aid/GDP</b>	-0.086 (0.341)
<b>Sub-National Taxation</b>	0.130** (0.059)
<b>Aid*Sub-National Taxation</b>	0.008 (0.009)
<b>Sub-National Revenue</b>	-0.065 (0.092)
<b>GDP</b>	0.001*** (0.000)
<b>Population under 14 years</b>	0.193 (0.296)
<b>Population over 65 years</b>	-0.334 (2.290)
<b>Polity</b>	-0.083 (0.062)
<b>Constant</b>	-4.672 (21.529)
<b>N</b>	179
<b>R<sup>2</sup></b>	.28

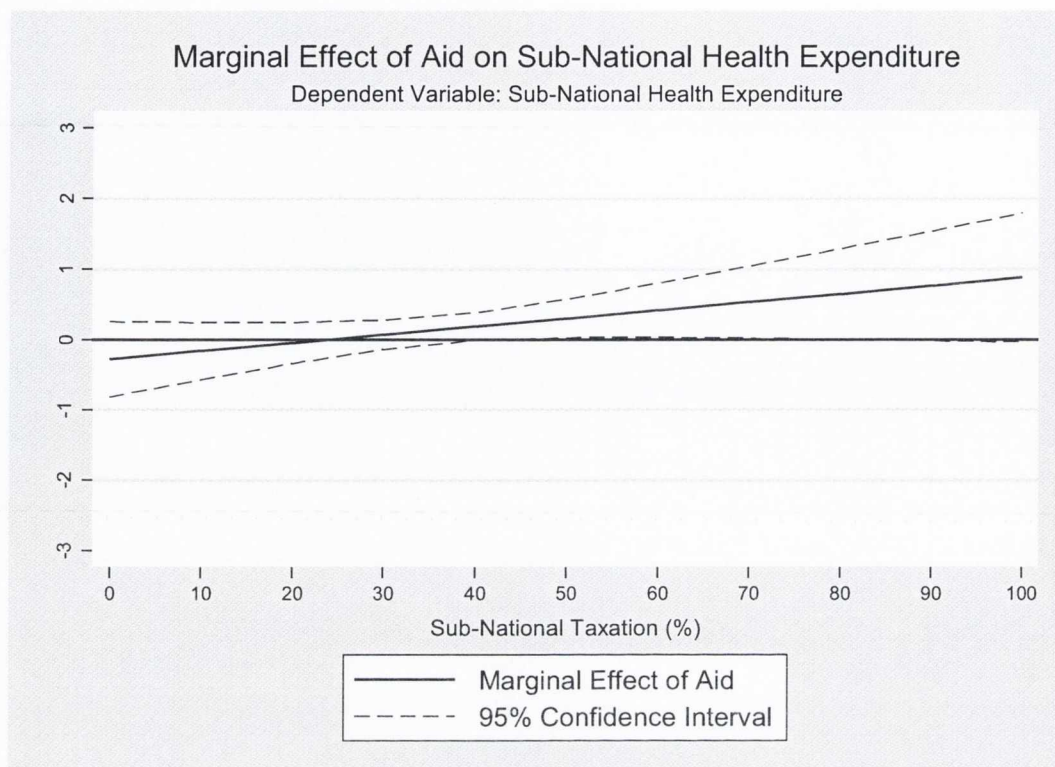
Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Literacy rate and Sub-Saharan Africa dropped

**Figure 6: Model 2**



Source: Brambor, et al, 2006

*Model 3*

Variable	Model 3
<b>Aid/GDP</b>	11.411*
	(5.532)
<b>Sub-National Taxation</b>	0.471
	(0.404)
<b>Aid*Sub-National Taxation</b>	-0.200*
	(0.094)
<b>Sub-National Revenue</b>	-0.350
	(0.416)
<b>GDP</b>	0.002
	(0.001)
<b>Population under 14 years</b>	0.395
	(0.671)
<b>Polity</b>	0.198

	(0.192)
<b>Constant</b>	-25.927
	(35.759)
<b>N</b>	62
<b>R<sup>2</sup></b>	.41

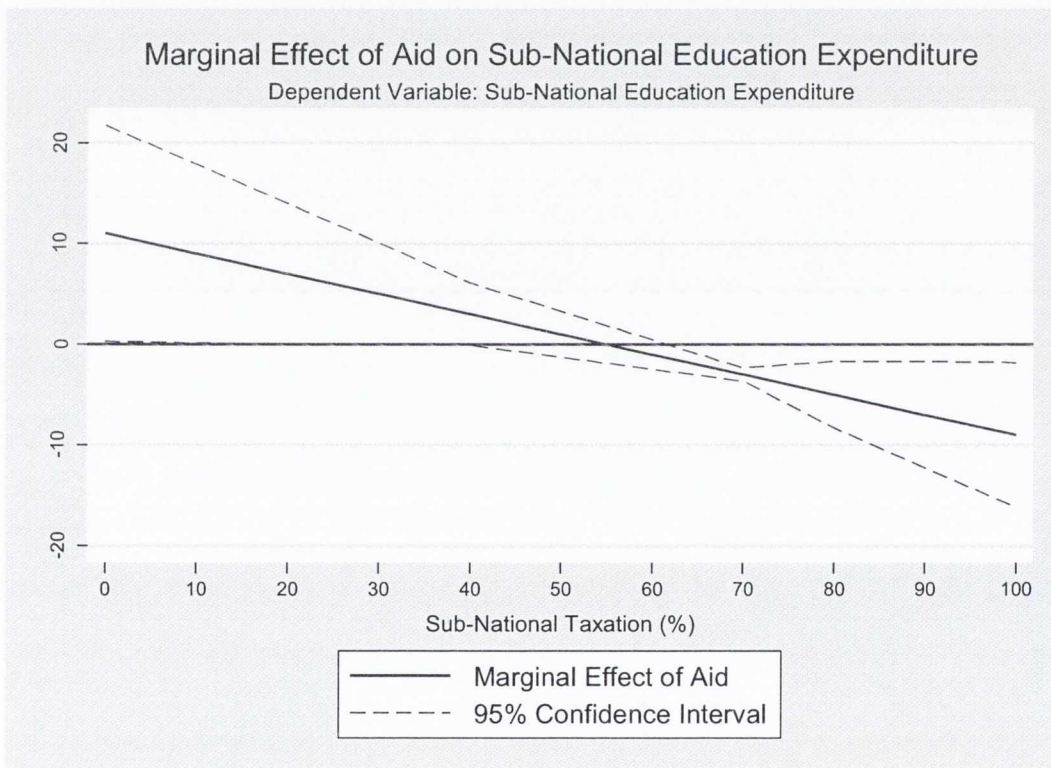
Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Literacy rate and Sub-Saharan Africa dropped

**Figure 7: Model 3**



Source: Brambor, et al, 2006



Model 4

Variable	Model 4
<b>Aid/GDP</b>	16.667***
	(4.302)
<b>Sub-National Taxation</b>	0.747
	(0.608)
<b>Aid*Sub-National Taxation</b>	-0.342***
	(0.071)
<b>Sub-National Revenue</b>	0.508
	(0.732)
<b>GDP</b>	-0.008
	(0.010)
<b>Population under 14 years</b>	0.504
	(0.684)
<b>Polity</b>	0.676
	(0.670)
<b>Corruption</b>	25.516***
	(5.424)
<b>Constant</b>	-76.105**
	(28.887)
<b>N</b>	45
<b>R<sup>2</sup></b>	.65

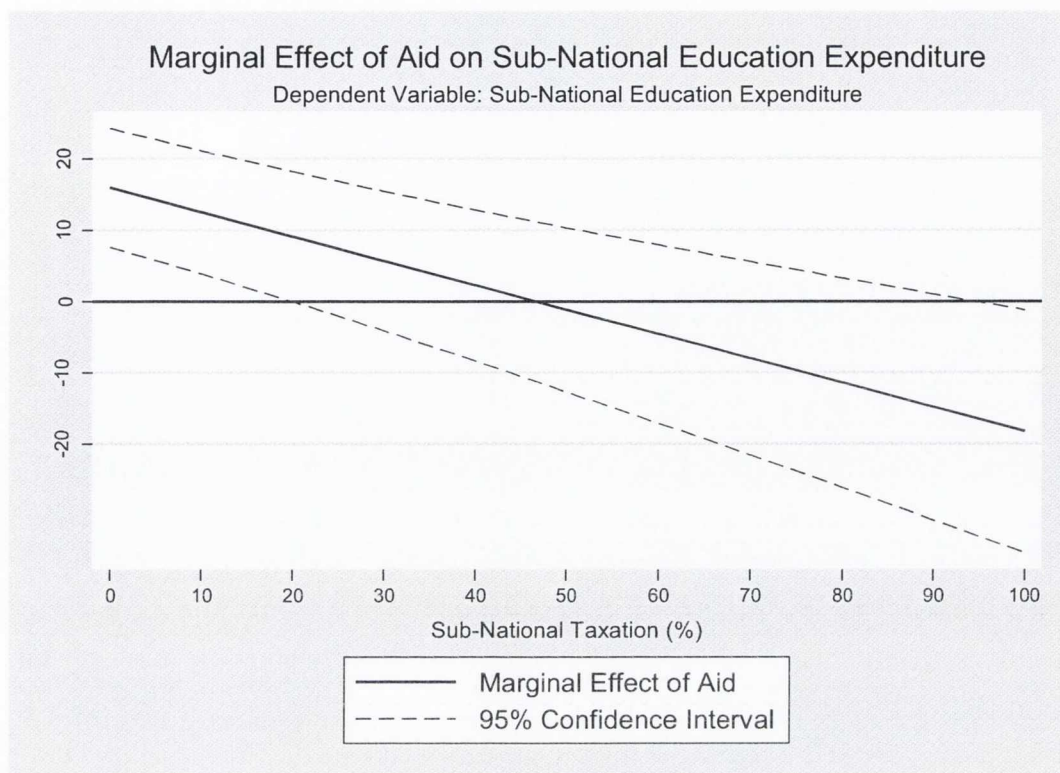
Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Literacy rate and Sub-Saharan Africa dropped

**Figure 8: Model 4**



Source: Brambor, et al, 2006

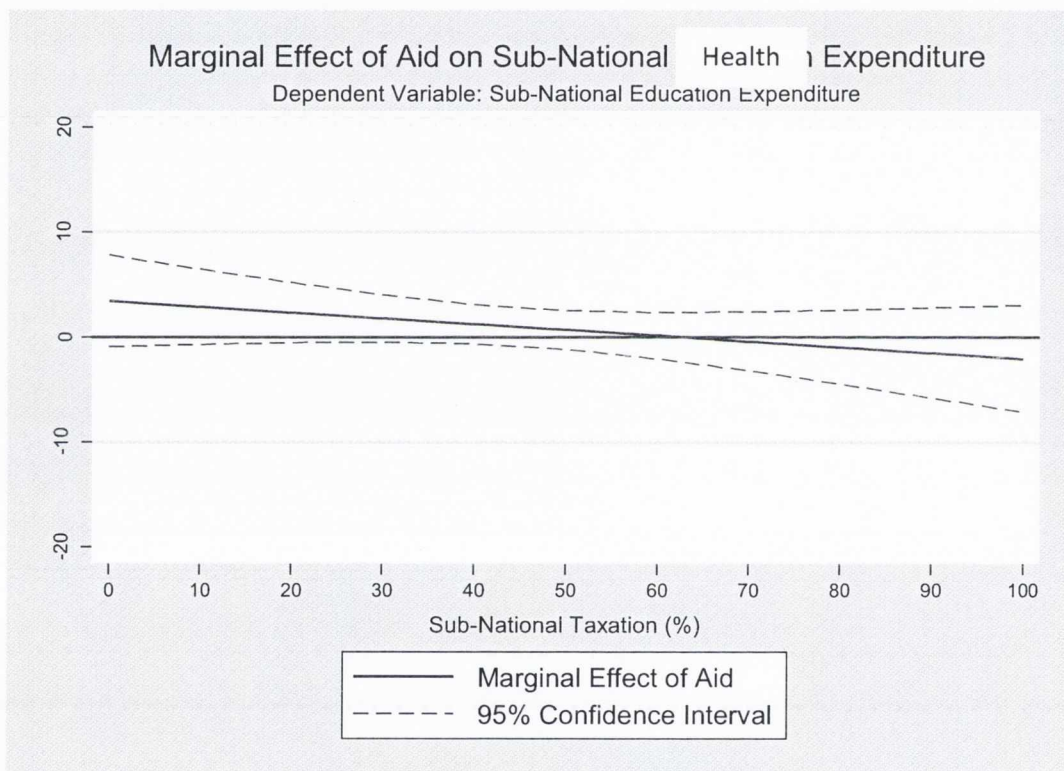
*Model 5*

<b>Variable</b>	<b>Model 5</b>
<b>Aid/GDP</b>	3.454 (2.287)
<b>Sub-National Taxation</b>	0.250 (0.208)
<b>Aid*Sub-National Taxation</b>	-0.055 (0.040)
<b>Sub-National Revenue</b>	-0.247 (0.284)
<b>GDP</b>	0.001 (0.001)
<b>Population under 14 years</b>	0.075 (0.622)
<b>Population over 65 years</b>	5.470 (6.877)
<b>Polity</b>	-0.131 (0.157)
<b>Corruption</b>	2.499

	(1.892)
<b>Constant</b>	-40.285
	(58.781)
<b>N</b>	58
<b>R<sup>2</sup></b>	.33

Analysed using fixed effects. Models use robust standard errors.  
 Standard errors are in parentheses.  
 P values: 1% \*\*\* 5% \*\* 10% \*  
 Literacy rate and Sub-Saharan Africa dropped

**Figure 9: Model 5**



Source: Brambor, et al, 2006

Model 6

Variable	Model 6
<b>Aid/GDP</b>	-0.939*
	(0.474)
<b>Sub-National Taxation</b>	-0.098
	(0.072)
<b>Aid*Sub-National Taxation</b>	0.059***
	(0.013)
<b>Sub-National Revenue</b>	0.083
	(0.663)
<b>GDP</b>	0.003***
	(0.001)
<b>Population under 14 years</b>	-1.788**
	(0.678)
<b>Population over 65 years</b>	-15.906**
	(4.892)
<b>Polity</b>	0.095
	(0.118)
<b>Corruption</b>	2.759
	(1.474)
<b>Constant</b>	129.931**
	(43.962)
<b>N</b>	45
<b>R<sup>2</sup></b>	.51

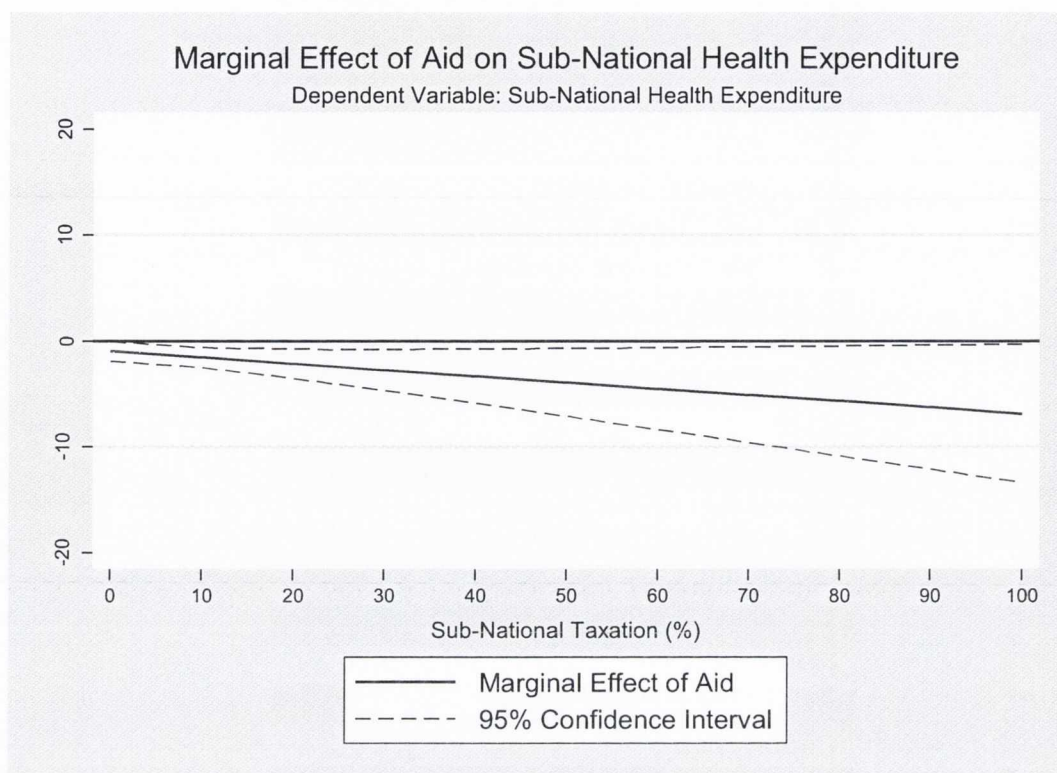
Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Literacy rate and Sub-Saharan Africa dropped

**Figure 10: Model 6**



Source: Brambor, et al, 2006

## Chapter 8

### Model 1

Variable	Model 1
<b>Aid/GDP</b>	0.018
	0.075
<b>P-index</b>	-0.055
	0.122
<b>Aid*P-index</b>	0.011
	0.012
<b>Constant</b>	4.610***
	0.471
<b>N</b>	307
<b>R<sup>2</sup></b>	.02

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Model 2

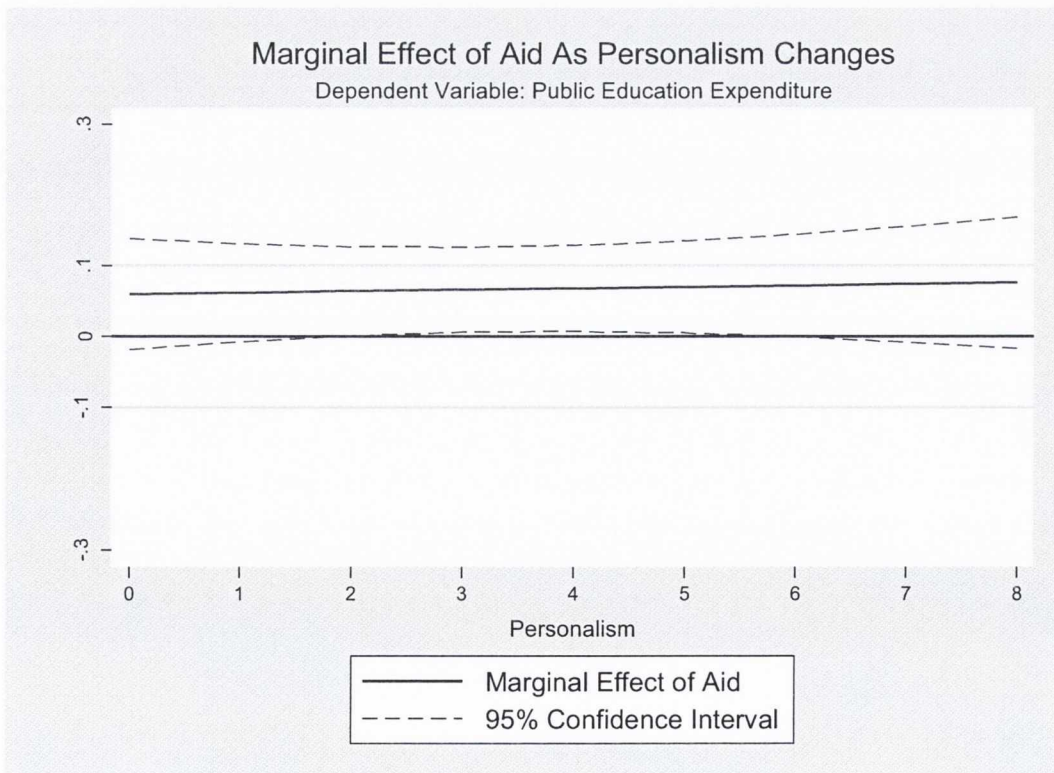
Variable	Model2
Aid/GDP	0.058
P-index	-0.022
Aid*P-index	0.002
Constant	0.130
Literacy Rate	0.036
Population under 14 years	-0.034
Constant	-0.853***
N	295
R <sup>2</sup>	.17

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

Figure 11: Model 2



Source: Brambor, et al, 2006

Model 3

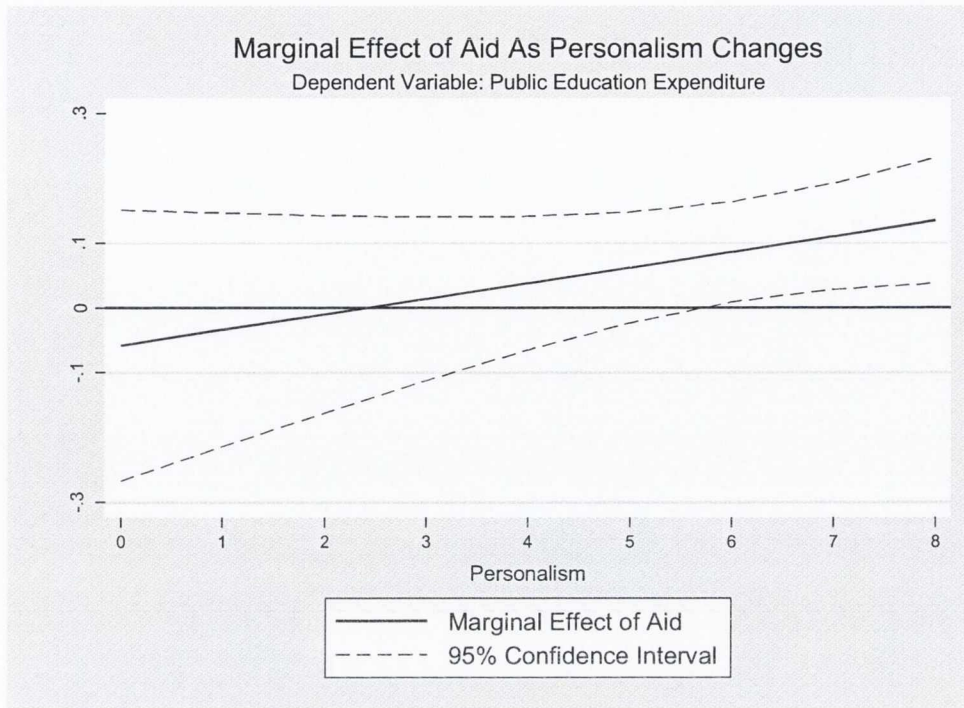
Variable	Model 3
<b>Aid/GDP</b>	-0.058
	0.107
<b>P-index</b>	-0.132
	0.105
<b>Aid*P-index</b>	0.024
	0.016
<b>Constant</b>	0.036
	0.321
<b>Literacy Rate</b>	-0.022
	0.019
<b>Population under 14 years</b>	-0.005
	0.075
<b>Constant</b>	6.630
	8.934
<b>N</b>	173
<b>R<sup>2</sup></b>	.12

Analysed using fixed effects. Models use robust standard errors.

Standard errors are in parentheses.

P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 12: Model 3**



Source: Brambor, et al, 2006

*Model 4*

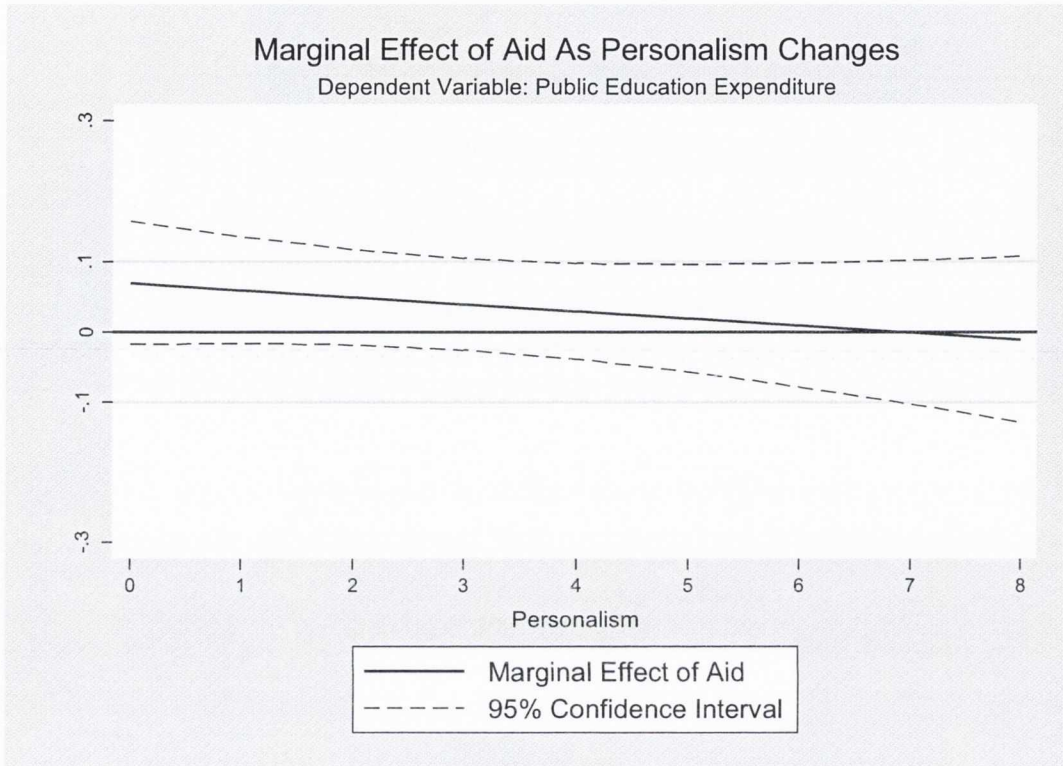
Variable	Model 4
<b>Aid/GDP</b>	0.085***
	0.020
<b>P-index</b>	0.083
	0.108
<b>Aid*P-index</b>	-0.007
	0.008
<b>Constant</b>	0.113
	0.097
<b>Literacy Rate</b>	0.015*
	0.008
<b>Population under 14 years</b>	-0.026
	0.031
<b>Constant</b>	0.435
	3.079
<b>N</b>	116



**R<sup>2</sup>** .18

Analysed using fixed effects. Models use robust standard errors.  
Standard errors are in parentheses.  
P values: 1% \*\*\* 5% \*\* 10% \*

**Figure 13: Model 4**



Source: Brambor, et al, 2006

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