USAID

AN EXPLANATORY STUDY OF THE UNITED STATES AID ALLOCATION

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ABSTRACT

The United States allocates close to one quarter of the world Official Development Assistance. Of this aid, the majority, close to ninety percent, is bilateral aid. This paper is an empirical study of how the United States allocates their bilateral aid, using data from 1989 to 2008. The analysis based on the recipient need, donor interest model, will show that the United States allocates aid both altruistically (recipient need) and self-interestedly (donor interest).The United States donates significant amounts of aid to a small number of strategic countries (close to half of their bilateral aid). The remaining aid is allocated between a large numbers of recipient countries. Results will show the economic importance and institutional environment of the recipient country is of less importance than the political and strategic considerations with the United States. The policies of the recipient countries on governance and democracy are not highly significant determinants of the allocation of US aid. The bilateral US foreign direct investment, by contrast, will be more sensitive to good policies and property rights within the rule of law of the recipient country.

I INTRODUCTION

The United States Agency for International Development (USAID) was created in 1961, following the success of US foreign assistance with the Marshall plan, in the reconstruction of Europe post WWII.[1] With the USAID Official Development Assistance (ODA) for the year 2009 being approximately 33.5 billion dollars; with almost 30 billion being bilateral aid and 3.5 billion being multilateral aid (OECD Statistics) the importance of the analysis of how the US allocates these bilateral aid resources becomes evident.

Developed nations, through the UN General Assembly in 1970, each made a commitment to increase its official development assistance to the developing countries and reach a minimum net amount of 0.7 percent of its gross national product by the middle of that decade. This goal was not reached by many of the countries, including the United States. Although there is still much pressure for the developed world to donate this 0.7% of their GNI (now part of the Millennium Development Goals (MDG)), only 0.36% of the US GNI is being assigned to ODA, still short of these MDG goals. In absolute terms though, the US is donating the most foreign aid of all the developed countries. The total ODA from the United States as a percentage of the entire world's ODA is approximately 25% of the total.[2]

This paper is an explanatory analysis and uses an empirical methodology to examine the bilateral aid[3] allocation determinants of the United States ODA, in an effort to understand the pattern of their aid flows and the resulting motivations for aid. The motivations for aid cannot be directly observed (unless one assumes the motives in aid policy statements are the correct motivations), but the means by which they are pursued can be. This explanatory study uses an empirically testable hypothesis relating the US aid flows to observable recipient country characteristics. The challenge consists in determining the correct and more significant motivations and objectives of the United States and translating these into recipient country observable and measurable characteristics.

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[1] The first Act of foreign aid in the US was the 1812 US Congress Act for the Relief of the Citizens of Venezuela.
[2] OECD DAC World in 2008 was 115.6 b while US DAC (2008) 26.3b.
[3] The paper will use the term US ODA for the US bilateral ODA in the paper.

The explanatory model used is the donor interest recipient need model.[4] This model relates the United States' motivations for aid allocation to a large sample of recipient country characteristics. The model differentiates between the two main motivations for aid allocation. The recipient need model examines recipient country characteristics that fall under the developmental needs of the country for aid. This can be considered an altruistic motivation on the part of the United States. Recipient needs observable country characteristics can include among others, level of income or population size.

The donor interest model encompasses the self-interest portion of the motivation for aid allocation. The donor country is seen to use political, strategic and economic gains as motivation for aid. The donor interest measure of US motivation for aid examines observable country characteristics in the recipient country or between the recipient country and the US, such as bilateral trade with the US, US and recipient country voting coincidence in the UN, among others.[5]

In this paper, I estimate an aid allocation model incorporating both the donor interest and recipient need motivations of the United States by using Ordinary Least Squares (OLS) regression analysis and taking advantage of the panel structure of the data. The main hypothesis is that the correlations between the recipient country's characteristics and the US aid allocations demonstrate donor motivations. Under the hypothesis that observable country specific variables capture how the US allocates aid, my empirical strategy will reveal the motivations of the United States for allocating their bilateral aid.

The results show that strategical and political motivations account for a significant portion of the US aid allocation. However, US aid also seems to be allocated according to the recipient countries developmental needs. The economic motivation, as measured by the correlation between the US allocation of aid and the amount of trade between the US and the recipient country, is extremely small.

The paper is organized as follows. Section II reviews the literature on donor interest recipient need models of aid allocation. Section III outlines the data and their sources used in this paper.

[4] The donor interest recipient need model will be further examined in the Literature Review and the Model sections.
[5] A full examination of donor interest and recipient need variables will be done in the Data section.

The model presents in Section IV. Section V presents the empirical results. The conclusions are in Section VI.

II LITERATURE REVIEW

How a country allocates its bilateral aid can be observed through the motives of the donor country in supplying a certain amount of aid to a recipient country. Donors believe by supplying aid, the donor will receive something in return from the recipient country. According to Dudley and Montmarquette (1976), this return could be intangible, such as altruistic motives or more tangible, as in tied aid programs, beneficial terms of trade with the recipient country or the formation of strategic alliances. This section outlines different possible methodologies used in the estimation of the recipient need donor interest models. This will be followed by an examination of the results obtained in the literature through the use of these estimations.

Several empirical studies attempt to determine why donor countries allocate aid in the way they do (e.g. Maizels and Nissanke (1984) and Boone (1996)). These explanatory studies treat foreign aid as a foreign policy instrument to achieve political, strategic, economic, and humanitarian objectives. Donor countries allocate foreign aid so as to maximize the achievement of these objectives. As the donor countries' motivation is not observable, the explanatory analysis uses the donor's decision making process of allocation as a measure of donor motives. The assumption is that the donor will allocate aid to those recipients seen to have the characteristics (economic, strategic, political or, developmental) which are believed by the donor to be consistent with the donor's motivations. Thus the hypothesis allows relating aid flows to observed characteristics of the recipient countries.

Before analyzing the determinants of the aid allocation process, I examine the empirical models of these different papers on aid. Several empirical studies use a two-part model, (e.g. McKinley and Little (1977) and Maizels and Nissanke (1984)). The first step in the study is to determine whether a donor country includes a certain country as a recipient of their aid allocation. In the case it does, the next step is to consider how much aid to allocate to the

selected recipient country (e.g. Trumbull and Wall (1994)). This method is useful when analyzing multiple donors. Yet the study of the US bilateral aid process shows the US donates some aid to all developing countries.

The empirical research of bilateral aid allocation to recipient countries can be structured around two main determinants of the factors influencing aid allocation: the recipient need and the donor interest. These recipient need and donor interest models can be analyzed separately in two empirical models, as in McKinley and Little (1977) and Maizels and Nissanke (1984). However, this methodology is inherently problematic econometrically. If it is posed a priori that both recipient need and donor interest influence aid allocation, then both of these two models are misspecified due to the omission of relevant variables. Alternatively, Berthelemy (2005) suggests that to avoid omitted variable bias, the two models must be jointly determined. Accordingly, the more recent literature analyzes the aid allocation motivations using both models simultaneously (e.g. Alesina and Dollar (2000), Feeney and McGillivray (2008) and Fleck and Kilby (2010)).

Another important factor is the specification of the dependent variable to have a correct model specification. The implicit assumption with the inclusion of the donor interest model is that the bilateral aid is the dependent variable of interest. However, several papers use an aggregate of the bilateral and multilateral aid of the recipient country[6] as the dependent variable, including Maizels and Nissanke (1984), Trumbull and Wall (1994) and Boone (1996). When multilateral and bilateral aid is examined together as the aggregate of all the aid to a recipient country, the model loses the explanatory power of the differences in motivation across donors. Therefore Boone (1996) and Berthelemy (2004) additionally provide results on separate donor estimations.

The methodology of the determinants of bilateral aid allocation has evolved over time. Earlier studies, such as McKinley and Little (1977) used one donor country with recipient countries changing over time. Alesina and Dollar (2000) present a panel data approach, studying the aid allocation over donor, time and recipient. Berthelemy (2004) analyzes an extremely large data set combining the two geographical dimensions, the donor countries and the recipient countries

[6] Bilateral aid is provided directly by a donor country to an aid recipient country. Multilateral aid is channelled via an international organisation active in development (e.g. World Bank, UNDP).

as well as a time dimension. This methodology according to Berthelemy (2004) is the first attempt to test differences among donors. The papers also differ regarding the time horizon of aid variables. Numerous papers (especially the ones with multiple donors) aggregate the data for estimation in five year (e.g. Alesina and Dollar (2000) and Boone (1996)) and four year (e.g. Burnside and Dollar (2000)). McKinley and Little (1977) and Maizels and Nissanke (1984) estimate the aid equation using yearly time periods. Alesina and Dollar (2000), also examine the bilateral aid flows by donor country, using yearly data. With the use of the yearly data, they always lag per capita income in the list of controls to avoid endogeneity problems. The reason for the aggregating of time periods is to smooth the aid flows over time. This qualification seems more relevant in the case of multiple donors, as the differences of bilateral aid will fluctuate more over donors to a set of recipients. The US bilateral aid is continuous to all recipients over time.

The use of fixed effects model to control for country heterogeneity of the recipients is widely used as a methodology in the aid literature. This can be the only specification, such as in Trumbull and Wall (1994) or tested against a model without the use of fixed effects, such as in Alesina and Dollar (2000). Time dummies are used in most of the aid studies, for example Berthelemy (2004). Trumbull and Wall (2004) extend this qualification by stating that previous cross-sectional studies should be rejected on the basis that these estimations are not adequate without this framework of controls on the recipient effects or simultaneity bias.

McKinley and Little (1977) test the distribution of US bilateral aid for the years 1960 to 1970, in yearly measures. They classify the recipient need model in accordance with an economic or developmental shortfall in the recipient countries. Their sample includes all non-communist, non-OECD countries. The donor interest model, where aid is distributed in accordance with donor interests will be classified according to the gains the donor can realize from the recipient country. Examples of possible gains can be more trade with the recipient or strengthened political or strategic alliances with certain recipient countries. Their paper examines one donor, the United States. McKinley and Little (1977) estimate the donor interest and recipient need models separately and find that aid allocation reflects a donor interest model, and not the recipient need model. They conclude that the US aid allocation does not seem to be guided by humanitarian or economic assistance motives. It is rather the power, political and security

interests of the US which are central criteria underlying the distribution of US aid over the period 1960-1970.

Maizels and Nissanke (1984) also use two models for the recipient need and donor interest, with separate OLS regressions of each motivation. The authors use a multiple donor (all DAC members) and multiple recipient (79 countries) data set. Additionally they estimate the dependent variable as bilateral aid, then multilateral aid and finally a combination of bilateral and multilateral aid. Interestingly, their findings indicate that the two models perform differently depending on whether one considers bilateral or multilateral aid allocation. Their findings show that multilateral aid gives a more viable explanation for the recipient need model. By contrast, the donor interest model is a better interpretation of any bilateral aid. The conclusion reached by Maizel and Nissanke (1984) state that there has been a change in the allocation method used by the donor countries to allocate aid to the recipient countries. Donor countries, in this time period, prefer the bilateral aid allocation process, as opposed to using multilateral institutes to allocate its aid.

More recently, Alesina and Dollar (2000) estimate the donor and recipient model in the same regression. Using OLS, the log of the bilateral aid per capita is regressed on variables related to both the recipient-need and donor interest model. Alesina and Dollar (2000) is the main reference paper for the methodology and explanatory variables used in this study. Their paper studies the pattern of aid allocation using bilateral aid flows of a large sample of donor countries, although 70% of total bilateral aid is accounted for by only four countries: United States, Japan, France and Germany. All the recipient countries are included in this model (165 recipient countries in total).

Alesina and Dollar (2000) aggregate their data over five year periods, with their timeline being 1970 to 1994 inclusive.[7] They do this to account for fluctuations in the aid data. Their objective is to explain the behaviour of the bilateral donors on the basis of recipients' poverty, the quality of their institutions and policy, as well as the variables capturing the strategic interests of the donors. They find considerable evidence that the pattern of aid allocation is dictated by

[7] Alesina and Dollar (2000) consider the 5 year data use in their regression equations to be their benchmark results. Although, they do a donor by donor examination of bilateral aid using the lagged yearly GDP data to avoid endogeneity.

political and strategic considerations. Furthermore, when they examine the donor by donor results, using the yearly data and lagged initial income, they find significant differences in donor behaviour. Donors respond to the country characteristics in different manners, signalling they have different motivations and objectives for giving aid.

Alesina and Dollar (2000) conclude that the cross country differences in recipient countries can be explained by political factors, such as colonial relations, alliances and strategic interests. However, changes in aid flows over time in a country tend to reward democratization. The hypothesis or assertion is that the donor rewards countries attempting to implement democracy or for moving towards a more democratic society. From this, Alesina and Dollar (2000) conclude that foreign aid is only partially successful at promoting growth and reducing poverty and only part of the poor performance of aid can be attributed to the governance of the recipient countries.

Trumbull and Wall (1994) assume that the donor country takes into account that there is simultaneous allocation of aid to one recipient country from a number of donor countries, in the same manner as the Alesina and Dollar (2000) paper. However, unlike Alesina and Dollar (2000), the Trumbull and Wall (1994) paper tests only the recipient need motive of aid allocation, and does not include the donor interest motivations. Using the panel data of 86 recipient countries over the period 1984 to 1989, Trumbull and Wall's (1994) basic specification controls for recipient country effects (country fixed effects). Including time fixed effects, they find that if a recipient country has half the per capita income of another country, the lower income country receives 69% more aid per capita. Additionally, the recipient country which has twice the population of another recipient, will receive 67% less ODA, then the country with the lower population.[8]

When Trumbull and Wall (1994) introduce country and time fixed effects, the income per capita effect greatly diminishes, while the population effect remains mostly unchanged. The two other measures of recipient need variables, infant mortality and civil rights increased in significance to the donor country, using this method. They conclude that it is important to control for country specific and time fixed effects when studying the aid allocation decisions of a donor country. While Trumbull and Wall (1994) address the country heterogeneity issue, they do not

[8] Trumbull and Wall (1994) use multilateral and bilateral trade for their ODA measurement.

include any of the donor interest variables. This model can therefore suffer from omitted variable bias.

Boone (1996) studies the effectiveness of the aid in recipient countries. However, the paper begins with an explanatory study of the recipient need donor interest determinant variables of aid. The time period of this study is in 5 year averages, over the 1971 to 1990 time frame. Boone (1996) estimates the model, using one donor country, the United States. For the recipient countries he includes 96 countries.[9] He uses two additional measures of human development indicators; infant mortality and life expectancy, in his recipient needs explanatory variables. The results show these indicators are statistically insignificant. Rather, the regression results show that 65% of the variance in aid flows is explained by income per capita and population. Boone (1996) believes that a donor country will hesitate in donating large aid packages to any one country, therefore larger countries' per capita aid will be smaller. Additionally, once Boone (1996) controlled for country specific fixed effects the population coefficient becomes insignificant.

Burnside and Dollar (2000) examine the relationship between foreign aid, economic policies and growth per capita GDP. Their hypothesis is that donor countries allocate aid to countries with good policies, encompassing the donor interest recipient need hypothesis. Donor countries donate to countries that realize the most economic gain per dollar of bilateral aid sent. The objective is to allocate aid in a developmental manner, yet the donor wishes to see the highest results or impact for this motivation. Therefore the model is based on the donor interest and recipient need, with the good policy variables being an explanatory variable for the donor interest hypothesis.

To test this hypothesis, they run OLS regressions using panel data and including 56 recipient countries. The donor country's bilateral aid is not estimated separately. Rather, the aid to the recipients is aggregated, calculated as a sum of all the bilateral (from donor countries) and multilateral (from international institutions). This model is over the time period of 1970-1993, with their data being averaged in 4 year increments.

[9] This smaller data set in number of recipient countries is due to Boone (1996) using only ODA recipient countries with over a million people. Additionally he excludes Israel from his analysis. The following paper does not have these limitations, with 166 countries included.

In Burnside and Dollar (2000), the donor country interest is only partially examined through the inclusion of dummy variables for certain recipient countries or regions considered to be of strategic influence. The coefficients on these variables are mostly insignificant, with the exception of the dummy for Egypt, which was highly significant with Egypt receiving 2% of its GDP through bilateral aid from the US. Burnside and Dollar (2000), assume that the large and significant coefficient on the Egypt variable represents a strategic variable for the United States alone. This is different from the findings of Alesina and Dollar (2000) who state that not only was Egypt strategically important to the US, as well over this time period, Egypt received large support from many of the other bilateral donors (France, Germany, Japan Australia and Austria). Therefore to identify Egypt as solely a US strategic variable, when including all aid is misleading. Any conclusions drawn from the aggregate aid of the recipient country cannot contain individual donor interest deductions. In conclusion, Burnside and Dollar (2000) find no empirical evidence that countries allocate bilateral aid to countries with better policies. In contrast, aid that is managed multilaterally does favour countries which have good policies.

Berthelemy (2005) use a donor interest recipient need empirical model to analyze the period 1980-2000 for a large cross section of donor and recipient countries. His analysis makes use of 137 recipient countries and 22 donor countries. He estimates a two-step model, as described previously. He then proceeds with the OLS estimation with fixed effects in the single equation. His results show that donor countries, with particular political linkages with recipient countries, use their ODA to reinforce these ties. Additionally, donor countries target their assistance to their most significant trading partners. On average though, the donor countries give aid to the neediest countries. They target recipients with better governance, the presence of democracy and higher growth performance. He concludes that, apart from the self-interest donor countries exhibit, the donors still maintain their aid selectivity on a basis of recipient needs and merit. Berthelemy (2005) find that different bilateral donor countries had major motivational differences in their aid allocation behaviour. Therefore this necessitated examining the donors in separate analysis. He finds the United States targets less its commercial interests (trading partners), but uses its assistance policy more for political motivations.

Continuing the study of the donor interest recipient need model, this paper uses a one step model. As stated previously, the United States allocates aid to all countries so the first step, the

selectivity process would be redundant.[10] Additionally I use a hybrid model with the donor interest recipient need explanatory variables examined in the same estimation. In order to control for countries heterogeneity and time trends in aid allocation, I introduce country fixed effects and time dummies in the analysis.

III DATA

The data consists of one donor country (United States) and 166 recipient countries. In most specifications, the dependent variable is the logarithm of the aid per capita. The explanatory variables used in the following paper's regressions and analysis will rely heavily on the variables used in the Alesina and Dollar (2000) paper. The variables will be changed where necessary to this papers unique study. As this paper's timeline is from 1989 to 2008, different strategic dummy variables have necessarily been introduced (as they change over time). The timeline used is the most recent data on the bilateral aid. As well this study incorporates the post 1992 fall of the Soviet Bloc of countries.

For comparison reasons, the logarithm of foreign direct investment as a percentage of GDP will be used in other specifications. The purposes is to determine which explanatory variables are important for FDI, but are not significant for the aid determination and which explanatory variables are necessary for aid, but have no correlation to the FDI.[11] The FDI is a reference point for aid allocations to determine if the aid allocation is independent of the flows of private investment. A potentially important consideration is that the FDI may belong in the bilateral aid equation or that the bilateral aid belongs in the FDI equation. However, Alesina and Dollar (2000) find no evidence that aid depends on FDI or that FDI depends on aid. The explanatory variables used in this study include GDP per capita, population, openness (3 different measures), democracy, civil liberties, United States UN friend, colony (number of years), dummy for US colony, dummies for; Egypt, Israel, Afghanistan and Iraq, dummy for Communist, Rule of Law, Muslim and Roman Catholic. These explanatory variables are examined in more details below.

[10] The first step considers whether the recipient country receives aid or not.
[11] Further explanation of the inclusion of the FDI as a dependent variable is discussed in the Results section.

Official Development Assistance (ODA)

I use data on bilateral aid flows, U.S. Official Development Assistance, reported by the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD). The DAC publishes statistics and reports on aid and other resource flows from donor countries to recipient countries, based principally on the reporting of DAC Member countries.

The annual data reported represents total new grant obligations and loan authorizations in the given year. By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries (bilateral ODA) and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions.[12] This paper used only the United States bilateral aid to recipient countries, as reported in the DAC. For the purposes of this paper, the bilateral ODA from the OECD tables was converted in constant US dollars (2005).

Aid is measured in per capita terms as opposed to absolute terms in the regressions. Since the size of the population has been introduced on the right hand side of the equation, the debate to use per capita or total aid is no longer relevant.[13] The regressions use the aid allocation decision on a yearly basis, for the years 1989 to 2008. Boone (1996) and Alesina and Dollar (2000)[14] use averaging of the aid data for five year periods. The purpose of this averaging was to counteract fluctuations in the aid allocations of the donor countries. For comparative results, this paper will average the aid per capita data beginning with 1989 to 1994, and ending with 2004 to 2008 in later regressions.

I add 1,000 to all the aid per capita values. This is done to avoid losing the aid per capita measure when the logarithm is taken, if the aid has a value of zero. This represents a shift across all the aid per capita variables, leaving the relative results unchanged, yet the more important measure of zero aid is still retained in the analysis. This methodology is used in the Alesina and Dollar (2000) paper.

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[12] OECD, *Glossary of Statistical Terms.*

[13] For more on the debate of aid allocation behavior; per capita vs. total volume, see Niemeyer (2003).

[14] Again Alesina and Dollar (2000) did examine a donor by donor yearly aid equation. However, this was not considered their benchmark result.

Real GDP

The country specific data is taken from the Penn World Tables 6.3, which reports up to 2007. The Penn World Tables provides purchasing power parity adjusted real GDP for 188 countries for the years 1989-2007. The year reference on all Penn World Table 6.3 data used is 2005. As this papers time frame extends to 2008, the World Bank World Development Indicator (WDI) was used to fill in the 2008 values. The World Bank statistics also use the 2005 year for constant dollar reference benchmark. For most of the paper each year's real GDP is used as the measure. In the regressions where 5 year averaging is used, the per capita income is measured at the beginning of each 5 year time period and used for that 5 year measure. For example, for the period from 1989 to 1993, the real GDP of 1989 is taken as that periods' measure (not an average of the 5 years).

Population

Introducing the size of the population of the recipient country as an explanatory variable is necessary, as discussed in Dudley and Montmarquette (1976). There is a population bias towards smaller countries when the aid flows are examined. This small country effect is a tendency for small countries to receive more aid per capita than larger countries. Therefore the population variable is introduced to capture the flow of aid over time with the changes in population within a country, additionally the difference in aid across countries, with countries of different population size. The population variable is taken from the Penn World Tables 6.3, though some of the countries' population data are taken from the World Bank Development Indicators.[15] The population data for the year 2008 was retrieved from the World Bank. Population is reported in millions and is also converted to logarithm in the analysis.

The Real GDP and population are entered in the regression both linearly and quadratically. The square of both variables are calculated to determine the rate of increase (or decrease) of that variable on the dependent variable of aid per capita.

[15] The data in the Penn World 6.3 ends with the year 2007.

Openness

Three different measures of the openness variable are used in the paper. The first measure of openness is the Sachs and Warner dummy variable. The second openness variable is the Penn World Table 6.3 measure of openness. Finally, the third openness variable is the measurement of the actual bilateral trade between the United States and the recipient country.

(I) Sachs and Warner Openness Measurement

The Sachs and Warner measurement of trade openness is used by Alesina and Dollar (2000). It is a binary variable (openness=1, non-openness=0). An economy is considered open if it passes each of the following five tests for the duration of the time period:

- Average tariff rate below 40 percent
- Quotas covering less than 40 percent of trade
- Black market exchange rate premium below 20 percent
- Absence of socialist economic system
- Absence of an extractive state monopoly on major exports

Together the tariff and quotas measures the countries openness to trade or degree of free trade it allows. Therefore the larger tariffs and the more restrictive (smaller) the quotas are, the less open to trade the country will be. The black market premium illustrates the presence of an underground illegal trade, usually present when high tariffs or restrictive trade practices are in effect in a country. The socialist economy does not encourage free trade between all countries; rather it encourages trade amongst partner socialist countries. Finally if the recipient country has a major export controlled by the state, this reflects government intervention and control in the countries international trade. Therefore each of the above five conditions when met, will reflect a country that is open to trade.

(II) Openness Penn World Tables

This variable, as measured by the Penn World Tables 6.3, is the total exports plus total imports of the country divided by real GDP. This is the total trade of a country, as a percentage of its GDP.

(III) Openness as measured through Bilateral Trade

This variable is measured as the country's total exports to the United States plus total imports from the United States divided by the country's Real GDP. The difference to the Penn World Table 6.3 measure is that the bilateral trade measure is solely the openness in trade between the recipient countries and the United States. This should be a more relevant variable as the analysis is between the United States and these same recipient countries. The magnitude of this variable is obviously always smaller than that of the Penn World Table 6.3 measure.

Democracy and Civil Liberty

I apply the widely used Freedom House indexes as qualitative measures of Democracy and Civil Liberty. The index measures Political Rights (Democracy) and Civil Liberties, using a measure of the opportunity for individuals to act spontaneously in a variety of fields outside the control of the government and other centers of potential domination. While the survey considers restrictions on freedom imposed by governments, it does not measure government performance per se. Rather; it measures the wider state of freedom in a country, reflecting both governmental and non-governmental constraints. Similarly, the survey does not explicitly measure democracy or democratic performance. Rather, it measures rights and freedoms integral to democratic institutions.

Freedom House rates the presence of political rights and civil liberties in 192 countries every year. Scores for the two items range from 1 to 7, with 7 being the lowest level of freedoms in each case. The scores were inverted so that the high numbers would reflect high levels of democracy, rather than the counter-intuitive scoring method used by Freedom House in which low numbers mean high democracy.

Rule of Law

The Political Risk Services Group publishes an International Country Risk Guide (ICRG). ICRG produces political, economic, and financial risk ratings for countries important to international business. The rating comprises 22 variables in three subcategories of risk: political, financial, and economic. A separate index is created for each of the subcategories. The Political Risk index is based on 100 points, Financial Risk on 50 points, and Economic Risk on 50 points. The total points from the three indices are divided by two to produce the weights for inclusion in the composite country risk score. The composite scores, ranging from zero to 100, are then

broken into categories from Very Low Risk (80 to 100 points) to Very High Risk (zero to 49.9 points). This measure, used in the FDI regressions, demonstrates a countries institutional environment for business.

Muslim Catholic

The variables of Muslim and Catholic are the percentage of populations being of either religion in the recipient country. This data was compiled from the CIA World Factbook.

US Colony Dummy

This variable is a dummy variable (with colony of US =1, not colony of US =0) as to whether a recipient country was a colony or territory[16] of the United States in the twentieth century. The variable was retrieved from the CIA World Factbook. The dummy variable remains throughout the timeline, as it is a measure to see if the United States favours present or past colonies or territories. There are only eight out of 166 recipient countries which have the colony or territory dummy.[17]

Years as Colony

This variable is the number of years in the twentieth century that a recipient country was a colony of any other country, not only the US. The logarithm of the years is then the explanatory measure used in the regression.[18] The source of this data is the CIA World Factbook with the date of independence being used to determine how many years the country was a colony.

Communist Countries

The communist dummy is in place only for the years the recipient countries were considered communist. Soviet Bloc countries did not, on average, receive aid pre 1992.[19] Additionally some communist countries after they ended their communist regime still did not receive aid for several years. The dummy variable here uses the official separation date from the Soviet Bloc. Therefore, the communist countries were only used as dummy variables when they officially

[16] The US colony variable will be referred to as US colony or US territory throughout the paper.
[17] The countries included as a US colony or territory are: Marshall Island, Federated States Of Micronesia, Nicaragua, Palau, Panama, Philippines, Puerto Rico and Samoa.
[18] This explanatory variable will only be used in one regression and subsequently dropped.
[19] Additionally, foreign direct investment only starts after the communist regimes had ended.

were part of the communist regime. There is although, some communist countries that remain communist throughout the period under study (e.g. Cuba, Vietnam), as well as a countries that left the regime with the collapse of the Soviet Union (e.g. Lithuania).[20]

Dummies for Strategic Partners

Various papers have used dummy variables for extremely large recipients of aid relative to the donor's aid total. Berthelemy (2004) uses and Israel and Egypt dummy variable for the United States, as well as one for Latin America. He also has a dummy for the Asian countries for Japan political interests. Alesina and Dollar (2000) use dummies for Egypt and Israel. Without this, the regression would be distorted, as these recipient countries are outliers in the data set. For the period under consideration in this paper, the strategic importance of certain recipient countries will naturally be different from the previously mentioned papers. The political arena is constantly changing and with this change, the amounts of aid to the certain strategic countries will be changing over time as well. With the relevant timelines and countries, these are the dummy variables to measure the level of interest of these strategic countries and the resulting aid package from the United States used in the following study; Afghanistan (2002-2008), Egypt (1989-2008), Iraq (2003-2008) and Israel (1989-1996).

These countries are chosen by their significantly larger aid package from the United States, as compared to the rest of the recipient countries. Figure 1 and Figure 2 illustrate how the United States allocates over (or close to) half of their bilateral ODA to less than four countries during these years. It is also important to note the aid allocation to these countries is extremely volatile, as recipients and therefore new strategic partners can change over very short timelines.

US Friend (UN)

This variable captures another objective or motivation for the US allocation of aid. The measure is the number of times that the recipient country votes in tandem with the United States in the UN General Assembly as a percentage. The voting coincidence percentage is derived by dividing the number of identical votes by the total of identical votes and opposite votes (yes/no votes). This report on the percentage coincidence is compiled by the US state Department. The hypothesis is that if the recipient country votes in the same manner as the United States, they are

[20] See Data Appendix III.

more likely to share similar political and strategic values as the United States. Therefore this variable shows whether United States rewards countries with similar voting practices with more aid.

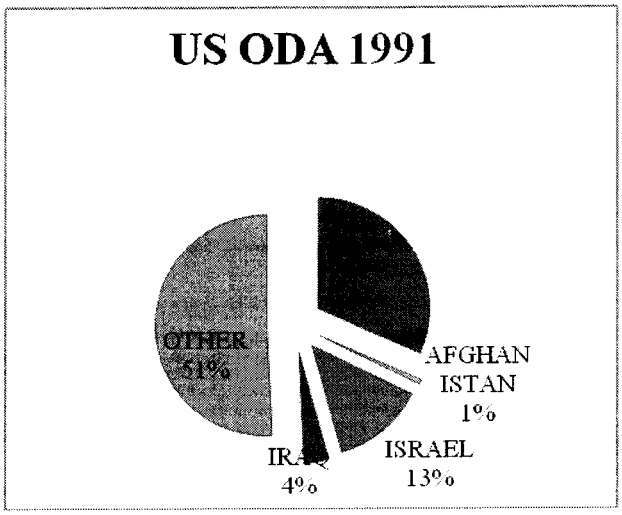

Figure 1 Source: OECD Summary Statistics

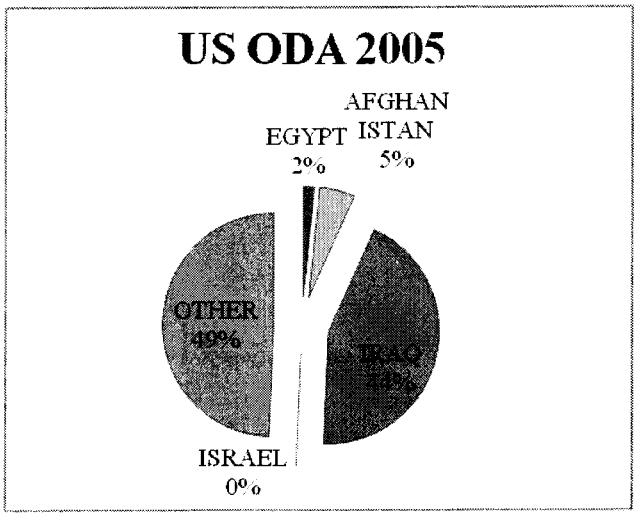

Figure 2 Source: OECD Summary Statistics

Foreign Direct Investment (FDI)

Foreign direct investment is retrieved from the World Bank World Development Indicators. FDI is the net inflows (new investment inflows less disinvestment) in the recipient country from foreign investors as a percentage of the recipient country's GDP.[21] The foreign direct investment is introduced as a dependent variable to contrast the determinants of private financial flows to the recipient country to the determinants of bilateral aid flows to the same recipient country.

III EMPIRICAL MODEL

The empirical model used integrates the donor-interest and recipient-need motivation for the allocation of aid and follows closely the Alesina and Dollar (2000) assumptions and methodology. This paper will only examine the United States bilateral aid allocation.[22] The explanatory variables will be similar, though not exact, as the Alesina and Dollar (2000) variables used. As stated in the Alesina and Dollar (2000) paper, when they examined individually donor countries, there was a wide discrepancy in motivations between all the donor countries. This study, therefore, will only examine one country's (the United States) motivations. The timeline to be used is from 1989 to 2008. The aid allocation motivations of the United States bilateral aid has been stated in the data section, to change rapidly over time. Therefore this paper will use the most recent twenty year timeline in aid allocation. Previous papers have already examined the United States' aid as a donor country over past timelines (e.g. McKinley and Little used 1960 to 1970; Alesina and Dollar used 1970 to 1994.)

The recipient need explanatory variables are GDP per capita and population. The interpretation of the population variable can represent a recipient need variable since larger developing counties would require more foreign aid than smaller countries if they are at the same developmental level of need. However, it can be interpreted as an indicator of a potential economic or political power. In this last case, it would be thought of as a donor interest variable.

[21] The FDI includes investments from all countries, not only the US.
[22] The importance of the US aid relative to the rest of the donor countries was outlined in the Introduction.

A larger and potentially more powerful country, strictly from a population size point of view, is one with whom a donor would wish to strengthen ties. The set of variables to be used as donor motivation explanatory variables are Openness to Trade, Democracy, United States UN Friend, Dummy for US Colony, Dummies for Egypt, Israel, Afghanistan and Iraq (as a measure of their strategic interest).

Observable aid flows over time, $A_{i,t}$, is the dependent variable, with *i* measuring the recipient country *i's* bilateral aid received from the United States and *t* measuring time. The log of the bilateral aid per capita is regressed against variables contained in both the recipient need and donor interest models. As the two model's variables are relevant to the explanation of aid allocation, we present them in the same model in order to avoid biases due to omitted variables.[23]

Therefore, this paper will be using an OLS regression model with both sets of explanatory variables and country and time fixed effects. The right hand side variables are assumed to be exogenous with respect to aid.[24]

This is the estimation equation used for the US bilateral aid allocation:

$$\text{LN } A_{i,t} = \alpha_0 + \alpha_1 \text{LN GDP}_{i,t} + \alpha_2 \text{LN GDP}^2_{i,t} + \alpha_3 \text{LN POP}_{i,t} + \alpha_4 \text{LN POP}^2_{i,t}$$

$$+ \alpha_5 \text{OPEN}_{i,t} + \alpha_6 \text{US UN}_{i,t} + \alpha_7 \text{US COL}_{i,t} + \alpha_8 \text{EIAI}_{i,t} + \alpha_9 \text{COM}_{i,t} +$$

$$\alpha_{10} \text{DEMO}_{i,t} + \alpha_{11} \text{REL}_i + u_{i,t}$$

Where, *i* indexes country, *i* and *t*, indexes time, *t*. The variables GDP, GDP^2, population (POP), population squared$(POP)^2$, openness (OPEN); Penn measure and bilateral trade measure, democracy (DEMO), communism (COM), Egypt, Israel, Iraq, Afghanistan (E, I, A, I) and US UN friend (US UN) all vary across countries and over time. The variables religion (REL), US colony (US COL) and openness (OPEN) SW measure, vary across countries.

The coefficients on the recipient need variables (GDP, GDP^2, POP, POP^2) are; α_1, α_2, α_3, α_4. These coefficients are expected to be predominantly negative.

[23] This is discussed in more detail in the literature review.
[24] This very important assumption will be examined further below.

The coefficients on the donor interest variables (OPEN, US UN, US COL, EIAI, COM, and DEMO) are; α_5, α_6, α_7, α_8 , α_9, α_{10} . These coefficients are expected to be predominantly positive.

Coefficients of model specification variables (Constant, REL) are; α_0, α_{11}. These coefficients have no sign expectations attached to them, in this model.

The estimated coefficients of recipient need variables are expected to be predominantly negative. As population or real GDP per capita increases, the aid per capita should decrease.[25] This population bias is a common hypothesis in the aid literature (e.g. Trumbull and Wall (1994) and Maizels and Nissanke (1984)). The estimated coefficients of the donor interest variables are expected to be predominately positive. The more a recipient country trades with the US or the more the recipient country votes in tandem with the US, the larger the amount of aid the country can expect to receive. The objective of the United States to maintain strategic and economic interest in certain countries would result in the motivation to allocate more aid to these partners.

The methodology will be pooled cross-sectional time series, with the cross-sectional effects across countries of the independent variables on the aid variable. Additionally the time-series effect within the countries will have effect on the aid variable. There are inherent difficulties in estimating this type of equation. The error terms for regression equations estimated from this pooled data using the OLS procedure can have temporal autoregression, cross-sectional autocorrelation, as well as causal heterogeneity over country, time or both. As there is substantial reason to assume a significant correlation between the unobserved country-specific random effects and the regressors, the fixed effects model becomes the model of choice.

By introducing fixed effects, I allow intercepts to vary according to country and time. This model specifies *i-1* country dummies, *t-1* time dummies. In these regressions we have 165 country dummies *(i=166-1)* and 19 year dummies *(t=20-1)*. The introduction of country fixed effects is to control the heterogeneity among the recipients with this large data set to account for the recipient specificities that are not taken into account through the explanatory variables. The time dummies can be interpreted in the same manner. The time dummies are there to control for

[25] The GDP per capita and Aid per capita variables need a closer examination for endogeneity concerns. The examination, control and tests to be used for possible endogeneity between the GDP and Aid variables will be outlined further in the Methodology section and analyzed in the Results sections.

fluctuations across time. For example any sudden shocks in a certain year will be controlled for.[26] Both these fixed effects over time and across countries will result in the partial impact (slope) of the aid equation staying constant.

The dependent variable is the log of US bilateral aid[27] and it is assumed that the explanatory variables are exogenous with respect to the aid. This is an important assumption since it can be argued that aid influences several of the exogenous variables in this paper. Therefore the exogeneity assumption warrants further discussion. The possibility that aid influences other variables is discussed in some of the papers that examine the relationship between aid and growth (e.g. Burnside and Dollar (2000)). Since receiving foreign aid may impact a country's GDP, there is a reverse causal relationship that leads GDP to be an endogenous variable However, the effectiveness of aid probably impacts the growth of GDP, as opposed to the GDP per se.

The endogeneity between the GDP per capita and Aid per capita warrants further investigation, if one drops the assumption of Burnside and Dollar (2000) that aid influences the growth of GDP as opposed to the GDP per se. I will use a separate OLS estimation using the lagged (one year) GDP per capita as the exogenous variables, replacing the GDP per capita variable. This would treat the GDP at t-1 as an exogenous variable, which affects the aid per capita. Therefore the endogeneity of the GDP with respect to the Aid dependant variable is now capture in the estimated coefficient on aid. However, there is the caution that this methodology that the GDP at t-1 will have correlation to the equations' error term.

The next area that raises concerns is the possibility of serial autocorrelation. Three tests were used to check for the presence of serial correlation. All three tests resulted in the detection of first-order serial correlation in the error terms. A first order serially correlated model can be written as;

$$Y_{it} = \alpha + \beta_i X_{it} + e_{it}$$

Where ; $e_{it} = \rho\ e_{it-1} + \mu_{it}$

[26] An example of a shock over time could be the economic downturn of 2008.
[27] The variables in the Ln form, e.g. Ln aid per capita and Ln FDI, will be referred to without the Ln prefix.

When error terms from different time periods (or cross-section observations) are correlated, the error term is serially correlated. Serial correlation occurs in time-series studies when the errors associated with a given time period (e_{it-1}) carry over into future time periods (e_{it}). Applying OLS estimation with this autocorrelation in the error terms, will result in unbiased and consistent estimates of the intercept and slope parameters. The serial correlation will affect the efficiency of the OLS estimators. However, with the application of the OLS technique the variances will not be estimated correctly. This will lead to the conclusion that the parameter estimates are more precise than they really are. Therefore the autocorrelation problem mainly affects the construction of valid tests and confidence intervals.

Three tests for the presence of serial correlation in the error terms will be used. The first test will be the Wooldridge test for autocorrelation in panel data. The hypothesis test is an F-test using clusters of the panel data. The null hypothesis being, for example, in this analysis; H_0 : no first order autocorrelation; if the probability that the F-statistic is greater than the F(1, 165) is true. The second test is the Baltagi-Wu LBI (locally best invariant) test statistic from the autoregressive, AR (1), model and will be used for the hypothesis; $H_0 : \rho = 0$; there is no AR(1) serial correlation. The final test, the modified Bhargava et al. Durbin- Watson test statistic for first order serial correlation uses the null hypothesis is represented by no serial correlation. H_0: $\rho = 0$; no serial correlation and the alternate hypothesis, H_A: $\rho \neq 0$, therefore there would be evidence of serial correlation.

The exogeneity of several other variables can be of concern; the US UN friend variable, openness (especially the bilateral trade measure) and the democracy (to a smaller extent civil liberty). Thus, there are two interpretations of a possible correlation between the aid and US UN friend variable. The first interpretation is that the aid is used to "buy" political support in the UN; aid buys UN votes.[28] The second interpretation is that the US UN friend variable is a proxy variable for political alliances. This UN voting pattern is then reflected as a political alliance and is an indication to the United States to allocate aid to the more friendly partners. As this study is concerned with what determines aid and not what determines UN votes, the second interpretation is more suited. If the first interpretation is correct, this risks the model being misspecified as the

[28] See Dreher and Nunnenkamp (2008) for a more in depth discussion of this interpretation.

aid variable is now the exogenous variable with respect to the UN voting, which would be the endogenous variable.

Openness can be interpreted in the same manner. Do countries that receive aid presently have a larger trading relationship with the United States, compared to other countries willing to receive aid? Or does the receiving of aid encourage a country to trade more with the United States? In the present context the former explanation seems more plausible and therefore will be the assumed relation between trade and aid in this paper. There is another concern with this openness to trade measure, which is the simultaneity bias that can occur if the aid is 'tied' aid (tied meaning to compel the use of the aid given, to buy imports from the donor country). When aid is tied, this will imply more aid results in more imports, which would increase the bilateral trade with the US. This results in the openness measure no longer being exogenous. This example of a possible bias concern is for the two openness measures of the Penn openness and the bilateral trade openness. The SW measure of openness will not have this concern as it is a dummy variable whose measurement has no direct relationship with trade per se.

The democracy variable, particularly with respect to the United States as a donor country, can be interpreted in two different directions. The one adopted in this study is that aid rewards countries for a democratic environment. However, the reverse interpretation would be that those receiving aid are influenced to become more democratic. While I acknowledge for these endogeneity threats, it is very hard to find good instruments for these variables. Therefore I will follow Alesina and Dollars (2000) and assume that all explanatory variables are exogenous.

Other variables such as colonial past and population change slowly or do not change at all over time. Variables that do not change over time, or change slowly, are no longer relevant when country fixed effects are introduced. Therefore, I will maintain the assumption that these variables are exogenous.

V RESULTS

This section presents results for different specifications of OLS regressions to determine whether there is support for the donor interest or the recipient need model in the United States' allocation of foreign aid. The explanatory variables will show the motivations of why the United States donates different amounts of bilateral aid to different recipient countries.[29] The sample includes all 166 recipient countries of the United States' foreign aid, over the period 1989-2008.

The regressions shown in Table I, II and III use yearly data increments. Table I reports results for the main specification with and without country or time fixed effects.[30] When the specification does not include country dummies (columns (1) and (2) in Table I), the GDP per capita's coefficient with the absence of fixed effects is not statistically significant. One possibility is that when the unobserved heterogeneity of the recipient country is not controlled for, the GDP per capita variable has too large a variation between countries, therefore the coefficient cannot be determined across the differing countries. When both country and time fixed effects are controlled for in column (4) the GDP elasticity to aid is positive and equal to 0.082 percentage points. Thus, as the GDP per capita increases by 100%, the aid per capita increases by 8.2%. The aid per capita increases at a decreasing rate as seen by the negative and significant coefficient on the square of the GDP variable in column (4) in Table I.

Using Table I, column (4), the mean of the GDP is 8.543, representing $4,605 per capita.[31] If this increases by one standard deviation, which is 1.108, this will result in a 9.1%[32] increase in aid. The change in GDP per capita, on average though, has now moved from $4,605 to $13,947,

[29] The US donates aid to all countries, therefore only the amount of aid to each country is the measure of interest.
[30] In these regressions there are 165 country dummies *(i*=166-1*)* and 19 year dummies *(t*=20-1*)*[27]
[31] The Mean of GDP per cap =8.435; GDP per cap = $e^{8.543}$=4,605.47.
[32] α_{GDP} = 0.082, Std Dev = 1.108; change in aid = (1.108) (0.082) = 0.091.

which is a very large change in GDP per capita.[33] Testing the relationship from a decrease in GDP per capita; if the average ($4,605) GDP per capita decreases by one standard deviation point, this results in the decrease of GDP per capita to $1,521. The overall effect again is an 8.8% decrease in aid per capita. The decrease in one standard deviation is a much smaller measure of GDP, than an increase in one standard deviation as measured by GDP. These results illustrate the positive relationship occurring at a decreasing rate between the GDP and aid per capita.

The population coefficients, in the specifications without country dummies, are significant and negatively related to aid. A 100% increase in population results in a 13% decrease in aid (columns (1) and (2)). The United States allocates aid to all countries, to extend their areas of influence. The countries with the larger populations will end up with less aid per capita, due to the US aid being spread over a larger population base in their countries.

When there are no time dummies but country fixed effects are used, the population coefficient remains significant, but the coefficient is positive. The difference between each country's populations is controlled, but overtime the aid will increase to each country as the population increases. However, when both country and time dummies are introduced, the effect of population size is not statistically significant. Therefore in these specifications, cross country differences in aid can be partially explained through differences in GDP per capita. However changes in aid flows over time cannot be explained by changes in the country's population over time when country and time fixed effects are introduced.

Bilateral trade is a proxy for the recipient countries openness to trade with the United States. The impact of bilateral trade on aid is not statistically significant, contradicting the donor interest model that predicts a positive relationship with the aid allocation. This result remains consistent, with the trade variable remaining insignificant in the regressions to follow. The economic donor interest hypothesis is negated by these results; the United States does not give more aid to the countries with which it has more trade.

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[33] Mean of GDP per cap = 8.435, Std Dev GDP = 1.108; GDP with increase of 1 standard deviation; GDP per cap = $e^{8.435+1.108}$ = 13,946.73.

When no controls for time or country effects are introduced, the democracy coefficient is small, negative and significant. This coefficient additionally has the opposite expected sign according to the prediction of the donor interest model. When the democracy index increases by 1, this causes the aid per capita to decrease by 2 percentage points. In column (3) and (4), when country fixed effects are introduced the democracy variable's coefficient is statistically insignificant. Democracy as a variable that does not change over time within a country will therefore be excluded when country fixed effects are introduced. The democracy variable being significant with time dummies illustrates a country's aid will change over time with a change in their democracy level. However, democracy has no effect on the differences in aid received by each country, with different levels of democracy. The United States does not change aid amounts if one country is more democratic than another. What the US will consider is the country's change in democracy over time, within that country, but this is a negative relationship.

A donor interest variable; US UN friend has a small, highly significant and positive coefficient. The sign of the variables' coefficient follows the expectations of the donor interest model. Countries are rewarded with more aid if they vote in coincidence with the US at the UN General Assembly. The US UN friend variable in the aid regression remains significant throughout the regression specifications. There is a positive relation between the amount of aid a country receives and whether it votes in tandem with the United States at the UN General Assembly. The value on voting coincidence is measured in a percentage form (from 1 to 100). A one percentage point increase in voting coincidence will result in a 0.1 percent increase in aid per capita. Therefore if a country increases this voting coincidence by 10% the aid increases by 1%, and so on.

When country fixed effects are introduced into the regressions, the US UN friend is highly significant, yet the coefficients in columns (3) and (4) are very close to zero. These UN voting patterns do change over time (sometimes in large shifts), therefore the country fixed effects does not delete the effects of this variable (though it remains small in size). Throughout the remaining regressions the magnitude of the US UN friend variable will be small in size, yet it is always statistically significant. This result remains in all the aid regressions (though not in the FDI regressions). The magnitude of this variable is not large even when using fixed effects or time dummies. All three columns have much less than a one percentage point increase in aid with a

one percentage point increase in voting coincidence with the US (the size of the coefficient does not appear in the tables as it is too small.[34] The developing countries voted on average 29 % of the time with the United States, if the average country then increased by one standard deviation point the next year to 50% voting coincidence with the US, this recipient country can expect only a 0.8% percentage increase in aid per capita.

The US colony variable is another donor interest variable, which is positive and highly significant. The magnitude of the coefficient is relatively large. As shown in Table I, column (1), a country which is a territory of the United States receives a 19.6 percentage point increase in aid on average over a non territory of the United States. This results in a 22% increase in aid.[35] Introducing time dummies does not significantly change the value of the coefficient. This is a reasonable result as the dummy variable for a country if they are a territory, in this model, retains the value of one throughout the time period. There is a very strong result on the dummy variable when only the fixed effects are controlled for, column (3). The coefficient has a value of 1.039, still remaining highly significant. When controlled across countries the territory will receive 183% more aid than a non territory.[36] When the country and time effects are controlled for, again the coefficient on the dummy variable is highly significant. In column (3) with time dummies, a recipient country which is a territory will receive 46.1% more bilateral aid from the United States than non territories.

The Israel dummy variable, in column (1), shows that Israel receives 28.7% more aid from the US than other countries. When both controls are in place, period and country, the Israel coefficient has a value of 0.323. Through all four regression specifications in Table I, the Israel coefficient is highly significant. The values of the coefficients on the Israel dummy, place the extra aid Israel receives relative to the rest of the recipient countries at approximately 30%, in all four specifications

With no country dummies, Iraq is expected to have 18% more aid per capita than the other recipients of US bilateral aid. When the country fixed effects is controlled for, the dummy variable coefficient is at 0.146; Iraq will receive on average 14.6% more aid from the US than

[34] For regression (1), (2) and (3), they are 0 .3%, 0.4% and 0.4%, respectively.
[35] The increase in percentage is 100 ($e^{0.196}$ - 1) = 21.65.
[36] The increase in percentage is 100($e^{1.039}$ - 1) =182.64

the other developing countries. Both Iraq and Israel are countries which are considered by the US government to be of strategic importance. These strategic variables are the most significant of the donor interest variables. Usually the strategic variables (in this case the countries) for the United States will be Middle Eastern countries, where the US foreign policy concern is most concentrated. The Catholic and Muslim variables are not significant, in any of the regression on aid in Table I. Dummy variables for Afghanistan (after 2002) and Egypt were put in the regression, as these are very large aid recipients from the United States, but the coefficients on both are not statistically significant in these regressions.

Table I demonstrates that on average the United States allocates some aid to all countries. The aid the US allocates is an increasing function of the recipient countries GDP per capita and to a much lesser degree the countries voting coincidence with the US in UN General Assembly and being a communist country. Iraq, Israel and the territory countries of the United States are all significant recipients of US aid. The democratic environment of a recipient country and the religious persuasion of its population are not determinants, in this model, of US bilateral aid allocation. Having economic ties with the United States does not seem to improve a developing countries aid receipts.

Table II presents results for three regressions varying the explanatory variables used. The results in column (1) are the same as those in Table I column (4) and correspond to the benchmark regression. In Table II, columns (1) and (3), the communist country explanatory variable results in a positive and statistically significant coefficient. Soviet countries did not, on average, receive aid pre 1992. However, according to columns (1) and (3), communist countries on average received 1.7% more aid than the rest of the developing countries receiving US aid. There are two possible explanations for this outcome. First there are other communist countries than those of the Soviet Union block. The amount of US bilateral aid to China, Vietnam and Albania was large both during and after the Soviet era and the fall of the Soviet communist block of countries. Secondly, with the Soviet countries mainly exiting from the communist regime in 1992, the aid amounts since 1992 have been small to these ex communist countries and at times, the commencement of aid is several years after the critical 1992 cessation of communism in these countries.

In Table II, column (2), the communist dummy variable is dropped to determine whether the democracy variable changes with the inclusion of the communist countries. Without the dummy on the communist countries, the expectation is the democracy variable will be larger, than the regression with the communist dummy included. In column (2) when the communist dummy was dropped, the dummy US colony increased by a significant amount. The variable increased from 0.461 to 0.811. The effect on the aid for these countries which are territories will result their having 125% more aid than the non-colonies countries[37]. The other explanatory variables did not change to any significant degree. The remaining variables which were previously significant with the communist dummy; GDP, rate of change of GDP, US UN friend and Israel and Iraq retained their statistical significance. Additionally there were no changes in sign or relative magnitude on these coefficients. With respect to the communist dummy, Alesina and Dollar (2000) use a different methodology and estimate two regressions; one with communist countries and one without. The effect of dropping the communist countries in their paper resulted in an increase in the coefficient on the GDP variable (like in my paper) and the variable of interest, democracy, decreases with the communist countries not being included. In my paper, the democracy variable was not significant.

The third regression in Table II adds the variable for civil liberty. This is a qualitative measure to determine civil rights in a country. Similar to the democracy measure, the expectation is that the higher the level of civil liberty in a recipient country, the more aid it will receive from the United States. The assumption is that the United States targets a country with higher levels of freedom. In Table II, column (3), the variable of civil liberty was introduced, but the coefficient was not significant. Civil liberty in a recipient country, as measured by the Freedom House, does not appear to have any correlation to the aid received from the US. With the addition of the civil liberty variable in the regression, column (3), the US colony variable is highly significant and large. The US colony can expect 116%[38] more aid than the other recipient countries. Adding the civil liberty variable had no significant effect on any of the other explanatory variables. In Table II's model specification, the US does not allocate aid based on the presence or absence of democracy and/or civil liberty in the recipient country, as measured by these regressions. The hypothesis of donor interest of the United States motivation for aid allocation being the

[37] The percentage increase of the dependent variable of aid per capita is $100(e^{0.811}-1) = 125.02$

[38] $100(e^{0.770} - 1) = 115.98$.

promotion of foreign policy through use of foreign aid, to promote democracy and civil liberties is not supported by this paper's results.

Table III estimates the same specification as the benchmark regression, using three different measures of openness; the Sachs Warner (SW) openness binary variable, the Penn World Table 6.3 measure of openness and the actual bilateral trade between the United States and the recipient country.[39] The inclusion of an openness measure is motivated by this variable being used as a proxy for the economic interests of the donor country. The United States motivation is thought to be to give more aid to countries with whom they trade more. In the chosen specification, of the three measures, only the Penn is significant, although the value is negative, opposite to the expected sign, and very close to zero.[40] The Penn World table variable changes over time whereas the Sachs Warner does not. This results in the Sachs Warner effect being cancelled with the country fixed effects.

One surprising result is that when the SW openness measure is used in column (1) as opposed to the other two measures in columns (2) and (3), the regression has the dummy colony variable at 0.074 and not significant, whereas the other trade openness measures has the dummy of US colony at 0.761 and 0.461, for the SW openness and the bilateral trade variable respectively. The coefficient on the dummy on US colonies when the SW variable is included, results from the territories being considered open to trade, when using the SW binary variable. The SW openness only measures zero or one, the variable not being continuous, with a 1 measurement being at 100%. The Penn and bilateral trade measures of openness are more graduated and vary between 0 and 100%.

In column (2) the Penn world Table openness measure specification, the effect on GDP is 0.074, resulting in a 7.4% increase in aid with a 100% increase in the country's GDP. The GDP, population, Israel, Iraq, US UN friend and communist variables show no change in significance, sign or magnitude with either the SW openness variable or the bilateral trade variable of the three openness measures. The hypothesis of the donor interest model that the United States will give more aid to the countries with which it trades, does not hold in this model specification.

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[39] The three measures of openness are described in the Data Section.

[40] The coefficient on the Penn openness is -0.0001407, which is a .015% decrease with a 1% increase in the

The regressions presented in Tables I through III have used the data in yearly increments. Table IV illustrates the regressions on aid per capita with the data in a five year averages. The result is that the regression's coefficients lose some of their significance. The Alesina and Dollar (2000) aggregating of the independent variables was appropriate for dealing with a large number of donor countries. As this paper is dealing with the United States as sole donor, the specification yields more significant results with the yearly data inputs. The initial GDP for the first year in the five year averages is used as the GDP for that five year span. For all the rest of the relevant variables, a five year average was taken. The reason for this aggregating was to smooth volatility in donor countries aid budgets and therefore aid allocation over time.

Every increase in GDP gets an increase in aid, on average, with that increase decreasing in relative magnitude.

The log of bilateral aid increases as the population increases. Additionally this increase in aid with population is at a decreasing rate. Therefore in their regression bilateral aid per capita is larger for larger countries. The population and rate of change of population to the aid is not significant in this regression.

The SW openness coefficient is negative but not significant in all three regressions in Table IV. The democracy coefficient is not significant in all three regressions of this paper in Table IV. Both these variables' effects have been cancelled by the fixed effects, as they do not change over time.

The civil liberties explanatory variable was added to the regression in column (3) in Table IV, but it is not significant. This variable has been tested in several different regression models but will remain small and insignificant throughout. The democracy and civil liberty variables are positively correlated with each other, at an 85% to 90% correlation rate.

Of the two colony measures throughout the regressions, the dummy variable for United States colonies or territories is the more significant variable in this study. The number of years a recipient country was a colony was introduced into this paper for strictly comparative purposes.[41] Therefore the assumption used with the inclusion of this explanatory variable is that the longer

[41] The years a recipient country was a colony of a donor was used as an explanatory variable in Berthelemy (2004) and Alesina and Dollar (2000).

the recipient country was a colony of any of the donor countries the more bilateral aid they receive. The hypotheses is that donor countries will favour past own-colonies and that the longer a country was a colony the more favoured that country is, and the more aid they will receive. Countries such as Britain and France have been shown to favour their colonies over non-colony recipients. As these donor countries are included in other analysis, this results in significance on the colony variable. The obvious reason for the non significance of a colony variable in this paper is that the United States had very few colonies and was not a colonizer per se.

The next two variables are United States strategic variables, within the donor interest model. This paper found that the Egypt and Israel coefficients were not significant in the regressions where the data was used in five year averages. In Table I when the data was in yearly increments, the Israel coefficients were significant. Additionally, Israel is only an aid recipient up until 1996 when it was no longer considered to be a developing country. When a regression was performed[42] without the Egypt and Israel coefficients, the resulting regression loses significance with respect to the population and US UN friend coefficients.

The two variables Muslim and Catholic are measured as percentage of population which has self-declared their religion to be either Catholic or Muslim. These variables have no significance to the model. These variables as well lose their effect with the country fixed effects as they do not change over time.

Table V compares the different specifications of the aid per capita explanatory regressions, with and without time and country fixed effects. This Table is comparable to Table I, but the data is in 5 year averages. When not controlling for the country fixed effects methodology, both regressions (1) and (2) in Table V will gain in the number of variables which are significant. With no country dummies, the GDP and GDP^2 now move from being significant to insignificant. At the same time the population and $population^2$ which were previously insignificant are now significant. The aid per capita will on average decrease by 15 percent, with a 100% increase in the population. Additionally, the population variable decreases at an increasing rate. The coefficient on the population squared is positive, small and significant.

[42] Regression was performed, but not reported here.

The dummy variable on the US colony is positive and constant with a high degree of significance. In Table V, column (1), the coefficient on the dummy of the US colony is 0.237. This would result in the recipient country which has been a colony or is a territory of the United States can on average expect a 27% larger allocation of aid from the US.

When country fixed effects are entered in the regression; column (3) and (4), Israel's' coefficient loses significance, column (3) or becomes statistically insignificant, column (4). When country specific variables are controlled for, not time, column (3), Israel is significant to 10%, with a 23% more aid than the average. In this specification of the 5 year averaging, Egypt Iraq, and Afghanistan are not significant.

In Column (4) when the country and time are controlled for, the population coefficients lose their significance as well as the dummy variable for the US colonies. When both time and country effects are controlled for the constant and GDP have significance in this regression in (4). The GDP coefficient in this specification is much larger; showing a 25.5% increase in aid with a 100% increase in the GDP. In Table V changes in the aid flow over time can be partially explained by the changes in the population over time.

Table VI and Table VII have the dependent variable FDI, regressed on the independent variables previously used in the aid regressions. The coefficients on the explanatory variables will be compared to coefficients on the same variables used in regressions with aid as the dependent variable. Aid can be considered a supplement to domestic savings and therefore aid is to replace the investment necessary to a countries' development, when there is an investment shortfall. According to Alesina and Dollar (2000), foreign direct investment is the main source of private finance for low-income countries. These low-income countries in turn are the recipients of the majority of the aid. Additionally, a portfolio flow, which is investment in foreign countries for financial return without ownership, is more important for middle-income countries. This form of portfolio investment is virtually non-existent for low-income countries. Therefore foreign direct investment will be examined to determine, which explanatory variables are important for FDI, but are not significant for the aid determination and which explanatory variables are necessary for aid, but have no correlation to the FDI. The FDI is a reference point for aid allocations to determine if the aid allocation is independent of the flows of private investment. There is the consideration that the FDI may belong in the bilateral aid equation or that the

bilateral aid belongs in the FDI equation, yet Alesina and Dollar (2000) find no evidence that aid depends on FDI or that FDI depends on aid.

Table VI uses the same explanatory variables as Table II.[43] These are regressions on yearly FDI data. In column (1), Table VI, the regression shows that GDP, rate of change of GDP, population, rate of change of population, US UN friend, Dummy for US colony, Egypt, Iraq, Communist, Rule of law, Muslim and the constant are all significant as explanatory variables for the FDI in recipient countries. The coefficients on these explanatory variables, with the exception of GDP rate of change and population, all have a positive relationship with the FDI. The model with the FDI as dependent variable seems to have a much better fit with these explanatory variables than the model with the aid as dependent variable.

The dependent variable is FDI as a percentage of the recipient countries GDP. In Table VI column (1), the GDP coefficient is significant and an increasing function of the FDI. A one percentage point increase of the GDP results in an approximately 225% increase in the FDI. This increase in FDI with an increase in the GDP per capita is at a decreasing rate. The comparison to the previous aid regression is that the FDI responds in the same manner with respect to sign, with the changes in a recipient country GDP. However, the FDI's change is over two times the effect of the GDP on the FDI, as compared to the change in aid with the change in GDP. The relationship of FDI to GDP is much stronger than the GDP effect on aid.

Column (2) has the FDI increasing 283% with a 100% in the country's GDP. This increase in the FDI with the increase in a country's GDP is at a decreasing rate. The movement of one standard deviation of the GDP from the average represents the difference from $5095 to $15,646.[44] With this change in GDP per cap, the recipient country will have an increase in a FDI from the US of 252%.[45] In contrast if the GDP per capita moves from the average at $5095, by a one standard deviation point decrease to $1659,[46] the country can expect a decrease in FDI of

[43] Afghanistan is excluded for lack of data on several variables.
[44] The mean of GDP = $e^{8.536}$ = 5,094.92, Std Dev of 1.122 and the increase of 1 Std Dev gives GDP = $e^{8.536+1.122}$ = 15,646.92
[44] α_{GDP} = 2.242, Std Dev = 1.122; change in FDI = (2.242) (1.122) = 2.516
[45] GDP = $e^{8.536-1.122}$ = 1,659.05.

252%. The foreign direct investment increases with a GDP increase, and is relatively much higher than the aid per capita increase with a GDP increase.

The population coefficient is significant in the FDI regression, in contrast to the population coefficient in the aid regression of Table II, which had no significance. All three regressions in Table III have negative and highly significant coefficients on population. All three are decreasing functions of the FDI. The FDI decreases at a decreasing rate, hence the negative quadratic expression on the GDP squared. Column (1) has the FDI decreasing by 434% with a one hundred percent increase in population. This was the expected result on the aid regression in Table I, which had population coefficients not being highly significant. The FDI has both the population and the GDP of the country being significant determinants of the FDI.

Table VI, the Iraq coefficients are especially interesting, demonstrating that US foreign investment favours the same strategic partners as the US government favours with their aid allocation in the same positive relationships. Iraq which received large amounts of US foreign aid is also considered a country which is advantageous for foreign investment.

Of the three country specific variables; bilateral trade, democracy and civil liberty, none of the three are significant. US investments in a country, by this models specification, are not related to the political and social well-being of an individual in that country. The rule of law variable remains positive and highly significant when regressed on the FDI. The rule of law is based out of one hundred, with the higher the score the less business risk associated with that country. In Table VI, the values are 0.02, with a one percentage point increase in the rule of law resulting in a two percentage point increase in FDI. This was the expected result as the rule of law is a measure of safety for investment business in a country. It is expected that foreign investment will prefer a less risky business environment. Therefore foreign investment is concerned with the institutional environment and not the individual rights in a country.

Egypt now is highly significant with respect to US foreign direct investment, with the coefficient on this dummy variable being 5.165 in column (1). Egypt can expect close to 174 times more FDI than the remaining developing countries. Iraq has a highly significant coefficient on its dummy variable at a value of 3.411 in column (1). This represents an over 290% more FDI

than the average country.[47] Israel, unlike the previous aid regressions is no longer significant. Israel is negatively signed and not significant in these FDI regressions. This illustrates that although some recipient countries are favoured in their aid allocation from the US, the institutional setting in these countries may not be attractive enough for foreign investment.

The Muslim coefficient is negative and significant in three of the four specifications. This result signifies that countries which have higher percentages of Muslim population, should on average, have higher percentages of US FDI, relative to countries with lower percentages of Muslim population. The Muslim coefficients are statistically significant in the FDI regressions and were not significant in the aid regressions. The catholic coefficients are not significant in either aid or FDI regressions. The coefficient on the Muslim variable in column (2) is -4.894. A one percentage point increase in Muslim has a 4.894 percentage point decrease in FDI. As this variable is measured from 0 to 1.00, another method to state this is; a country with 50% Muslim population will have 24.47% less FDI than a country with 0% Muslim population. In Table III, all three coefficients on the Muslim variable are statistically significant and negatively related to the FDI. Taking into consideration most Middle Eastern countries on average are somewhat more politically unstable, than their western counterparts, and have a large Muslim population, this is an expected result with foreign investment from the US being more cautious in investing in these countries.

Table VII, column (4), are results from a similar regression to the Alesina and Dollar (2000) reporting on the FDI regressions. Their time period is from 1970 to 1994 and the aggregate variables are five year averages. The log of foreign direct investment net inflows as a percentage of GDP is regressed against the same variables as in the original aid regression. Aggregating the variables into five year averages for the FDI regression leads to changes in the coefficients of explanatory variables. Looking back, at Table IV, the aggregating of five year averages resulted in less of the explanatory variables being significant to the model for the regressions on aid. The five year averaging on the FDI regressions as well caused several variables to lose significance.

The foreign direct investment in a country does not have a significant relationship to the GDP of the country, in all three regressions of Table VII, columns (1), (2), and (3). In all three specifications in Table VII the coefficient on GDP is not significant.

[47] $100(e^{3.411} - 1) = 293.96$

This paper finds the population is a decreasing function of the FDI. The effect of population on the FDI in this specification shows that a 100 percentage increase in population will decrease the FDI by over 368%. When Iraq was added in column (2), the population coefficient is -3.585. The effect on FDI will be 359% decrease with an increase in population of 100%. Comparing this figure to the same in aid, the population variable in the aid regressions in Table II was not statistically significant. This paper, therefore finds that the bilateral US aid is affected by the GDP of the recipient country, but not by the population. Whereas the population of a country has a negative effect on FDI, but has no effect on a countries aid.

This paper results, using column (1), has a SW openness measure of 1.441, which is highly significant. In this regression the Israel and Egypt dummy variable are included. When Iraq and the communist dummy are added to the regression in column (2), the SW openness coefficient is 1.372, but is positive and highly significant. For a movement from non-open to open the change in FDI is a 294% increase in FDI. Yet the movement of a country from being considered open to a non-open economy results in a decrease in FDI of only 75%. This paper's SW openness variable is significant in all three regressions. Using column (3), with the coefficient on openness of 1.484, results in an increase of 340% increase in FDI with a move from non-open to open to trade economy. This paper's FDI is as well much more sensitive to the SW openness variable with FDI increasing in column (1), by 322% with a measure of openness (SW=1) in the country. Comparing to aid, in this paper the aid is not significant as stated previously with this openness variable, this measure of openness is not significant to the US aid allocation.

Civil liberty and rule of law were added as explanatory variables on the right hand side. The availability of rule of law data constricted the size of the sample for the regressions in this paper, yet a significant sample was available for use.[48] Foreign direct investment is influenced by the enforceability of contracts, rule of law, and economic liberty. FDI does not respond to personal freedoms and democracy per se.

The rule of law is as well very significant in the three regressions. Both variables; civil liberty and rule of law are significant in column (3), in Table VII. They have a positive relation to FDI, with civil liberty having a much larger effect than rule of law. The coefficient on civil liberty is 0.21. This represents a 21 percentage point increase in aid with an increase in one percentage

[48] The number of recipient countries dropped from 166 to 135.

point in the measure of civil liberty. To illustrate this result more clearly; recall civil liberty is being measured from 1 to 7, with 7 being the most liberty. The mean level of civil liberty of all receiving countries is 4.507, with an increase of one standard deviation (1.742) the increase in FDI will be on average be 21% higher. The rule of law variable is measured between 0 and 100, with 100 having very low risk in doing business in a country. A 10% increase in risk (decrease rule of law variable by 10%) will only decrease the foreign direct investment in that country by 2%. Stated another way if the risk goes down by 10%, the FDI will only go up by 2%.

The dummy variable for a US colony is positively related with the FDI. Only column (2) is significant. In this column, the FDI will be 636% higher for a country which is a colony or territory of the US, as opposed to a non territory. The Iraq dummy in column (2) is negative, large and significant. At the coefficient value of negative 2.029, Iraq has over 200% less FDI than the average country in this regression. A possible explanation for this negative FDI is that the political unrest and even times of war in Iraq during the period of this study result in a risky environment for foreign direct investment. This would be the result of the large negative and very significant coefficient on the Iraq variable. Israel and Egypt coefficients are not statistically significant in the three regression in columns (1), (2) and (3).

An unusual result came from this 5 year averaging. The Muslim coefficient in the previous Table VI, with data in 1 year increments, resulted in the Muslim coefficient being negatively signed and significant. When averaged, this coefficient changed in sign to positive relation to FDI and the Muslim coefficient is significant in all three regressions in Table VII of this paper. The FDI in a country is positively related to the percentage a country's population is Muslim. In Table VII, column (2), the Muslim coefficient measures 5.927. This means a one hundred percent increase in the Muslim population (in this case no Muslims in the country to a 100 percent Muslim population in a country), results in a 593% increase in FDI. One possible explanation of a large positive relationship between Muslim and FDI is that Arab nations are on average oil producing nations. The United States, most likely invests heavily in these countries. The Muslim population had no effect on the aid regressions done previously in this paper.

Robustness

The methodology section outlined several problematic results from using the above OLS estimation regressions. First, the GDP per capita is endogenous to the aid per capita dependent variable. Obviously as the aid per capita increases this will be included in the now increased GDP per capita. The effect will depend on how large the aid given is to the GDP both in per capita terms.

Intuitively if the country is very poor and underdeveloped, a big aid allocation will significantly change the GDP per capita in this country. [49]

To examine this endogeneity issue, Table VIII shows the OLS regression with the aid per capita being regressed on the lagged GDP per capita variable. This should solve the endogeneity of the GDP as the explanatory variable of GDP at time t-1 is now the independent variable. Intuitively, the endogeneity issue arises as the aid given to a country at time t is now a factor in the country's GDP at time t. Therefore the assumption a donor will use time t-1 to determine their aid given in time t follows. Comparing Table VIII to the benchmark Table I, in Table VII, columns (1), (2) and (3) there is no significant change on the coefficients on the explanatory variables. Column (4), however, in Table VII with the lagged GDP, results in the coefficients on the GDP and GDP squared being no longer significant. Thus, the lagged GDP variable (at time t-1) does not appear to be a significant determinant of the aid variable at time t and the previous result may be due to endogeneity.

The next area that needs examining for robustness checks is the presence of serial autocorrelation. Three tests were used for this verification. These test results will be presented in Table IX. All three tests resulted in the detection of first-order serial correlation in the error terms. The concern of this serial correlation in the error terms is that is affects estimation and inference. The first test will be the Wooldridge test for autocorrelation in panel data.[50] The hypothesis test is an F-test using clusters of the panel data. The null hypothesis is no first order

[49] As an example, Afghanistan in 2008, had a GDP per capita of 875.00 (in US dollars), whereas the Aid per capita was 72.76 (in US dollars). Therefore the aid is 8.32% of the GDP. This results in the GDP being endogenous to the Aid.

[50] The Stata command was "xi: xtserial lnaidpercap all the independent variables here i.year, output".

autocorrelation; if the probability that the F-statistic is greater than the F(1, 165) is true. The F statistic has 0.000 percent probability of being greater then F value given.[51] Therefore, the null hypothesis is rejected, what indicates the presence of first-order autocorrelation according to the Wooldridge test.

The standard Durbin-Watson statistic is not appropriate for testing first-order autocorrelation when the panel data is used. Therefore the second test uses the Baltagi-Wu LBI (locally best invariant)[52] test statistic from the autoregressive, AR (1), model and will be used for the null hypothesis that there is no AR(1) serial correlation. The Baltagi-Wu LBI test was performed on a fixed effects model. However, exact critical values are not available in the literature. A value of Balgati-Wu LBI statistic significantly below 2, indicates that correction for serial correlation may be necessary. The value for this statistic given is 0.9397, in Table IX, column (2). Therefore the null hypothesis is rejected and this test suggests the presence of serial correlation in the error terms.

Finally, the modified Bhargava et al. Durbin- Watson test statistic for first order serial correlation uses the null hypothesis represented by the absence of serial correlation. The null hypothesis is no serial correlation and the alternate hypothesis, H_A: $\rho \neq 0$, there is evidence of serial correlation. The value given for this statistic is 0.8568. Therefore the null hypothesis is rejected and for this third test the autocorrelation is again determined present. All three tests determine that there is the presence of serial correlation in the error terms.

Two separate concerns have been illustrated by these robustness tests; that of endogeneity in the explanatory variable GDP per capita, as well as serial correlation in the error terms. These results show that further research should tackle these issues. Alternatively the serial correlation can be controlled by various correction methods. The Cochrane and Orcutt (1949) estimator can be used, or alternatively the Prais Winsten (1954) estimator. Both these estimators transform the data so that the model may be estimated by OLS regression techniques.

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[51] F (1, 165) = 2545.046.

[52] The Stata command used; " xi: xtregar lnaidpercapita all independent variables here i.year, fe lbi ".

VI CONCLUSION

As the largest single donor of official development assistance, the United States is a key country in the fight against poverty in the developing world. The objective of this paper was to determine the motivation behind the United States allocation of bilateral aid to the 166 countries on its recipient country list in the period 1989-2008. The method of determining these motivations was through analysis of the recipient country characteristics. This allowed the determination of which country characteristics were correlated to the amount of aid a recipient country received from the US.

Immediate evidence when examining the US bilateral aid allocation is that, on average, the United States allocates half the aid budget to a very small number of recipient countries (four in this study). It is well-known that the United States places great emphasis on maintaining positive relations with the Middle East. Foreign policy objectives will result in Middle Eastern countries always having a priority in the allocation of aid from the US. In earlier timelines, other authors found Israel and Egypt as the major beneficiaries of the US aid. This paper found that both these recipient countries are still significant beneficiaries of US aid. Additionally, two new Middle Eastern countries have joined Israel and Egypt. Afghanistan, post 2002 and Iraq are both major recipients of the US bilateral aid. The political and strategic alliance with these countries has a large and significant influence on the amount of aid received by them from the United States. Although extremely large relative to the aid given by the United States to the rest of the developing world, these outlier countries can still be classified as receiving aid as a result of the US donor interest motivation of maintaining strategic partnerships with countries that produce oil. That is why the majority of the explanatory power of the model falls under the a priori assumptions on which countries are strategic to the United States.

Every developing country gets some US bilateral aid. Therefore, the recipient need is taken into consideration. However, relative poverty does not seem to be a consideration when the United States decides the amount of aid to allocate to a country. The extremely poor countries, as well as the countries which are very close to being categorized DAC, developed countries, all receive some US aid. Apparently the GDP of a developing country is not used as a signal to the

donor (US) that there is an economic need for more aid in some of these recipient countries, than others. As a developing countries GDP per capita increases, the US bilateral aid increases as well. This rate of increase is at a decreasing rate.

Population has no significant affect on US bilateral aid. Population affects the aid through the per capita variables. Therefore as the GDP is measured per capita, the US should be taking into account that as a population increases, the aid per capita will decrease if the total aid to that recipient country remains the same. When country fixed effects were used the aid was shown to increase with an increase in GDP measured between countries. The country with the higher GDP received the higher amount of aid. Whereas when the time dummies were used, this resulted in the aid responding to increases in population over time, not the relative populations of the individual recipient countries.

Under the donor interest motivations, the United States places no significant emphasis on recipient countries with whom it trades (unless one was to consider the oil producing countries as a whole). Therefore, economic motivation, as measured by this study has no effect on US aid allocation. The result was the same when different measurements of trade openness were used. Although the results show that the trade is a significant determinant (statistically), economically it has no effect. The relative amount on trade is just too insignificant in magnitude to be considered a credible determinant of the US aid package.

The motivations of aid allocation of the United States do not respond to political alliances. The voting in the UN was a statistically significant result. However, economically the effect is negligible, as the effect was extremely small. A small number of countries, as territories or colonies, have received more aid than non-territories. A measure of religion based on relative percentage base in the population had no impact on aid. Though for comparative purposes, being a largely Muslim country would ensure a larger portion of foreign direct investment. Again investment in the oil producing countries would cause this effect, as many oil producing countries have higher Muslim populations.

The United States believes their foreign aid should reflect their foreign policy objectives of promoting democracy. There is no proof of this US policy of promoting or maintaining

democracy in this study. The four main recipients of aid from the United States have political environments which cannot be considered democratic from a western point of view.

The foreign direct investment, as a reference to aid, shows no mutual dependence between these private flows of money and public flows of aid. Similarly, both FDI and aid increase with an increase in income. The FDI has a much higher impact in investment within the countries with larger GDP per capita. According to the results, it can be argued that the FDI will go to the countries with the larger and richer markets, larger in the sense that GDP per cap is higher therefore more income is available to the recipient countries.

The tests for robustness show several concerns with the model specification. First, the model shows evidence of endogeneity in the GDP per capita variable. Included as an independent explanatory variable, the GDP was shown to have a causal relation with the aid per capita, dependant variable. The model specified that the aid per capita of a country had a negative relation to the GDP (as the GDP decreased the aid should increase). This suggests that the GDP per capita variable may be endogenous.

Another point of concern is the presence of serial correlation in the error terms. This results in the classical assumptions about the error terms in an OLS estimation model being no longer supported. Therefore in this papers' analysis, although the estimation yielded unbiased and consistent estimates of the intercept and slope parameters, the variances in my model will not be estimated correctly. This causes greatest concern in that the constructed validity tests and confidence intervals are no longer robust. These two concerns are important areas for future research with respect to this papers' model specification.

Previous authors have stated that the bilateral aid of the United States is politically driven or that the economic interests drive the US aid allocation. The conclusion reached in this analysis is that although strategic partners are the majority stakeholders in the US aid allocation process, one cannot quickly conclude that the motivations of the United States in the giving of aid is solely donor interest objectives. One must remember that the majority recipients of United States aid are in fact still developing countries. Afghanistan is on the lowest quartile of developing countries according to the OECD. So while one may argue that the United States is concerned in

their own self interest, one could just as quickly state that these strategic countries are in need of the aid money, no matter the motivations behind the aid.

Table I OLS Estimation

Dependent Variable:	LN Aid Per Capita			
	(1)	(2)	(3)	(4)
Period (1 year periods)	1989-2008	1989-2008	1989-2008	1989-2008
LN (GDP)	-0.024	-0.026	0.056	0.082**
	(0.018)	(0.018)	(0.037)	(0.038)
(LN(GDP))2	0.001	0.001	-0.004	-0.006**
	(0.001)	(0.001)	(0.002)	(0.002)
LN(POP)	-0.130***	-0.133***	0.119**	-0.003
	(0.009)	(0.009)	(0.052)	(0.064)
(LN(POP))2	0.004***	-0.004***	-0.003**	-0.000
	(0.000)	(0.000)	(0.001)	(0.002)
Bilateral Trade	-0.001	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.000)	(0.000)
Democracy	-0.002*	-0.003***	-0.001	-0.001
	(0.001)	(0.001)	(0.002)	(0.002)
US UN Friend	0.001***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Dummy US colony	0.196***	0.194***	1.039***	0.461***
	(0.008)	(0.008)	(0.099)	(0.123)
Egypt	0.020	0.021	-0.006	0.036
	(0.021)	(0.021)	(0.030)	(0.032)
Israel	0.287***	0.282***	0.323***	0.323***
	(0.033)	(0.033)	(0.032)	(0.032)
Iraq	0.180***	0.172***	0.153***	0.146***
	(0.038)	(0.038)	(0.034)	(0.035)
Afghanistan	0.040	0.029	0.035	0.036
	(0.035)	(0.035)	(0.034)	(0.034)
Communist	0.013*	0.018**	0.007	0.017*
	(0.007)	(0.007)	(0.009)	(0.009)
Muslim	0.008	0.009	0.018	-0.035
	(0.006)	(0.006)	(0.047)	(0.049)
Catholic	-0.010	-0.008	0.109	-0.044
	(0.006)	(0.006)	(9.63)	(0.078)
Constant	8.070***	8.106***	5.565***	6.755***
	(0.105)	(0.106)	(0.492)	(0.617)
Country Dummy	no	no	yes	yes
Time Dummy	no	yes	no	yes
# Observations	3319	3319	3319	3319
R^2	0.32	0.33	0.62	0.62

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

Table II OLS Estimation

Dependent Variable:	LN Aid Per Capita		
	(1)	(2)	(3)
Period (1 year periods)	1989-2008	1989-2008	1989-2008
LN (GDP)	0.082**	0.084**	0.082**
	(0.038)	(0.038)	(0.038)
(LN(GDP))^2	-0.006**	-0.006**	-0.006**
	(0.002)	(0.002)	(0.002)
LN(POP)	-0.003	0.019	-0.004
	(0.064)	(0.063)	(0.064)
(LN(POP))^2	-0.000	-0.001	-0.000
	(0.002)	(0.002)	(0.002)
Bilateral Trade	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.004)
Democracy	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)
Civil Liberty	----	----	-0.000
	----	----	(0.002)
US UN Friend	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Dummy US colony	0.461***	0.811***	0.770***
	(0.123)	(0.128)	(0.130)
Egypt	0.036	0.025	0.036
	(0.032)	(0.032)	(0.032)
Israel	0.323***	0.322***	0.323***
	(0.032)	(0.032)	(0.032)
Iraq	0.146***	0.147***	0.146***
	(0.035)	(0.035)	(0.035)
Afghanistan	0.036	0.031	0.036
	(0.034)	(0.033)	(0.034)
Communist	0.017*	----	0.017*
	(0.009)	----	(0.009)
Muslim	-0.035	-0.038	-0.035
	(0.049)	(0.049)	(0.049)
Catholic	-0.044	0.036	-0.044
	(0.078)	(0.078)	(0.079)
Constant	6.755***	6.540***	6.758***
	(0.617)	(0.605)	(0.617)
Country Dummy	yes	yes	yes
Time Dummy	yes	yes	yes
# Observations	3319	3319	3319
R^2	0.62	0.62	0.62

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

Table III OLS Estimation

Dependent Variable:	LN Aid Per Capita		
	(1)	(2)	(3)
Period (1 year periods)	1989-2008	1989-2008	1989-2008
LN (GDP)	0.081**	0.074*	0.082**
	(0.038)	(0.038)	(0.038)
(LN(GDP))2	-0.006**	-0.005**	-0.006**
	(0.002)	(0.002)	(0.002)
LN(POP)	-0.004	-0.010	-0.003
	(0.064)	(0.064)	(0.064)
(LN(POP))2	-0.002	-0.000	-0.000
	(0.002)	(0.002)	(0.002)
SW Openness	0.042	----	----
	(0.064)	----	----
Penn 6.3 Open	----	-0.000**	----
	----	(0.000)	----
Bilateral Trade	----	----	-0.000
	----	----	(0.000)
Democracy	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)
US UN Friend	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Dummy US colony	0.074	0.761***	0.461***
	(0.082)	(0.130)	(0.123)
Egypt	0.038	0.033	0.036
	(0.034)	(0.032)	(0.032)
Israel	0.323***	0.322***	0.323***
	(0.032)	(0.032)	(0.032)
Iraq	0.146***	0.148***	0.146***
	(0.035)	(0.035)	(0.035)
Afghanistan	0.036	0.040	0.036
	(0.034)	(0.034)	(0.034)
Communist	0.016*	0.016*	0.017*
	(0.009)	(0.009)	(0.009)
Muslim	0.002	-0.029	-0.035
	(0.083)	(0.049)	(0.049)
Catholic	-0.038	-0.040	-0.044
	(0.046)	(0.078)	(0.078)
Constant	6.722***	6.848***	6.755***
	(0.565)	(0.618)	(0.617)
Country Dummy	yes	yes	yes
Time Dummy	yes	yes	yes
# Observations	3318	3319	3319
R^2	0.62	0.62	0.62

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

TABLE IV

Dependent Variable:	LN Aid Per Capita		
OLS Estimation	(1)	(2)	(3)
Periods (5 year periods)	1989-2008	1989-2008	1989-2008
LN (Initial GDP)	0.255*	0.258*	0.255*
	-0.142	-0.142	-0.143
(LN(Initial GDP))^2	-0.017*	-0.017**	-0.017*
	-0.009	-0.009	-0.009
LN(POP)	0.074	0.076	0.073
	-0.254	-0.248	-0.255
(LN(POP))^2	-0.003	-0.003	-0.003
	-0.007	-0.007	-0.007
SW Openness	-0.028	-0.146	-0.032
	-0.306	-0.197	-0.314
Democracy	-0.001	-0.001	-0.001
	-0.007	-0.007	-0.009
Civil Liberties	-0.001	-----	0
	-0.001	-----	-0.012
US UN Friend	0.021	-0.001	-0.001
	-0.597	0	-0.01
LN (Years Colony)	-0.072	-0.011	-----
	-0.249	-0.021	-----
Dummy US colony	0.199	-0.026	0.064
	-0.122	-0.088	-0.539
Egypt	-0.11	0.041	-0.079
	-0.185	-0.105	-0.262
Israel	-0.118	0.199	0.199
	-0.193	-0.122	-0.122
Communist	-0.002	----	-0.002
	-0.03	----	-0.03
Muslim	0.171	-0.008	0.229
	-0.683	-0.435	-0.661
Catholic	0.062	0.07	0.06
	-0.473	-0.476	-0.475
Constant	5.673***	5.733***	5.630***
	-2.082	-2.326	-2.152
Country Dummy	yes	yes	yes
Time Dummy	yes	yes	yes
# Observations	655	656	655
R*^{2}	0.55	0.55	0.55

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

Table V OLS Estimation

Dependent Variable:	LN Aid Per Capita			
	(1)	(2)	(3)	(4)
Period (5 year periods)	1989-2008	1989-2008	1989-2008	1989-2008
LN (Initial GDP)	-0.044	-0.041	0.198	0.255*
	(0.058)	(0.059)	(0.139)	(0.142)
(LN(Initial GDP))2	0.002	0.002	-0.014	-0.017*
	(0.003)	(0.004)	(0.008)	(0.009)
LN(POP)	-0.148***	-0.147***	0.178	0.074
	(0.025)	(0.026)	(0.230)	(0.254)
(LN(POP))2	0.004***	0.004***	-0.004	-0.003
	(0.001)	(0.001)	(0.007)	(0.007)
SW Openness	-0.005	-0.005	-0.268	-0.028
	(0.014)	(0.015)	(0.231)	(0.306)
Democracy	-0.001	-0.001	-0.000	-0.001
	(0.003)	(0.003)	(0.007)	(0.007)
US UN Friend	0.001**	0.007*	0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)
Dummy US colony	0.237***	0.237***	-0.463	0.021
	(0.024)	(0.025)	(0.419)	(0.597)
Egypt	0.016	0.016	-0.247	-0.072
	(0.059)	(0.059)	(0.203)	(0.249)
Israel	0.187***	0.192***	0.206*	0.199
	(0.070)	(0.072)	(0.122)	(0.122)
Iraq	0.053	0.052	-0.196	-0.110
	(0.059)	(0.060)	(0.168)	(0.185)
Afghanistan	-0.003	-0.003	-0.225	-0.118
	(0.019)	(0.061)	(0.183)	(0.193)
Communist	0.013	0.016	-0.002	-0.002
	(0.007)	(0.020)	(0.026)	(0.030)
Muslim	0.011	0.011	-0.205	0.171
	(0.016)	(0.017)	(0.578)	(0.683)
Catholic	-0.004	-0.004	0.032	0.062
	(0.017)	(0.017)	(0.471)	(0.473)
Constant	8.278***	8.269***	5.031***	5.673***
	(0.315)	(0.317)	(1.935)	(2.082)
Country Dummy	no	no	yes	yes
Time Dummy	no	yes	no	yes
# Observations	655	655	655	655
R^2	0.27	0.27	0.55	0.55

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

Table VI OLS Estimation

Dependent Variable:	LN FDI		
	(1)	(2)	(3)
Period (1 year periods)	1989-2008	1989-2008	1989-2008
LN (GDP)	2.242**	2.828***	2.187**
	(0.942)	(0.930)	(0.942)
(LN(GDP))2	-0.148***	-0.178***	-0.145**
	(0.057)	(0.057)	(0.057)
LN(POP)	-4.340***	-3.508***	-4.224***
	(1.325)	(1.314)	(1.327)
(LN(POP))2	0.085**	0.064*	0.082**
	(0.035)	(0.035)	(0.035)
Bilateral Trade	-0.020	-0.020	-0.020
	(0.014)	(0.014)	(0.014)
Democracy	-0.018	-0.045	-0.049
	(0.030)	(0.036)	(0.036)
Civil Liberties	----	0.070	0.069
	----	(0.045)	(0.045)
US UN Friend	0.012***	0.011***	0.011***
	(0.002)	(0.002)	(0.002)
Dummy US colony	-2.890***	0.260	0.785
	(0.847)	(0.720)	(0.732)
Egypt	5.165***	4.537***	4.784***
	(1.028)	(0.977)	(0.976)
Israel	----	-1.443	-1.517
	----	(1.015)	(1.012)
Iraq	3.411***	1.988**	2.623***
	(0.960)	(0.824)	(0.840)
Communist	1.044***	1.178***	0.545***
	(0.189)	(0.188)	(0.25)
Rule of Law	0.020***	----	0.020***
	(0.005)	----	(0.005)
Muslim	-5.803***	-4.894**	-4.932***
	(1.972)	(1.191)	(1.906)
Catholic	-0.321	-5.885***	-6.740***
	(1.376)	(1.989)	(1.998)
Constant	38.971***	29.262**	38.037***
	(13.270)	(13.114)	(13.310)
Country Dummy	yes	yes	yes
Time Dummy	yes	yes	yes
# Observations	2278	2279	2278
R^{*2}	0.63	0.63	0.63

Note: standard errors in parentheses *** 1 % significance ** 5 % significance * 10 % significance

Table VII Dependent Variable:	LN FDI		
OLS Estimation	(1)	(2)	(3)
Period (5 year period)	1989-2008	1989-2008	1989-2008
LN (Initial GDP)	1.272	1.086	1.256
	-1.25	-1.25	-1.25
(LN(Initial GDP))^2	-0.078	-0.067	-0.078
	-0.08	-0.08	-0.08
LN(POP)	-3.682*	-3.585	-4.020*
	-2.19	-2.19	-2.19
(LN(POP))^2	0.095	0.093	0.104*
	-0.06	-0.06	-0.06
SW Openness	1.441*	1.372**	1.484**
	-0.76	-0.66	-0.66
Democracy	0.452	-0.074	0.042
	-0.06	-0.08	-0.06
Civil Liberties	-----	0.21**	----
	-----	-0.104	----
US UN Friend	0.005	0.007	0.007
	-0.004	-0.005	-0.005
LN (Years as Colony)	-0.067	---	----
	-0.22	----	----
Dummy US colony	6.684	6.362**	5.548
	-3.51	-2.59	-3.51
Egypt	-0.411	-0.455	-0.274
	-0.82	-0.79	-0.79
Israel	----	1.918	1.982
	----	1.45	-1.45
Iraq	----	-2.029***	-1.954**
	----	-0.79	-0.79
Communist	----	0.345	0.293
	----	-0.25	-0.24
Rule of Law	0.020**	0.017**	0.018*
	-0.009	-0.009	-0.009
Muslim	5.693***	5.927***	5.947***
	-2.18	(2.172	-2.18
Catholic	-3.276	-3.759	-2.948
	-3.75	-3.76	-3.75
Constant	22.894	22.415	25.914
	-19.08	-19.103	-19.1
Country Dummy	yes	yes	yes
Time Dummy	yes	yes	yes
# Observations	543	546	546
R*^{2}	0.83	0.83	0.83

Note Standard Error in parentheses *** 1% significance ** 5% significance *10% significance

TABLE VIII

Dependant Variable:	LN Aid Per Capita			
OLS Estimation	(1)	(2)	(3)	(4)
Periods (1 year periods)	1989-2008	1989-2008	1989-2008	1989-2008
LN (GDP-1)	-0.021	-0.025	0.041	0.047
	(0.018)	(0.018)	(0.029)	(0.029)
(LN(GDP-1))2	0.001	0.001	-0.002	-0.003
	(0.001)	(0.001)	(0.002)	(0.002)
LN(POP)	-0.130***	-0.132***	0.111**	0.018
	(0.009)	(0.009)	(0.051)	(0.064)
(LN(POP))2	0.004***	0.004***	-0.003***	-0.001
	(0.000)	(0.000)	(0.001)	(0.002)
Bilateral Trade	-0.001	-0.001	0.000	-0.000
	(0.001)	(0.000)	(0.000)	(0.000)
Democracy	-0.002**	-0.003***	-0.001***	-0.001
	(0.001)	(0.001)	(0.001)	(0.002)
US UN Friend	0.001***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Dummy US colony	0.196***	0.195***	-0.037***	0.126
	(0.008)	(0.008)	(0.070)	(0.096)
Egypt	0.019	0.021	-0.004	0.031
	(0.021)	(0.021)	(0.029)	(0.032)
Israel	0.286***	0.281***	0.323***	0.323***
	(0.033)	(0.033)	(0.032)	(0.032)
Iraq	0.180***	0.172***	0.154***	0.150***
	(0.038)	(0.038)	(0.034)	(0.035)
Afghanistan	0.040	0.029	0.039	0.040
	(0.035)	(0.035)	(0.034)	(0.034)
Communist	0.013*	0.018**	0.009**	0.017*
	(0.007)	(0.007)	(0.009)	(0.009)
Muslim	0.008	0.009	-0.820	-0.451**
	(0.006)	(0.006)	(0.161)	(0.219)
Catholic	-0.009	-0.008	-0.927	-0.670***
	(0.006)	(0.006)	(0.109)	(0.151)
Constant	8.054***	8.095***	6.518***	7.068***
	(0.105)	(0.344)	(0.344)	(0.414)
Country Dummy	no	no	yes	yes
Time Dummy	no	yes	no	yes
# Observations	3318	3318	3318	3318
R^2	0.32	0.32	0.62	0.62

Note Standard Error in parentheses *** 1% significance ** 5% significance *10% significance

Table IX OLS Estimation

Dependent Variable:	LN Aid Per Capita	
	(1)	(2)
Periods (1 year periods)	1989-2008	1989-2008
LN (GDP)	0.056	0.059
	(0.047)	(0.054)
(LN(GDP))2	-0.004	-0.004
	(0.003)	(0.003)
LN(POP)	-0.062*	-0.086
	(0.037)	(0.084)
(LN(POP))2	0.002	0.002
	(0.001)	-0.002
Bilateral Trade	0.000	0.000
	(0.000)	(0.000)
Democracy	0.000	0.000
	(0.000)	(0.002)
US UN Friend	-0.000	-0.000**
	(0.000)	(0.000)
Israel	0.420***	0.358***
	(0.005)	(0.051)
Iraq	0.066***	0.113**
	(0.003)	(0.049)
Afghanistan	0.014***	0.026
	(0.004)	(0.049)
Communist	-0.005	-0.004
	(0.005)	(0.013)
# Observations	3150	3151
R^2	0.024	0.169

Note Standard Error in parentheses *** 1% significance ** 5% significance *10% significance

(1) Wooldridge test for autocorrelation in Panel data
H_0 : no first order autocorrelation
F(1, 165) = 2454.046
Prob > F =0.00

(2) Modified Bhargava et al Durbin-Watson = 0.8568
Baltagi-Wu LBI = 0.9397

TABLE IA

APPENDIX

VARIABLE CORRELATIONS

VARIABLE	AID	RGDP	POP	SW OPEN	PENN OPEN	TRADE	DEMO	CIV LIB	US UN
AID	1								
RGDP	0.0451	1							
POP	-0.248	-0.213	1						
SW OPEN	-0.026	0.26	0.056	1					
PENN OPEN	0.03	0.371	-0.412	0.179	1				
TRADE	0.008	-0.008	-0.064	-0.01	0.053	1			
DEMO	0.139	0.32	-0.284	0.215	0.071	0.04	1		
CIV LIB	0.136	0.395	-0.353	0.257	0.221	0.045	0.875	1	
US UN	0.192	0.148	-0.066	0.053	-0.014	0.032	0.302	0.224	1

APPENDIX TABLE I

OBSERVATIONS 3320		LN AID 1 YEAR		
VARIABLES	**MEAN**	**STD DEVIATION**	**MINIMUM**	**MAXIMUM**
LN AID PER CAP	6.925	0.111	6.873	9.704
LN RGDP PER CAP	8.435	1.108	4.673	11.389
LN POP	15.379	2.018	9.608	23.157
TRADE PER GDP	0.156	2.892	0	149.235
SW OPENNESS	0.145	0.352	0	1
PENN OPEN K	89.151	50.008	1.086	456.562
DEMOCRACY	4.213	2.126	1	7
CIVIL LIBERTY	4.253	1.761	1	7
US UN FRIEND	28.694	21.423	0	100
LN YEARS COLONY	3.377	1.634	0	4.605
DUMMY COLONY	0.048	0.214	0	1
EGYPT	0.006	0.077	0	1
ISRAEL	0.002	0.049	0	1
IRQ	0.002	0.042	0	1
AFGHANISTAN	0.002	0.046	0	1
COMMUNIST	0.061	0.239	0	1
MUSLIM	0.279	0.374	0	1
CATHOLIC	0.3	0.321	0	0.98

OBSERVATIONS 2343		LN FDI 1 YEAR		
VARIABLES	**MEAN**	**STD DEVIATION**	**MINIMUM**	**MAXIMUM**
LN AID PER CAP	-0.369	1.811	-13.072	6.738
LN RGDP PER CAP	8.536	1.122	5.033	11.389
LN POP	I6.144	1.562	12.412	23.157
SW OPENNESS	0.189	0.391	0	1
PENN OPEN K	81.649	51.599	1.086	456.562
TRADE PER GDP	0.269	2.616	0	59.973
DEMOCRACY	4.222	2.057	1	7
CIVIL LIBERTY	4.216	1.677	1	7
US UN FRIEND	30.416	22.485	0	100
LN YEARS COLONY	3.037	1.797	0	4.605
DUMMY US COLONY	0.026	0.158	0	1
EGYPT	0.009	0.092	0	1
ISRAEL	0.009	0.092	0	1
IRAQ	0.009	0.092	0	1
COMMUNIST	0.058	0.058	0	1
RULE OF LAW	64.821	64.821	13.041	93.125
MUSLIM	0.283	0.283	0	1
CATHOLIC	0.314	0.314	0	0.98

APPENDIX
TABLE II

OBSERVATIONS 656		LN AID 5 YR		
VARIABLES	**MEAN**	**STD DEVIATION**	**MINIMUM**	**MAXIMUM**
LN AID PER CAP	6.927	0.134	6.888	9.704
LN RGDP PER CAP	8.386	1.075	5.077	11.167
LN POP	15.386	2.031	9.657	21.875
SW OPENNESS	0.14	0.348	0	1
DEMOCRACY	4.185	2.064	1	7
CIVIL LIBERTY	4.231	1.713	1	7
US UN FRIEND	27.399	19.385	0	100
LN YEARS COLONY	3.381	1.631	0	4.605
DUMMY US COLONY	0.043	0.202	0	1
EGYPT	0.006	0.078	0	1
ISRAEL	0.005	0.068	0	1
IRQ	0.006	0.078	0	1
AFGHANISTAN	0.006	0.078	0	1
COMMUNIST	0.073	0.261	0	1
MUSLIM	0.282	0.376	0	1
CATHOLIC	0.295	0.318	0	1

OBSERAVTIONS 656		LN FDI 5 YR		
VARIABLES	**MEAN**	**STD DEVIATION**	**MINIMUM**	**MAXIMUM**
LN AID PER CAP	6.927	0.134	6.888	9.704
LN RGDP PER CAP	8.386	1.075	5.077	11.167
LN POP	15.386	2.03	9.657	21.875
SW OPENNESS	0.14	0.348	0	1
DEMOCRACY	4.185	2.064	1	7
CIVIL LIBERTY	4.231	1.713	1	7
US UN FRIEND	27.399	19.385	0	100
LN YEARS COLONY	3.381	1.631	0	4.605
DUMMY US COLONY	0.043	0.202	0	1
EGYPT	0.006	0.078	0	1
ISRAEL	0.005	0.068	0	1
IRQ	0.006	0.078	0	1
AFGHANISTAN	0.006	0.078	0	1
COMMUNIST	0.073	0.261	0	1
MUSLIM	0.282	0.376	0	1
CATHOLIC	0.295	0.318	0	0.98

Appendix
TABLE III

COMMUNIST COUNTRIES	YEAR ENDED
Afghanistan	1992
Albania	1992
Angola	1992
Armenia	1991
Azerbaijan	1991
Belarus	1991
Bosnia & Herzegovina	1992
Bulgaria	1990
China	2008*
Cuba	2008*
Croatia	1991
Czechoslovak	1990
Estonia	1991
Georgia	1992
Kazakhstan	1992
Kyrgyzstan	1992
Latvia	1991
Laos	2008*
Lithuania	1991
Macedonia	1991
Moldova	1991
Mongolia	1992
Montenegro	2006
Russia	1991
Serbia	2006
Slovak Republic	1993
Slovenia	1991
Tajikistan	1992
Turkmenistan	1992
Ukraine	1991
Uzbekistan	1993
Vietnam	2008*

* Denotes countries which are still communist as of 2008.

TABLE V (i)

COUNTRIES

Afghanistan
Albania
Algeria
Andorra
Angola
Antigua & Barbuda
Argentina
Armenia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belize
Benin
Bhutan
Bolivia
Bosnia-Herzegovina
Botswana
Brazil
Brunei
Bulgaria
Burkina Faso
Burma
Burundi
Cambodia
Cameroon
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo (Brazzaville)
Congo (Kinshasa)
Costa Rica
Cote d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Czechoslovakia
Djibouti
Dominica
Dominican Republic
East Timor
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Fiji
Gabon
Gambia, The
Georgia
Ghana
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hungary
India
Indonesia
Iran
Iraq
Israel
Jamaica
Jordan
Kazakhstan
Kenya
Kiribati
Kosovo
Kyrgyzstan
Laos
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein
Lithuania
Macedonia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mexico
Micronesia
Moldova
Monaco
Mongolia

TABLE V (ii)

COUNTRIES

Montenegro
Morocco
Mozambique
Namibia
Nauru
Nepal
Nicaragua
Niger
Nigeria
Oman
Pakistan
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russia
Rwanda
Samoa
San Marino
Sao Tome & Principe
Saudi Arabia
Senegal
Serbia
Serbia & Montenegro
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
Solomon Islands
Somalia
South Africa
South Korea
Sri Lanka
St. Kitts & Nevis
St. Lucia
St. Vincent & Grenadines
Sudan
Suriname
Swaziland
Syria
Taiwan
Tajikistan
Tanzania
Thailand
Togo
Tonga
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
Tuvalu
Uganda
Ukraine
United Arab Emirates
United Kingdom
United States
Uruguay
USSR
Uzbekistan
Vanuatu
Venezuela
Vietnam
Vietnam, N.
Vietnam, S.
Yemen
Yemen, N.
Yemen, S.
Yugoslavia
Zambia
Zimbabwe

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