

How Does Foreign Aid affect Political Stability?

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Abstract

This paper utilizes the World Bank World Development Indicators dataset, World Governance Indicators dataset, the State Fragility Index and the Polity IV project datasets to conduct an analysis of whether greater foreign aid, as measured by net Official Development Assistance (ODA) per capita, results in more or less political stability. We control for other various economic and political variables, as well as potential simultaneous causality between the amount of aid received and political stability level in a two-stage least squares regression. By doing so, we find that in most of our regressions foreign aid does not significantly affect political stability, and in the cases that it does the effect is quite small to the point of being inconsequential. This main result holds no matter if we look at the averages of each variable, look at panel data, or look at long differences over a given time period. Our results are also robust to a variety of other economic and political controls.

I. Introduction

Kyrgyzstan is a small country in Central Asia which only recently won their independence after the break-up of the Soviet Union in 1991. It has a predominantly agricultural economy which hasn't been very prosperous since the country's independence. However, after the September 11th, 2001 attacks on the World Trade Center, one way it has been able to directly secure funds and other forms of assistance due to "Russo-American competition over the use of an airfield." (Werker 2012, 1) After the US began its campaign in Afghanistan in the wake of the 9/11 terrorist attacks, the United States sought an airfield to help transport its soldiers and materials to the country they were waging war in. The US was able to secure the use of Manas Air Base in Kyrgyzstan by leasing it after promising much foreign aid and help with upgrading their infrastructure. This agreement continued for several years until in 2006, when the new Kyrgyz government (the old one had just been overthrown in a revolution the year before) demanded a 100 times increase in the rent that the US was currently being charged for the Manas Air Base, because they argued that the old leasing contracts had disproportionately benefitted

the cronies of the old government. The United States, still fighting in Afghanistan, still needed the airbase and thus were able to maintain their access after giving Kyrgyzstan a \$150 million aid package, with \$18 million of that package to be used as rent for the airbase. However, after a Kyrgyz visit to Russia in 2009, the Kyrgyz government told the US government that they had 180 days to leave the airbase. This was most likely because Russia had offered a \$300 million loan for economic development, a \$150 million grant for budget stabilization, and forgiveness for much of the \$180 million debt that Kyrgyzstan owed to Russia. The US managed to keep access to the airbase after extensive negotiations, but in doing so conceded even more rent on the base and other additional support and aid to economic development, counterterrorist, and counternarcotic programs. (Werker, 2012)

In the same decade that this was going on, Kyrgyzstan's only two presidents in its first twenty years of independence both ended up effectively exiled from their own country. Right after Kyrgyzstan achieved independence, President Askar Akayev's ambitious economic and political reform programs gave much hope not only to the Kyrgyz people, but also to the international community, which proclaimed Kyrgyzstan as the "Switzerland of Central Asia" and led to lots of foreign aid and investment from outside its borders. (Olofsgard 2012) However, by the time of his overthrow and fleeing of the country to Russia in 2005, perceptions of Akayev had transformed from "visionary builder of a new Switzerland" to "the bumbling professor of corruption." (Shishkin 2014, 5) After the chaos of the 2005 revolution, Kurmanbek Bakiyev was viewed as the next man to run the country and as "the country's democratic savior." (Shishkin 2014, 93) However, in his five years as president, Bakiyev established a government whose "nepotism and graft surpassed the excesses of the previous regime." (Shishkin 2014, 160) This, combined with the struggling economy, and with how Bakiyev's political allies had by this point turned against him (some protested the corruption, others thought they weren't getting enough money and influence) eventually led to the 2010 Kyrgyz revolution, which led to Bakiyev himself fleeing the country. (Shishkin 2014)

This kind of story that makes one wonder, given that Kyrgyzstan was trying to woo aid from other countries such as the US and Russia during the 2000's, and having gone through two revolutions in the same time, is there some kind of association between foreign aid and political stability?

In this paper, that is exactly the question we will try to answer: What effects, if any, does foreign aid have on the political stability of the recipient country? This is an area of great interest to many, because given that both individual countries and multilateral institutions such as the World Bank donate so much money to developing countries every year, many would like to know if such expenditures actually do their intended purpose of helping the recipient country (whether for strategic or altruistic reasons), which includes ensuring political stability in those places. Proof of interest in this topic is that there has been much debate about whether foreign aid actually helps developing countries, as can be seen by the wealth of literature on the topic.

This paper adds to the large body of literature on the effects of foreign aid on recipient countries by doing an in-depth analysis of the rarely discussed direct relationship between foreign aid and political stability. While there is a paper by Oeschlin (2009) that actually does take a look at the relationship between foreign aid and political stability, it is just a brief examination and not even the focus on the paper. We greatly expand on that analysis by doing panel, cross-country, and long-difference regressions to try to find a more nuanced interpretation of the effects of foreign aid on political stability as opposed to just doing cross-country regressions. We also go further than that analysis by seeing if relationship between foreign aid and political stability holds across different accepted measures of political stability as opposed to just looking at one possible measure of political stability. We also see if this relationship holds when we control for different variables that are supposed to represent similar causes of political instability.

The structure of the rest of the paper is as follows. Section II will conduct a brief literature overview on our topic of interest and other related topics. Section III goes into detail about which

variables were included in the regressions of our analysis, the reasons for their inclusion, and briefly discusses possible sample selection issues. Section IV discusses the regression specifications as well as our methodology. Section V will analyze the impact of foreign aid on political stability, as well as discuss the possible limitations of our analysis. Finally, Section VI concludes.

To preview the main results, we find that foreign aid has no statistically significant effect upon foreign aid. This is mainly due to our panel and long-difference results. We do not see a statistically significant effect of aid upon political stability after controlling for other variables and even using an instrument to reduce the effects of simultaneous causality in any of our long-difference regressions. While we do see a statistically significant effect of foreign aid upon political stability after controlling for other variables and for simultaneous causality in some of our panel regressions, the effect is so small that it effectively means nothing. We do see a statistically significant effect in some of our cross-country regressions, in that more foreign aid seems to cause more political instability. However, given that the regressions of the other two types which do control for time and entity effects do not seem to agree with this result, the fact that the real effects on political stability predicted by the cross-country regressions are themselves very small, plus doubts about whether the instrument chosen gives us entirely exogenous variations in foreign aid, leads us to conclude that the results seen in the cross-country and some of the panel regressions are probably spurious, and that overall foreign aid does not have any significant effect upon the recipient country's political stability.

II. Literature Overview

Contrary to what one might think, there actually has not been much literature written directly on the topic of how political stability is affected by foreign aid. There has been a decent amount of literature about related topics though, such as what factors in general affect political stability in a country, and what effects foreign aid actually has (such as foreign aid's actual effects on a country's economic development and on other aspects such as corruption).

Economists have looked at a wide variety of factors in trying to determine what really affects political stability. For example, Parvin (1973) examines several economic factors to see which ones empirically have had the most effects on political stability. He finds that greater per-capita income growth and higher levels of per-capita income are both highly significant in reducing political instability, as well as also finding that more socioeconomic mobility also is significant ensuring political stability. Cukierman, Edwards, and Tabellini (1989) look at the relationship between seigniorage and political stability, and finds that seigniorage indeed does lead to greater political instability, although they note that their evidence is somewhat weak due to their imperfect measures of political instability. In another study, Annett (2001) looks at the effect of fractionalization “along ethnolinguistic and religious dimensions” upon political stability, and finds that it indeed is significant in leading to greater political instability in a country. Blanco and Grier (2009) attempt to look at the determinants of political stability in a particular region – specifically, Latin America. The authors find that ethnic fractionalization has a non-linear effect upon political instability, that low and high (but not average) levels of income inequality are statistically significant in reducing instability, that trade openness significantly lowers instability, and that government regime type is statistically significant in affecting political instability. They interestingly also find that macroeconomic variables such as inflation or government deficit levels have no significant effect upon instability, in contradiction to what various other studies have stated.

Much has been written about whether foreign aid actually helps a country economically develop as intended, but there is no general consensus. For example, Boone (1996) finds that foreign aid is not very effective in actually causing development in the receiving country and improving the standard of life of its citizens. He finds that while aid increases consumption, specifically increasing the size of government, this increased consumption does not actually benefit the poor. Boone also finds that aid is not significant in stimulating investment in the receiving country, and is also insignificant in affecting measures of human development such as infant mortality and primary schooling ratios. However,

Headey (2008), using an updated data set that ranges from 1970 to 2010, does find that aid overall has a “significant but moderate average effect” on the receiving country’s development, specifically its economic growth. However, he does note that bilateral aid during the Cold War does not seem to have a significant effect upon the recipient’s economic growth (and hence why earlier papers such as Boone’s did not show any positive effects of foreign aid), but bilateral aid after the Cold War and multilateral aid during any of the time periods studied do seem to have a positive and significant effect upon economic growth in the receiving country.

The literature hasn’t solely looked at the economic and development effects of foreign aid. Economists have also written on whether foreign aid increases corruption or not (which is important because corruption may be a cause of political instability because it may cause civil unrest). But, like with the economic effects of aid, there is no general consensus on what foreign aid does to corruption. For instance, Okada and Samreth (2012), using quantile regressions, find that overall, foreign aid significantly reduces corruption with the effect being greater in countries that were originally less corrupt, and that these results are robust to different indicators of corruption and foreign aid. However, Asongu (2012) refutes those exact results by conducting instrumental variables panel regressions on an “updated” dataset of 52 African countries from 1996-2010 and finds that aid actually seems to increase corruption.

While the literature mentioned above discusses topics that are only somewhat related to the main issue in this paper, there have been other papers written that are much closer to our topic of interest. Nunn and Qian (2012) examine the potential impact of US food aid on civil war in the recipient country. After controlling for various other factors and for simultaneous causality, they find that an increase in US food aid increases the incidence, onset, and duration of civil conflicts in recipient countries, but has no statistically significant effect on interstate warfare. They also find that has more of an effect upon small-scale conflicts such as small rebel groups stealing aid to fund military activities, but

not full-on civil wars. Another finding by Nunn and Qian is that “food aid causes fewer conflicts in countries with low levels of ethnic fractionalization and with well-developed transportation infrastructure, measured by road density.”

Oeschlin (2009) conducts one of the very few studies that actually looks at a potential link between foreign aid and political stability. The main focus of the paper by Oeschlin is to develop a theoretical model on how foreign aid might cause lower macroeconomic growth due to increased political instability resulting from that aid. However, there is a small section in which the author tries to empirically examine a potential relationship between political instability, which is measured by the number of forced governmental changes per 10 years in a country, and foreign aid, which is measured by aid as a percentage of the recipient country’s GNI. After looking at data from the 1980’s and the 1990’s, and controlling for variables such as GDP per capita, democracy levels (based on the Polity IV data set), and inflation (all of these control variables are averaged over the relevant decades), he finds that foreign aid is statistically significant in making recipient countries more politically unstable. As mentioned earlier, our study is somewhat similar to this one but we expand upon it by looking at the results from different types of political instability indices, different types of regressions, and different control variables.

III. Data Sets and Variables

Many different variables from various datasets were used in this analysis of the relationship between foreign aid and political stability. Summary statistics of those variables, as well as figures that plot the relationship between the country averages of various political stability indices and the country averages of net foreign aid per capita are shown in the next two pages as Tables 1 and 2, as well as Figures 1 and 2. Other summary statistics and other figures that plot the basic relationship between political stability and foreign aid are included in the appendix as tables A4 through A6, and figures A1-A10.

To measure political stability, we chose to use political stability indices rather than something like the amount of forced government changes in a given time period, which is what Oeschlin (2009) does. This is because political stability is more than just about actual displayed violence and actions. It would seem that indices created by scholars who look at the overall situation in various countries would better capture the stability situation in any given country at any given time.

One stability index that we use is the State Fragility Index (SFI) by the Center for Systemic Peace. The scoring scale for the SFI ranges from 0-25, with zero being the most stable and twenty-five being the most unstable. The years for which we have data on SFI scores range from 1995 to 2013. This particular stability index was utilized because it is widely known and has been used for various other analyses, as well as being easy to access.

The other stability index that we use is the Political Stability and Absence of Violence/Terrorism (PV) score as a part of the World Bank's World Governance Indicators. Here, the PV scoring scale ranges approximately from -2.5 to 2.5 on a standard normal distribution, with more negative numbers meaning more instability and more positive numbers representing more stability. The date range of the data for PV scores span from 1996, 1998, 2000, and 2002-2013. Like the SFI, the PV was used in this analysis because it is widely known and acknowledged. Also, the PV score takes into consideration a multitude of other sources, which may be useful in our analysis of trying to track down the exact effect of foreign aid on political stability.

For our measure of foreign aid, we use the natural log of aid per capita. This data comes from the World Bank's World Development Indicators, which has data that spans from 1960 to 2014. Net official development assistance (ODA) consists of loans and grants from multilateral institutions and individual countries (both OECD and non-OECD) to recipient countries' governments for the purpose of economic development and welfare, measured in current US dollars. Thus, ODA does not include any kind of military, counter-terrorism, or peacekeeping assistance. Net ODA per capita is calculated by

Table 1 - Descriptive statistics of variables used in SFI regressions, country averages over 2003-2012

Statistic	Observations	Mean	St. Dev.	Min	Max
SFI score	162	8.980	6.339	0.000	23.100
Net ODA per capita (current USD)	135	122.174	235.261	-3.947	1,641.754
GDP growth (annual %)	187	4.328	2.705	-1.347	14.000
GDP per capita growth (annual %)	186	2.765	2.456	-5.804	12.025
GDP per capita (constant 2005 USD)	186	10,389.660	15,671.860	148.753	80,774.680
Inflation, consumer prices (annual %)	168	5.997	4.279	-0.082	25.472
Trade (% of GDP)	168	92.960	51.358	25.689	397.002
CC score	195	-0.045	0.994	-1.767	2.459
Polity2 score	153	3.717	6.330	-10.000	10.000
VA score	198	-0.049	0.995	-2.199	1.639

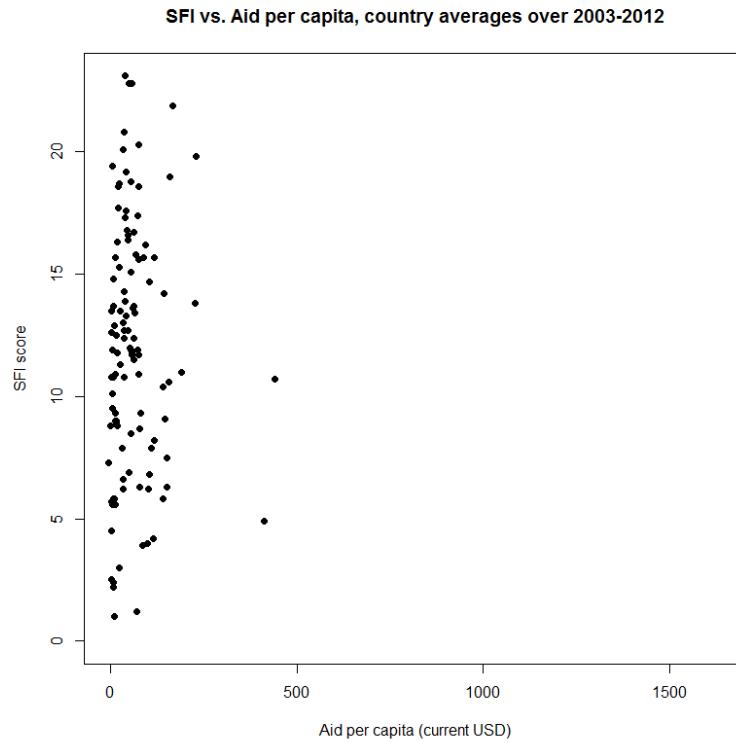
Source: World Bank World Development Indicators (WDI) and World Governance Indicators (WGI), Center for Systemic Peace State Fragility Index (SFI) and Polity IV datasets

Table 2 - Descriptive statistics of variables used in PV regressions, country averages over 1996, 1998, 2000, and 2002-2012

Statistic	Observations	Mean	St. Dev.	Min	Max
PV score	186	-0.103	0.948	-2.832	1.491
Net ODA per capita (current USD)	133	116.638	244.261	0.119	1,838.009
GDP growth (annual %)	179	4.208	2.473	-0.870	15.440
GDP per capita growth (annual %)	177	2.671	2.311	-4.074	12.042
GDP per capita (constant 2005 USD)	178	10,271.940	15,332.920	150.417	76,942.820
Inflation, consumer prices (annual %)	155	9.472	29.018	-0.142	352.929
Trade (% of GDP)	160	90.112	50.860	24.006	380.305
CC score	181	-0.039	1.012	-1.725	2.445
Polity2 score	152	3.492	6.296	-10.000	10.000
VA score	196	-0.047	0.993	-2.165	1.615

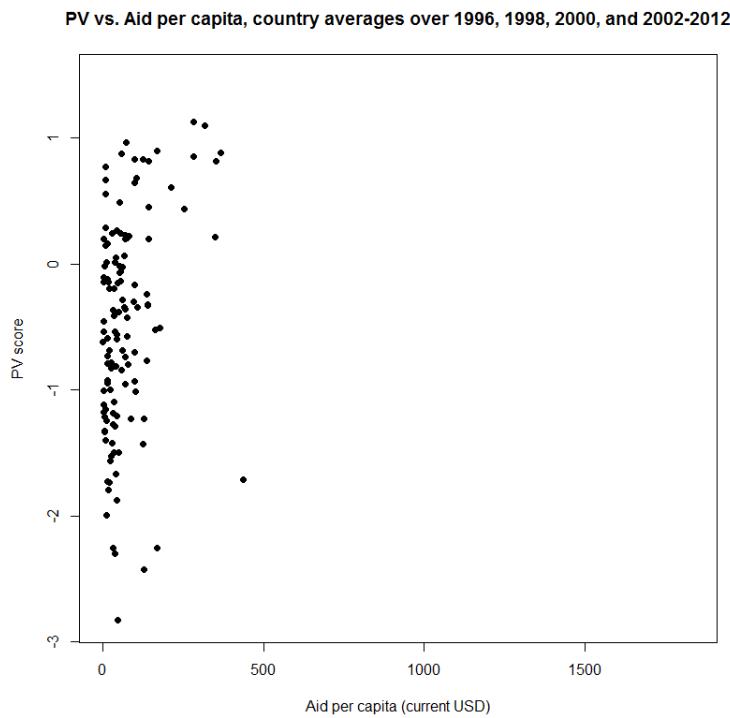
Source: World Bank World Development Indicators (WDI) and World Governance Indicators (WGI), and Center for Systemic Peace Polity IV datasets

Figure 1



Source: World Bank WDI and Center for Systemic Peace SFI datasets

Figure 2



Source: World Bank WDI and WGI datasets

taking net ODA and dividing it by a midyear population estimate.

We chose to look at net ODA, as opposed to other measures of foreign aid, because first, we did not want to lump in the effect of private donations or investments. Private assistance should not be lumped together with official assistance because they are very different from each other in terms of both intent and disbursement. Secondly, we chose to look at net ODA because we did not want to track the effects of any kind of military assistance, which are not intended for overall development assistance and thus is not in the spirit of our analysis.

We choose to look at net ODA per capita specifically because first, this really shows how much aid is going to the typical person; and second, this also allows us to not worry about controlling for population directly in the regressions, which makes for less trouble in terms of potentially encountering multi-collinearity or near multi-collinearity in our regressions.

We also utilize the variable of the number of years a particular country has served in the United Nations Security Council (UNSC) as an instrument for the amount of foreign aid in our regressions. We do so because there are reasons to believe that variations in foreign aid are not fully exogenous, which we discuss more in detail in the next section on regression specifications and methodology. The data on which countries have served in the UNSC and in what years was taken from the official UNSC website.

Overall economic conditions, other economic variables, and other political variables seem to be important in determining political stability. Thus, we include the following other variables as controls, to ensure that we get a correct effect of just foreign aid on political stability.

As Parvin (1973) states, rate of income growth seems to be a sort of proxy for overall economic conditions and sentiment among the people about the economy. Also, in that same analysis, Parvin found it to be a statistically significant variable in determining political stability. For this reason, we include the GDP growth rate, measured in annual percentage, sourced from the World Bank's WDI.

In some of the regressions in this analysis, we also utilize an alternate measure for overall economic conditions and economic sentiment among the people, to see if our main results are robust to different variables. Specifically, we also use GDP per capita growth, measured in annual percentages, sourced from the World Bank's WDI.

In some of our regressions, we use yet another measure of overall economic conditions, in the form of GDP per capita in constant 2005 US dollars. We include this variable for the sake of seeing whether our main results are robust to different specifications.

We include inflation of consumer prices measured as an annual percentage rate sourced from the World Bank's WDI. Specifically, this is based on the cost of a basket of goods and services for a typical consumer in the country, using the Laspeyres formula. We chose to use this measurement of inflation over the alternate measurement utilizing a GDP deflator also offered by the WDI, as inflation based on consumer prices is thought to better represent what the typical person in the country actually faces and thus is a more direct measure of a potential cause for political unrest in the country. The reason that inflation is included at all is because it has been found by others, such as Cukierman et al. (1989) and Oeschlin (2009) to be significantly and positively related to political instability. Also, as Oeschlin (2009) notes, inflation may be seen as a proxy for the quality of government in its ability to get things under control within the country.

Related to inflation and its potential use as a proxy for the quality of government is the World Bank's WGI variable named Control of Corruption (CC). As the name suggests, this is a score given by the World Bank that measures perceptions of corruption of the government within each country. The scale goes approximately from -2.5 to 2.5, with higher numbers (more and more positive) meaning less corruption. This variable is used because as noted in our introductory Kyrgyzstan example, perceptions of corruption (if not actual exposed corruption) can lead to political unrest.

Trade as a percentage of overall GDP, taken from the World Bank's WDI, is also included as a control variable in our analysis. The theory behind including this variable is that it potentially estimates the influences of the international community outside of direct foreign aid. For example, if a recipient country has a lot of links with the international community, other countries may have an incentive to ensure stability within the recipient country, without necessarily resorting to foreign aid. Another reason that this variable was included is because others, such as Blanco and Grier (2009), have found it to be statistically significant in determining political stability.

Each country's Polity2 score by the Center of Systemic Peace as part of the Polity IV project is also included as a control variable in our analysis. While the score is explicitly stated as a measurement of how democratic a country is, here we use it to account for different types of government each country is and how that may affect political stability. Evidence that government type may influence political stability comes from studies such as Blanco and Grier (2009), who found that regime type is statistically significant in determining political stability.

The final control variable that we include as a part of our analysis is the World Bank's WGI variable of Voice and Accountability (VA). This is a score given by the World Bank to each country that captures the perception of freedom of press, expression, and ability to participate in government. We include this specific variable as an alternate measure of government type to see if our main results are robust to different measures.

One may wonder why we don't use certain other variables, like social variables such as ethnic and linguistic fractionalization that Annett (2001) and Blanco and Grier (2009) found significant in influencing political stability. The reason is that there isn't reliable time-series data for these kinds of variables. For example, specifically for fractionalization, while Alesina et al. (2003) have been among the few to create some kind of index that rates the amount of ethnic and linguistic fractionalization in many countries, their data is not suitable for our purposes. This is mainly because our analysis involves a time

aspect, while their data captures fractionalization at a single point in time for each country. It would not be correct to just assume that the degree of ethnic and linguistic fractionalization has remained constant to the level that is stated in their index for the entire time period that our analysis covers.

As with many other analyses that involve looking at a variety of countries, there are sample selection issues which may bias our results. This is because in many of these developing countries where aid is sent to, the authorities in those countries simply have not been able to keep track of vital statistics. For example, while our regressions do cover a fairly wide variety of countries that ranges from Mexico to Mauritius to Nepal, our regressions are missing many countries such as Syria and Yemen, Venezuela, and Zimbabwe. Thus, since we really can't correct for this in our regressions, one has to keep in mind that the results of the analysis may be subject to sample selection bias (though it is not clear in which direction the results would be biased, due to the wildly varying political situations among the excluded countries). Table A3 of the appendix shows which countries were used in the regressions of this analysis.

IV. Regression Specifications and Methodology

For every regression that we conduct in this analysis, we do a cross-country, panel, and long-differences version so as to see if the effect of foreign aid on political stability remains the same across different types of regressions. By cross-country regression, we mean that for each variable included, we take the average for each variable over the given time period. By panel regression, we mean a traditional panel regression, in that we utilize every available observation for each country and year in constructing our estimated coefficients of our regression. By long-difference regression, we mean that for each variable included, we take the difference between the value of the variable at the end of the given time period and the value of the same variable at the beginning of the time period, which is called the long difference. Every regression conducted in the course of this analysis, unless explicitly stated otherwise, is a two-stage least squares instrumental variables regression.

The reason that we choose to utilize two-stage least squares regression is because there is reason to believe that much foreign aid is not disbursed randomly – instead, “economics research on... foreign aid has shown quite conclusively that aid is allocated according to political interests.” (Werker 2012, 8) For our purposes, we choose to use the number of years a particular country has served on the UN Security Council as our instrument. This is because first, presumably the selection of countries to serve in the UN Security Council is random. Second, a study by Kuziemko and Werker (2006) finds that countries who end up on the UN Security Council receive more in aid from the United States, presumably in order to get more support for its positions, especially in UN Security Council resolutions. Overall, their study finds that if a country ends up serving on the UN Security Council, it receives much more aid from the US, whether this is channeled directly or through the UN in form of UNICEF (a UN agency with heavy US influence). This is a result that is still statistically significant even subject to many other regression specifications. While Kuziemko and Werker only study US foreign aid and membership in the UN Security Council, it is not farfetched to think that a significant effect upon US aid received due to rotating onto the Security Council may also translate to a significant effect upon overall aid a country receives when it serves on the Security Council. This is due to the US being one of the world’s biggest donors in terms of foreign aid.

Another possible concern with the regressions in this analysis is that the errors may not be heteroskedastic, since there is no particular reason to think so given the complexity in the relationships between different variables in the real world. For this reason, all results will be shown with heteroskedastic robust standard errors, so that we may correctly assess the statistical significance of the effect of foreign aid on political stability.

Below, we list out the actual regression specifications that are utilized in this analysis. In each of the regression specifications below, we are trying to see if there is some kind of statistically significant effect of our measure of foreign aid upon political stability – that is, we focus on the t-test statistic of

whether the coefficient associated with our measure of foreign aid is statistically significant from zero. We do not actually focus on the statistical significance of the other variables, as they are only included as controls so that we may accurately get an idea of the true relationship between foreign aid and political stability. Also, the regression equations shown below (and throughout this section) are just the panel versions (as mentioned before, we also run cross-country and long-difference versions of these regressions, but the equations for those specific versions of the regression are not listed below for the sake of space). For the cross-country version of each regression, take out the t subscripts of every variable, eliminate the π_t and ρ_i fixed effects variables, and make every variable the average of that variable over the given time period (for net ODA per capita, we take the natural log of the average). For the long-difference version of each regression, take out the t subscripts of every variable, eliminate the π_t and ρ_i fixed effects variables (because by differencing out the variable values at the end and the beginning of the covered period, we are already accounting for any time and entity fixed effects), and make every variable the long difference of that variable.

To examine the relationship between foreign aid and political stability, we first utilize the following set of regression equations:

$$SFI_{it} = \alpha + \beta_1 \ln(aidpc)_{it} + Controls1_{it}\gamma + \pi_t + \rho_i + u_{it}. \quad (1)$$

$$PV_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls1_{it}\gamma + \pi_t + \rho_i + u_i. \quad (2)$$

Above, SFI_{it} is the SFI score of country i at time t , PV_{it} is the PV score of country i at time t , $\ln(aidpc)_{it}$ is the natural log of aid per capita in country i at time t , π_t represents time fixed effects, ρ_i represents entity fixed effects, u_{it} is the error term, and $Controls1_{it}$ are time-varying economic and political control variables for each country with γ being a vector of coefficients associated with those controls. Specifically, $Controls1_{it}$ consists of overall GDP growth, inflation (consumer prices), trade as a

percentage of GDP, WDI Control of Corruption score, and Polity2 score. The reason that we regress the same explanatory variables on different political stability indices is to see whether the main results of whether political stability is affected by foreign aid holds across different measures of stability.

To further our analysis, we also look at the relationship between foreign aid and political stability from the perspective of the following regression equations:

$$SFI_{it} = \alpha + \beta_1 \ln(aidpc)_{it} + Controls2_{it}\delta + \pi_t + \rho_i + u_i. \quad (3)$$

$$PV_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls2_{it}\delta + \pi_t + \rho_i + u_i. \quad (4)$$

Above, SFI_{it} is the SFI score of country i at time t , PV_{it} is the PV score of country i at time t , $\ln(aidpc)_{it}$ is the natural log of aid per capita in country i at time t , π_t represents time fixed effects, ρ_i represents entity fixed effects, u_{it} is the error term, and $Controls2_{it}$ are time-varying economic and political control variables for each country with δ being a vector of coefficients associated with those controls. Specifically, $Controls2_{it}$ consists of GDP per capita growth, inflation (consumer prices), trade as a percentage of GDP, WDI Control of Corruption score, and Polity2 score. $Controls2_{it}$ is actually the same as $Controls1_{it}$, except that overall GDP growth is replaced with GDP per capita growth. We run these set of equations to see if our main results on the relationship from the first set of regressions (equations (1) and (2)) between foreign aid and stability still hold when we use another measure of overall economic conditions.

We also look at the effect of foreign aid on stability by utilizing the following equations:

$$SFI_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls3_{it}\theta + \pi_t + \rho_i + u_i. \quad (5)$$

$$PV_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls3_{it}\theta + \pi_t + \rho_i + u_i. \quad (6)$$

Above, like the two previous sets of regressions, SFI_{it} is the SFI score of country i at time t , PV_{it} is the PV score of country i at time t , $\ln(aidpc)_{it}$ is the natural log of aid per capita in country i at time t , π_t represents time fixed effects, ρ_i represents entity fixed effects, u_{it} is the error term, and $Controls3_{it}$ are time-varying economic and political control variables for each country with θ being a vector of coefficients associated with those controls. Specifically, $Controls3_{it}$ consists of overall GDP growth, inflation (consumer prices), trade as a percentage of GDP, WDI Control of Corruption score, and the WGI Voice and Accountability (VA) score. $Controls3_{it}$ is actually the same as $Controls1_{it}$, except that the Polity2 democracy score is replaced with the World Bank's WGI VA score. This is to examine whether the relationship between foreign aid and stability borne out in the first set of regressions (equations (1) and (2)) are robust to alternate measures of the type of government each country has.

The final set of regression equations that we look at in this analysis are:

$$SFI_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls4_{it}\lambda + \pi_t + \rho_i + u_i. \quad (7)$$

$$FSI_{it} = \alpha + \beta_1 \ln(aidpc)_i + Controls4_{it}\lambda + \pi_t + \rho_i + u_i. \quad (8)$$

Above, analogous to the previous sets of regressions, SFI_{it} is the SFI score of country i at time t , PV_{it} is the PV score of country i at time t , $\ln(aidpc)_{it}$ is the natural log of aid per capita in country i at time t , π_t represents time fixed effects, ρ_i represents entity fixed effects, u_{it} is the error term, and $Controls4_{it}$ are time-varying economic and political control variables for each country with θ being a vector of coefficients associated with those controls. Specifically, $Controls4_{it}$ consists of GDP per capita growth, inflation (consumer prices), trade as a percentage of GDP, WDI Control of Corruption score, and the WGI Voice and Accountability (VA) score. $Controls4_{it}$ is actually the same as $Controls3_{it}$, except that the measure for overall economic conditions is now GDP per capita in constant 2005 US dollars instead of overall GDP growth. We look at these regressions to see whether the relationship between foreign aid

and stability borne out in the third set of regressions (equations (5) and (6)) and also the main results in the other sets of regressions are robust to alternate measures of economic conditions.

Another aspect that we must note is that time period for the FSI and SFI score regressions do not exactly match each other. Specifically, for the SFI regressions, we regress on data that spans from 2003 to 2012. Even though the SFI score data dates from 1995 to 2013, one may ask, why did go with this particular date range? We begin at 2003 and end at 2012 because we found that a lot more countries would be included in the regressions in this way than if we had included data from before 2003 and after 2012. For some reason, data beyond 2012 and before 2003 for many countries is quite limited. We felt that the tradeoff we made here between the number of years covered and the number of countries covered in the regressions is a decent one, and we wanted to include as many years as reasonably possible in our analysis.

For the PV regressions, we regress on data that spans 1996, 1998, 2000, 2002-2012 (basically, all years for which we have data on the PV scores). Again, one may ask, why settle on this date range? Like with the SFI score regressions, for some reason the amount of data available to us for our variables beyond 2012 suddenly gets quite limited, which would result in lots of countries not being covered in the regression. Also again like with the SFI regressions, we felt that we made a decent tradeoff (especially in this case where we are able to utilize almost all of the available data) between including over a decade's worth of data and covering a good amount of countries – for some reason, including data from 1996, 1998, 2000, and 2002 in addition to 2003-2012 works well in the PV regressions.

V. The Effect of Foreign Aid on Political Stability

The first three regression tables (tables 3 through 5) focus on the cross-country, panel, and long-differences regressions, respectively, based on specifications (1) and (2) as described in section IV.

Column 1 of table 3 regresses the average SFI stability score over 2003-2012 against the natural log of average net ODA per capita over that same period. Analogously, column 2 of table 3 regresses the

average PV stability score over 1996, 1998, 2000, and 2002-2012. I only present the results to show that there seems to be some kind of significant relationship between political stability and foreign aid without any controls. Interestingly though, it seems that in these set of regressions, more foreign aid leads to less political stability as measured by the SFI stability index, while more foreign aid leads to more political stability as measured by the PV stability index. Columns 3 and 4 of table 3 are the standard OLS versions of the regressions done in columns 5 and 6 of table 3, which will be our real focus. In columns 5 and 6 of table 3, we conduct two stages least squares according to specifications (1) and (2) as described in section IV, respectively, with all variables being the average over the specified time period. We see that in these regressions, while the average of the natural log of net ODA per capita is not significant in affecting a country's PV stability score, it is significant at the 1% level in causing more political instability as measured by the SFI score. Our regression in column 5 of table 3 implies that with a ten percent increase in net ODA per capita, political instability will increase by $0.1 * 1.309 = 0.1309$ points on the SFI scale. Considering the SFI score is based on a 25 point scale, while this isn't exactly a big effect, this is not an entirely inconsequential effect either.

This seems to imply that more foreign aid causes more political instability, however small, at least according to one stability index. However, our results using panel data seem to suggest otherwise. Columns 1 and 2 of table 4 are provided to show that without any controls, that depending on the political stability indicator, foreign aid may have a significant effect upon stability (in the case of column 1 of table 4 using the SFI score) or may not have a significant effect upon stability (in the case of column 2 of table 4 using the PV score). Columns 3 and 4 of table 4 are the regular OLS panel regressions according to specifications (1) and (2) described earlier, and are provided for the reader to peruse. Columns 5 and 6 of table 4 are our main focus. These two-stage least squares panel regressions according to specifications (1) and (2) seem to show that there is a significant effect at the 1% level of foreign aid on either political stability measure, in that more foreign aid seems to lead to less stability

Table 3 - Political Stability-net ODA per capita (logged) regressions, cross-country (country-averages), specifications (1) and (2)

	<i>Dependent variable:</i>					
	SFI	PV	SFI	PV	SFI	PV
	OLS	OLS	OLS	OLS	2SLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)
Aid per capita (log)	0.719** (0.364)	0.139*** (0.053)	1.091*** (0.362)	0.130*** (0.043)	1.309*** (0.412)	0.022 (0.071)
GDP growth			0.226 (0.171)	0.033 (0.027)	0.245 (0.180)	0.031 (0.028)
Inflation, consumer prices			0.161* (0.094)	-0.001 (0.001)	0.156 (0.095)	-0.001* (0.001)
Trade			-0.051*** (0.013)	0.007*** (0.001)	-0.053*** (0.013)	0.007*** (0.002)
CC			-4.564*** (0.641)	0.906*** (0.103)	-4.566*** (0.631)	0.893*** (0.098)
Polity2			-0.170** (0.077)	0.004 (0.014)	-0.167** (0.076)	-0.0001 (0.014)
Constant	9.333*** (1.321)	-0.985*** (0.190)	7.635*** (1.670)	-1.161*** (0.245)	6.947*** (1.719)	-0.810** (0.328)
Observations	113	125	82	72	82	72
R ²	0.031	0.052	0.602	0.559	0.600	0.530
Adjusted R ²	0.022	0.044	0.570	0.519	0.568	0.486
F Statistic	3.498*	6.702**	18.929***	13.745***	43.654***	26.757***
First Stage F-Stat						

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

However, if were to convert the effect into real terms, ten percent more net ODA per capita would lead to a $0.637 * 0.1 = 0.0637$ point reduction in the SFI stability score on average according to the regression in column 5 of table 4. This is essentially almost nothing, considering that the SFI score ranges from 0 to 25. Similarly, according to the regression in column 6 of table 4, a ten percent increase in net ODA per capita on average leads to a mere $0.292 * 0.1 = 0.0292$ point increase in the PV score. Given that the PV score ranges from approximately -2.5 to 2.5, a 0.02 point difference seems inconsequential.

Table 4 - Political Stability-net ODA per capita (logged) regressions, panel data, specifications (1) and (2)

	<i>Dependent variable:</i>					
	SFI Panel OLS (1)	PV Panel OLS (2)	SFI Panel OLS (3)	PV Panel OLS (4)	SFI Panel 2SLS (5)	PV Panel 2SLS (6)
Aid per capita (log)	-0.374*** (0.117)	-0.004 (0.030)	-0.347*** (0.130)	0.292*** (0.055)	-0.637*** (0.150)	0.292*** (0.055)
GDP growth			0.006 (0.011)	0.0002 (0.003)	0.007 (0.012)	0.0002 (0.003)
Inflation, consumer prices			0.001*** (0.0001)	-0.0004*** (0.00003)	0.001*** (0.0001)	-0.0004*** (0.00003)
Trade			-0.007 (0.007)	-0.001* (0.001)	-0.006 (0.007)	-0.001* (0.001)
CC			-0.094 (0.405)	0.374*** (0.090)	-0.001 (0.396)	0.374*** (0.090)
Polity2			-0.168*** (0.041)	0.003 (0.009)	-0.157*** (0.042)	0.003 (0.009)
Observations	2,146	1,929	1,350	1,351	1,350	1,351
R ²	0.020	0.00004	0.113	0.044	0.106	0.044
Adjusted R ²	0.019	0.00004	0.103	0.040	0.096	0.040
F Statistic	41.684***	0.070	26.083***	-20.958	23.186***	-20.958
First Stage F-Stat					12.897***	12.897***

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

In table 5, we see the long-difference regressions based on specifications (1) and (2). Columns 1 and 2 of table 5 regress the long difference of our political stability indices on the long difference of the natural log of net ODA per capita, and are here just for the reader to look at. In those regressions, long-differences of net ODA per capita doesn't seem to have a significant effect on the long-difference of either political stability score, not taking into account any other control variables. Columns 3 and 4 of table 5 are the regular OLS versions of the regressions in columns 5 and 6 of table 5, and are also here for the reader's comparison. In columns 5 and 6 of table 5, we conduct two-stage least squares regressions on the long-differences versions of our variables as according to specifications (1) and (2). Here, we see absolutely no significant effect of foreign aid on political stability.

Table 5 - Political Stability-net ODA per capita (logged) regressions, long-differences, specifications (1) and (2)

	<i>Dependent variable:</i>					
	SFI OLS (1)	PV OLS (2)	SFI OLS (3)	PV OLS (4)	SFI 2SLS (5)	PV 2SLS (6)
Aid per capita (log)	0.189 (0.199)	-0.047 (0.061)	0.149 (0.219)	-0.055 (0.062)	5.158 (17.380)	-0.562 (0.973)
GDP growth			-0.060* (0.034)	-0.019* (0.010)	-0.119 (0.219)	-0.029 (0.024)
Inflation, consumer prices			0.010 (0.014)	-0.0004*** (0.00003)	0.016 (0.049)	-0.0004* (0.0002)
Trade			0.002 (0.010)	0.002 (0.002)	-0.024 (0.083)	0.006 (0.007)
CC			-0.296 (0.697)	0.594*** (0.137)	-1.984 (6.261)	0.660*** (0.189)
Polity2			-0.065 (0.094)	0.015 (0.018)	-0.112 (0.205)	0.022 (0.022)
Constant	-1.979*** (0.227)	0.012 (0.066)	-1.966*** (0.307)	-0.052 (0.086)	-3.154 (4.503)	0.003 (0.193)
Observations	110	122	79	71	79	71
R ²	0.006	0.005	0.051	0.317	-4.659	-0.284
Adjusted R ²	-0.003	-0.003	-0.029	0.253	-5.131	-0.405
F Statistic	0.701	0.643	0.640	4.953***		
First Stage F-Stat					0.140	0.754

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

Before moving onto the results of the regressions using the other specifications, we note that the trend of the results just seen in these regressions will be common in the other regressions. That is, while we may see a highly significant effect (that is small) of foreign aid on political stability at least according to one stability index in the cross-country regressions, we see a highly significant but in reality inconsequential effect of aid on stability in the panel data, and we see no significance at all in the long-difference data.

The next three regression tables (6 through 8) focus on the cross-country, panel, and long-differences regressions, respectively, based on specifications (3) and (4) as described in section IV. As a

Table 6 - Political Stability-net ODA per capita (logged) regressions, cross-country (country averages), specifications (3) and (4)

	Dependent variable:					
	SFI OLS (1)	PV OLS (2)	SFI OLS (3)	PV OLS (4)	SFI 2SLS (5)	PV 2SLS (6)
Aid per capita (log)	0.719** (0.364)	0.139*** (0.053)	0.939** (0.370)	0.133*** (0.042)	0.990** (0.437)	0.018 (0.076)
GDP per capita growth			-0.175 (0.175)	0.027 (0.027)	-0.169 (0.190)	0.020 (0.029)
Inflation, consumer prices			0.225** (0.096)	-0.001 (0.001)	0.224** (0.098)	-0.001 (0.001)
Trade			-0.047*** (0.013)	0.007*** (0.001)	-0.048*** (0.013)	0.007*** (0.002)
CC			-4.453*** (0.716)	0.895*** (0.099)	-4.456*** (0.712)	0.881*** (0.096)
Polity2			-0.211*** (0.079)	0.003 (0.014)	-0.210*** (0.078)	-0.002 (0.013)
Constant	9.333*** (1.321)	-0.985*** (0.190)	9.449*** (1.581)	-1.096*** (0.226)	9.292*** (1.606)	-0.715** (0.320)
Observations	113	125	82	72	82	72
R ²	0.031	0.052	0.599	0.557	0.599	0.524
Adjusted R ²	0.022	0.044	0.567	0.517	0.567	0.480
F Statistic	3.498*	6.702**	18.689***	13.647***	41.329***	24.902***
First Stage F-Stat						

Note:

* p<0.1; ** p<0.05; *** p<0.01

Standard errors are in parentheses.

reminder, specification (1) is exactly identical to specification (3), and specification (2) is exactly identical to specification (4), except that in specifications (2) and (4) we replace overall GDP growth with GDP per capita growth as the measure for overall economic conditions.

Columns 1 and 2 of table 6 regress the average of political stability on each stability index used on the natural log of the average foreign aid over the specified time period. These regressions are actually the exact same regressions as in columns 1 and 2 of table 3, and are provided here for the reader to look at. Columns 3 and 4 of table 6 are the regular OLS versions of the cross-country regressions of columns 5 and 6 of the same table. Again, they are provided here as a basis of comparison

Table 7 - Political Stability-net ODA per capita (logged) regressions, panel, specifications (3) and (4)

	<i>Dependent variable:</i>					
	SFI Panel OLS (1)	PV Panel OLS (2)	SFI Panel OLS (3)	PV Panel OLS (4)	SFI Panel 2SLS (5)	PV Panel 2SLS (6)
Aid per capita (log)	-0.374*** (0.117)	-0.004 (0.030)	-0.346*** (0.130)	0.006 (0.027)	-0.640*** (0.150)	0.291*** (0.055)
GDP per capita growth			0.004 (0.012)	0.001 (0.002)	0.005 (0.012)	-0.001 (0.003)
Inflation, consumer prices			0.001*** (0.0001)	-0.0004*** (0.00002)	0.001*** (0.0001)	-0.0004*** (0.00003)
Trade			-0.007 (0.007)	-0.001 (0.001)	-0.006 (0.007)	-0.001* (0.001)
CC			-0.091 (0.405)	0.467*** (0.089)	0.003 (0.396)	0.375*** (0.090)
Polity2			-0.168*** (0.041)	0.014* (0.008)	-0.157*** (0.042)	0.003 (0.009)
Observations	2,146	1,929	1,350	1,351	1,350	1,351
R ²	0.020	0.00004	0.113	0.123	0.106	0.044
Adjusted R ²	0.019	0.00004	0.103	0.112	0.096	0.040
F Statistic	41.684***	0.070	26.039***	28.633***	23.071***	-20.675
First Stage F-Stat					12.880***	12.880***

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

Table 8 - Political Stability-net ODA per capita (logged) regressions, long-differences, specifications (3) and (4)

	<i>Dependent variable:</i>					
	SFI	PV	SFI	PV	SFI	PV
	OLS	OLS	OLS	OLS	2SLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)
Aid per capita (log)	0.189 (0.199)	-0.047 (0.061)	0.150 (0.219)	-0.052 (0.061)	5.317 (18.195)	-0.556 (0.958)
GDP per capita growth			-0.064* (0.039)	-0.020* (0.011)	-0.130 (0.250)	-0.028 (0.022)
Inflation, consumer prices			0.012 (0.014)	-0.0004*** (0.00003)	0.020 (0.053)	-0.0004* (0.0002)
Trade			0.002 (0.010)	0.002 (0.002)	-0.025 (0.087)	0.006 (0.007)
CC			-0.331 (0.701)	0.585*** (0.139)	-2.101 (6.641)	0.646*** (0.186)
Polity2			-0.062 (0.093)	0.015 (0.018)	-0.108 (0.204)	0.021 (0.022)
Constant	-1.979*** (0.227)	0.012 (0.066)	-1.956*** (0.308)	-0.045 (0.085)	-3.171 (4.674)	0.018 (0.200)
Observations	110	122	79	71	79	71
R ²	0.006	0.005	0.051	0.316	-4.960	-0.279
Adjusted R ²	-0.003	-0.003	-0.028	0.252	-5.457	-0.399
F Statistic	0.701	0.643	0.641	4.921***		
First Stage F-Stat					0.136	0.769

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

for the reader. Columns 5 and 6 of table 6 are two-stage least squares regressions of specifications (3) and (4) in cross-country form. Here, while we don't see a significant effect of foreign aid on political stability as measured by the PV score, we do see a significant (at the five percent level) effect of aid on the SFI score. According to the coefficients in column 6 of table 6, a ten percent increase in net ODA per capita results in a $0.990 * 0.1 = 0.099$ increase in the SFI score. This is not exactly a huge effect given the 25 point scale of the SFI.

Moving onto table 7, columns 1 and 2 of that table are exactly the same regressions as columns 1 and 2 of table 4. They are provided here for the reader to use in comparisons. Columns 3 and 4 of table 7 are the non-instrumental variables version of the regressions in columns 5 and 6 of table 7, and are provided just for the reader to look at. Columns 5 and 6 of table 7 are the two-stage least squares regressions based on the panel data version of specifications (3) and (4). Here, we see an effect significant at the one percent level of foreign aid on both SFI and PV scores. If there is a ten percent increase in net ODA per capita, these effects translate into a $0.64 * 0.1 = 0.064$ point decrease in political instability on the SFI scale, and into a $0.291 * 0.1 = 0.0291$ point increase in political stability on the PV scale, which is really not that much given what scales the SFI and PV scores run on.

Columns 1 and 2 of table 8 are the exact same regressions as columns 1 and 2 of table 5. Again, they are provided here for the reader to look at. Columns 3 and 4 of table 8 are the non-instrumental variables version of the regressions in columns 5 and 6 of table 8. They are shown here for the reader to make comparisons to those other regressions if desired. Columns 5 and 6 are the two-stage least squares regression of the long-difference version of the specifications (3) and (4). Here, we simply don't see a significant effect of foreign aid on political stability.

Our results of no significant effect of foreign aid on political stability from the various regressions according to specifications (1) and (2) as shown in tables 3 through 5, thus far have shown themselves to be robust to another measure of overall economic performance, as seen in tables 6

through 8. But are the results from tables 3 through 5 robust to another measure of government democracy/autocracy?

This is what we plan to find out with these next three regression tables (tables 9 through 11), which conduct regressions based on the cross-country, panel, and long-difference forms of specifications (5) and (6). Specifications (5) and (6) are almost entirely identical to specifications (1) and (2), respectively, with the exception of using the WGI VA score as a measure for government democracy/autocracy instead of the Polity2 score.

Columns 1 and 2 of table 9 are the same exact regressions as columns 1 and 2 of table 3. These are provided here for the reader to compare to the results of the other regressions in table 9. Columns 3 and 4 of table 9 are the regular OLS versions of the regressions in columns 5 and 6 of the same table. Like with columns 1 and 2 of table 9, they are shown here for the reader to make comparisons to the other regression results of table 9. Columns 5 and 6 of table 9 are the two-stage least squares cross-country version of specifications (5) and (6). We see no significant effect of foreign aid on a country's PV score, but we do see a significant (at the five percent level) effect of foreign aid on the SFI score. The coefficients in column 5 imply that with a ten percent increase in net ODA per capita, we will see on average a $1.198 * 0.1 = 0.1198$ point increase in political instability. This is at most only a moderate effect, given the 25 point scale of the SFI.

Columns 1 and 2 of table 10 depict exactly the same regressions as columns 1 and 2 of table 4. Like before, these are provided here for the reader to compare to the results of the other regressions in table 10. Columns 3 and 4 of table 10 are the regular OLS (non-instrumental variable) regressions of what is in columns 5 and 6 of the same table. They are depicted here to help the reader in comparisons to what we will mainly focus on, which are the results in columns 5 and 6. Columns 5 and 6 are the two-stage least squares regressions of the panel data versions of specifications (5) and (6). In these two columns, we see an effect significant at the 1% level of foreign aid on both the SFI and PV scores.

Table 9 - Political Stability-net ODA per capita (logged) regressions, cross-country (country averages), specifications (5) and (6)

	Dependent variable:					
	SFI OLS (1)	PV OLS (2)	SFI OLS (3)	PV OLS (4)	SFI 2SLS (5)	PV 2SLS (6)
Aid per capita (log)	0.719** (0.364)	0.139*** (0.053)	1.037*** (0.327)	0.136*** (0.037)	1.198** (0.493)	0.006 (0.080)
GDP growth			0.234 (0.155)	0.045* (0.024)	0.247 (0.161)	0.038 (0.026)
Inflation, consumer prices			0.151* (0.086)	-0.001 (0.001)	0.146* (0.087)	-0.001* (0.001)
Trade			-0.053*** (0.012)	0.007*** (0.001)	-0.055*** (0.012)	0.007*** (0.001)
CC			-3.183*** (0.706)	0.652*** (0.120)	-3.183*** (0.701)	0.675*** (0.122)
VA			-2.556*** (0.682)	0.321*** (0.113)	-2.543*** (0.681)	0.306** (0.121)
Constant	9.333*** (1.321)	-0.985*** (0.190)	7.005*** (1.265)	-1.243*** (0.184)	6.534*** (1.655)	-0.814** (0.323)
Observations	113	125	87	81	87	81
R ²	0.031	0.052	0.651	0.638	0.650	0.593
Adjusted R ²	0.022	0.044	0.625	0.608	0.624	0.560
F Statistic	3.498*	6.702**	24.879***	21.713***	39.984***	26.708***
First Stage F-Stat						

Note:

* p<0.1; ** p<0.05; *** p<0.01

Standard errors are in parentheses.

According to the coefficients in column 5, with a ten percent increase in net ODA per capita, there is a $0.69 * 0.1 = 0.069$ point decrease in political instability as measured by the SFI on average. The coefficients in column 6 say that with a ten percent increase in net ODA per capita, on average there is a $0.284 * 0.1 = 0.0284$ point increase in political stability as measured by the PV score. No matter how one looks at these results, it is clear that while foreign aid may significantly affect political stability, it is an almost inconsequential effect in practice.

Columns 1 and 2 of table 11 are the same exact regressions as those of columns 1 and 2 in table 5. They are shown here to allow the reader to make comparisons to the rest of the results in table 11.

Table 10 - Political Stability-net ODA per capita (logged) regressions, panel, specifications (5) and (6)

	Dependent variable:					
	SFI Panel OLS (1)	PV Panel OLS (2)	SFI Panel OLS (3)	PV Panel OLS (4)	SFI Panel 2SLS (5)	PV Panel 2SLS (6)
Aid per capita (log)	-0.374*** (0.117)	-0.004 (0.030)	-0.387** (0.163)	-0.031 (0.025)	-0.690*** (0.163)	0.284*** (0.060)
GDP growth			0.004 (0.011)	0.001 (0.002)	0.006 (0.011)	0.0003 (0.003)
Inflation, consumer prices			0.001*** (0.0001)	-0.0003*** (0.00004)	0.001*** (0.0001)	-0.0003*** (0.00003)
Trade			-0.008 (0.007)	-0.001 (0.001)	-0.007 (0.007)	-0.001* (0.001)
CC			0.063 (0.423)	0.348*** (0.077)	0.117 (0.423)	0.245*** (0.087)
VA			-0.826* (0.427)	0.328*** (0.079)	-0.702 (0.427)	0.189** (0.084)
Observations	2,146	1,929	1,390	1,583	1,390	1,583
R ²	0.020	0.00004	0.063	0.146	0.058	0.030
Adjusted R ²	0.019	0.00004	0.057	0.132	0.053	0.027
F Statistic	41.684***	0.070	14.136***	40.792***	11.031***	-38.885
First Stage F-Stat					14.648***	14.648***

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

Columns 3 and 4 of table 11 are the regular OLS versions of the regressions in columns 5 and 6, respectively, also of table 11. They are not the main focus of this analysis and are provided here to facilitate comparisons with the results in columns 5 and 6. Columns 5 and 6 of table 11 are the two-stage least squares regressions of the long-difference version of specifications (5) and (6). In both columns, we do not see a significant effect of foreign aid upon political stability.

Like the results we saw in tables 2 through 4 with specifications (1) and (2), even when we change our measurement of the type of government to a different one as in specifications (5) and (6), respectively, we still see the same general trend – statistically significant but in reality very small effects of foreign aid on political stability if using cross-country and panel data, and no statistically significant

Table 11 - Political Stability-net ODA regressions, long-differences, specifications (5) and (6)

	<i>Dependent variable:</i>					
	SFI OLS (1)	PV OLS (2)	SFI OLS (3)	PV OLS (4)	SFI 2SLS (5)	PV 2SLS (6)
Aid per capita (log)	0.189 (0.199)	-0.047 (0.061)	0.097 (0.215)	-0.072 (0.062)	3.296 (9.356)	-0.215 (0.564)
GDP growth			-0.021 (0.034)	-0.015 (0.010)	-0.024 (0.057)	-0.019 (0.020)
Inflation, consumer prices			0.006 (0.016)	-0.0004*** (0.00005)	0.007 (0.026)	-0.0004*** (0.0001)
Trade			-0.002 (0.009)	0.001 (0.002)	-0.025 (0.061)	0.002 (0.005)
CC			-0.078 (0.683)	0.539*** (0.131)	-1.095 (3.395)	0.556*** (0.143)
VA			-0.804 (0.849)	0.258 (0.210)	-1.443 (1.975)	0.327 (0.282)
Constant	-1.979*** (0.227)	0.012 (0.066)	-2.032*** (0.270)	-0.023 (0.076)	-2.823 (2.530)	-0.007 (0.109)
Observations	110	122	84	80	84	80
R ²	0.006	0.005	0.031	0.311	-1.893	0.265
Adjusted R ²	-0.003	-0.003	-0.045	0.255	-2.119	0.205
F Statistic	0.701	0.643	0.407	5.497**		
First Stage F-Stat					0.227	1.315

Note:

Standard errors are in parentheses.

*p<0.1; **p<0.05; ***p<0.01

effect of aid upon stability if using long-differenced data.

Are the results in tables 9 through 11 robust to another measure of economic performance, one that hasn't been used in any of the other regressions thus far? Specifically, we now conduct analysis on the results of regressions according to specifications (7) and (8) as shown in tables 12 through 14. As a reminder, specifications (7) and (8) are almost exactly the same as specifications (5) and (6), respectively, except that instead of using overall GDP growth we use GDP per capita in constant 2005 US dollars as the measure for overall economic conditions.

Columns 1 and 2 of table 12 are the same regressions as the ones in columns 1 and 2,

Table 12 - Political Stability-net ODA regressions, cross-country (country averages), specifications (7) and (8)

	<i>Dependent variable:</i>					
	SFI	PV	SFI	PV	SFI	PV
	OLS	OLS	OLS	OLS	2SLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)
Aid per capita (log)	0.719** (0.364)	0.139*** (0.053)	0.520 (0.340)	0.131*** (0.040)	0.531 (0.668)	-0.037 (0.085)
GDP per capita			-0.001*** (0.0002)	0.00000 (0.00003)	-0.001** (0.0003)	-0.00002 (0.00003)
Trade			-0.037*** (0.012)	0.007*** (0.002)	-0.037*** (0.014)	0.009*** (0.002)
CC			-2.527*** (0.807)	0.633*** (0.131)	-2.530*** (0.841)	0.692*** (0.139)
Inflation, consumer prices		0.168** (0.072)	-0.001 (0.001)	0.168** (0.072)	-0.001 (0.001)	
VA		-2.586*** (0.684)	0.276** (0.122)	-2.586*** (0.681)	0.282** (0.127)	
Constant	9.333*** (1.321)	-0.985*** (0.190)	10.274*** (1.547)	-1.080*** (0.187)	10.239*** (2.433)	-0.534* (0.315)
Observations	113	125	87	81	87	81
R ²	0.031	0.052	0.688	0.625	0.688	0.554
Adjusted R ²	0.022	0.044	0.665	0.594	0.665	0.517
F Statistic	3.498*	6.702**	29.412***	20.539***	34.712***	23.810***
First Stage F-Stat						

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

respectively, of table 3. They are shown in table 12 to make it easier for the reader to compare to the other results in table 12. Columns 3 and 4 of table 12 are the non-instrumental variable versions of the regressions in columns 5 and 6. As they are not the main focus of the analysis, they are only shown here to facilitate comparisons for the results in columns 5 and 6 if desired. Columns 5 and 6 of table 12 are the two-stage least squares regressions of the cross-country version of specifications (7) and (8). Unlike in the two-stage least squares cross-country regressions of the other tables, we see no significant effect of foreign aid on either measure of political stability.

The regressions of columns 1 and 2 of table 13 are identical to the ones in columns 1 and 2, respectively, of table 4. They are displayed here for comparison to the other results in table 13. The regressions of columns 3 and 4 of table 13 are the regular OLS versions of what is in columns 5 and 6 of the same table. They are only presented here as a comparison to the results in columns 5 and 6, and columns 3 and 4 are not part of the main focus of the analysis. Columns 5 and 6 are the two-stage least squares regressions of the panel version of specifications (7) and (8), respectively. Unlike in the other two-stage least squares panel regressions, here we don't see a significant effect of foreign aid on political stability measured in either way.

Moving onto table 14, the regressions of columns 1 and 2 are exactly the same as the regressions of columns 1 and 2, respectively, in table 5. They are exhibited here for comparison to results of the other columns in table 14. Columns 3 and 4 of table 14 are the non-instrumental variables versions of the regressions in columns 5 and 6, respectively. They are only shown here for comparison to the last two columns of table 14. Columns 5 and 6 of table 14 are the two-stage least squares instrumental variables regression of the long-differences version of specifications (7) and (8), respectively. In these regressions, we see no significant effect of foreign aid on either the SFI or the PV score.

The results in tables 12 through 14 show that the main result of foreign aid having an insignificant effect upon political stability according to specifications (5) and (6) (as seen in tables 9 through 11) are robust to another measurement of overall economic performance. The results in tables 12 through 14 also support the main overall finding of insignificance of aid affecting stability as seen in the other regression tables.

Table 13 - Political Stability-net ODA regressions, panel, specifications (7) and (8)

	<i>Dependent variable:</i>					
	SFI Panel OLS (1)	PV Panel OLS (2)	SFI Panel OLS (3)	PV Panel OLS (4)	SFI Panel 2SLS (5)	PV Panel 2SLS (6)
Aid per capita (log)	-0.374*** (0.058)	-0.004 (0.013)	-0.203*** (0.068)	-0.038*** (0.013)	-0.052 (1.033)	0.290 (0.275)
GDP per capita			-0.001*** (0.0001)	0.00004*** (0.00001)	-0.001*** (0.0002)	-0.00001 (0.00005)
Trade			-0.022*** (0.002)	-0.00003 (0.0005)	-0.023*** (0.006)	-0.001 (0.001)
CC			-0.009 (0.194)	0.352*** (0.038)	-0.036 (0.270)	0.250*** (0.097)
Inflation, consumer prices			0.001*** (0.0003)	-0.0003** (0.0001)	0.001*** (0.0003)	-0.0003*** (0.0001)
VA			-0.855*** (0.199)	0.331*** (0.041)	-0.917* (0.472)	0.189 (0.129)
Observations	2,146	1,929	1,379	1,572	1,379	1,572
R ²	0.020	0.00004	0.210	0.155	0.207	0.030
Adjusted R ²	0.019	0.00004	0.191	0.141	0.188	0.028
F Statistic	41.684***	0.070	55.484***	43.583***	54.447***	-39.507
First Stage F-Stat					21.683***	21.683***

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors are in parentheses.

Table 14 - Political Stability-net ODA regressions, long-differences, specifications (7) and (8)

	<i>Dependent variable:</i>					
	SFI	PV	SFI	PV	SFI	PV
	OLS	OLS	OLS	OLS	2SLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)
Aid per capita (log)	0.189 (0.199)	-0.047 (0.061)	0.106 (0.210)	-0.070 (0.063)	4.196 (14.058)	-0.235 (0.557)
GDP per capita			0.0003 (0.0004)	0.0001** (0.00005)	0.001 (0.001)	0.0001 (0.0001)
Trade			0.0005 (0.009)	0.001 (0.002)	-0.026 (0.083)	0.003 (0.004)
CC			-0.086 (0.687)	0.526*** (0.138)	-1.383 (4.913)	0.541*** (0.143)
Inflation, consumer prices			0.010 (0.014)	-0.0004*** (0.0001)	0.013 (0.034)	-0.0004*** (0.0001)
VA			-0.941 (0.872)	0.237 (0.212)	-1.778 (2.892)	0.310 (0.270)
Constant	-1.979*** (0.227)	0.012 (0.066)	-2.236*** (0.364)	-0.098 (0.108)	-3.421 (4.499)	-0.088 (0.124)
Observations	110	122	84	79	84	79
R ²	0.006	0.005	0.034	0.319	-3.105	0.258
Adjusted R ²	-0.003	-0.003	-0.041	0.262	-3.424	0.196
Residual Std. Error	2.346	0.705	2.375	0.601	4.897	0.627
F Statistic	0.701	0.643	0.455	5.617**		
First Stage F-Stat					0.175	1.278

Note:

Standard errors are in parentheses.

*p<0.1; **p<0.05; ***p<0.01

Overall, through various specifications, we see that foreign aid does not seem to be statistically significant in affecting political stability. While in some of the cross-country and panel regressions, there seemed to be a statistically significant effect of aid on stability, these predicted effects turned out to be extremely small and essentially to the point of being inconsequential if translated into actual numbers. In none of the long-difference regressions did we see a significant effect of aid on stability. Even if many of the cross-country regressions showed a statistically significant effect, given that the most of the panel and long-difference regressions which do take fixed time and entity effects into account don't show this significance, we are inclined to conclude that foreign aid doesn't seem to have any real effect in affecting political stability.

Limitations of the Analysis

One has to keep in mind of the several limitations to the analysis just conducted. First, it is entirely possible that the measurements for the variables we have used may be inaccurate. This may lead to biased results, with the bias possibly heading in either direction (biasing the effect of foreign aid either upwards or downwards), because it is hard to say whether some of the countries and organizations that have compiled this data are undercounting or over counting. This is especially true of the measurements that we have in our data set for the aid-receiving countries. We use data sources such as the World Bank's WDI, but the WDI itself most likely relies on official statistics generated by the governments of those poorer countries to some extent. The problem is that these developing countries (many receive aid precisely because they are developing) most likely simply don't have the resources to accurately track various measurements. So the data that the World Bank uses in compiling their own statistics may be flawed to begin with. Even if the World Bank and other organizations we have sourced our data from really did collect data by themselves, it is hard to say how accurate that data would be either because it simply is difficult to collect any data in certain countries. For example, it would be difficult to collect any data in a country like Somalia, where there really is no functioning government

and lawlessness is rampant. It is hard to correct for this incorrect measurement bias with our current methods and data.

The second limitation of our analysis is closely related to the first point – that there may be possible sample selection bias, as we mentioned earlier at the end of section III. This is a bit different from the point just mentioned in the previous paragraph in that we simply don't even have data for some countries as opposed to having some data which may be inaccurate, which leads us to necessarily exclude them from our regressions. Again, like with incorrect measurements of data, it is hard to tell whether this results in an upward or downward bias for the effect of foreign aid upon political stability, due to the greatly different political realities between the countries that have been excluded.

A third limitation to our analysis is that the instrument used may not be perfect. While in theory using the amount of years a given country has served on the UN Security Council would allow us to get the exogenous variation in foreign aid received, there are reasons why we may doubt this assumption. The most prominent of these reasons is that the countries chosen to rotate on the UN Security council may not be entirely random. Kuziemko and Werker (2009) note that the UN charter statement that the General Assembly should “pay due regard... to the contribution of Members of the United Nations to the maintenance of international peace and security and to the other purposes of the Organization” when voting for any particular country to get into the Security Council in reality has led to more influential states of the different regions, such as Japan or Brazil, to serve in the Security council more often than less influential states such as Laos or Paraguay, respectively. Also, while each region caucus can decide how to choose their own nominees for the Security Council, each of these caucuses has to keep in mind that they want to nominate a country that is more likely to actually get the two-thirds of the General Assembly vote that is needed for any country to serve on the Security Council. There is also, as Kuziemko and Werker note, “extensive competition and jostling for the nonpermanent seats” that even lead some countries to mount expensive campaigns in a bid to get nominated and elected. Thus, it may be that

among the aid-receiving nonpermanent members, the relatively richer ones may be more likely to get onto the Security Council.

If we were to look at our regressions and look at the actual countries included in the regressions, we see that only a tiny fraction of the included countries have actually served on the Security Council. Of these countries, usually the number of years they have served in the Security Council is quite high (more than 2-3 years). If the countries who rotated onto the Security Council were truly random, we would expect to see a much more even distribution of the years each country has served in the Security Council – that is, we would expect to see more countries included in the regressions to have served on the Security Council, and those countries being relatively more even in the amount of years they have served. This may be why we see possible “spurious” results in some of our cross-country and panel regressions. For example, in some our cross-country regressions involving the SFI political stability index, we see that greater aid results in greater political instability, even though the panel and long-difference versions of those same regressions with the SFI score suggest otherwise.

A fourth limitation to our analysis is possible omitted variables bias. It is highly unlikely that we have actually controlled for all other variables that also affect political stability in our attempt to isolate the effect of foreign aid on stability. For example, we did not include anything like ethnolinguistic and religious fractionalization, which in other studies such as that of Annett (2001) have found to be an important determinant of stability in a given country. Like we stated earlier in section III, the main reason we did not include this and other social variables is because unfortunately, there are no reliable time-series data sets for these kinds of variables. If we were able to control for these kinds of variables, it potentially could lead to our results showing foreign aid having even more of an insignificant effect upon political stability, if ethnolinguistic and religious fractionalization is really such a big cause of political instability as there is reason to believe according to theory and what empirical studies like Annett’s (2001) and Blanco and Grier’s (2009) have found.

Besides leaving out certain social variables, there is also no reason to believe that economists have found all possible causes of political instability, so that we may include them as controls in this kind of analysis. This is a problem inherent to any kind of regression analysis trying to isolate the effect of one factor upon another – how do we truly know that we have controlled for all other possible factors that affect the response variable? However, we have tried to minimize this last source of error through conducting panel and long-difference regressions, which take into account any fixed entity and time effects that we have not specifically controlled for.

VI. Conclusion

This paper presents an examination of whether foreign aid, as measured by net ODA per capita, actually affects the political stability of the recipient. We conclude that after controlling for various economic and political variables, as well as for possible simultaneous causality between aid received and political stability, that aid does not seem to have any statistically meaningful effect on stability. In none of our long-difference instrumental variable regressions do we find any significant effect of aid on stability. While in some of our panel and cross-country regressions we do find a statistically significant effect of aid on stability, the predicted effect to political stability is so small that it is essentially meaningless. Also, doubts about whether our instrument truly captures entirely exogenous variations in foreign aid may have led to the potentially spurious results of seeing a significance in the effect of aid on stability.

This result has important policy implications. The main of these is that foreign aid, as it is currently given out, may not be effective in establishing a stable environment within the recipient country. However, foreign aid does not necessarily cause instability either. Countries and multilateral institutions should probably think of other programs and ways to promote stability within a country rather than just giving it aid, which according to our results can be an entire waste of money without achieving the intended objective.

The topic of the relationship between foreign aid and political stability is an interesting one that future researchers may see fit to expand on. One way they could do so is to rerun this exact analysis, but perhaps using a better instrument than the one we use here (the amount of years a country has served in the UN Security Council) that better captures the exogenous variations in foreign aid and see if they end up with the results we have presented in this paper. Another future avenue of research is to look at aid flows that are handled by non-profit non-government organizations (NGOs), and see how those affect political stability. One way these aid flows are fundamentally different in that they are mostly for purely developmental and humanitarian purposes, unlike much of the aid flows between governments. Also, these aid flows are mostly directly handled by the non-profit NGOs themselves, which don't have as much of an incentive to abuse the usage of these funds, and thus may allocate them in a way that may bring more significant results, including potentially increasing stability within the country. A final research topic that future scholars could work on related to the previous one is to look at remittances. Since remittances usually do not go to the recipient country's government, they are also different from the aid flows we look at in this paper and thus may result in different consequences in terms of political stability.

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Appendix

Table A1 – Descriptions of political stability indices used

Index	Description
State Fragility Index (SFI)	Measures how unstable a country is. Scoring scale goes from 0-25, with 0 being the most stable and 25 being the most unstable. Data for this is available for the years 1995-2013. Source: State Fragility Index (Center for Systemic Peace, 2014)
Political Stability and Absence of Violence/Terrorism (PV)	Measures how politically unstable a country is, as well as how stable a country is in general in regards to violence and terrorism. Scoring scale goes from approximately -2.5 to 2.5, with 2.5 being the most stable and -2.5 being the most unstable. Data for this is available for the years 1996, 1998, 2000, and every year from 2002 and on. Source: World Governance Indicators (World Bank, 2014)

Table A2 – Descriptions of independent variables used

Variable	Description
UN Security Council (used only as instrumental variable)	The number of years a country has served in the UN Security Council within the time period that the regression covers. Source: United Nations (2015)
Aid per capita (log)	The natural log of net ODA, which includes grants and loans by multilateral institutions and individual countries (OECD and non-OECD) for the purpose of economic development and welfare. Calculated by taking net ODA for the year and dividing it by a midyear population estimate. Source: World Development Indicators (World Bank, 2014)
GDP growth	Annual percentage growth of GDP of overall economy. Source: World Development Indicators (World Bank, 2014)
GDP per capita growth	Annual percentage growth of GDP per capita. Source: World Development Indicators (World Bank, 2014)
GDP per capita	GDP per capita in constant 2005 US dollars. Source: World Development Indicators (World Bank, 2014)
Inflation, consumer prices	Measured in annual percentage. Based on cost of basket of goods and services of a typical customer in the country. Calculated using the Laspeyres formula. Source: World Development Indicators (World Bank, 2014)
Trade	Sum of value of imports plus exports divided by overall GDP. Source: World Development Indicators (World Bank, 2014)
Control of Corruption (CC)	Measures the extent to which private and public sector elites use state power for private benefit. Source: World Governance Indicators (World Bank, 2014)
Polity2	Overall measure of how democratic or how autocratic a given country is. Source: Polity IV Project (Center for Systemic Peace, 2014)
Voice and Accountability (VA)	Overall measure of freedom of expression and press, as well as ability to participate in government. Source: World Governance Indicators (World Bank, 2014)

Table A3 – Countries included across all regressions in this analysis

Algeria	Lesotho
Angola	Liberia
Armenia	Macedonia
Azerbaijan	Madagascar
Bangladesh	Malawi
Belize	Malaysia
Benin	Mali
Bhutan	Mauritania
Bolivia	Mauritius
Botswana	Mexico
Brazil	Moldova
Burkina Faso	Mongolia
Burundi	Morocco
Cabo Verde	Mozambique
Cambodia	Namibia
Cameroon	Nepal
Central African Republic	Nicaragua
Chad	Niger
China	Nigeria
Colombia	Pakistan
Comoros	Panama
Democratic Republic of the Congo	Paraguay
Republic of the Congo	Peru
Costa Rica	Philippines
Côte d'Ivoire	Rwanda
Dominica	Samoa
Ecuador	Senegal
Egypt	Serbia
El Salvador	Seychelles
Ethiopia	Solomon Islands
Fiji	South Africa
Gabon	Sri Lanka
Gambia	Sudan
Georgia	Swaziland
Ghana	Tajikistan
Grenada	Tanzania
Guatemala	Thailand
Equatorial Guinea	Timor-Leste
Haiti	Tunisia
Honduras	Turkey
India	Uganda
Indonesia	Uruguay
Iraq	Vietnam
Jamaica	Zambia
Jordan	
Kazakhstan	
Kenya	
Kyrgyzstan	
Laos	

Table A4 - Descriptive statistics of variables, panel data, as used in panel regressions 1996-2014

Statistic	Observations	Mean	Std. Dev.	Min.	Max
SFI score	3,085	9.351	6.544	0	25
PV score	2,970	-0.049	1.002	-3.324	1.938
Net ODA per capita (current USD)	2,457	113.460	276.913	-130.429	4,811.056
GDP growth (annual %)	3,492	4.161	6.506	-62.077	149.973
GDP per capita growth (annual %)	3,480	2.627	6.271	-62.466	142.070
GDP per capita (constant 2005 USD)	3,459	11,142.550	17,880.770	53.099	158,802.500
Inflation, consumer prices (annual %)	3,059	9.721	80.136	-18.109	4,145.108
Trade (% of GDP)	3,243	89.814	52.545	0.309	531.737
CC score	2,957	-0.029	1.006	-2.057	2.586
Polity2 score	3,011	3.400	6.528	-10	10
VA score	3,014	-0.033	1.004	-2.284	1.826

Source: World Bank World Development Indicators (WDI) and World Governance Indicators (WGI), Center for Systemic Peace State Fragility Index (SFI) and Polity IV datasets

Table A5 - Descriptive statistics of variables used in SFI regressions, long-differenced, 2003-2012

Statistic	Observations	Mean	St. Dev.	Min	Max
SFI score	162	-1.377	2.273	-7	6
Net ODA per capita (current USD)	135	53.636	190.844	-589.431	1,833.095
GDP growth (annual %)	187	0.004	9.612	-17.835	91.484
GDP per capita growth (annual %)	186	0.093	9.414	-12.836	91.490
GDP per capita (constant 2005 USD)	186	1,197.225	3,306.005	-22,398.640	30,181.810
Inflation, consumer prices (annual %)	168	-0.745	10.538	-87.930	30.905
Trade (% of GDP)	168	9.549	31.410	-149.095	122.826
CC score	195	-0.010	0.355	-1.147	1.260
Polity2 score	154	0.571	2.867	-10	13
VA score	198	-0.018	0.304	-0.991	1.173

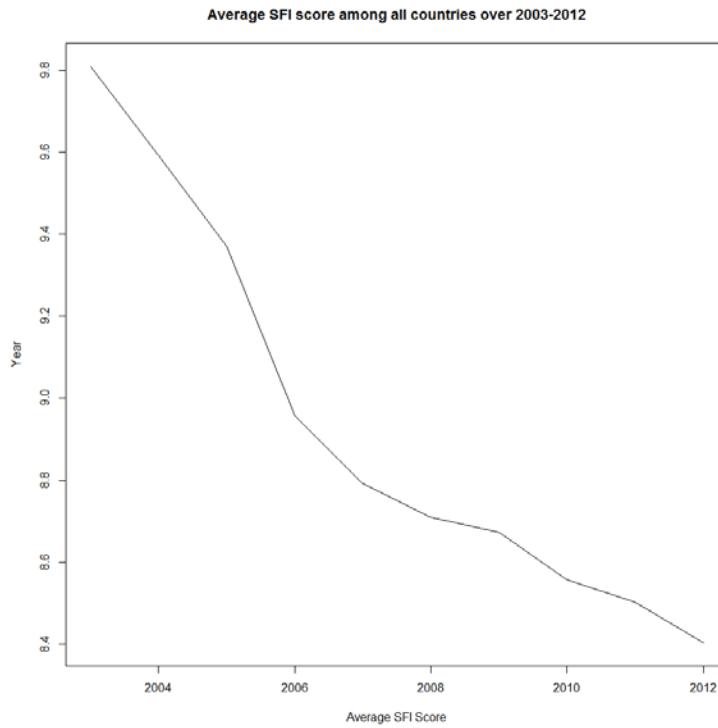
Source: World Bank World Development Indicators (WDI) and World Governance Indicators (WGI), Center for Systemic Peace State Fragility Index (SFI) and Polity IV datasets

Table A6 - Descriptive statistics of variables used in PV regressions, long-differenced, 1996, 1998, 2000, and 2002-2012

Statistic	Observations	Mean	St. Dev.	Min	Max
PV score	186	-0.019	0.616	-2.278	2.082
Net ODA per capita (current USD)	134	19.637	292.794	-2,838.706	1,367.624
GDP growth (annual %)	180	-1.534	9.467	-90.167	24.200
GDP per capita growth (annual %)	178	-1.316	9.433	-91.948	22.703
GDP per capita (constant 2005 USD)	178	2,718.317	4,954.841	-21,227.590	32,111.060
Inflation, consumer prices (annual %)	157	-37.618	331.819	-4,134.814	31.255
Trade (% of GDP)	161	14.958	43.513	-346.963	175.779
CC score	181	-0.044	0.484	-1.297	1.642
Polity2 score	155	1.406	4.160	-11	15
VA score	196	-0.024	0.416	-1.067	1.548

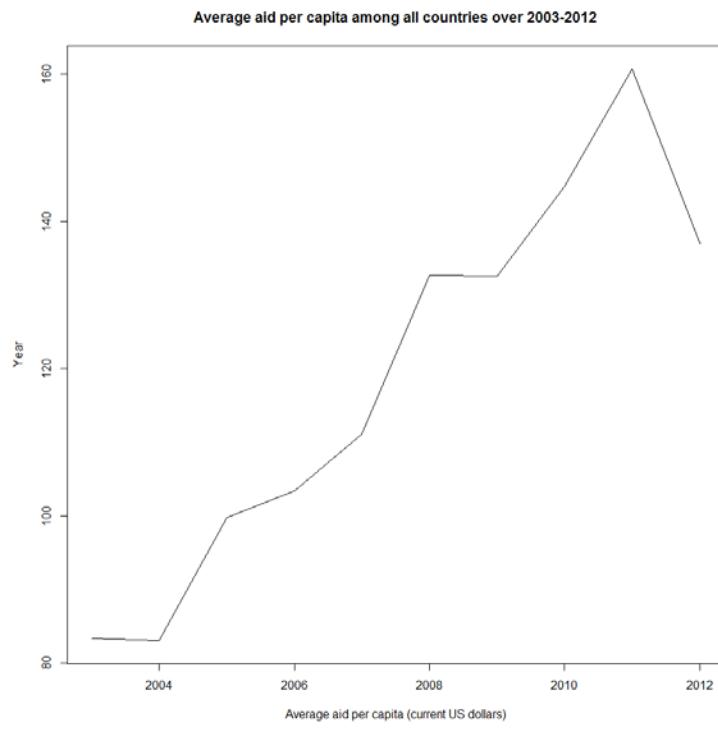
Source: World Bank World Development Indicators (WDI) and World Governance Indicators (WGI), and Center for Systemic Peace Polity IV datasets

Figure A1



Source: Center for Systemic Peace SFI dataset

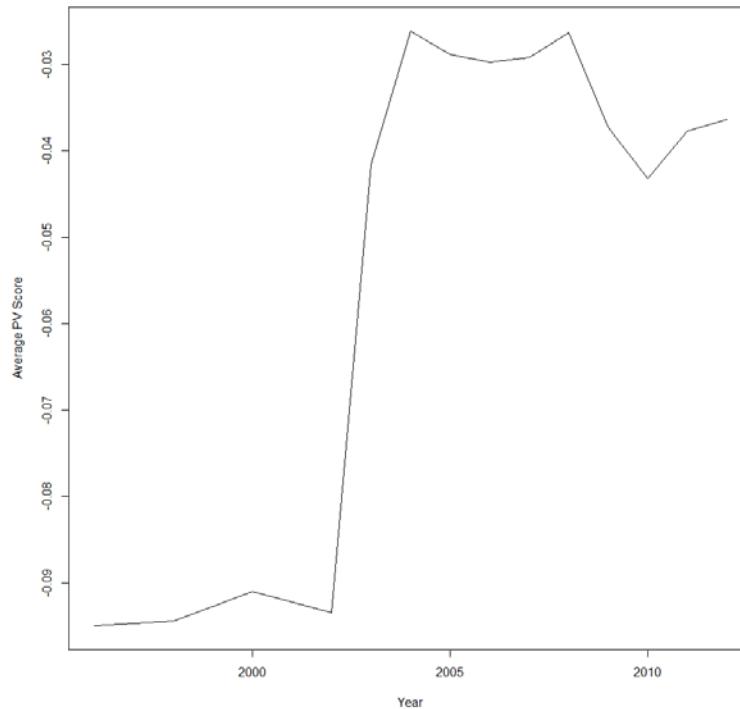
Figure A2



Source: World Bank WDI dataset

Figure A3

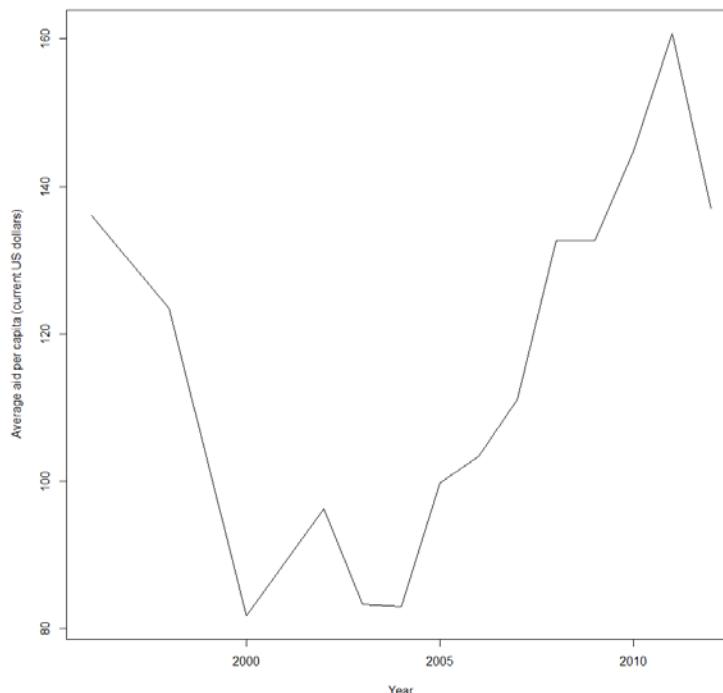
Average PV score among all countries over 1996, 1998, 2000, and 2002-2012



Source: World Bank WGI dataset

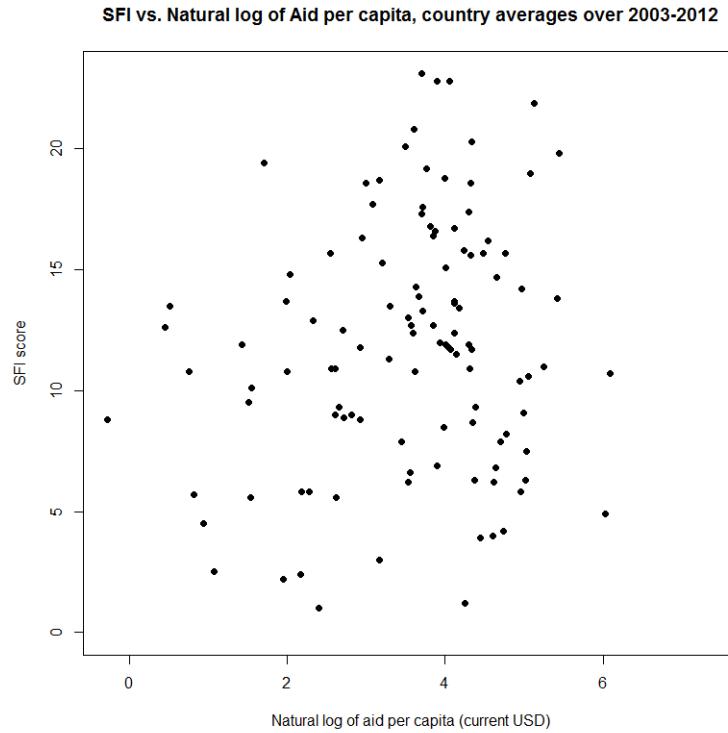
Figure A4

Average aid per capita among all countries over 1996, 1998, 2000, and 2002-2012



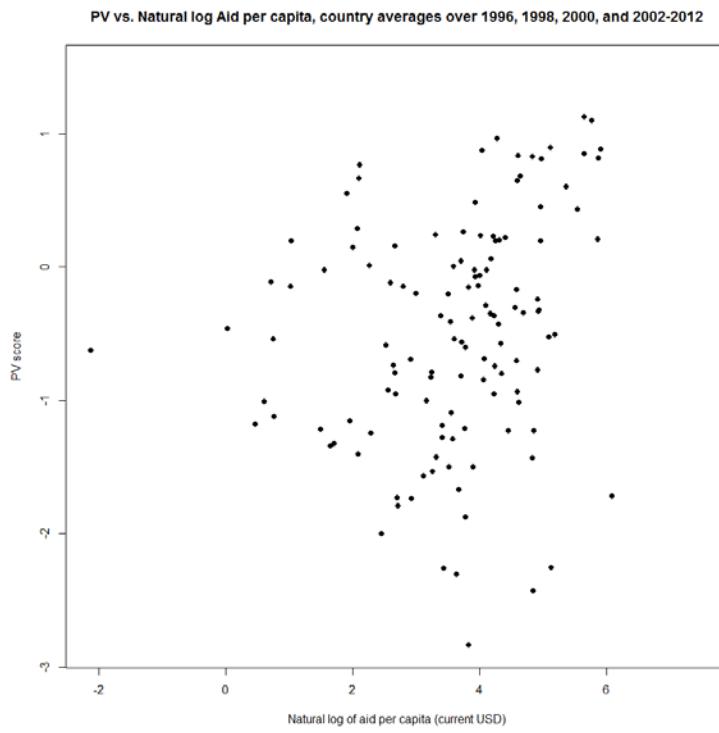
Source: World Bank WDI dataset

Figure A5



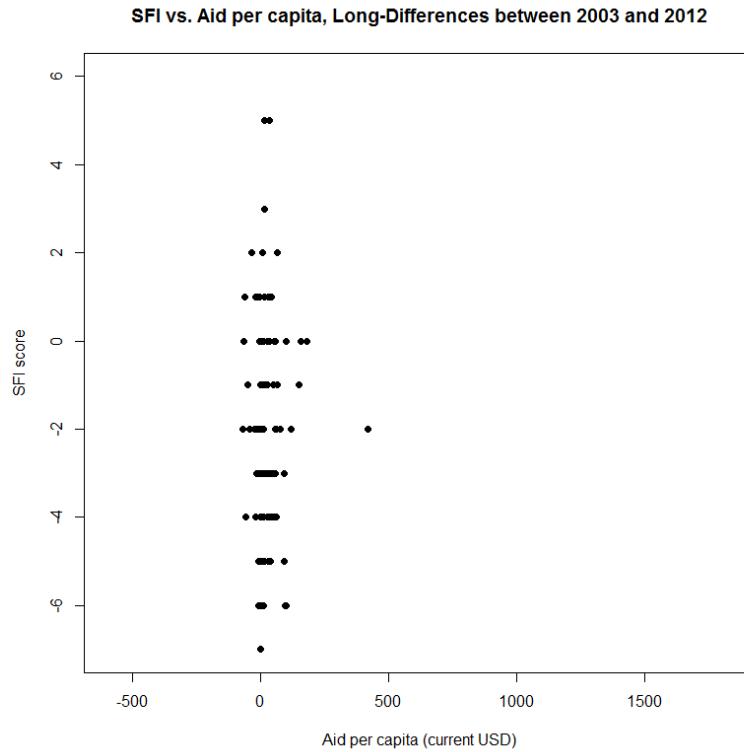
Source: World Bank WDI and Center for Systemic Peace SFI datasets

Figure A6



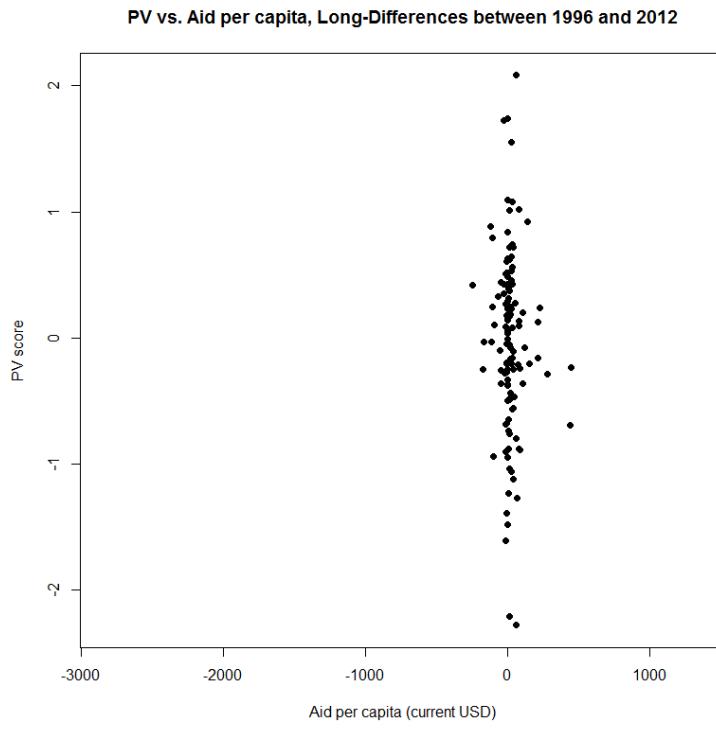
Source: World Bank WDI and WGI datasets

Figure A7



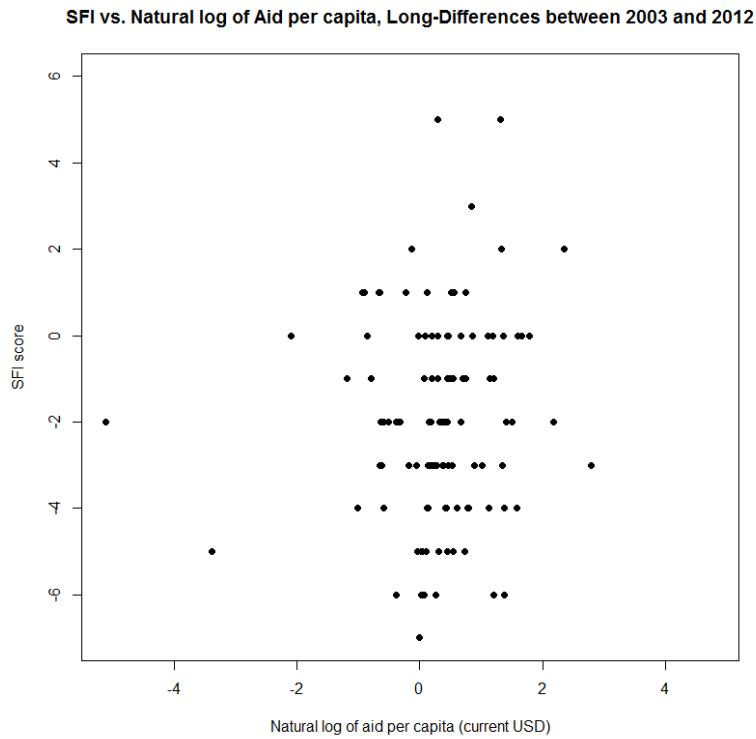
Source: World Bank WDI and Center for Systemic Peace SFI datasets

Figure A8



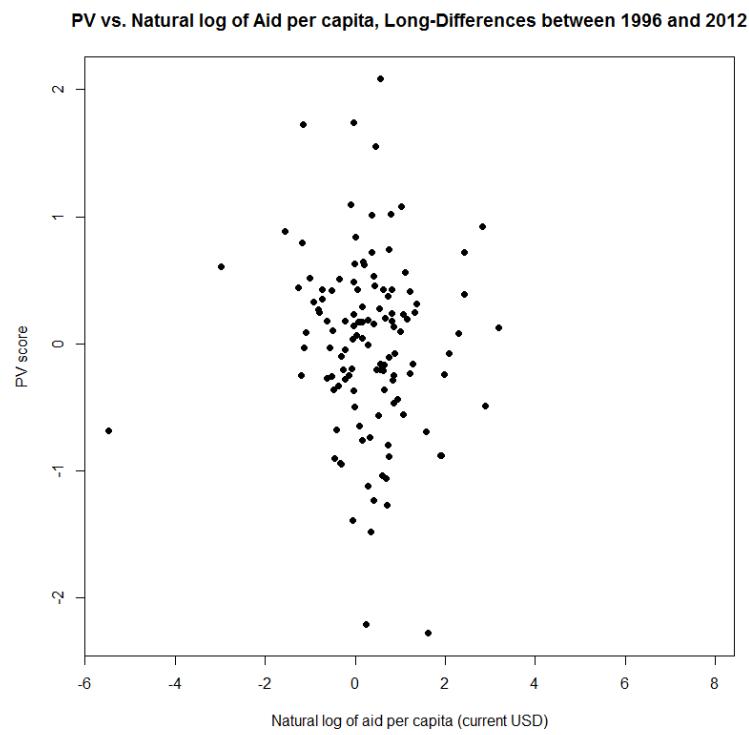
Source: World Bank WDI and WGI datasets

Figure A9



Source: World Bank WDI and Center for Systemic Peace SFI datasets

Figure A10



Source: World Bank WDI and WGI datasets

