Foreign Development Aid and Firm Performance: Is There A Connection?

by

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Submitted to

Central European University

Department of Economics

In partial fulfillment of the requirements for the degree of

Master of Arts in Economic Policy in Global Markets

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Budapest, Hungary

2015

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Abstract

This thesis investigates the effect of foreign development assistance with a novel approach. Research so far has been looking at the aggregate effect of aid on growth, and found no clear evidence that countries receiving more aid grow at higher rates. This thesis does not target aggregate growth, it identifies the business environment as a channel through which foreign assistance can have a positive impact, and firm performance as an outcome that could be enhanced by it. In many developing countries, the business environment is not advanced and firms often have access to insufficient financial services. Aid money could be used either to amend the business environment or could be directed from the central budget towards firms as special loans or grants. This way, firms could overcome the market imperfections they face and by investing more, they could produce more, employ more people and boost consumption. In the analysis, data on firms' real annual sales growth from the World Bank's Enterprise Surveys and total Official Development Assistance from the OECD's Query Wizard for International Development Statistics is used. The dataset contains 61 countries surveyed by the World Bank one or more times between 2006 and 2014. An instrumental variable estimation is introduced, with Security Council membership as an instrument, to correct for the endogeneity of aid. Unfortunately, the analysis does not find evidence that firms in countries which receive more aid perform better. This can be either because governments do not reallocate aid money towards firms, or because for different reasons firms cannot ameliorate their performance with the help of aid inflows.

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1 Introduction

Foreign development aid has been the subject of international policy debates for a long time. The formal idea of development assistance emerged in the 1950s, and since then Heads of State and Government, representatives of international institutions, and ordinary people alike urge to direct more money towards developing regions. Sadly, it is mostly the amount of aid that comes up in international debates, while talks about the projects it targets or the realized outcomes are much less prevalent.

Why is it so evident that rich-world governments and residents should provide foreign assistance year after year? When we see pictures of starving children, when we hear news about war- and natural disaster-stricken areas, or when we become aware of how many people suffer from diseases that could easily be prevented, we realize that we can amend the lives of people living in these regions by disbursing only a small percentage of our income towards them, and we feel obliged to do so.

Unfortunately, international aid policy is not a striking success in its current form. During the years, many international agencies and researchers have tried to find evidence that aid is the solution to the woes of developing regions, but the fact that the results keep being revisited shows that the effect of aid is ambiguous. While it is true that the proportion of people living in extreme poverty has been decreasing considerably, and many countries have been able to grow at a noteworthy rate, many recipient countries still have poor infrastructure and dismal institutional setup, and markets and the business environment are not well developed.

One reason why we cannot perceive the impact of aid might be that we are looking at it from the wrong perspective. So far, research has been investigating the aggregate effects of aid, the main question being whether countries who receive more foreign assistance grow at a higher rate than countries who receive less. As I outline in section 3, besides Burnside and Dollar (2000) none of the papers (e.g. Easterly (2003), Easterly, Levine and Roodman (2003), or Rajan and Subramanian (2008)) find evidence that this would be the case. However, if we abandon the analysis of aggregate growth and try to assess the impact of aid on specific outcomes, are we going to see that aid has a benign effect? The novel idea behind my master's thesis is that we can show that aid is effective if we identify a specific channel through which aid can have an effect, and investigate whether through that channel aid amends the outcome. The specific channel I identify is the business environment, and the outcome is firm performance. In many

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developing countries, the business environment is not advanced. Regulation makes it hard to start a company, and corruption can hinder development. Also, firms often face market imperfections and poor financial services: most often they do not have access to credit or do not have sufficient savings options (Banerjee and Duflo (2005)). If the government spent aid money on improving the business environment, or directed at least some part of it towards firms and alleviated the financial constraints they faced, firms could perform better, and by investing more, producing more, employing more people, and boosting consumption, they would help put the country on a sustainable development path. In the thesis I will investigate whether firms in countries receiving more foreign assistance perform better, by which I intend to provide evidence that it is possible to show the benign effect of aid on a country's performance if we look at a specific outcome, and not at aggregate growth.

The thesis is structured as follows. I provide an overview of foreign development assistance in section 2: the exact definition to be used throughout the thesis, who the main donors and recipients are, and how the amount given is allocated, whether it has any observable pattern. In section 3, the opposing views about aid and the relevant literature are summarized. Section 4 outlines the analysis of the relationship between firm performance and foreign development aid, it describes the data, the instrumental variable methodology used and summarizes the results. Section 5 concludes and provides recommendations to amend international aid policy.

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2 Foreign development aid

This section introduces the basic concepts of foreign development aid and describes its general characteristics: who the biggest donors are, which countries are the main recipients, and how foreign development aid is allocated.

2.1 Donors

There are numerous national and international agencies whose mandates focus on facilitating economic development, like the World Bank, various United Nations organizations, or regional development banks. One of the international agencies is the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD). The DAC was founded in 1960, and it groups together the largest aid donors of the world. At the moment, it has 29 members, among which we can find the Unites States, Canada, New Zealand, Japan, South Korea, the European Union, and most Western- and Central-European countries.[1] Their mandate for the years 2011-2015 is "to promote development co-operation and other policies so as to contribute to sustainable development, including pro-poor economic growth, poverty reduction, improvement of living standards in developing countries, and to a future in which no country will depend on aid" (OECD DCD/DAC (2010)).

One of the main achievements of the DAC is that it came up with the concept of Official Development Assistance (ODA). Current definition of ODA emerged during several year-long negotiations. Today it is defined as money flows to recipient countries on the DAC list or to international agencies that facilitate economic development and have grant elements of at least 25%. ODA in general is not a grant, donor countries expect repayment in some form. These money flows most often come as concessional loans, which means that the conditions are highly generous compared to market loans, for example interest rates can be lower or grace periods can be more lenient. The grant element tries to capture this concessionality. Loans shorter than one year are not included in the ODA definition, since they are not considered to have a long-run development effect. Also, money flows are netted out, when the recipient country pays back the principal of a loan, it is considered as a negative aid flow.[2]

The DAC has other contributions to the development community besides the definition of ODA: it spends significant time and resources on collecting, structuring and analyzing data on

[1] All members of the DAC are listed at http://www.oecd.org/dac/dacmembers.htm.
[2] Definitions from Hynes and Scott (2013) and OECD (2008).

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Table 1: Total ODA flows from DAC countries by type of flow (2013)

		USD million
Official Development Assistance (A+B)		134,481
A. Bilateral Official Development Assistance		93,562
of which:	General budget support	3,128
	Core support to national NGOs	1,816
	Investment projects	9,092
	Debt relief grants	3,638
	Administrative costs	6,445
	Other in-donor expenditures*	5,232
B. Contributions to Multilateral Institutions		40,918
of which:	UN	6,659
	EU	12,763
	IDA	8,528
	Regional Development Banks	3,935

*Includes development awareness and refugees in donor countries.

Source: OECD, Development Co-operation Directorate, Aid statistics
Available at http://www.oecd.org/dac/stats/statisticsonresourceflowstodevelopingcountries.htm

aid flows, since it is important for conducting research and monitoring progress. They also plan to harmonize development policies to increase the efficiency and effectiveness of aid and to reduce poverty (OECD DCD/DAC (2010)).

As we can see from Table 1, total Official Development Assistance of DAC members in 2013 was nearly $135 billion. Around two-thirds of it ($93.56 billion) was bilateral aid flows: it means that a donor country gave the money directly to a recipient country.[3] 3.5% of it was general budget support, which means that aid is given directly to the recipient country's government and it can spend the money on projects that need the most and the quickest support. Donors can also provide funds for national NGOs (roughly 2%), or can direct money towards specific investment projects (which is around 10 percent of the bilateral ODA). Debt relief covers all actions that are related to debt forgiveness, restructuring, swaps, etc. One third of all ODA was provided to multilateral institutions in 2013, who can then allocate these inflows to their various projects in developing countries. It is surprising to see that the most of this multilateral ODA was collected by the European Union.

$135 billion seems to be a large enough sum of money directed towards developing countries, as a comparison, Hungary's Gross National Income (GNI) on current US dollars in 2013 was

[3]Descriptions of the different rows are from OECD DCD/DAC (2013).

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$129,5 billion.[4] However, this $135 billion constitutes only 0.3% of DAC member countries' GNI. A 0.7% of GNI target rate often comes up in international talks though, and the current 0.3% is less than half of it. What is the history of this 0.7%, which was reinforced several times during the past decades? How did this number emerge and what is the justification behind it?

First, it was the World Council of Churches, in 1958, who suggested that developed countries should define a target rate of how much foreign assistance they will provide each year. Back then, 1% of national income was the benchmark, until a Dutch Nobel laureate, Jan Tinbergen, made exact calculations about the capital inflows developing countries needed in order to be able to grow at a reasonable rate. He came to the conclusion that if richer nations directed 0.75% of their GNI, it would be enough to achieve the desired growth rates (OECD (2002)). The Pearson Commission on International Development, set up in 1968 by Robert S. McNamara, then President of the World Bank to investigate the previous 20 years of development assistance, used the 0.75% as a benchmark, and based their own recommendation on it: they came up with a rate of 0.7% of GNI, that all donor countries were bound to achieve by no later than 1980.[5] The resolution that developed countries will gradually increase their official development assistance to 0.7% by the mid-1970s was made in October, 1970, by the General Assembly of the United Nations (paragraph 43 of the 1970 UN Resolution).

We can see that developed countries realized more than 50 years ago that developing countries will not be able to alleviate poverty on their own, the rich world needs to provide sufficient funds for them to grow. During the past years, representatives of developed countries gathered on several occasions to strengthen their promise and to pledge to increase their ODA contributions.

For example in 2000, in New York, the General Assembly adopted the Millennium Development Goals (MDGs). The 8th and last point of the MDGs is to develop a global partnership for development, which means that among other goals they aim to deal with developing countries' debt and pay special attention to their needs.[6] The 0.7% was not explicitly stated at this summit, however, the focus on financial assistance came up and compliance with the 8th MDG is monitored ever since. In March 2002, an International Conference on Financing for Development was held in Monterrey, Mexico, where 50 Heads of State or Government assembled along with representatives of international organizations (the International Monetary Fund, the World

[4] Data from the World Development Indicators database, available at http://data.worldbank.org/indicator

[5] "Pages from World Bank History: The Pearson Commission", accessed May 7, 2015. http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTARCHIVES/0,,contentMDK:20121526 pagePK:36726 piPK:36092 theSitePK:29506,00.html

[6] Goal 8: Develop a Global Partnership for development, accessed May 7, 2015. http://www.un.org/millenniumgoals/global.shtml

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Bank, and the World Trade Organization) to set up a framework for the global partnership declared in the MDGs.[7] Here, the ODA of 0.7% of GNI was reinforced in order to help developing countries reach the other Millennium Development Goals, like to eradicate extreme poverty and hunger or reach universal primary education. Furthermore, in 2005 on the Sixtieth session of the General Assembly, in point 23(b), a path of 0.5% of GNI by 2010 and 0.7% by 2015 was re-endorsed (United Nations (2005)).

Despite these global promises, there are only seven countries who were able to contribute this much. Sweden, the Netherlands, Norway and Denmark have already reached the stated goal by 1978, and they have adhered to it ever since, Finland attained it only once, in 1991, Luxembourg arrived at it in 2000 and since then meets the commitment (OECD (2002)). The United Kingdom met the target for the first time in 2013, they contributed 0.72% of their GNI.[8] So far, other DAC members have fallen short of reaching the target, the weighted average of their contributions has never been higher than 0.4% (OECD (2002)). According to the Fact sheet of Goal 8[9] not only DAC members do not increase their assistance, ODA fell both in 2011 and in 2012, compared to the 2010 levels, which was the first time since 1997 when contributions decreased in two consecutive years. In 2013 this downturn was stopped, ODA rose by 6.1% in real terms.[10]

Even though most countries do not contribute as much as they should based on worldwide expectations and their own promises, they still give ODA. We can see the top ten donors on Figure 1. The United States gave nearly the fourth of 2013 ODA (23%, which is $30,879 million out of the $135,000), however it is only 0.18% of its GNI. The United Kingdom contributed a little more than 13% to the total sum ($17,920 million), and Germany gave around 10.5% of all ODA ($14,228 million).

2.2 Recipients

After reviewing where aid money comes from, we can turn to investigating which regions get the most development assistance. From Table 2 we can see that in 2013 Africa got nearly 50% of region specific ODA, out of which the South of Sahara received 81%. Asia got around 37%,

[7] "What is the Monterrey Consensus?" by HDN Key Correspondent Team, accessed May 7, 2015. http://siteresources.worldbank.org/KFDLP/Resources/461197-1122319506554/What_is_the_Monterrey_Consensus.pdf

[8] "The 0.7% aid target", published July 28, 2014, accessed May 7, 2015. http://www.parliament.uk/business/publications/research/briefing-papers/SN03714/the-07-aid-target

[9] The Fact sheet of Goal 8 is available at http://www.un.org/millenniumgoals/pdf/Goal_8_fs.pdf. Last accessed May 26, 2015.

[10] "Aid to developing countries rebounds in 2013 to reach an all-time high", accessed May 25, 2015. http://www.oecd.org/newsroom/aid-to-developing-countries-rebounds-in-2013-to-reach-an-all-time-high.htm

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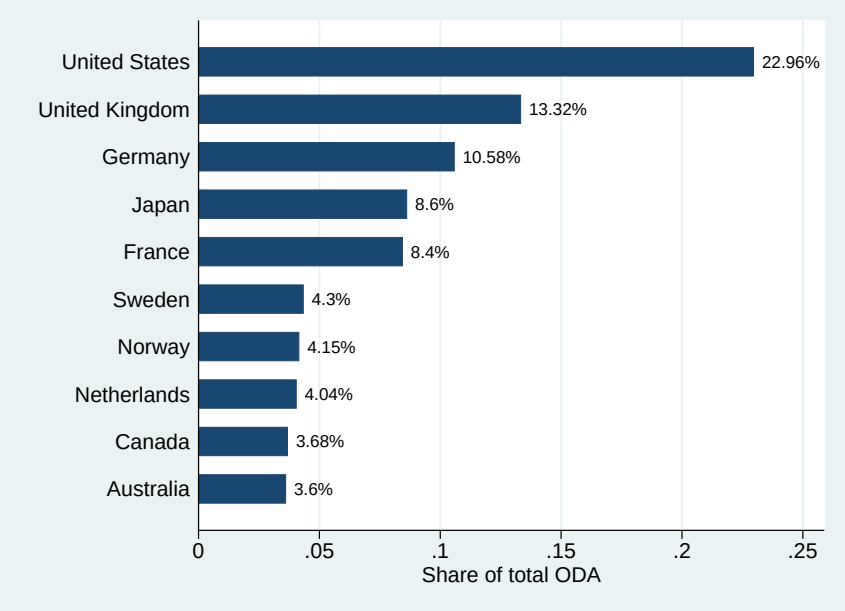
Figure 1: The ten biggest DAC donors



Source: OECD, Development Co-operation Directorate, Aid statistics

and America 8.5%. The striking fact is that South America got only 3.28% of total assistance in 2013, while all South American countries receive ODA. The reason behind this might be that besides Paraguay, Guyana, and Bolivia, which are classified as lower-middle income countries, all South American countries are considered as upper-middle income, which entails that they do not receive as much assistance as the least developed countries.[11] In column 4, I listed how much aid a region received per capita. There is not as big a difference between the South and the North of Sahara in per capita numbers (both are around $50) as there is in the case of the total amounts. While in Asia per capita aid is $11.3 on average, in the subregion Middle East this amount is $97. One third of the $16,803 million the Middle East got as ODA was directed to the Syrian Arab Republic and the West Bank and Gaza Strip, where there were wars in 2013, so these countries could receive unusually high amounts of aid, which might be an explanation for this surprisingly high value. The South American per capita number is very low (as was the case with the overall number), it is below $10. Oceanian per capita aid is very high, it is due to the small population (less than 10 million people live in the region).

African countries in the South of Sahara region got the most development aid in 2013, a little more than $45 billion (see column 3 in Table 2). In order to be able to put this into context, let us see what it means to African countries, by looking at their ODA per GNI ratios. Out of

[11] Classification of DAC eligible countries can be found in The DAC list of ODA recipients, available at http://www.oecd.org/dac/stats/49483614.pdf

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Table 2: Total ODA to specific regions (2013)

Region		Share	USD million	USD per capita
Africa		46.6%	55,793	51.297
	South of Sahara	37.7%	45,198	49.327
	North of Sahara	7.3%	8,726	50.922
America		8.5%	10,216	16.769
	North & Central America	3.86%	4,622	22.799
	South America	3.28%	3,926	9.658
Asia		37%	44,330	11.299
	Middle East	14%	16,803	97.007
	South & Central Asia	17.2%	20,591	11.393
	Far East Asia	4.8%	5,792	2.981
Europe		6.1%	7,363	48.515
Oceania		1.8%	2,148	222.84

Source: OECD, Development Co-operation Directorate, Aid statistics

the 50 African countries we have data for, 16 got more than 10% of GNI in ODA (see Table 11 in the Appendix). The leader is Malawi, in 2013 it received $1,126 million, which is 31.5% of its GNI.[12] Liberia got $534 million, which is 30.51% of its GNI, and the third one on the list is Burundi with an ODA/GNI ratio of 18.81%. If we compare it to other regions (Table 3), we find that countries have significantly lower amounts of ODA as a percent of GNI everywhere, except for Afghanistan, and also, fewer countries get so significant help. It makes sense, of course, to direct most resources to the less developed regions. In Sub-Saharan Africa nearly half of the population still lives on less than $1.25 a day, and by 2015, 40 per cent of people who live in extreme poverty in the developing world will live in Sub-Saharan Africa or Southern Asia (United Nations (2013)).

If developed countries want to make the most impact when they decide how much aid to direct to which countries, they should only look at where the money can achieve the most growth and the best results. This would mean not to differentiate much between which country receives more money and which receives less, but they should allocate ODA based on the costs associated with the goals they want to achieve and direct money towards the regions most in need. But is it as simple as it looks like? Less developed regions get the most aid, since they have the most catching-up to do and they need the most investment? We saw from the statistics above that there are big differences in the amount of aid regions receive, so in the next section I will

[12]Based on absolute terms Malawi is only the 15th, Ethiopia received the most ODA with $3,826 million.

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Table 3: Countries with the highest ODA per GNI ratios, selected regions (2013)

South America

Country	ODA/GNI
Guyana	3.31%
Bolivia	2.44%
Suriname	0.58%

South & Central Asia

Country	ODA/GNI
Afghanistan	25.24 %
Kyrgyz Republic	7.76%
Bhutan	7.61%

Far East Asia

Country	ODA/GNI
Timor-Leste	5.58%
Cambodia	5.55%
Mongolia	3.98%

Europe

Country	ODA/GNI
Kosovo	7.48%
Moldova	4.25%
Bosnia and Herzegovina	3.03%

Source: OECD, Development Co-operation Directorate, Aid statistics

investigate how foreign development aid is allocated, and what are the concerns surrounding it.

2.2.1 Allocation of foreign development aid

Much criticism is raised against the allocation of foreign development assistance in the sense that it is not recipient country characteristics that are taken into account when donors decide where to direct their bilateral aid flows, but political and strategic interests are followed. This means that if donors really cared about whether they gave money to the right people and for the right causes, they favored less corrupt regimes and countries with better policies. We can find evidence, however, that donors tend to support former colonies, reward certain voting behavior in the United Nations General Assembly or Security Council, or they take into account other diplomatic relations and interests.

A paper by Alesina and Dollar (2000) sets to uncover allocation behavior of three big donors: France, Japan and the United States. Their question is what these countries take into account when they decide whom to give aid. Alesina and Dollar (2000) estimate a regression model using ODA flows from the DAC's aid statistics over five-year periods from 1970-74 to 1990-94. The dependent variable is the log of total bilateral aid and the explanatory variables are trade openness, democracy, civil liberties, colonial status, foreign direct investment, initial income and population. The three donor countries each have a particular tendency to pick recipients: France tends to direct its funds to former colonies, especially to countries who were under French rule during the 20th century, Japan honors countries that follow Japanese voting patterns in the United Nations, by nearly a fourfold increase in foreign assistance, and at that time the United

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States directed a large percentage of its ODA to Egypt and Israel. According to the latest OECD Aid statistics, in the 2012-13 period the US supported Afghanistan the most, and neither Egypt, nor Israel are among the top 15 US recipients any more. Institutional setup or the level of corruption is not as important a factor as we would expect, Alesina and Dollar (2000) conclude that in terms of democracy "[m]ore democratic countries get a bit more than less democratic ones, but these differences are trivial compared with the differences between colonies and non-colonies" (pp. 41-42.).

Critiques say that aid is often used to buy votes in the General Assembly or in the Security Council of the United Nations, but at first glance it is not trivial why vote-buying makes sense. In the General Assembly, each of the 193 member countries has one vote, and for a decision to pass a simple majority of the votes are needed, except for important questions related to peace and security or election of members to different bodies, for which a two-thirds majority is needed (UN Charter, Chapter IV, Article 18.). It seems to be a little far-fetched to assume that donor countries can buy the votes of so many other members, if they do not want to co-operate. The Security Council has five permanent (China, France, Russia, the United Kingdom, and the United States) and ten rotating members, who are elected for two-year terms (five in each year). O'Neill (1996) calculated the Shapley-Shubik index (a measure that allocates a percentage to each member of a voting body, which represents the member's share of the total power) of the permanent and of the non-permanent members. Each permanent member has an index of 19.6%, while the cumulative index, thus the power of the non-permanent members together is only 2% (they have an individual power of 0.2%). In the light of this measure, it does not seem to be important to buy the votes of the rotating members. However, to cast a vote, the Security Council needs four out of the ten non-permanent members' votes, since the permanent members need to vote unanimously and a decision is passed when nine votes are in favor (UN Charter, Chapter V, Article 27.). So despite their low individual power, non-permanent members' votes are needed, thus it might indeed make sense to buy them. Another argument for why big donors would want to buy the votes, provided by Dreher et al. (2009), is that countries, especially the United States, want to reach more legitimacy for their domestic policy making. If the Security Council or the General Assembly accepts a decision with a high number of votes, international support is ensured, which makes it easier to accept and implement the decision in question domestically.

Alesina and Dollar (2000) construct a variable to analyze the claim of vote-buying. To

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capture "donor strategic interests" they calculate the correlation of donor-recipient pairs' General Assembly voting patterns, and incorporate it into "UN Friend" variables. When they include the "UN Friend" variable in the regression model, they find that when a country voted with France, aid disbursement increased by 73%, voting with Japan increased aid by 345%, and in the case of the United States the growth in aid was 78%. It is one piece of evidence that if a potential recipient country votes favorably for donor countries, it is rewarded with a higher amount of foreign development aid.

One of the most cited papers in the investigation of whether aid is indeed used to buy votes was written by Kuziemko and Werker (2006). They look at non-permanent members of the UN Security Council and study how their aid inflows changed as a function of their Security Council membership. They run the same regressions on two separate panel datasets, one is from the US Agency for International Development, so it contains only aid and loans from the United States, and the other is from the DAC, covering international donors' Official Development Assistance. Their right-hand side variable-of-interest is the Security Council membership dummy. They run several regressions, with and without country and year fixed effects, by adding and omitting two political controls (whether the country was in war with at least 1,000 battle deaths and how democratic or autocratic the country is), and by adding GDP per capita. Without fixed effects the coefficient on the Security Council membership dummy is significant at 1%, but when they are added, the significance level drops to 10% in the US data, and loses its significance in the DAC data.

Kuziemko and Werker (2006) also estimate whether it is of importance if a country served as a non-permanent member during an "important" year. They create new variables the following way: they divide the years into three categories based on how many times the terms "United Nations" or "Security Council" appeared in *The New York Times* articles in the given year, and they interact the three categorical variables with the Security Council membership dummy. When there was an "unimportant" or a "somewhat important" year, the coefficients are not significant, but it becomes significant at 5% in "important" years, suggesting that when more attention is given to the UN or the Security Council, it is more important to pass decisions, thus more important to have siding votes. The results are the same for the two datasets in signs and significance, but when they use DAC aid data, magnitudes are much smaller than in the case of the US. They conclude that when a country serves in the Security Council as a non-permanent member, it can expect on average a $16 million increase in the aid flows from the United States,

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while this increase is "only" $1 million in the case of the DAC.

Other papers, for example by Dreher et al. (2009) or Easterly (2005), investigate World Bank investment project allocation decisions, as similarly to the concerns about the allocation of aid in general, World Bank projects are also subject to criticism.

Easterly (2005) looks at structural adjustment loans of the World Bank, which came into existence in the 1980s, and their purpose was to support short-term budget corrections and fast reforms by lending money over a course of only a few years. Easterly (2005) uses data on how many times a country got adjustment loans between 1980 and 1999 and finds that developing countries on average received 7 adjustment loans in the period. The question arises if the loans were effective, why countries received it more than one or two times? The loans might not have been targeted to countries which needed the money the most, or some form of donor strategic interests were taken into account when the selection process happened, or simply, the adjustment loans were not effective.

Dreher et al. (2009) claim that similarly to general aid allocation, the number of World Bank projects a country receives is also correlated with Security Council membership. They use country and year fixed effects regression models of 157 countries between 1970 and 2004. Their results suggest that Security Council membership increases the number of World Bank projects by about 10%. The coefficients of the different model specifications are significant at 1% without controls, but when they add control variables like debt service as a percent of GDP, GDP per capita and population, the coefficients' significance levels drop to 10%, as it was the case in Kuziemko and Werker (2006)'s paper.

Another explanation, appearing for example in Kuziemko and Werker (2006), for the phenomenon that around the years when a country serves in the Security Council it receives more aid or World Bank projects is that the representatives of the non-permanent members meet the representatives of the biggest donors, thus they have a chance to present their case, to ask for money for certain programs. When they spend together significant amounts of time to make decisions about matters concerning the whole world, they should find opportunities to share concerns about their own countries and ask for more-than-average assistance. This way, they raise attention to the matters in their countries, and donors might support their case before, during, or after their term in the Security Council. For simplicity, I will call this the awareness hypothesis.

Kuziemko and Werker (2006) test this hypothesis by constructing dummy variables of the

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years the country was elected a non-permanent member and the year before that, the first and second year to serve on the Council, and the first and the second year after they served on the Council. They claim that if the hypothesis of raising awareness is true, we should see higher aid disbursement even after the service in the Security Council is over, so the coefficients on the first and second year after the membership dummies should be significant. However, they find that only the coefficient of the year of election into the Security Council and of the second year of service are significant. The years after the service are not, which is one piece of evidence that the awareness hypothesis is not true.

2.2.2 Evidence based on most recent data

The papers cited above insinuate that there is some observable pattern in the allocation of foreign development aid. There is new data available since the publication of the papers above, so I analyze donor behavior using this most recent data. I acquired total ODA flows (Aid) from all donors towards all sectors in recipients countries between 1990 and 2013 (the most recent year available) from the OECD's Query Wizard for International Development Statistics,[13] and I used the United Nations' official website to create the Security Council membership dummy for the years.[14] As controls, I used GDP per capita and total population from the World Bank Development Indicators database[15] to control for the wealth and the size of the countries, and the polity2 variable from Monty G. Marshall (2014)'s Polity IV Project, which is a measure of how democratic or autocratic a country is on a scale ranging from -10 (autocracy) to 10 (full democracy), to control for the institutional setup in the country. I have 3,696 observations, which consists of 154 countries over 23 time periods. First, following Kuziemko and Werker (2006), I run country and year fixed effects regression models in the form:

$$\ln(\text{Aid}_{it}) = \alpha + \beta \cdot \text{SCmember}_{it} + \gamma \cdot X_{it} + \eta_i + \mu_t + \epsilon \tag{1}$$

where i is the country index, t indexes years, SCmember is a dummy variable which is 1 if country i served as a non-permanent member in the Security Council in year t and 0 otherwise, X is a set of control variables, η is country fixed effects and μ is year fixed effects. Summary statistics of the variables can be seen in Table 4.

[13] Available at http://stats.oecd.org/qwids/

[14] The list of countries who were elected Security Council members is available at http://www.un.org/en/sc/members/elected.asp

[15] World Development Indicators database, available at http://data.worldbank.org/indicator

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Table 4: Summary statistics

Variables	Observations	Mean	St. deviation
ln(Aid) in current USD million	3,327	5.056	1.643
SC Membership	3,696	0.047	0.211
ln(GDP per capita) in current USD	3,511	7.460	1.363
ln(total population)	3,693	15.302	2.082
Polity2	2,857	1.532	6.374

The coefficients of the regressions are in Table 5. In Model (1) I do not use any control variables, only country and year fixed effects. The coefficient of the Security Council membership is significant only at 10% (in the same model setup in Kuziemko and Werker (2006) the coefficient was not significant). When I introduce the control variables (column (2)), the results stay significant at 10%, although the coefficient drops a little, suggesting that it was upwards biased. These results show some evidence that countries who serve on the Security Council experience somewhat higher aid inflows than similar countries who are not SC members.

To test the awareness hypothesis, I use a similar model to Kuziemko and Werker (2006): I construct the dummy variables of the year before the country served in the Security Council (the year of election), the first and second years when the country was a non-permanent member, and the first year after its membership. My results are different from that of Kuziemko and Werker (2006). They found that the most important year is the second year of service, this is when a non-permanent member receives higher-than-average aid disbursement (this result is significant at 10%), and there is no observable increase in the year before the service or in the first year of service. In my sample with the most recently available data, I find that in the year of election and in the first year of service a country can expect on average a 14 and 12% increase in its aid inflows (compared to not being a member in that year) and during its second year of service a little less than a 10% increase, but this coefficient is only significant at 10% (column (4)). Aid flows in the year after the service are not significantly higher than the average, which might mean that donors lost interest in the country.

In the first set of regressions I found some evidence that being a non-permanent member in the Security Council might alter donor behavior, a recipient can expect higher-than-average aid inflows during its years of service and even before its election to the SC. Both the vote-buying and the awareness hypothesis can be supported by these findings. Higher aid during the years of service can mean that non-permanent members' votes are needed to pass a decision and they

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Table 5: Fixed effects regression results
Dependent variable: ln(Aid)

	(1)	(2)	(3)	(4)
SC Member	0.0977*	0.0840*		
	(0.0505)	(0.0486)		
ln(GDP per capita)		-0.125		-0.128
		(0.107)		(0.107)
ln(total population)		-0.255		-0.258
		(0.588)		(0.588)
Polity2		0.0152		0.0151
		(0.00935)		(0.00933)
Year before service			0.196***	0.141***
			(0.0572)	(0.0530)
First year of service			0.157***	0.127**
			(0.0593)	(0.0611)
Second year of service			0.0945*	0.0956*
			(0.0510)	(0.0507)
Year after service			0.0566	0.0519
			(0.0635)	(0.0645)
Constant	4.825***	10.29	4.821***	10.35
	(0.113)	(9.518)	(0.113)	(9.518)
Country & year FE	Yes	Yes	Yes	Yes
N	3,327	2,564	3,327	2,564
R^2	0.143	0.178	0.144	0.179

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

are given more money to ensure their support. However, the fact that non-permanent members receive more aid, even before they have the opportunity to vote in the SC, might support the awareness hypothesis.

I perform a second analysis with a difference-in-differences model (see Table 6). The idea behind it is the following: if aid disbursement indeed increases when a country becomes a Security Council member in year t, we should see a higher-than-average jump in total ODA from year $t-1$ to year t, which could be captured by the diff-in-diff model. The difference of the ln(Aid) variable is the change in ln(Aid) from year $t-1$ to year t. In Model (5) the change in SC membership is constructed the same way as the difference in aid (status in year t minus status in year $t-1$), so the value of the variable is 1 in the first year when the country served in the Security Council, -1 in the first year after the service, and all the other values are 0. This captures the changes

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Table 6: Difference-in-differences regression results
Dependent variable: diff(ln(Aid))

	(5)	(6)
Change in SC status	0.0148	0.00372
	(0.0413)	(0.0337)
diff(ln(GDP per capita))	-0.293*	-0.293*
	(0.173)	(0.173)
diff(ln(total population))	-1.619	-1.625
	(1.005)	(1.007)
diff(Polity2)	0.0119*	0.0119*
	(0.00627)	(0.00626)
Constant	0.0841	0.0842
	(0.0587)	(0.0590)
Country & year FE	Yes	Yes
N	2423	2423
R^2	0.032	0.032

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

in a country's status. In the previous analysis in Models (3) and (4) we saw that the amount of aid increases even in the year before the service, so in (6) I use an alternative variable for the change in a country's status: it is not the first year of the service that receives the value 1, but the year before the service. The year after the service is coded -1. I included the differences of the log of GDP per capita, the log of total population and the polity2 variables as controls, and used country and year fixed effects. As we can see from Table 6 the results are not significant, which suggests that when there is a change in a country's Security Council membership status, its aid inflows do not increase or decrease by more than the average across the sample.

In this section I performed three sets of analyses on the most recently available data to test the hypothesis that when a country serves as a non-permanent member on the Security Council it receives higher-than-average foreign development assistance. The results do not conclusively support this hypothesis, though. In Models (1) and (2) the coefficient of the Security Council membership dummy is significant at 10%, suggesting that while being a member a country receives on average around 9% more aid than a similar country who does not serve in the Council. Models (3) and (4) insinuate that it is not only during the service that a country gets more aid inflows, but in the year of election, too. However, the difference-in-differences analysis does not show any higher-than-average change in aid inflows when a country's Security Council

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membership status changes.

2.3 Summary

This section provided an overview of foreign development aid: I introduced the definition of Official Development Assistance, showed that in 2013 two-thirds of the ODA was bilateral flows, 23% of it was given by the United States and nearly half of the money was directed towards Africa. We saw that criticism has often been raised against aid allocation, and that there is indeed some evidence that when countries serve on the United Nation's Security Council they receive higher aid flows. What we have not seen so far is what all this money is spent on, whether it is worth giving aid, and whether we can see any progress in developing countries who receive the most ODA. The next section sets to answer these questions.

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3 Foreign development aid - does it really help?

We saw in the previous section that donors disburse a significant amount of money towards developing regions, even if they do not meet the repeatedly reinforced 0.7% GNI ratio. The question arises whether it makes sense to contribute even as much as they do now, whether foreign development aid is effective. Despite annual money inflows many developing countries are not growing faster and do not catch up with the rest of the world, there are still many people living below the poverty line without access to drinking water, sufficient amount of food or electricity. There are still many countries where the institutional setup is not satisfying, where corrupt regimes take most of the aid money and do not use it to make the lives of their people better. So the answer to the questions raised above is not obvious, even distinguished scholars' opinions differ. Empirical evidence is not conclusive, either. This section introduces these opposing views and sets to provide an overview of the empirical literature.

One of the most well-known people who work in the field of development economics and actively think about the question of foreign development aid is William Easterly. He strongly disapproves of the concept of aid, he does not believe that it brings about any change in the lives of the poor. He states[1] that one of the biggest problems why aid is not effective is the lack of clear liability of aid agencies. Every agency is responsible for a wide range of projects, from institutional changes to trade reforms, from building roads to hiring teachers. With so many agencies all having the same mandate, nobody will really take responsibility for an individual action or project, so the money that was given will not flow through well-defined channels. Of course, there are a few success stories, some countries who were lifted out of poverty with the help of aid, like Botswana, Ghana, Mozambique, South Korea, Taiwan and Tanzania, however, if we look at all the other countries who got the same amount of foreign assistance, yet grew nowhere (for example Burundi, the Central African Republic, Guyana, Haiti, Mali, Nicaragua, Rwanda, Senegal, Somalia or Zambia), we might conclude that it is the exception and not the rule when a country is lifted out of poverty.

Daron Acemoglu shares the view of Easterly, in the sense that he also believes that aid cannot really help countries rise out of poverty. Acemoglu and Robinson (2012) in their book, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, offer the explanation that most developing countries trapped in poverty are there because of their extractive institutions.

[1] "The Effectiveness of Foreign Aid", last modified December 1, 2006, accessed May 14, 2015. http://www.cfr.org/foreign-aid/effectiveness-foreign-aid/p12077

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Extractive institutions are "institutions that are structured to extract resources from the many by the few and that fail to protect property rights or provide incentives for economic activity" (pp. 430.). Because of the extractive nature of the institutional setup foreign aid will be ineffective, it will not be delivered to those whom it is aimed for. It is not only corrupt and authoritarian politicians who take their fair share of the money and "forget" to direct it towards projects which would be beneficial for the many. Smaller amounts are also needed by agencies of international organizations or NGOs active in the region, who require some form of funding to stay in existence and be able to help, too, but this means that the actual sum that can reach common people will be much smaller. According to Acemoglu and Robinson (2012), what these developing countries need are inclusive institutions "that enforce property rights, create a level playing field, and encourage investments in new technologies and skills" (pp. 429.), and aid in itself cannot help much in creating those.

Jeffrey Sachs has a completely different opinion. His main idea is that we could end poverty by 2025 if donor countries directed 0.7% of their GNI, as promised on several occasions, to development purposes. He strongly believes in the effectiveness of aid, he thinks that aid is exactly the way of helping poor countries. An example he gives in his book, *The End of Poverty*, is Ethiopia. The country got a little more than $1 billion in development assistance in the beginning of the 2000s, when his book was written, or $14 per person annually, but according to estimates of the Millennium Development Project, it would be necessary to give $70 per person, or $5 billion total, to completely lift the country out of poverty. It means that this money (if directed to the right projects) would be able to make clean running water and sanitation available to all households, and to establish some sort of health care, which in 2005, when the book was published, was not even on the agenda. By 2013 ODA gradually scaled up in Ethiopia to $3.8 billion, which is still below the $5 billion estimate, but despite this fact there are certain areas where progress can be seen. For example, health in Ethiopia is on the path of development, they introduced for example the Health Extension Program, which helped reduce child mortality and significantly improved maternal health.[2]

Jeffrey Sachs, outlining his view in *The End of Poverty*, blames the not-so-visible success of development assistance on the system of how aid is allocated. The multilateral donors like the IMF or the World Bank inform the recipient country of how much aid they can expect in

[2]Speech of H.E Dr Keseteberhan Admasu in the Plenary Session of the 67th World Health Assembly, accessed May 24, 2015. http://www.moh.gov.et/hu/home/-/asset_publisher/R8nRKVXvQAuo/content/h-e-dr-keseteberhan-admasu-speech-in-the-plenary-session-of-the-67th-world-health-assembly-wha-

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the next period, and require the country in return to come up with an action plan about how they are willing to spend it. Also, they impose conditions on the money given. In his view, this should be the other way around, developing countries should go to the donors and ask for the amount they need, because they know better how they can best use it. Naturally, the rich world should foot the bill without a question. However, the main shortcoming of this idea is the fact that donor countries do not want to give as much money as these countries need. His example is the Ghana Poverty Reduction Strategy from 2002. Ghana designed its strategy to reach the Millennium Development Goals, and for that they would have needed $8 billion. The donors did not accept this plan, so then Ghana revised, and then came up with one that cost $6 billion. This was not accepted by the donors, either, and in the end the project got $2 billion. Professor Sachs condemns the rich world for their lack of support, he thinks that the money needed by the poor countries is only a very small fraction of the developed world's income, and it should be given without even asking (Sachs (2005)).

He strongly believed in the success of the Millennium Villages, a project he designed to show that people can be lifted from poverty only via well-targeted aid. He collected $120 million dollars from donors, and established the Millennium Villages, where he wanted to demonstrate that if you intervene on all fronts: food, water and energy, environment, technology, gender equality, mother and child health, and business and entrepreneurship, the villages can be put on the path of development, and after the initial push of aid, they will be able to follow the road to prosperity on their own. And by showing that aid works in this kind of small projects, by scaling up we can alleviate poverty all around the world. The 15 Millennium Villages are in Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Rwanda, Senegal, Tanzania, and Uganda.[3]

Nina Munk, a journalist at *Vanity Fair*, published a book in 2013 titled *The Idealist* which attempts to describe the work of Jeffrey Sachs and the Millennium Villages Project. She spent six years researching for her book, and lived in the Millennium Village of Dertu, Kenya. She tells the story of the village, outlines both the successes and the shortcomings. In Dertu, which is a semi-arid, nomadic pastorialist community, people herd camels, and status depends on how big a livestock you have. Animals are more important than people. The director of the project in Dertu is Ahmed Mohamed, a local who started school in Kenya and then completed his doctorate studies in agriculture in Europe. He was qualified, he knew the culture, knew people's habits, he was an outstanding scholar and he wanted to help his country. However, how the money that

[3]General information from the website of the Millennium Villages, accessed on May 15, 2015. http://millenniumvillages.org/the-villages/ and from Munk (2013).

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was channeled to the villages could be spent was clearly marked by project designers in New York, and disasters like prolonged droughts or an outbreak of malaria were not accounted for in the initial budget. The money they then spent to solve these problems were initially channeled elsewhere, so some projects could not be finished for lack of funds. Still, much progress was made in this small region: a waterhole was dug so people could get access to clean water, everybody was able to erect small, permanent housing facilities, a school was established and some rudimentary health care was also introduced. However, the attempts to make the village self-sustaining were not successful. People living there only cared about camels, so a livestock market were to be constructed. Unfortunately, this was not a viable attempt, people did not want to bend to certain rules imposed from the outside, they wanted to trade with the animals when and where they pleased. Telling people which crops to grow and what to eat was not fruitful, either.

Deciding what will be the best for the poor without trying to understand what it is that they want is not an approach that bears success. Even when in Kenya the project had a manager who was one of the locals, and he could very well understand people's motives, he could not convince enough of them to conduct their lives in another way than what they were used to. Banerjee and Duflo (2012) in their book, *Poor Economics* show readers that people living under the poverty line are in general not different in their desires and motives from richer people, so before we come up with ideas to change their lives, it is important to understand them and not be surprised if Western programs bring mostly disappointment.

Some Millennium Villages are great success stories, though. For example in Tiby, Mali, more than 40% of the 70,000 residents got access to clean water that is close to their home.[4] In Sauri, Kenya, maize yield increased over the years, immunization against measles is nearly universal among 1-year-olds, and childhood malnutrition decreased considerably.[5] Mwandama, Malawi is well on the way of becoming self-sustaining. Agribusinesses are introduced, rural cooperatives were established, which teach farmers how to sell their excess crops, what is marketing and how to use it effectively, how to state reasonable prices for buyers, and how to grow their business. All of this depends on the grounds-up approach and community support.[6] Unfortunately, the Millennium Villages Project is not an overwhelming victory, spending a huge amount of money on the project (bear in mind that in 2013 ODA to all recipients was $135 billion and $150 billion

[4]"Safer Water, Closer to Home", accessed May 24, 2015. http://millenniumvillages.org/promise-stories/safer-water-closer-to-home/

[5]Highlights of Sauri, Kenya, accessed May 24, 2015. http://millenniumvillages.org/the-villages/sauri-kenya/

[6]"Progress Toward Sustainability via Agribusiness in Malawi" by Natalia Mroz, accessed May 24, 2015. http://millenniumvillages.org/field-notes/progress-toward-sustainability-via-agribusiness-in-malawi/

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was raised only for the Millennium Villages Project) was not enough to push all of the villages to a reasonably high level of development so that they can survive without foreign assistance. This does not mean that it is not worth giving foreign development aid, but it also does not show its universal success as advocated by Sachs (2005).

3.1 Literature review

Results of empirical research are as controversial as the views described above. Some papers find evidence that aid is effective, some do not find any connection. Authors usually look at aggregate data, mostly the growth rate of GDP, and test whether more aid means better growth. They find few evidence, however, that the relationship is as clear-cut.

One of the most influential papers was written at the turn of the millennium by Burnside and Dollar (2000). Their main finding is that aid is effective, but only in a good policy environment: when the recipient country has sound fiscal and monetary policy, and reasonable trade policy. However, when a developing country conducts poor economic policies, it will not experience growth. This finding was picked up on many forums, from international development agencies to journals and the World Bank, and on the basis that aid can help, all encouraged more foreign assistance (Easterly (2003)).

The results of Burnside and Dollar (2000) were revisited several times, though. For example Easterly, Levine and Roodman (2003) extended the dataset used by Burnside and Dollar (2000) and conducted the exact same analysis on this larger dataset. What Burnside and Dollar (2000) used is a panel constructed by the World Bank, that contained 56 countries across six four-year time periods from 1970-1973 through 1990-1993. Easterly, Levine and Roodman (2003) added the period 1993-1997 to their sample. They then ran the same regressions, i.e they had the real growth rate as their left-hand-side variable, and the main right-hand-side variables were the amount of aid a country received as a share of GDP and the interaction between aid over GDP and an index of policies. While Burnside and Dollar (2000) found the coefficient of the interaction term significant in their models, using the larger dataset of Easterly, Levine and Roodman (2003) this significance disappeared.

Another criticism of the Burnside and Dollar (2000) paper comes from Easterly (2003), who claims that when we use alternative definitions of aid or policy, the significance disappears. Chang et al. (1998) propose a new approach to how to calculate aid flows, since they believe that ODA, in the way it is defined by the OECD, does not reflect the true nature of aid flows. One

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of their problems is the fact that ODA measures grants and concessional loans the same way, including the whole face value of both, while concessional loans do not cost the same to donors as grants do, since they expect the repayment of the loans, but not of the grants. Also, the discount rates with which the present value of the concessional loans are calculated are constant, which does not reflect true market conditions. So they suggest an alternative measure which is based on the grant equivalent of financial flows: the amount that is not expected to be repaid when the financial flow is initiated, and they call it Effective Development Assistance. They "define EDA as the sum of the grant equivalents of all development flows disbursed in a given period" (pp. 7.). Burnside and Dollar (2000) use the EDA definition, but Easterly (2003) runs the regressions using the definition of ODA, and finds that the coefficient is not significant any more.

Rajan and Subramanian (2008) revisit the question of whether aid has any effect on growth, and they use both cross-sectional and panel estimation techniques to find an answer. In the first regressions ran on the cross sectional dataset they find a significant, negative relationship between aid and growth, suggesting that the annual GDP growth of a country decreases if aid inflows increase. They call attention to the problem of endogeneity, though, and explain that aid flows might be driven by certain underlying factors, so it is possible that the relationship is only spurious. It can be the case that countries where a natural disaster or a war happened, which means a decrease in GDP, received more aid so as their ills could be alleviated faster, or, conversely, countries could honor good performance and direct more money towards those countries who experienced better growth, so the sign of the coefficient is not clear. The endogeneity problem can be overcome by instrumentation. They construct their instrument from the donor country's point of view: donors' colonial links to recipients and their relative sizes are used to instrument the amount of aid that a donor gives to a certain recipient relative to the recipient's GDP. However, even after instrumenting for aid and running several robustness checks they conclude that "it is difficult to discern any systematic effect of aid on growth" (pp. 660.).

It is important to assess the aggregate effect of aid on growth and see whether the country as a whole becomes better off after years of foreign assistance, but the fact that empirical evidence does not show clear improvement in the above outlined model specifications does not mean that there is no development in specific areas. When we think about what aid money should be spent on, we can come up with many ideas that would immediately amend the lives of the poor, like food, water, housing facilities, or schools. Even though these are very important, it is also

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vital to use aid money to invest in areas which can later pull the economy forward. One such area would be the production of firms, since more efficient firm production results in increased output, more consumption, higher employment, which contributes to the country getting on the appropriate growth path.

As outlined in Banerjee and Duflo (2005), in many developing countries, firms face credit constraints and poorly functioning credit markets: the possibility and the conditions of getting credit depend on the quality of the borrower's collateral, her reputation, and the ease with which the lender can monitor the repayment. Also, there is a lack of limited liability, the level and nature of insurance varies from one village to the next, so firms often have to make suboptimal investment choices. If entrepreneurs do not have sufficient forms of insurance, they will be more cautious in investing, and it will not be optimal if they need to think about what happens if the firm does not perform as well as they anticipated, and all of their money will be lost. Furthermore, savings options are not very well developed, so it is often hard for entrepreneurs to set their hard-earned money aside for later use, as they are neither incentivized nor helped in doing so. In many developing countries the financial sector is not institutionalized enough to provide all these services, and while it would be important to promote its evolution, aid money from the central budget aimed at firms directly would be a quick, temporary solution that could bear success. If some percent of the aid money is redistributed towards firms to correct for the market imperfections outlined above, it should ameliorate firm performance. Chauvet and Ehrhart (2014) identify other impediments to firm growth besides access to financial services that can be alleviated by aid. They claim that aid to infrastructure or trade can help getting easier access to markets, and spending on electricity infrastructure will annul electricity shortages that also hinder firm production. In the next section I will look at the relationship between aid and growth from this firm performance perspective, I will assess whether countries who receive more aid have better-performing firms.

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4 Foreign development aid and firm performance

We saw in the previous section that besides Burnside and Dollar (2000) none of the papers found clear evidence that countries who received more aid grew at an observably higher rate than countries who received less money. One reason why we cannot perceive the impact of aid might be that we are looking at it from the wrong perspective. If we abandon the analysis of aggregate growth and try to assess the impact of aid on specific outcomes, we might be able to see its benign effect. The idea in this section is that we can show that aid is effective if we identify a specific channel through which aid can have an effect, and investigate whether through that channel aid amends the outcome. The specific channel I identify is the business environment, and the outcome is firm performance. In many developing countries, the business environment is not advanced. Regulation makes it hard to start a company, and corruption can hinder development. Also, firms often face market imperfections and poor financial services: most often they do not have access to credit or do not have sufficient savings options (Banerjee and Duflo (2005)). If the government spent aid money on improving the business environment, or directed at least some part of it towards firms and alleviated the financial constraints they faced, firms could perform better, and by investing more, producing more, employing more people, and boosting consumption, they would help put the country on a sustainable development path. In this section I investigate the relationship between firm performance and foreign development aid and intend to show that in countries receiving more aid firms perform better.

4.1 Methodology

I analyze the relationship between firm performance and foreign development assistance using the following general model specification:

$$\text{Performance}_{it} = \alpha + \beta \cdot \ln(\text{Aid}_{it}) + \gamma \cdot X_{it} + \mu_t + \epsilon \tag{2}$$

where i indexes countries and t years, X is a set of control variables, and μ is year fixed effects.

To identify the causal effect of foreign development assistance on firm performance in an unbiased way we would need the allocation of aid to countries and the allocation of aid money to firms within a country to be random. However, donors do not allocate aid randomly, there are certain country characteristics that drive aid flows, as we saw in sections 2.2.1. and 2.2.2. If parts of aid money are given to firms, we can be certain that it is done based on specific characteristics

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and not randomly. To correct for the endogeneity bias that can arise in a situation like this, I will use instrumental variables. In order for the instrumentation to work I need variables that have an effect on aid allocation, but do not affect firm performance directly, only through aid. I believe that a good enough instrument would be Security Council membership.

First, Security Council membership works as an IV if country characteristics based on which a country is elected to be a non-permanent member of the Security Council are orthogonal to those based on which donors decide whom to give aid. There are many reasons for both decisions, but in general we can assume that countries more in distress, more in need can expect more aid money, but to the Security Council they would want to elect someone who is stable and better-performing. Second, we need Security Council membership to have an effect on aid. As we saw in section 2.2.2. there is some evidence that when a country becomes a Security Council member, aid flows towards that country increase. Third, we need Security Council membership not to affect firm performance directly, only through aid. Firm performance in general depends on two things: leadership (which comprises of the CEO and the board, their decisions about the strategy they set, how they use their financial resources, whom to hire, etc.) and business environment. I do not believe that CEOs should make different decisions just because the country is a member of the Security Council. As regards business environment, other members might put a pressure on the country to change it to some extent (reduce corruption or alter regulation to make it easier to obtain certain licenses, for example), but the country might not do it just because other members urge it to do so, without any further measures. It is more plausible that the country gets an increased amount of aid so as to deal with these institutional problems, so certain impediments to firm growth are annulled. So I believe that Security Council membership will be a good-enough IV to use in my analyses.

4.2 Data

To test the hypothesis outlined above I use data on firm performance from the World Bank's Enterprise Surveys. In the framework of the Enterprise Surveys, data is collected using face-to-face interviews with firms' top managers answering a standardized questionnaire. Firms are elected representatively to be surveyed from the manufacturing and services sectors, and usually 1200-1800 interviews are conducted in larger, 360 in medium-sized economies, and 150 in smaller countries. Firms whose business is related to agriculture, health or education are not included in the interviews. Firms are classified by size into three categories: small firms with 5-19, medium-

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sized firms with 20-99, and large firms with 100+ employees. With the questions and answers, the Survey aims at better grasping the business environment in the countries and tries to find what are the biggest obstacles for local firms.[1]

Not each country is visited each year, usually two, three or more years pass between interviews. They try to find the same firms in order to create panel data. The data is micro, as each observation belongs to one firm, however, it is aggregated to country-level for each indicator. I use these country-level aggregates to conduct my analysis. The most recently available database contains observations between the years 2006 and 2014, however there are few countries for which data in two different years are available, so I cannot use panel estimations (there are 61 countries in the database, with 27 having been more than once surveyed). My dependent variable in the regressions will be real annual sales growth (%), which is calculated as the change in sales between the previous and the current fiscal year. In many countries, one fiscal year is two or three years long, so the change is annualized. All sales values are converted to US dollars using the exchange rate in the year when the survey was conducted, and then deflated to 2009 (World Bank (2014)).

The explanatory variable-of-interest is aid, data of which comes from the OECD's Query Wizard for International Development Statistics. I use total Official Development Assistance flows from all donors towards all sectors in recipient countries for the years when the country was surveyed by the World Bank.[2]

My dataset becomes complete with two sets of control variables: one that is measured on the country-level, and another that is measured in the Enterprise Surveys, thus on the firm-level and is then aggregated. Country-level variables are the logarithm of GDP per capita and the logarithm of total population in survey years from the World Bank Development Indicator database[3] in order to control for the wealth and the size of the country, and the polity2 variable from Monty G. Marshall (2014)'s Polity IV Project, which is a measure of how democratic or autocratic a country is on a scale ranging from -10 (autocracy) to 10 (full democracy), to control for institutions. The indicators from the Enterprise Surveys are the following: three variables describing ownership of the firms – proportion of private domestic, private foreign, and government/state ownership in a firm (all expressed as percentages), the percent of senior management's time in a typical week that needs to be spent with fulfilling the requirements

[1] Survey methodology of the World Bank's Enetrprise Surveys is available at http://www.enterprisesurveys.org/methodology

[2] OECD data is available at http://stats.oecd.org/qwids/

[3] World Development Indicators database available at http://data.worldbank.org/indicator

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Table 7: Summary statistics

Variables	Observations	Mean	St. deviation
Real annual sales growth (%)	100	9.424	12.054
ln(Aid) in current USD million	99	5.982	1.268
ln(GDP per capita) in current US dollars	100	8.048	1.041
ln(total population)	100	16.712	1.350
Polity2	98	4.622	5.435
Time spent with regulation requirements (%)	100	13.000	8.819
Bribery incidence (%)	100	19.160	18.036
Finance as a constraint (%)	100	21.624	14.166
Domestic owner (%)	99	76.317	15.150
Foreign owner (%)	99	19.852	13.681
State-owned (%)	99	2.239	4.538

of government regulation to capture business regulatory environment in a country, the percent of firms identifying access to finance as a major constraint, and as a measure of corruption I include bribery incidence, which is the percent of firms who experienced at least one bribe payment request in the last fiscal year. We can see from the summary statistics in Table 7 that around one-fifth of the firms experienced at least one bribery incident during the past years, the same amount finds on average access to finance a major constraint, and three-quarters of the firms in the sample are domestically owned.

First, I used aggregated data on firm performance of all firm sizes, however, analyses with that dataset did not yield any results. The explanation can be that several hundred firms answer the questionnaire, and they can have large differences in the sales they experienced (or in any other performance or environment indicators). When these individual numbers are aggregated, these differences average out, and we get data points that look like a random process around 0. So the dataset using firm performance of all firm sizes was clearly not good enough to perform any analyses.

The World Bank's Enterprise Surveys database contains data aggregates by firm sizes, so we have firm sales growth for small, mid-size and large firms, separately. If it is plausible that the central government allocates aid money to firms in the manufacturing or the services sector, it is more plausible that they give it to large firms. We can find many reasons why the government might favor large firms: politicians know these firms more as they are more in the spotlight, or because they employ more people, or bigger firms are more likely to be owned by people closer

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to the government, or these firms export more and the country wants its exports to boost, or there is a fewer number of large firms in a country and the government finds it more favorable to give money to a smaller number of firms. As firms who have more than 100 employees are more similar to each other as to firms who have 5, and the business environment might also affect firms of the same size similarly, I think that having firm performance and other indicators aggregated only for large firms will yield better results. Summary statistics in Table 7 are for these large firms only, as I will use this dataset for further analysis.

4.3 Estimation results

Chauvet and Ehrhart (2014) conduct a similar analysis. They claim that there is a relationship between aid and the growth rate of firms' sales, they find that "countries where aid is increased by 1% would see their growth increased by around 1.7 percentage points" (pp. 13.). They construct a firm-level panel dataset, with having data of more than 5,000 firms from 29 low- and middle-income countries, surveyed in two points in time by the World Bank's Enterprise Surveys. My impression from the article is that the authors use the growth rate of firms' sales as an alternative to the growth rate of GDP, and try to capture the effect of aid on overall growth of a country using this alternative approach. While a substantial part of value added comes from firms in the manufacturing and services sectors, other sectors are also important, for example agriculture, especially in developing countries which are the main focus of the paper. Out of the 29 countries they analyze, in five (Niger, Malawi, Pakistan, Cameroon and Paraguay) the value added of agriculture as a percent GDP in 2013 was more than 20%.[4] Also, while firm growth is measured on the individual level, aid is only available in the country- or sector-level, so they cannot decompose their main explanatory variable to correspond to the firm-level data. They use instrumental variables to account for the endogeneity of aid, they construct them based on the "cultural and historic proximity between donors and receiving countries" (pp. 10.). As they have a panel dataset with two periods, they also add firm fixed effects. Even after various robustness checks, they claim that there is a positive impact of aid on growth.

My analysis differs from that of Chauvet and Ehrhart (2014) in the following points. First of all, my approach is not to assess the effect of aid on overall growth and try to capture this using an alternative growth definition. My hypothesis is that when a country receives more aid, it should spend parts of it on firms to alleviate market imperfections they face, thus help them

[4] Data from the World Development Indicators.

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Table 8: OLS regression results
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	0.639	2.289*
	(1.336)	(1.361)
ln(GDP per capita)	3.197*	5.783***
	(1.881)	(1.985)
ln(total population)	-1.407	-2.866***
	(1.021)	(1.004)
Polity2	0.333	0.258
	(0.262)	(0.242)
Constant	-8.634	4.116
	(41.769)	(40.586)
Firm-level controls	Yes	Yes
Year FE	No	Yes
N	97	97
R^2	0.17	0.388

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Note: As the control variables' coefficients are not of interest here, I will not list them in the regression tables. For tables with the full set of controls, see Appendix.

improve their performance. I try to assess the effect of aid on firm performance solely. Second, since I do not use the firm-level data, only the aggregated one, I do not have to restrict my sample to only those countries which were surveyed twice, so my sample contains 61 countries and not 29. Third, I use a different instrumental variable: Security Council membership.

With the first set of regressions I try to capture the relationship between firm performance and aid as specified in Equation 2. If we find it plausible that when a country gets foreign development aid it should spend at least part of it on its firms and as firms can use this money to overcome certain market imperfections like credit constraints, they can increase their performance, then we should find a positive β coefficient of aid. I estimate the regression first without and then with year fixed effects, including all the control variables described above. From Table 8 we can see that the coefficient on aid is significant at 10% when year fixed effects are included.

As I outlined above, we are very likely to have biased OLS estimation results because of endogeneity. This can be corrected using instrumental variables. Because the data measurement is not continuous, as not all countries are surveyed in all the years, we have only distinct data points for individual countries. Thus, with only one Security Council membership dummy we

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might not be able to capture the effect of an increased aid inflow, let alone its relationship to firm performance. As real annual sales growth is measured for a fiscal year and not for a calendar year, it also does not make sense to create dummies for the years of election, service and after service, as if there is any change in firm performance, it might be disrupted by having dummies for separate years.

So to perform the instrumental variable estimation I created three dummies. The first one is the "before" dummy, which takes the value of 1 if the country was surveyed in the Enterprise Surveys not more than 4 years before its Security Council membership, and 0 otherwise. The "during" dummy is 1 if the country was surveyed during its two years of service in the Security Council, and the "after" dummy takes the value of 1 if the country was surveyed not more than 4 years after its Security Council membership. For countries which have never been elected members of the Security Council, or which have been surveyed more than 4 years before or after their membership, all the dummies take the value of 0. I believe that having a four-year window both before and after the SC membership partially solves the problem outlined in the previous paragraph. For countries who have been SC members more than one time, all the relevant years are included in the database. For example, Brazil has been elected a Security Council member both for the years 2004-2005 and 2010-2011, and was surveyed in 2009, thus, two rows are entered for Brazil into the database. In one, I consider the 2004-2005 membership and the 2009 survey year which is more than 4 years after, so all the dummies are 0. In the other, I consider the 2010-2011 membership and the 2009 survey year, so the "before" dummy takes the value of one, and the other dummies are 0. For both entries, the other explanatory variables are for the year 2009, as this is the year of the survey. When a country was surveyed more than once and elected SC member more than once, all relevant year pairs that are different in the coding of the dummies are entered into the database.

The results of the first stage estimation are in Table 9. When I include all three of the "before", "during" and "after" dummies, neither are significant, and if I test for joint significance, the F-test's value is 1.44, which is not very close to being significant. In Model (2) I dropped the "after" dummy, because we saw in section 2.2.2. that while in the year before the service and during both years of service a country can experience higher aid flows, in the year after the membership I found no evidence that it receives more aid. The coefficient of the "before" dummy is still not significant, only the "during" dummy is at 10%, and the two dummies tested together are still not significant, either. However, the F-test is now higher than it was in the case of the

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Table 9: First stage results
Dependent variable: ln(Aid)

	(1)	(2)	(3)	(4)	(5)
before	0.281	0.305		0.450*	
	(0.237)	(0.221)		(0.244)	
during	0.434	0.456*	0.364	0.823***	0.490**
	(0.270)	(0.260)	(0.254)	(0.288)	(0.235)
after	-0.0921				
	(0.269)				
ln(GDP per capita)	-0.686***	-0.691***	-0.668***	-0.676***	-0.685***
	(0.0951)	(0.0923)	(0.0902)	(0.190)	(0.194)
ln(total population)	0.364***	0.356***	0.370***	0.533***	0.491***
	(0.0803)	(0.0783)	(0.0765)	(0.126)	(0.122)
Polity2	0.0178	0.0183	0.0124	0.00921	-0.00424
	(0.0220)	(0.0218)	(0.0229)	(0.0445)	(0.0466)
Constant	6.391***	6.366***	6.016***	4.162	4.186
	(2.157)	(2.190)	(2.139)	(2.777)	(2.613)
Firm-level controls	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
N	97	97	97	37	37
R^2	0.682	0.681	0.673	0.864	0.849

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

three dummies together, its value is now 2.06. If I drop the "before" dummy, too, the "during" dummy loses its significance, so I will use the "before" and the "during" dummy together in the second stage estimation. We saw in section 2.2.2. that countries serving on the Security Council can expect on average higher aid inflows, so the idea behind the IV, I believe, is reinforced. However, because of the data measurement of the Enterprise Surveys, this relationship cannot be as strongly captured as in the case of the large panel dataset above.

As a robustness check for the first stage, I restricted the sample to only include countries who were elected Security Council members between the years 2002 (not more than 4 years before the first survey year) and 2014 (see columns (4) and (5) in Table 9). Since Enterprise Survey data is not available for all countries in all years, it is by chance to find countries who have been surveyed near the years of their Security Council membership. If I restrict the analyses to only those countries who have been surveyed around those years, my sample size drops to 37. Using this model specification one of the three dummies should be dropped, which is the "after"

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Table 10: Second stage results
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	0.136	5.144
	(5.575)	(3.968)
ln(GDP per capita)	4.344	7.057**
	(3.965)	(3.026)
ln(total population)	-2.029	-5.821**
	(2.302)	(2.271)
Polity2	0.279	0.544
	(0.227)	(0.431)
Constant	16.45	3.030
	(51.88)	(35.74)
Firm-level controls	Yes	Yes
Year FE	Yes	Yes
N	97	37
R^2	0.372	0.723

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

dummy, as we saw above that this is the most likely to be insignificant. The significance of the first stage results improves in these models, in (4) the "before" dummy is significant at 10% and the "during" dummy is significant at 1%, and when the two dummies are tested together, they are significant at 5% (the F-test value is 4.02). When I include only the "during" dummy in the regression, its significance drops to 5%. Even though this still means that the IV might not be strong enough, this analysis reinforces the decision to use the "before" and the "during" dummy as IVs for aid.

There are certain problems associated with weak instrumental variables which warn us to be cautious when interpreting the results of the estimations. First, when the IVs are only weakly correlated with the endogenous variable, standard errors are likely to be large in the second stage. Second, if we have even a minor correlation between the instruments and the error term, we might receive a largely inconsistent β coefficient (Bound, Jaeger and Baker (1995)). With this in mind, let us see the results of the second stage estimation.

Second stage coefficients can be seen in Table 10. Model (1) contains all observations, (2) only those countries who were Security Council members between 2002 and 2014. The coefficient of aid is not significant, and it has large standard errors, as predicted by the weak IV problem.

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As I use the level of GDP per capita in the same year as firm performance, the coefficient of GDP per capita might have picked up the increased sales growth of firms. To correct for this possible effect, I re-ran the regressions using GDP per capita levels two years before the country was surveyed by the World Bank. As a fiscal year is often more than one calendar year, it is safe to use not only one- but two-year-before GDP data. However, this modification does not change notably any of the results, the magnitude of the coefficients and their significance stays similar (see Table 15, 16 and 17 in the Appendix).

These results suggest that firm performance is not significantly better when a country receives more aid, but the reasons for that cannot be captured in this model setup. A possible explanation is that when a country receives foreign assistance, the government does not redistribute parts of the money towards firms, or another is that even if firms get financial help from the central budget, their performance is not ameliorated. A third explanation is that even if a relationship exists, data in this form and this model setup is simply not good enough to capture the relationship.

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5 Conclusion

There is an extensive literature about the effect of foreign development assistance, but the results are again and again revisited, which signals that international aid policy is not an unambiguous success in its current form. One reason why we see few evidence for the effectiveness of aid might be that we search for it in a too broad aspect. We keep looking at whether aid brings about growth or whether it helps alleviate poverty. If we were looking at specific channels through which aid inflows could help recipients develop, we might be able to detect some progress.

The idea in this master's thesis was that a channel through which aid could help is the business sector. In many developing countries the business environments is not advanced, regulation makes it hard to set up a business, and corruption can hinder development. Also, firms do not have access to sufficient financial services: they often face credit constraints or have few savings options which prevent them from reinvesting their profits (Banerjee and Duflo (2005)). These imperfections could be alleviated by aid money flowing from the central budget, either by amending the business environment, or directly giving loans or grants to the firms. This way, firms could perform better, and the sector could produce more, employ more people, boost consumption and put the country on a path of development. If this were true, we should be able to see in the data that there is a positive relationship between the amount of aid a country receives and how well its firms perform.

To test this hypothesis I used instrumental variables estimation, with data on firms' real annual sales growth obtained from the World Bank's Enterprise Surveys and total Official Development Assistance from the OECD's Query Wizard for International Development Statistics. My dataset contains 61 countries surveyed by the World Bank between 2006 and 2014. I use the Security Council membership as an IV for aid, as the relationship between aid and firm performance might be endogenous.

My analysis does not find any evidence that firms in countries which receive more aid perform better. It might be because of three reasons. First, aid money might not be used to amend the financial services and help firms overcome the market imperfections they face. Second, even if they receive money from the central budget, it is not effective, it cannot better their performance. Third, there is some relationship, but my model needs improvement to capture it. It would be a possible extension to use a different instrument, as Security Council membership is relatively weak.

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Nevertheless, international aid policy in its current form should be restructured. Every year more than $100 billion is directed to developing regions only through the Development Assistance Committee, and there are many other institutions who collect and distribute donations to low- and middle-income economies. Still, we cannot see progress in most of these countries, it is often hard to point out where the money went. If we really want to see improvement, donors should start doing a much more profound job than just disbursing the money and waiting for a miracle to happen. First, it is vital to understand how recipient countries work, what conditions people face there, how their lives can be amended. Of course, everyone needs food and water, but the focus should be to create sufficient infrastructure and market conditions, comprising of financial, trade, and services sectors alike, so as people can become self-sufficient. A "one size fits all" to-do list will not be enough, individual action plans are needed. Also, after the money has been sent, its spending should be monitored with reasonable leeway for unaccounted costs. If foreign development assistance is not used properly, like parts of the money get lost in corrupt practices or end up in the pockets of already well-off people, aid money should be suspended.

If we want to have a world where no people suffer from hunger or easily preventable diseases, where all the countries are on a path of development that will make them better-off and help them catch up to high-income economies in a few decades, we should do more than just send foreign development assistance year after year and talk about scaling it up. We should start looking at where our money goes, and how it could be used more effectively.

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Appendix

Table 11: ODA per GNI ratios of African countries (2013)

1	Malawi	31.50	26	Zimbabwe	6.88
2	Liberia	30.51	27	Senegal	6.56
3	Burundi	18.81	28	Togo	5.97
4	Sao Tome and Principe	16.79	29	Zambia	5.28
5	Mozambique	15.11	30	Madagascar	4.78
6	Rwanda	14.73	31	Côte d'Ivoire	4.24
7	Mali	13.54	32	Swaziland	3.28
8	Cabo Verde	13.28	33	Chad	3.10
9	Gambia	12.50	34	Ghana	2.84
10	Comoros	12.47	35	Cameroon	2.57
11	Central African Republic	12.31	36	Sudan	2.49
12	Guinea-Bissau	12.08	37	Eritrea	2.45
13	South Sudan	11.18	38	Namibia	2.10
14	Lesotho	11.18	39	Seychelles	2.08
15	Niger	10.57	40	Egypt	2.07
16	Tanzania	10.45	41	Morocco	1.94
17	Sierra Leone	9.90	42	Tunisia	1.53
18	Burkina Faso	9.43	43	Congo	1.32
19	Dem. Rep. of the Congo	9.25	44	Mauritius	1.24
20	Guinea	8.69	45	Botswana	0.74
21	Ethiopia	8.18	46	Gabon	0.53
22	Uganda	8.13	47	Nigeria	0.51
23	Benin	7.92	48	South Africa	0.38
24	Mauritania	7.48	49	Algeria	0.10
25	Kenya	7.40	50	Equatorial Guinea	0.05

Source: OECD, Development Co-operation Directorate, Aid statistics

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Table 12: OLS regression results with full set of controls
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	0.639	2.289*
	(1.336)	(1.361)
ln(GDP per capita)	3.197*	5.783***
	(1.881)	(1.985)
ln(total population)	-1.407	-2.866***
	(1.021)	(1.004)
Polity2	0.333	0.258
	(0.262)	(0.242)
Time with regulation	0.234	0.491**
	(0.198)	(0.235)
Bribery incident	0.125	0.211*
	(0.115)	(0.123)
Finance as a constraint	0.135*	0.189**
	(0.0744)	(0.0913)
Domestic owner	-0.0301	-0.224
	(0.366)	(0.367)
Foreign owner	0.201	0.023
	(0.366)	(0.373)
State-owned	0.499	0.421
	(0.433)	(0.417)
Constant	-8.634	4.116
	(41.769)	(40.586)
Firm-level controls	Yes	Yes
Year FE	No	Yes
N	97	97
R^2	0.17	0.388

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table 13: First stage results with full set of controls
Dependent variable: ln(Aid)

	(1)	(2)	(3)	(4)	(5)
before	0.281	0.305		0.450*	
	(0.237)	(0.221)		(0.244)	
during	0.434	0.456*	0.364	0.823***	0.490**
	(0.270)	(0.260)	(0.254)	(0.288)	(0.235)
after	-0.0921				
	(0.269)				
ln(GDP per capita)	-0.686***	-0.691***	-0.668***	-0.676***	-0.685***
	(0.0951)	(0.0923)	(0.0902)	(0.190)	(0.194)
ln(total population)	0.364***	0.356***	0.370***	0.533***	0.491***
	(0.0803)	(0.0783)	(0.0765)	(0.126)	(0.122)
Polity2	0.0178	0.0183	0.0124	0.00921	-0.00424
	(0.0220)	(0.0218)	(0.0229)	(0.0445)	(0.0466)
Time with regulation	-0.00581	-0.00540	-0.00485	-0.0300*	-0.0259
	(0.0112)	(0.0111)	(0.0110)	(0.0151)	(0.0188)
Bribery incident	-0.00955*	-0.00923*	-0.0104**	-0.0185	-0.0225*
	(0.00517)	(0.00498)	(0.00512)	(0.0115)	(0.0112)
Finance as a constraint	-0.00754	-0.00746	-0.00813	-0.0126	-0.0139
	(0.00775)	(0.00772)	(0.00775)	(0.00885)	(0.00895)
Domestic owner	-0.0110	-0.00945	-0.00863	-0.0169	-0.00535
	(0.0165)	(0.0164)	(0.0165)	(0.0140)	(0.0135)
Foreign owner	-0.0182	-0.0161	-0.0162	-0.0358*	-0.0238
	(0.0181)	(0.0175)	(0.0179)	(0.0190)	(0.0188)
State-owned	-0.0297	-0.0269	-0.0286	0.0816	0.105
	(0.0299)	(0.0294)	(0.0315)	(0.0584)	(0.0630)
Constant	6.391***	6.366***	6.016***	4.162	4.186
	(2.157)	(2.190)	(2.139)	(2.777)	(2.613)
Year FE	Yes	Yes	Yes	Yes	Yes
N	97	97	97	37	37
R^2	0.682	0.681	0.673	0.864	0.849

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table 14: Second stage results with full set of controls
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	0.136	5.144
	(5.575)	(3.968)
ln(GDP per capita)	4.344	7.057**
	(3.965)	(3.026)
ln(total population)	-2.029	-5.821**
	(2.302)	(2.271)
Polity2	0.279	0.544
	(0.227)	(0.431)
Time with regulation	0.480**	1.027***
	(0.206)	(0.260)
Bribery incident	0.186	0.164
	(0.117)	(0.163)
Finance as a constraint	0.173**	0.0789
	(0.0868)	(0.104)
Domestic owner	-0.241	-0.0290
	(0.362)	(0.131)
Foreign owner	-0.00919	0.329
	(0.377)	(0.231)
State-owned	0.369	0.500
	(0.434)	(0.463)
Constant	16.45	3.030
	(51.88)	(35.74)
Year FE	Yes	Yes
N	97	37
R^2	0.372	0.723

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table 15: OLS regression results with two-year-before GDP per capita
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	0.327	2.126
	(1.377)	(1.375)
ln(GDP per capita two years before)	2.582	5.479***
	(1.990)	(2.059)
ln(total population)	-1.292	-2.780***
	(1.019)	(1.008)
Polity2	0.359	0.267
	(0.265)	(0.244)
Time with regulation	0.233	0.480**
	(0.198)	(0.234)
Bribery incident	0.118	0.204
	(0.116)	(0.124)
Finance as a constraint	0.127*	0.181**
	(0.0760)	(0.0907)
Domestic owner	-0.0344	-0.224
	(0.362)	(0.355)
Foreign owner	0.179	0.0123
	(0.358)	(0.363)
State-owned	0.528	0.452
	(0.430)	(0.406)
Constant	-2.435	7.862
	(42.46)	(40.08)
Year FE	No	Yes
N	97	97
R^2	0.163	0.382

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table 16: First stage results with two-year-before GDP per capita
Dependent variable: ln(Aid)

	(1)	(2)	(3)	(4)	(5)
before	0.288	0.314		0.468*	
	(0.240)	(0.223)		(0.255)	
during	0.464	0.488*	0.393	0.842**	0.496*
	(0.282)	(0.269)	(0.263)	(0.305)	(0.248)
after	-0.101				
	(0.275)				
ln(GDP per capita two years before)	-0.669***	-0.674***	-0.649***	-0.652***	-0.658***
	(0.100)	(0.0969)	(0.0941)	(0.206)	(0.211)
ln(total population)	0.360***	0.351***	0.366***	0.532***	0.489***
	(0.0782)	(0.0754)	(0.0736)	(0.120)	(0.117)
Polity2	0.0175	0.0181	0.0119	0.00907	-0.00532
	(0.0227)	(0.0225)	(0.0236)	(0.0468)	(0.0481)
Time with regulation	-0.00455	-0.00409	-0.00358	-0.0299*	-0.0258
	(0.0117)	(0.0115)	(0.0114)	(0.0165)	(0.0204)
Bribery incident	-0.00899*	-0.00863*	-0.00986*	-0.0180	-0.0221*
	(0.00533)	(0.00517)	(0.00530)	(0.0122)	(0.0119)
Finance as a constraint	-0.00682	-0.00673	-0.00741	-0.0124	-0.0138
	(0.00774)	(0.00769)	(0.00775)	(0.00921)	(0.00930)
Domestic owner	-0.0114	-0.00970	-0.00883	-0.0165	-0.00458
	(0.0177)	(0.0178)	(0.0179)	(0.0152)	(0.0146)
Foreign owner	-0.0177	-0.0155	-0.0155	-0.0317	-0.0192
	(0.0192)	(0.0189)	(0.0192)	(0.0194)	(0.0199)
State-owned	-0.0331	-0.0301	-0.0317	0.0750	0.0993
	(0.0311)	(0.0308)	(0.0327)	(0.0600)	(0.0645)
Constant	6.158***	6.129***	5.760**	3.726	3.720
	(2.197)	(2.248)	(2.195)	(2.731)	(2.591)
Year FE	Yes	Yes	Yes	Yes	Yes
N	97	97	97	37	37
R^2	0.677	0.677	0.669	0.855	0.839

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table 17: Second stage results with two-year-before GDP per capita
Dependent variable: Firm performance (real annual sales growth)

	(1)	(2)
ln(Aid)	-0.00342	4.819
	(5.360)	(4.020)
ln(GDP per capita two years before)	4.098	6.701**
	(3.729)	(2.982)
ln(total population)	-1.958	-5.609**
	(2.217)	(2.310)
Polity2	0.286	0.534
	(0.226)	(0.446)
Time with regulation	0.471**	1.013***
	(0.205)	(0.268)
Bribery incident	0.181	0.154
	(0.115)	(0.167)
Finance as a constraint	0.167**	0.0753
	(0.0839)	(0.105)
Domestic owner	-0.242	-0.0404
	(0.354)	(0.135)
Foreign owner	-0.0178	0.278
	(0.368)	(0.233)
State-owned	0.386	0.578
	(0.430)	(0.459)
Constant	19.43	7.834
	(49.51)	(35.67)
Year FE	Yes	Yes
N	97	37
R^2	0.367	0.715

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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