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The determinants of Swedish aid flows between 1976 and 2015.

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Abstract

Sweden is one of the world's most important aid donors relative to the size of its economy, with Official Development Assistance (ODA) flows reaching 1.40 percent of GNI in 2015. Understanding where these flows end up is important both to ensure proper evaluation of the effectiveness of Swedish aid policy, but also for transparency obligations to the taxpayers financing the flows. For that reason, this thesis uses a panel aid data set from the OECD to investigate which recipient country-specific factors that have determined Swedish ODA flows over the past 40 years. The results indicate that recipient country income and property rights potentially are correlated with Swedish ODA flows, the former negatively and the latter positively. In addition, US ODA flows emerges as a positive predictor of Swedish aid donations. Additionally, this thesis provides a sub-investigation into whether periods of political transition change the importance of Swedish ODA determinants, specifically focusing on democracy and US aid flows. The results indicate that this is not the case.

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Acronyms

CPIA	Country Policy and Institutional Assessment
DAC	Development Assistance Committee
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GLS	Generalized Least Squares
GMM	Generalized Methods of Moments
GNI	Gross National Income
GNP	Gross National Product
IDA	International Development Association
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
SIDA	Swedish International Development Authority
SIPRI	Stockholm International Peace Research Institute
UN	United Nations
USD	United States Dollar

1. Introduction

The use of foreign aid for development has today expanded into a massive global industry, both in terms of aid flow magnitudes and the number of donors. In 2015, total ODA[2] - defined as "flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in nature with a grant element of at least 25 percent" (OECD, 2003) - provided by donor countries amounted to approximately USD 120 billion (OECD, 2016), equivalent to a real increase of more than 250 percent since 1976**.** In the same year, according to statistics from the OECD, there were 40 countries giving ODA and eight of these (Sweden, Norway, Luxembourg, Denmark, Netherlands, UK, Qatar and United Arab Emirates) met the United Nation's ODA 0.7% of GNI target.

With these magnitudes, aid effectiveness has strengthened its role on the global agenda in the 21st century. A number of conferences have been held on the issue, including the *Paris Declaration of Aid Effectiveness* in 2005, the *Busan High Level Forum on Aid Effectiveness* in 2011 and most recently the 2016 *High-Level Meeting of the Development Cooperation Forum* in New York. One important determinant of ODA effectiveness is the conditions and rules applied by donors in choosing recipient countries and types of projects. For this reason, it is common for donor parliaments to provide transparent, official guidelines on where their ODA should be allocated, with the idea that if these are followed, the effectiveness of the aid sent is maximised. Recently, however, a number of scholars (including, amongst others; Schraeder et al., 1998; Alesina and Dollar, 2000; and Berthélemy et al., 2003) have revealed that a number of donor countries do not completely follow those guidelines, and that instead other, hidden agendas, influence ODA allocations. Perhaps the most significant revelation comes from Collier and Dollar (2000) who argue today's aid allocation is not efficient from a poverty-relieving perspective and that such a distribution would double the effectiveness of the world's aid flows.

Measuring as a percentage of national income, Sweden is today one of the world's largest ODA donors, reaching 1.40 percent in 2015 (OECD, 2018). In light of this and the arguments set out in the previous paragraph, this study provides a thorough investigation into which determinants that have influenced Swedish ODA flows over the past 40 years. For this purpose, a GLS fixed effects and GMM dynamic panel data model are applied on a dataset spanning 147 countries between 1976 and

[2] ODA is one of the most commonly used terms for foreign aid distribution. It was created by the OECD in 1969.

2015. The study distinguishes between official and unofficial determinants, with the former being decided through Swedish parliament decisions on aid allocation and the latter, measuring nonpublic motives behind Swedish aid flows, coming from theories of aid allocation. In total, nine potential ODA determinants are tested.

The results indicate that, in terms of official determinants, Swedish ODA seems to correlated with a recipient country's GDP per capita and property right levels, the former negatively and the latter positively. In contrast, a country's democracy level and level of equality policies do not emerge as important predictors. In terms of unofficial factors, US ODA flows emerge as a positive predictor of Swedish ODA flows. This could stem from two channels: Either that Sweden uses ODA to further its relationship with the US or that Swedish and US aid flow allocations are based on similar recipient country characteristics not controlled for in the regressions. Finally, a dynamic analysis suggests that neither the importance of democracy nor US ODA flows as potential ODA determinants change much during periods of political transitions.

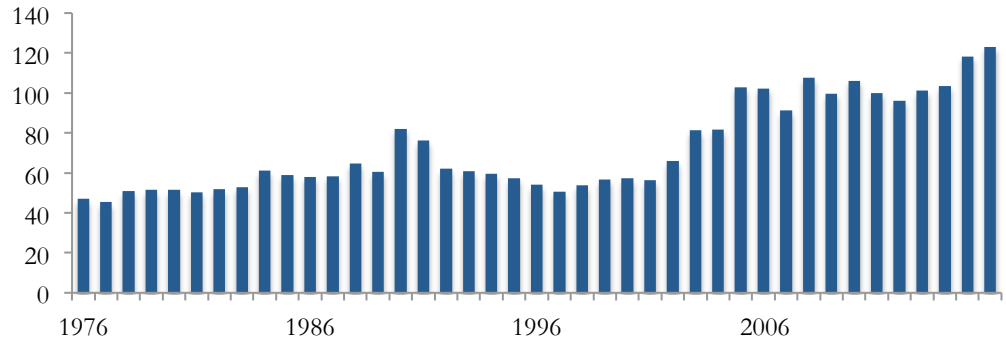
The rest of this study is structured as follows: In Section 2, I provide a background and motivation to the research question. I then outline an analytical framework guiding the analysis in Section 3, and a review of what previously has been written on aid allocation in Section 4. Following that, Section 5 presents the empirical framework and data used. Section 6 looks at the summary statistics and empirical results, and Section 7 provides a discussion on the general interpretation of the findings and potential avenues for further research. I conclude in Section 8.

2. Background

The use of foreign aid for development dates back to the late 1940s, when the United States implemented the Foreign Assistance Act, often referred to as the Marshall Plan (United States Department of State, 2017). The purpose was to support the economic rebuilding of Europe following the consequences of World War II. Sweden's involvement on the foreign aid arena started in the 1950s with aid projects in Pakistan and Ethiopia (SIDA, 2017; Bjerninger, 2013).

This study commences its investigation in the mid-1970s, and since then, global ODA flows have increased profoundly. This is shown in *Figure 1*, which provides an overview of real global ODA donations in 2015 billion USD. As can be seen, the magnitudes have increased by more than 170% over the period. 2015 flows reached approximately 120 billion USD.

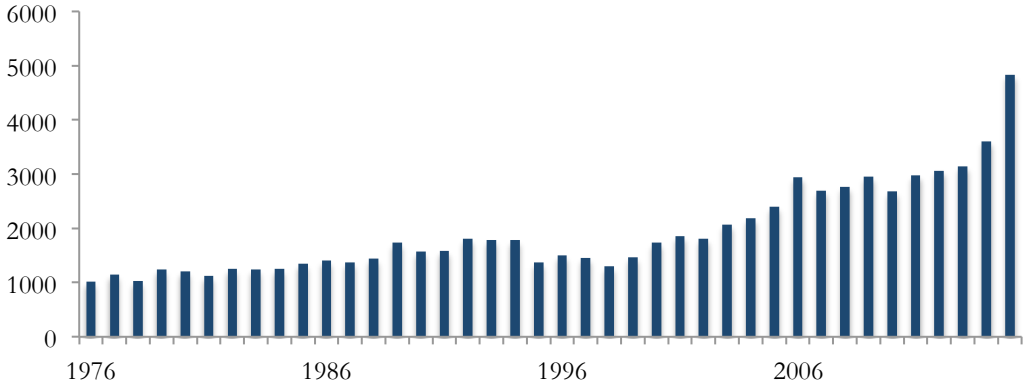
Figure 1: Global ODA Flows, 1976–2015, bn 2015 USD



Note: The graph shows global ODA flows in billion 2015 USD between 1976 and 2015. The data is collected from the OECD DAC database.

Sweden has over the past 40 years developed into one of the world's biggest foreign aid donors in terms of the amount donated as a share of GNI. In particular, since 1976, Swedish foreign aid donations has increased rapidly, evident in *Figure 2*, which presents yearly real Swedish ODA flows during the 1976–2015 period. Specifically, Swedish aid has seen a four-fold real increase between 1976 and 2015 (from 1000 to 4000 million constant 2015 USD).

Figure 2: Swedish ODA Flows, 1976–2015, m 2015 USD



Note: The graph shows Swedish ODA flows in million 2015 USD for each year between 1976 and 2015. The data is collected from the OECD DAC database.

In addi

tion to the large increases in magnitudes, Swedish ODA has additionally followed another trend: Swedish aid has gone from being concentrated in a relatively few number of countries to becoming more proliferated. This trend is present if one looks at the top recipients of Swedish ODA over time, presented in *Table 1*. Specifically, the table highlights average aid donations in thousand USD and as a percentage of total flows over five-year periods to the top five Swedish ODA recipients between 1976 and 2015[3]. From *Table 1*, it is clear that Swedish aid mainly has been concentrated in African and Asian countries, with for example Tanzania and Mozambique being on the top five lists for all periods. In particular, for the first three periods the top five recipients accounted for more than 50% of total Swedish aid flows. However, in recent years Swedish aid has proliferated slightly, with the share of aid flows going to the top recipients decreasing since the 1991–1995 period. Nevertheless, Swedish aid flows are still highly concentrated with the top five recipients making up more than 30% of total ODA in the 2011–2015 period.

Since aid provision goals often are specified as a percentage of countries' GDP, the first trend is in part an automatic increase due to that Sweden has become richer over time. However, the amount of aid given has still proportionally increased more than Swedish national income, showcasing a higher willingness to give foreign aid. The second trend, that Swedish aid traditionally has been highly concentrated, is to some extent not surprising as Africa and Asia contains some of the world's poorest nations. The observed proliferation onwards may reflect the upswing of newly independent Balkan countries in Europe in the 1990s and the fact that absolute poverty has decreased significantly in South East Asia (notably China) in recent years (see for example Chen et al., 2007 for evidence on this poverty reduction).

According to the Swedish International Development Agency (SIDA) (2017), the organisation in charge of Swedish ODA allocation since 1965, the overall aim for Swedish ODA donations is to "create opportunities for people living in poverty and under oppression to improve their living conditions." Given the amount of money involved in reaching this objective, the Swedish parliament has since early 1960s produced transparent guidelines as to the direction of aid flows (Odén et al., 2011; Swedish parliament motions on aid provision). The first such set of guidelines was the motion of 1962. It specified six goals for Swedish aid donations: To assist individuals suffering from humanitarian needs; to promote economic development in the long run; to raise poor population's

[3] Please refer to *Table 8* in Appendix 2 for an exhaustive list of country-specific ODA donations covering all recipients included in this study.

Table 1: Top Five Swedish ODA Recipients Over Time

1976–1980			1981–1985		
Tanzania	143 632	19%	Tanzania	141 764	17%
India	129 980	17%	India	107 242	13%
Mozambique	59 052	8%	Mozambique	79 258	10%
Bangladesh	56 032	7%	Korea	63 434	8%
Kenya	44 988	6%	Zambia	56 686	7%
1986–1990			**1991–1995**		
Tanzania	149 610	15%	Mozambique	99 806	9%
India	127 038	13%	Tanzania	98 018	9%
Mozambique	124 660	13%	India	80 274	7%
Ethiopia	58 294	6%	Zambia	61 604	6%
Zambia	52 174	5%	Nicaragua	51 444	5%
1996–2000			**2001–2005**		
Tanzania	70 154	8%	Tanzania	84 688	8%
Mozambique	59 784	7%	Mozambique	70 408	6%
Kenya	44 324	5%	DRC	53 686	5%
Nicaragua	38 598	4%	Afghanistan	45 110	4%
Ethiopia	35 454	4%	Ethiopia	44 354	4%
2006–2010			**2011–2015**		
Tanzania	101 496	7%	Afghanistan	100 416	7%
Mozambique	93 870	7%	Mozambique	96 846	7%
Iraq	74 686	5%	Tanzania	89 808	7%
Afghanistan	65 394	5%	DRC	86 032	6%
Sudan	55 298	4%	Kenya	62 944	5%

Note: The table shows average Swedish ODA flows in thousand 2015 USD to the recipient country for each five-year period during 1976–2015, and the recipient country's share in the average total ODA sent from Sweden in the respective sub-period. DRC stands for the Democratic Republic of the Congo. Information is based on data collected from the OECD DAC database.

living standards; to promote international solidarity and peace, to promote societal developments towards more equal societies; and to promote democratic developments.

One can deduce two reasons for having transparent objectives as to Sweden's aid allocation: Primarily, it allows for a debate on whether the aid determinants are most efficient for reaching the overall aim of Swedish development cooperation. Provided that SIDA purely follows the objectives stated in the government motions, researchers and other evaluators of Swedish aid effectiveness can

feel confident about the frameworks for their analyses. The second aspect is the obligation to be transparent to the Swedish taxpayer, who ultimately pays for ODA flows through his or her contribution to the government budget, in being clear what the money contributed actually is spent on.

Since the 1962 motion, the Swedish parliament has produced five more guidelines for the country's aid strategy published in 1968, 1977, 1987, 1995 and 2002 (Odén et al., 2011; Swedish parliament motions on aid provision). These have mainly reinforced or reworded existing objectives, meaning that Sweden's aid strategy has not changed much since 1962. There are, however, two important additions. In late 1970s, the 1962 equality objective was expanded to encompass fight against gender inequalities. The other addition was in 1987 when environmental concerns were put on the agenda.

Recently, however, there have been speculations in Swedish media whether SIDA allocates ODA based on some other, unofficial recipient country determinants to achieve purposes that are hidden from the public. In April 2016, one of Sweden's most prominent newspapers, Dagens Nyheter, reported that the Swedish government had used promises of aid allocation to obtain votes for a Swedish place on the UN Security Council[4]. In other words, foreign policy interests that are not part of the official aid allocation motions had allegedly played an important role in Sweden's aid allocation. The same newspaper additionally reported a more recent revelation in February 2018 that more than 16 million SEK was in 2016 allocated for salary payments over a two-year period to give SIDA's former General Secretary, Charlotte Petri Gornitzka, the Chairman position of the OECD DAC committee, the function in charge of OECD ODA statistics and flows[5].

With these revelations, it is worth asking what specific factors that have determined Sweden's ODA allocation over the last decades. This study provides an investigation into this issue. I next outline the analytical framework guiding this evaluation.

3. Analytical Framework

To carry out an empirical investigation into the factors determining Swedish ODA flows, it is important to first clearly define the framework for the analysis. For this purpose, this section uses theories of aid allocation determinants to outline the theoretical foundations behind the study.

[4] Available: https://www.dn.se/nyheter/sverige/bistandspengar-gick-till-rostjakt-pa-svensk-plats-i-fns-sakerhetsrad/

[5] Available: https://www.dn.se/nyheter/politik/regeringen-betalade-12-miljoner-for-toppjobb/

To begin, it is important to understand which part of the aid allocation decision process that this study focuses on. In general, such a decision for a donor country can be seen as a two-step process, illustrated in *Figure 3*. First, a decision is made in step (1), based on the countries available in the world, on the subset of countries that will receive aid. This is today in part a standardised process with many international organisations producing recipient country eligibility lists, mainly based on income status. One such example is the OECD DAC (2018), which has produced such lists since 1996, classifying ODA eligible recipients as countries with at most upper middle-income status. Thus, this part of the decision process is not completely up to the donor itself. Step (2) then involves deciding on the magnitudes of aid flows to the recipient countries selected.

Figure 3: Aid Allocation Process

Note: The figure shows a donor country's aid allocation decision process.

This study focuses on step (2) of the aid allocation decision process. The reason for this is three-fold: (i) because it is common practice amongst papers on aid allocation (see for example Alesina and Dollar, 2000, and Schraeder et al. 1998) and hence is advantageous from a comparability perspective, (ii) because step (1) of the aid allocation decision is not completely up to the donor itself and hence not as interesting, and (iii) because of data limitations.

The next part of this theoretical framework then involves defining the specific ODA determinants tested. This is done based on theories of aid allocation and official Swedish foreign aid guidelines. Specifically, Section 3.1 outlines a theoretical framework for the behaviour of a country's aid allocation decision maker. Section 3.2 then applies the framework to the Swedish case.

3.1 ODA Determinants Framework

To obtain a framework for the potential ODA determinants that influence the second part of the aid allocation process, a model of aid allocation behaviour is used. One of the first such models was developed by Dudley (1976) and specifies a two-variable utility function for the decision makers in the aid donor country. Specifically, the utility from making an aid allocation decision can be written in the following way:

$$U = f(X, H) \qquad \textbf{(1)}$$

where H = the aid donor country's utility obtained from the impact foreign aid has in the aid recipient countries (what Dudley refers to as the "impact function") and X the utility obtained if the aid donations are not made and the money spent in the home country instead. In the original model, Dudley allows H to be based on aid's effect on recipient country population, aid per capita distributed and per capita income. Specifically, he argues that the derivative of H should be positive with respect to all these three variables.

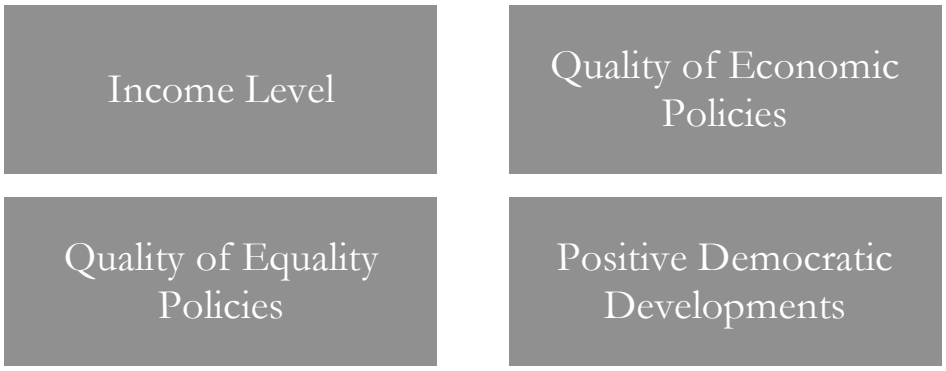
This study will adopt the thinking of Dudley's model, however, the variables included in H will be different. Specifically, this study classifies potential ODA determinants into two different categories: official and unofficial ones. The distinction between these factors is as follows: official aid determinants are those specified by government motions, in other words the factors that the aid donor country government publicly say will govern aid allocation. Unofficial factors, on the other hand, capture the nonpublic motives behind foreign aid, in some instances also referred to as donor government hidden agendas. Putting this in the framework of Dudley's model, it means H is remodeled as a function of two sets of aid determinants, official and unofficial ones. Algebraically:

$$H = (\mathrm{M}, \mathrm{N}) \qquad \textbf{(2)}$$

where M represents the set of official aid allocation determinants and N the set of unofficial ones. The next stage for the theoretical framework is to classify the variables that are included in the two aid determinant categories. For official policies, the Swedish parliamentary motions on foreign aid presented in the previous section provide a good base. Specifically, from the motions discussed in Section 2, one can deduce four factors, also outlined in *Figure 4,* that have remained constant between

1976 and 2015: Recipient country income, the quality of economic policies employed by the recipient country government, the quality of policies focusing on economic equality, and the level of democracy in the recipient country.

Figure 4: Official ODA Determinants



Note: The figure shows potential official ODA allocation determinants. These are extracted from Swedish parliament motions on aid allocation.

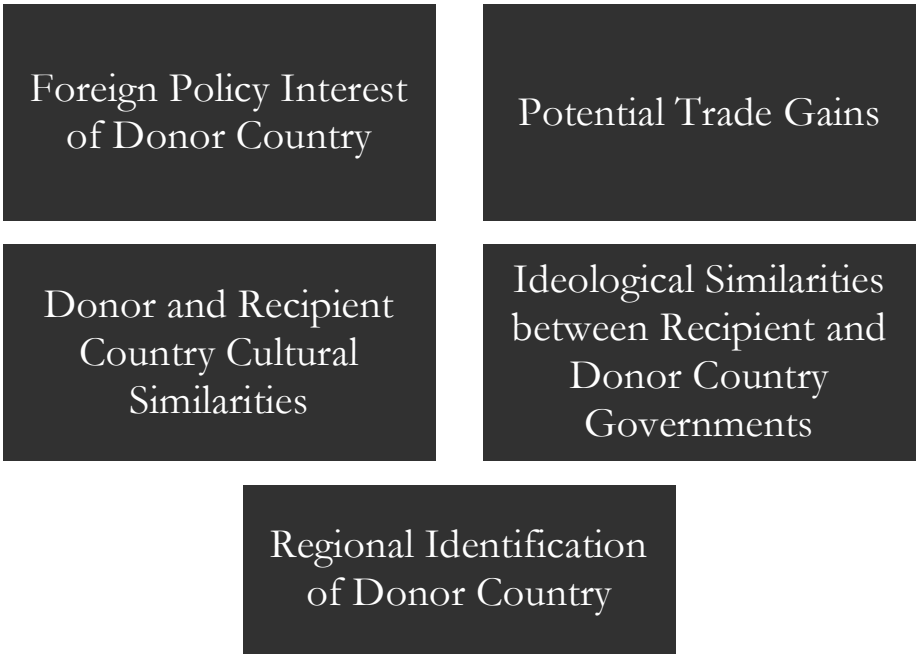
With this in mind, the set of official aid allocation variables can be defined as follows:

$$\mathrm{M} = \{y, p, e, d\} \qquad \textbf{(3)}$$

where y is the income level of the recipient country, p the quality of economic policies employed, e the quality of the country's economic equality policies, and d the level of democracy.

In contrast, it is naturally not possible to extract variables capturing unofficial determinants – or hidden agendas – of aid donor decisions from official parliamentary motions. Instead, one has to go back to the theory of aid allocation. For this purpose, I bring in the framework of Schraeder et al. (1998), who in their paper discuss possible hidden agendas of aid donor governments and the respective factors that determine aid allocation. In addition to official determinants, they argue that there tends to be five such factors influencing a country's aid allocation, also illustrated in *Figure 5*: Foreign policy interests of the aid donor, the aid flow's potential contribution to the donor country's trade balance, cultural similarity between donor and recipient country, ideological similarities between recipient and donor country governments, and regional identification of the donor country.

Figure 5: Unofficial ODA Determinants



Note: The figure shows potential unofficial ODA determinants. These are extracted from the theory of Schraeder et al. (1998).

The first factor, foreign policy interests of aid donor, is explained by Schraeder et al. as "foreign aid (…) used as a tool to enhance the national security of aid donors", and hence revolves around the safety and security of the donor nation. The idea is that a donor country will give more aid if it thinks it will enhance its national security and other foreign policy interests, for example relationships with geopolitical superpowers such as the US. The next factor captures the fact that foreign aid sometimes is argued to contribute towards the donor country's economy. Here, the argument revolves around international trade – that donor governments give more money if they believe it will increase trade with the recipient economies. Cultural similarity refers to the level at which the donor country culturally feel at home in the recipient country. This factor primarily stems from that former colonial powers tend to give more aid to its former colonies. The second to last determinant, ideological similarities, reflects that donor governments, due to recognition and political bias, will give more aid to countries where the government has a similar ideology to that of the political party in power in the donor country. Finally, the regional identification reflects the idea that aid donors give more money

to countries geographically close due to regional identification. Given these factors, the set of unofficial aid allocation variables can be defined as follows:

$$\mathrm{N} = \{f, q, c, i, g\} \qquad \textbf{(4)}$$

where f represents the foreign policy strategic importance of the recipient nation for the aid donor, both in terms of national security concerns and relationship with superpowers, q the potential improvement in the donor's trade with the recipient country as a result of the aid donation, c the level of cultural similarity between the donor and recipient country, i the ideological similarities between the recipient and donor country government, and g the geographical distance from the aid donor to the recipient country. Bringing expressions (1) to (4) together, and replacing M and N with their respective determinants, one now obtains the following utility function guiding the aid donor decision makers' aid allocation decision:

$$U = f(X, H(y, p, e, d, f, q, c, i, g)) \quad \textbf{(5)}$$

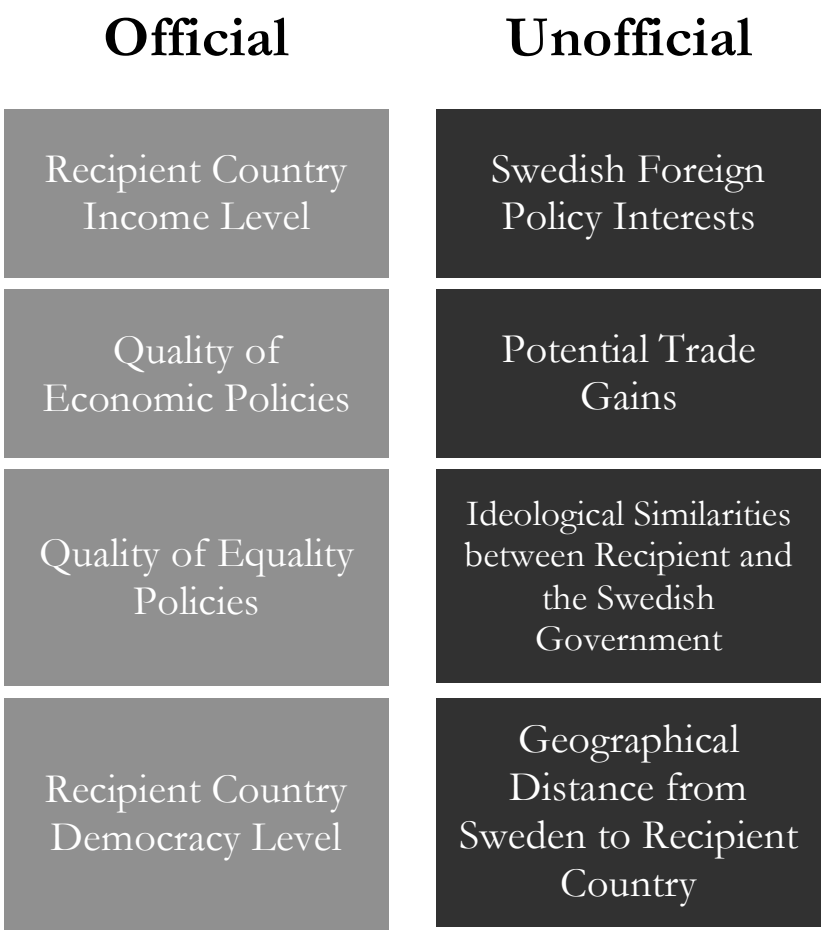
Within this framework, evaluating which determinants that influence a donor country's aid allocation can be done through estimating the derivatives of H with respect to the different factors. Assuming a positive relationship between U and H, one can then conclude that a factor affects the amount of aid provided to a recipient country positively if the derivative estimate is positive and vice versa for a negative estimate. I next outline specifically how this framework will be applied to the Swedish case.

3.2 This Study – Structure & Hypotheses

As outlined previously, the aim of this study is provide an investigation into the factors that have affected Swedish ODA flows between 1976 and 2015. The potential ODA determinants that will be tested include all variables from last Section 3.1 except for unofficial factor number three, cultural similarity, as Sweden had almost no colonies - its limited time as a colonial power included one brief settlement in Africa in the 1600s and four places in the Americas in the 1600 and 1700s scattered out over time (for an overview of this see Lindqvist, 2015) - and hence is not particularly relevant. Overall, then, the potential Swedish ODA determinants that will be tested for in this study, outlined in *Figure 6*, are as follows: Recipient country income, the quality of recipient country economic policies, the quality of equality policies adopted by the recipient country government, recipient

country democracy level, foreign policy and national security considerations of the Swedish government, potential trade gains from giving aid to a recipient country, ideological similarities between recipient and donor country government and the geographical distance to the recipient country.

Figure 6: ODA Determinants Tested



Note: The figure shows the Swedish ODA determinants tested for in this paper. The light, official factors are derived from Swedish official parliamentary motions and the dark, unofficial ones from theories of aid allocation.

With the factors defined, analysing their importance in determining Swedish ODA allocation then becomes a question of estimating the predictive power each factor has on Swedish ODA flows. Indeed, based on the ODA determinant identification in Section 3.1, the null hypotheses to be tested for each factor are as follows (where the hypothesis related to the foreign policy interest determinant,

H5, is divided into two hypotheses, one for national security interests and the other for relationships with geopolitical superpowers):

H1: *Sweden allocates more ODA to countries with lower income.*
H2: *Sweden allocates more ODA to countries with higher quality economic policies.*
H3: *Sweden allocates more ODA to countries with better economic equality policies.*
H4: *Sweden allocates more ODA to countries with higher levels of democracy.*
H5 (a): *Sweden allocates more ODA to countries if it will enhance its national security interests.*
H5 (b): *Sweden allocates ODA to enhance its relationship with global superpowers.*
H6: *Sweden allocates more ODA to a country if it will enhance its trade balance position.*
H7: *Sweden allocates more ODA to a country if its government has a similar ideological position to the Swedish government.*
H8: *Sweden allocates more ODA to a country if it is geographically closer.*

This analysis will be carried out in this paper. Additionally, theories of aid allocation motivate adding an additional layer to the analysis, which, inspired by Frot, Berlin and Olofsgård (2014), and Boschini and Olofsgård (2007), involves taking a dynamic approach to Swedish ODA determinants, specifically looking at how their respective importance change over time. Frot, Berlin and Olofsgård (2014), and Boschini and Olofsgård (2007), discuss the impact periods of rapidly changing political transitions have on ODA determinants. Specifically, they argue that the so-called Eastern Transition following the fall of the Berlin wall drastically altered the geopolitical landscape, and hence impacted ODA determinants.

Political transitions are periods where a large chunk of countries become democratised, and where the existing global political order quickly changes (see for example Acemoglu and Robinson, 2001). One can identify two such incidents during the 1976–2015 time-period considered: The Eastern Transition in the 1990s and the Arab Spring from 2011 onwards. Theory of political transitions generates a basis for testing two dynamically based versions of the hypotheses outlined before. The first relates to the role of Swedish foreign policy interest in determining its aid allocation. Sweden, having traditionally been a neutral country on the world stage, frequently has to take into account its relationship with all potential geopolitical superpowers in the world when making foreign policy decisions, and this likely influences the country's aid allocation decisions (for example argued by Bjerninger, 2013). Following the fall of the Soviet Union, Sweden adjusted its position to the new global political order and enhanced its cooperation with the United States (Dalsjö, 2017), and it is

plausible this spilled over into Sweden's aid allocation decisions. Hence, a dynamically adjusted hypothesis would be:

H9: *Sweden's foreign policy relation with the US became a more important determinant of Swedish ODA flows following the start of the Eastern Transition.*

The second dynamically adjusted hypothesis relates to the importance of democratic developments amongst recipient countries. Given the focus Swedish aid policy has on promoting democratic developments, one could imagine that its importance as an ODA determinant increases in periods where a lot of countries become democratised. With this in mind, the following hypothesis arises:

H10: *Democracy becomes a more important predictor of Swedish ODA flows during periods of political transitions.*

Thus, this paper's analysis will be carried out in two steps: First, I estimate the respective effect each potential determinant has on Swedish ODA flows over the period 1976–2015, giving me an indication as to the correctness of H1–H8. Following that, I carry out an analysis aimed to investigate H9 and H10. Before outlining the empirical framework for this analysis, however, I present in Section 4 a literature review on what has previously been written on the topic of aid allocation.

4. Literature Review

This literature review is split into two parts: First, I review what empirically previously has been written on countries' aid allocation, followed by an overview of the literature discussing aid's role in a country's economic development.

4.1 Aid Allocation Literature

This study has primarily been inspired by two papers: Alesina and Dollar (2000) for their extensive empirical investigation on global aid allocation over a large number of years and Schraeder et al. (1998) for their theoretical framework of aid allocation. In the paper *Who Gives Foreign Aid to Whom and Why?,* Alesina et al. exploit OECD data on foreign aid flows between 1970 and 1994 to investigate the relationship between flows from donor *i* to country *j* in a specific period to variables such as trade openness, a country's democratic situation, an indicator variable for whether the recipient country was a former colony and income per capita. They report two sets of results: One in

terms of aggregate aid donations, where they have merged all donor flows, and another where they have categorised flows based on country. Results for the first set indicate, amongst other things, that poorer countries receive higher aid flows but that other aspects such as whether a country is an ally within the UN general assembly also play a role. Unbundling these by country, the authors find that foreign-political interests are important determinants for aid allocation for most donor countries.

Schraeder et al. (1998) use data between 1980 and 1990 to investigate the determinants of foreign aid to African countries for the US, Japan, Sweden and France. As mentioned in Section 2 of this paper, they hypothesise, in addition to humanitarian need of recipient need, that there are five primary hidden determinants of aid: Strategic importance for the donor country, potential contribution to the donor country's economy, cultural similarity between donor and recipient country, ideological stance of recipient government and regional identification. The common result for all countries is that humanitarian need is an unimportant aid determinant. In contrast, more unofficial and hidden agenda factors such as strategic importance of donor recipient and trade flows are much better at predicting aid flows.

Schraeder et al. and Alesina and Dollar are not the only studies that have investigated the determinants of aid allocation from a large number of countries. Other studies include Davenport (1970), Henderson (1971), Wittkopf (1972), Mosley (1981), Maizels (1984), Younas (2007), Claessens et al. (2009), Boschini et al. (2007) and Frot et al. (2014). Most studies to some extent confirm that factors other than humanitarian assistance play a role in determining aid allocation.

Indeed, both Alesina and Dollar (2000) and Schraeder et al. (1998) provide sub-analyses of Swedish and Scandinavian aid flows. Whereas the former paper argues that Scandiavian countries are the ones adopting most humanitarian-based aid allocation policies in the world, the latter obtains a different result. Specifically, Schraeder et al. find that between 1980 and 1990 among African recipient countries, humanitarian need as measured by life expectancy and daily calorie intake does not appear as an important predictor of Swedish aid flows. In contrast, two other, unofficial, factors appear as statistically significant influencers: ideological belief of recipient country government and trade flows. The former stems from that Sweden tended to give more aid to countries with "progressive, socialist-oriented regimes", explained by the large role the Social Democratic party played in Swedish policy during the 21st century. The latter is explained by the negative effects the 1970 and 1980 petroleum price hikes had on the Swedish economy, which according to Schraeder caused domestic economic interests to become a more important factor in Swedish aid policy.

Another paper providing a sub-analysis of Swedish aid flows[6] as part of a larger review is that by Berthélemy et al. (2003). Specifically, the authors apply a Tobit model on global aid flow data in the 1980s and 1990s, including a total of 22 donor countries and 137 recipients. They relate aid commitments rather than aid disbursements to variables such as income per capita, the level of population, trade flows, infant mortality and primary school enrolment rate. The full sample results indicate that GDP per capita tends to be negatively related to aid, suggesting humanitarian need on average is an important predictor of aid flows, whereas aspects such as trade are positive predictors. In particular, this also seems to be the case for Swedish aid during this period: Most variables are statistically insignificant except for primary school enrolment ratio and infant mortality, the former two positively predicting aid flows and the latter negatively. In contrast to the findings by Schraeder et al. (1998) this would suggest that that Sweden puts an emphasis on humanitarian need (high infant mortality rate and low primary school enrolment ratio) of a recipient nation in aid allocation decisions.

There are also a number of aid allocation studies focusing on countries other than Sweden, including McKinlay et al. (1978; 1979) for France, the US and UK, Furuoka (2017) on Chinese and Japanese aid to Africa, and Dreher et al. (2015) on Chinese aid objectives. The results for the first group indicate that the UK, France and US tend to allocate aid based on foreign policy interests, including "protecting their sphere of political influence" in former colonies, helping the development of anti-communist regimes, and enhancing their own national security. Altruistic motives behind aid allocation do not emerge as important predictors. For the Asian nations, in contrast, the population and market sizes are important predictors of aid flows. Also here altruistic motives play a small role.

In summary, studies suggest aid flows are not only based on humanitarian needs. Rather, other political and economic factors play important roles. In particular, the studies that have provided assessments of Swedish aid flows (Alesina and Dollar, 2000; Schraeder et al., 1998; and Berthélemy et al., 2003) in part confirm this to be the case also for Sweden, providing an important justification for a further, more extensive, analysis of Swedish aid allocation. Before this is carried out, however, I will provide a review of the literature discussing aid's role in a country's development.

[6] I am also aware of a number of bachelor and master studies that either quantitavely or qualitatively have investigated the topic, of Swedish aid allocation, including Andersson M, (2009); Shakvan A,(2017); and Bengtsson and Olsson, (2014).

4.2 Aid in Development

Traditionally, aid as a means to development has been justified by theories arguing poverty is a result of capital shortages (for example Harrod, 1939; Domar, 1946; Solow, 1956; and Swan, 1956). In particular, many authors argue that developing countries are stuck in a poverty trap (for example Sachs, 2005; Azariadis et al., 1990; Carter et al., 2001; and Antman et al., 2006) implying that they are unable to themselves provide the necessary capital push to reach higher long-term growth equilibrium. The corresponding role of aid is then to act as an external capital injection.

Nevertheless, some theories argue that aid may actually harm, rather than help, a country's development. One such point is that aid is likely to go to national consumption rather than investment, made by for example Easterly in *The Elusive Quest for Growth* (2002). Easterly also empirically argues in his 2006 book that the poverty trap basis for aid is false, stating that aid flows have not helped countries escape such pitfalls. Other authors argue that aid as a large influx of money can lead to 'Dutch Disease' problems (for example Subramanian et al., 2011; Gibson et al., 2013), and hence distort the development of a nation's tradable sector. Additionally, aid is sometimes said to lead to increased corruption (Morrison, 2007) through increasing the rents going to the government leaders.

However, Collier and Dollar (2000) make the aid-ineffectiveness argument that is the most interesting for this study. They construct a model that put forward the "poverty efficient allocation of aid" and compare this with the actual allocation. This provides them with the following result: A "poverty-efficient" allocation would double the effectiveness of aid. Such an allocation, they argue, is one based on a recipient country's poverty level and government policies. This clearly demonstrates the importance of aid allocation and hence provides a strong motivation for the assessment of this study.

Thus, theory on aid's role in development is divided into two parts: One arguing for aid to be an effective tool for enhancing growth; one stating that aid is ineffective at lifting countries out of poverty. In particular, the empirical evidence on aid effectiveness is equally divided between papers documenting a positive relationship between aid and growth and those finding no relationship. Perhaps the most famous argument on the first side comes from Burnside and Dollar (2000) who combine the aid regressor with a self-constructed economic policy index based on a recipient country's openness, budget surplus and rate of inflation. Their results show a positive relationship between aid and growth conditional on a country having "good economic policies".

Examples of studies finding no relationship between aid and development include Subramanian et al. (2005) and Boone (1996), both exploiting the link between aid donations and donor country interests in their respective empirical frameworks. Specifically, Subramanian et al. produces an instrument using the fact that aid donors tend to give more aid when it enhances their foreign policy interests. The results show no relationship between aid and a recipient nation's income growth. Boone also uses political factors influencing aid as an instrument but complements his design with two other variables. Specifically, he instruments aid using the amount of aid lagged two periods and the logarithm of the recipient nation's population. He finds no relationship between aid and variables such as primary schooling ratios and infant mortality.

Thus, it is clear that both the theory and empirical analyses on aid's role in development is divided. Nevertheless, a finding that remains consistent across studies is the importance of allocating aid correctly both to countries with sound economic policies and on humanitarian grounds. Thus, the aid effectiveness literature solidifies the motivation behind this paper and demonstrates the relevance of the question. With the literature review presented, I next move over to the empirical framework of this study. This is presented in Section 5.

5. Empirical Framework & Data

This paper's empirical assessment is based on a panel dataset with data on Swedish aid recipient countries and years. The data stretch between 1976 and 2015 and include a total of 147 recipient nations. The empirical analysis is divided into two parts: First, I estimate the effects of potential ODA determinants on Swedish ODA flows to investigate Hypotheses 1 to 8. I then adjust the baseline model with dummy variables to test Hypotheses 9 and 10. For the first analysis, the baseline model for the empirical analysis is a GLS fixed effects regression. Specifically, it takes the following form:

$$ODA_{jt} = \alpha_{jt} + \boldsymbol{\beta_1}\mathbf{M} + \boldsymbol{\beta_2}\mathbf{N} + \boldsymbol{\gamma A} + \delta b_t + \vartheta c_j + t + \epsilon_{jt} \qquad \textbf{(7)}$$

where the variables are as follows:

- ODA_{jt} a variable capturing the amount of ODA given by Sweden to recipient country *j* in year *t;*
- **M** a vector of measures of the official aid allocation guidelines;

- $\mathbf{N}$ a vector of measures capturing potential unofficial, or hidden agenda, aid allocation determinants;
- $\boldsymbol{A}$ a vector of demographic control variables;
- b_t a year dummy controlling for year fixed effects;
- c_j a country dummy controlling for country fixed effects;
- t a variable controlling for a potential linear time trend in the variables; and
- ϵ_{jt} and α_{jt} the error term and constant respectively.

It is worth clarifying the difference between b_t, the year fixed effects, and t, the time trend, and the reason for including both of them. The year fixed effects account for year-specific factors that are constant across countries that can influence Swedish ODA flows, for example whether the global economy is in a boom or recession. The time trend, on the other hand, provides a time index and hence controls for potential long-run trends in both the explanatory and the ODA variables. In other words, it takes the value 1 for 1976, 2 for 1977, 3 for 1978 and so on for each panel. One example of potential trend would be technological progress affecting recipient countries' GDP differently depending on geographical regions.

As the model is based on time series data, there is an overhauling risk of serial correlation in the errors biasing the standard errors. Hence, these are clustered at the country level. Additionally, to allow for inclusion of the geographical distance measure in $\mathbf{N}$, I run two versions of the model: One using OLS without fixed effects and the other one with GLS and fixed effects.

The inclusion of vector $\boldsymbol{A}$ aims to reduce potential omitted variable and simultaneity bias through the inclusion of demographic control variables. I discuss the issue of bias contamination further in Section 5.2 below. The controls include recipient country birth rate, mortality among under five-year olds per 1000 individuals, net investment foreign direct investment (FDI) inflows as a share of GDP into the country, the population level, and the percentage of total land that is arable. Additionally, I complement the full sample analysis with a dynamic panel data regression, as this allows me to control for the first and second lag of the dependent variable. I discuss the reasoning behind this in Section 5.2 below. Specifically, the dynamic panel data regression takes the following form:

$$\Delta ODA_{jt} = \Delta ODA_{jt-1} + \Delta ODA_{jt-2} + \boldsymbol{\beta_1}\Delta\mathbf{M} + \boldsymbol{\beta_2}\Delta\mathbf{N} + \boldsymbol{\gamma}\Delta\boldsymbol{A} + \Delta t + \Delta\epsilon_{jt} \qquad \textbf{(8)}$$

where the variables are as in (7) and $\Delta ODA_{j,t-1}$ and ΔODA_{jt-2} are the first and second lags respectively of the first difference of the dependent variable. The inclusion of $\Delta ODA_{j,t-1}$ and ΔODA_{jt-2} violates the exogeneity condition of linear regression estimates, and for this reason (8) is estimated using a GMM approach and the Arellano and Bond (1991) estimator. This involves instrumenting each first differenced lagged dependent variable with deeper lags. I additionally instrument the first-differenced measures of ODA determinants with their respective lags.

One of the issues with the full sample analysis is the lack of data points for some variables, notably the measures for the quality of economic policies and quality of economic equality policies in vector **M** and the measure for ideological similarities in **N.** For this reason, I run two versions of (7) and (8), one including all the measures except for the three listed above, and a second with all variables included.

The second part of the analysis, aimed to test H9 and H10, involves adjusting the baseline model as follows:

$$ODA_{jt} = \alpha_{jt} + \boldsymbol{\beta_1}\mathbf{M} + \alpha_1 Dem\ Measure * DEastTran + \alpha_2 Dem\ Measure * DArabSpring + \zeta_1 US\ ODA\ Measure * DEastTran + \zeta_2 US\ ODA\ Measure * DAfterEastTran + \boldsymbol{\beta_2}\mathbf{N} + \boldsymbol{\gamma A} + \delta b_t + \vartheta c_j + t + \epsilon_{jt} \quad \textbf{(9)}$$

where the variables from (7) are as before and the added variables as follows:

- $Dem\ Measure * DEastTran$ an interaction variable of the measure used for recipient country democracy level (see Section 5.1 for more information on this) also included in official determinant vector **M**, and a dummy variable taking the value 1 for years during the Eastern Transition period. This is defined, using the same methodology as Frot et al. (2014), as being the period 1991–1995.
- $Dem\ Measure * DArabSpring$ an interaction variable of the measure used for recipient country democracy level and a dummy variable taking the value 1 for years during the Arab Spring period. This is defined as being the period 2011–2015.
- $US\ ODA\ Measure * DEastTran$ an interaction variable of the measure for US ODA flows (see Section 5.1 for more information on this) also included in unofficial determinant vector **N**, and the dummy variable for the Eastern Transition period.

- $US\ ODA\ Measure * DAfterEastTran$ an interaction variable of the measure for US ODA flows and a dummy variable taking the value 1 for years after the end of the Eastern Transition (1996 onwards).

It is worth explaining the reasoning behind the design of the dummy variables. The aim is to investigate whether the ability of US ODA flows and the democracy measures in explaining Swedish ODA flows changes across all countries during periods of political transitions. In particular, for democracy, the aim is not to investigate whether countries going through democratisation episodes obtain more Swedish aid. For this reason, the dummies are constructed to take the value one for the respective time periods for all countries in the sample, not just the ones going through political transitions. Similarly to the first part of the analysis, I run three versions of this model: One using OLS, one with GLS fixed effects, and one dynamic panel with the GMM Arellano and Bond (1991) estimator.

5.1 Data

I next discuss the data and measures used for the different variables. For the dependent variable, $ODA_{j,t}$, the measure used is net ODA given by Sweden to country *j* in year *t* in 2010 USD, covering both money given bilaterally and through multilateral institutions. The net figure stems from that ODA in part captures loans with at least 25% grant elements, and hence the data takes into account repayments on such loans. To facilitate result interpretation, I log the variable in the analysis. The aid data come from the DAC database that provides information on aid flow end locations for all OECD countries, including Sweden. I include all countries covered in this dataset except for countries where it is unclear which region that is covered or how a country's reunification is dealt with. The recipients excluded for this reason include West Bank and Gaza region, Yemen, Palestinian Administered Areas, Samoa and Yugoslavia.

It is worth noting that this study will look at *actual* aid flows rather than *commitments*. Indeed, it is possible to argue that the latter may be more relevant for an investigation into the determinants of Swedish aid flows as it measures the official decisions taken by government officials for how much aid a country should obtain. This study will nevertheless use aid disbursement as the variable of interest since this is the measure that has been used by the large majority of other studies focusing on countries' aid allocation determinants, and hence enhances the comparability of the results produced by this study to those of other papers on the topic.

Next, I outline the data and measures used to measure the ODA determinants. For these, all variables in currency form are in 2010 USD. Logs are taken if it improves the interpretation of the results. To account for delay in Sweden's aid decision making, I include the first lag of all the variables in the regressions. The exception of this is geographical distance, as the lag would drop out due to multicollinearity. The variables included in **M**, the vector testing the hypotheses related to the official aid allocation guidelines, are as follows:

Income level: To test whether a country's income level is an important determinant of Swedish ODA flows, and thereby test H1 from Section 3.2, I use recipient country logged income per capita. The data are collected from the World Bank database. Data exist for the entire 1976–2015 period.

Quality of Economic Policies: Finding a measure for the quality of economic policies with the aim of testing H2 is not completely uncontroversial, as it first requires defining what "good" economic policies entail. Nevertheless, using the argument by for example Acemoglu and Robinson (2013), one can argue that the level of property rights employed by a government is an important determinant of economic growth. With this in mind, I employ one of the World Bank's Country Policy and Institutional Assessment (CPIA) variables, specifically the "CPIA property rights and rule-based governance rating". This is a score between between 1 and 6, with the latter being the highest, or "best", level of property rights employed. Information availability, however, is a problem, with data existing only between 2005 and 2015.

Quality of Equality Policies: To test the quality of economic equality policies, I use another CPIA measure, specifically "CPIA equity of public resource use", measuring the "extent to which the pattern of public expenditures and revenue collection affects the poor and is consistent with national poverty reduction priorities." Similarly to the CPIA score for property rights, the measure is a scale from 1 to 6, with the latter being the highest. Information availability is also here a problem, with data only existing from 2005 onwards.

Democracy: To test H4, whether more ODA is allocated to countries that have higher levels of democracy, I employ the polity score, a standard measure for a country's democracy level in academic literature. The score is calculated on a scale of -10 to + 10 with +6 – +10 indicating that a country is democratic, -5 – +5 anocratic (or intermediately democratic) and -10 – -5 autocratic. Data exist for the entire period. In addition, I construct a variable built on the methodology of Alesina and Dollar

(2000). In their aid allocation paper, the authors manually pick out democratisation episodes -defined as an increase in the Polity score by more than 1 standard deviation - in recipient countries and record the difference in ODA flows between the end and the start of each episode to see if aid donors "reward" democratisation events. Building on this, I construct an indicator variable measuring whether there is such a democratisation episode in recipient country *j* in year *t*.

Moving on, I next outline the data and measures used for $\mathbf{N}$, the vector looking at whether any of the unofficial factors can explain Swedish ODA allocation. These are as follows:

Foreign Policy Interests: The foreign policy ODA determinant is divided into two potential factors: the Swedish national security gain from giving aid to a recipient country, and the relationship with geopolitical superpowers. To test the former and H5 (a), Schraeder et al. (1998) use a measure of the recipient country's military force. I follow their methodology and employ the amount of military spending as a share of the recipient country's GDP. The source of the data is the Stockholm International Peace Research Institute (SIPRI) database and data exist for the entire 1976–2015 period. For H5 (b), the relationship with geopolitical superpowers, I include logged US ODA flows in constant 2010 USD as a variable in the regression. This is collected from the OECD DAC database and data also here exist for the entire 1976–2015 period.

Impact on Swedish Trade Flows: To test H6, I use a measure capturing the relative importance of each recipient country in Swedish international trade. Specifically, I include the logged value of Swedish imports from recipient country *j* in year *t*. The data are collected from the IMF Direction of Trade Statistics and exist for the entire period.

Ideological Similarities: To test H7, whether similar ideologies between the political party in power in Sweden and the political party in power in the recipient country explain Swedish ODA flows, I use data from the Database of Political Institutions. The database provides a measure of the ideological stance of countries in specific years. The measure can take three values: left, center or right. Using this data, I construct an indicator variable equal to one if the value for Sweden and a specific recipient country is the same in a given year. Data exist for the entire 1976–2015 period, however, with many missing observations.

Geographical Distance: To test H8, whether geographical distance, and hence regional identification, is an important determinant of Swedish ODA flows, I employ a variable measuring the

shortest distance in kilometers from Stockholm's largest airport (Arlanda) to the largest airport of the recipient country's capital. I use Google Maps to obtain the data for each nation.

5.2 Potential Methodological Issues

Next, I discuss some of the statistical limitations with my methodology, and how I intend to handle them. For a start, there are two sources of endogeneity in my analysis: Omitted variable and simultaneity bias. The first bias source stems from that the explanatory variables may be correlated with variables in the error term that are important determinants of aid flows. The second aspect is the one most frequently discussed in the aid allocation literature and refers to that aid in itself potentially has an effect on the explanatory variables of my regression.

In terms of bias resulting from omitted variable correlations, the baseline fixed effects model should remove all contaminations resulting from both country-specific time-constant and country-constant year-specific omitted variables. Thus, the potential concern here lies with factors that vary over both time and countries. Indeed, a significant number of such potential variables are also controlled for, for example the level of democracy and policies of recipient country government, further removing parts of the contamination. Additionally, the inclusion of vector $\boldsymbol{A}$ should further reduce the contamination.

Of a greater concern is the contamination resulting from simultaneity bias. The standard method to deal with this issue in the aid allocation literature involves adjusting the GLS fixed effects regression to minimise the contamination. Indeed, one obvious option for this would be to use an instrumental variable approach with 2SLS estimation. This, however, is associated with two problems: (i) it requires a unique instrumental variable for each endogenous variable and (ii) each such instrument need to only be correlated with aid flows through its relation to the endogenous variable. The second condition tends to be the more problematic one. An example is Mosley's (1981) use of domestic savings and investment as an instrument for GNP. Here, however, it is likely that the instruments are contaminated. Acemoglu and Robinson (2013) for example showcase the importance of economic institutions in determining private investment. Then, the exclusion restriction would be violated by the likely situation that quality of institutions in turn is correlated with aid flows, causing the instrumental variable estimates to be biased. Further, even in the case that sophisticated instruments for all endogenous variables are found, it is unlikely that there is sufficient data for the large range of developing countries and years in the analysis.

For this reason, most papers on aid allocation determinants do not use 2SLS estimation strategies. Instead, the standard treatment in studies that recognise the probable simultaneity bias involves assuming that the endogenous variables are so-called predetermined variables. Specifically, this involves recognising that the simultaneity bias likely arises due to aid affecting the endogenous variable with a lag, so that the value of the endogenous variable in period t is affected by aid flows in period t-1. If one additionally assumes that the error term of aid allocation in period t is uncorrelated with the aid determinants in period t-1, one can solve the simultaneity bias through including either one-period lags of the independent variables in the regression, or the first-lag of the dependent variable itself. The first approach has been applied by a number of aid allocation studies (for example Younas, 2008; Dreher et al., 2011; and Maizels et al., 1984), whereas the latter method has not been as widely used. In this study, as outlined in the beginning of Section 5, I therefore complement my analysis with the latter approach and estimate a GMM dynamic panel data model with the first two lags of the dependent variable controlled for. I additionally instrument the assumed predetermined explanatory variables with their respective lags. This should provide some reduction in the simultaneity bias contamination. Nevertheless, it is unlikely that the methodology completely manages to control for all the resulting bias, and this is therefore a clear limitation of the study.

A final limitation of the study is the unbalanced nature of the dataset, a common problem in the development economics literature that stems from the lack of data available. It is worth noting that this only becomes a problem if the level of attrition is systematic, in other words correlated with some specific characteristics of the recipient countries or time periods not controlled for in the regression. If, on the other hand, observations are missed out randomly, one should not obtain biased estimators. Nevertheless, it still presents a clear limitation of the analysis.

6. Results

The results section is split into three parts: First, I present summary statistics on the variables used in the analysis in Section 6.1. I then move over to the result parts. Specifically, I first present the incomplete model with the same government ideology dummy and CPIA variables excluded in Section 6.2, and use these results as a basis for all hypotheses outlined in Section 3.2 except those for quality of economic policies, quality of equality policies and ideological similarities (H2, H3 and H7). In Section 6.3, I then present the full model results with all variables included and specifically focus on the results for H2, H3 and H7. The reason for not using this regression as a basis for the other hypotheses is that the inclusion of the same government ideology dummy and CPIA variables

significantly reduces the number of observations, and thus makes the estimates more uncertain. Finally, I move over to the political transition analysis in Section 6.4, investigating the validity of H9 and H10.

6.1 Summary Statistics

Summary statistics for the variables included in the analysis are presented in *Table 2*. The dependent variable of interest, Swedish ODA in 2010 USD, takes on large range of values between -15 million and 264 million USD. The negative minimum value stems from that the figure is defined as net ODA and thereby includes repayments of loans with at least 25% grant element. This however does not occur often in the sample, and the large negative minimum figure is more of an exception rather than the rule (the specific figure of -15 million stems from a large repayment from Nepal in 2006).

Table 2: Data Summary Statistics

Variable	Mean	Std. Deviation	Min	Max	Obs
Swedish ODA	11,800,000	22,500,000	-15,000,000	264,000,000	3,409
Mortality Rate	82	67	2	359	5,323
GDP/Capita	4,256	6,133	116	66,002	4,815
CPIA Property Rights	2.86	0.63	1	4	755
CPIA Equity Public Resources	3.41	0.64	1	4.5	693
Polity Index	0.27	6.71	-10	10	4,566
Democratisation Episode Dummy	0.02	0.12	0	1	4,539
Military Spending/GDP	0.03	0.03	1.70e-07	0.34	3,769
USODA	96,800,000	348,000,000	-539,000,000	1,240,000,000	4253
Swedish Imports	55,400,000	389,000,000	8.25	9,420,000,000	4,412
Same Gov Ideology Dummy	0.43	0.50	0	1	2,503
Geographical Distance	7,130	3,142	887	15,738	5,920

Note: The table presents summary statistics for the variables included in the empirical analysis. The variables are as follows: Swedish ODA represents yearly Swedish ODA flows to a recipient country in 2010 USD, GDP/Capita the GDP per capita in 2010 USD of the recipient country, CPIA Property Rights the CPIA property rights score for the recipient country, CPIA Equity Public Resources the CPIA equity of public resources score for the recipient country, Polity Index the polity score of the recipient country, Democratisation Episode Dummy a dummy variable taking the value one if a recipient country went through a democratization episode in a specific year, Military Spending/GDP the military spending divided with GDP of recipient country, US ODA yearly US ODA flows in 2010 USD to recipient country, Swedish Imports Swedish imports in 2010 USD from recipient country, Same Gov Ideology Dummy an indicator variable taking the value one if the recipient country government has the same political ideology (left, center or right) as the Swedish government in a specific year, and Geographical Distance the distance in km from Stockholm Arlanda airport to main recipient country capital airport.

Table 2 confirms the unbalanced nature of the dataset, as although it includes data on 147 recipient nations across 40 years, the Swedish ODA variable only has 3,409 observations. The only measure that covers the entire dataset, and hence has 5,920 observations, is geographical distance, due to that it is collected directly from Google Maps. As discussed earlier, it is clear that the sample is restricted by primarily three measures: The same government ideology dummy, measuring ideological similarities between Sweden and the recipient country, CPIA Property Right, and CPIA Equity Equity Public Resources. The first measure has 2,503 observations whereas the latter have 755 and 693 respectively. This further justifies the need to divide the analysis into steps.

Table 3 below complements *Table 1* with an overview of the distribution of the recipient countries across continents. African and Asian countries occupy the largest share (more than 60%), unsurprising given the large concentration of low-income and middle-income countries on those continents. The European countries mainly include countries in the Balkans that after independence or country splits qualified for ODA flows. Countries in North America are primarily clustered in the Latin America and Caribbean regions. In total, 147 Swedish aid recipient nations are covered in this study.

Table 3: Recipient Country Distribution

	Africa	Asia	Europe	S. America	N. America	Oceania	Total
Number of Countries	55	40	12	14	18	8	147

Note: The table shows the distribution of the aid recipient countries included in the analysis across world continents.

6.2 Main Results Part One: Large Sample

I next present the results associated with the large sample model where the same government ideology dummy and CPIA variables measuring H2, H3 and H7 are excluded. The results are shown in *Table 4*. I run three regressions: an OLS regression without fixed effects, a GLS fixed effects model, and a GMM dynamic panel data regression.

In *Table 4*, the R-squared for the OLS model is relatively high at 0.32, indicating that the explanatory variables explain more than 30% of total variation in Swedish ODA flows. The R-squared for the fixed effects model is much lower and should be interpreted with caution, as the xtreg command used

Table 4: Regression Results - CPIA and Same Gov Ideology Excluded

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.47***
			(0.18)
log (Swedish ODA) Lag2			0.25***
			(0.09)
log(GDP/Capita)	1.97**	-1.37*	-6.24**
	(0.91)	(0.70)	(2.99)
log(GDP/Capita) Lag	-3.02***	0.80	4.84*
	(0.88)	(0.82)	(2.67)
Polity Index	0.01	0.04	-0.05
	(0.03)	(0.02)	(0.06)
Polity Index Lag	0.01	-0.01	0.06
	(0.03)	(0.03)	(0.04)
Democratisation Episode Dummy	-0.03	-0.13	0.97**
	(0.47)	0.39	(0.48)
Democratisation Episode Dummy Lag	-0.46	-0.12	-0.14
	(0.36)	0.20	(0.29)
Military Spending/GDP	3.98	-0.67	-5.42
	(4.51)	(3.01)	(9.46)
Military Spending/GDP Lag	4.05	2.37	7.20
	(4.58)	(2.92)	(6.02)
log(US ODA)	0.20***	0.12**	-0.05
	(0.06)	(0.05)	(0.27)
log(US ODA) Lag	0.17***	0.04*	0.04
	(0.06)	(0.05)	(0.13)
log(Swedish Imports)	0.10***	0.01	-0.14
	(0.03)	(0.03)	(0.09)
log(Swedish Imports) Lag	0.06**	-0.04	-0.13*
	(0.03)	(0.03)	(0.08)
Geographical Distance	0.00		
	(0.00)		
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	1,854	1,854	1,575
R-Squared	0.32	0.04	
Number of Instruments			28
Hansen J test p-value (DF=8)			0.99

*p<0.1, **p<0.05, ***p<0.01

Note: The table shows regression results for OLS, GLS Fixed Effects and GMM Dynamic Panel Data regressions with all ODA determinants except for the Same Government Ideology and CPIA variables included. For more details on the variables please see Table 2. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable. Control vector, fixed effects, intercept and time trend estimates are not reported. Please see Table 9 in Appendix 3 for a complete regression table.

does not take account into account any variation explained by the fixed effects. The sample size drops by around 300 observations when a GMM model is added, due that the regression is first-differenced before each ODA determinant is instrumented for.

Next, I discuss the results for each specific determinant covered in *Table 4*. For this discussion it is important to once again reiterate that the model likely does not manage to control for all endogeneity, and hence that the estimates ultimately should be interpreted as correlations and not causations. Nevertheless, the estimates still provide suggestions as to the correctness of the hypotheses. The results for the potential ODA determinants indicate the following:

Income: The OLS results in *Table 4* indicate that whereas recipient country current period income is positively associated with the amount of Swedish aid obtained, last period income per capita has a negative correlation. However, once fixed effects are controlled for, the current period coefficient estimate turns negative and statistically significant at the 10 percent level. Indeed, the current-period coefficient in column (2) indicates that the elasticity of Swedish ODA flow to recipient country income per capita is at -1.37, indicating that a 1 percent increase in recipient country per capita GDP is associated with a 1.37 percent decrease in the amount of ODA obtained. In particular, the coefficient keeps its magnitude and statistical significance once the GMM model is applied. Overall, Sweden seems to provide more aid to poorer nations, providing support for H1.

Democracy Level: *Table 4* provides some support for that recipient country democracy level is an important predictor of Swedish ODA flows. The GMM coefficient estimate on the current period democratisation episode dummy is positive and statistically significant at the 5 percent level, implying that Sweden perhaps rewards countries going through rapid democratic changes. Nevertheless, the absence of similar results for the polity variable in the GMM model and all democracy measures in the fixed effects model makes it is difficult to overall say something about whether H4 should be accepted or rejected.

Military Spending: *Table 4* provides no support for a relationship between a recipient country's military spending and the amount of Swedish ODA received. None of the coefficient estimates are statistically significant at a reasonable level. The results provide neither support for nor evidence against H5 (a).

Relationship with Geopolitical Superpowers: Both the OLS and fixed effects regressions indicate a positive and statistically significant relationship between Swedish ODA and US ODA flows, the measure used for whether Swedish aid is impacted by the country's relationship with geopolitical superpowers. This could indicate that Sweden uses ODA as a tool to further its relationship with geopolitical superpowers, in this case the US, and hence provide support for H5 (b). It is worth noting, however, that this is only one interpretation of the relationship: Indeed, the correlation could also stem from that Swedish and US ODA are driven by similar recipient country characteristics that are not all controlled for in the regressions. In terms of magnitude, the fixed effects full model estimates indicate that the elasticity of Swedish ODA donations with respect to US ODA is 0.12, suggesting that a one percent increase in US ODA flows to a recipient country is associated with a 0.12 percent increase in the amount of Swedish ODA provided. However, as the statistical significance disappears in the GMM model, the result should be taken with caution.

Impact on Swedish Trade Flows: The coefficient estimates on log(Swedish Imports) yield low support for H6 – that Sweden allocates more ODA to enhance its trade balance. Although the OLS estimate indicates a current period positive relationship statistically significant at the one percent level, with the magnitude suggesting that a one percent increase in Swedish imports from a country is associated with a 0.1 percent increase in the amount of Swedish ODA received, this disappears in the fixed effects and GMM regressions, and even turns negative for the lagged trade variable. This therefore provides low support for a relationship between Swedish ODA and import magnitudes.

Geographical Distance: The OLS model result suggests no relationship between geographical distance from Sweden to a recipient country and the amount of ODA obtained. This provides no evidence for either accepting or rejecting H8.

Thus, current period income per capita and US ODA flows seem to be correlated with Swedish ODA flows, the former negatively and the latter positively. Before providing an overall summary and discussion of the findings, I next look at the results for the remaining ODA determinants: Recipient country quality of economic and equality policies and government ideological similarities.

6.3 Main Results Part Two: Small Sample

In this section, I add the CPIA and same government ideology variables to the regressions. The results are presented in *Table 5*. Due to the uncertainty stemming from the resulting low sample size,

Table 5: Regression Results - CPIA and Same Gov Ideology Variables Added

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.55***
			(0.17)
log (Swedish ODA) Lag2			0.19
			(0.13)
CPIA Property Rights	-0.75	0.42	0.81
	(0.68)	(0.27)	(0.94)
CPIA Property Rights Lag	0.11	0.59*	0.02
	(0.72)	(0.29)	(0.69)
CPIA Equity Public Resources	-0.85	-1.38***	-0.96
	(0.92)	(0.47)	(1.08)
CPIA Equity Public Resources Lag	0.09	-0.83*	-0.38
	(0.95)	(0.42)	(0.78)
Same Gov Ideology Dummy	-0.92***	-0.38***	-0.06
	(0.31)	(0.14)	(0.21)
Same Gov Ideology Dummy Lag	-0.39	-0.13	0.20
	(0.26)	(0.15)	(0.15)
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	170	170	142
R-Squared	0.64	0.11	
Number of Instruments			37
Hansen J test p-value (DF=12)			1.00

*p<0.1, **p<0.05, ***p<0.01

Note: The table shows results for OLS, GLS Fixed Effects and GMM Dynamic Panel Data regressions with all ODA determinant measures included. For more details on the variables please see Table 2. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Numbers are rounded to two decimal places. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable. Results for ODA determinant measures for variables other than CPIA and Same Government Ideology, the control vector, fixed effects, intercept and time trend estimates are not reported. Please see Table 10 in Appendix 3 for a complete regression table.

these results are only used to obtain information as to the correctness of H2, H3 and H7, and not the other variables and for this reason *Table 5* only reports the coefficients on the CPIA and same government ideology variables. The full results are available in *Table 10* in Appendix 3. In *Table 5*, one can clearly see the fall in sample size resulting from adding the remaining ODA determinants, decreasing to 170 for the OLS and fixed effects model, and 142 for the GMM model. The R-squared for the OLS model increases significantly to 0.64, indicating that the explanatory variables in total explain more than 60% of total variation in Swedish ODA flows.

Next, I discuss the results for the remaining three potential ODA determinants: Quality of economic policies, quality of equality policies, and ideological similarities between the Swedish and recipient country government. Indeed, given the low sample these should be interpreted with caution. Nevertheless, they suggest the following:

Quality of Economic Policies: Recipient country quality of economic policies, measured by CPIA property rights, has a positive and statistically significant at the 10 percent relationship with the amount of Swedish ODA donations in the fixed effects model. Specifically, the coefficient of 0.59 indicates that one-point increase in a recipient country's CPIA property rights score is associated with a 59% increase in Swedish ODA in the following year. This seems high at first, but since the score is on a 1–6 scale, such an increase is equivalent to a 17% improvement in a country's property rights. Thus there seems to be some support for H2. The relationship disappears in the GMM model, indicating that the result should be cautiously interpreted.

Quality of Equality Policies: For the quality of equality policies, measured by the CPIA measure for equity of public resources, both the same-period and previous period levels are negatively associated with Swedish ODA flows in the fixed effects model. The fixed effects result indicates that a one-point increase in the current-period CPIA equity of public resources score, a 17 percent improvement as for the CPIA property rights score, is associated with a 138 percent decrease in Swedish ODA the same year. Indeed, this seems odd and should therefore be interpreted with caution as it could be due to the low sample size. However, the negative magnitude of the coefficient still gives an indication of the variable's relationship with Swedish ODA, providing low support for H3. Similarly to the Quality of Economics Policies result, the coefficients turn statistically insignificant in the GMM model and should therefore be interpreted with caution.

Ideological Similarities: The OLS and fixed effects regressions indicate a negative and statistically significant at the one and five percent level relationship respectively between ideological similarities between the recipient country and Swedish governments, and Swedish ODA flows. The fixed effects full model coefficient indicates that a recipient country with similar political ideology to Sweden receives, on average, 38% less ODA donations. Indeed, this seems odd and could be due to the low sample size. Nevertheless, it provides an indication as to that H7 may not be correct, as Sweden does not seem to reward countries with similar political ideologies with more aid. As for the other variables, the results should be taken carefully, however, as the statistical significance disappears in the GMM model.

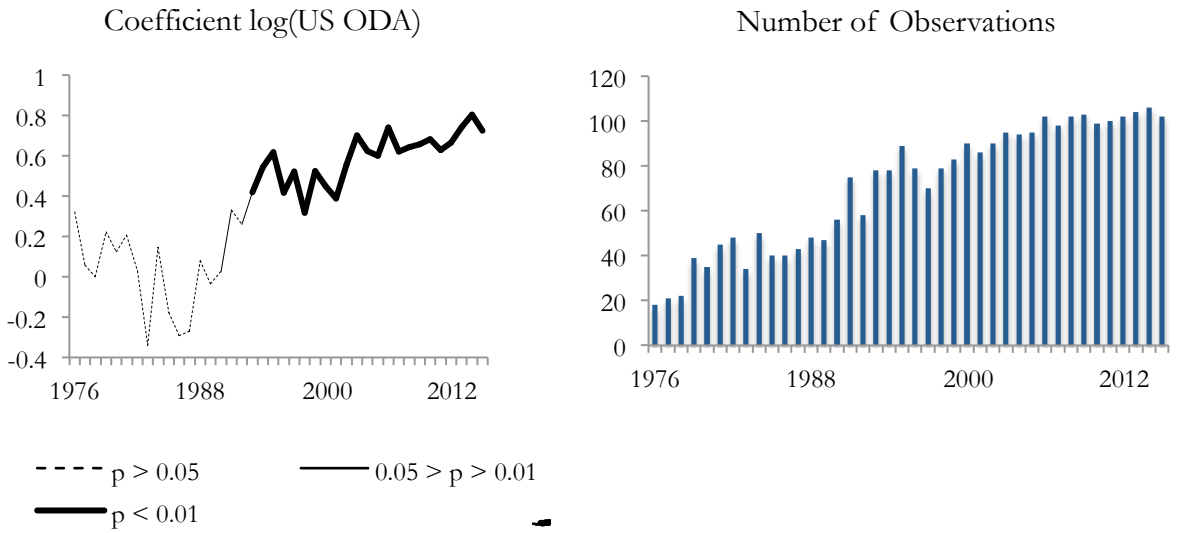
Thus, the findings from this and the previous sections suggest that, out of the official determinants, income and a country's property rights level seem to be potential determinants of Swedish ODA flows, the former negatively (so that Sweden gives more money to poorer nations) and the latter positively. In contrast, the equity of public resource spending of a recipient country and its democracy level seem to not be as important factors. The former even shows a negative correlation with Swedish ODA flows, indicating that a recipient country with high equity of public resource spending obtains less aid. All the results should be taken with caution, however, as, except for the income per capita measure, the GMM estimates indicate no relationships between the variables and Swedish ODA flows.

For the unofficial determinants, US ODA flows emerge as the strongest predictor of Swedish ODA flows. This could stem from two channels: Either that Sweden uses ODA to further its relationship with the US or that Swedish and US aid flow allocations are based on similar recipient country characteristics not controlled for in the regressions. Another potential predictor Swedish ODA is ideological similarities of a recipient country government with Sweden, showing a negative correlation with Swedish ODA flows for some of the models, indicating that countries with similar political ideologies to Sweden obtain less aid. Trade flows and national security interests do not seem to have any relationship with Swedish ODA flows. Similarly to the official determinant results, however, the low GMM support for the results imply they should be taken cautiously.

6.3 The Effect of Political Transitions on Swedish ODA Determinants

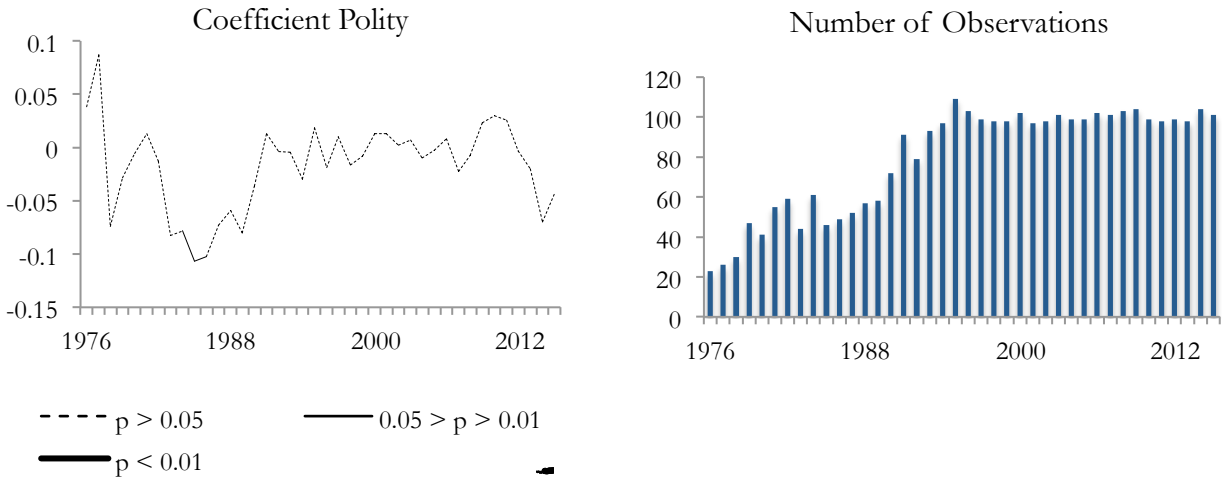
Next, I move over to the part of the analysis looking at the effect political transitions have on two Swedish ODA determinants: US ODA flows and the level of democracy in a recipient country. The main hypotheses to be tested are that US ODA emerges as a more important predictor of Swedish aid flows following the start of the Eastern Transition in the early 1990s, and that a country's democracy in general becomes an increasingly important determinant during periods of political transition. Before empirically testing this, it is worth getting an overview of how the correlation between US ODA and democracy with Swedish ODA has changed since 1976. This is shown in *Figure 7* and *Figure 8* respectively. Specifically, it shows, for log(US ODA) and the polity index, the OLS estimate from running a regression of log(Swedish ODA) on each of the variables for each year. The second diagram in each figure gives the observation per yearly regression.

Figure 7: Corr(Swedish ODA, US ODA), 1976–2015



Note: The first diagram shows the coefficient estimate from running an OLS regression of log(Swedish ODA) on log(US ODA) for each year between 1976 and 2015. The second diagram shows the number of observations for each such regression.

Figure 8: Corr(Swedish ODA, Polity), 1976–2015



Note: The first diagram shows the coefficient estimate from running an OLS regression of log(Swedish ODA) on the Polity Index for each year between 1976 and 2015. The second diagram shows the number of observations for each such regression.

For US ODA flows, one can see a clear breaking point in the late 1980s and early 1990s, with the coefficient becoming statistically significant at the one percent level and stabilising at between 0.4 and 0.8 in magnitude. The coefficient remains statistically significant for the rest of the time considered. This already provides some support for H9. In terms of polity, one can see that the coefficient is uncertain for the entire sample period, only being statistically significant at the five percent level for two years (1985 and 1986). The sharp rise in magnitude in early 1990s, however, partly provides support for the correctness of H10. In contrast, the fall around 2011, at the time of the Arab Spring, indicates it may not hold.

To empirically investigate H9 and H10 I modify baseline regression (7) to that in (9), adding dummies for during and after the Eastern Transition (1991–1996) and during the Arab Spring (2011–2015) respectively that I interact with polity and the democratisation episode dummy. The estimated coefficient on those variables should indicate the incremental addition of the democratisation measures' explanatory power over Swedish ODA flows during the two political transition periods, and hence test H10. For H9, I interact log(US ODA) with the Eastern Transition dummy and a dummy for the period after the end of the transition period (1996 onwards). To keep a large sample size, I exclude in this regression the CPIA and same government ideology dummy variables.

The regression results are presented in *Table 6*. Similarly to before I run three versions of the regression: an OLS, GLS fixed effects and a GMM version. The coefficient estimate on log(US ODA) is statistically significant and positive for the time period before 1991, the start of the Eastern Transition, for the OLS model. However, once fixed effects are controlled for this disappears, in line with the trends shown in *Figure 7* above. The trend in *Figure 7* is also observed in the coefficient of US ODA after the end of the Easter Transition, where the estimate is positive and statistically significant at the five percent level in the fixed effects model. For H10, however, we are primarily interested in the interaction term with the Eastern Transition dummy variable, as that measures the change in the importance of US ODA during the transition period. Indeed, the estimated coefficient is statistically insignificant for both the fixed effects and GMM model. This provides low support for H10.

For democracy, the coefficient estimates on the polity and democratisation episode dummy variables provide indications as to the correctness of H10. There seems to be low support for a change in the

Table 6: Results: Political Transition Analysis

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.43***
			(0.07)
log(Swedish ODA) Lag2			0.25***
			(0.06)
log(GDP/Capita)	1.54*	-1.25*	2.23
	(0.90)	(0.73)	(6.94)
log(GDP/Capita) Lag	-2.52***	0.69	-3.21
	(0.89)	(0.87)	(7.01)
Polity Index	0.01	0.03	0.02
	(0.03)	(0.02)	(0.05)
Polity Index*EastTran	-0.01	0.00	-0.03
	(0.02)	(0.02)	(0.25)
Polity Index*ArabSpring	-0.02	-0.02	0.04
	(0.02)	(0.02)	(0.06)
Polity Index Lag	0.01	-0.01	0.03
	(0.03)	(0.03)	(0.03)
Democratisation Episode Dummy	-0.58	-0.55**	0.36
	(0.43)	(0.27)	(0.30)
Democratisation Episode Dummy*EastTran	1.61*	1.41*	0.52
	(0.89)	(0.78)	(0.49)
Democratisation Episode Dummy*AS			
Democratisation Episode Dummy Lag	-0.40	-0.06	-0.17
	(0.35)	(0.21)	(0.24)
Military Spending/GDP	3.99	-0.79	3.12
	(4.34)	(3.04)	(7.86)
Military Spending/GDP Lag	4.39	4.60	0.31
	(4.37)	(3.01)	(4.03)
log(US ODA)	0.14**	-0.14	0.06
	(0.06)	(0.14)	(0.13)
log(US ODA)*EastTran	0.04***	0.14	0.02
	(0.01)	(0.15)	(0.02)
log(US ODA)*AfterEastTran	0.07***	0.33**	0.01
	(0.01)	(0.15)	(0.03)
log(US ODA) Lag	-0.20***	0.09*	-0.01
	(0.06)	(0.05)	(0.10)
log(Swedish Imports)	0.10***	0.00	-0.13
	(0.03)	(0.03)	(0.07)
log(Swedish Imports) Lag	0.07**	-0.05	-0.10
	(0.03)	(0.03)	(0.06)
Geographical Distance	0.00		
	(0.00)		
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	1,854	1,854	1,575
R-Squared	0.34	0.05	
Number of Instruments			44
Hansen J test p-value (DF=18)			0.36

*p<0.1, **p<0.05, ***p<0.01

*Note: The table shows regression results of (10) for OLS, GLS Fixed Effects and GMM Dynamic Panel Data regressions. For more details on the variables please see Table 2. EastTran and ArabSpring are dummy variables taking the values 1 in the period 1990–1995 and 2011–2015 respectively. The Democratisation Episode Dummy*ArabSpring interaction variable is excluded because of too low variation in the measure. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Numbers are rounded to two decimal places. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable. Control vector, fixed effects, intercept and time trend estimates are not reported. Please see Table 11 in Appendix 3 for a complete regression table.*

polity score's importance during the Eastern Transition with all estimates of the interaction variable being low in magnitude and the OLS and fixed effects ones statistically insignificant. In contrast, and interestingly, the coefficient estimate on the interacted democratisation episode dummy is statistically significant at the ten percent level for the fixed effects and OLS models and strongly positive in magnitude. Specifically, the fixed effects magnitude would imply that the increase in Swedish ODA flows associated with a country going through a democratisation episode during the Eastern Transition is 141 percentage points higher than what it is during the non-transition periods. This can be interpreted as follows: Sweden gave a higher ODA reward to countries going through democratisation episodes during the Eastern Transition than in non-transition periods. However, this extra ODA flow was offset by a decrease in the importance of democracy as a determinant of Swedish ODA flows for other recipient countries, leading to an overall unchanged importance of polity as an ODA predictor. It is worth noting, though, that the interaction variable's statistical significance disappears in the GMM model, implying this result should be taken with caution. For the Arab Spring, in contrast, the results do not showcase any change in importance of the Polity score during the period for any of the models. Here, the democratisation episode dummy interacted with the Arab Spring indicator variable is drops out because of too little variation in the measure. Overall, the absence of change in the polity score's importance for both periods provides low support for H9.

Thus, neither democracy nor US ODA flows seem to overall have become more important predictors of Swedish ODA flows during the Eastern Transition. For democracy, this seems to be due to that the increase in importance of rewarding democratisation episodes is offset by a decreased importance of recipient country's democracy level in other countries not going through democratisation episodes. Democracy additionally does not seem to have increased in importance during the Arab Spring period.

7. Discussion

In this section, I provide a discussion as to the interpretation of my results, taking into account empirical issues such as such as endogeneity not controlled for. Additionally, I complement the discussion with outlining avenues for future research.

In interpreting the results, it is important to first provide a reminder as to what is actually tested in the analysis. As outlined in the analytical framework in Section 3, this study looks at the second part of

the Swedish ODA decision process, where the ODA magnitudes are decided on. The results do not consider the decision as to which countries that actually should receive aid. This means that it is important to not make large conclusions about Sweden's overall aid policy from the results in Section 6. For example, the fact that recipient country quality of equality policies does not seem to be positively associated with Swedish aid flows, as it should according to the official parliament guidelines, does not necessarily mean that SIDA does not adhere to those guidelines. Rather, it implies that a country's equality policy level does not positively determine the magnitudes of aid flows donated once it is decided that the country should receive aid, without considering the decision about the subset of world countries that actually will be ODA recipients.

Further, it is important to reiterate that the results primarily should be interpreted as correlations and not necessarily as causal effects. Although the method tries to minimise as much of the contamination from simultaneity and omitted variable bias as possible, it is likely that not all is removed. The fact that most correlations disappear once a GMM model is applied on the data further justifies this concern. For this reason, the results should be considered as indications of Swedish aid policy, and not absolute truths. Finally, the fact that the analysis is based on a highly unbalanced dataset means it would be wrong to state that the results completely reflect the entire 1976–2015 period. Rather, since data tends to become more and more available as time passes, the analysis puts a higher weight on later years.

Despite this, however, it is still possible to draw policy conclusions from this paper. In particular, this study motivates an investigation into whether adequate controls are put on the implementation of Sweden's official aid allocation guidelines or, if that is the case, what can be done to make those controls more efficient. In making such an assessment, however, a better understanding of the different structures and channels driving Sweden's aid allocation decision is needed than that provided by this paper.

For this reason, this study needs to be complemented with a deeper investigation that can confirm the results. Such an analysis would ideally have better data that could resolve the unbalanced nature of the dataset, and also allow for more control variables to be included. Additionally, data on additional variables could perhaps be used for an instrumental variable analysis that could check the robustness of the estimates. Such data, however, is difficult to obtain and not fully available today. Nevertheless, with the existing data, one could complement this study in a couple of other ways: Using more variables to find the specific foreign policy channels affecting Swedish ODA flows,

looking at Swedish ODA at a more granular level, and analysing more deeply the lag distribution of each potential ODA determinant.

The first avenue stems from the ambiguous definition of "foreign policy and national security interests" of a country. This study measures it with two relatively broad measures, and has no intention of properly uncovering the channels but rather to get an understanding of whether foreign policy has any impact on Swedish ODA distribution. Given US ODA flows' predictive power over Swedish ODA, however, it would be interesting to have a further investigation into potential foreign policy determinants of Swedish aid. In particular, one could imagine trying to determine whether the US and Swedish ODA relationship stems from Sweden actually using foreign aid to enhance its relationship with the US, or from the countries having similar guidelines as to where foreign aid is sent. Another way of looking at the foreign policy channel would be through introducing a new measure, for example the number of Swedish expats living in a nation.

Secondly, a renewed way of looking at ODA allocation would involve using more granular data, for example based on sector or project type. One of the issues with country-specific data is that it only provides for broad country-based hypotheses. The Swedish government motions on aid allocation gives much more specific objectives than those presented here, however, due to the data being at country level those are exclude. An analysis with more granular data would allow for more hypotheses to be tested and hence provide for a more encompassing analysis.

Finally, it would be interesting to more deeply analyse the lag distribution of each potential ODA determinant. The lag distribution refers to the total impact each explanatory variable has on Swedish ODA flows, taking into account all potential time lags. The motivation for such an analysis comes from that some of the determinants covered in *Table 4* and *Table 5* seem to affect Swedish ODA flows with a lag rather than in the same time period, interpreted that Sweden for that specific variable looks at the previous year's level in making its ODA allocation decision. Looking more deeply into the lag distributions of potential ODA determinants could provide a better picture of the dynamics of Sweden's ODA allocation decisions.

8. Conclusion

This paper has provided an investigation into the determinants of Swedish ODA flows between 1976 and 2015. The study distinguishes between official and unofficial determinants, with the former

measuring Swedish official and public motives behind its aid allocation whereas the latter refer to the nonpublic reasons for giving a country aid. In total, nine potential ODA determinants are tested using OLS, GLS fixed effects and GMM regressions. Additionally, the thesis takes inspiration from previous studies that have shown periods of political transitions can change the importance of ODA determinants, and looks at whether the Eastern Transition in the early 1990s and the Arab Spring changed the predictive power of recipient country democracy levels and US ODA flows over Swedish aid flows.

The results indicate that, in terms of official determinants, Swedish ODA seems to correlated with a recipient country's GDP per capita and property right levels, the former negatively and the latter positively. In contrast, a country's democracy level and level of equality policies do not emerge as important predictors. In terms of unofficial factors, US ODA flows emerge as a positive predictor of Swedish ODA flows. This could stem from two channels: Either that Sweden uses ODA to further its relationship with the US or that Swedish and US aid flow allocations are based on similar recipient country characteristics not controlled for in the regressions. Finally, a dynamic analysis suggests that neither the importance of democracy nor US ODA flows as potential ODA determinants change much during periods of political transitions.

Overall, the results should be interpreted with caution, as all correlations, except for recipient country per capita income, disappear once a GMM dynamic panel data model is used on the data, potentially suggesting that the OLS and fixed effects results are contaminated with simultaneity and omitted variable bias. Further, it is important to note that the study look at a sub-part of the Swedish aid allocation process: the part where the subset of countries that will receive aid already has been decided upon and magnitudes are to be chosen. Hence, the results should be taken as an indication of Swedish aid policy, and not absolute truths. Despite this, the findings raise concerns about the adequacy of checks and balances put on the implementation of Swedish aid policy, and justifies an investigation into this issue. For such an assessment, however, a better understanding of the different structures and channels driving Sweden's aid allocation decision is needed than that provided by this paper.

For this reason, further research is needed to establish the mechanisms behind Swedish aid policy. Indeed, this study identifies three such potential avenues: Further investigating the foreign policy channels affecting Swedish aid, as US ODA emerge as a strong predictor of Swedish aid flows, using

more granular data on Swedish aid flows that looks at units smaller than country level, and analysing further the lag distribution of each potential ODA determinant.

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Appendix 1 – Data Sources

Table 7: Data Sources

Variable	Source
Swedish ODA Flows to Recipient Country in 2010 USD	OECD, DAC Database
Recipient Country GDP/Capita in 2010 USD	World Bank Database
CPIA Measures	World Bank Database
Polity Index	Polity IV Project
Recipient Country Military Spending/GDP	SIPRI Database
US ODA Flows in 2010 USD	OECD, DAC Database
Swedish Imports from Recipient Country in 2010 USD	IMF Direction of Trade Statistics
Same Gov Ideology Dummy	Database of Political Institutions
Shortest Distance Armanda to Recipient Capital Airport	Google Maps
Recipient Country Population	World Bank Database
Recipient Country Mortality (under 5s per 1000 births)	World Bank Database
Recipient Country Birth Rate (per 1000 people)	World Bank Database
Recipient Country Arable Land (percent of land area)	World Bank Database
Recipient Country Net FDI/GDP	World Bank Database

Note: The table shows the data sources for the variables included in the analysis.

Appendix 2 – Recipient Country List

Table 8: Yearly Average Amount of Swedish ODA to Recipient Countries

Country	1976–1985	1986–1995	1996–2005	2006–2015
Afghanistan	1,444	13,935	30,098	82,905
Albania	0	719	4,339	10,397
Algeria	2,356	10,272	2,019	1,233
Angola	28,838	36,983	23,433	2,654
Argentina	294	1,879	527	293
Armenia	0	1,091	1,545	1,438
Azerbaijan	0	530	674	827
Bahrain	0	0	0	0
Bangladesh	47,989	37,758	33,142	33,489
Belarus	0	0	603	9,707
Belize	0	8	2	3
Benin	0	23	269	644
Bhutan	0	163	494	192
Bolivia	1,284	9,518	23,995	25,497
Bosnia and Herzegovina	0	10,847	38,315	27,173
Botswana	25,735	20,443	3,712	2,926
Brazil	370	1,320	2,629	2,025
Brunei Darussalam	0	16	0	0
Burkina Faso	350	481	6,903	2,213
Burundi	255	1,058	5,259	4,293
Cabo Verde	13,903	11,573	1,990	168
Cambodia	4,932	8,061	20,405	23,644
Cameroon	0	482	3,071	9,109
Central African Republic	162	282	646	7,417
Chad	287	198	643	7,921
Chile	108	7,825	2,574	363
China (People's Republic of)	3,267	27,332	12,206	7,982
Colombia	71	899	8,473	24,773
Comoros	0	0	0	8
the Congo	229	272	3,423	1,054
Cook Islands	0	0	2	0
Costa Rica	103	7,276	2,003	531
Côte d'Ivoire	0	56	1,076	3,270
Croatia	0 3,138	5,473	1,399	
Cuba	12,373	3,593	1,865	188
Cyprus	7	0	0	0
Democratic People's Republic of Korea	0	19	5,018	5,367

Table 8: Yearly Average Amount of Swedish ODA to Recipient Countries

Country	1976–1985	1986–1995	1996–2005	2006–2015
Democratic Republic of the Congo	1,224	2,202	30,924	68,775
Djibouti	151	0	0	314
Dominica	0	3	0	15
Dominican Republic	1,590	1,396	380	126
Ecuador	514	2,334	1,841	333
Egypt	1,936	2,962	3,211	4,417
El Salvador	552	3,287	8,114	2,138
Equatorial Guinea	0	0	1	0
Eritrea	0	2,313	5,189	1,335
Ethiopia	41,873	53,223	39,904	34,865
Fiji	0	8	0	43
Former Yugoslav Republic of Macedonia	0	278	6,021	5,718
Gabon	0	2	10	0
Gambia	135	609	774	670
Georgia	0	516	2,647	15,282
Ghana	235	2,343	5,289	725
Grenada	17	1	0	1
Guatemala	118	1,491	16,322	26,670
Guinea	0	428	803	948
Guinea-Bissau	22,374	15,696	4,625	52
Guyana	0	162	72	0
Haiti	0	692	746	8,950
Honduras	0	307	23,344	7,564
Hong Kong, China	0	123	29	0
India	118,611	103,656	22,537	10,506
Indonesia	56	314	6,050	8,535
Iran	658	3,221	1,686	760
Iraq	103	9,617	18,216	51,751
Israel	128	1,175	60	0
Jamaica	1,568	717	662	50
Jordan	250	2,850	1,829	2,278
Kazakhstan	0	18	549	306
Kenya	39,857	30,910	24,774	57,722
Kiribati	0	0	0	0
Korea	0	25	119	0
Kosovo	0	0	0	11,688
Kyrgyzstan	0	10	994	4,199

Table 8: Yearly Average Amount of Swedish ODA to Recipient Countries

Country	1976–1985	1986–1995	1996–2005	2006–2015
Lao People's Democratic Republic	17,440	18,545	19,410	8,423
Lebanon	2,431	2,461	2,308	5,394
Lesotho	6,962	11,042	1,156	177
Liberia	204	908	6,408	28,602
Libya	0	7	38	3,427
Macau, China	2	0	0	0
Madagascar	65	662	100	2,171
Malawi	25	252	9,504	6,680
Malaysia	5	3,237	284	589
Maldives	0	225	0	23
Mali	0	62	7,572	27,523
Marshall Islands	0	0	0	3
Mauritania	0	202	474	1,427
Mauritius	0	1,239	14	21
Mexico	283	774	318	137
Micronesia	0	3	0	0
Moldova	0	0	3,991	13,758
Mongolia	0	392	3,315	853
Montenegro	0	0	0	1,648
Morocco	0	2,734	751	378
Mozambique	69,155	112,233	65,096	95,358
Myanmar	91	169	1,518	16,457
Namibia	0	10,120	14,631	3,546
Nepal	115	582	3,741	808
Nicaragua	14,250	51,241	41,186	15,611
Niger	88	38	251	4,348
Nigeria	250	235	1,061	1,162
Pakistan	11,957	6,158	3,455	15,947
Palau	0	0	0	0
Panama	12	61	7	58
Papua New Guinea	9	57	170	36
Paraguay	0	500	1,675	1,383
Peru	499	3,471	4,560	2,390
Philippines	107	7,147	6,887	7,356
Rwanda	398	3,079	14,212	21,477
Saint Kitts and Nevis	0	4	0	0
Saint Lucia	0	1	0	3

Table 8: Yearly Average Amount of Swedish ODA to Recipient Countries

Country	1976–1985	1986–1995	1996–2005	2006–2015
Satin Vincent and the Grenadines	0	1	0	0
Sao Tome and Principe	561	757	32	2
Senegal	37	649	1,658	721
Serbia	0	5,314	32,921	22,160
Seychelles	72	159	8	14
Sierra Leone	195	361	3,425	1,664
Singapore	0	5	0	0
Slovenia	0	0	133	0
Solomon Islands	0	0	0	18
Somalia	6,566	7,942	9,151	37,489
South Africa	0	11,197	37,277	12,502
South Sudan	0	0	0	20,334
Sri Lanka	50,431	17,289	23,234	10,883
Sudan	3,906	8,627	16,325	43,402
Suriname	0	4	0	0
Swaziland	3,823	715	129	310
Syrian Arab Republic	2	550	691	12,968
Taiwan	0	6	0	0
Tajikistan	0	571	2,244	4,758
Tanzania	142,648	123,814	77,421	95,652
Thailand	259	5,379	7,088	7,137
Timor-Leste	218	2	3,150	2,822
Togo	34	467	429	1,788
Trinidad and Tobago	0	21	0	0
Tunisia	11,380	5,971	749	2,488
Turkey	1,860	538	2,388	8,996
Turkmenistan	0	7	148	15
Uganda	1,663	21,472	35,574	43,150
Ukraine	0	0	1,125	26,597
Uruguay	36	2,353	487	142
Uzbekistan	0	127	315	394
Vanuatu	0	0	0	52
Venezuela	0	145	277	33
Zambia	49,937	56,889	26,471	37,536
Zimbabwe	19,849	42,204	20,189	26,833

Note: The tables show the average amount of Swedish ODA given to each recipient country included in the study's empirical analysis for each ten-year period. The numbers are in thousand 2015 USD.

Appendix 3 – Regression Results

Table 9: Full Regression Results, Table 4

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.47*** (0.18)
log (Swedish ODA) Lag2			0.25*** (0.09)
log(GDP/Capita)	1.97** (0.91)	-1.37* (0.70)	-6.24** (2.99)
log(GDP/Capita) Lag	-3.02*** (0.88)	0.80 (0.82)	4.84* (2.67)
Polity Index	0.01 (0.03)	0.04 (0.02)	-0.05 (0.06)
Polity Index Lag	0.01 (0.03)	-0.01 (0.03)	0.06 (0.04)
Democratisation Episode Dummy	-0.03 (0.47)	-0.13 (0.39)	0.97** (0.48)
Democratisation Episode Dummy Lag	-0.46 (0.36)	-0.12 (0.20)	-0.14 (0.29)
Military Spending/GDP	3.98 (4.51)	-0.67 (3.01)	-5.42 (9.46)
Military Spending/GDP Lag	4.05 (4.58)	2.37 (2.92)	7.20 (6.02)
log(US ODA)	0.20*** (0.06)	0.12** (0.05)	-0.05 (0.27)
log(US ODA) Lag	0.17*** (0.06)	0.04* (0.05)	0.04 (0.13)
log(Swedish Imports)	0.10*** (0.03)	0.01 (0.03)	-0.14 (0.09)
log(Swedish Imports) Lag	0.06** (0.03)	-0.04 (0.03)	-0.13* (0.08)
Geographical Distance	0.00 (0.00)		
NetFDI	1.43** (0.71)	0.53 (1.20)	4.26 (9.88)
Mortality Rate	-0.00** (0.00)	-0.01*** (0.00)	0.00 (0.02)
Birth Rate	-0.01 (0.01)	-0.00 (0.03)	-0.35 (0.22)
Population	0.00*** (0.00)	-0.00*** (0.00)	-0.00 (0.00)
Arable Land	0.00 (0.00)	0.03 (0.03)	0.04 (0.20)
Time trend	-0.00 (0.01)	-0.04** (0.02)	-0.07 (0.06)
Constant	13.77*** (0.85)	17.83*** (3.67)	
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	1,854	1,854	1,575
R-Squared	0.32	0.04	
Number of Instruments			28
Hansen J test p-value (DF=8)			0.99

*p<0.1, **p<0.05, ***p<0.01

Note: The table shows the regression results from Table 4 with all variables included. The democratisation episode dummies drop out due to too small variation. For more details on the variables please see Table 2. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Numbers are rounded to two decimal places except for cases where that provides insufficient information. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable.

Table 10: Full Regression Results, Table 5

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.55*** (0.17)
log (Swedish ODA) Lag2			0.19 (0.13)
log(GDP/Capita)	4.31 (4.73)	-6.88** (3.31)	-14.38* (8.51)
log(GDP/Capita) Lag	-5.50 (4.68)	1.23 (2.84)	7.95** (3.55)
Polity Index	0.72*** (0.13)	0.25** (0.09)	0.39** (0.18)
Polity Index Lag	-0.80*** (0.14)	-0.59 (0.35)	-0.28 (0.28)
Democratisation Episode Dummy			
Democratisation Episode Dummy Lag			
Military Spending/GDP	-35.41 (30.70)	-54.27*** (18.78)	-56.29 (37.73)
Military Spending/GDP Lag	13.72 (38.13)	-54.92* (30.87)	-76.04* (39.23)
log(US ODA)	0.13 (0.28)	0.28* (0.16)	0.18 (0.22)
log(US ODA) Lag	0.28 (0.26)	-0.02 (0.13)	-0.37* (0.15)
log(Swedish Imports)	0.05 (0.05)	-0.06 (0.06)	-0.04 (0.06)
log(Swedish Imports) Lag	0.13*** (0.05)	-0.05* (0.03)	0.01 (0.06)
Geographical Distance	0.0002*** (0.0001)		
CPIA Property Rights	-0.75 (0.68)	0.42 (0.27)	0.81 (0.94)
CPIA Property Rights Lag	0.11 (0.72)	0.59* (0.29)	0.02 (0.69)
CPIA Equity Public Resources	-0.85 (0.92)	-1.38*** (0.47)	-0.96 (1.08)
CPIA Equity Public Resources Lag	0.09 (0.95)	-0.83* (0.42)	-0.38 (0.78)
Same Gov Ideology Dummy	-0.92*** (0.31)	-0.38** (0.14)	-0.06 (0.21)
Same Gov Ideology Dummy Lag	-0.39 (0.26)	-0.13 (0.15)	0.20 (0.15)
NetFDI	3.12** (1.30)	0.98 (1.31)	4.37 (3.10)
Mortality Rate	-0.03*** (0.01)	0.02 (0.02)	0.03* (0.02)
Birth Rate	0.04 (0.03)	0.17 (0.20)	0.08 (0.39)
Population	0.00 (0.00)	0.00** (0.00)	0.00 (0.00)
Arable Land	0.01 (0.02)	-0.06 (0.05)	0.01 (0.12)
Time trend	-0.30*** (0.05)	0.26** (0.10)	0.35 (0.28)
Constant	28.56*** (4.32)	45.75** (17.94)	
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	170	170	142
R-Squared	0.64	0.11	
Number of Instruments			37
Hansen J test p-value (DF=12)			1.00

*p<0.1, **p<0.05, ***p<0.01

Note: The table shows the regression results from Table 5 with all variables included. The democratisation episode dummies drop out due to too small variation. For more details on the variables please see Table 2. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Numbers are rounded to two decimal places except for cases where that provides insufficient information. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable.

Table 11: Full Regression Results, Table 6

Dependent Variable: log(Swedish ODA)			
	OLS	Fixed Effects	GMM
	(1)	(2)	(3)
log(Swedish ODA) Lag			0.43*** (0.07)
log (Swedish ODA) Lag2			0.25*** (0.06)
log(GDP/Capita)	1.54* (0.90)	-1.25* (0.73)	2.23** (6.94)
log(GDP/Capita) Lag	-2.52*** (0.89)	0.69 (0.87)	-3.21 (7.01)
Polity Index	0.01 (0.03)	0.03 (0.02)	0.02 (0.05)
Polity Index*EastTran	-0.01 (0.02)	0.00 (0.02)	-0.03 (0.25)
Polity Index*Arab Spring	-0.02 (0.02)	-0.02 (0.02)	0.04 (0.06)
Polity Index Lag	0.01 (0.03)	-0.01 (0.03)	0.03 (0.03)
Democratisation Episode Dummy	-0.58 (0.43)	-0.55** (0.27)	0.36 (0.30)
Democratisation Episode Dummy*EastTran	1.61* (0.89)	1.41* (0.78)	0.52 (0.49)
Democratisation Episode Dummy*ArabSpring			
Democratisation Episode Dummy Lag	-0.40 (0.35)	-0.06 (0.21)	-0.17 (0.24)
Military Spending/GDP	3.99 (4.34)	-0.79 (3.04)	3.12 (7.86)
Military Spending/GDP Lag	3.99 (4.34)	4.60 (3.01)	0.31 (4.03)
log(US ODA)	0.14*** (0.06)	-0.14 (0.14)	0.06 (0.13)
log(US ODA)*EastTran	0.04** (0.01)	0.14 (0.15)	0.02 (0.02)
log(US ODA)*AfterEastTran	0.07*** (0.01)	0.33** (0.15)	0.01 (0.03)
log(US ODA) Lag	-0.20*** (0.06)	0.09* (0.05)	-0.01 (0.10)
log(Swedish Imports)	0.10*** (0.03)	0.00 (0.03)	-0.13 (0.07)
log(Swedish Imports) Lag	0.07** (0.03)	-0.05 (0.03)	-0.10 (0.06)
Geographical Distance	0.00 (0.00)		
NetFDI	1.58** (0.72)	0.72 (1.14)	-5.22 (5.31)
Mortality Rate	-0.00*** (0.00)	-0.01* (0.00)	-0.01 (0.01)
Birth Rate	-0.00 (0.01)	-0.01 (0.03)	-0.01 (0.09)
Population	0.00** (0.00)	-0.00*** (0.00)	0.00 (0.00)
Arable Land	0.00 (0.00)	0.03 (0.03)	0.04 (0.12)
Time trend	-0.04*** (0.01)	-0.19** (1.14)	-0.02 (0.05)
Constant	13.33*** (0.86)	22.62*** (4.61)	
Control Vector	YES	YES	YES
Country/Year Fixed Effects	NO	YES	NO
Time Trend	YES	YES	YES
Observations	1,854	1,854	1,575
R-Squared	0.34	0.05	
Number of Instruments			44
Hansen J test p-value (DF=18)			0.36

*p<0.1, **p<0.05, ***p<0.01

Note: The table shows the regression results from Table 6 with all variables included. The democratisation episode dummies drop out due to too small variation. For more details on the variables please see Table 2. The GMM model is estimated using the xtabond2 STATA command following Roodman's (2009) estimation checklist. All explanatory variables measuring ODA determinants and the lagged dependent variables are treated as predetermined variables and instrumented with their first to third lags (Lag (1 3) used in the STATA command). I include noleveleq, collapse and orthogonal as options in the xtabond2 command. Standard errors clustered at the country level are presented in parentheses. Numbers are rounded to two decimal places except for cases where that provides insufficient information. Variables in the control vector include recipient country Net FDI inflows, population, birth rate, mortality rate of under five-year olds, and share of land that is arable.