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Targeted Foreign Aid and International Migration: Is Development Promotion an Effective Immigration Policy?

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Abstract

Immigration from poor countries continues to be one of the most salient concerns among voters and politicians in the United States and in countries of Western Europe. Faced with the failure of traditional immigration policies, scholars and policymakers in these high-income countries are increasingly turning towards foreign aid to reduce migrant inflows. This approach reflects the conventional wisdom that individuals in the Developing World migrate to countries of the Global North in an effort to escape poverty, underdevelopment, and other problems at home. Leaders representing high income countries believe that aid can improve the well-being of would-be migrants, thereby deterring them from uprooting their lives and migrating abroad. However, there remains little consensus as to whether foreign aid actually reduces migration, as only a few studies have tackled this subject and they have produced contradictory results. We suspect that this literature has failed to produce definitive findings due to its tendency to treat all aid the same way. Therefore, we examine the distinct effects of three types of aid on emigration patterns: governance aid, economic aid, and social aid. To do so, we analyze a panel of 101 low and middle income countries over a time series spanning 25 years (1985-2010). Our findings indicate that governance aid is accompanied by reductions in the emigration rates of developing countries, whereas other types of aid have no discernible relationship to emigration. These results suggest that some, but not all, types of foreign aid can act as an effective and development-friendly immigration policy.

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1. Introduction

Across countries of the advanced industrialized world, concerns over immigration from poor and, at times, conflict-ridden countries have taken center stage in electoral politics. These concerns, which accompany perceptions that immigrants are driving down wages, draining social security, exacerbating crime, and threatening social and cultural cohesion,[1] have prompted political parties and candidates to emphasize various policy plans to reduce migration, such as enhancing security patrols and erecting literal barriers to entry.

While these policies may excite nativist constituents, their capacity to effectively reduce the inflow of immigrants has been called into question and humanitarian concerns have been raised.[2] In light of the shortcomings of traditional immigration controls, a more development-friendly alternative has been advocated: promoting economic growth, job creation, and development in source countries can reduce the economic malaise that pushes migrants to exit for more highly developed neighboring countries.[3] Among other approaches, advanced industrialized countries may be able to manage migration inflows through these means by providing foreign aid to source countries.

This aid-based migration policy strategy has found support among researchers,[4] as well as political actors. For example, in 2001, the Danish Ministry of Foreign Affairs commissioned a study to better align their aid policy with their immigration policy.[5] More recently, the European Commission publicized its plans to manage migration from the Middle East and Africa through "financial allocations devoted to tackling the root causes" of migration[6] and the U.S. government announced that it will allocate one billion dollars in aid to Central America to lower migration from the region.[7] Academic research further indicates that donor countries target foreign aid to prevent inflows of migrants.[8]

Given this apparent enthusiasm from researchers and policymakers, it is surprising that there is little scholarly consensus as to the effectiveness of aid as a tool for managing migration. Some scholars,

[1] For a survey of academic and policy papers on the consequences of migration, see Azam and Berlinschi 2010.
[2] See de Haas 2007.
[3] Böhning 1994; Olesen 2002.
[4] Neumayer 2005; Katseli et al. 2006.
[5] Nyberg-Sørensen et al. 2002.
[6] European Commission – Press release 2016.
[7] US Department of State – Fact sheet 2016.
[8] Bermeo and Leblang 2015.

such as de Haas, provide theoretical reasons for skepticism and even suggest that economic development may lead to higher levels of migration by providing poor populations with greater means to migrate.[9] Other theoretical work is more optimistic about the deterring effects of aid.[10] However, there has been a dearth of quantitative research on this matter and the limited work that does exist has offered contradictory findings.[11]

The study that follows seeks to clarify the relationship between foreign aid and migration. In doing so, we disaggregate aid by type, as we suspect that some types of aid act differently than others in terms of their effects on migration from aid recipient countries.[12] In particular, we develop and test hypotheses positing that some aid types have an enabling effect on migrants, while other aid has a deterring effect. If this is the case, then the tendency of researchers to analyze aggregate measures of aid may be obscuring the negative (or positive) relationships between certain types of aid and emigration rates.[13]

More specifically, the analysis that follows considers three types of aid at the cross-national level: aid allocated towards economic, political, and social development. We hypothesize that aid targeting economic and social development increases outward migration rates from aid recipient countries, by affording would-be migrants the means to exit. We expect that this will be particularly evident in the emigration rates of individuals with lower education levels. This hypothesis is informed by literature arguing that newfound economic assets provide people with means and capabilities to pursue their migratory ambitions, rather than deterring those ambitions.[14] Within this context, we expect economic and social aid to enable migrants, to the extent that foreign aid of this sort provides them with revenue that they would not otherwise have.

We posit that the opposite is true of aid for political development, as we expect that aid targeted to improve governance will produce better political institutions, such as more capable and representative government and inclusive political rights, which will, in turn, improve individuals' satisfaction with life in

[9] See, for example, de Haas 2007.
[10] Morrison 1982.
[11] Rotte and Volger 2000; Berthélemy et al. 2008.
[12] This expectation is supported by recent scholarship demonstrating that different types of aid affect developing countries in different ways; see Jones and Tarp 2016.
[13] This might explain the non-significant coefficients for aggregate measures of aid in previous migration oriented studies; for example, see Neumayer 2005.
[14] de Haas 2007; Clemens 2014.

their countries of origin and reduce the likelihood that they will uproot their lives and emigrate. This hypothesis is informed, first, by recent evidence that governance aid uniquely improves political institutions in recipient countries[15] and, second, by studies demonstrating that political corruption and instability propel migrant outflows.[16]

We test these hypotheses through analysis of cross-sectional, time series data covering 101 developing countries over a time series spanning 25 years (1985-2010). The results support the latter hypothesis, regarding political aid, as we find persistent evidence that aid directed towards governance is negatively related to the emigration rates of developing countries. The relationship between governance aid and emigration rate is particularly strong for migrants with low education levels, such that governance aid seems to be preventing the outward migration of poorly educated individuals. These findings suggest that aid-induced political development deters exit by would-be migrants, particularly low-skilled workers, through the accompanying improvements to rule of law, human rights, and governing efficiency, among other things. Our findings also indicate that political aid reduces outward flows of highly educated individuals. Based on this latter finding, we suspect that, in addition to the migration-deterring effects of aid-based political development, aid may be leading to job creation that caters to the well-educated.

The remainder of this paper proceeds as follows. In section II, we provide background to our research problem and review literature relevant to foreign aid and international migration. Section III builds a theoretical model based on existing theories and derives hypotheses. We provide description of our research design and data in Section IV. Section V discusses the results of our analysis and Section VI concludes and offers policy implications.

2. Background and Relevant Literature

As concern about irregular migration has become more acute in the United States and in the countries of Western Europe, immigration deterrence policies have become increasingly common among sitting governments. In the United States, border security has been ramped up since 2000, in an attempt to

[15] Jones and Tarp 2016.
[16] Dutta and Roy 2011; Dimant et al. 2013; Schneider 2015; Cooray and Schneider 2016.

deter immigration from Central America, particularly Mexico.[17] Similarly, countries of Europe have sought to deter migration from the Middle East and North Africa in recent years through sea route patrols, border fences, and deportations.[18] Moreover, policy platforms built on stemming the flow of immigrants have become central pillars in political campaigning in both the United States and Europe. Pledges to restrict the US/Mexico border and to ban refugee populations from countries of the Middle East kicked off the presidential campaign of Donald Trump in the United States.[19] Likewise, the Brexit campaign in the United Kingdom succeeded in part due to anti-immigration sentiment.[20]

Despite the eagerness of politicians to display their border security chops, there is reason to suspect that these policies are ineffective deterrents of migration.[21] For example, despite immigration restrictions enacted by various EU and national governments during the 1990s, over 13 million people moved to Western Europe during 1992-2001.[22] One likely explanation for the ineffectiveness of these migration policies is their failure to account for root causes of migration within source countries, such as poverty, inequality, and political conflict. Border security, visa requirements, and similar deterrence policies may be failing because they do not address these push factors.[23]

This recognition has been met by alternative strategies designed to address push factors. Advanced by academics[24] and politicians in Western Europe,[25] these strategies center on development promotion through boosting trade and aid. Trade- and aid-based immigration policy hinges on the notions, first, that poverty and underdevelopment are root causes that compel migrants in countries of the Global South to leave their home countries and, second, that economic development in these

[17] During the Bush Administration, the United States passed several laws toughening immigration enforcement, including the Enhanced Border Security and Visa Entry Reform Act of 2002 (EBSVERA), the REAL ID Act of 2005, and the Secure Fence Act of 2006 (see Rosenblum and Brick 2011). Likewise, the Obama administration ramped up deportations and increased funding for border security. For Bush era policies, see Rosenblum and Brick 2011; for Obama era policies, see Meissner et al. 2013.
[18] de haas 2010.
[19] *US News & World Report*, 4 January 2016. http://www.usnews.com/news/articles/2016/01/04/donald-trumps-inaugural-tv-ad-a-wall-a-muslim-ban-and-beheading-isis.
[20] *The Guardian*, 24 June 2016. http://www.theguardian.com/politics/2016/jun/24/voting-details-show-immigration-fears-were-paradoxical-but-decisive.
[21] Bhagwati 2003; Castles 2004; Black et al. 2006.
[22] Hatzipanayotou and Michael 2012.
[23] It should be noted that these strategies have also been criticized on the basis of their negative implications for human rights; see Pécoud and de Guchteneire 2006.
[24] Morrison 1982; Böhning 1994; Stalker 2002.
[25] See de Haas 2007, for relevant quotes and paraphrasing from European Commission then-President José Manuel Barrosom (pg. 820), then-African Union head Alpha Oumar Konare (pg. 821), and then-Prime Minister Rasmussen of Denmark (pg. 827).

countries will assuage these push factors in a manner that reduces migrant outflows.[26] Policymakers in countries of the Global North appear to have, at times, implemented aid policy to this migration-deterring end.[27] For example, Myers and Papageorgiou argue that aid disbursements intended to improve living standards in Haiti and support the Haitian and Mexican currencies were explicitly rationalized by US government officials to lower migration pressure.[28]

Despite the support of some scholars and policymakers, there has also been criticism of this approach and of the reasoning for it. For example, de Haas has objected to the "conventional wisdom underlying such argumentations… that war and poverty are the root causes of mass migration."[29] In addition, de Haas argued that development assistance may actually lead to greater emigration rates, either by affording would-be migrants with the "capabilities and aspirations" to emigrate[30] or by exacerbating push factors.[31] Beyond these criticisms leveled by de Haas, there is also the wider skepticism concerning the effectiveness of foreign aid itself in assuaging poverty and underdevelopment.[32]

The empirical evidence regarding the effects of aid on migration has been limited and contradictory. A study by Rotte and Vogler on the effects of aid on migration into Germany finds no significant relationship.[33] In contrast, Berthélemy et al. find that aid increases migration.[34] Faini and Venturini find that aid policies designed to improve the living standards in low-income European countries were accompanied by upticks in migration in the short term.[35] Similarly, studies from Stalker and Cornelius

[26] Development promotion efforts may also deter emigration by compelling leaders in source countries to tighten up migration controls. As Bhagwati 2003 notes, the Prime Ministers of the United Kingdom and Spain proposed in a 2002 European Council meeting that the European Union should reduce aid to those countries that have not made sufficient efforts to curtail migration to Europe. The proposal failed, but the logic underlying it may be evident elsewhere.
[27] Bermeo and Leblang 2015.
[28] Myers and Papageorgiou 2000.
[29] de haas 2010, 1305.
[30] de Haas 2007, 2013.
[31] Citing Castles and Miller 2003, de Haas notes that "development assistance has often been used as a political instrument leading to 'aid' in the form of weapons and other types of support for autocratic regimes… This has increased insecurity, provoked armed conflict, created refugee problems and exacerbated rather than decreased problems of underdevelopment;" see de Haas 2007, 828.
[32] For an example of skepticism about the positive effects of aid, see Easterly 2006. The effects of aid on economic growth and development have been widely debated and analyzed, with little conclusive evidence for either a positive or negative relationship. See Doucouliagos and Paldam 2008, 2009 for meta-analyses of the literature on aid and growth.
[33] Rotte and Vogler 2000.
[34] Berthélemy et al. 2009.
[35] Faini and Venturini 2010.

find that economic development (whether it is supported by aid or not) increases migratory pressure in the short run.[36]

A telling feature of the aforementioned studies is that none of them recognize the possibility that different types of aid have different effects on international migration. We believe that this is a critical omission, as we suspect that some aid types deter emigration while other types lead to greater migrant inflows. In particular, drawing on the work of de Haas and Clemens,[37] our expectation is that economic and social aid will lead to greater emigration rates among certain individuals in aid-recipient countries, as such assistance offers would-be migrants with the means to leave their home countries. In contrast, we expect that aid targeting political development will be accompanied by lower emigration rates in aid-recipient countries, as such aid improves governing institutions,[38] thereby attenuating political push factors that compel citizens to leave their home countries, such as corruption, repression, and discrimination.

3. Theory and Hypotheses

The effect of foreign aid on migration is conceptualized in two major ways. The first approach considers aid as a deterrent against migration. In this line of argument, foreign assistance addresses the root causes of migration (relative deprivation), leading to a decline in emigration from source countries. Aid is thus expected to improve, first, living conditions through higher wages and more jobs,[39] second, political rights through reduced repression[40] and, third, border protection through more effective control of population movements by sending countries.[41] Despite the criticisms of foreign aid, there is evidence that international assistance does improve the root problems such as low income levels and lack of political rights[42] and that aid improves political institutions and associated root problems.[43]

[36] Stalker 1994; and Cornelius 2002.
[37] de Haas 2007; Clemens 2014.
[38] Again, see Jones and Tarp 2016.
[39] Arndt et al. 2010.
[40] Finkel et al. 2007.
[41] de Haas 2005; Bhagwati 2003.
[42] Bermeo and Leblang 2015.
[43] Jones and Tarp 2016.

In the second approach, scholars consider aid as an enabling factor for migration. In this tradition, foreign aid improves individuals' purchasing power, allowing them to afford the costs of migration.[44] Aid projects also transfer skills and information, which may make individuals in developing countries more likely to migrate. Some scholars believe there is a household income threshold under which individuals would opt to migrate as their income increases.[45]

While some scholars differentiated between bilateral and multilateral aid with respect to aid-migration relationship,[46] no previous work has explored the possibility that different kinds of aid projects might have different effects on international migration. This is striking given evidence that aid projects have different objectives,[47] heterogeneous outcomes,[48] and operate through various mechanisms.[49] Within this context, we suspect that different types of aid will affect migration patterns in different ways, with some aid enabling migrants and other aid deterring them.

Education levels are also likely to play a role, as education is an important factor that conditions the migration preferences of individuals within developing countries. Members of the educated class have less financial incentive to migrate, especially as development assistance increases.[50] This is in line with "aid as deterrent" approach. However, individuals with lower levels of education and fewer local opportunities are likely to exit in search of better job prospects, if resources become available to them. Thus, aid projects targeting the low and medium educated segments of developing nations should increase their propensity to migrate, to the extent that aid provides them with greater economic resources, new skills, and information about opportunities to migrate.[51] This is in line with "aid as enabling factor" approach.

We thus theorize that foreign aid better explains the varying rates of international migration depending on the type of aid as well as the education level of potential migrant populations. We analyze measures of aid that have been disaggregated into economic, political, and social categories,

[44] Faini and Venturini 2010.
[45] Stalker 2002.
[46] Ontiveros and Verardi 2010.
[47] Clemens et al. 2012.
[48] Mavrotas and Nunnenkamp 2007.
[49] Jones and Tarp 2016.
[50] Faini and Venturini 2010; Hatton and Williamson 2005.
[51] de Haas 2010; Hatton and Williamson 2011.

following Jones and Tarp,[52] and we focus on three levels of education: high, medium, and low, using data from Brücker et al.[53]

Because existing research has shown both positive and negative relationships between economic development and migration, we hypothesize that economic aid has no uniform effect on migration. However, as a deterrent and as an enabling factor, economic aid could be working at cross purposes. We expect that economic aid works as a deterrent to migration for the highly educated and as an enabling factor for individuals with low and medium education levels.

In developing countries, individuals with the highest education levels also have high incomes and elite status. Thus, they are unlikely to wish to migrate and so additional benefits from aid projects should make them even less inclined to uproot their lives and move somewhere else. They would also benefit from aid targeting improvements in the economy overall as well as the infrastructure, agriculture, industry, and financial sectors, particularly if these improvements generate economic opportunities or benefits for the well-educated. For individuals with low and medium education levels, economic aid might act as an enabling factor to better afford the costs of migration and to improve their information and skills to ready themselves for migration.[54]

> *Hypothesis 1: Economic aid has no effect on overall emigration rate. However, economic aid has a positive relationship to emigration rates for populations with low and medium education levels and a negative relationship to emigration rates for populations with high education levels.*

In contrast, we expect uniform deterring effects from political aid. We theorize that improving the effectiveness and representativeness of governance institutions and civil society via political foreign aid makes populations in low income countries feel more included, better represented, and safer at home. However, unlike economic aid, political aid is unlikely to increase the material resources of individuals, at least in the short term. We therefore expect that governance aid should work as a

[52] Jones and Tarp 2016.
[53] Brücker et al. 2013.
[54] Alternatively, if economic aid flows to economic elites, then we have reasons to believe that aid increases inequality and pushes more low and medium educated people to migrate abroad. Either way, the hypothesized relationship stays the same.

deterrent and reduce emigration from developing nations.[55] This effect may be especially evident among the highly educated, as better educated individuals might care more about their rights for free expression and democratic governance. In addition, the well-educated may be compelled to stay to the extent that governance aid creates government jobs, which are likely to require highly skilled workers. This expectation is supported by antecedent research indicating that the migratory effects of governance-oriented push factors, such as corruption and political instability, are most pronounced among the well-educated.[56]

> *Hypothesis 2: Political aid has a negative relationship with overall emigration rates. Political aid should reduce outward migration for populations at all education levels, particularly high education levels.*

Other types of aid targeted at improving education, healthcare and social services (such as maternal care and child nutrition) are theorized to mirror economic aid, thereby working as enabling factors and increasing migration. Aid projects improving the education levels of low and medium income households transfer knowledge and skills that will enhance opportunities and means to migrate. Likewise, when such households receive better health and social services, they can divert income that would otherwise go towards these sorts of expenses to finance the costs of migration. We expect this factor to be stronger among individuals with low and medium education levels.

> *Hypothesis 3: Other/social aid has a positive relationship with overall migration rates. We expect this effect to be stronger for low and medium education levels.*

[55]There is also literature arguing that foreign aid functions like oil rents and thus worsens the accountability and representativeness of developing country political leaders; see Morrison 2009. However, recent research has shown evidence to the contrary, particularly with respect to governance aid; see Jones and Tarp 2016.

[56] See Dutta and Roy 2011; Dimant et al. 2013; Schneider 2015; Cooray and Schneider 2016. Specifically, Dutta and Roy 2011 find that variables associated with political stability are negatively related to the emigration rates of the well-educated, such that emigration rates are lower where measures of government stability and democratic accountability indicate greater stability. Dimant et al. 2013 find that corruption is positively associated with emigration and that this association is strongest among the well-educated, as corruption diminishes the returns of education. Likewise, Schneider 2015 and Cooray and Schneider 2016 find that corruption is a push factor leading to emigration of the well-educated, but that the effect is also evident among less well-educated individuals.

4. Research Design

To test our hypotheses, we conduct cross-sectional time-series analyses on a dataset consisting of 101 low and middle income countries. In these analyses, our independent variables measure different types of foreign aid: economic aid, governance aid, and other aid. This data was created by Aiddata[57] and has been categorized by Jones and Tarp into economic, political, and other aid types.[58] Our dependent variable is a measure of emigration rate drawn from Brücker et al.[59] The data for our dependent variable, emigration rate, has only been recorded in five year intervals (1985, 1990, 1995, 2000, 2005, and 2010). Therefore, we analyze a panel with six years of observations spanning 25 years (1985-2010).

4.1 Dependent Variable

As noted above, the dependent variable in this analysis is emigration rate. Brücker et al. created this measure through analysis of 20 OECD receiving countries' census and population registrar statistics.[60] The variable assembly approach used by Brücker et al. follows similar efforts to measure emigration, such as that of Defoort, who used the same methodology to calculate emigration rates to the six largest migrant destination countries (the United States, Canada, Germany, the United Kingdom, France, and Australia).[61] The data also disaggregates emigration rates into low, medium, and high education levels.

4.2 Independent Variables

Our independent variables are different types of foreign aid received by countries in the dataset. Specifically, as noted, we compare economic aid, governance aid, and other aid (each as a percentage of gross domestic product). Our aid data is from Jones and Tarp,[62] who themselves drew the data from

[57] Tierney et al. 2011.
[58] Jones and Tarp 2016.
[59] Brücker et al. 2013.
[60] The 20 countries are Australia, Austria, Canada, Chile, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States.
[61] Defoort 2006.
[62] Jones and Tarp 2016.

AidData[63] and classified it into categories (economic, governance, and other). Specifically, governance aid is operationalized as aid directed to government and civil society and aid to support for NGOs.[64] Economic aid is operationalized as aid for transport and storage, aid for communications, aid for energy generation and supply, aid for banking and other services, aid for agriculture, forestry and fishing, aid for industry, mining and construction, and aid for trade policy, regulations and tourism. "Other" aid includes money allocated towards education, health care and services, water and sanitation, women, and development and food aid, such that social development aid is largely encompassed within this category.[65] Aid categories and descriptions are presented in Table 1.

[63] Tierney et al. 2011.

[64] Several types of aid projects are encompassed within Government and Civil Society and within Support for NGOs. As our analysis and results concern governance aid in particular, we provide a complete list of government aid project types, as well as the funding for projects corresponding to each, in Table 4 in the Appendix.

[65] Emergency response and disaster reconstruction efforts are not treated separately, unlike in Bermeo and Leblang 2015, because such aid, while collected in a relatively shorter span of time, is disbursed over a longer time and for projects not necessarily related to disaster emergencies due to corruption and co-optation by the elite (based on our observations in the field).

Table 1: Describes aid included in each aid category

Aid Category	Aid Description
Governance Aid	Government and Civil Society Support to NGOs
Economic Aid	Transport and Storage Communications Energy Generation and Supply Banking and Financial Services Business and Other Services Agriculture, Forestry and Fishing Industry, Mining, and Construction Trade Policy, Regulations and Tourism
Other Aid	Education General/Basic Health Population Policy and Reproductive Health Water Supply and Sanitation Other Social Infrastructure and Services General Environmental Protection Women Other Cross-Cutting General Budget Support Development Aid/Food Security Assistance Other Commodity Assistance Action Related to Debt Humanitarian Aid Emergency Response Reconstruction Relief Disaster Response and Preparedness Administrative Costs of Donors Refugees in Donor Countries Unspecified

4.3 Control Variables

In addition to foreign aid, several other variables are likely to affect migration trends. These include variables corresponding to push and pull factors, as well as other types of international transfers. Given these likely factors, we include several controls in our models in order to isolate the relationship between our independent and dependent variables. Specifically, we have included measures of per capita gross domestic product (GDP), population, regime type, civil war, foreign direct investment (FDI), oil rents, and international trade. Each of these variables is discussed in greater detail in the paragraphs that follow.

There are several push factors within migrant source countries that are likely to encourage emigration. These include economic malaise, conflict, political repression, and overpopulation. To account for these push factors, controls corresponding to each have been included in the model. First, we include a control for *GDP Per Capita* (log), as we expect that low-income levels will push individuals to emigrate to richer countries.[66] Next, we control for civil war (*Conflict*), with the expectation that citizens will be compelled to leave countries characterized by extreme violence. In doing so, we utilized a three-point measure of civil war intensity from the UCDP/PRIO Armed Conflict Dataset v.4-201, in which a score of "0" indicates no conflict, "1" indicates between 25 and 999 battle-related deaths in a given year; "2" indicates at least 1,000 battle-related deaths in a given year.[67]

Political repression is a third factor that may encourage outward migration. With this in mind, we control for *Regime Type*, using a variation of the Quality of Governance (QoG) measure of Democracy from Jones and Tarp.[68] We expect democratic countries to experience less outward migration, as people are more satisfied with democratic governance and, therefore, less inclined to seek exit. Finally, we control for *Population* (log), on the basis that countries characterized by large populations will also have greater competition for scarce resources. By including this variable, our analysis is consistent with other relevant studies.[69] Data for *Population* has been drawn from Jones and Tarp.[70]

In addition to variables intended to account for push factors, controls have been included to account for alternative international economic transfers that may be affecting migration flows. Specifically, we control for international trade and FDI (each as a percentage of GDP). These types of transfers have been highlighted as development friendly approaches to migration control, in much the same way as foreign aid.[71] As such, it is appropriate to include them as controls to more effectively isolate the effects of foreign aid. Finally, oil rents (as a percentage of GDP) have been controlled for, in light of the

[66] Data for this variable was drawn from Jones and Tarp 2016.
[67] Gleditsch et al. 2002; Pettersson et al. 2015. Link to the UCDP/PRIO Armed Conflict Dataset v.4-201codebook: http://www.pcr.uu.se/digitalAssets/124/124920_1codebook_ucdp_prio-armed-conflict-dataset-v4_2015.pdf.
[68] The QoG measure, from Teorell et al. 2016, is calculated by averaging the Freedom House and Polity scores. The variation of the measure used here includes imputed values for country-years in which Polity data is missing. Jones and Tarp 2016 standardized the QoG measure to center the mean at zero and the standard deviation at 100. For discussion of this measure and its favorable performance relative to the individual measures that contribute to it, see Hadenius and Teorell 2005.
[69] Breuing et al. 2012; Bermeo and Leblang 2015.
[70] Jones and Tarp 2016.
[71] Böhning 1994.

argument that oil and foreign aid can have similar characteristics and effects on developing countries,[72] as well as the relationships between oil production and migrant labor dynamics.[73] Data for these three variables was drawn from the World Bank's World Development Indicators.[74]

4.4 Model Specifications

Our primary statistical model includes country fixed effects in order to account for the effects of unobserved country-specific characteristics on the dependent variable. Likewise, year fixed effects have been included to account for unexpected variation or specific events that may have affected the dependent variable over the course of the time series. Independent and control variables have been lagged by one year to account for the potential delayed reaction of migration outflows to aid inflows and to allay concerns about potential endogeneity.[75] Finally, robust standard errors are included to correct for heteroscedasticity.

The regression equation for our main model is:

$$Y_{it} = ECONAID_{it} + GOVAID_{it} + OTHERAID_{it} + X_{it} + U_{it} + T_{it} + E_{it}$$

where Y_{it} is migration rate, X_{it} captures control variables, U_{it} is country effects, and T_{it} is time effects.

We also analyzed several alternative model specifications. First, we include a variable for *Squared GDP Per Capita*, following the argument that there is an inverted U shaped relationship between income and migration.[76] In addition, we estimated mixed effects models to combine the potential random effects of relatively slower moving variables with our fixed effects models.

Finally, we considered a model that includes variables intended to account for factors within migrant destination countries in the Global North. While it is difficult to account for pull factors within rich countries that attract migrants, insomuch as our sample consists of developing countries from which migrants flow, we utilized controls that should account for dynamics within the North as a whole and

[72] Morrison 2009.
[73] Halliday 1977; Arnold and Shah 1984.
[74] See Table 5 in the Appendix for descriptive statistics of all variables included in this study.
[75] In an additional set of tests, discussed below and displayed in the appendix, we lagged the independent variables one, two, and three years.
[76] Martin and Taylor 1996.

that are likely to affect inward movements of people. Specifically, we included controls intended to account for labor market dynamics and border security in OECD countries. For labor market, we added a measure of annual rates of GDP (at purchasing power parity) for all OECD countries. This measure captures the wealth of migrant destination countries and, with it, the potential labor market opportunities for would-be migrants.[77] As a proxy for border security, we use the annual number of fatalities from terrorism for the 20 OECD countries that are used to create the dependent variable, as major terrorist incidents are often followed by enhanced border security.[78] Data for terrorism deaths was drawn from the RAND Database of World Terrorism Incidents.[79]

5. Results

The results show that aid directed towards governance is negatively related to emigration rate, such that those countries that receive larger amounts of aid directed towards governance (specifically, government and civil society and support for NGOs), are characterized by lower emigration rates. This is consistent with our expectation that aid-supported improvement of political institutions deters outward migration. In contrast, economic aid and other types of aid do not have significant relationships with emigration rate.

The results are presented in Table 2, where Model 1 shows the results for the main model, Model 2 provides results with the inclusion of the quadratic GDP term, Model 3 provides the mixed effects model, and Model 4 shows the results where variables intended to capture labor market dynamics and border security in migrant destination countries have been included. We also estimated the mixed effects model with a quadratic GDP term, but did not include them in the paper because the quadratic term remained non-significant and the results for other variables matched those in Model 2.

[77] Data for this variable was drawn from Euromonitor International (http://www.euromonitor.com).
[78] Alden 2008.
[79] http://smapp.rand.org/rwtid.

Table 2

Dependent Variable: Emigration Rate	(Model 1) Main model	(Model 2) Income Hump	(Model 3) Mixed Effects	(Model 4) Pull Factors
Economic Aid_{t-1}	-0.000360	-0.000365	-0.000369	-0.000339
	(0.000352)	(0.000353)	(0.000363)	(0.000355)
Governance Aid_{t-1}	-0.00140**	-0.00141***	-0.00131**	-0.00126***
	(0.000536)	(0.000522)	(0.000583)	(0.000461)
Other Aid_{t-1}	-6.36e-05	-7.67e-05	-5.40e-05	-0.000121
	(9.49e-05)	(0.000102)	(0.000172)	(0.000137)
GDP Per $Capita_{t-1}$	-0.00491	-0.0429	-0.000130	-0.0156***
	(0.00497)	(0.0313)	(0.00342)	(0.00552)
Squared GDP Per $Capita_{t-1}$		0.00243		
		(0.00208)		
$Population_{t-1}$	-0.00886	-0.00891	-0.00931***	-0.0872**
	(0.00626)	(0.00595)	(0.00252)	(0.0364)
$Democracy_{t-1}$	-1.84e-05	-1.65e-05	-1.15e-05	-9.91e-06
	(2.13e-05)	(2.11e-05)	(1.37e-05)	(2.15e-05)
$Conflict_{t-1}$	-0.00398	-0.00424	-0.00369**	-0.00501**
	(0.00253)	(0.00257)	(0.00167)	(0.00229)
FDI (% $GDP)_{t-1}$	1.91e-05	-3.70e-09	5.01e-05	-3.75e-05
	(0.000142)	(0.000131)	(0.000185)	(0.000158)
Oil Rents (% $GDP)_{t-1}$	0.000203	0.000196	0.000107	5.08e-05
	(0.000192)	(0.000194)	(0.000201)	(0.000161)
Trade (% $GDP)_{t-1}$	0.000162***	0.000162***	0.000155***	0.000133***
	(4.95e-05)	(5.04e-05)	(4.25e-05)	(4.19e-05)
Terror Deaths in $OECD_{t-1}$				1.06e-05
				(8.28e-06)
GDP in OECD $(PPP)_{t-1}$				2.34e-09***
				(7.45e-10)
Constant	0.195*	0.343**	0.165***	1.494**
	(0.104)	(0.143)	(0.0486)	(0.588)
Observations	527	527	527	525
Number of Countries	101	101	101	101
Country & Year FE	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

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

Notes: The negative and significant relationship between governance aid and emigration rate holds across model specifications. The leftmost column provides the main model, the second model from the left (Model 2) provides the model with the inclusion of a measure for GDP per capita squared, the third model from the left (Model 3) includes mixed effects, and the model on the right (Model 4) includes variables intended to capture pull factors. The sample includes 101 developing countries, over a time series spanning 25 years (1985-2010) in five year intervals (1985, 1990, 1995, 2000, 2005, and 2010). Country and year fixed effects and robust standard errors included; independent variables lagged one year.

These results show the significant and negative relationship between *Governance Aid* and the dependent variable, *Emigration Rate*, across model specifications. The other aid variables, *Economic Aid* and *Other Aid*, have negative coefficients but neither is significant. Governance aid appears to be deterring emigration, presumably through its positive effects on political institutions, whereas economic and social aid seem neither to be deterring nor enabling migrants. The insignificant coefficients for non-political aid types could indicate either that aid is not affecting economic development or that the economic development supported by economic aid is not affecting migration patterns.

The positive and significant coefficient of *Trade (% GDP)* across models could be indicative that the former explanation (that other types of aid are not affecting economic development) is more likely. Among economists, trade is widely believed to support economic development.[80] Thus the significant coefficient of the trade variable could mean that economic development (generated through trade, but not through economic or social aid) has an enabling effect on migrants. This would support the notion that political and economic development have contrasting impacts on migration patterns. However, we hesitate to speculate too broadly about the role of trade within this framework, as there could be many other explanations for the positive relationship between trade and emigration rates.[81] At any rate, the positive coefficient for trade is consistent with prior work on trade and migration.[82]

Other variables in the models also merit mention. First, it should be noted that *Squared GDP Per Capita* is not significant and, therefore, does not provide evidence for an income hump dynamic. *Population* and *Conflict* are significant and negative in Models 3 and 4, suggesting that violent conflict and large populations are accompanied by reductions in outward migration. These findings seem counter-intuitive, as we would expect overpopulation and conflict to act as push factors, but evidence indicates that conflict can reduce migration[83] and our finding regarding population is consistent with earlier statistical work in this area.[84] More expectedly, *GDP Per Capita* is significant and negative in

[80] Krugman 1990; Dollar 1992; Frankel and Romer 1999; Dollar and Kaaray 2001; Bhagwati and Srinivasan 2001.
[81] Among other explanations, trade openness may be disruptive to small and medium sized industries, thereby leading to displacement and exit; see Massey et al. 2002. Alternatively, high trade levels may be indicative of high demand from rich countries, which in turn may be reflective of economic growth in those countries and accompanying opportunities for migrants.
[82] Martin 1993; Massey et al. 2002.
[83] Bohra and Massey 2011.
[84] Docquier and Marfouk 2006. These results may be a function of our dependent variable: countries with larger populations are likely to have smaller emigration rates, as the denominator in the emigration rate term is population; as population increases the denominator increases further and the emigration rate decreases. Another explanation for this negative relationship between

Model 4, indicating that fewer people emigrate when incomes are high. Likewise, *GDP in OECD (PPP)* is significant and positive in this model, suggesting that individuals exit at higher rates when the economies of OECD countries are strong.

The main model has been extended in a supplementary analysis, in which independent variables are lagged one, two, and three years. This is intended to account for possible differential effects of the independent variables across lags and to assuage concerns about endogeneity. These results are presented in Table 6 of the Appendix. While the results regarding *Governance Aid* hold across independent variable lags, the signs for *Economic Aid* and *Other Aid* do change at the three-year lag, which could be indicative that aid volatility undermines the effects of aid within these categories.[85] In addition, *FDI (% GDP)* is significant and positive at a two-year lag, while *Trade (% GDP)* is significant and positive at one and two year lags. All things considered, our results provide strong evidence that different aid types have diverse effects on developing nations' emigration patterns.

Next, we conduct separate analyses of aid and emigration rates for populations with low levels of education (no schooling, primary schooling only, or lower secondary education), medium levels of education (high-school degree or equivalent), and high levels of education (more than high-school degree). These models, which otherwise mirror Model 4 in Table 2 (the model with the highest R^2) in terms of specification, test the conditioning effect of education, proposed in our hypotheses.

The results for this segment of the analysis should be of interest both to development specialists and to governments keen on managing immigration flows, as oppose to simply restricting immigration. From the perspective of development specialists, foreign aid's usefulness as a development promotion tool is greater if some forms of aid are preventing the exit of better educated individuals – that is, preventing brain drain. In contrast, governments in rich countries may be particularly opposed to the inflows of poorly educated migrants, but less averse to immigrants with high education levels. If foreign aid is not deterring migration by the less educated, then its utility as a migration management policy may be limited.

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population and emigration rate is that communities simultaneously experience decreases in fertility and increases in migration outflows during times of crisis, see Davis 1963; Ebanks et al. 1975. Within this context, we would expect to see emigration increase as population decreases.

[85] This would be consistent with Jones and Tarp 2016.

Table 3 provides results as to the relationships between aid and emigration rates of the low (Model 5), medium (Model 6), and highly (Model 7) educated:

Table 3

Dependent Variable: Emigration Rate	(Model 5) Low Educated	(Model 6) Med. Education	(Model 7) High Education
Economic Aid_{t-1}	-0.000337	1.12e-05	-0.00197
	(0.000287)	(0.000300)	(0.00120)
Governance Aid_{t-1}	-0.000963**	-0.000634	-0.00548*
	(0.000404)	(0.000632)	(0.00310)
Other Aid_{t-1}	-0.000138	-0.000108	0.000248
	(0.000128)	(0.000129)	(0.000342)
GDP Per $Capita_{t-1}$	-0.00676	-0.0167***	-0.0567***
	(0.00665)	(0.00513)	(0.0144)
$Population_{t-1}$	-0.0889***	-0.0264	-0.0797
	(0.0315)	(0.0179)	(0.0490)
$Democracy_{t-1}$	3.99e-06	-1.24e-05	-4.80e-07
	(1.60e-05)	(2.15e-05)	(4.77e-05)
$Conflict_{t-1}$	-0.00354	-0.00242	0.00618
	(0.00234)	(0.00181)	(0.00414)
FDI (% $GDP)_{t-1}$	7.97e-06	0.000107	0.000650
	(0.000198)	(0.000171)	(0.000500)
Oil Rents (% $GDP)_{t-1}$	0.000111	-4.05e-05	0.000225
	(0.000157)	(0.000165)	(0.000741)
Trade (% $GDP)_{t-1}$	9.22e-05**	9.87e-05**	0.000108
	(3.56e-05)	(4.80e-05)	(0.000125)
Terror Deaths in $OECD_{t-1}$	5.33e-06	1.40e-05	-2.96e-05
	(7.28e-06)	(1.27e-05)	(2.20e-05)
GDP in OECD $(PPP)_{t-1}$	2.03e-09***	9.42e-10**	2.96e-09***
	(6.21e-10)	(4.56e-10)	(8.75e-10)
Constant	1.452***	0.568**	1.819**
	(0.496)	(0.277)	(0.794)
Observations	525	525	525
Number of Countries	101	101	101

Robust standard errors in parentheses

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

Notes: Regression results showing relationships between the types of aid received and emigration rates for low, medium, and highly educated individuals. The sample includes 101 developing countries, over a time series spanning 25 years (1985-2010) in five year intervals (1985, 1990, 1995, 2000, 2005, and 2010). Country and year fixed effects and robust standard errors included; independent variables lagged one year.

The results demonstrate that the effects of foreign aid on emigration rates vary across education levels. The coefficient for *Governance Aid* is negative and significant in the left column, which includes emigration rates only for individuals with low education levels. In the column on the right, which includes emigration rate only for individuals with high education levels, *Governance Aid* also produces a negative and significant coefficient, indicating that emigration rates of well-educated individuals are lower where governance aid levels are higher.[86] Neither of the other aid types (economic or other aid) are significant correlates of the emigration rates of either the low or highly educated; additionally, none of the aid variables produce significant coefficients in the middle column, which includes emigration rates only for individuals with medium level education levels.

The results disaggregated by education type help to further clarify the complex relationships between aid, development, and migration. The strong negative relationship between *Governance Aid* and the emigration rates of individuals with low education suggests that the poorly educated are being particularly affected by the improvements to political institutions that accompany governance aid. Additionally, the negative relationships between the emigration rates of the well-educated and *Governance Aid* suggest that, in addition to the deterring effects of political institutions, aid may be creating jobs that cater to the well-educated.

All else equal, a one-unit increase in governance aid is associated with 0.0014 decline in emigration rate of developing countries. The coefficient is stronger for the emigration rates of the highly educated: a one-unit increase in governance aid produces a 0.00548 decline in the emigration rates of populations with more than high school education. In contrast the coefficient is only -0.000963 for individuals with less than high school education. Based on these estimates, on average, increasing aid for governance projects fivefold would reduce the emigration rate of highly educated individuals by 2.74% and the emigration rate of less educated individuals by 0.48%. This would produce a 0.7% reduction in overall emigration rates.

For our sample of 101 developing countries during 1985-2010, on average, aid allocation for governance projects was three times smaller than that for economic projects and seven times smaller than that for other/social projects. Despite this negligence against funding governance projects,

[86] Although it should be noted that the p-value is only significant at the 10% level.

governance aid appears to be more effective than economic and other aid in reducing migration. More equal treatment of governance projects in aid allocation decisions can produce more effective results for managing migration, even when not considering multiplier effects associated with investments in political institutions and public sector capacity building.

Such investments targeted at reducing emigrants, especially highly educated ones, would be welcomed by developing countries as well, as for our sample of 101 countries during 1985-2010, the average emigration rate of highly educated individuals was four times greater than that of medium educated individuals and six times greater than that of individuals with low education levels. Likewise, developed countries should be supportive of aid that prevents the emigration of individuals with lower education levels, particularly as many blue-collar jobs in wealthy countries are being lost to mechanization and outsourcing. Thus, both developing and developed countries should see incentives in these results to encourage a larger share of aid dollars to be directed towards governance projects.

The relationships between migration patterns and other variables also vary by the education levels of individuals. Specifically, *Trade (% GDP)* is a positive and significant correlate to the emigration rates of individuals with low and medium level education, but not a significant correlate to the rates of the highly educated. Likewise, *GDP Per Capita* remains correlated to emigration, but only for the better educated. The significant effects of *Conflict* disappear in models disaggregated by education, while *Population* is only significant among the most poorly educated.

6. Concluding Analysis and Policy Implications

The results of this study support the notion that some foreign aid does reduce outward migration from developing countries. In particular, our analysis of a sample of 101 developing countries over a time series spanning 25 years reveals that aid directed towards governance (specifically, aid to government and civil society and to support for NGOs) has a negative relationship to emigration rate. The implication is that this type of aid promotes the betterment of political institutions within developing countries and that these better institutions improve the conditions of potential migrants, thereby deterring them from uprooting their lives to move abroad.

Additional analysis of emigration data disaggregated by education level adds a layer of nuance, by clarifying that aid flows affect the migration patterns of differently educated individuals in different ways. These results suggest that governance aid is reducing the push factors that compel poorly educated individuals to migrate. This may reflect the effects of this type of aid on political and social institutions in developing countries by, for example, reducing corruption, increasing political rights, and improving the provision of services governments and civil society groups. This indicates that aid targeted towards political sectors is working to promote development (as development specialists want) and to reduce the influx of low skilled migrants (as governments in rich countries often want).

Additionally, governance aid appears to be preventing the outward migration of well-educated individuals. This suggests that well-educated individuals also respond to improvements in terms of governance, which is consistent with earlier work by Dutta and Roy as well as Dimant et al.[87] It may also be that governance aid is generating employment opportunities for the highly skilled. In either case, findings provide evidence that aid does not affect migration patterns in a manner that produces brain drain.

Our findings contribute to the literature by demonstrating that some forms of aid act quite differently than others, in terms of their effects on migration patterns. These results provide evidence to supports arguments by scholars and politicians in favor of foreign aid as a development friendly immigration policy, but in doing so suggests that aid only has this effect when it is targeted towards government or civil society. This implies that the conventional wisdom – that economic malaise encourages migration and that economic development deters it – is incorrect. Instead, government inefficiency, unaccountability, and irresponsibility are the push factors that encourage outward migration, particularly among the less well off. Efforts that improve these political institutions prevent migrant exit.

Our results and their policy implications contrast with those of earlier scholars. Unlike de Haas and Clemens,[88] who conclude that development promotion efforts, including aid provision, will spur migration, our results indicate that some foreign aid, specifically aid directed towards governance, produces the policy outcomes desired by anti-immigration forces in wealthy countries. Other forms of aid are ineffective in this regard. Moreover, the effects of governance aid seem to be development-

[87] Dutta and Roy 2011; Dimant et al. 2013.
[88] de Haas 2013; Clemens 2014.

friendly, even if aid does not directly promote economic development, as aid is improving governing institutions and reducing brain drain by deterring emigration by well-educated individuals. Thus, appropriately targeted aid does appear to be an effective immigration policy.

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Appendix

Table 4: Type, type frequency, and budgets of governance aid

Purpose of Government Aid	Disburs. In USD	% Disburs. In USD
Support Public Management and Rule of Law	*1,815,637,774*	*62.94%*
Legal and judicial development	978,854,726	33.93%
Public sector policy and adm. Management	571,373,899	19.81%
Government administration	75,152,696	2.61%
Public finance management	35,425,095	1.23%
Social/ welfare services	30,408,314	1.05%
Economic and development policy/planning	78,533,127	2.72%
General budget support	24,063,939	0.83%
Decentralization and support to subnational govt.	21,825,978	0.76%
Support Civil Society and Democracy	*872,273,932*	*30.24%*
Strengthening civil society	217,664,383	7.55%
Democratic participation and civil society	187,287,048	6.49%
Support to national ngos	146,431,466	5.08%
Support to local and regional ngos	105,759,899	3.67%
Human rights	98,567,097	3.42%
Women's equality organizations and institutions	63,675,469	2.21%
Elections	52,888,570	1.83%
Other Government Aid	*196,730,919*	*6.82%*
Total	*2,884,642,625*	*100%*

Table 5: Descriptive Statistics used for all variables in the analysis

Variable	Mean	Std. Dev.	Min	Max
Emigration Rate	.0397897	.0689659	.0002177	.4876006
Emigration Rate (high educated)	.1819258	.1929438	.0005626	.9954359
Emigration Rate (Med. educated)	.0461604	.0729787	.000111	.4096341
Emigration Rate (Low Educated)	.0299312	.0593244	.0000998	.345508
Economic Aid	1.371217	2.174175	0	21.44111
Governance Aid	.4638635	1.735428	0	36.3735
Other Aid	3.40249	5.960991	0	110.7357
GDP Per Capita	7.81383	.9417269	4.613991	9.766619
Population	16.05087	1.667066	11.51454	21.01431
Regime Type	-.0261623	100.0079	-172.6023	171.9888
Civil War	.3043631	.5932051	0	2
FDI (% GDP)	2.930869	5.826492	-82.8921	89.47596
Oil Rents (% GDP)	4.677258	10.82845	0	73.33453
Trade (% GDP)	71.30706	38.50859	.0209992	321.6317
Squared GDP Per Capita	61.94247	14.68611	21.28892	95.38684
Terror Deaths in OECD	169.9931	579.772	1	3019
GDP in OECD (PPP)	2.68e+07	1.00e+07	1.14e+07	4.36e+07

Table 6

Dependent variable: Emigration Rate	Independent variable lags: 1-year (Model 1)	2-year (Model 2)	3-year (Model 3)
Economic Aid	-0.000360	-0.000482	1.42e-05
	(0.000352)	(0.000544)	(0.000342)
Governance Aid	-0.00140**	-0.00127***	-0.000617**
	(0.000536)	(0.000413)	(0.000257)
Other Aid	-6.36e-05	-0.000178	4.54e-06
	(9.49e-05)	(0.000139)	(9.53e-05)
GDP Per Capita	-0.00491	-0.00425	0.00282
	(0.00497)	(0.00544)	(0.00215)
Population	-0.00886	-0.00950	-0.00140
	(0.00626)	(0.00644)	(0.00107)
Democracy	-1.84e-05	-1.74e-05	-6.46e-06
	(2.13e-05)	(2.24e-05)	(1.34e-05)
Conflict	-0.00398	-0.00327	-0.000354
	(0.00253)	(0.00241)	(0.00170)
FDI (% GDP)	1.91e-05	0.000304**	0.000148
	(0.000142)	(0.000133)	(0.000109)
Oil Rents (% GDP)	0.000203	-4.65e-06	-0.000386
	(0.000192)	(0.000105)	(0.000247)
Trade (% GDP)	0.000162***	0.000111**	1.33e-05
	(4.95e-05)	(5.18e-05)	(3.80e-05)
Constant	0.195*	0.204*	0.0280
	(0.104)	(0.112)	(0.0223)
Observations	527	523	538
Number of Countries	101	101	104
Country & Year FE	YES	YES	YES

Robust standard errors in parentheses

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

Notes: Regression results showing relationships between the types of aid received and emigration rates of developing countries. The sample includes 101 developing countries, over a time series spanning 25 years (1985-2010) in five year intervals (1985, 1990, 1995, 2000, 2005, and 2010). Country and year fixed effects and robust standard errors included; independent variables lagged one, two, and three years.