AID AS AN EMIGRATION MITIGATION STRATEGY?

An analysis of official developmental assistance's impact on the emigration rates of aid receiving countries

submitted by

Anton C. Holm

University of Gothenburg, Department of Political Science
University of Konstanz, Department of Politics and Public Administration

---

Master's Thesis:	30 credits
Program:	Master's Program in International Administration and Global Governance
Date:	23.05.2022
Supervisor:	Dr. Agnes Cornell
Words:	19796

Abstract

In the face of increasing pressure to slow immigration, policymakers in the United States and Europe have increasingly turned to the use of official developmental assistance (ODA) in an attempt to mitigate emigration from lesser developed countries. This strategy attempts to address the root causes of underdevelopment assumed to be motivating emigration and are billed as a more humane method of deterring immigration, standing in juxtaposition to border enforcement mechanisms. While the existing literature examines the relationship between ODA reception and migration via changes in economic indicators, I construct a theoretical framework in which ODA reception impacts migratory patterns via a mediating effect on country development. While previous quantitative analyses concerning ODA's impact on emigration patterns have returned mixed results, the scope of these research endeavors have been limited to analyses of immigration solely to OECD countries. Making use of the 2020 International Migrant Stock dataset published by the United Nations Population Division, I conduct a quantitative analysis examining how total ODA and sector specific ODA reception impacts the total emigration rates of all countries that received ODA from 1990-2019, considering immigration to all destination countries. I find that reception of net ODA has a positive impact on the emigration rates of underdeveloped aid receiving states and a negative impact on the emigration rates of comparatively more developed countries. When disaggregated into subsectors, governance ODA, social ODA, and economic ODA have mixed impacts on emigration rates at different levels of country development.

Table of Contents

List of Figures

List of Tables

Acknowledgments

I would like to thank Dr. Agnes Cornell for the continued discourse and guidance which strengthened my resolve and enhanced this work. I thank my family and friends for their continuous support and encouragement. In particular, I thank Mr. Gregory Roth for two decades of debate and the life experiences which helped inform my pursuit of postgraduate education and life abroad.

1. Introduction

Western states have long sought to manage north-south migratory flows, with an increased interest in deterring irregular migration after the mass migratory peak Europe experienced in 2015. Strategies of using official developmental assistance (ODA) to combat so called "root causes" of emigration from migrant-sending states have experienced a resurgence in response to recent migratory swells (Gowan, Dennison, and FIne 2019). However, the political usage of ODA is based on conjectures of how ODA impacts emigration patterns, a topic that remains understudied within the ODA-migration nexus. While a significant amount of research has been conducted on the domestic consequences of immigration and emigration, the empirical relationship between ODA reception and emigration remains under-analyzed, especially in relation to the magnitude of resources devoted to using ODA to disincentivize South-North migration. Given the resurgence in support for the long-standing practice of using ODA to address the root causes motivating emigration, it is important to investigate what impact ODA has on the emigration patterns of aid receiving countries. Therefore, in this master's thesis I seek to answer the research question: *Does official development assistance impact emigratory flows from aid receiving states?*

My thesis builds upon previous research by theoretically accounting for the causal mechanisms linking ODA to emigration via aid's impact on different aspects of country development, expanding upon the reliance on GDP per capita as a sole proxy for development predominant in the existing literature. While GDP per capita is a crucial part of the link between development and migratory patterns, other aspects of development influence the migratory decisions of individual agents in developing countries (Skeldon 2012). Of particular importance are health, educational, governance, and of course economic development, which together construct a multidimensional definition of development useful for analyzing the mediating effect existing between ODA reception and migratory outcomes. In countries in which these sectors are underdeveloped, a strong incentive among individual agents to maximize utility by emigrating exists. In such underdeveloped countries, increases in GDP per capita loosen credit constraints and better allow individuals to afford migration costs (Clemens and Postel 2018). I provide a contribution to the existing ODA-migration nexus by developing a theoretical framework that holds that as countries reach higher levels of development, emigration rates are expected to fall in proportion to the decreasing maximum developmental utility one can achieve by emigrating.

Empirically, this thesis expands upon the scope of previous research by analyzing the emigration rates of all ODA receiving countries in their entirety, increasing the scale of observation beyond previous

studies which have exclusively examined bilateral emigration flowing from ODA receiving countries to OECD countries. By considering the total emigration rates of ODA receiving countries, I present results indicative of ODA's impact on emigration rates at a macro level, clarifying the impact the aid reception has on the emigratory patterns of developing countries. Even from the perspective of ODA sending countries, it is crucial to understand how ODA reception impacts immigration to transit or neighboring countries outside of the OECD, which in turn may lead to migratory pressures faced by the country disbursing ODA.

Using a number of fixed effect models with standard clustered errors I analyze the impact of ODA reception on the emigration rates of 135 countries from 1990-2019 utilizing a panel dataset constructed from the Quality of Governance standard time-series dataset, the OECD DAC2a and CRS datasets regarding the disbursements of ODA to receiving countries, as well as the International Migrant Stock 2020 dataset sourced from the UN Population Division. The expansion to a global analysis provides a previously lacking, but necessary, perspective on the impact that ODA disbursement has on international migratory trends. I find that total ODA has a positive impact on the emigration rates of lesser developed countries and a negative impact on the emigration rates of comparatively more developed ODA receiving countries. Additionally, I disaggregate ODA into subsectors of governance ODA, social ODA, and economic ODA, finding that the subsectors have mixed impacts on emigration rates at different levels of country development.

Despite relatively little research being published on the topic, the phenomenon of using aid as a geopolitical migration mitigating strategy is by no means a recent or uncommon development. The United States passed legislation in 1986 explicitly allocating ODA to Latin America for migration deterrence while European leaders in the early 1990's sought to reduce migratory inflows by assisting African development (Asencio 1990; Khoudour-Castéras 2009). A series of empirical works have demonstrated that ODA is often not disbursed for altruistic goals but rather in an effort to assist the donor country's geopolitical goals abroad, including the attempt to limit immigration from aid receiving states (Czaika and Mayer 2011; Menard and Gary 2018). The disbursement of ODA by migrant-receiving states to mitigate migratory flows originating from aid receiving states rests on two assumptions; that ODA can have substantive impacts on the development of aid receiving states and that these impacts can reduce or deter emigration (De Haas 2007; Nyberg–Sørensen, Hear, and Engberg–Pedersen 2002). The use of ODA operates as a proactive migration mitigation tool which is, to some, theoretically posed to better prevent emigrants from leaving their country of origin in the first place.

The sentiment is wide spread, with French, German, Danish, and American heads of state all having advocated for increased aid and cooperation with migrant sending and transit countries to assist development in an effort to directly reduce immigration (Decrinis 2019). Such political sentiment has reached the UN level as well, evidenced by the 2018 Global Compact for Migration which encourages development in migrant sending states in order to reduce emigration (IOM UN 2022). Governments and international organizations have used ODA to target various domestic institutions to improve conditions in aid-receiving states, with a heightened focus on employment creation, the strengthening of domestic governance capacity, and the promotion of regular, as opposed to irregular, migration (Clemens and Postel 2018). The concept of using ODA to "help them at home" was inspired in large part by the neoclassical economic perspectives which dominated migration and development literature in the 1980's and 1990's and have continued to influence western migration policy in the time since.

Since its introduction as a migration management tool, ODA has become a channel to not only assist poor countries develop but to help them develop in accordance with the goals of donor states. While the OECD Development Assistance Committee does not specify an "emigration deterrence" ODA sector, allocation of some ODA such as the Biden administration's recent pledge of $4 Billion USD to Central American countries is explicitly advertised as being devoted to the improvement of domestic conditions in aid receiving countries in the hope that this will reduce bilateral immigration. Across the Atlantic, the EU Trust Fund and European External Investment Plan have both placed a strong focus on using ODA to improve conditions in refugee producing or hosting areas as well as on migration routes to Europe in an effort to reduce migratory flows to the union (Knoll and Sherriff 2017). At the international system level, the UN's International Organization for Migration (IOM) has concentrated on expanding partnerships with NGOs and local civil society with the stated hope that these institutions will assist local development, thereby reducing irregular migration (IOM UN 2022a).

The use of ODA as a migration deterrent has become increasingly appealing due to the rising costs of generally ineffective border enforcement strategies implemented by migrant receiving states. The United States' annual spending on border security has increased dramatically from $263 million USD in 1990 to $4.9 billion USD in 2021, while agency specific budgets have followed suit, evidenced by the stark contrast in the 2003 budget of Immigration and Customs Enforcement (ICE) of $3.3 billion and its 2021 budget of $8.3 billion (ACI 2022). While these increases in resources can be assumed to be primarily aimed at combatting irregular migration due to the mission statement of ICE, the total immigrant population in the United States has continuously increased from 19.7 million in 1990 to 44.9 million in 2019; approximately 23% of which are estimated to be irregular immigrants (Budiman 2020;

MPI 2020). Migration policy failures and limitations are not unique to the American context; Europe has also struggled to handle migratory pressures and has subsequently explored several migration policies to mitigate pressure and halt migrant flows.

Becoming operational in 2005, Frontex has been mandated to maintain the European Union's external borders and had its role and budget expanded in the face of the 2015 migration crisis. The most recent EU mandate granted the agency over €11 billion for the 2021-2027 period to expand its standing corps, purchase new enforcement equipment, and strengthen the national border control agencies of EU member states via training programs (European Court of Auditors 2020). Increased funding provided to Frontex was largely motivated by the peak of irregular migration the EU experienced in 2015 which saw the union's irregular migrant population swell to 4.1-5.3 million in 2015 before falling back to 3.9-4.8 million irregular migrants in 2017 (Connor and Passel 2019). While flows of irregular migrants are prone to cause political and media frenzy, this type of immigration ultimately makes up less than 1% of the EU's total migrant population. Increases in funding for border patrol agencies and increased border security in both the United State and in Europe are reactionary measures to mitigate migration, interacting with immigrants when they have already arrived at a border or port of entry.

Conversely, the use of ODA as an emigration mitigation measure is viewed as a more humane and proactive method of migration management, seeking to ease the humanitarian stress in developing countries which motivates international movement (Schwartz 2021). In migrant receiving states, reports of the poor quality of migrant detention centers and abuse of migrants on the United States' southern border and the external borders of Europe have mobilized protests criticizing current migration policies as being inhumane (Deutsche Welle 2020; McLaughlin and Chavez 2019). Critiques of the current western migration strategy, which relies heavily on reactionary immigration deterrence strategies, have encouraged governments to employ ODA as an emigration deterrence mechanism. These critiques have been met with action; net ODA flows from countries on the Development Assistance Committee of the OECD rose to an all-time high of $157 billion in 2020, over a 200% increase from the 2000 total of $74.6 billion (OECD 2022b). This notable increase in net ODA serves as a primary motivator of this thesis.

Immigration policy continues to be a divisive issue throughout migrant receiving western countries and is an issue unlikely to wane as many of the push and pull factors motivating south-north migration will persist throughout the 21st century (Hipsman and Muzaffar 2016). Significant economic resources are increasingly devoted towards the disbursement of ODA with the hope that these allocations will reduce emigration in aid receiving states, ultimately relieving migratory pressure placed on aid sending states. However, the causal mechanisms of ODA's supposed reduction of emigration in

aid receiving states remain understudied. This thesis builds upon the ODA-migration nexus, currently limited by a lack of empirical research endeavors, by contributing a unique macro perspective analyzing the impacts of total ODA and ODA disaggregated into subsectors on the emigration rates of ODA receiving states.

The remainder of this thesis proceeds as follows. A literature review will analyze dueling theoretical perspectives concerning ODA's proposed impact on migration, followed by a summation of the empirical works relevant to the question at hand. Having reviewed the current state of the ODA-migration subfield, I offer my theoretical contribution and state the according testable hypotheses. Next, an in-depth discussion of the data selected and the research design employed will follow. I will then present my analysis of the results, following with a discussion of my findings within the context of the existing ODA-migrant subfield and modern usage of ODA as an emigration deterrent. The thesis will conclude with a discussion of possible avenues for future research to explore as well as a couple of limitations of this thesis.

2. Literature Review

Immigration is a difficult concept to place within the international relations theoretical sphere, as the phenomenon defies the traditional notion of a nation-state and challenges the idea of fixed borders demarking sovereign territory (Pagani 2021). However, immigration is of course not a new spectacle but rather a long-standing force in human history, having long sparked debates concerning its theoretical underpinnings at a macro level and the motivating factors of migration decisions made at the individual agent level. A relatively contemporary development, however, are the modern strategies implemented and constraints faced by migrant-receiving states attempting to "manage" migration (de Haas 2010a). Since the 1980's there have been increased efforts of western migrant receiving states to deter immigration, particularly the immigration of unskilled and irregular migrants. A variety of strategies, with different levels of success, have been implemented in an effort to deter irregular migration and tighten access to legal migration routes. Of particular importance to this thesis, is the use of ODA to reduce emigration from aid receiving states.

This literature review will examine the theoretical frameworks concerning how ODA reception effects emigration from aid receiving states, the causal mechanisms by which ODA has a tangible impact on emigratory patterns, and the existing empirical works published on the topic. I utilize both a neoclassical economic theory and a mobility transition theory perspective to discuss the current state of

literature, motivations of emigration, and the strategic use of ODA to quell it. Of important note is the impact of ODA on development in aid receiving countries, a phenomenon that both theoretical schools deem crucial for predicting migratory patterns. This literature review includes a summary of the aid effectiveness debate and a review of areas in which ODA can improve its effectiveness in assisting development. I conclude by identifying weaknesses in the theoretical and empirical approaches commonly found in the ODA-migration literature.

2.1 Development and Migration: A Neoclassical Economic Perspective

The use of ODA as a migration management strategy aligns closely with the neoclassical economic theory which dominated the migration and development literature of the late 1980's and early 1990's. From a neoclassical economic perspective, potential migrants are assumed to be rational individuals seeking to maximize utility (i.e. income maximation) and are therefore motivated to migrate by comparative economic opportunity outside their country of origin (Sjaastad 1962, Borjas 1987, 1999). Consequently, higher levels of emigration from countries with lower mean income and immigration to countries with higher mean incomes are expected. Some scholars have also calculated the expected familial gains of immigration to determine the degree of migratory motivation in consideration of multigenerational economic outcomes for both the children of migrants in destination countries and family remaining in the country of origin, which stand to gain via economic remittances flows. (Gibson and McKenzie 2014; Mergo 2016). Thus, it could make intuitive sense to disburse ODA, which neoclassical scholars view as economic transfers which increase domestic investment and growth in receiving countries, in an effort to reduce the motivations of residents in typical migrant sending states to emigrate (Fasanya and Onakoya 2012). Some proponents of this policy and its accompanying theoretical justification have found evidence that the disbursement of ODA to some countries can mitigate emigration by improving domestic economic conditions and reducing the maximum utility migrants can achieve by migrating (Olesen 2002; Stalker 2002). Such results suggest that policies of disbursing ODA to developing countries for the purpose of deterring emigration may have the intended effect.

At the center of the neoclassical economic perspective lies the belief that north-south economic inequality is a primary driving force in the complex social and economic transformation ultimately motivating immigration from poorer countries to wealthier ones. Thus the migration control measures of migrant receiving states will succeed in the long term only when their central objective shifts towards reducing global inequality (Castles 2004). From a neoclassical economic perspective, migration

management efforts should assist in reducing the motivation to emigrate from developing states by reducing the maximum utility that a potential migrant would enjoy as development rises in their country of origin. Despite the logical flow of its theoretical underpinnings, thus far the use of ODA as a tool to reduce migration has taken a backseat in the migration policies of migrant receiving states, which have predominantly opted for increases in border security, migrant policing, and construction of migrant detainment camps in transit countries (Haas 2008; Michalowski 2007).

Reactionary immigration management measures such as border enforcement strategies increase migration costs while internal migration enforcement mechanisms, such as employer verification mandates which prevent irregular migrants from working legally, lower the expected benefit of migration, both of which are theorized to reduce immigration by minimizing the utility achieved by emigrating to countries implementing these policies (P. Orrenius 2019; P. M. Orrenius and Zavodny 2014). Such policies fit within the neoclassical economic strategy, not by reducing economic inequality to minimize utility achieved by migrating but rather by increasing migration costs to such an extent that immigration no longer represents a maximization of utility. However, these policies have had counterproductive results for migrant receiving states. Increases in border enforcement have changed the attitudes of irregular Latino migrants in the US, which consequently cut off circular migration and pushed irregular migrants to settle in the US permanently (Massey, Durand, and Pren 2016). In light of these shortcomings and in conjunction with humanitarian concerns raised over conditions of border enforcement mechanisms and migrant camps on the European and American frontiers, the use of ODA as a migration policy becomes more attractive. But the question remains, has ODA impacted migratory patterns?

One of the most influential quantitative studies supporting the neoclassical economic perspective on the ODA-migration link found a negative relationship between gross ODA reception and emigration. Lanati and Thiele (2017) stray from the standard practice of using migrant stocks, as they argue that such figures fail to account for circular migration and instead implement emigration rates as a dependent variable, using time series and cross sectional data to estimate the effect of gross ODA reception on migration. Using a fixed effects econometric model, they find that gross ODA has a negative impact on bilateral emigration flows to OECD countries across all country income levels and that foreign aid from multilateral sources in which country *X* is not a contributor, decreases immigration from aid receiving countries to country *X.* Lanati and Thiele's study stands in opposition to the theoretical causal mechanisms of migration and empirical analysis of a competing school of thought, the mobility transition theory. Over the last two decades, a number of analyses concerning the link between

economic development and migration have yielded positive relationships between the development of the world's poorest countries and emigration, thus raising questions over the effectiveness of ODA as an emigration deterrent.

2.2 Development and Migration: A Mobility Transition Theory Perspective

Lessons learned since the installment of migration prevention programs that utilize ODA flows suggest that the neoclassical perspective which continues to inspire national policy may oversimplify international migration by failing to consider key factors motivating migration decisions made at the individual agent level. As de Haas (2009) points out, modern migrant receiving states are attempting a near impossible task in curbing migration; migratory flows are natural phenomena that have existed throughout human history, motivated by foreign opportunity and relative domestic deprivation. Since 2010, there has been a renewed focus building upon Zelinsky's (1971) mobility transition theory, which theorizes an inverted-U relationship between migration and development. Sometimes referred to as the migration-hump theory, this relationship posits that emigration rates increase in relation to economic development, measured by proxies of GDP per capita, until that figure reaches around $6,000 USD (Dao et. al 2018) or $8,000-$10,000 USD (Clemens 2018). After this mark is reached, emigration from middle income countries is expected to decrease in relation to rises in GDP per capita. This theory posits that the net effect of economic development in low income countries is increased emigration, which if true illuminates a misalignment of immigration and ODA policy implemented by many western states.

Rather than viewing developmental assistance as a cure to migration, mobility transition theory asserts that increased development, particularly in the economic sector, drives emigration from lesser developed countries. At its basis, mobility transition theory recognizes that migration is a costly endeavor and that a certain level of income is needed to facilitate both internal and international migration (Telli 2014). Assuming visas are granted, becoming a permanent resident of the United States is a lengthy process that costs between $4,000 and $12,000 (Dave and Khanna 2021). While not formally documented, it has been reported that migrants from Central America and Mexico pay smugglers up to $9,200 for entry to the US, more than five times the going rate a decade ago (Kulish 2018). While rising economic development may reduce the net economic payoff migrants can achieve by emigrating, it simultaneously expands the capability of potential emigrants to afford costly migration endeavors by reducing credit constraints.

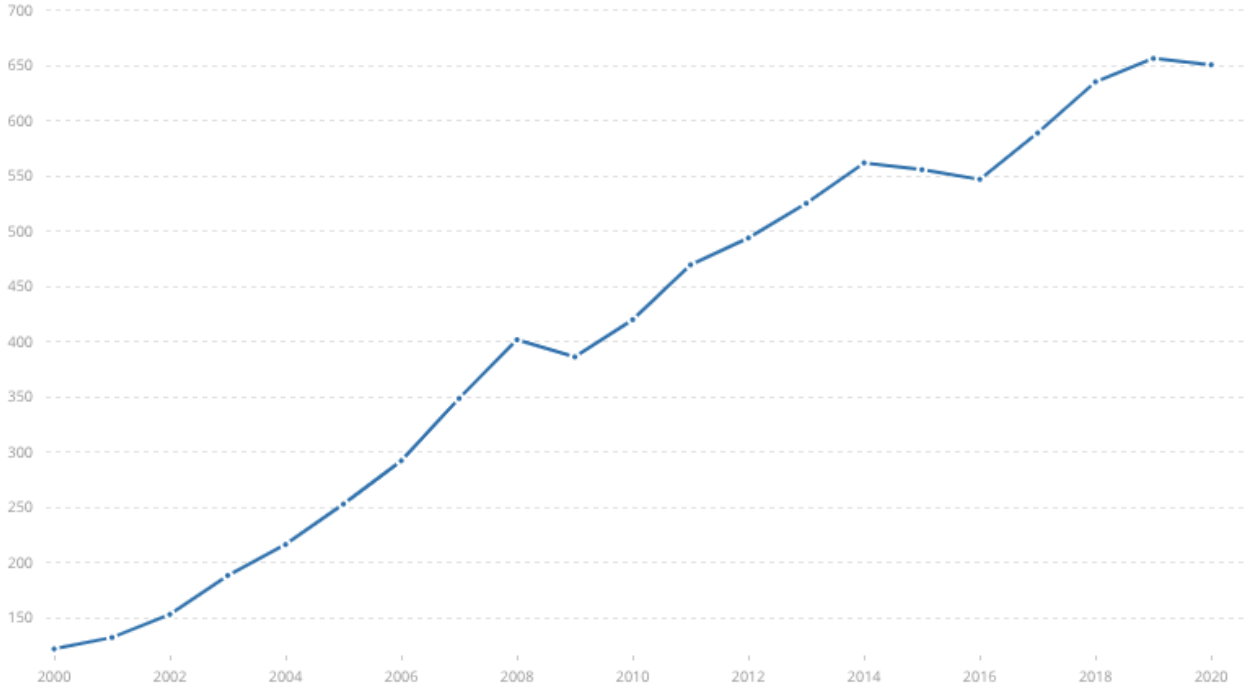
The exact GDP per capita figure at which emigration rates begin to decrease is a somewhat contested topic. Utilizing migration rates, determined as the difference in 2010 and 2000 migrant stocks,

a couple of quantitative studies found that poor countries will experience increased emigration in relation to economic development until such countries become “upper middle income countries”, characterized by a GDP per capita greater than $6,000 (Dao et al. 2018) or $6,000-$8,000 (Clemens et. al 2014). These estimates align with the Berthélemy et al. study which predicts the critical level at which further economic development decreases emigration to be $7,348 in constant 2000 USD using origin specific migrant stock data from 2000. Contrarily, when regressing 2013 emigrant stocks against GDP per capita, Clemens and Postel (2018) find a clear negative relationship between GDP per capita and emigrant stocks when countries exceed a GDP per capita of $10,000. While the causal mechanisms associated with an increase in GDP per capita effect on emigration from developing countries are shared within the mobility transition camp, this distinction in tipping point complicates predictions of migratory patterns based on economic development trends and may consequently obscure policy efforts.

The most apparent impact of rising GDP per capita and economic conditions in origin countries is the increased ability of potential migrants to better afford the up-front costs associated with both regular and irregular migration. For many migrants, immigration is an economic investment whereby the initial costs of migration are invested in hopes that earnings in destination countries outpace the projected income in a migrant’s country of origin (Clemens, Montenegro, and Pritchett 2019). Recent immigrants also provide economic remittances to family members remaining in their country of origin which can help alleviate poverty in their native country, thus increasing the ability of future migrants to afford emigration (Amuedo-Dorantes 2014). The exponential rise in economic remittance flows (see figure 1) signifies a contribution to development in migrant sending states and an increased potential for additional potential migrants to afford rising migration costs. From the mobility transition perspective, causal mechanisms of ODA’s impact on emigration move beyond reliance on GDP per capita, as increased economic development, viewed more holistically, is seen to impact domestic factors motivating international emigration.

Economic development results in demographic shifts such as domestic migration from rural regions to metropolitan hubs and a lowering of mean age via “youth bulges” in which infant mortality rates decrease while birth rates remain constant (Skeldon 2011). These demographical shifts impact migratory patterns as rural populations are less likely to embark on international emigration journeys and because younger adults are more likely to migrate than older adults, which may increase emigration from poorer countries which tend to have younger populations overall (Hatton and Williamson 1994, 2002). Increased economic development is also closely associated with amplified education and training opportunities, which allows potential migrants to access more lucrative labor markets abroad. Skilled

Figure 1: Total global remittance flows 2000-2020 in billion USD (World Bank)



migrants accordingly face lessened migration costs which can be subsidized by foreign worker recruitment programs or specialized visas which help expedite the bureaucratic process of migration (Martin-Shields, Schraven, and Angenendt 2009). The aforementioned economic remittances from such workers are often crucial aspects of the origin country's economy and help to further increase economic development; thus migration and development appear to support each other mutually (Yang 2011).

While neoclassical scholarship aptly points out that migration from the poorest countries to higher income states can provide the highest utilization maximation for migrants (Borjas 1999), it considers migration costs and motivation in purely economic terms ignoring the impact of geographical, demographical, societal, political, and security factors in migrant sending states. Migration costs for example can be impacted by proximity between origin and destination countries as well as by colonial ties and linguistic similarities, all of which may lead to a higher degree of information transfer regarding economic opportunity and migration policy in destination countries (Berthélemy, Beuran, and Maurel 2009). The prioritization of economic utility maximization central to neoclassical economic theory oversimplifies migration, ignoring wider factors motivating migration decisions. While mobility transition literature has habitually focused on how economic development impacts emigration, it is more considerate of how this increased economic development can impact noneconomic domestic conditions, which in turn influences emigration patterns.

2.3 Does Sector-Specific Aid Disbursement Impact Migration?

Another crucial but comparatively less studied distinction in ODA's impact on migratory patterns is whether or not the sector to which ODA is dedicated has unique impacts on migratory trends. Gamso and Yuldashev (2018) use panel data on 101 developing countries from 1985-2010 to test whether governance, economic, and social aid impact migration differently. They find that governance aid reduces migratory push factors by improving political institutions and strengthening governance capacity which relieves stress caused by pressures of corruption and repression. Contrarily the study finds no effect of economic and social aids on migration patterns. However, this work is limited by the scope of its observation, as it only considers immigration to OECD countries thereby ignoring any changes in migratory trends not directly impacting member states of the OECD. In another study Gamso and Yuldashev (2018a) utilize Arab Barometer survey responses indicating that individuals employed in the rural agricultural sector are significantly less likely to have pro-emigration attitudes than other demographic groups, to examine the impact of geographically targeted aid. Accordingly, they argue that the disbursement of aid to the agricultural sector of developing countries is likely to depress emigration rates by increasing the number of individuals employed in a sector characterized by low motivations to emigrate.

In a review of foreign aid-migration literature, Clemens and Postel (2018) point out the lack of work analyzing aid disaggregated by sector and offer a small contribution to this gap by analyzing program types detailed in the 2017 EU Emergency Trust Fund and 1990 report of the US Commission for the Study of International Migration and Cooperative Economic Development, showing that the amount of ODA dedicated to migrant-relevant aid is less than half of total ODA. For the purpose of Clemens and Postel's data analysis, projects supporting agricultural development, environmental preservation, urban development, food aid, disaster preparedness, and vocational training make up the sum of migrant-relevant aid programs. Consequently, all types of ODA aimed at developing governance capacity, civil society, citizen health, and education are ignored. This is rather problematic as ODA aimed at these subsectors of development may be an effective tool for mitigating emigration from developing states.

In prior studies, the development of political capacity, increases in quality of governance institutions, and the reduction of conflict in migrant sending states have been cited as ways to reduce emigration from lower and lower middle income countries (Hiskey, Montalvo, and Orcés 2014; Hyndman 2003). Political oppression and the resulting grievances held by populations have been cited as primary "push" motivators for emigration while intrastate and civil conflicts have continued to displace forced migrants and refugees, as these events have for all of human history (Bygnes and Flipo

2017; Etling, et. al 2020; Finkel et. al 2007). Still existing literature concerning the impact of governance aid is mixed, with some studies finding that this type of aid may increase dependency, stifle further institutional development, or encourage rent-seeking (Bräutigam 2001; Knack 2000). Others find tangibly positive results, with democracy aid being linked to reduced civil conflict (Savun and Tirone 2011) and the empowerment of local individuals, political institutions, and social movements which in turn have improved measurable democratic outcomes. These mixed results are acknowledged by Gamso and Yuldashev but there is little consideration of what impact governance aid may have on general country development and migratory patterns in the long run.

Given that democratization and stronger governance capacity are routinely linked to better economic performance (Derviş 2014; Kraipornsak 2018), the long term impact of governance aid could be increased emigration in line with mobility transition theory. Furthermore, the negative relationship between economic and political development and conflict occurrence indicates that assistance in developing conflict prone areas may represent an avenue to reduce forced migration triggered by violence (Chatagnier and Castelli 2019; Fearon 2011). While the neoclassical economic and transitional migration theories may interpret the effect of poor quality of governance or conflict on emigration rates via an abusive regime's impact on GNI or GDP, these theoretical frameworks are poorly equipped to understand emigration motivated directly by political grievances. This is reflective of the problems associated with using economic-centric theories to police and manage migratory flows with multifaceted motivations for movement.

With a more direct causal pathway, economic ODA may also increase emigration from underdeveloped ODA-receiving countries. Analyses of migratory patterns stemming from developing countries indicate that as individuals within lesser developed countries become richer, they are more likely to emigrate. Therefore, injections of economic ODA are likely to increase emigration rates via their contributions to aid receiving economies which should in turn increase the average wealth of citizens (Clemens 2020). However, in line with the mobility transition theory, as countries continue their development they should eventually reach a certain level of wealth at which emigration is no longer incentivized by external opportunity, despite a large amount of the country's population being able to afford migration costs (de Haas 2010b). Economic ODA should therefore have a positive impact on the emigration rates of less economically developed countries while having the reverse effect on countries in which citizens enjoy a better degree of development and prosperity.

Only one study has quantitatively analyzed the impact of social ODA on emigration patterns. For the purpose of this work, social ODA refers to aid specifically disbursed to a variety of OECD approved

subcategories which focus on improving quality of life in the receiving country via projects focused on advancing education, health measures, access to water and sanitation, and improving the provision of public services (OECD 2022a). Gamso and Yuldashev (2018) find no impact of social ODA on emigration rates of aid receiving countries but theorize that this type of ODA should enable emigration by freeing up resources that individuals would otherwise have to devote to education and healthcare, thereby better enabling resident of aid receiving countries to afford migratory costs. Other studies have demonstrated that foreign aid projects dedicated to promoting country health or education have resulted in measurable beneficial developmental outcomes but offer no insight as to how these impacts affect migratory patterns (Karkee and Comfort 2016; Riddell and Niño-Zarazúa 2016). The impacts of increased development, brought about by social ODA reception, on emigration rates remain unclear. My thesis will contribute to the crucial research gap concerning the impact of social ODA, as well as governance ODA and economic ODA on emigration patterns.

2.4 ODA's Impact on Development

Doubts concerning the international community's ability to disburse enough aid to developing states to curtail emigration have been discussed within the literature relating to the ODA-migration nexus. One of the first quantitative studies investigating aid's ability to solve root causes of emigration found that the disparity of foreign aid disbursed in relation to the magnitude of push factors in aid receiving countries makes the task of eliminating these factors near impossible (Morrison 1982). Much more recently, Clemens et. al (2012) estimates that raising GDP growth rates by 1% in most aid receiving countries requires approximately 10% of these countries' GDP to be made up of ODA. Theoretically, if the GDP of aid receiving states could be raised by 1% annually, Clemens and Postel (2018) estimate that it will take until approximately 2097 for GDP per capita in typical receiving states to reach $8,000, at which point some theorize emigration rates will fall in accordance with the transitional mobility theory. Such projections are largely influenced by the findings of the aid-ineffectiveness camp, which identify cases in which aid has had either no impact or a negative impact on development.

Some qualitative case studies have demonstrated that poor policy and governance institutions prevalent in some developing countries hinder the effectiveness of aid, while aid itself can exacerbate political rent seeking in developing countries (Elayah 2016; Hodler 2007). Reception of large amounts of aid can also trigger the "Dutch Disease" in which aid increases exchange rates for domestic currency, ultimately increasing the price of exports in the aid receiving country and denigrating performance in the manufacturing sector, which often makes up a key economic arena for developing states (Nkusu

2004; Rajan and Subramanian 2011). In McKenzie's (2017) review of active labor market policies in developing countries, a subsector which a significant amount of ODA is channeled through, he finds that policies of wage subsidies, job search assistance, and vocational training have little impact on developing labor markets. He concludes that this lack of impact is in part due to the relatively high functioning urban labor markets in developing countries, which ODA donors may mistakenly view as inefficient.

However, when isolating and examining the impact of vocational training and firm-provided training, Alfonsi et al. (2020) find significant positive results in sector-specific skills, employment rates, and improvement in an index of labor market outcomes. Cases such as these offer hope that a better understanding of ODA's impact on development in receiving states and the subsequent realignment of ODA targeting can improve the efficiency and developmental outcomes of ODA. Studies of developmental aid have also suggested that aid sending states could be more effective in promoting development by stepping away from roles as "international development experts" and instead seeking to promote locally driven development solutions that address issues raised by local communities (Edwards 2015; Flint and Meyer zu Natrup 2019). Zhang et. al (2016) notes the impact of ODA in assisting to lift 1.8 billion out of poverty between 1993 and 2003, distinguishing between aid effectiveness in fragile states and non-fragile developing states, with ODA having a negative impact on the former's development. They argue that when dealing with fragile states, shifts away from bilateral ODA in favor of multilateral funding and specific programmatic assistance can overcome poor domestic governance and spur development more directly. There are also several instances in which disbursement of ODA has directly led to tangible development in aid-receiving states.

At the micro level, the effect of ODA on development has been clearly positive, demonstrating that ODA has an overall beneficial impact on country development. Studies utilizing monetary (Gomanee, Girma, and Morrissey 2005) and non-monetary measures of individual poverty, proxied by social welfare, educational attainment, or health goals (Arndt, Jones, and Tarp 2015; Hirano and Otsubo 2014), have largely reported that developmental aid assists in reducing the poverty rates of aid receiving states. However, at the macro level, ODA's effectiveness on development has been subject to mixed reviews due to the common use of cross-country analyses which struggle to find positive impacts of ODA when holding potential confounding variables of economic progress, such as saving rates or export growth, constant. The employment of such methodologies created a "micro-macro paradox" within aid effectiveness literature, in which analyses at the local level were often not confirmed by macro level cross country analyses (Mosley 1986). That is until Moreira (2005) conducted a large panel study proposing a new methodological and econometric model evolved from the reduced Papanek-type

regression, finding that foreign aid is beneficial to the economic growth of developing countries at the macro level thereby overcoming the micro-macro paradox previously prevalent in studies of aid effectiveness. Further quantitative analyses have since garnished results indicating that developmental aid leads to long term economic growth, which casts doubt on methods of analyzing the total impact of ODA within short time frames (Minoiu and Reddy 2010; Askarov and Doucouliagos 2015). Such studies acknowledge that it may take several years for the impacts of ODA to be realized in receiving countries and support using time lags in their methodological approach.

Thus far the relatively understudied ODA-migration nexus has been framed within the neoclassic economic versus transitional migration theoretical debate. Neoclassical economists have theorized that as development increases in migrant sending states, emigration rates will fall as the income maximization that immigrants may achieve is reduced. This school of thought views north-south economic inequality as a primary motivator of international immigration and has accordingly advocated for migrant receiving states to use ODA in an attempt to improve conditions and deter emigration from aid receiving states. While the theory underpinning neoclassical economics may appear well grounded, it fails to consider that further development reduces credit constraints which allows more potential migrants to afford costly emigration endeavors. Contrarily the transitional migration theory presents a somewhat more holistic view of migration, stating that economic development, and the accompanying demographic shifts, increase the propensity to emigrate from developing countries until a certain threshold of development is met.

Previous analyses and theoretical discussions have suggested that ODA has had little success in deterring emigration from aid receiving states, primarily because increases in the economic development of aid receiving states coincide with enhanced abilities of potential migrants to afford costly migration endeavors. However, Lanati and Thiele (2017) find that ODA reception has a negative impact on immigration to OECD countries from all ODA receiving countries while Gamso and Yuldashev (2018) find that governance aid decreases the emigration rates of these countries. Literature regarding the impact of ODA on development is progressively becoming unified in recognizing the long term developmental benefits of ODA but the effects of ODA on emigratory patterns remain unclear and understudied. A profound weakness characterizing the ODA-migration nexus is an overreliance on economic development, which is often seen as the primary channel through which ODA can impact emigration patterns. Theoretical advances considering the mediating effect of country development, evaluated as a multidimensional shift advancing the quality of life of a country's citizens, are needed to better capture the causal mechanisms linking ODA reception to changes in emigration patterns. This

current lack of understanding is exacerbated by quantitative studies focusing on how ODA reception impacts immigration solely to OECD countries, consequently failing to consider all other changes in migratory patterns across our world.

3. Theoretical Framework

Considering both the neoclassical economic and mobility transition perspectives, I construct a theoretical framework asserting that ODA has varying impacts on migration patterns, which are determined by the level of development of the aid receiving state and by the type of ODA disbursed. Thus far, the neoclassical economic theory has overemphasized the importance of utility maximization while the mobility transition theory fails to adequately explain declines in emigration rates occurring in countries with high levels of GDP per capita. Moving beyond reliance on economic measures as a determinant of migration decisions, I argue that development has a more causally accurate influence on emigration patterns. At lower levels of development, individuals are incentivized to emigrate in order to maximize utility, not only economically but by securing political and social freedoms as well. Contrarily, at higher levels of development individuals can no longer maximize their utility to the same extent via emigration, thus the incentive to do so is decreased. In lesser developed countries, ODA is expected to loosen credit constraints thereby promoting emigration, while in relatively more developed countries with low levels of emigration incentive, ODA further reduces the maximum utility achieved by emigrating thereby decreasing emigration rates.

Prior to analyzing the impact that ODA has on the emigration rates of aid receiving countries, one must first understand the concept of "development" which is the channel through which ODA is theorized to impact emigration patterns. Existing research has been troubled by a paradox in which academics call for a need to ascertain a common definition of "development" but proceed to discuss types of development, such as "community development" or "sustainable development", rather than working towards a unified perspective on the foundational concept of development (Oberle, Stowers, and Darby 2014). While not accepted as a perfect definition by all, more emphasis has been placed on viewing development as a comprehensive societal process in which inefficient economic processes and antiquated sociocultural conditions are progressively changed via "sustained economic growth and sociocultural and political change that improves the quality of life of all members of society" (Rabie 2016). An important aspect of this definition is its multidimensionality; moving beyond an economic based definition captures the roles of social and political development in fulfilling the ultimate goal of

development, to improve the quality of life enjoyed. This definition of development is central to my thesis. I explain how ODA improves multifaceted aspects of development to ultimately affect the emigration patterns of receiving states.

3.1 ODA's Impact on Emigration

A key flaw of both the neoclassical economic and mobility transition perspectives on migration patterns is an overreliance on economic measures as the primary determinant of emigration decisions. Consider two countries; one with a lower GDP per capita of $6,000 and a second middle-income country with a GDP per capita of $10,500. The neoclassical economic theory would expect much higher emigration rates from the first country while the transitional migration theory asserts that the second country will experience a decline in emigration as it has surpassed an important turning point of economic development. Still, both of these citizens would expect to maximize their economic utility by immigrating to a country like Germany which boasts a higher GDP per capita of $45,700. Residents of country 1 would expect to increase their utility maximization by nearly $39,700 in terms of GDP per capita while citizens of country B could expect an increase of $30,200. Both schools of thought suggest that emigration from country 1 should occur at a much higher rate than from country 2, but why should a $39,700 potential increase have that much more motivational force than a $30,200 increase? The neoclassical economic theory wrongly overvalues the role of economic inequality and economic utility maximization in the migration equation while the transitional migration theory struggles to explain why emigration should fall in countries with higher levels of GDP per capita.

At its core principle, the neoclassical economic theory aptly points out that global inequality is a driving factor for international migration. However, I argue that it is the relative inequality of *development*, as opposed to individual income, that motivates emigration from lesser developed countries. GDP per capita functions as a good proxy for development, but changes in the measure itself do not totally account for shifts in migratory patterns observed during a country's developmental process. As poorer countries increase their development in a variety of dimensions, which I have categorized more broadly into governance, economic, and civic arenas, the overall push factors experienced are diminished. One can also think about this in terms of utility maximization; if the regime of one's country progresses from being considered a "hybrid regime" to a "flawed democracy", there will be a lower degree of utility maximization, and therefore less incentive, achieved by immigrating to another country with the highest categorization of "full democracy". Similarly, if civil society organizations in developing states are strengthened via insurance of freedom of speech, this positive

benefit would reduce the utility maximization one could achieve by emigrating to another country with a stronger civic society. As inequality in development between countries is reduced, there is less incentive to emigrate from comparatively less developed countries and thus emigration rates should decrease. The challenge lies in identifying the level of development at which the desire to emigrate is lessened.

Popular indexes, like the Human Development Index (HDI) , evaluate the level of development in a given country and primarily base their analysis on three dimensions; life expectancy, educational attainment, and GDP per capita. Life expectancy captures the condition of health within a country and is a major aspect of a country's level of development as increases in a country's health conditions directly improve the quality of life enjoyed within its borders. Similarly, education, usually measured by the number of years spent in schooling is a key aspect of development. As countries develop, educational opportunities are expanded to broader populations, which in turn creates a more capable workforce which can thereby further accelerate the process of economic development. GDP per capita, of course, must be considered within the calculation of development. GDP per capita is commonly used as a sole proxy for development as it is a great indicator of economic growth and boasts a close correlation with changes in standard of living over time.

The aggregation of these multidimensional indicators into one total development score does not provide a fully comprehensive perspective of country development but is useful for establishing a measure of country development for quantitative analyses. More importantly, the inclusion of indicators representing different aspects of development can capture the overall quality of life, in line with the definition of development employed in this work. I assert that a country's level of development across these crucial indicators impacts emigration decisions and once developing countries reach a certain threshold of development, emigration rates will fall. If aid sending states can use ODA to improve developmental conditions in aid receiving countries to such a degree that emigration is no longer a strong incentive, the use of ODA as a migration tool will be validated. Given the current rate and effectiveness of ODA disbursement, either significantly more ODA must be given to very underdeveloped states to rapidly develop their domestic conditions, or expectations for the impact of ODA should be shifted to a long term perspective.

As the mobility transition theory points out, increases in GDP per capita ease credit constraints, thereby allowing citizens of underdeveloped countries an enhanced opportunity to emigrate. In recognizing that migration is a costly endeavor, one comes to realize that individuals in developing countries must first build some degree of capital prior to embarking on migratory journeys. Thus

enhanced economic development is incredibly useful for individuals seeking to emigrate from lesser developed countries. This theoretical approach is useful for understanding the initial increase in emigration rates associated with rising economic development, but the shortcoming of the mobility transition theory is a failure to adequately explain the causal mechanisms driving the decrease in emigration rates within the inverse U-shaped migration-hump. The reliance on economic measures is quantitatively useful but not causally accurate. GDP per capita is merely a proxy for development and should not be viewed as the causal mechanism impacting migratory patterns.

Rather, achieving a certain threshold of development should be seen as the true factor decreasing emigration rates. As ODA reception increases development amongst aid-receiving states, domestic push factors are alleviated and pull factors decrease as utility maximization across social, political, and economic channels is lessened. In cases where ODA is granted to very underdeveloped countries, aid projects are likely to loosen credit constraints and can free up resources otherwise devoted to the attainment of receiving basic goods and services. In cases such as these, ODA is likely to have a positive impact on emigration rates by enhancing opportunities to emigrate in settings where the incentive to do so, remains high. Contrarily, providing ODA to relatively more developed countries should decrease emigration as ODA projects further increase development, reducing the already small amount of utility achieved by migrating to even more developed countries, thereby reducing the incentive to emigrate.

The current DAC list of ODA recipients for 2022 and 2023 includes countries that have per capita GNIs of up to $12,695. This includes countries such as China, South Africa, and Turkey, all of which have HDI scores of 0.7 or more, placing them firmly in the “high human development” category (UNDP HDR 2020). In comparison to much less developed countries, residents of more developed countries enjoy better access to education and have more potential to accumulate wealth, both of which enable individuals to better afford migratory costs. Therefore, as the reception of ODA further increases development in such countries, the potential utility achieved by emigration is reduced by lessening developmental inequality between countries, which should result in a decrease in the emigration rate of aid receiving countries.

H1: Disbursement of ODA to lesser developed countries will be associated with an increase in emigration while disbursement of ODA to relatively more developed countries will be correlated with a decrease in emigration.

3.2 ODA's Impact on Emigration, Disaggregated by Sector

Thus far, little research has been conducted concerning how different types of ODA affect migration. Initial contributions have noted that ODA related to migration management represents a minority share of total ODA expenditure, however, there are differing perspectives on what sectors of ODA are relevant to migration management. While ignored by some, ODA aimed at promoting state capacity, democracy, and human rights has been shown to play an important role in reducing migratory push factors motivated by political oppression. However, in the only previous quantitative work analyzing disaggregated aid's impact on migration, Gamso and Yuldashev (2018) employ a methodology that includes a one year time lag in their analysis of the relationship between ODA disbursed and emigration rates of aid receiving states, ultimately finding that governance ODA has a negative impact on emigration rates. The lag utilized in their study is too short; even after ODA budgeting approval and disbursement of funds, it can take multiple years for projects to be implemented, completed, and the results enjoyed by citizens of the ODA receiving community (World Bank 2022). Furthermore, the dependent variable employed, emigration rate, is constructed only by immigration to OECD countries thereby significantly narrowing the breadth of the research endeavor.

While governance aid may improve conditions in the short term, which should reduce emigration push factors related to oppression or poor government capacity, longer term impacts remain unclear. Assuming that governance aid does have a positive impact on measurable aspects of democratization and overall "good governance", a delayed impact of such aid may be increased economic performance which can translate to increased emigration. Improvements in government institutions and capacity have been linked to positive economic growth and development, which may in turn increase emigration from developing countries via loosening of credit constraints. Still, the theoretical impact of governance ODA should operate differently than economic ODA and social ODA.

Governance ODA is a unique type of aid as it boosts political development and government capacity which ultimately benefits residents of the country receiving governance ODA, but it does not free up the economic resources of residents. Governance aid largely seeks to reduce corruption, promote democracy and the freedom of information, and increase the capacity of government institutions. In doing so, governance ODA can reduce incentives to emigrate by encouraging political freedoms and mitigating persecutions and injustices previously linked to emigration decisions. However, governance ODA does not supplant the economic resources of residents. While social ODA may reduce the amount a resident of an aid receiving country spends on healthcare by subsidizing medical provision, thereby loosening credit constraints and making migration costs more affordable, governance ODA

supports programs such as tax collection and the strengthening of administrative institutions which seek to ensure that public administration is effective and does not succumb to corruption. By doing so, governance ODA does not loosen the credit constraints of individual citizens, having no direct impact on the ability to afford migration costs. The final result of governance ODA should be a decrease in incentive to emigrate as persecutions and corruption are lessened, closing the gap in quality of governance between ODA receiving countries and more developed countries. Therefore, governance ODA should function to reduce emigration regardless of the current level of development at which the ODA receiving country is characterized.

H2: Disbursement of ODA to the governance sector will decrease emigration rates in ODA-receiving countries.

Disbursement of economic ODA and social ODA should work similarly to total ODA, ultimately increasing emigration from lesser developed countries while having a negative impact on the emigration rates of more developed ODA-receiving countries. For the poorest countries receiving economic ODA, this injection of aid to the economic sector should better economic conditions and drive up wages. However, if the utility a potential migrant can achieve by immigrating remains high by virtue of relative developmental depravity, then these economic increases are likely to increase emigration as the easing of credit constraints brought on by better economic conditions makes migration costs more affordable. Contrarily, in cases in which development within the ODA receiving country is considered to be high, the reception of economic ODA should not increase emigration, as such populations could mostly afford migration costs before the reception of aid. Instead, economic ODA should incentivize residents of these more developed countries to remain in their country of origin and enjoy the benefits accompanying the reception of economic ODA.

Theoretically, ODA to the social sector should have similar impacts on the domestic conditions and emigration rates of aid receiving countries. Aid disbursed to the social sector has a wide variety of uses, but can generally be categorized into areas of health, education, and supporting the provision of basic supplies such as reliable access to clean drinking water. In lesser developed countries, ODA disbursements to these sectors free up resources that individuals would otherwise have to dedicate to securing these services, thereby allowing more economic resources to be potentially dedicated to covering migratory costs. While I expect that emigration will increase in lesser developed countries that receive social ODA, I predict the opposite results for countries with higher levels of development. Again, in cases where development is high enough that much of the population can afford to migrate if the

incentives are strong enough to do so, then additional aid should only decrease the potential utility achieved by emigrating and thus drive down emigration rates.

H3: Disbursement of ODA to economic and social sectors will increase emigration rates in lesser developed countries while decreasing emigration rates in more developed ODA-receiving countries.

3.3 Contribution to the Field

The overall ODA-migration nexus is an understudied subfield with no unanimity and a lack of comprehensive quantitative analysis, which may denigrate the overall effectiveness of modern immigration policy. No quantitative studies related to this relationship have been conducted since the publishment of 2020 ODA funding from DAC contributors or 2020 migrant stock data from the United Nations Population Division, with the most recent major empirical study making use of 2014 bilateral migrant stocks sourced from the OECD (Lanati and Thiele 2017). My analysis will contribute to existing research concerning the relationship between ODA and migratory patterns and seek to contribute to the research gaps by testing the turning point of the theorized U-shaped relationship between development and emigration. I will analyze how both total ODA and ODA disaggregated by sector impact emigration rates of countries at distinct levels of development. Unlike previous studies, I will move beyond using GDP per capita as the main proxy for development, instead opting for an analysis using several models with varying primary independent variables of country development including HDI score, life expectancy, primary school enrollment in addition to the use of real GDP per capita. I do so in order to test the theoretical framework I put forth, asserting that ODA is first channeled through country development to affect the emigration patterns. Moving beyond prior analyses which proxied development only via economic indicators, I operationalize a multidimensional definition of development and analyze how ODA contributions to the governance, social, and economic sectors impact multiple aspects of development to impact the emigration rates of aid receiving states.

Perhaps most importantly, I expand upon previous research which has almost exclusively focused on immigration to OECD countries, thereby ignoring all international migration not involving OECD countries. Even for OECD countries disbursing aid, migratory patterns between non-OECD countries can have spillover effects. For example, aid distributing countries have a vested interest in understanding migratory flows to states like Mexico, Morocco, and Turkey which are typical transit countries for migrants entering the United States and European Union. If ODA is found to be correlated with increased immigration pressure in such transit countries, aid sending countries may be called upon

to assist transit countries in issuing visas to migrants or preserving positive humanitarian conditions in border regions overwhelmed by a surge in migrant population. I will contribute to this crucial research gap by analyzing ODA's impact on the emigration rates of receiving states, not only to OECD countries but to all countries in which reliable data is accessible. By expanding the analytical scope of my research beyond OECD countries, this research endeavor will assist in better understanding the reaction of global migratory trends to ODA reception, not just immigration to aid sending countries.

4. Data

4.1 Aid Data

Aid data concerning total net and gross ODA disbursed by all official DAC Donors for the time period 1985-2019 are sourced from the OECD DAC2a official dataset. The distinction between total gross ODA and total net ODA is as follows. Gross ODA refers to the total amount of aid funding released to the recipient to purchase services and goods, or the direct purchase of goods and services then delivered to the recipient; effectively the total amount spent over the annual accounting period. Contrarily, net ODA is constructed by subtracting any recoveries on grants received during the same time period and any repayments of loan principals from the annual gross ODA figure (OECD Glossary 2022). ODA from all official donors references total aid received from all organizations reporting aid contributions to DAC; this includes both DAC and non-DAC national governments, private foundations, and multilateral institutions including regional developmental banks. I opt for expanding past ODA sourced solely from DAC national governments, as donor aid from other official sources is assumed to have the same theoretical impacts on a receiving state's development.

Sourcing disaggregated ODA requires the use of the OECD's Credit Reporting System (CRS), which is the most reliable data source reporting the *type* of ODA disbursed. CRS provides ODA commitment data from 1990 to 2019 and is sourced from official donor survey responses. ODA commitments refer to new decisions to grant ODA in the given year, including additional grants made to continue previously enacted projects. The actual year that ODA commitments are disbursed is not adequately tracked until 2002 and is similarly sourced from donor survey responses; prior to 2002 ODA commitment data from the OECD is reported with significant gaps rendering its use infeasible in my analysis. I elect to use ODA commitment data in order to maximize the observations available and lag this data within my models. Ultimately, I categorize aid CRS disaggregated aid data into three subsectors of governance ODA, social ODA, and economic ODA.

Following the categorization pattern of Gamso and Yuldashev (2018), the subsector of Governance ODA includes all development assistance categorized as aid disbursed under DAC category 150 Government and Civil Society. This category includes a wide variety of projects ranging from those aiming to increase public sector policy and administrative efficacy, judicial development, and security system management and reform. The disaggregated Economic ODA figure is constructed from the sum of aid dedicated under DAC category 200 Economic Infrastructure and Services as well as DAC category 300 Production Sectors which includes assistance to government macroeconomic policies and institutions as well as aid to an array of production industries. Lastly, Social ODA encompasses commitments under DAC categories 110 Education, 120 Health, 130 Population Policies/Programs and Reproductive Health, 140 Water Supply and Sanitation, and 160 Other Social Infrastructure and Services which includes projects aiming to mitigate the spread of HIV, increase social protection, and offer access to low-cost housing amongst other initiatives. A full list of all project types included in each disaggregated ODA sector can be found in the appendix.

All ODA sourced from the OECD DAC2A and CRS databases are presented in 2019 constant US Dollars. I calculate ODA reception as a percent of country-specific real GDP, by first adjusting the 2017 measure of country real GDP, sourced from the 2020 Maddison Project Database via the Quality of Governance Dataset, to 2019 constant US dollars using conversion rates published by the United States Labor Bureau (Feenstra, Inklaar, and Timmer 2015; US Bureau of Labor Statistics 2022). I then divide the ODA received by each country by their adjusted 2019 real GDP to find the final proportion of ODA received as a percentage of real GDP. This procedure was replicated for figures of net ODA, gross ODA, and each type of disaggregated ODA sector.

4.2 Migration Data

Using ODA as my primary independent variable, I will be assessing its impact on my dependent variable, the emigration rate of ODA receiving countries. Emigrant stock data is sourced from the 2019 International Migrant Stock database, published by the United Nations Department of Economic and Social Affairs, Population Division. Emigrant stock refers to the total number of citizens from a given country living outside of that country's national borders, making no distinction between countries of residence. These United Nations statistics are constructed via the compilation of official domestic censuses, population registers, and nationally representative surveys of foreign-born populations. Country of citizenship is used for determining emigrant stock, thus emigrants that have been naturalized in their destination country and children born to immigrants in countries where citizenship is based on

jus soli (country of birth) are not counted in emigrant stock totals (UN Department of Economic & Social Affairs 2019).

Emigrant stock data however is not best suited for my analysis, as difference in emigrant stocks are affected by circular migration and can take negative flows between periods. Therefore I use emigration rate as a dependent variable. While emigrant stock considers the total number of emigrants living outside of their country of origin, emigration rates considers this figure in relation to the population of an emigrant's origin country, thus allowing for a more accurate analysis. While implementing country specific fixed effects minimizes bias arising from large discrepancies between country populations in regression models, presenting emigration data in the form of emigration rate allows for an intuitive cross-country comparison of the data prior to analysis. This emigration rate variable is constructed with the same method implemented in the OECD DIOC-E dataset, which first requires calculating an ODA receiving country's total emigrant stock and then dividing this figure by the country's total population, sourced from the World Bank's development indicators, which returns the emigration rate (OECD 2013; World Bank 2022b). Detailed emigrant stock data, and thus emigration rates, is available for all countries receiving official developmental assistance at five year intervals beginning in 1990. Later I discuss the interpolation strategy used to maximize the number of emigrant rate observations.

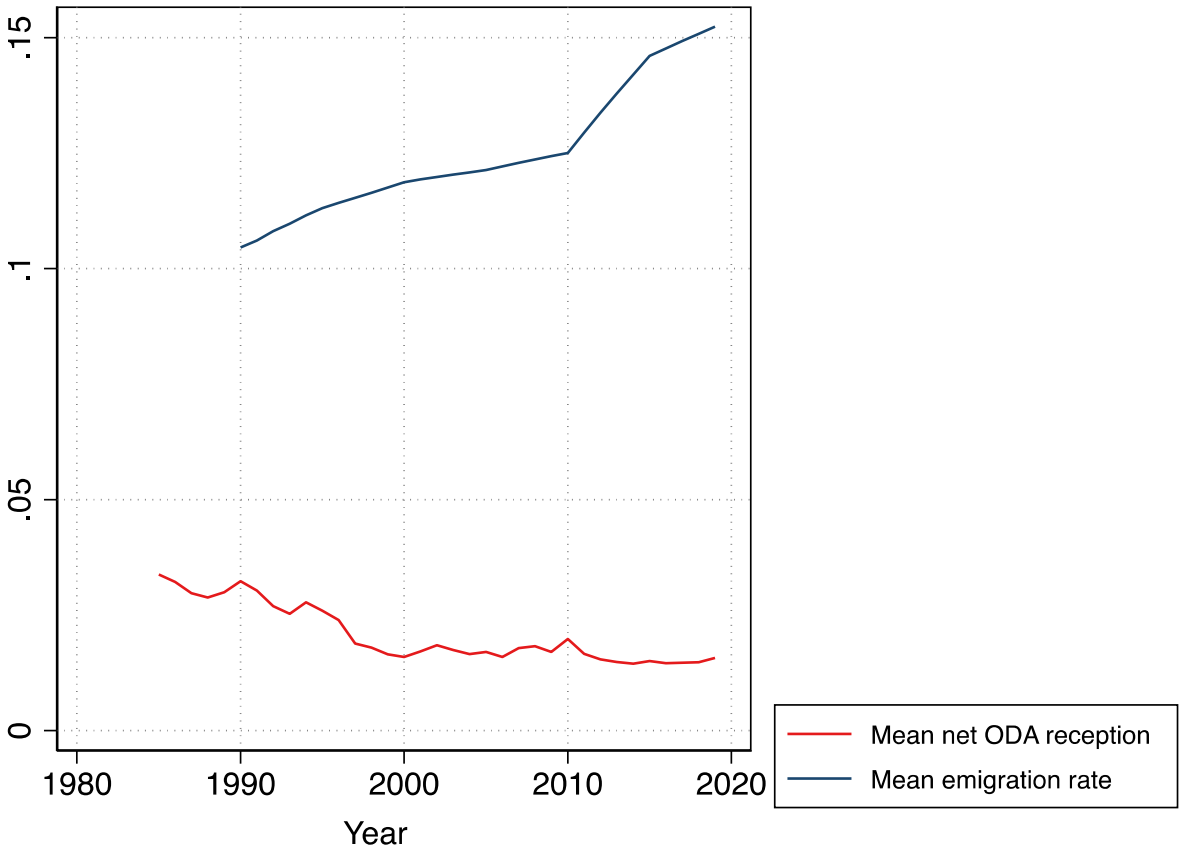
4.3 Descriptive Statistics

While the amount of mean ODA disbursed to developing countries has increased over the observational study period, the mean figure of disbursed ODA proportional to the average receiving country's real GDP has decreased over the observational study period. In 1985, ODA receiving countries were disbursed an average of $473.7 million USD which equated to 0.35% of the average receiving country's real GDP at the time. While mean ODA reception rose to $768.5 million USD in 2019, it fell to proportionally represent only 0.15% of the average receiving country's real GDP, demonstrating that the economic development of ODA receiving states has rapidly outpaced proportional aid disbursements. The same relation holds when disaggregating aid into governance, social and economic sectors; although the total amount of ODA disbursed to these categories has vastly increased throughout the observed period, the average proportion of aid to real GDP received has declined. The amount of ODA disbursed isn't the only variable used in my analysis that has risen over the observation period.

Aggregated from all observed ODA receiving countries, the mean emigration rate has progressively risen from 0.1% in 1990 to 0.15% in 2019. Over the same period, the mean HDI scores of

ODA receiving countries have risen from 0.53 to 0.68, with individual measures of life expectancy, enrollment of primary school children, and real GDP per capita following suit. Finally, the control variables of foreign direct investment and quality of governance rose over the observed time period while the number of average internal conflicts experienced by aid receiving countries decreased. These trends establish that development is increasing across measured all dimensions, as is the amount of the ODA disbursed and the emigration rate of aid receiving countries. However, it is important to note that the mean proportion of ODA received in relation to GDP among developing countries has significantly decreased over the past three decades, while the mean emigration rates of these countries have continued to rise (see figure 2).

Figure 2: Mean net ODA reception as a percentage of GDP and mean emigration rate of ODA receiving countries (1985-2019)



4.4 Development Data

The implementation of country fixed effects throughout model specifications and inclusion of clustered standard errors simplifies the role of control variables within my models, eliminating the need to control for between country variation. The primary control variable in two of my models, and variable

interacting with ODA reception in one of my models, is the Human Development Index, which represents an aid receiving country's overall level of development. HDI is sourced from the 2020 UN Human Development Report and provides a developmental score for each analyzed country throughout the entirety of the study period (Teorell et al. 2022; United Nations Development Program 2020). HDI is a statistical measure that is constructed based on three dimensions; education, standard of living proxied by economic measures, and health. When combined, these three dimensions form a proxy of development in line with my definition of development and have been used in empirical works to determine a given country's level of development (Dervis and Klugman 2011).

In additional models, I disaggregate HDI score by substituting a variety of independent variables representing an aid receiving country's development in its place and control for confounding factors of emigration patterns. I use real GDP per capita in constant 1000's 2011 USD, life expectancy at birth in total years, and gross enrollment in primary education as a percentage of the population of primary school education age children as substitutes for HDI score (Kaufmann, Kraay, and Mastruzzi 2010; Maddison Project 2020). Together, these three variables represent a perspective of development in line with my definition and that common in the migration-development nexus. I discuss the use of these three variables in interaction effects with ODA reception in my research design. Throughout my analysis, I control for governance effectiveness, proxied by a governance indicator related to government effectiveness constructed from an analysis of a country's corruption level, law and order, and bureaucratic quality (ICRG 2020). This is complemented by two additional control variables assessing the net inflow of foreign direct investment inflows as a percentage of the receiving country's GDP and the number of internal armed conflicts an ODA receiving country experiences (Kaufmann, Kraay, and Mastruzzi 2010). Internal armed conflict refers to conflict between a country's central government and at least one internal armed opposition, which does not induce intervention from external states (Pettersson et al. 2021).

5. Research Design

To test my three hypotheses, I build seven unique fixed effects models and calculate each of them utilizing total net ODA, governance ODA, social ODA, and economic ODA as the main independent variables, ultimately calculating 28 models to construct my main results. The models make use of interpolated annual emigration rates as the dependent variable. Linear interpolation of emigration rate, originally available on a five year basis, to an annual figure increases the total ODA model's observations

from 668 to 3,312, thereby allowing for more precise regression results. The use of linear interpolation is a credible methodological decision as emigration patterns are assumed to be relatively linear. While irregularly high variance in emigration rate within a five year span could occur in response to outlier events, such as the outbreak of civil war, the vast majority of data collected regarding emigration outflows is expected to be linear.

The implementation of fixed effects and clustered standard errors also restrict any such outlier events to a single specific country, limiting the influence of any potential outlier observations on the study's results. To overcome any potential variable bias caused by interpolation, each model is duplicated using the original five year emigrant stock variable sourced from the UN Population Division as a robustness check. Additional robustness checks for total ODA include the use of total gross ODA, as opposed to my primary measure, total net ODA. Both total net ODA and total gross ODA variables are appropriate measures concerning the amount of ODA disbursed to receiving countries and the usage of gross ODA in my robustness check lends additional credibility to my results. I do however opt for the use of net ODA in my primary models as the consideration of loan repayments within the figure provides a sum slightly more causally representative of the theorized effect on a receiving country's development.

I first construct a base model utilizing fixed effects to examine the effects of ODA reception and development level on a country's emigration rate. A fixed effects model is used to hold country specific time invariant factors such as language, colonial history, or topography constant. By analyzing the impact of ODA on emigration rate within individual country units, I control for unobserved country-specific variables that may impact the dependent variable, emigration rate. Clustered standard errors are also included for each observed country to account for heteroskedasticity. The primary independent variable, ODA, is by lagged three years. Lags of three years are necessary to account for the time it takes for funds to first be disbursed to or on the behalf of receiving countries, then for negotiations to take place, the fulfillment of contracts for the requested goods and services, and finally for the enjoyment of increased development granted by the finished projects. The base model uses HDI scores as a proxy for a country's development level.

I also include a control variable measuring government effectiveness, which is included as poor governance and low levels of government efficacy are important push factors that encourage emigration. Controlling for quality of governance is crucial as persecution and corruption have been linked to rising emigration rates (Schneider 2015). Internal conflicts are also implemented as a second control variable; more conflicts within a country correlate with a higher incentive to emigrate (Bohra-Mishra and Massey 2011). Finally, I control for foreign direct investment as the phenomenon has been

shown to act as a pull factor, encouraging immigration from the receiving country to the country making investments (van der Waal 2013). All of the control variables, as well as the proxy for development, HDI score, are lagged by one year, in accordance with previous development-migration literature, to account for delayed decisions to emigrate from a country. Emigration is a costly endeavor that requires a considerable amount of resource gathering at the analyzed level of development before the process can be undertaken, thus necessitating the use of a one year lag. I also included a simplified regression, analyzing the impact of ODA reception and HDI score on emigration rate as my first model to provide a baseline relationship and assess how these variables impact the emigration rates of aid receiving countries. Detailed results of all models, including robustness checks, can be found in the index.

While these models provide my research with an important quantitative base, they do not provide a complete answer to *H1* or *H3*. To fully answer the hypothesis regarding how ODA impacts emigration at different levels of country development, I add an interaction effect to my model. By interacting ODA received as a percentage of real GDP with a country's development, the model offers insight into the level of development at which the impact of ODA shifts from having a positive impact on emigration rate to a negative one. I implement time lags on independent variables to account for the time needed for the benefits of ODA funding to be realized by citizens and for related decisions concerning emigration to be made. I lag the main independent variables, development and ODA, by one year and three years respectively in my model utilizing a yearly emigrant stock variable. The remaining control variables are also each lagged by one year. However, this strategy fails to consider potential reverse causality or confounding factors by controlling for development variables at time periods later than the observed ODA disbursement. Accordingly, I recalculate the models constituting my primary results with adjusted three year lags on all variables. This adds a more long term perspective on how ODA interacts with development to affect emigration rates and answers potential methodological concerns brought about by discrepancies in the employment of time lags.

I also construct a number of alternative interaction models which substitute HDI scores with distinct variables related to country health, economy, and education services. Country health is an important aspect of development and is controlled for via a proxy variable of life expectancy at birth. I expect that countries with lower life expectancy will have higher emigration rates, as the push factor of a less healthy life is expected to motivate emigration. However, as health is an important part of country development, I expect that countries with higher life expectancies will experience lower emigration rates as the incentive to emigrate is reduced due to lesser relative developmental depravity. Real GDP per capita is utilized to measure the strength of a country's economy. In line with the mobility transition

theory, I expect that rise in real GDP per capita will be correlated with an increase in emigration rates until a developmental threshold is met. After this threshold, further increases in real GDP per capita will incentivize residents to remain in their home country, ultimately producing a curvilinear relationship between ODA reception and emigration. Finally education, measured in the gross percentage of individuals enrolled in primary school as a proportion of total primary school aged population, is included as a control variable and important proxy of multidimensional development.

I reproduce all models using total ODA as well as ODA disaggregated by sector as the dependent variables while substituting HDI scores for these control variables. The interaction model is recreated with a primary focus on each of the three control variables proxying a component of development. This results in the interaction effect between HDI score and ODA being replaced with life expectancy and ODA, primary school enrollment and ODA, and real GDP per capita and ODA through three separate interaction effect models. All models retain the use of fixed effects and standard errors clustered at the country level.

Each model run using the yearly emigration rate variable is recreated using the non-interpolated emigration rates calculated from the original emigrant stock data available from UN Population Division at five year intervals. The distinctions between both sets of models regard the lags implemented and makeup of the ODA variable. When using five year emigrant stock data, the models do not include a lag on the ODA variable, in contradiction to the three year lag found in their yearly model counterpart. Instead, the ODA variable is calculated as a mean percentage of the receiving country's real GDP in the previous five year period. For example, when regressing the emigrant stock from 2000, my model uses the mean percentage of ODA as a country's real GDP received from the years 1995-1999. The same strategy is used in the disaggregated aid models; after stratification into sectors, the mean sector specific ODA is calculated as a percentage of the receiving country's real GDP for the previous five year period. Finally, all models analyzing the impact of total net ODA are recalculated with the substitution gross total ODA reception as the dependent variable; these gross total ODA models are also recalculated using the five year mean ODA reception and five year mean emigration rate variables. An overview of the variables included in the model specifications can be found in table 1.

Table 1: Overview of variables included in model specifications

Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ODA (%GDP) t-3	ODA (%GDP) t-3	ODA (%GDP) t-3	ODA (%GDP) t-3	ODA (%GDP) t-3	ODA (%GDP) t-3	ODA (%GDP) t-3
HDI Score t-1	HDI Score t-1					
	Foreign direct investment (%GDP) t-1	Foreign direct investment (%GDP) t-1	Foreign direct investment (%GDP) t-1	Foreign direct investment (%GDP) t-1	Foreign direct investment (%GDP) t-1	Foreign direct investment (%GDP) t-1
	Quality of Governance t-1	Quality of Governance t-1	Quality of Governance t-1	Quality of Governance t-1	Quality of Governance t-1	Quality of Governance t-1
	Internal Conflict t-1	Internal Conflict t-1	Internal Conflict t-1	Internal Conflict t-1	Internal Conflict t-1	Internal Conflict t-1
		Real GDP per capita t-1		Real GDP per capita t-1	Real GDP per capita t-1	Real GDP per capita t-1
		Life expectancy t-1		Life expectancy t-1	Life expectancy t-1	Life expectancy t-1
		Primary school enrollment t-1		Primary school enrollment t-1	Primary school enrollment t-1	Primary school enrollment t-1
			HDI Score t-1 X ODA (%GDP) t-3			
				Real GDP per capita t-1 X ODA (%GDP) t-3		
					Life expectancy t-1 X ODA (%GDP) t-3	
						Primary school enrollment t-1 X ODA (%GDP) t-3

6. Results

The results from my models utilizing net ODA received from all official DAC donors support *H1*, which states that ODA disbursement to lesser developed countries will cause a rise in emigration rates, while ODA disbursements to relatively more developed countries will have the reverse impact on emigration rates, thus *H1* is confirmed. *H2*, stating that governance ODA will decrease the emigration rates of ODA receiving countries is rejected. Finally, *H3* holding that ODA directed towards the economic and social sectors will increase emigration rates in lesser developed countries while decreasing them in

more developed countries is rejected due to mixed results. All of my robustness check models support this conclusion and the results and plots of all models can be found in the appendix.

Table 2 displays my main set of results for total net ODA reception from all official DAC donors while tables 3, 4, and 5 depict the main results associated with receiving governance ODA, social ODA, and economic ODA respectfully. Throughout all the result tables, model 1 includes a basic fixed effects regression analysis of ODA reception and HDI score's impact on emigration rate, with model 2 adding controls of foreign direct investment, quality of governance, and number of internal conflicts to the regression. Model 3 is my alternative model in which HDI Score is disaggregated and replaced by measures of real GDP per Capita, Life Expectancy, and Primary school enrollment. Models 4, 5, 6, and 7 interact ODA with multidimensional measures of development, in order to ascertain how ODA's impact on emigration rates varies at different levels of country development.

6.1 Impact of total net ODA

Using fixed effects and country specific clustered standard errors, models 1-3, which do not have an interaction effect, returned results indicating that net ODA reception did not have any significant impact on the emigration rates of developing countries (see table 2). Considered independently, this result would be misleading in its suggestion that ODA does not impact the emigratory patterns of aid receiving states. However, when analyzed via models 4 through 7, which interact ODA reception with different measures of country development, the impact of ODA becomes more nuanced, delivering insight regarding how the reception of ODA impacts a country's emigration rate at different levels of development. Incorporating this interaction effect into the base model utilizing HDI score uncovers a positive relationship between ODA's impact on emigration rate at low levels of development, which turns negative at higher levels of development.

When interacted with HDI Score, model 4 demonstrates that when countries with an HDI score of 0.31 or less receive net ODA, there is a positive impact on emigration rate (see figure 3). Conversely, net ODA has a negative impact on the receiving country's emigration rate when that country is characterized by an HDI value of 0.49 or more. The farther towards the poles of development an ODA receiving country is, the more pronounced the coefficient of ODA is. For receiving countries like Belize which enjoy a relatively high 2019 HDI score of 0.72, a 1% increase in ODA reception as a percent of GDP should reduce the country's emigration rate by 0.78%, while the same increase in ODA proportional to GDP would have a reduced negative impact of 0.52% on the emigration rate of the Democratic Republic of Congo, which received a 2019 HDI score of 0.6.

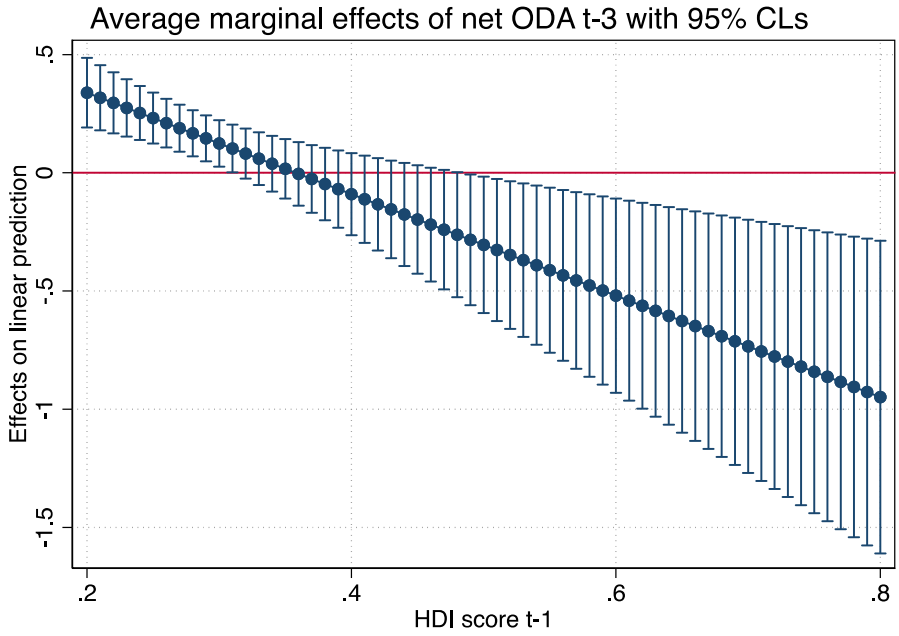
Table 2: Yearly net ODA models

Yearly net ODA from all official DAC donors

Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Net ODA (%GDP) t-3	0.1305	-0.0020	0.0301	0.7678***	-0.0180	1.2199***	0.1867*
	(0.1107)	(0.1007)	(0.0532)	(0.1932)	(0.0983)	(0.3128)	(0.1019)
HDI score t-1	0.1078**	0.1207***		0.1449***			
	(0.0528)	(0.0426)		(0.0453)			
Foreign direct investment (%GDP) t-1		-0.0001	0.0002	0.0001	0.0002	0.0002	0.0002
		(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)
Quality of governance t-1		-0.0075	-0.0182*	-0.0077	-0.0182*	-0.0200*	-0.0179*
		(0.0167)	(0.0100)	(0.0163)	(0.0100)	(0.0101)	(0.0100)
Internal conflict t-1		0.0007	0.0003	0.0005	0.0004	0.0003	0.0003
		(0.0008)	(0.0006)	(0.0007)	(0.0006)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0009		0.0009	0.0006	0.0009
			(0.0007)		(0.0006)	(0.0006)	(0.0006)
Life expectancy t-1			0.0012***		0.0012***	0.0017***	0.0012***
			(0.0004)		(0.0004)	(0.0005)	(0.0004)
Primary school enrollment t-1			-0.0003***		-0.0003***	-0.0003**	-0.0002**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Net ODA (%GDP) t-3				-2.1454***			
				(0.6506)			
Real GDP per capita t-1 X Net ODA (%GDP) t-3					0.0278		
					(0.0474)		
Life expectancy t-1 X Net ODA (%GDP) t-3						-0.0234***	
						(0.0062)	
Primary school enrollment t-1 X Net ODA (%GDP) t-3							-0.0024**
							(0.0011)
Intercept	0.0446	0.0053	0.0164	-0.0064	0.0187	-0.0171	0.0091
	(0.0315)	(0.0283)	(0.0185)	(0.0295)	(0.0173)	(0.0225)	(0.0192)
Number of observations	3206	2315	1992	2315	1992	1992	1992
Number of clusters	134.0000	97.0000	92.0000	97.0000	92.0000	92.0000	92.0000
R-Squared	0.0123	0.0689	0.0983	0.1211	0.0997	0.1248	0.1028

*** p<.01, ** p<.05, * p<.1

Figure 3: Interacted effect of net ODA and HDI score on emigration rate



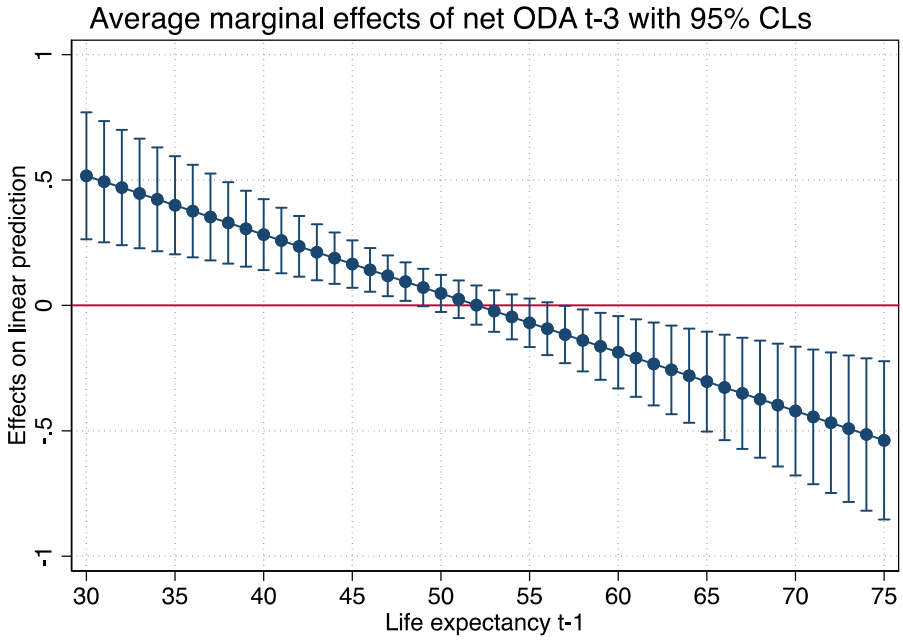
The takeaways from this result are twofold. First, this finding suggests that granting ODA to the world's least developed countries is likely to increase emigration from these areas. This developmental turning point also raises interest; the last country to register an HDI score less than 0.31 was Niger in 2007. This suggests that as we enter a new echelon of global development with a developmental floor higher than ever before, ODA reception may have previously unobserved effects on emigration patterns in the least developed receiving countries. Despite a large number of countries having received very low HDI scores in the earlier time periods of observations, these countries have now all improved measures of country health, education, and economic attainment enough to surpass HDI scores less than 0.31. According to model 4 of the yearly net ODA regression table, the likelihood of any modern country experiencing an increase in emigration rates in response to receiving ODA is not statistically significant.

The second lesson learned from this model is that disbursing ODA to countries with an HDI score of 0.49 or higher should decrease emigration rates; this is notable because 0.49 is not a particularly high HDI score. Advancements in development around the world have increased to such an extent that there were just 16 ODA receiving countries with 2019 HDI scores less which registered below 0.49, all of which lie in Sub-Saharan Africa. Thus, disbursing ODA to a majority of receiving countries is likely to decrease emigration, thereby lending some credibility to the use of ODA as an emigration prevention strategy. If emigration decisions made by residents in ODA receiving states are influenced by the level of total country development, then model 4 has strong causal relevance demonstrating that ODA can reduce emigration in relatively more developed ODA receiving countries.

When moving on from analyzing the impact of net ODA reception on emigration rates via an interaction effect utilizing HDI scores and instead substituting these scores for disaggregated measures of development, *H1* confirming results are once again returned. When interacting net ODA with life expectancy, a health measure functioning as a proxy of development, model 5 finds a near identical correlation between development and ODA's impact on emigration rates. Figure 4 shows that net ODA has a positive impact on the emigration rates of ODA receiving countries characterized by a life expectancy of 48 or less while having a negative impact on ODA receiving countries with a life expectancy of 57 or higher. While the most recent life expectancy score reported below 48 was the Central African Republic in 2011, recent observations less than 57 are still regular, suggesting that there are a number of ODA receiving countries in which ODA's impact on emigration rate remains undetermined. Ultimately, the results of model 5 support *H1*, showing that ODA has a positive impact

on countries with low levels of development while having the opposite on countries with higher levels of development.

Figure 4: Interacted effect of net ODA and life expectancy on emigration rate



The final two interaction models testing the effect of net ODA on emigration rate do not find results that are statistically significant at the 95% confidence interval. However, the interaction effect between ODA and primary school enrollment found in model 6 yields results statistically significant at the 90% confidence interval, which lends some support to *H1*. When interacted with primary school enrollment, net ODA has a positive effect on the emigration rates of countries with lesser enrollment and a negative impact on those with much higher rates of enrollment. Taken as a proxy of development, education functions similarly to HDI score and life expectancy but lacks the same degree of statistical significance when interacted with net ODA. Contrarily in model 7, when net ODA is interacted with real GDP per capita, there is no effect on emigration rate. The plots of these interaction models can be found in the appendix. In consideration of the results returned from these regression models in their entirety, I accept *H1* after finding statistically significant evidence that ODA has a positive impact on the emigration rates of lesser developed countries and a negative impact on the emigration rates of relatively more developed countries.

6.2 Impact of Disaggregated ODA

Governance ODA did not perform as hypothesized, ultimately having a weak and mixed impact on emigration rates. Table 3 demonstrates that governance ODA had a negative impact on emigration rates in model 2, which was significant only at the 90% confidence interval. Contrarily when interacted with life expectancy, governance ODA increased emigration rates in the least healthy receiving countries while having no impact on the emigration rates of countries with higher levels of country development. In the remaining models, including those interacting governance ODA with HDI score, primary school enrollment, and real GDP per capita, governance ODA failed to have a statistically significant impact on emigration rates. This lack of statistical significance indicates that governance ODA may not impact emigration rates as much as predicted, in fact, the results suggest it has little impact at all.

Table 3: Yearly governance ODA models

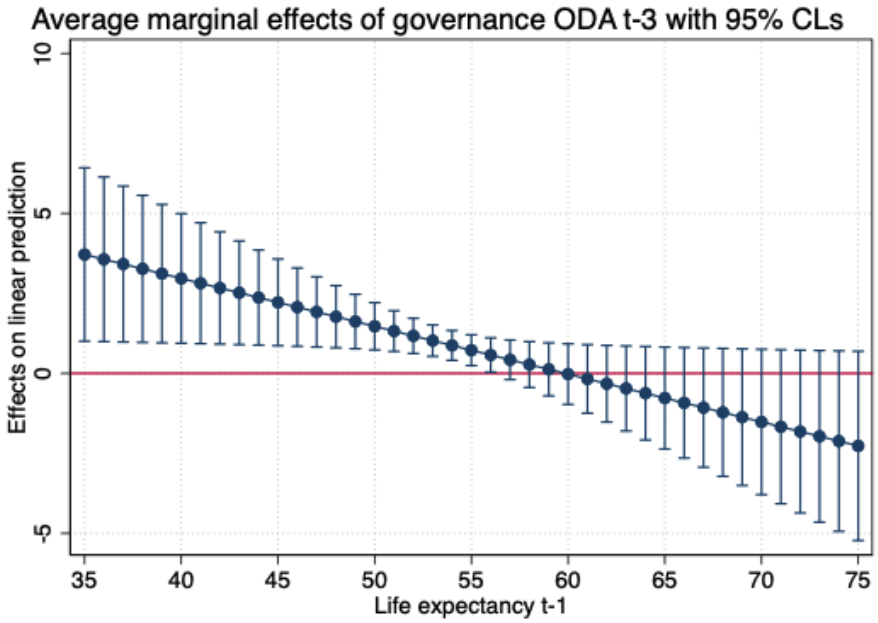
Yearly governance ODA from all official DAC donors

Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Governance ODA (%GDP) t-3	-0.6915	-1.2712*	0.2855	5.6265	-0.1630	8.9491**	1.1845
	(0.8314)	(0.6965)	(0.2903)	(5.2908)	(0.5778)	(3.8657)	(1.9550)
HDI score t-1	0.1087**	0.0967**		0.1067***			
	(0.0525)	(0.0377)		(0.0397)			
Foreign direct investment (%GDP) t-1		0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0354	-0.0114	-0.0343	-0.0108	-0.0114	-0.0114
		(0.0319)	(0.0271)	(0.0308)	(0.0272)	(0.0268)	(0.0271)
Internal conflict t-1		0.0005	0.0008	0.0006	0.0008	0.0009*	0.0008
		(0.0006)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0009		0.0009	0.0008	0.0009
			(0.0010)		(0.0010)	(0.0010)	(0.0010)
Life expectancy t-1			0.0010**		0.0010**	0.0012***	0.0010**
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Governance ODA (%GDP) t-3				-14.7482			
				(12.6961)			
Real GDP per capita t-1 X Governance ODA (%GDP) t-3					0.1880		
					(0.1765)		
Life expectancy t-1 X Governance ODA (%GDP) t-3						-0.1495**	
						(0.0713)	
Primary school enrollment t-1 X Governance ODA (%GDP) t-3							-0.0093
							(0.0202)
Intercept	0.0521	0.0354	0.0333	0.0292	0.0339	0.0195	0.0323
	(0.0315)	(0.0292)	(0.0215)	(0.0294)	(0.0213)	(0.0223)	(0.0215)
Observations	2515	1809	1466	1809	1466	1466	1466
Number of countries	132	95	90	95	90	90	90
R-Squared	0.0102	0.0797	0.1055	0.0960	0.1148	0.1057	0.1075

*** p<.01, ** p<.05, * p<.1

The only result that governance ODA returned, which was statistically significant at the 95% confidence interval, occurred when governance ODA was interacted with life expectancy. Model 6 found that governance ODA had a positive impact on the emigration rates of countries with a life expectancy lower than 56 (see figure 5). The positive relationship between reception of governance ODA and an increase in emigration rates in aid receiving countries with low life expectancies may be influenced by the weight of health expectancy as a measure of country development, as net ODA and social ODA also had statistically significant negative impacts on the emigration rates of countries with low life expectancies when interacted with the variable. In countries with very low levels of country health, it is possible that any ODA reception may help facilitate emigration allowing potential migrants to make good on the existing high emigratory incentives. Considering that only one model indicated that governance ODA had a positive impact on emigrations rates which was significant at the 95% confidence interval while the remaining models failed to find any results that were statistically significant to the same degree, I reject *H2*. The plots of all interaction effect models testing the impact of governance ODA can be found in the appendix.

Figure 5: Interacted effect of governance ODA and life expectancy on emigration rate



Models investigating *H3*, related to the impact of social and economic ODA at different levels of development returned mixed results across model specifications. Similarly to governance ODA, table 4 demonstrates that models using social ODA as a dependent variable found just two instances in which its impact on emigration rates was significant. When controlling for HDI, foreign direct investment, quality of governance, and internal conflict, social ODA had a negative impact on emigration rates which

was only significant at the 90% confidence interval. Figure 6 demonstrates that when interacting social ODA with the life expectancy rates of ODA receiving countries, social ODA had a positive effect on emigration rates in countries with life expectancies lower than 51 and a negative impact on emigration rates in countries with life expectancies higher than 63.

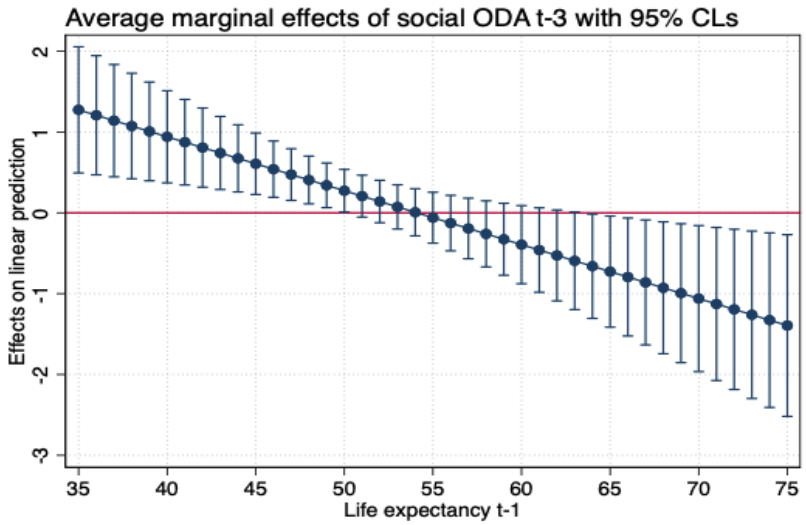
Table 4: Yearly social ODA models

Yearly social ODA from all official DAC donors

Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Social ODA (%GDP) t-3	-0.2831	-0.9372*	-0.1429	2.1882	-0.6117	3.6091***	-0.1723
	(0.3561)	(0.4908)	(0.1954)	(2.0374)	(0.4154)	(1.1998)	(0.6071)
HDI score t-1	0.1184**	0.1023***		0.1230***			
	(0.0522)	(0.0375)		(0.0449)			
Foreign direct investment (%GDP) t-1		0.0002	0.0001	0.0002	0.0002	0.0002	0.0001
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0327	-0.0105	-0.0304	-0.0098	-0.0105	-0.0105
		(0.0306)	(0.0264)	(0.0298)	(0.0265)	(0.0261)	(0.0265)
Internal conflict t-1		0.0005	0.0008	0.0005	0.0007	0.0009*	0.0008
		(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0007		0.0007	0.0005	0.0007
			(0.0009)		(0.0009)	(0.0009)	(0.0009)
Life expectancy t-1			0.0011***		0.0010**	0.0016***	0.0011***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0003***		-0.0003***	-0.0004***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Social ODA (%GDP) t-3				-6.4581			
				(4.8558)			
Real GDP per capita t-1 X Social ODA (%GDP) t-3					0.1961		
					(0.1236)		
Life expectancy t-1 X Social ODA (%GDP) t-3						-0.0667***	
						(0.0233)	
Primary school enrollment t-1 X Social ODA (%GDP) t-3							0.0003
							(0.0053)
Intercept	0.0499	0.0327	0.0309	0.0194	0.0358*	0.0002	0.0311
	(0.0315)	(0.0287)	(0.0226)	(0.0318)	(0.0212)	(0.0252)	(0.0235)
Observations	2586	1841	1495	1841	1495	1495	1495
Number of countries	135	98	93	98	93	93	93
R-Squared	0.0098	0.0890	0.0978	0.1035	0.1102	0.0978	0.1074

*** p<.01, ** p<.05, * p<.1

Figure 6: Interacted effect of social ODA and life expectancy on emigration rate



Again, the interaction model revealed that as life expectancy moved towards the poles of observed values, the effect size of ODA on emigration rate grew proportionally. These results indicate that the effects of social ODA are unique at different points of development and could potentially be implemented in an effort to reduce emigration from relatively more developed countries such as Albania or Colombia, which have life expectancies exceeding 64. The categorization of Social ODA includes various project types aimed at promoting health, sanitation, reproductive and maternal health. Such project endeavors may thrive best when a certain level of country health has already been achieved. Supporting further healthcare development within such countries may effectively increase the health component of a country's total development to a point that emigration is no longer incentivized.

Of the three disaggregated aid types, economic ODA returned the most statistically significant results across my models. In models 1 and 2, economic ODA had a significant negative impact on the emigration of aid receiving countries (see table 5). When interacted with HDI score, figure 7 demonstrates that economic ODA had a significant negative impact on the emigration rates of countries

Table 5: Yearly economic ODA models

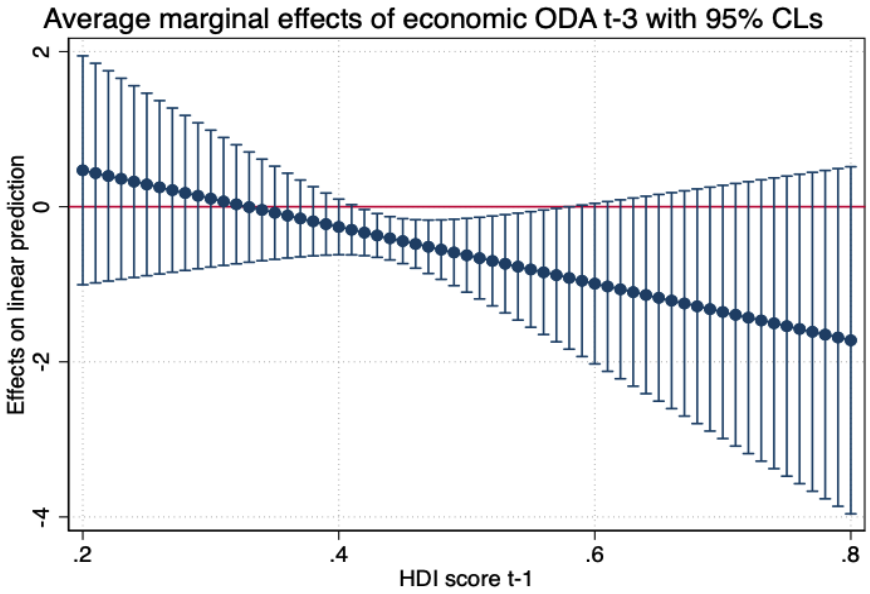
Yearly economic ODA from all official DAC donors

Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Economic ODA (%GDP) t-3	-0.4352**	-0.5686***	-0.1917	1.2006	-0.5002***	0.8314	-0.2490
	(0.1863)	(0.2091)	(0.1570)	(1.3708)	(0.1727)	(1.3290)	(0.4064)
HDI score t-1	0.0941**	0.0988**		0.1070**			
	(0.0440)	(0.0379)		(0.0412)			
Foreign direct investment (%GDP) t-1		0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0333	-0.0100	-0.0324	-0.0100	-0.0103	-0.0100
		(0.0318)	(0.0270)	(0.0311)	(0.0268)	(0.0269)	(0.0271)
Internal conflict t-1		0.0005	0.0008	0.0005	0.0007	0.0008	0.0008
		(0.0006)	(0.0005)	(0.0006)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0008		0.0007	0.0008	0.0008
			(0.0009)		(0.0009)	(0.0009)	(0.0009)
Life expectancy t-1			0.0011***		0.0010***	0.0011***	0.0011***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0004***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Economic ODA (%GDP) t-3				-3.6532			
				(3.1203)			
Real GDP per capita t-1 X Economic ODA (%GDP) t-3					0.1552**		
					(0.0647)		
Life expectancy t-1 X Economic ODA (%GDP) t-3						-0.0170	
						(0.0233)	
Primary school enrollment t-1 X Economic ODA (%GDP) t-3							0.0006
							(0.0046)
Intercept	0.0599**	0.0330	0.0307	0.0278	0.0336	0.0260	0.0310
	(0.0265)	(0.0293)	(0.0220)	(0.0302)	(0.0218)	(0.0260)	(0.0234)
Observations	2503	1794	1462	1794	1462	1462	1462
Number of countries	130	93	89	93	89	89	89
R-Squared	0.0172	0.0812	0.1059	0.0866	0.1068	0.1059	0.1162

*** p<.01, ** p<.05, * p<.1

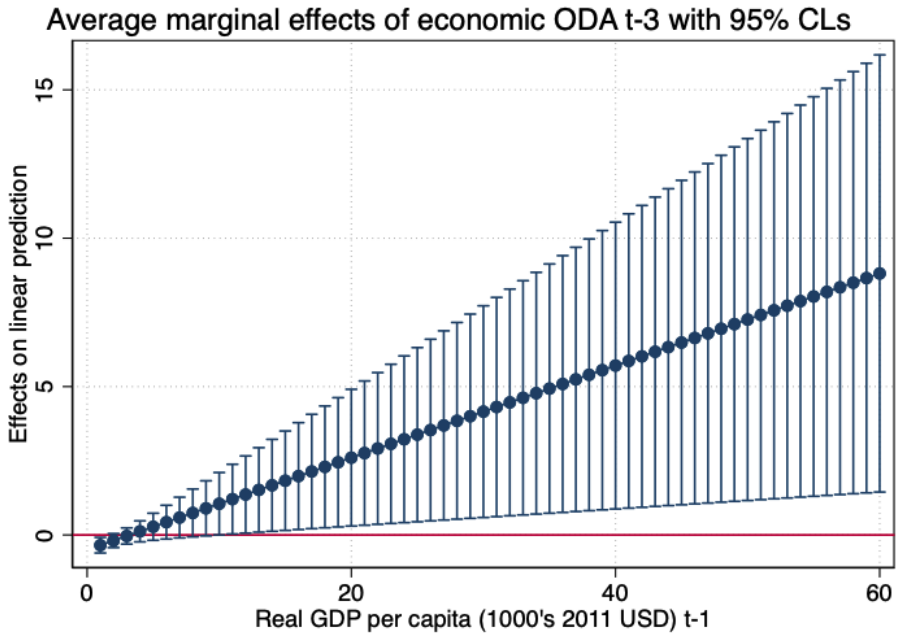
with an HDI score between 0.42 and 0.58. These results are distinct from any others in my study. Rather than having an impact at the poles of development, economic ODA has a negative effect on a small cluster of countries between 0.42 and 0.58, which fall just under the observed median HDI score of 0.61. Disbursement of economic ODA to countries that fall into these parameters may help develop the domestic economic situation to a level just prior to when credit constraints are loosened enough to encourage emigration.

Figure 7: Interacted effect of economic ODA and HDI score on emigration rate



Relatedly, model 7 shows that for the most economically underdeveloped countries in the world, characterized by real GDP per capita of $1,500 or less, economic ODA has a negative impact on emigration rates (see figure 8). Of the 3676 observations for which real GDP per capita is available, 607 or 16.5% of available observations fall into this threshold. Supplying economic ODA to the poorest countries may induce crucial domestic economic development thereby mitigating push factors brought on by dire economic conditions. Conversely, for countries at real GDP per capita of $11,430 in constant 2019 USD or higher, economic ODA has a significant positive impact on emigration rates. Thus indicating that in relatively more developed countries, ODA given particularly to the economic sector may further alleviate credit constraints allowing for increased emigration. These results defy the tenants espoused by both the transitional migration theory and neoclassical economic theory, which suggest that emigration rates will decrease as countries achieve higher levels of economic development.

Figure 8: Interacted effect of economic ODA and real GDP per Capita on emigration rate



Advocates of the transitional migration theory have long argued that once a certain economic threshold is met, emigration rates will begin to fall. Previous studies have debated where this turning point occurs, with studies supporting inflection points as low as $6,000 GDP per capita and as high as $10,000 GDP per capita (Clemens and Postel 2018). My results however demonstrate that as real GDP per capita increases, the positive effect that ODA has on emigration rates rises proportionally, giving no evidence of a decline in emigration at certain levels of economic development. As economic development increases in aid receiving countries, the incentive to emigrate should decrease according to neoclassical economic theory. Yet, emigration rates continue to rise in relation to ODA reception at high levels of real GDP per capita, ultimately presenting statistical evidence rebutting the theorized impacts of development on migration patterns present in both the transitional migration and neoclassical economic camps. In the models testing the impact of economic ODA, I find statistically significant evidence indicating that the disbursement of ODA to this sector has a negative impact on the emigration rates of lesser developed receiving countries and a positive impact on more developed countries. This suggests that in countries characterized by relatively high levels of real GDP per capita incentives to emigrate do not shrink in relation to advances in economic development and that emigration may be especially motivated in cases where aspects of economic development outpace other measures of social or governance development. Considering the mixed results returned from the 14 fixed effect models analyzing the impact of social and economic ODA reception on the emigration rates of aid receiving states, I reject *H3*.

Throughout model specifications, the HDI score variable had significant positive impacts on the emigration rates of aid receiving countries and of all observed coefficients, it had the largest impact. When analyzing the impact of net ODA in models 1 and 2, a 0.1 rise in HDI score increased emigration rates by 0.108% and 0.121% respectively. Across the disaggregated ODA regressions, the same 0.1 increase in HDI score corresponded to emigration rates rising between 0.094% and 0.118% across models 1 and 2 when utilizing governance ODA, social ODA, and economic ODA as independent variables. This suggests that the more developed a country becomes, the more emigration one can expect from that country. While the percentage of change in emigration rate is minuscule, the real world implications are grand; a 0.01% increase in the emigration rate of Argentina would equate to an additional 452,000 migrants leaving the country. However, as only ODA receiving countries, which tend to have relatively lower HDI scores, are observed, these results cannot be generalized to wealthier or more developed countries which do not receive ODA. When HDI score was interacted with total net ODA, a developmental inflection point at which net ODA's impact on emigration changes was uncovered. The results suggest that countries with a lower level of development experience an increase in emigration when receiving net ODA, while the reverse relationship holds true for countries with higher HDI scores. However, this relationship is less clear when the HDI score is deconstructed into components of education, country health, and economic wealth.

The life expectancy variable yielded significant positive impacts on emigration rates across model specifications, with a one year increase in a country's life expectancy correlating to a 0.012% increase in emigration rates model 3 testing the effects of total net ODA. When ODA was disaggregated, a one year increase in country life expectancy resulted in a significant increase in emigration rate with a magnitude ranging between 0.01% and 0.011%. This result suggests that increases in country health development are likely to correlate with rises in emigration rates. However, when interacted with ODA reception, the point of life expectancy at which ODA begins to have a negative impact on emigration rates remains relatively low. Conversely, primary school enrollment had a small negative impact on emigration rates but provided no significant results when interacted with ODA reception. The quality of governance control variable displayed coefficients indicating that increases in government law and order, bureaucratic quality, and decreases in corruption have a negative impact on emigration. Yet, the small size of these coefficients suggests that increased government quality as an emigration deterrent cannot be said to be particularly effective, and maybe acts as a secondary push or pull factor impacting emigration decisions. The remaining control variables of internal conflict, real GDP per capita, and

foreign direct investment did not have significant impacts on emigration rates when included as coefficients in my models.

6.4 Robustness Checks

My robustness checks reconfirm my results and the tables and figures detailing these checks can be found in the appendix. In additional analyses of total ODA's impact on emigration rates of aid receiving countries, models utilizing gross ODA as a dependent variable returned results nearly identical to my primary results (see table A8). All results of interest retained their statistical significance and the direction of their coefficient. Furthermore, when calculating models with an interaction effect, the relationship between ODA and emigration at different levels of development was consistent with my main findings. Switching to the use of gross ODA as a primary dependent variable helps to assess the impact of ODA in a more complete manner and further generates support for *H1*.

Calculating two additional sets of robustness check models using the independent variables of mean net ODA (see table A9) and mean gross ODA (see table A10) over five year periods and a dependent variable of mean country emigration rate over the same five year period also functioned to support *H1*. When recreating models using mean net and mean gross ODA over five years, the significance of most results remained as did the direction of all coefficients. However, effect sizes were much more sensitive in the mean net and gross five year models, returning more polarized results when interacted with proxies development. When interacted with HDI score, both mean net and gross ODA over five years yielded results indicative of the relationship between ODA and emigration rates at different levels of development uncovered in the yearly models (see figures A6 and A7). However, limited data availability reduced the number of significant results, resulting in statistically significant positive impacts only being found at comparatively lower levels of HDI scores, while the reverse impact was found in countries with higher HDI scores. The remaining interaction models offer lines of best fit that support *H1* but ultimately do not return statistically significant results. The use of original emigration rate data and mean ODA measures allow for testing noninterpolated emigration data, and although some statistical significance was lost across these models, they support the conclusion that ODA increases emigration rates in lesser developed aid receiving countries while decreasing emigration rates in relatively more developed countries.

Robustness checks analyzing the impact of ODA disbursed to sectors of governance, social, and economic assistance utilized original emigration data available at five year intervals as dependent variables and the average ODA received within each disaggregated ODA sector over the same period as

independent variables. In the governance ODA robustness check models, governance ODA had a much more pronounced effect on emigration rates compared to the primary models. When interacted with HDI score, governance ODA produced a negative impact on the emigration rates of countries with HDI scores of 0.39 or lower, while only having a positive impact on the emigration rates of much more developed countries with HDI scores exceeding 0.76 (see figure A8). When interacting governance ODA with life expectancy, the robustness check model found that governance ODA positively impacted the emigration rates of countries with life expectancies less than 53, compared to countries with life expectancies of 56 or lower in the main results. Still, there were no cases in which governance ODA decreased emigration rates when interacted with multidimensional indicators of country development other than HDI score (see figure A8). The mixed results yielded from these robustness check models support my main findings which informed the rejection of *H2*, stating that governance ODA has a negative impact on emigration rates.

When interacted with HDI score and life expectancy, mean social ODA over five years returned a relationship in line with *H3* (see figure A9). At HDI scores below 0.33 and life expectancy less than 48, social ODA has a positive impact on emigration rates. Conversely, at HDI scores exceeding 0.54 and life expectancies surpassing 61, a negative impact on emigration rates is seen. However, other interactions with indicators of educational and economic development did not yield statistical results. When interacted with HDI score, ODA to the economic sector performed similarly to social ODA, lending support to *H3* (see figure A10).

Interactions with life expectancy showed that economic ODA can have a small but significant positive effect on countries with lower-middle life expectancies between 40-52. Similarly, interacting economic ODA with primary school enforcement showed that economic ODA has a positive impact on the emigration rates of countries with very low levels of primary school enrollment. However, when interacting mean economic ODA with real GDP per capita, ODA disbursed to the economic sector decreased the emigration rates of the most economically underdeveloped countries while having the opposite effect on more economically developed aid receiving countries. The additional robustness checks concerning the impacts of social and economic ODA return mixed results thereby supporting my rejection of *H3*.

Table 6: Summary of results

H1: Disbursement of ODA to lesser developed countries will be associated with an increase in emigration while disbursement of ODA to relatively more developed countries will be correlated with a decrease in emigration.	Confirmed
H2: Disbursement of ODA to the governance sector will decrease emigration rates in ODA-receiving countries.	Rejected
H3: Disbursement of ODA to economic and social sectors will increase emigration rates in lesser developed countries while decreasing emigration rates in more developed ODA-receiving countries.	Rejected; mixed results

7. Discussion

The rhetoric inspiring the use of ODA as an emigration prevention strategy is based on the framing of immigration as a problem in need of a solution, ultimately ignoring positive aspects brought about by immigration. Immigration can help fill labor shortages and increase domestic demand, while self-selected migrants start firms at higher rates which can increase innovation and create employment opportunities(Constant 2014). Relatedly, achieving a level of "superdiversity" in which there is a high concentration of diverse ethnic and migrant groups in a given region can provide economic boosts to local economic productivity and innovation (Spoonley 2014). Despite the benefits that migrant receiving countries may enjoy, politicians continue to use ODA in an effort to reduce emigration from aid-receiving countries. These policies have increasingly become a staple of migration policy costing taxpayers billions of dollars, but the question remains; do such policies reduce emigration from aid receiving countries?

7.1 Viability of ODA as an Emigration Mitigation Strategy

My analysis of the impact of ODA on emigration patterns suggests that ODA can be strategically used to deter emigration from some ODA-receiving states boasting higher levels of development. Disbursing ODA to relatively more developed countries like Belize or Argentina should have a negative impact on emigration rates as ODA reception disincentivizes emigration by lowering the comparative

benefit achieved by emigrating. Such strategies are of particular value to politicians in aid sending states seeking to reduce emigration from these migrant producing states. This strategy however requires that the disbursement of ODA not be granted to the least developed countries, which from an altruistic perspective are the most deserving. Instead, such migration policies require that ODA be disbursed to strategically located and more developed transit countries and migrant producing states. However, If ODA inflows to countries with relatively higher levels of development are reduced or halted, the negative impacts on emigration rates would also diminish, likely increasing migratory pressure experienced by aid sending states. Accordingly, aid sending countries should be cautious of becoming over reliant on this strategy as a number of shocks in an aid receiving country, such as adverse regime change or the outbreak of civil war, can create conditions in which it is difficult to disburse ODA (Kharas and Desai 2010). Even if aid sending countries find such policies successful, domestic economic downturns negatively impact the amount of ODA disbursed which could consequently increase the amount of immigration pressure these countries face during times of economic struggle (Dang, Knack, and Rogers 2013).

When pinpointing what types of ODA should be disbursed to best limit emigration, the debate becomes more nuanced. These disaggregated results are not as clear cut as the total ODA results but still offer important insight regarding how sector specific ODA functions as an emigration mitigation prevention strategy. ODA disbursed to the social and governance sectors should have positive impacts on the emigration rates of countries with low levels of life expectancy, while social ODA has the reverse impact on the emigration rates of countries boasting high life expectancies. Disbursement of economic ODA in support of a wide variety of projects including developing economic infrastructure and production industries increases emigration for countries that already enjoy relatively high levels of real GDP per capita. Conversely, the reception of economic ODA does produce a negative impact for a small group of ODA receiving countries sporting lower-middle HDI scores ranging from 0.42 to 0.58 as well as the world's most economically underdeveloped countries.

While the aggregate effect of ODA on emigration rates is clear, the impact of disaggregated ODA is more dependent on the level of multidimensional country development determined by a variety of indicators in aid receiving states, thus complicating the use of ODA as an emigration deterrent. Policy makers seeking to deter emigration from ODA receiving states should assess the level of recipient development by analyzing what aspects of development are flourishing and struggling. With recipient country profiles detailing the status of development, policymakers can better orientate sector specific ODA to help recipient countries develop in line with the donor countries' goals of reducing emigration.

Commissioning additional research on which specific types of projects within the governance, social, and economic ODA sectors has the most negative impact on emigration rates can also shed light on how to maximize the efficiency of ODA disbursement for the purpose of limiting emigration.

As an emigration prevention strategy, ODA is not efficiently equipped to mitigate emigration from the world's least developed countries. My results indicate that the disbursement of ODA to countries with very low levels of development creates an increase in the emigration rates of aid receiving countries. This occurs as more potential migrants are able to use increases in development to ease credit constraints and facilitate emigration, while the incentive to emigrate remains high due to the poor levels of development experienced in the aid receiving country. In cases like these, officials attempting to alleviate migratory pressure by using ODA to mitigate emigration would fail to accomplish their goals. This is not to say that donor countries should reduce aid disbursement to countries in which it may increase emigration rates, or keep lesser developed countries poor purely to reduce migratory pressures.

While in some cases ODA donor countries have expressed that the goal of disbursing a significant amount of ODA is to reduce migratory pressure faced on the donor nation's borders and migration management schemes, donors also benefit from other outcomes of increased development brought on by ODA reception. ODA has helped to lift over one billion people out of poverty and all aid sending states benefit from increases in global security and production efficiency within an international system enjoying progressive development (Zhang, Chandy, and Seldel 2016). Disbursement also gives donor countries significant influence in regards to *how* an aid receiving country develops, allowing them to mold the development of poorer countries in line with the donor country's goals (Bermeo 2017). Rather than seeking to prevent emigration, ODA should ultimately be dedicated to the development of international migratory processes, working to reduce danger faced by migrants and maximize benefits enjoyed by both countries of origin and destination countries.

While ODA can reduce emigration from some developing countries, my results indicate that it remains a costly endeavor as contributing enough ODA to raise a country's ODA as a percentage of GDP by 0.5% translates to a 0.14% drop in emigration rate in countries with HDI scores of 0.49. However, at higher levels of development, my models predict that this increase in ODA could decrease emigration rates by as much as 0.47%, presenting policy makers with a cost-benefit analysis. The varying impacts that ODA reception has relative to a receiving country's level of development is a crucial policy consideration and the perceived benefits brought about by reducing emigration must be weighed

against the amount of resources devoted to ODA disbursement. Ultimately, resources may be dedicated elsewhere to better achieve the overarching immigration goals supported by many ODA sending states.

Devoting resources to the strengthening of regular migration channels such as promoting work and education visas, family reunification, asylum, and refugee assistance can assist in making migration journeys more efficient while also reducing reliance on human smuggling and irregular immigration. While screening of asylum and immigration applications is a bureaucratic necessity, the length of these proceedings combined with high demands for entry to the United States and European Union have led to massive backlogs; the average length of immigration proceedings in the United States stands at 855 as of the 2022 fiscal year (TRAC 2022). As the global immigration scheme is widely flawed and prone to stress-testing influxes of migrant waves, orientating funds towards developing efficient, safe, and legal migration networks likely represents a better use of resource allocation than the attempt to reduce emigration incentive by seeking to develop aid receiving countries through ODA projects.

7.1 Limitations

While my thesis expands upon the only other known quantitative analysis focusing on the impacts of different types of ODA (Gamso and Yuldashev 2018), more can be done to better understand how governance, social, and economic ODA function at a micro level. The existing qualitative literature on ODA's impact on development and aid effectiveness would provide a good base for future analyses seeking to examine which of the specific project types within the disaggregated sectors of ODA have the most profound effect on migration patterns. Such knowledge would also be vital to policy makers, as it would highlight more specifically which types of services to provide and projects to enact to best assist ODA-receiving states in developing in line with donor goals. However, some issues concerning data availability may arise when trying to conduct quantitative analyses concerning the impacts of implementing specific ODA project types.

Across the disaggregated ODA models, significant results occurred less frequently compared to models analyzing net ODA, as well as robustness checks making use of gross ODA as a dependent variable. Limited data availability of sector specific ODA commitments from 1990-2019 may have reduced the significance of my results. The current degree of sector specific ODA commitments data available inevitably has some denigrative effects on quantitative research due to its limited periods of observations and reporting mechanisms. The time period of 1990-2019 proves functional for quantitative analysis, but when paired with noninterpolated migrant stock data, there are only seven observational periods when both sources of data are available. If one utilized sector specific ODA

disbursements, available only from 2002-2019, there would only be four overlapping observational periods. Net or gross sector specific ODA disbursements would be a more ideal variable in comparison to ODA commitments, as it moves the analysis one step closer to the point at which the impacts of aid are actually enjoyed by the receiving country's residents. However, due to restrictive data availability, it was not advisable to use this measure in my thesis. Luckily the continued use of the OECD Credit Reporting System will increase data availability in regards to sector specific ODA in future years, assisting research endeavors down the line.

Relatedly, increased institutional emphasis on gathering immigration statistics is key to better understanding international migratory patterns and how ODA impacts them. While the release of the United Nations Population Division's 2020 Migrant Stock Data is a major contribution to the field and allowed for my analysis to occur, it is not without shortcomings. In developing countries without public administration institutions capable of documenting large inflows of refugees, census data may incorrectly evaluate the number of refugees counted as residents within these countries. In an attempt to overcome this, the dataset includes estimates from the UN High Commissioner for Refugees and UN Relief and Works Agency which were added to the population count of developing countries that do not include refugees in their national registrars or census. Like ODA data, I expect that empirics related to international migration will improve over time, especially as lower and middle developed countries improve their public administration institutions and record keeping capacity. With migration and disaggregated ODA data becoming increasingly more available, future research endeavors can help fill the research gap regarding the impact of ODA on emigration rates, thereby providing crucial insight to policymakers seeking to reduce emigration via the disbursement of ODA.

8. Conclusion

Using several fixed effects models, I have tested the impact of total ODA and aid disaggregated into sectors of governance ODA, social ODA, and economic ODA, on the emigration rates of receiving states. I interact independent variables of ODA with multiple indicators of country development, moving beyond the sole reliance on economic proxies of development often found in the ODA-migration literature. This is done in accordance with the constructed theoretical framework, asserting that migration decisions are largely influenced by the comparative difference in country development, defined as a progressive multidimensional sociocultural, political, and economic shift that improves the quality of life of a country's residents. This theoretical approach provides an innovative approach more apt to capture the impact of ODA on the emigration rates of aid receiving countries, particularly for aid

channeled through the social and governance sectors, which are often underrepresented in studies using economic indicators as proxies for overall country development.

Making use of data sourced from the UN's 2020 International Migrant Stock dataset and the most recent iterations of the DAC2a and CRS OECD datasets, I conduct an analysis utilizing the most recent emigration and data available. Most notably, I expand upon previous studies which have expressly focused on immigration to OECD countries by considering the total emigration rate of aid receiving countries in my models. I find that ODA reception increases the emigration rates of lesser developed aid receiving countries while having a negative effect on the emigration rates of comparatively more developed states receiving ODA. These findings suggest that at low levels of development, reception of ODA frees up resources, allowing residents to act upon the high incentive to emigrate brought about by poor developmental conditions. Conversely, at higher levels of development ODA appears to further decrease the maximum utility a potential migrant can achieve by emigrating and thus functions to drive down emigration rates.

When disaggregated into sectors, the type of ODA disbursed impacts emigration rates differently at unique levels of country development. Governance ODA and Social ODA both have positive impacts on the emigration rates of ODA receiving countries with low life expectancies, while only social ODA has a significant negative impact on emigration rates in countries with higher life expectancies. Conversely, economic ODA has a positive impact on the emigration rates of more economically developed countries, as well as on a small set of countries with HDI scores between 0.42 and 0.58. With these results in mind, the successful use of ODA as an emigration mitigation policy can be achieved if aid is strategically disbursed to migrant producing and transit countries that have measures of development prone to reduce emigration rates when interacted with ODA reception.

Despite the contribution of this thesis to the ODA-migration nexus, the amount of literature concerning this topic does not reflect the degree of resources dedicated to pursuing the use of ODA as a migration policy. Very few quantitative studies have examined the impacts of ODA on emigration, with the vast majority focusing solely on immigration to OECD countries. The expansion to general emigration rates made in this work is an important one that allows us to better understand the impact of ODA on migratory patterns in its entirety, but the associated research gap remains wide. Future research endeavors should seek to identify how ODA impacts emigration specifically from transit states outside of the OECD, as they are of special importance to policy makers seeking to use ODA to relieve migratory pressure on the external borders of aid sending states.

As the international system progresses further into the 21st century, it has become more evident that international migratory pressures will continue to be a key political issue for both migrant receiving and migrant sending states. In recent years the immigration policies of western states have generally tightened access to legal migration routes and implemented border enforcement mechanisms, which have been criticized as being inhumane. In light of these policies, the disbursement of ODA to developing migrant sending countries in the hopes that this aid will eradicate push factors motivating emigration has become a popular emigration mitigation strategy despite little being known regarding the causal mechanisms linking aid reception and emigration. The theoretical framework that I advance contributes to the lack of understanding by considering this relationship through a multidimensional definition of country development which acts as mediating variable between aid reception and emigration. Empirically, my models demonstrate that ODA can be selectively used to deter emigration in relatively more developed aid receiving states, offering some support for the use of ODA as an emigration prevention strategy.

9. References

ACI. 2013. “The Cost of Immigration Enforcement and Border Security.” *American Immigration Council*. https://www.americanimmigrationcouncil.org/research/the-cost-of-immigration-enforcement-and-border-security (January 31, 2022).

Alfonsi, Livia et al. 2020. “Tackling Youth Unemployment: Evidence From a Labor Market Experiment in Uganda.” *Econometrica* 88(6): 2369–2414.

Amuedo-Dorantes, Catalina. 2014. “The Good and the Bad in Remittance Flows.” *IZA World of Labor*. https://wol.iza.org/articles/good-and-bad-in-remittance-flows/long (June 8, 2021).

Arndt, Channing, Sam Jones, and Finn Tarp. 2015. “Assessing Foreign Aid’s Long-Run Contribution to Growth and Development.” *World Development* 69: 6–18.

Asencio, Diego. 1990. *Unauthorized Migration: An Economic Development Response: Executive Summary: Report of the Commission for the Study of International Migration and Cooperative Economic Development.* Washington, D.C.: The Commission. https://catalog.hathitrust.org/Record/002235431 (January 27, 2022).

Askarov, Zohid, and Hristos Doucouliagos. 2015. “Development Aid and Growth in Transition Countries.” *World Development* 66: 383–99.

Bermeo, Sarah Blodgett. 2017. “Aid Allocation and Targeted Development in an Increasingly Connected World.” *International Organization* 71(4): 735–66.

Berthélemy, Jean-Claude, Monica Beuran, and Mathilde Maurel. 2009. “Aid and Migration: Substitutes or Complements?” *World Development* 37(10): 1589–99.

Bohra-Mishra, Pratikshya, and Douglas S. Massey. 2011. “Individual Decisions to Migrate During Civil Conflict.” *Demography* 48(2): 401–24.

Borjas, George J. 1987. “Self-Selection and the Earnings of Immigrants.” *The American Economic Review* 77(4): 531–53.

———. 1999. “Immigration and Welfare Magnets.” *Journal of Labor Economics* 17(4): 607–37.

Bräutigam, Deborah. 2001. “Aid Dependence and Governance.” *Exper Group on Developmental Issues*: 1–75.

Budiman, Abby. 2020. “Key Findings about U.S. Immigrants.” *Pew Research Center*. https://www.pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/ (January 31, 2022).

Bygnes, Susanne, and Aurore Flipo. 2017. “Political Motivations for Intra-European Migration.” *Acta Sociologica* 60(3): 199–212.

Castles, Stephen. 2004. “Why Migration Policies Fail.” *Ethnic and Racial Studies* 27(2): 205–27.

Chatagnier, J. Tyson, and Emanuele Castelli. 2019. “The Arc of Modernization: Economic Structure, Materialism, and the Onset of Civil Conflict.” *Political Science Research and Methods* 7(2): 233–52.

Clemens, Michael. 2020. “Emigration Rises Along with Economic Development. Aid Agencies Should Face This, but Not Fear It.” *Center for Global Development | Ideas to Action*. https://www.cgdev.org/blog/emigration-rises-along-economic-development-aid-agencies-should-face-not-fear-it (May 3, 2022).

Clemens, Michael A., Claudio E. Montenegro, and Lant Pritchett. 2019. “The Place Premium: Bounding the Price Equivalent of Migration Barriers.” *The Review of Economics and Statistics* 101(2): 201–13.

Clemens, Michael A., and Hannah M. Postel. 2018. “Deterring Emigration with Foreign Aid: An Overview of Evidence from Low-Income Countries:” *Population and development review* 44(4): 667–93.

Clemens, Michael A., Steven Radelet, Rikhil R. Bhavnani, and Samuel Bazzi. 2012. “Counting Chickens When They Hatch: Timing and the Effects of Aid on Growth.” *The Economic Journal* 122(561): 590–617.

Connor, Phillip, and Jeffrey S. Passel. 2019. “Europe’s Unauthorized Immigrant Population Peaks in 2016, Then Levels Off.” *Pew Research Center’s Global Attitudes Project*. https://www.pewresearch.org/global/2019/11/13/europes-unauthorized-immigrant-population-peaks-in-2016-then-levels-off/ (January 31, 2022).

Constant, Amelie F. 2014. “Do Migrants Take the Jobs of Native Workers?” *IZA World of Labor*. https://wol.iza.org/articles/do-migrants-take-the-jobs-of-native-workers/long (May 7, 2021).

Czaika, Mathias, and Amy Mayer. 2011. “Refugee Movements and Aid Responsiveness of Bilateral Donors.” *The Journal of Development Studies* 47(3): 455–74.

Dao, Thu Hien, Frédéric Docquier, Chris Parsons, and Giovanni Peri. 2018. “Migration and Development: Dissecting the Anatomy of the Mobility Transition.” *Journal of Development Economics* 132: 88–101.

Dave, Sachin, and Rajiv Khanna. 2021. “The Costs of Immigrating to United States.” *The Economic Times*. https://economictimes.indiatimes.com/nri/migrate/the-costs-of-immigrating-to-the-united-states/articleshow/82966455.cms (January 31, 2022).

De Haas, Hein. 2007. “Turning the Tide? Why Development Will Not Stop Migration.” *Development and Change* 38(5): 819–41.

Decrinis, Leonie. 2019. “Human Development and International Migration: Lessons from Low- and Middle-Income Countries.” *Journal of Governance and Regulation* 8(3): 8.

Derviş, Kemal. 2014. “Good Governance and Economic Performance.” *Brookings*. https://www.brookings.edu/opinions/good-governance-and-economic-performance/ (February 23, 2022).

Dervis, Kemal, and Jeni Klugman. 2011. “Measuring Human Progress: The Contribution of the Human Development Index and Related Indices.” *Revue d’économie politique* 121(1): 73–92.

Deutsche Welle. 2020. “Germany: Thousands Rally Urging Government to Accept More Refugees.” https://www.dw.com/en/germany-thousands-rally-urging-government-to-accept-more-refugees/a-52678683 (February 9, 2022).

Edwards, Sebastian. 2015. “Economic Development and the Effectiveness of Foreign Aid: A Historical Perspective.” *Kyklos* 68(3): 277–316.

Elayah, Moosa. 2016. “Lack of Foreign Aid Effectiveness in Developing Countries between a Hammer and an Anvil.” *Contemporary Arab Affairs* 9(1): 82–99.

Etling, Andreas, Leonie Backeberg, and Jochen Tholen. 2020. “The Political Dimension of Young People’s Migration Intentions: Evidence from the Arab Mediterranean Region.” *Journal of Ethnic and Migration Studies* 46(7): 1388–1404.

European Court of Auditors. 2020. *Audit Preview: Frontex*. https://www.eca.europa.eu/lists/ecadocuments/ap20_02/ap_frontex_en.pdf.

Fasanya, Ismail O, and Adegbemi B O Onakoya. 2012. “Does Foreign Aid Accelerate Economic Growth? An Empirical Analysis for Nigeria.” 2(4): 9.

Fearon, James D. 2011. *Governance and Civil War Onset*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/9123 (February 3, 2022).

Feenstra, R, R Inklaar, and M Timmer. 2015. “The next Generation of the Penn World Table.” *The American Economic Review* 105(10): 3150–82.

Finkel, Steven E., Aníbal Pérez-Liñán, and Mitchell A. Seligson. 2007. “The Effects of U.S. Foreign Assistance on Democracy Building, 1990-2003.” *World Politics* 59(3): 404–38.

Flint, Adrian, and Christian Meyer zu Natrup. 2019. “Aid and Development by Design: Local Solutions to Local Problems.” *Development in Practice* 29(2): 208–19.

Gamso, Jonas, and Farhod Yuldashev. 2018a. “Does Rural Development Aid Reduce International Migration?” *World Development* 110(C): 268–82.

———. 2018b. “Targeted Foreign Aid and International Migration: Is Development-Promotion an Effective Immigration Policy?” *International Studies Quarterly* 62(4): 809–20.

Gibson, John, and David McKenzie. 2014. “THE DEVELOPMENT IMPACT OF A BEST PRACTICE SEASONAL WORKER POLICY.” *The Review of Economics and Statistics* 96(2): 229–43.

Gomanee, Karuna, Sourafel Girma, and Oliver Morrissey. 2005. “Aid, Public Spending and Human Welfare: Evidence from Quantile Regressions.” *Journal of International Development* 17(3): 299–309.

Gowan, Richard, Susi Dennison, and Shoshana FIne. 2019. “False Moves: Migration and Development Aid – European Council on Foreign Relations.” *ECFR*. https://ecfr.eu/publication/false_moves_migration_and_development_aid/ (May 13, 2022).

Haas, Hein de. 2008. “The Myth of Invasion: The Inconvenient Realities of African Migration to Europe.” *Third World Quarterly* 29 (7): 1305–22.

de Haas, Hein. 2009. “Mobility and Human Development.” *United Nations Development Program*: 73.

———. 2010a. “Migration and Development: A Theoretical Perspective.” *The International Migration Review* 44(1): 227–64.

———. 2010b. “Migration and Development: A Theoretical Perspective.” *The International Migration Review* 44(1): 227–64.

Hanson, Gordon H., Kenneth Scheve, and Matthew J. Slaughter. 2007. “Public Finance and Individual Preferences Over Globalization Strategies.” *Economics & Politics* 19(1): 1–33.

Hipsman, Faye, and Chisti Muzaffar. 2016. “Increased Central American Migration to the United States May Prove an Enduring Phenomenon.” *migrationpolicy.org*. https://www.migrationpolicy.org/article/increased-central-american-migration-united-states-may-prove-enduring-phenomenon (February 9, 2022).

Hirano, Yumeka, and Shigeru Otsubo. 2014. *Aid Is Good for the Poor*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/19397 (February 11, 2022).

Hiskey, Jonathan, Jorge Daniel Montalvo, and Diana Orcés. 2014. “Democracy, Governance, and Emigration Intentions in Latin America and the Caribbean.” *Studies in Comparative International Development* 49(1): 89–111.

Hodler, Roland. 2007. “Rent Seeking and Aid Effectiveness.” *International Tax and Public Finance* 14(5): 525–41.

“Human Development Report 2020 | UNDP HDR.” 2020. *Human Development Report 2020 | UNDP HDR*. http://report.hdr.undp.org (May 4, 2022).

Hyndman, Jennifer. 2003. “Aid, Conflict and Migration: The Canada-Sri Lanka Connection.” *The Canadian Geographer / Le Géographe canadien* 47(3): 251–68.

IOM UN. 2022a. “Civil Society and NGOs | IOM, UN Migration.” https://www.iom.int/civil-society-and-ngos-0 (February 1, 2022).

———. 2022b. “Global Compact for Migration | IOM, UN Migration.” https://www.iom.int/global-compact-migration (February 1, 2022).

Karkee, Rajendra, and Jude Comfort. 2016. “NGOs, Foreign Aid, and Development in Nepal.” *Frontiers in Public Health* 4. https://www.frontiersin.org/article/10.3389/fpubh.2016.00177 (May 3, 2022).

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2010. *The Worldwide Governance Indicators: Methodology and Analytical Issues*. Rochester, NY: Social Science Research Network. SSRN Scholarly Paper. https://papers.ssrn.com/abstract=1682130 (April 21, 2022).

Khoudour-Castéras, David. 2009. “Neither Migration nor Development: The Contradictions of French Co-Development Policy.” : 20.

Knack, Stephen. 2000. *Aid Dependence and the Quality of Governance : A Cross-Country Empirical Analysis*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/19826 (February 23, 2022).

Knoll, Anna, and Andrew Sherriff. 2017. *Making Waves: Implications of the Irregular Migration and Refugee Situation on Official Development Assistance Spending and Practices in Europe : A Study of Recent Developments in the EU Institutions, Denmark, Germany, the Netherlands and Sweden*. Stockholm: Expertgruppen f??r bist??ndsanalys.

Kraipornsak, Paitoon. 2018. “GOOD GOVERNANCE AND ECONOMIC GROWTH: AN INVESTIGATION OF THAILAND AND SELECTED ASIAN COUNTRIES.” *Eurasian Journal of Economics and Finance* 6: 93–106.

Kulish, Nicholas. 2018. “What It Costs to Be Smuggled Across the U.S. Border.” *The New York Times*. https://www.nytimes.com/interactive/2018/06/30/world/smuggling-illegal-immigration-costs.html, https://www.nytimes.com/interactive/2018/06/30/world/smuggling-illegal-immigration-costs.html (January 31, 2022).

Lanati, Mauro, and Rainer Thiele. 2017. “The Impact of Foreign Aid on Migration Revisited.” *World Development* 111: 59–74.

Lucas, Robert E. B., and Michael Clemens. 2014. *International Handbook on Migration and Economic Development*. Edward Elgar Publishing.

Maddison Project. 2020. “Maddison Project Database 2020.” *University of Groningen*. https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020 (April 25, 2022).

Martin-Shields, Charles, Benjamin Schraven, and Steffen Angenendt. 2009. “Aid and Migration: Substitutes or Complements?” *World Development* 37(10): 1589–99.

Massey, Douglas S., Jorge Durand, and Karen A. Pren. 2016. “Why Border Enforcement Backfired.” *AJS; American journal of sociology* 121(5): 1557–1600.

McKenzie, David. 2017. *How Effective Are Active Labor Market Policies in Developing Countries?: A Critical Review of Recent Evidence*. Washington, DC: World Bank. Working Paper. https://openknowledge.worldbank.org/handle/10986/26352 (February 9, 2022).

McLaughlin, Elliot, and Nicole Chavez. 2019. “‘Close the Camps’: Protesters across Country Demand End to Migrant Detention Centers - CNN.” https://edition.cnn.com/2019/07/02/us/detention-facilities-protests-migrants-close-camps/index.html (February 9, 2022).

Menard, Audrey, and Aurore Gary. 2018. “Aid, Trade and Migration: How Do Bilateral Flows Interact?” *The World Economy* 41(2): 431–56.

Mergo, Teferi. 2016. “The Effects of International Migration on Migrant-Source Households: Evidence from Ethiopian Diversity-Visa Lottery Migrants.” *World Development* 84: 69–81.

Michalowski, Raymond. 2007. “Border Militarization and Migrant Suffering: A Case of Transnational Social Injury.” *Social Justice* 34(2 (108)): 62–76.

Minoiu, Camelia, and Sanjay G. Reddy. 2010. “Development Aid and Economic Growth: A Positive Long-Run Relation.” *The Quarterly Review of Economics and Finance* 50(1): 27–39.

Moreira, Sandrina Berthault. 2005. “Evaluating the Impact of Foreign Aid on Economic Growth: A Cross-Country Study.” *Journal of Economic Development* 30(2): 25–48.

Morrison, Thomas K. 1982. “The Relationship of U.S. Aid, Trade and Investment to Migration Pressures in Major Sending Countries.” *The International Migration Review* 16(1): 4–26.

Mosley, Paul. 1986. “Aid-Effectiveness: The Micro-Macro Paradox.” *IDS Bulletin* 17(2): 22–27.

MPI. 2020. “U.S. Immigrant Population and Share over Time, 1850-Present.” *migrationpolicy.org*. https://www.migrationpolicy.org/programs/data-hub/charts/immigrant-population-over-time (January 31, 2022).

Nkusu, Mwanza. 2004. “Aid and the Dutch Disease in Low-Income Countries : Informed Diagnoses for Prudent Prognoses.” *IMF*. https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Aid-and-the-Dutch-Disease-in-Low-Income-Countries-Informed-Diagnoses-for-Prudent-Prognoses-17213 (February 11, 2022).

Nyberg–Sørensen, Ninna, Nicholas Van Hear, and Poul Engberg–Pedersen. 2002. “The Migration–Development Nexus Evidence and Policy Options State–of–the–Art Overview.” *International Migration* 40(5): 3–47.

Oberle, Wayne H., Kevin R. Stowers, and James P. Darby. 2014. “A Definition of Development.” *Journal of the Community Development Society* 5(1): 61–71.

OECD. 2013. “DIOC: Database on Immigrants in OECD Countries and Non-OECD Countries - CKAN.” https://migration-demography-tools.jrc.ec.europa.eu/catalogue/dataset/ds00053 (April 21, 2022).

———. 2022a. “DAC and CRS Code Lists - OECD.” *DAC and CRS code lists*. https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/dacandcrscodelists.htm (May 3, 2022).

———. 2022b. “Official Development Assistance (ODA) - Net ODA - OECD Data.” *OECD*. http://data.oecd.org/oda/net-oda.htm (February 9, 2022).

Olesen, Henrik. 2002. “Migration, Return, and Development: An Institutional Perspective.” *International Migration* 40(5): 125–50.

Orrenius, Pia. 2019. “Enforcement and Illegal Migration.” *IZA World of Labor*. https://wol.iza.org/articles/enforcement-and-illegal-migration/long (June 18, 2021).

Orrenius, Pia M., and Madeline Zavodny. 2014. Working Papers *How Do E-Verify Mandates Affect Unauthorized Immigrant Workers?* Federal Reserve Bank of Dallas. https://ideas.repec.org/p/fip/feddwp/1403.html (May 17, 2022).

Pagani, C. 2021. “Migration Statecraft: Managing Migration Flows at a Bilateral Level.” *International Trends / Mezhdunarodnye protsessy* 19(1): 103–19.

Pettersson, Therése et al. 2021. “Organized Violence 1989–2020, with a Special Emphasis on Syria.” *Journal of Peace Research* 58(4): 809–25.

Rabie, Mohamed. 2016. “Meaning of Development.” In *A Theory of Sustainable Sociocultural and Economic Development*, ed. Mohamed Rabie. New York: Palgrave Macmillan US, 7–15. https://doi.org/10.1007/978-1-137-57952-2_2 (May 17, 2022).

Rajan, Raghuram G., and Arvind Subramanian. 2011. “Aid, Dutch Disease, and Manufacturing Growth.” *Journal of Development Economics* 94(1): 106–18.

Riddell, Abby, and Miguel Niño-Zarazúa. 2016. “The Effectiveness of Foreign Aid to Education: What Can Be Learned?” *International Journal of Educational Development* 48: 23–36.

Savun, Burcu, and Daniel C. Tirone. 2011. “Foreign Aid, Democratization, and Civil Conflict: How Does Democracy Aid Affect Civil Conflict?” *American Journal of Political Science* 55(2): 233–46.

Schneider, Friedrich. 2015. “Does Corruption Promote Emigration?” *IZA World of Labor*. https://wol.iza.org/articles/does-corruption-promote-emigration/long (February 23, 2022).

Schwartz, Rachel. 2021. “The Biden Administration Has Pledged Significant Aid to Central America. But Where Should It Go and How Should It Get There?” *The Dialogue*. https://www.thedialogue.org/blogs/2021/04/the-biden-administration-has-pledged-significant-aid-to-central-america-but-where-should-it-go-and-how-should-it-get-there/ (February 9, 2022).

Skeldon, Ronald. 2011. “Migration Transitions Revisited: Their Continued Relevance for The Development of Migration Theory - Skeldon - 2012 - Population, Space and Place - Wiley Online Library.” https://onlinelibrary-wiley-com.ezproxy.ub.gu.se/doi/full/10.1002/psp.667 (February 1, 2022).

———. 2012. “Migration Transitions Revisited: Their Continued Relevance for The Development of Migration Theory.” *Population, Space and Place* 18(2): 154–66.

Spoonley, Paul. 2014. “Superdiversity, Social Cohesion, and Economic Benefits.” *IZA World of Labor* (46). https://www.econstor.eu/handle/10419/125265 (May 7, 2021).

Stalker, Peter. 2002. “Migration Trends and Migration Policy in Europe.” *International Migration* 40(5): 151–79.

Telli, Henry. 2014. “Less Poverty, More Emigration: Understanding Migrant Flows from Developing Countries.” *Migration and Development* 3(1).

Teorell et al. 2022. “The Quality of Government Standard Dataset, Version Jan22. University of Gothenburg: The Quality of Government Institute.” https://www.gu.se/en/quality-government.

"The International Country Risk Guide (ICRG)." 2020. *PRS Group*. https://www.prsgroup.com/explore-our-products/international-country-risk-guide/ (April 25, 2022).

TRAC. 2022. "Immigration Court Backlog Tool: Pending Cases and Length of Wait in Immigration Courts." *Immigration Court Backlog Tool*. https://trac.syr.edu/phptools/immigration/court_backlog/ (May 4, 2022).

UN Department of Economic & Social Affairs. 2019. *International Migrant Stock 2019 Documentation*. https://www.un.org/en/development/desa/population/migration/data/estimates2/docs/MigrationStockDocumentation_2019.pdf.

United Nations Development Program. 2020. "Human Development Report 2020." https://hdr.undp.org/en/2020-report (April 16, 2022).

US Bureau of Labor Statistics. 2022. "CPI Inflation Calculator." https://www.bls.gov/data/inflation_calculator.htm (April 13, 2022).

van der Waal, Jeroen. 2013. "Foreign Direct Investment and International Migration to Dutch Cities." *Urban Studies* 50(2): 294–311.

World Bank. 2022a. "World Bank Project Cycle." *World Bank*. https://projects.worldbank.org/en/projects-operations/products-and-services/brief/projectcycle (May 3, 2022).

———. 2022b. "World Development Indicators | DataBank." https://databank.worldbank.org/source/world-development-indicators (May 3, 2022).

Yang, Dean. 2011. "Migrant Remittances." *Journal of Economic Perspectives* 25(3): 129–52.

Zhang, Christine, Laurence Chandy, and Brina Seldel. 2016. "Aid Effectiveness in Fragile States: How Bad Is It and How Can It Improve?" *Brookings*. https://www.brookings.edu/research/aid-effectiveness-in-fragile-states/ (February 10, 2022).

A. Appendix

Table A1: Breakdown of governance ODA Sector

Governance ODA (OECD 2022a)

Government & Civil Society-general	**Conflict, Peace & Security**
Public sector policy and administrative management	Security system management and reform
Foreign affairs	Civilian peace-building, conflict prevention and resolution
Diplomatic missions	Participation in international peacekeeping operations
Administration of developing countries' foreign aid	Reintegration and SALW control
General personnel services	Removal of land mines and explosive remnants of war
Other general public services	Child soldiers (prevention and demobilization)
National monitoring and evaluation	
Meteorological services	
National standards development	
Executive office	
Government and civil society statistics and data	
Public finance management (PFM)	
Budget planning	
National audit	
Debt and aid management	
Decentralization and support to subnational government	
Local government finance	
Other central transfers to institutions	
Local government administration	
Anti-corruption organizations and institutions	
Domestic revenue mobilization	
Tax collection	
Tax policy and administration support	
Other non-tax revenue mobilization	
Public Procurement	
Legal and judicial development	
Justice, law and order policy, planning and administration	
Police	
Fire and rescue services	
Judicial affairs	
Ombudsman	
Immigration	
Prisons	
Macroeconomic policy	

Democratic participation and civil society	
Elections	
Legislatures and political parties	
Media and free flow of information	
Human rights	
Women's rights organizations and movements, and government institutions	
Ending violence against women and girls	
Facilitation of orderly, safe, regular and responsible migration and mobility	

Table A2: Breakdown of social ODA Sector

Social ODA (OECD 2022a)

Education	**Health**	**Population Policies/Programs & Reproductive Health**	**Water Supply & Sanitation**	**Other Social Infrastructure & Services**
Education policy and administrative management	Basic health care	Population policy and administrative management	Water sector policy and administrative management	Social Protection
Education facilities and training	Basic health infrastructure	Population statistics and data	Water resources conservation (including data collection)	Social protection and welfare services policy, planning and administration
Teacher training	Basic nutrition	Reproductive health care	Water supply and sanitation - large systems	Social security (excl pensions)
Educational research	Infectious disease control	Family planning	Water supply - large systems	General pensions
Primary education	Health education	STD control including HIV/AIDS	Sanitation - large systems	Civil service pensions
Basic life skills for adults	Malaria control	Personnel development for population and reproductive health	Basic drinking water supply and basic sanitation	Social services (incl youth development and women+ children)
Basic life skills for youth	Tuberculosis control		Basic drinking water supply	Employment creation
Primary education equivalent for adults	COVID-19 control		Basic sanitation	Housing policy and administrative management
Early childhood education	Health personnel development		River basins development	Low-cost housing
School feeding	NCDs control, general		Waste management/disposal	Multisector aid for basic social services
Lower secondary education	Tobacco use control		Education and training in water supply and sanitation	Culture and recreation
Upper Secondary Education	Control of harmful use of			Recreation and sport

(modified and includes data from 11322)	alcohol and drugs			
Vocational training	Promotion of mental health and well-being			Culture
Higher education	Other prevention and treatment of NCDs			Statistical capacity building
Advanced technical and managerial training	Research for prevention and control of NCDs			Narcotics control
				Social mitigation of HIV/AIDS
				Labor rights
				Social dialogue

Table A3: Breakdown of economic ODA Sector

Economic ODA (OECD 2022a)

Economic Infrastructure & Services	**Production sectors**
Transport policy and administrative management	Agricultural policy and administrative management
Transport policy, planning and administration	Agricultural development
Public transport services	Agricultural land resources
Transport regulation	Agricultural water resources
Road transport	Agricultural inputs
Feeder road construction	Food crop production
Feeder road maintenance	Industrial crops/export crops
National road construction	Livestock
National road maintenance	Agrarian reform
Rail transport	Agricultural alternative development
Water transport	Agricultural extension
Air transport	Agricultural education/training
Storage	Agricultural research
Education and training in transport and storage	Agricultural services
Communications policy and administrative management	Plant and post-harvest protection and pest control
Communications policy, planning and administration	Agricultural financial services
Postal services	Agricultural co-operatives
Information services	Livestock/veterinary services
Telecommunications	Forestry policy and administrative management
Radio/television/print media	Forestry development
Information and communication technology (ICT)	Fuelwood/charcoal
Energy policy and administrative management	Forestry education/training
Energy sector policy, planning and administration	Forestry research
Energy regulation	Forestry services
Energy education/training	Fishing policy and administrative management
Energy research	Fishery development
Energy conservation and demand-side efficiency	Fishery education/training
Energy generation, renewable sources - multiple technologies	Fishery research
Hydro-electric power plants	Fishery services
Solar energy for centralized grids	Industrial policy and administrative management
Solar energy for isolated grids and standalone systems	Industrial development
Solar energy - thermal applications	Small and medium-sized enterprises (SME) development
Wind energy	Cottage industries and handicraft
Marine energy	Agro-industries
Geothermal energy	Forest industries

Biofuel-fired power plants	Textiles, leather and substitutes
Energy generation, non-renewable sources, unspecified	Chemicals
Coal-fired electric power plants	Fertilizer plants
Oil-fired electric power plants	Cement/lime/plaster
Natural gas-fired electric power plants	Energy manufacturing (fossil fuels)
Fossil fuel electric power plants with carbon capture and storage (CCS)	Pharmaceutical production
Non-renewable waste-fired electric power plants	Basic metal industries
Hybrid energy electric power plants	Non-ferrous metal industries
Nuclear energy electric power plants and nuclear safety	Engineering
Heat plants	Transport equipment industry
District heating and cooling	Modern biofuels manufacturing
Electric power transmission and distribution (centralized grids)	Clean cooking appliances manufacturing
Electric power transmission and distribution (isolated mini-grids)	Technological research and development
Retail gas distribution	Mineral/mining policy and administrative management
Retail distribution of liquid or solid fossil fuels	Mineral prospection and exploration
Electric mobility infrastructures	Coal
Financial policy and administrative management	Oil and gas (upstream)
Monetary institutions	Ferrous metals
Formal sector financial intermediaries	Nonferrous metals
Informal/semi-formal financial intermediaries	Precious metals/materials
Remittance facilitation, promotion and optimization	Industrial minerals
Education/training in banking and financial services	Fertilizer minerals
Business policy and administration	Offshore minerals
Privatization	Construction policy and administrative management
Business development services	Trade policy and administrative management
Responsible business conduct	Trade facilitation
	Regional trade agreements (RTAs)
	Multilateral trade negotiations
	Trade-related adjustment
	Trade education/training
	Tourism policy and administrative management

A.1 Main Results

Table A4: Yearly net ODA models

Yearly net ODA from all official DAC donors

Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Net ODA (%GDP) t-3	0.1305	-0.0020	0.0301	0.7678***	-0.0180	1.2199***	0.1867*
	(0.1107)	(0.1007)	(0.0532)	(0.1932)	(0.0983)	(0.3128)	(0.1019)
HDI score t-1	0.1078**	0.1207***		0.1449***			
	(0.0528)	(0.0426)		(0.0453)			
Foreign direct investment (%GDP) t-1		-0.0001	0.0002	0.0001	0.0002	0.0002	0.0002
		(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)
Quality of governance t-1		-0.0075	-0.0182*	-0.0077	-0.0182*	-0.0200*	-0.0179*
		(0.0167)	(0.0100)	(0.0163)	(0.0100)	(0.0101)	(0.0100)
Internal conflict t-1		0.0007	0.0003	0.0005	0.0004	0.0003	0.0003
		(0.0008)	(0.0006)	(0.0007)	(0.0006)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0009		0.0009	0.0006	0.0009
			(0.0007)		(0.0006)	(0.0006)	(0.0006)
Life expectancy t-1			0.0012***		0.0012***	0.0017***	0.0012***
			(0.0004)		(0.0004)	(0.0005)	(0.0004)
Primary school enrollment t-1			-0.0003***		-0.0003***	-0.0003**	-0.0002**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Net ODA (%GDP) t-3				-2.1454***			
				(0.6506)			
Real GDP per capita t-1 X Net ODA (%GDP) t-3					0.0278		
					(0.0474)		
Life expectancy t-1 X Net ODA (%GDP) t-3						-0.0234***	
						(0.0062)	
Primary school enrollment t-1 X Net ODA (%GDP) t-3							-0.0024**
							(0.0011)
Intercept	0.0446	0.0053	0.0164	-0.0064	0.0187	-0.0171	0.0091
	(0.0315)	(0.0283)	(0.0185)	(0.0295)	(0.0173)	(0.0225)	(0.0192)
Number of observations	3206	2315	1992	2315	1992	1992	1992
Number of clusters	134.0000	97.0000	92.0000	97.0000	92.0000	92.0000	92.0000
R-Squared	0.0123	0.0689	0.0983	0.1211	0.0997	0.1248	0.1028

*** p<.01, ** p<.05, * p<.1

Figure A1: Yearly net ODA models 4-7

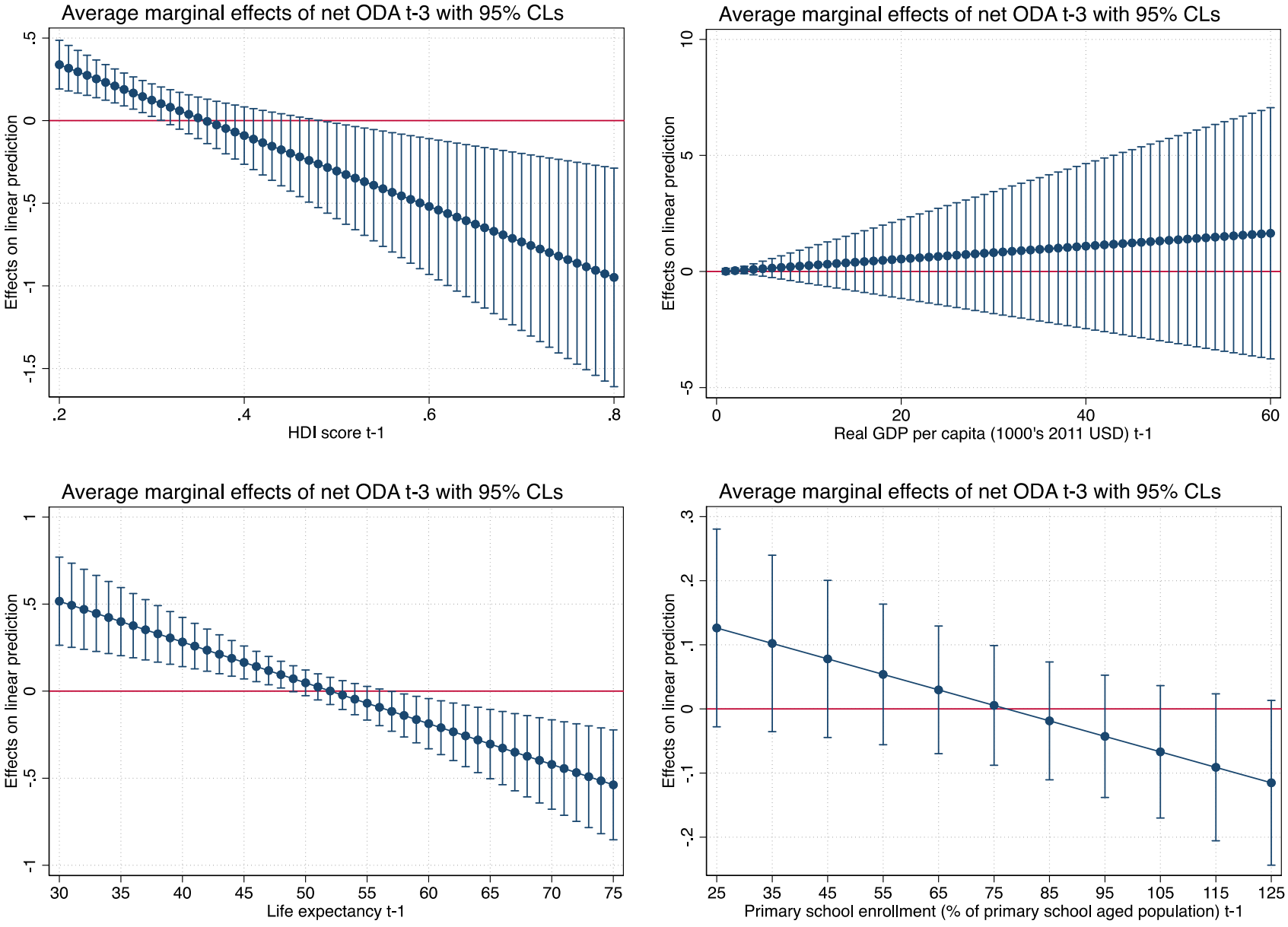


Table A5: Yearly governance ODA models

Yearly governance ODA from all official DAC donors

Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Governance ODA (%GDP) t-3	-0.6915	-1.2712*	0.2855	5.6265	-0.1630	8.9491**	1.1845
	(0.8314)	(0.6965)	(0.2903)	(5.2908)	(0.5778)	(3.8657)	(1.9550)
HDI score t-1	0.1087**	0.0967**		0.1067***			
	(0.0525)	(0.0377)		(0.0397)			
Foreign direct investment (%GDP) t-1		0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0354	-0.0114	-0.0343	-0.0108	-0.0114	-0.0114
		(0.0319)	(0.0271)	(0.0308)	(0.0272)	(0.0268)	(0.0271)
Internal conflict t-1		0.0005	0.0008	0.0006	0.0008	0.0009*	0.0008
		(0.0006)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0009		0.0009	0.0008	0.0009
			(0.0010)		(0.0010)	(0.0010)	(0.0010)
Life expectancy t-1			0.0010**		0.0010**	0.0012***	0.0010**
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Governance ODA (%GDP) t-3				-14.7482			
				(12.6961)			
Real GDP per capita t-1 X Governance ODA (%GDP) t-3					0.1880		
					(0.1765)		
Life expectancy t-1 X Governance ODA (%GDP) t-3						-0.1495**	
						(0.0713)	
Primary school enrollment t-1 X Governance ODA (%GDP) t-3							-0.0093
							(0.0202)
Intercept	0.0521	0.0354	0.0333	0.0292	0.0339	0.0195	0.0323
	(0.0315)	(0.0292)	(0.0215)	(0.0294)	(0.0213)	(0.0223)	(0.0215)
Observations	2515	1809	1466	1809	1466	1466	1466
Number of countries	132	95	90	95	90	90	90
R-Squared	0.0102	0.0797	0.1055	0.0960	0.1148	0.1057	0.1075

*** p<.01, ** p<.05, * p<.1

Figure A2: Yearly governance ODA models 4-7

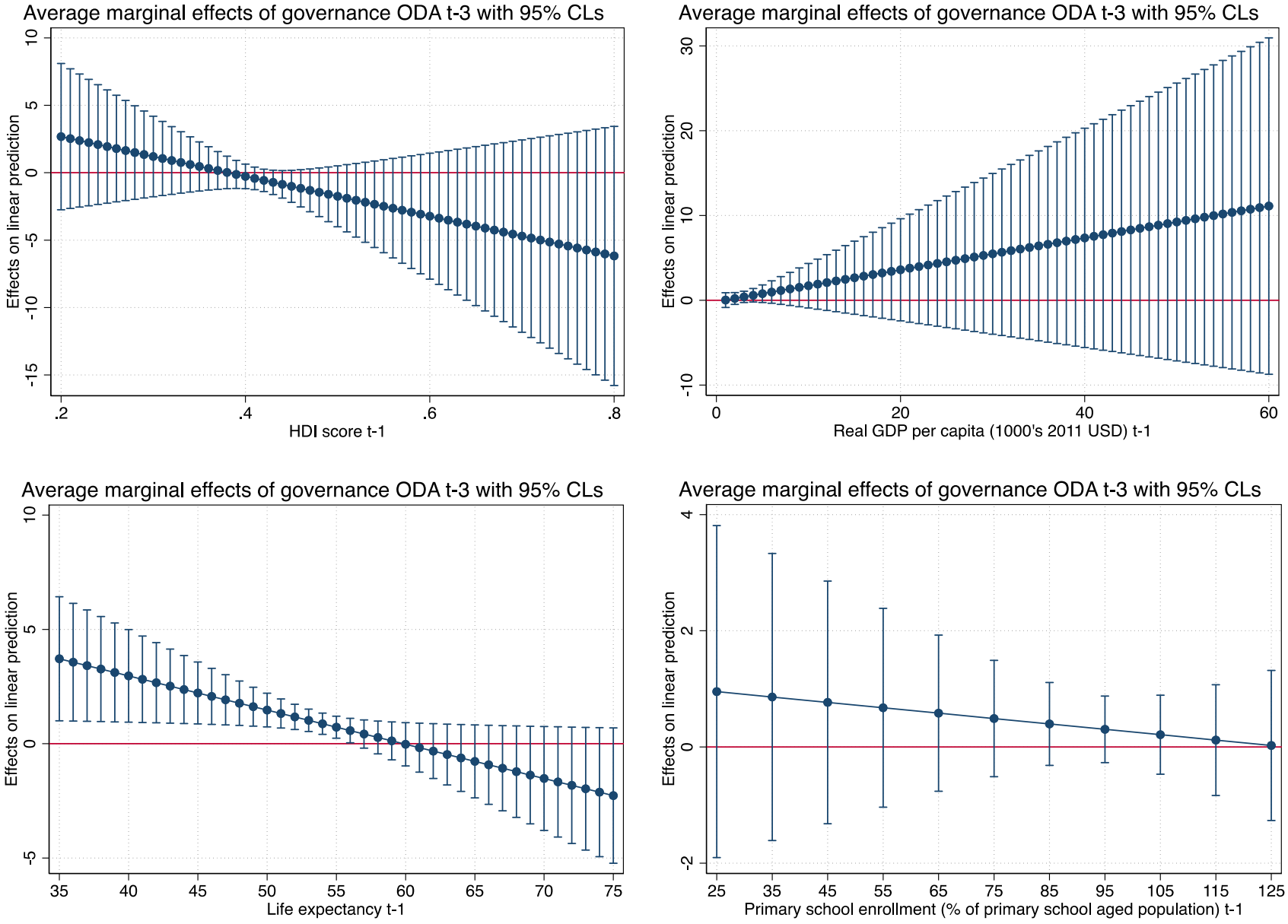


Table A6: Yearly social ODA models

Yearly social ODA from all official DAC donors

Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social ODA (%GDP) t-3	-0.2831	-0.9372*	-0.1429	2.1882	-0.6117	3.6091***	-0.1723
	(0.3561)	(0.4908)	(0.1954)	(2.0374)	(0.4154)	(1.1998)	(0.6071)
HDI score t-1	0.1184**	0.1023***		0.1230***			
	(0.0522)	(0.0375)		(0.0449)			
Foreign direct investment (%GDP) t-1		0.0002	0.0001	0.0002	0.0002	0.0002	0.0001
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0327	-0.0105	-0.0304	-0.0098	-0.0105	-0.0105
		(0.0306)	(0.0264)	(0.0298)	(0.0265)	(0.0261)	(0.0265)
Internal conflict t-1		0.0005	0.0008	0.0005	0.0007	0.0009*	0.0008
		(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0007		0.0007	0.0005	0.0007
			(0.0009)		(0.0009)	(0.0009)	(0.0009)
Life expectancy t-1			0.0011***		0.0010**	0.0016***	0.0011***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0003***		-0.0003***	-0.0004***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Social ODA (%GDP) t-3				-6.4581			
				(4.8558)			
Real GDP per capita t-1 X Social ODA (%GDP) t-3					0.1961		
					(0.1236)		
Life expectancy t-1 X Social ODA (%GDP) t-3						-0.0667***	
						(0.0233)	
Primary school enrollment t-1 X Social ODA (%GDP) t-3							0.0003
							(0.0053)
Intercept	0.0499	0.0327	0.0309	0.0194	0.0358*	0.0002	0.0311
	(0.0315)	(0.0287)	(0.0226)	(0.0318)	(0.0212)	(0.0252)	(0.0235)
Observations	2586	1841	1495	1841	1495	1495	1495
Number of countries	135	98	93	98	93	93	93
R-Squared	0.0098	0.0890	0.0978	0.1035	0.1102	0.0978	0.1074

*** p<.01, ** p<.05, * p<.1

Figure A3: Yearly social ODA models 4-7

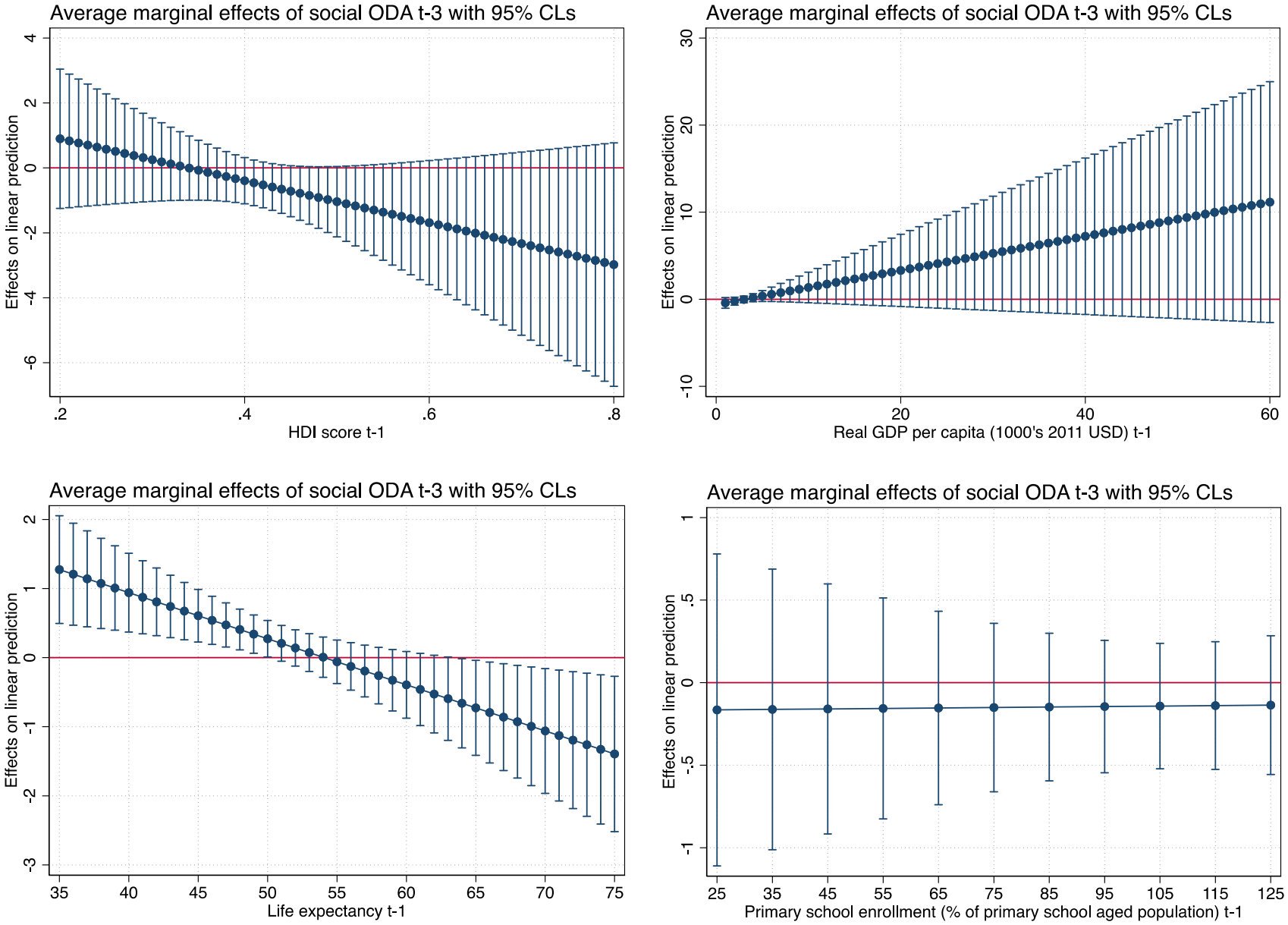


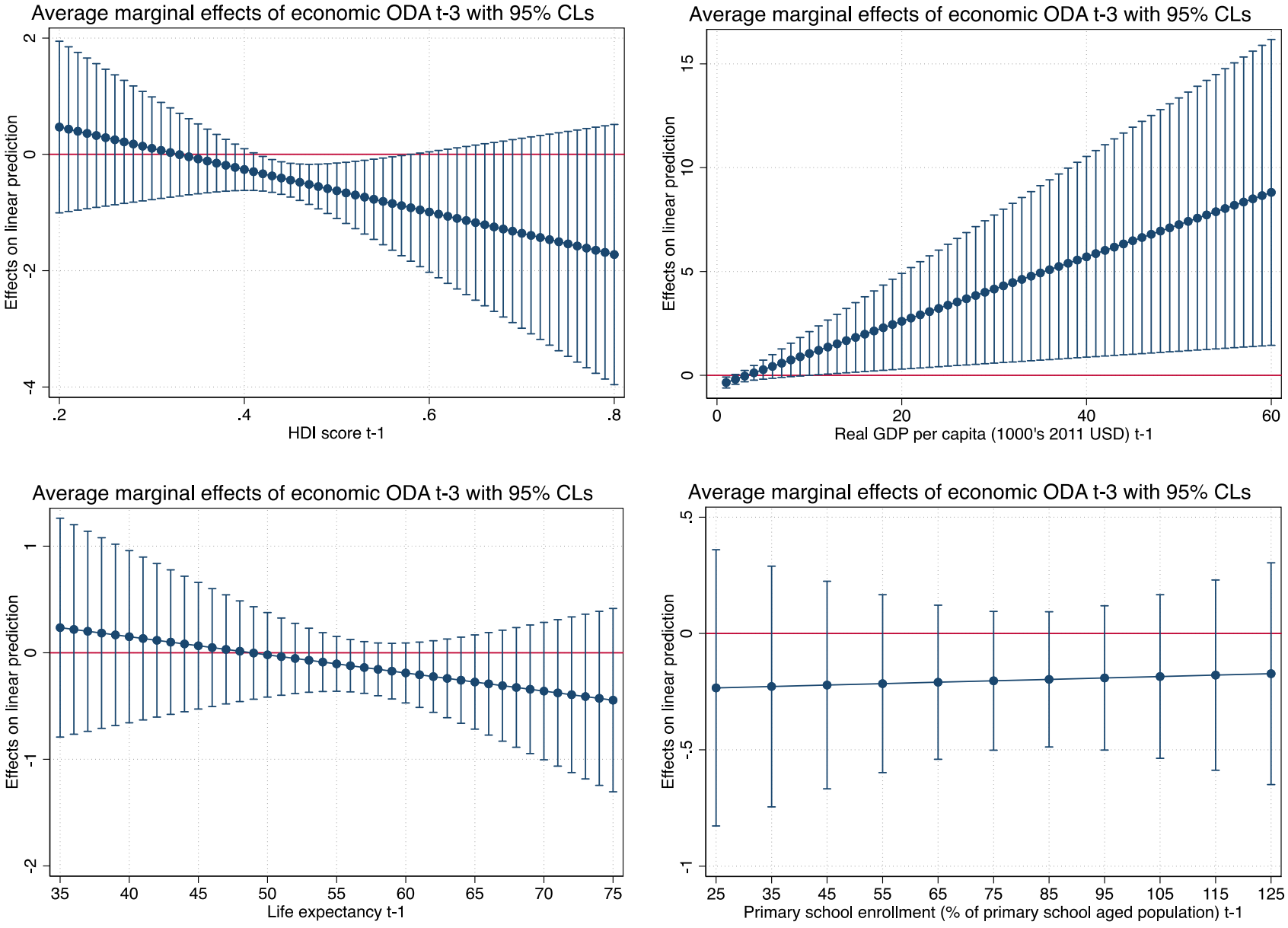
Table A7: Yearly economic ODA models

Yearly economic ODA from all official DAC donors

Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Economic ODA (%GDP) t-3	-0.4352**	-0.5686***	-0.1917	1.2006	-0.5002***	0.8314	-0.2490
	(0.1863)	(0.2091)	(0.1570)	(1.3708)	(0.1727)	(1.3290)	(0.4064)
HDI score t-1	0.0941**	0.0988**		0.1070**			
	(0.0440)	(0.0379)		(0.0412)			
Foreign direct investment (%GDP) t-1		0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-1		-0.0333	-0.0100	-0.0324	-0.0100	-0.0103	-0.0100
		(0.0318)	(0.0270)	(0.0311)	(0.0268)	(0.0269)	(0.0271)
Internal conflict t-1		0.0005	0.0008	0.0005	0.0007	0.0008	0.0008
		(0.0006)	(0.0005)	(0.0006)	(0.0005)	(0.0005)	(0.0005)
Real GDP per capita t-1			0.0008		0.0007	0.0008	0.0008
			(0.0009)		(0.0009)	(0.0009)	(0.0009)
Life expectancy t-1			0.0011***		0.0010***	0.0011***	0.0011***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0004***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Economic ODA (%GDP) t-3				-3.6532			
				(3.1203)			
Real GDP per capita t-1 X Economic ODA (%GDP) t-3					0.1552**		
					(0.0647)		
Life expectancy t-1 X Economic ODA (%GDP) t-3						-0.0170	
						(0.0233)	
Primary school enrollment t-1 X Economic ODA (%GDP) t-3							0.0006
							(0.0046)
Intercept	0.0599**	0.0330	0.0307	0.0278	0.0336	0.0260	0.0310
	(0.0265)	(0.0293)	(0.0220)	(0.0302)	(0.0218)	(0.0260)	(0.0234)
Observations	2503	1794	1462	1794	1462	1462	1462
Number of countries	130	93	89	93	89	89	89
R-Squared	0.0172	0.0812	0.1059	0.0866	0.1068	0.1059	0.1162

*** p<.01, ** p<.05, * p<.1

Figure A4: Yearly economic ODA models 4-7



A.2 Robustness Checks

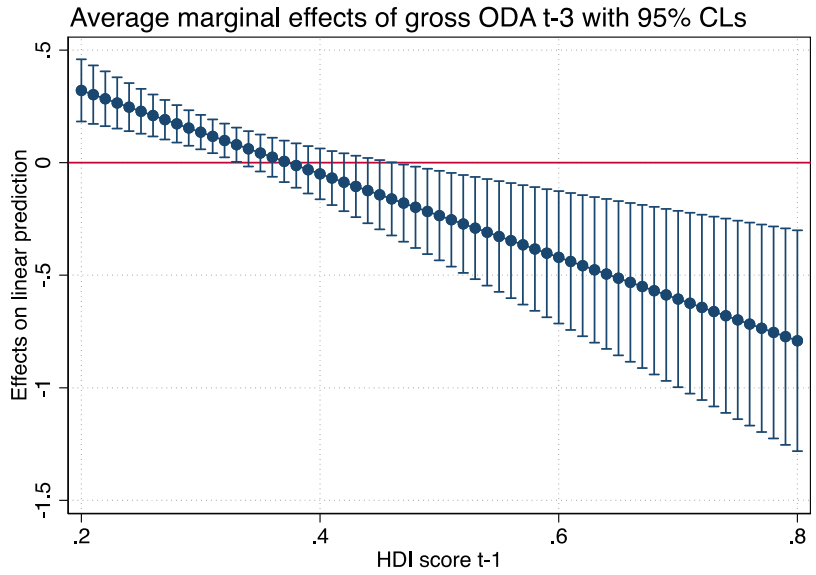
Table A8: Yearly gross ODA models

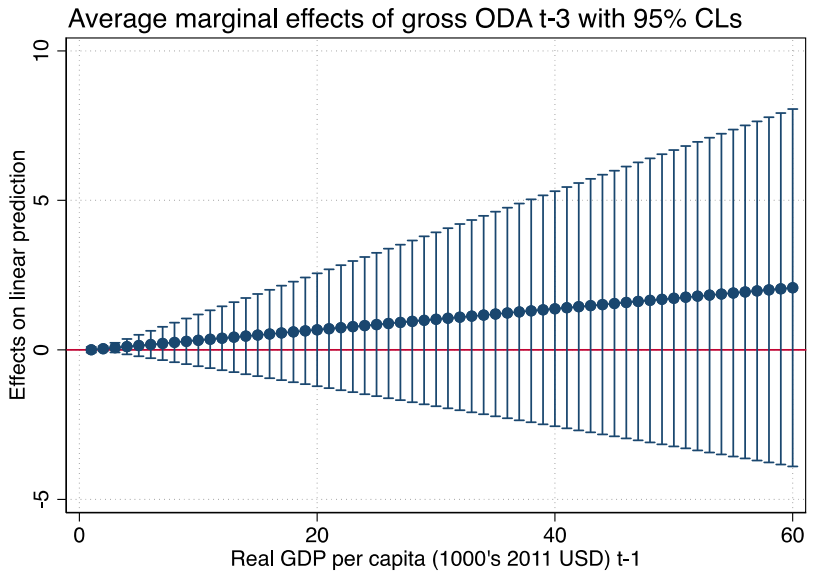
Yearly gross ODA from all official DAC donors

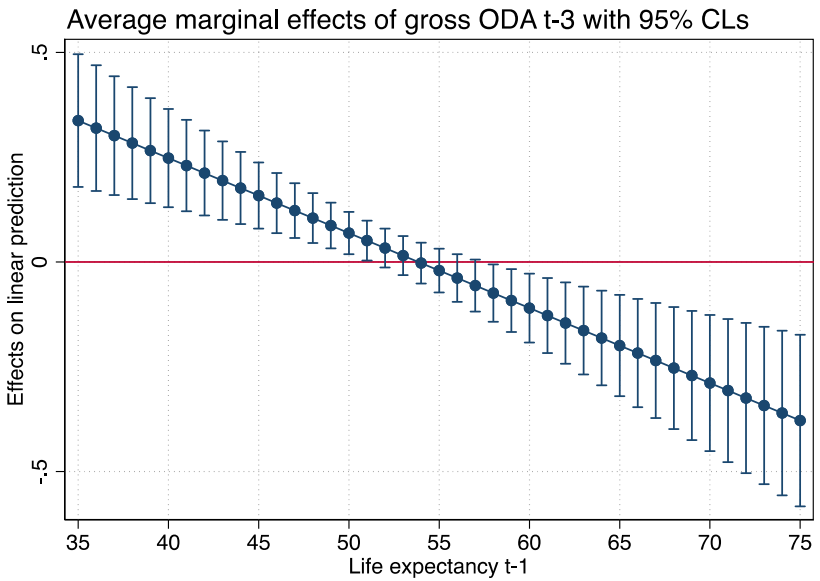
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Gross ODA (%GDP) t-3	0.0678	-0.0240	0.0294	0.6912***	-0.0310	0.9633***	0.1398*
	(0.0855)	(0.0794)	(0.0356)	(0.1659)	(0.0905)	(0.2352)	(0.0828)
HDI score t-1	0.1019*	0.1186***		0.1462***			
	(0.0529)	(0.0422)		(0.0456)			
Foreign direct investment (%GDP) t-1		-0.0001	0.0002	0.0001	0.0002	0.0002	0.0002
		(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)
Quality of governance t-1		-0.0072	-0.0182*	-0.0079	-0.0182*	-0.0199*	-0.0183*
		(0.0166)	(0.0101)	(0.0161)	(0.0100)	(0.0101)	(0.0101)
Internal conflict t-1		0.0007	0.0003	0.0005	0.0004	0.0003	0.0003
		(0.0008)	(0.0006)	(0.0007)	(0.0006)	(0.0005)	(0.0006)
Real GDP per capita t-1			0.0009		0.0009	0.0007	0.0009
			(0.0007)		(0.0006)	(0.0006)	(0.0007)
Life expectancy t-1			0.0012***		0.0012***	0.0017***	0.0012***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-1			-0.0003***		-0.0003***	-0.0003**	-0.0003**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Gross ODA (%GDP) t-3				-1.8531***			
				(0.5110)			
Real GDP per capita t-1 X Gross ODA (%GDP) t-3					0.0352		
					(0.0522)		
Life expectancy t-1 X Gross ODA (%GDP) t-3						-0.0179***	
						(0.0045)	
Primary school enrollment t-1 X Gross ODA (%GDP) t-3							-0.0014*
							(0.0008)
Intercept	0.0491	0.0068	0.0163	-0.0074	0.0195	-0.0143	0.0101
	(0.0314)	(0.0278)	(0.0189)	(0.0298)	(0.0173)	(0.0216)	(0.0192)
Observations	3206	2315	1992	2315	1992	1992	1992
Number of countries	134	97	92	97	92	92	92
R-Squared	0.0108	0.0693	0.0985	0.1214	0.1187	0.1012	0.1012

*** p<.01, ** p<.05, * p<.1

Figure A5: Yearly gross ODA models 4-7







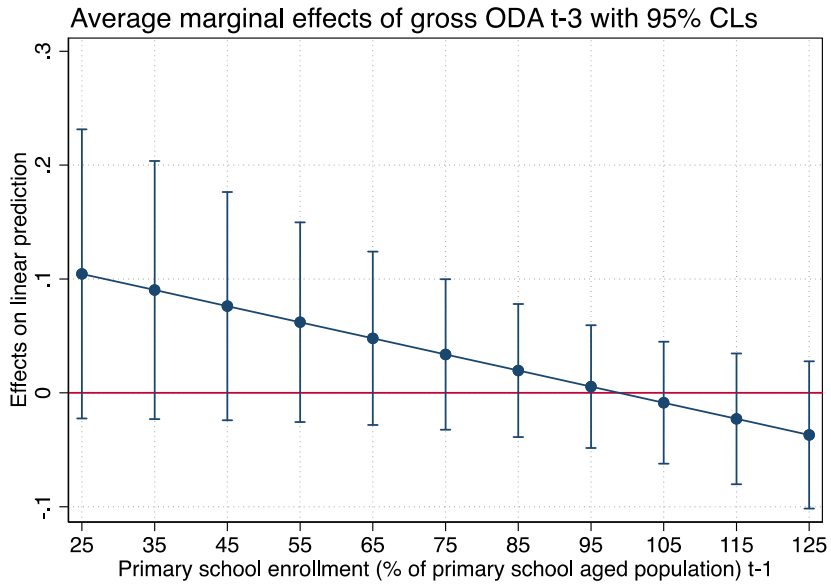


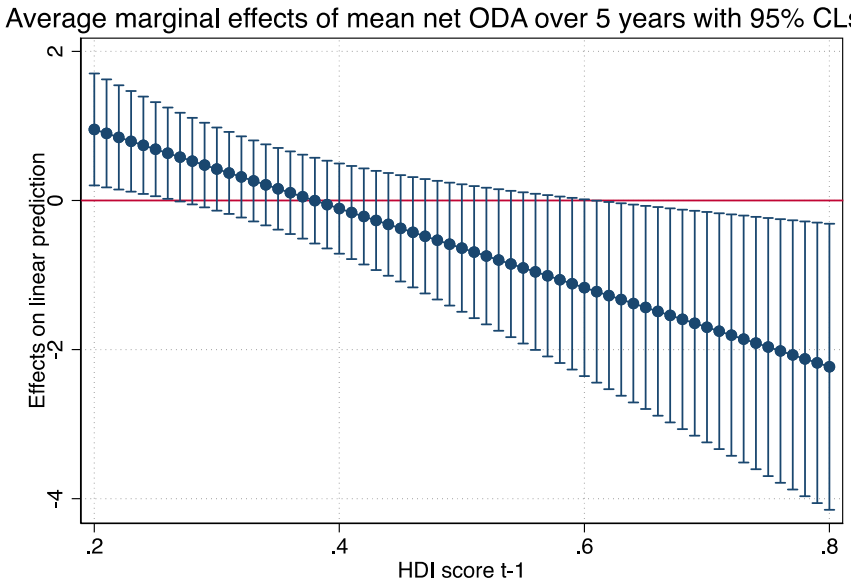
Table A9: Mean five year net ODA models

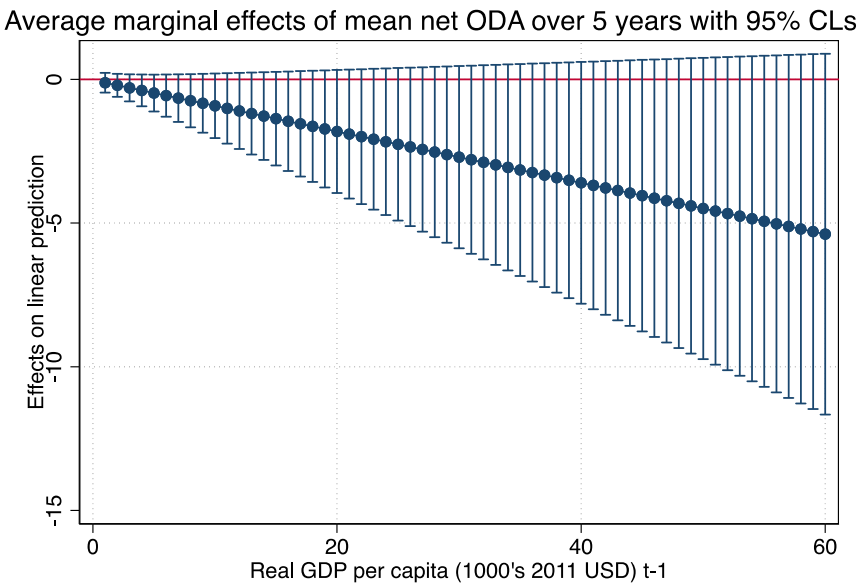
Mean net ODA from all official DAC donors over five year periods

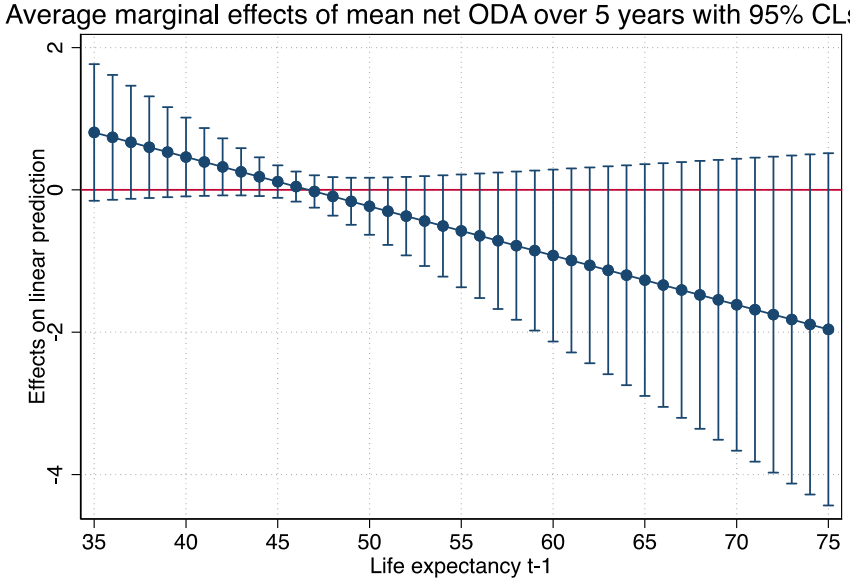
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mean net ODA (%GDP) over five years	0.6302*	0.0394	-0.1751	2.0131***	-0.0272	3.2292	0.1149
	(0.3769)	(0.2546)	(0.1977)	(0.7213)	(0.1611)	(1.9996)	(0.1440)
HDI score t-1	0.0940	0.1026**		0.1577***			
Foreign direct investment (%GDP) t-1		0.0001	0.0011*	0.0005	0.0011*	0.0011*	0.0010*
		(0.0006)	(0.0006)	(0.0005)	(0.0006)	(0.0005)	(0.0005)
Quality of governance t-1		-0.0442***	-0.0366*	-0.0454***	-0.0394*	-0.0496**	-0.0378*
		(0.0157)	(0.0190)	(0.0155)	(0.0198)	(0.0246)	(0.0196)
Internal conflict t-1		-0.0006	-0.0005	-0.0002	-0.0006	-0.0005	-0.0005
		(0.0007)	(0.0010)	(0.0008)	(0.0010)	(0.0010)	(0.0009)
Real GDP per capita t-1			0.0014		0.0015	0.0003	0.0013
			(0.0010)		(0.0010)	(0.0010)	(0.0010)
Life expectancy t-1			0.0010**		0.0011**	0.0022**	0.0010**
			(0.0005)		(0.0005)	(0.0010)	(0.0005)
Primary school enrollment t-1			-0.0004**		-0.0004**	-0.0003***	-0.0003**
			(0.0002)		(0.0002)	(0.0001)	(0.0001)
HDI score t-1 X Mean net ODA (%GDP) over five years				-5.3045***			
				(2.0057)			
Real GDP per capita t-1 X Mean net ODA					-0.0893*		
(%GDP) over five years					(0.0530)		
Life expectancy t-1 X Mean net ODA						-0.0692	
(%GDP) over five years						(0.0434)	
Primary school enrollment t-1 X Mean net							-0.0056
ODA (%GDP) over five years							(0.0050)
Intercept	0.0428	0.0341	0.0446**	0.0069	0.0409**	-0.0233	0.0351*
	(0.0330)	(0.0242)	(0.0196)	(0.0261)	(0.0187)	(0.0410)	(0.0182)
Observations	542	391	399	391	399	399	399
Number of countries	133	95	89	95	89	89	89
R-Squared	0.0609	0.0784	0.1431	0.1904	0.2203	0.1518	0.1485

*** p<.01, ** p<.05, * p<.1

Figure A6: Mean five year net ODA models 4-7







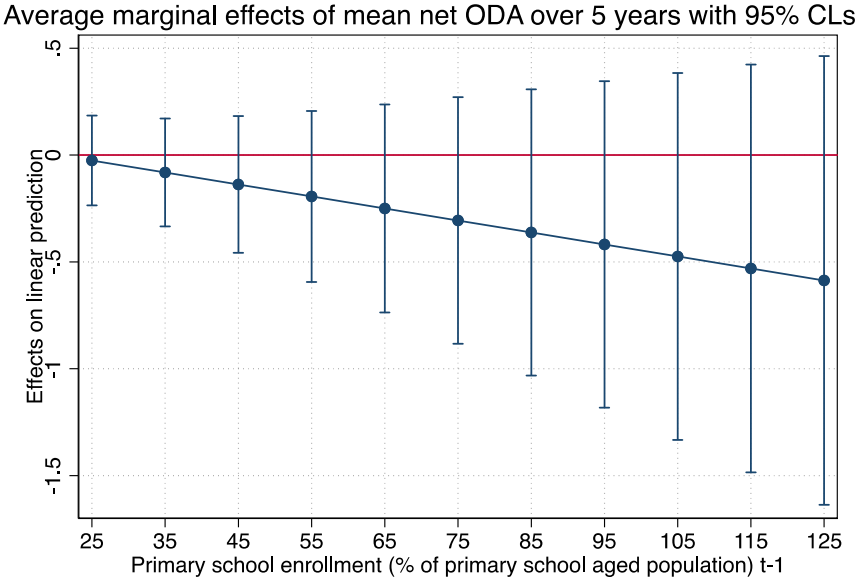


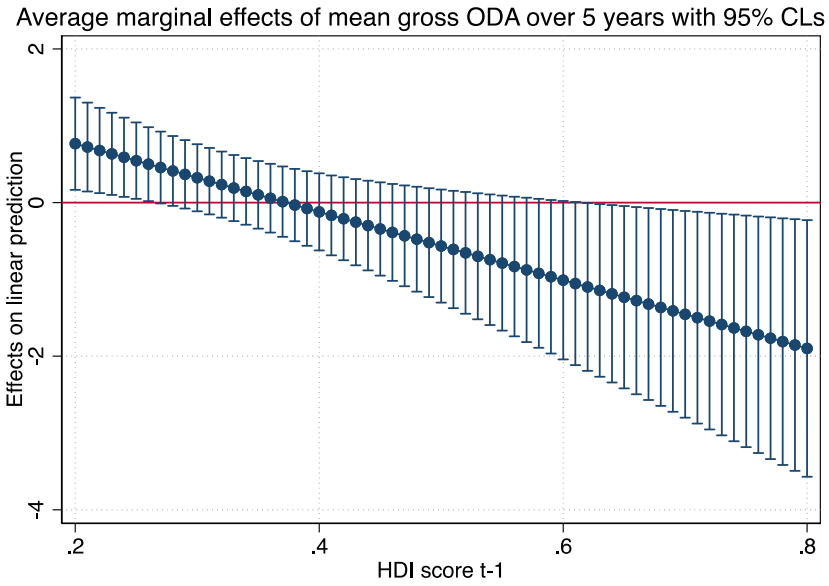
Table A10: Mean five year gross ODA models

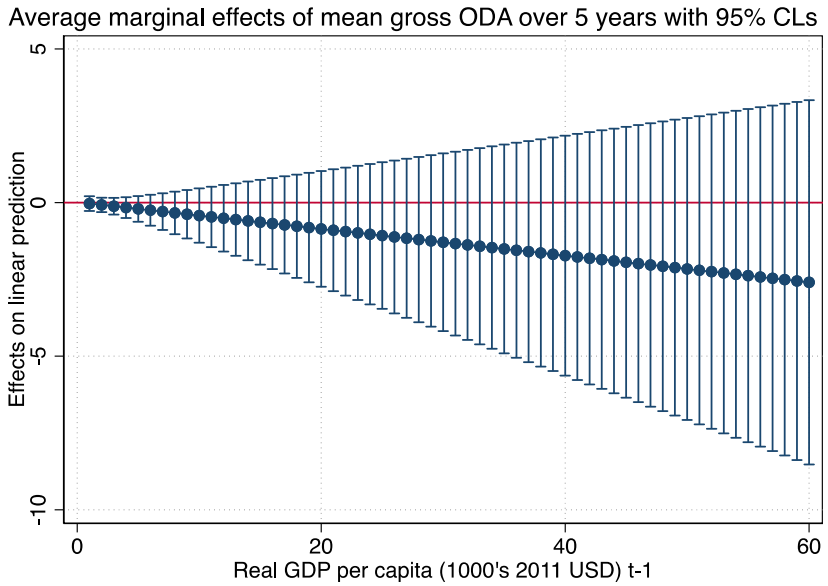
Mean gross ODA from all official DAC donors over five year periods

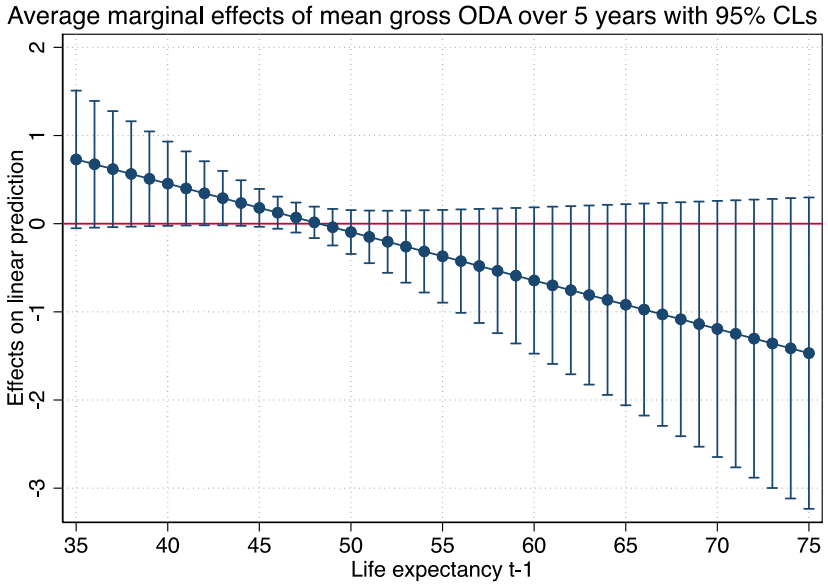
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mean gross ODA (%GDP) over five years	0.4975*	0.0437	-0.0571	1.6560***	0.0117	2.6519*	0.0608
	(0.2857)	(0.2141)	(0.1194)	(0.6015)	(0.1433)	(1.5157)	(0.1230)
HDI score t-1	0.0913	0.0999**		0.1487***			
	(0.0593)	(0.0399)		(0.0458)			
Foreign direct investment (%GDP) t-1		0.0001	0.0011*	0.0005	0.0011*	0.0011*	0.0011*
		(0.0006)	(0.0006)	(0.0005)	(0.0006)	(0.0006)	(0.0006)
Quality of governance t-1		-0.0420***	-0.0343*	-0.0423***	-0.0358**	-0.0455**	-0.0346*
		(0.0153)	(0.0180)	(0.0151)	(0.0175)	(0.0227)	(0.0182)
Internal conflict t-1		-0.0007	-0.0005	-0.0002	-0.0006	-0.0006	-0.0005
		(0.0007)	(0.0010)	(0.0008)	(0.0009)	(0.0009)	(0.0009)
Real GDP per capita t-1			0.0009		0.0009	0.0001	0.0009
			(0.0008)		(0.0008)	(0.0007)	(0.0008)
Life expectancy t-1			0.0011**		0.0012**	0.0021**	0.0011**
			(0.0005)		(0.0005)	(0.0008)	(0.0005)
Primary school enrollment t-1			-0.0004***		-0.0004**	-0.0003***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Mean gross ODA (%GDP) over five years				-4.4437**			
				(1.7298)			
Real GDP per capita t-1 X Mean gross ODA (%GDP) over five years					-0.0434		
					(0.0517)		
Life expectancy t-1 X Mean gross ODA (%GDP) over five years						-0.0549*	
						(0.0321)	
Primary school enrollment t-1 X Mean gross ODA (%GDP) over five years							-0.0019
							(0.0024)
Intercept	0.0441	0.0336	0.0324*	0.0104	0.0302	-0.0244	0.0285
	(0.0340)	(0.0252)	(0.0185)	(0.0263)	(0.0184)	(0.0367)	(0.0185)
Observations	550	399	408	399	408	408	408
Number of countries	134	96	90	96	90	90	90
R-Squared	0.0502	0.0759	0.1252	0.1805	0.1849	0.1268	0.1267

*** p<.01, ** p<.05, * p<.1

Figure A7: Mean five year gross ODA models 4-7







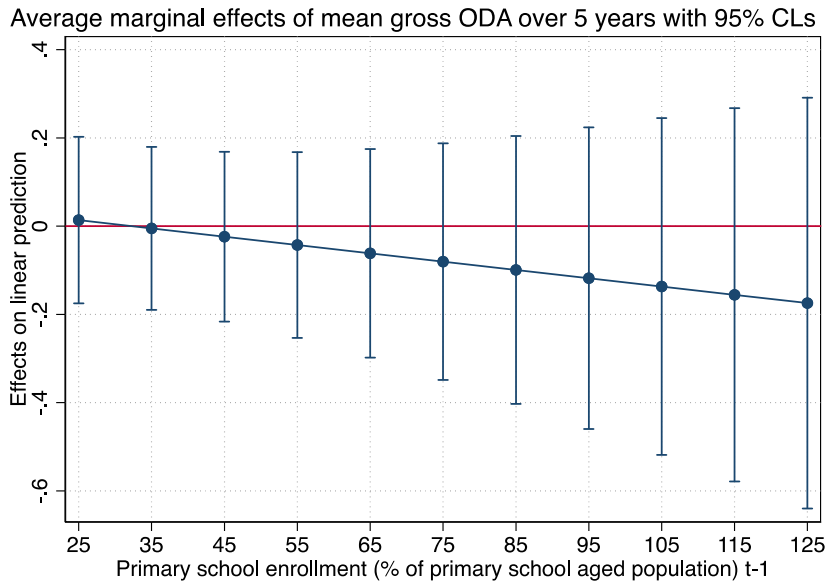


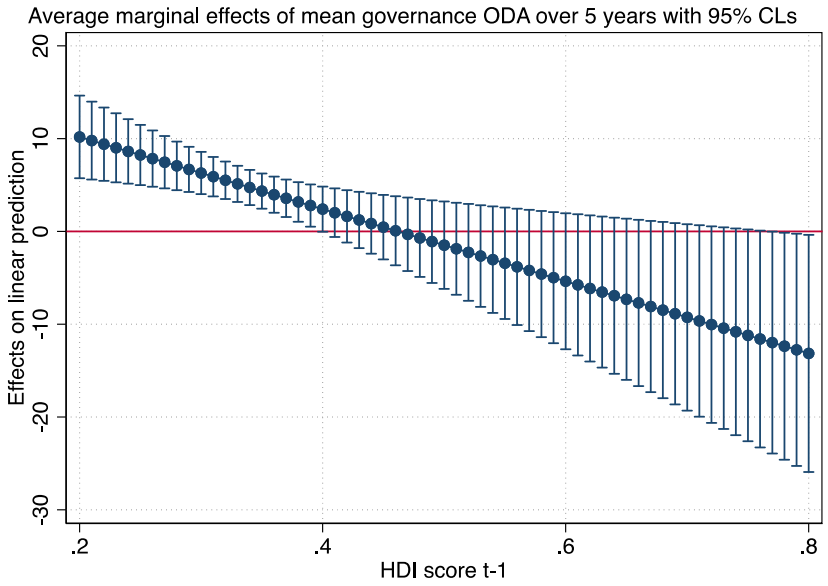
Table A11: Mean five year governance ODA models

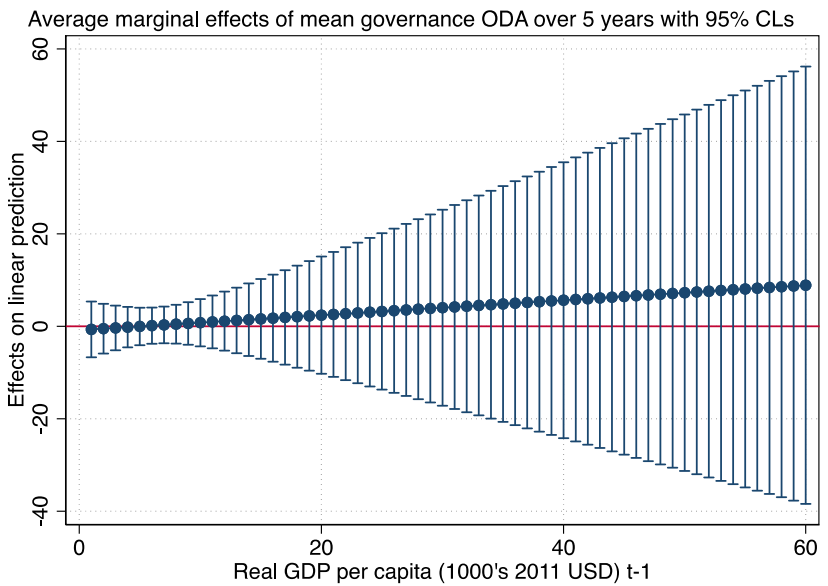
Mean governance ODA from all official DAC donors over five year periods

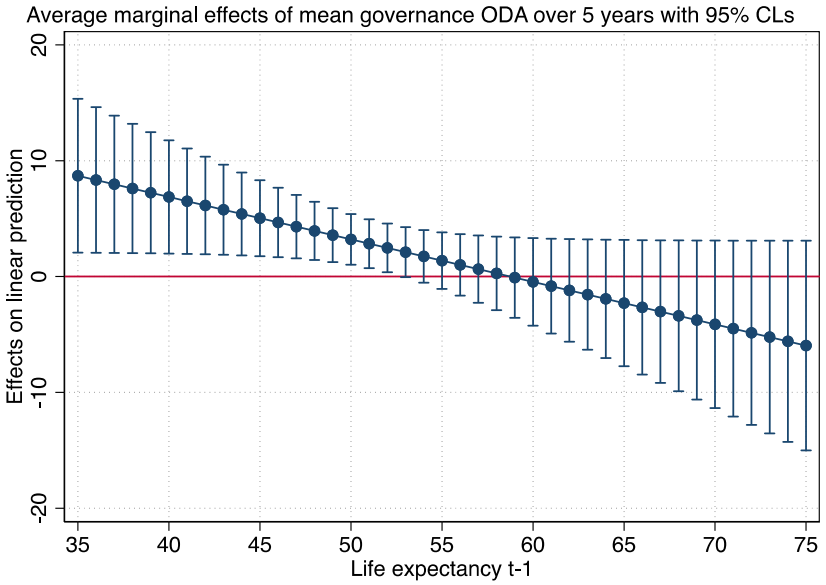
Emigration Rate	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mean governance ODA (%GDP) over five years	3.3702*	1.4604	-0.0839	17.9527***	-0.8326	21.5290**	2.2045
	(1.9224)	(1.9732)	(1.9337)	(4.9833)	(3.4279)	(10.0155)	(3.1916)
HDI score t-1	0.0635	0.1004**		0.1304***			
	(0.0655)	(0.0401)		(0.0434)			
Foreign direct investment (%GDP) t-1		0.0001	0.0008*	0.0003	0.0008**	0.0009**	0.0008*
		(0.0006)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
Quality of governance t-1		-0.0403***	-0.0369**	-0.0440***	-0.0362**	-0.0404**	-0.0369**
		(0.0148)	(0.0172)	(0.0159)	(0.0163)	(0.0185)	(0.0173)
Internal conflict t-1		-0.0007	-0.0005	-0.0006	-0.0005	-0.0002	-0.0005
		(0.0007)	(0.0011)	(0.0008)	(0.0011)	(0.0011)	(0.0011)
Real GDP per capita t-1			0.0007		0.0007	0.0005	0.0007
			(0.0008)		(0.0008)	(0.0008)	(0.0008)
Life expectancy t-1			0.0014***		0.0013***	0.0018***	0.0013***
			(0.0004)		(0.0004)	(0.0006)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0004***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Mean governance ODA (%GDP) over five years				-38.8757***			
				(14.1725)			
Real GDP per capita t-1 X Mean governance ODA (%GDP) over five years					0.1619		
					(0.4472)		
Life expectancy t-1 X Mean governance ODA (%GDP) over five years						-0.3665*	
						(0.1927)	
Primary school enrollment t-1 X Mean governance ODA (%GDP) over five years							-0.0270
							(0.0458)
Intercept	0.0660*	0.0316	0.0238	0.0167	0.0251	-0.0019	0.0217
	(0.0378)	(0.0234)	(0.0164)	(0.0249)	(0.0165)	(0.0216)	(0.0169)
Observations	555	405	345	405	345	345	345
Number of Countries	132	94	88	94	88	88	88
R-Squared	0.0224	0.0805	0.1557	0.1424	0.1564	0.1765	0.1565

*** p<.01, ** p<.05, * p<.1

Figure A8: Mean five year governance ODA models 4-7







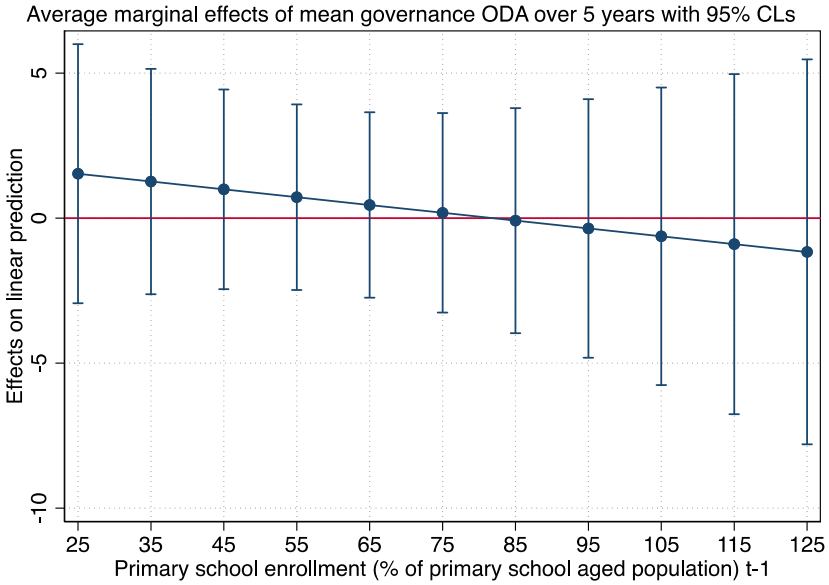


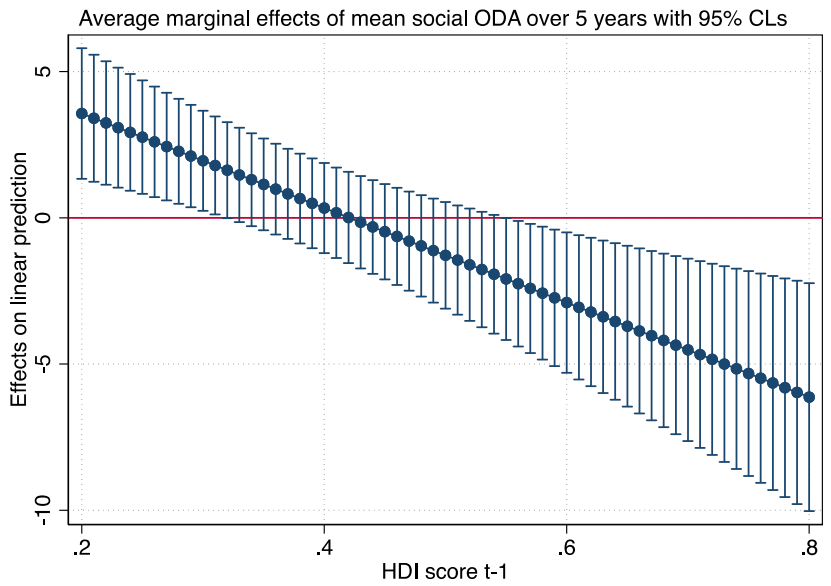
Table A12: Mean five year social ODA models

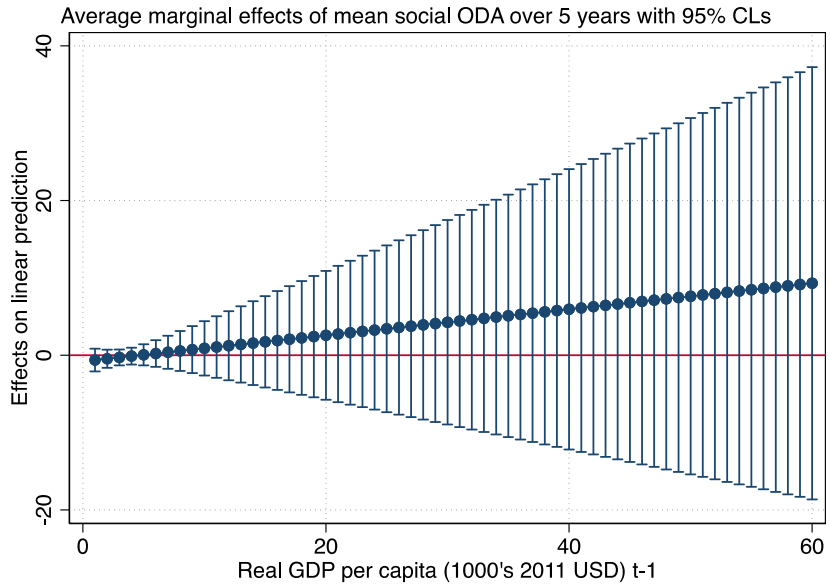
Mean social ODA from all official DAC donors over five year periods

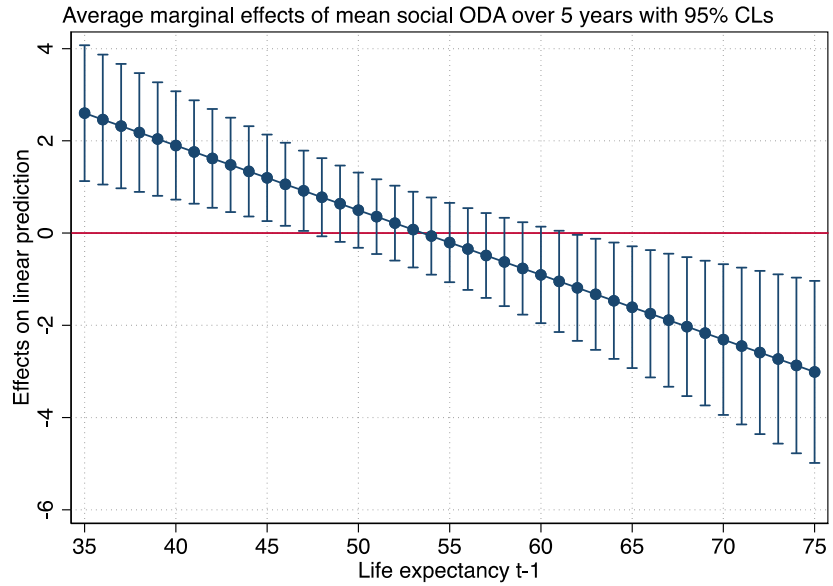
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mean social ODA (%GDP) over five years	-0.0776	-0.7279	-0.2438	6.8008***	-0.7922	7.5105***	1.2076
	(0.5186)	(0.8889)	(0.3965)	(1.8829)	(0.9503)	(2.0220)	(0.7380)
HDI score t-1	0.0544	0.0952**		0.1473***			
	(0.0704)	(0.0422)		(0.0467)			
Foreign direct investment (%GDP) t-1		0.0001	0.0008*	0.0004	0.0007*	0.0009**	0.0008*
		(0.0006)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
Quality of governance t-1		-0.0427***	-0.0374**	-0.0411**	-0.0359**	-0.0392**	-0.0376**
		(0.0149)	(0.0177)	(0.0160)	(0.0164)	(0.0182)	(0.0177)
Internal conflict t-1		-0.0005	-0.0005	-0.0001	-0.0006	0.0002	-0.0003
		(0.0008)	(0.0011)	(0.0008)	(0.0012)	(0.0010)	(0.0011)
Real GDP per capita t-1			0.0007		0.0006	0.0003	0.0006
			(0.0008)		(0.0008)	(0.0007)	(0.0008)
Life expectancy t-1			0.0013***		0.0013***	0.0022***	0.0014***
			(0.0004)		(0.0004)	(0.0006)	(0.0004)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0004***	-0.0003**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Mean social ODA (%GDP) over five years				-16.1675***			
				(4.4244)			
Real GDP per capita t-1 X Mean social ODA (%GDP) over 5 years					0.1683		
					(0.2507)		
Life expectancy t-1 X Mean social ODA (%GDP) over five years						-0.1403***	
						(0.0386)	
Primary school enrollment t-1 X Mean social ODA (%GDP) over five years							-0.0149**
							(0.0072)
Intercept	0.0747*	0.0394	0.0248	0.0072	0.0277*	-0.0288	0.0130
	(0.0417)	(0.0248)	(0.0163)	(0.0274)	(0.0162)	(0.0243)	(0.0173)
Observations	559	408	348	408	348	348	348
Number of Countries	135	97	91	97	91	91	91
R-Squared	0.0078	0.0798	0.1561	0.1319	0.1600	0.1833	0.1598

*** p<.01, ** p<.05, * p<.1

Figure A9: Mean five year social ODA models 4-7







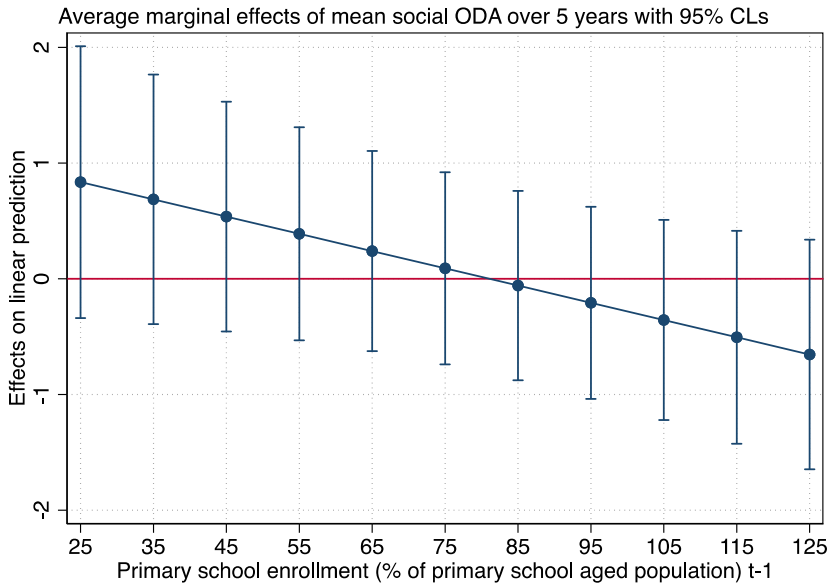


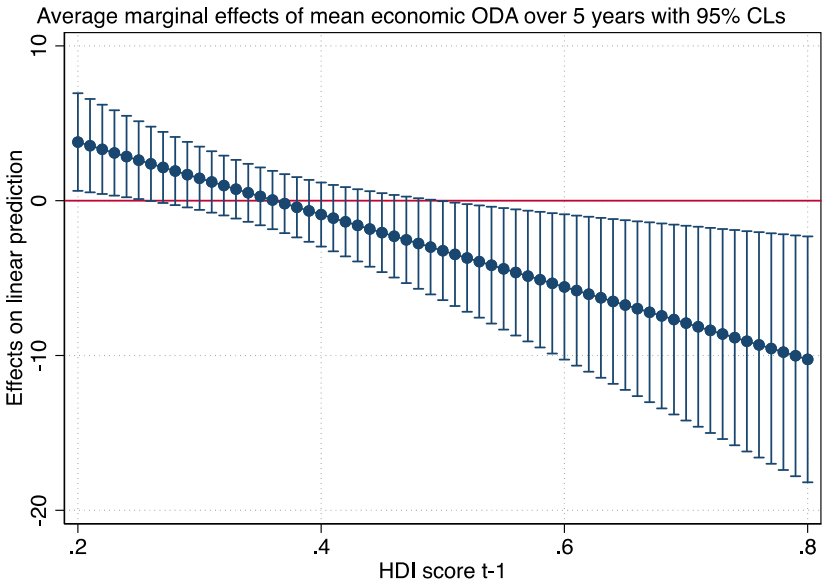
Table A13: Mean five year economic ODA models

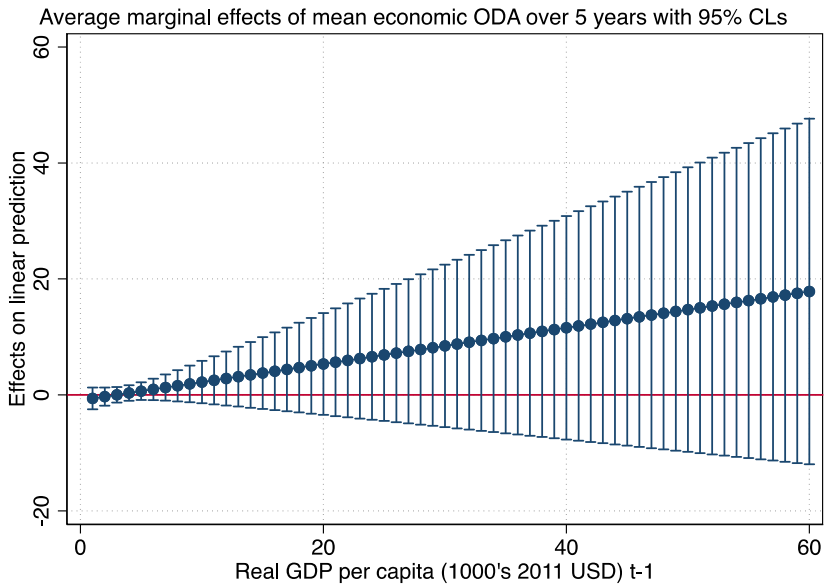
Mean economic ODA from all official DAC donors over five year periods

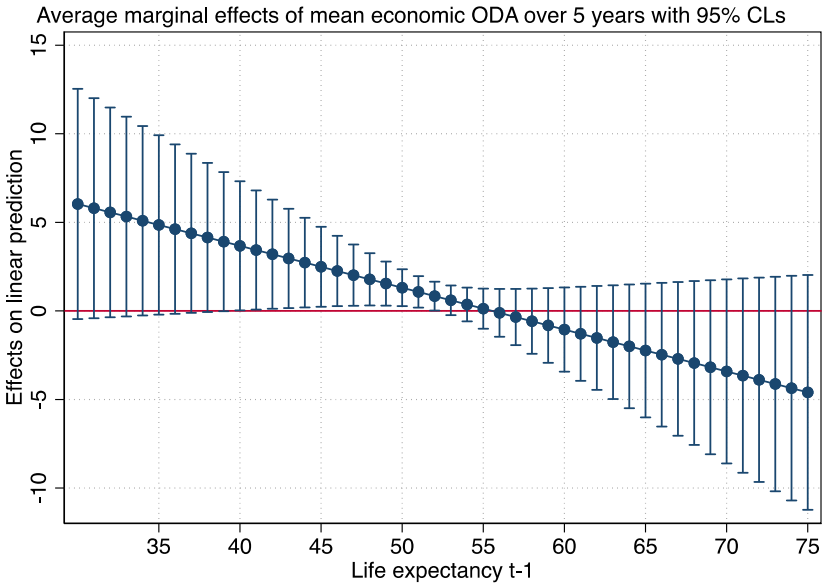
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Mean economic ODA (%GDP) over five years	-1.6906**	-2.2925	-0.3606	8.4642***	-0.9169	13.1255*	2.5482**
	(0.6807)	(1.5273)	(0.8178)	(3.1852)	(1.1675)	(7.7333)	(1.0616)
HDI score t-1	0.0668	0.1021**		0.1557***			
	(0.0671)	(0.0441)		(0.0575)			
Foreign direct investment (%GDP) t-1		0.0001	0.0008*	0.0005	0.0007*	0.0009**	0.0008*
		(0.0006)	(0.0004)	(0.0005)	(0.0004)	(0.0005)	(0.0004)
Quality of governance t-1		-0.0392***	-0.0372**	-0.0376**	-0.0376**	-0.0379**	-0.0389**
		(0.0143)	(0.0177)	(0.0154)	(0.0177)	(0.0179)	(0.0181)
Internal conflict t-1		-0.0007	-0.0006	0.0002	-0.0007	0.0004	-0.0002
		(0.0010)	(0.0012)	(0.0010)	(0.0012)	(0.0012)	(0.0011)
Real GDP per capita t-1			0.0006		0.0006	0.0003	0.0005
			(0.0008)		(0.0008)	(0.0007)	(0.0008)
Life expectancy t-1			0.0014***		0.0013***	0.0022**	0.0015***
			(0.0005)		(0.0004)	(0.0009)	(0.0005)
Primary school enrollment t-1			-0.0004***		-0.0004***	-0.0003***	-0.0003**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-1 X Mean economic ODA (%GDP) over five years				-23.3942***			
				(8.7233)			
Real GDP per capita t-1 X Mean economic ODA (%GDP) over 5 years					0.3125		
					(0.2691)		
Life expectancy t-1 X Mean economic ODA (%GDP) over 5 years						-0.2363	
						(0.1477)	
Primary school enrollment t-1 X Mean economic ODA (%GDP) over five years							-0.0364*
							(0.0197)
Intercept	0.0725*	0.0368	0.0223	0.0048	0.0297*	-0.0344	0.0014
	(0.0398)	(0.0257)	(0.0179)	(0.0336)	(0.0172)	(0.0436)	(0.0231)
Observations	554	404	344	404	344	344	344
Number of Countries	130	93	87	93	87	87	87
R-Squared	0.0288	0.1055	0.1566	0.1576	0.1620	0.1879	0.1662

*** p<.01, ** p<.05, * p<.1

Figure A10: Mean five year economic ODA models 4-7







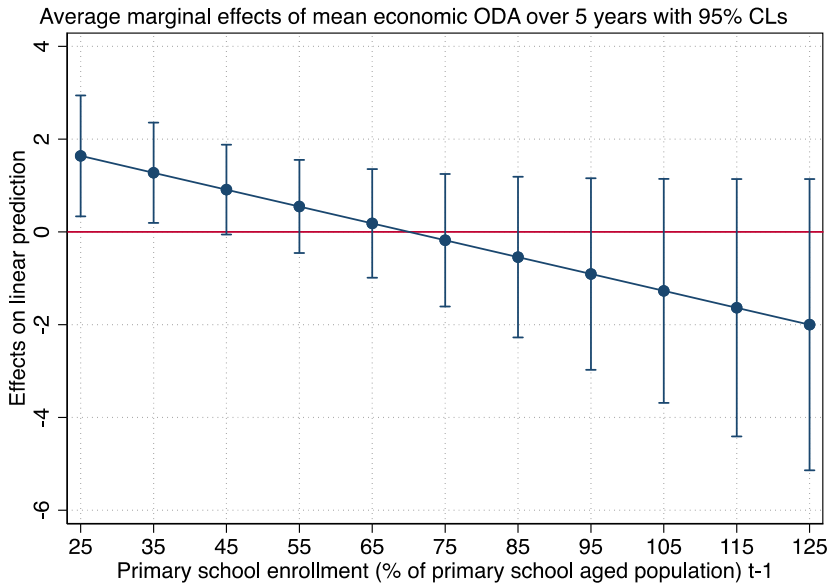


Table A14: Yearly net ODA models with three year lags

Yearly net ODA from all official DAC donors with three year lags

Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Net ODA (%GDP) t-3	0.1092	-0.0663	-0.0216	0.7764***	-0.0785	1.2263***	0.1650**
	(0.1185)	(0.1031)	(0.0524)	(0.2555)	(0.1184)	(0.3034)	(0.0750)
HDI score t-3	0.1082**	0.1178***		0.1417***			
	(0.0492)	(0.0394)		(0.0429)			
Foreign direct investment (%GDP) t-3		-0.0001	0.0004	0.0001	0.0004	0.0005	0.0004
		(0.0003)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)
Quality of governance t-3		-0.0092	-0.0195*	-0.0130	-0.0192*	-0.0235**	-0.0198*
		(0.0152)	(0.0111)	(0.0137)	(0.0107)	(0.0117)	(0.0111)
Internal conflict t-3		0.0004	-0.0001	-0.0001	-0.0001	-0.0003	-0.0001
		(0.0007)	(0.0005)	(0.0005)	(0.0005)	(0.0004)	(0.0005)
Real GDP per capita t-3			0.0010		0.0010	0.0006	0.0009
			(0.0006)		(0.0006)	(0.0006)	(0.0006)
Life expectancy t-3			0.0010**		0.0010**	0.0015***	0.0010**
			(0.0004)		(0.0004)	(0.0005)	(0.0004)
Primary school enrollment t-3			-0.0003***		-0.0003**	-0.0002**	-0.0002*
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-3 X Net ODA (%GDP) t-3				-2.3095***			
				(0.8221)			
Real GDP per capita t-3 X Net ODA (%GDP) t-3					0.0357		
					(0.0620)		
Life expectancy t-3 X Net ODA (%GDP) t-3						-0.0251***	
						(0.0062)	
Primary school enrollment t-3 X Net ODA (%GDP) t-3							-0.0031***
							(0.0010)
Intercept	0.0459	0.0101	0.0265	0.0004	0.0284*	-0.0031	0.0179
	(0.0288)	(0.0257)	(0.0173)	(0.0264)	(0.0168)	(0.0204)	(0.0175)
Observations	2965	2135	2010	2135	2010	2010	2010
Number of countries	134	97	92	97	92	92	92
R-Squared	0.0122	0.0798	0.0987	0.1443	0.1005	0.1270	0.1058

*** p<.01, ** p<.05, * p<.1

Figure A11: Yearly net ODA models 4-7 with three year lag on all independent variables

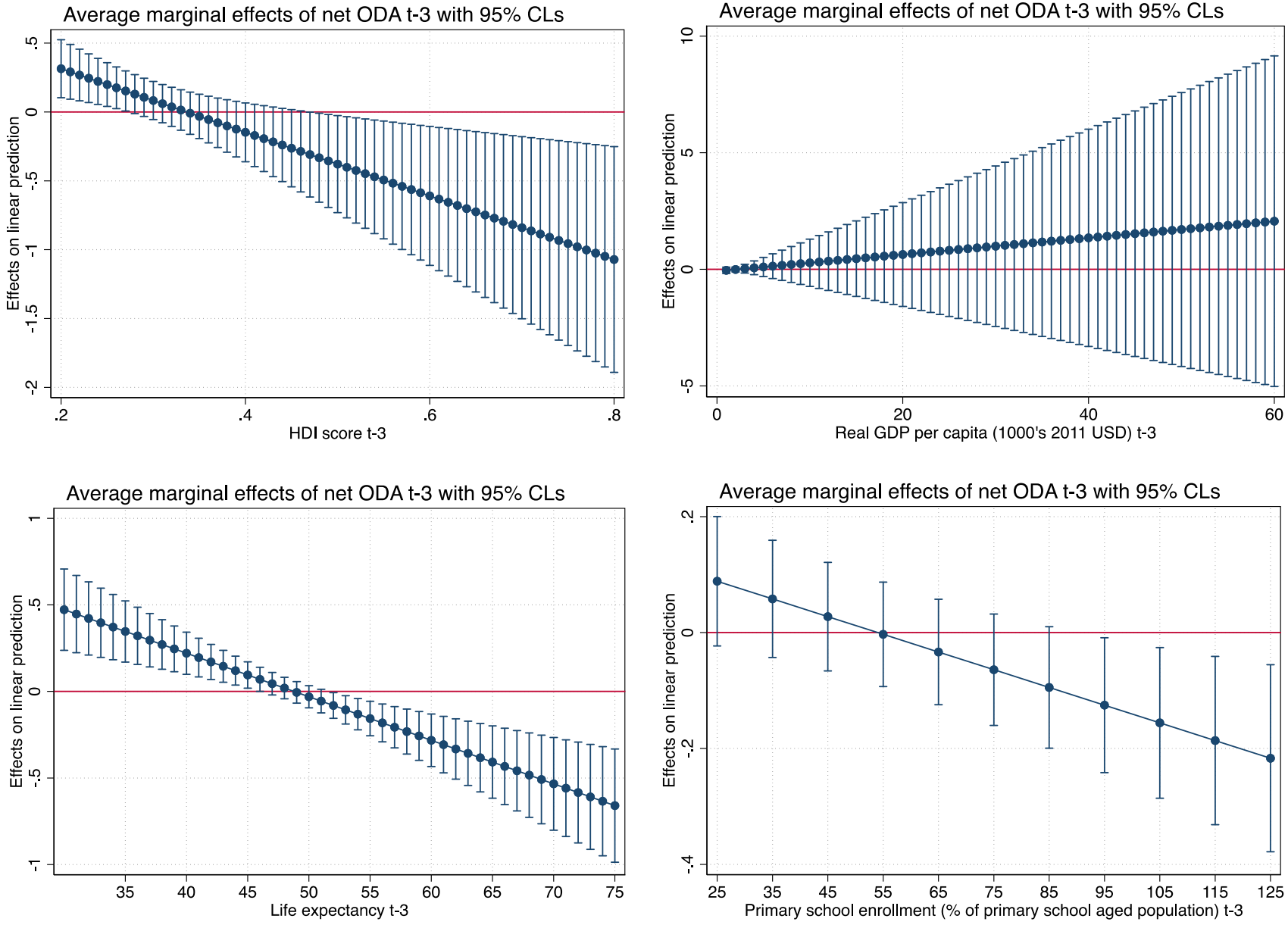


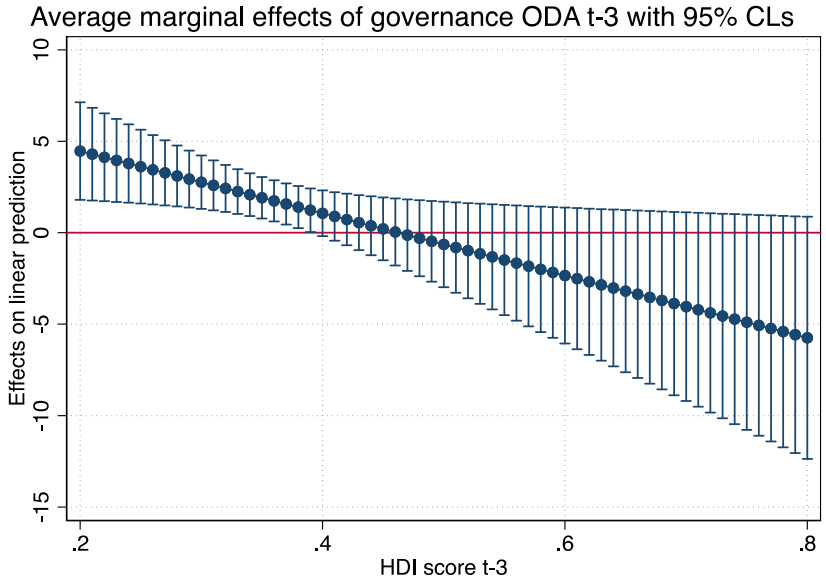
Table A15: Yearly governance ODA models with three year lags

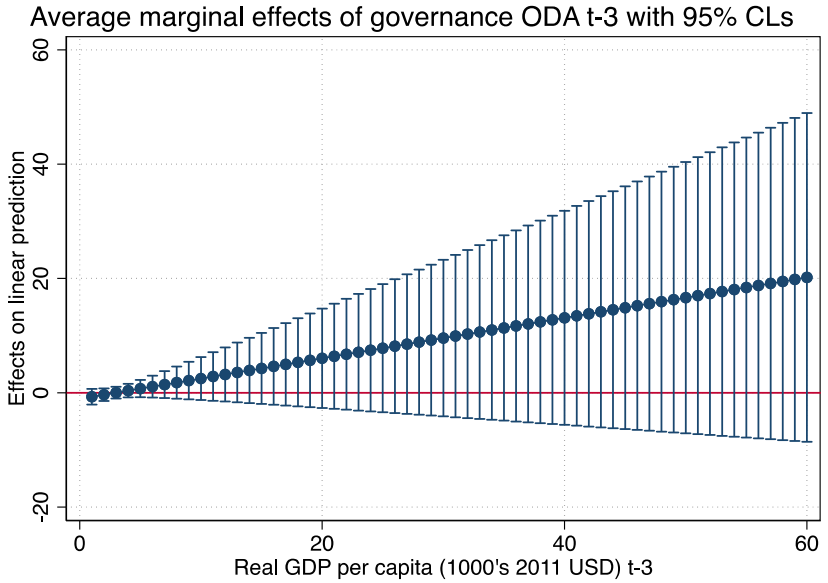
Yearly governance ODA from all official DAC donors with three year lags

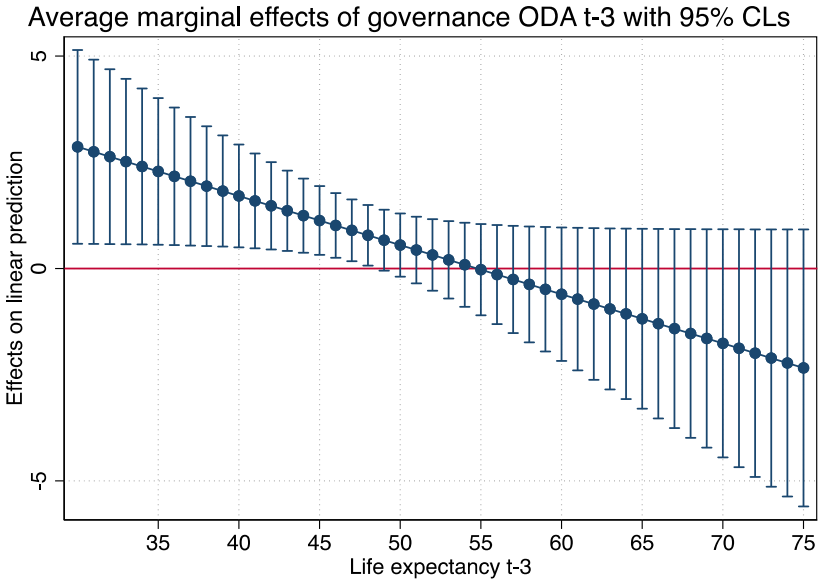
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Governance ODA (%GDP) t-3	-0.4798	-0.8871	-0.1991	4.5320	-1.0501	6.3325**	1.6635
	(0.8075)	(0.5632)	(0.6344)	(4.3927)	(0.8904)	(2.9474)	(1.6649)
HDI score t-3	0.1004**	0.0881**		0.0963**			
	(0.0389)	(0.0354)		(0.0373)			
Foreign direct investment (%GDP) t-3		0.0000	0.0003	0.0001	0.0003	0.0003	0.0003
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-3		-0.0454**	-0.0294**	-0.0465**	-0.0282**	-0.0299**	-0.0294**
		(0.0193)	(0.0142)	(0.0193)	(0.0142)	(0.0141)	(0.0142)
Internal conflict t-3		0.0003	0.0004	0.0003	0.0004	0.0004	0.0004
		(0.0006)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
Real GDP per capita t-3			0.0008		0.0008	0.0007	0.0008
			(0.0009)		(0.0009)	(0.0009)	(0.0009)
Life expectancy t-3			0.0010**		0.0009**	0.0011***	0.0010**
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-3			-0.0003***		-0.0003***	-0.0003***	-0.0003**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-3 X Governance ODA (%GDP) t-3				-12.0793			
				(10.9934)			
Real GDP per capita t-3 X Governance ODA (%GDP) t-3					0.3539		
					(0.2564)		
Life expectancy t-3 X Governance ODA (%GDP) t-3						-0.1156*	
						(0.0606)	
Primary school enrollment t-3 X							-0.0202
Governance ODA (%GDP) t-3							(0.0183)
Intercept	0.0559**	0.0452*	0.0381**	0.0412	0.0394**	0.0275	0.0358**
	(0.0230)	(0.0245)	(0.0159)	(0.0248)	(0.0155)	(0.0167)	(0.0163)
Observations	2465	1775	1477	1775	1477	1477	1477
Number of Countries	132	95	91	95	91	91	91
R-Squared	0.0128	0.0920	0.1183	0.1031	0.1248	0.1258	0.1197

*** p<.01, ** p<.05, * p<.1

Figure A12: Yearly governance ODA models 4-7 with three year lag on all independent variables







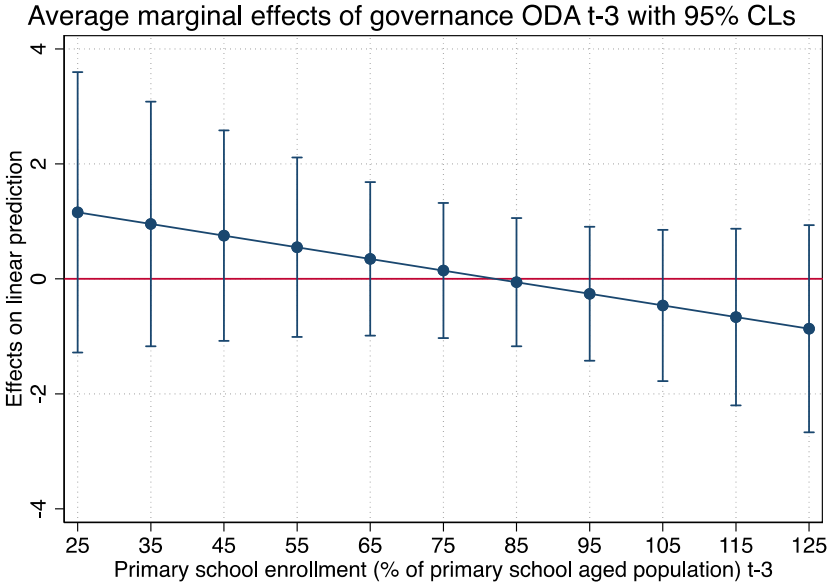


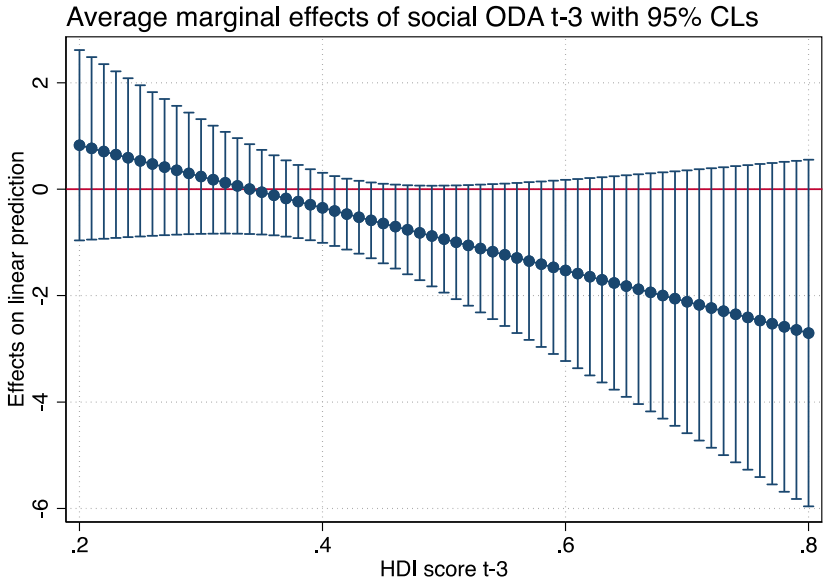
Table A16: Yearly social ODA models with three year lags

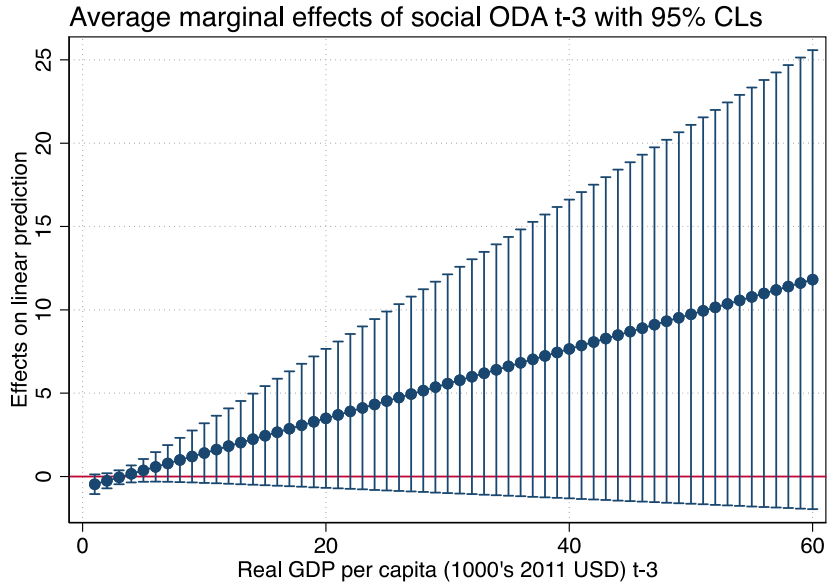
Yearly social ODA from all official DAC donors with three year lags

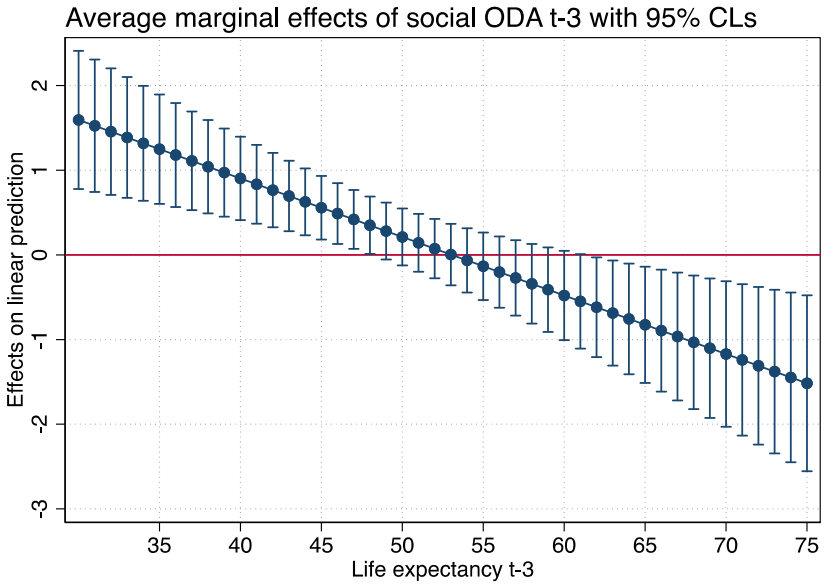
Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social ODA (%GDP) t-3	-0.2426	-0.7692*	-0.1916	2.0031	-0.6751*	3.6688***	0.1183
	(0.3388)	(0.4116)	(0.2417)	(1.7085)	(0.3995)	(0.9826)	(0.5836)
HDI score t-3	0.1171***	0.0915***		0.1098***			
	(0.0410)	(0.0347)		(0.0411)			
Foreign direct investment (%GDP) t-3		0.0001	0.0003	0.0001	0.0002	0.0003	0.0003
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-3		-0.0433**	-0.0276*	-0.0429**	-0.0265*	-0.0276**	-0.0274*
		(0.0184)	(0.0140)	(0.0182)	(0.0140)	(0.0138)	(0.0141)
Internal conflict t-3		0.0001	0.0003	0.0002	0.0003	0.0004	0.0004
		(0.0005)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
Real GDP per capita t-3			0.0006		0.0006	0.0004	0.0006
			(0.0008)		(0.0008)	(0.0008)	(0.0008)
Life expectancy t-3			0.0010***		0.0009***	0.0015***	0.0010***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-3			-0.0003***		-0.0003***	-0.0003***	-0.0003**
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-3 X Social ODA (%GDP) t-3				-5.8837			
				(4.1292)			
Real GDP per capita t-3 X Social ODA (%GDP) t-3					0.2081*		
					(0.1227)		
Life expectancy t-3 X Social ODA (%GDP) t-3						-0.0691***	
						(0.0196)	
Primary school enrollment t-3 X Social ODA (%GDP) t-3							-0.0031
							(0.0047)
Intercept	0.0493**	0.0441*	0.0354**	0.0331	0.0393**	0.0049	0.0330*
	(0.0244)	(0.0238)	(0.0164)	(0.0267)	(0.0158)	(0.0182)	(0.0172)
Observations	2532	1808	1508	1808	1508	1508	1508
Number of Countries	135	98	94	98	94	94	94
R-Squared	0.0115	0.1007	0.1121	0.1137	0.1247	0.1272	0.1124

*** p<.01, ** p<.05, * p<.1

Figure A13: Yearly social ODA models 4-7 with three year lag on all independent variables







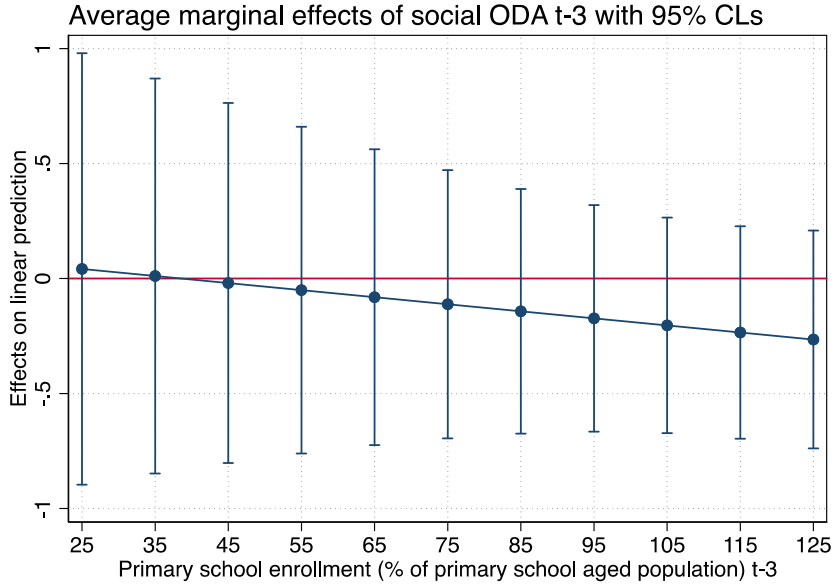


Table A17. Yearly economic ODA models with three year lags

Yearly economic ODA from all official DAC donors with three year lags

Emigration Rate	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Economic ODA (%GDP) t-3	-0.4440**	-0.5249**	-0.1976*	1.1625	-0.4230***	1.1984	0.2857
	(0.1782)	(0.2038)	(0.1106)	(1.2258)	(0.1446)	(1.1042)	(0.2685)
HDI score t-3	0.1030***	0.0912**		0.0996**			
	(0.0361)	(0.0356)		(0.0391)			
Foreign direct investment (%GDP) t-3		0.0001	0.0002	0.0001	0.0002	0.0003	0.0003
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Quality of governance t-3		-0.0409**	-0.0263*	-0.0400**	-0.0268*	-0.0265*	-0.0260*
		(0.0184)	(0.0139)	(0.0179)	(0.0139)	(0.0140)	(0.0140)
Internal conflict t-3		0.0003	0.0005	0.0004	0.0004	0.0005	0.0005
		(0.0006)	(0.0004)	(0.0006)	(0.0004)	(0.0004)	(0.0004)
Real GDP per capita t-3			0.0007		0.0006	0.0007	0.0007
			(0.0008)		(0.0008)	(0.0008)	(0.0008)
Life expectancy t-3			0.0010***		0.0010***	0.0011***	0.0010***
			(0.0004)		(0.0004)	(0.0004)	(0.0004)
Primary school enrollment t-3			-0.0003***		-0.0003***	-0.0003***	-0.0003***
			(0.0001)		(0.0001)	(0.0001)	(0.0001)
HDI score t-3 X Economic ODA (%GDP) t-3				-3.5473			
				(2.8725)			
Real GDP per capita t-3 X Economic ODA (%GDP) t-3					0.1123**		
					(0.0520)		
Life expectancy t-3 X Economic ODA						-0.0234	
(%GDP) t-3						(0.0196)	
Primary school enrollment t-3 X							-0.0052
Economic ODA (%GDP) t-3							(0.0035)
Intercept	0.0543**	0.0412*	0.0338**	0.0360	0.0360**	0.0279	0.0308*
	(0.0213)	(0.0243)	(0.0162)	(0.0258)	(0.0160)	(0.0183)	(0.0170)
Observations	2455	1762	1468	1762	1468	1468	1568
Number of Countries	130	93	89	93	89	89	89
R-Squared	0.0210	0.0961	0.1157	0.1016	0.1212	0.1175	0.1165

*** p<.01, ** p<.05, * p<.1

Figure A14: Yearly economic ODA models 4-7 with three year lag on all independent variables