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Abstract

Studies analysing the pattern of international refugee flows have so far focussed on movements to OECD destinations, even though the vast majority of refugees live in non-OECD countries. Employing a standard gravity model of international migration, we fill this research gap by investigating the impact of destination country characteristics on south-south refugee movements over the period 2004-2019. Our findings suggest that refugees tend to move to safe neighbouring countries but also positively respond to local pull factors such as relatively high per-capita income levels and the availability of education and health services when choosing their country of destination. Donors have the ability to affect the direction of south-south refugee movements by investing in the social infrastructure of potential destination countries.

Keywords

South-South Refugee Movements; Gravity Model; Pull Factors; Foreign Aid

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1. Introduction

At least since the Syrian refugee crisis, the topic of forced migration is high on the international political agenda. This is not fully reflected in the academic migration literature. In particular when it comes to analysing the drivers of migration, a majority of the existing studies investigates voluntary migrant flows (e.g. Dao et al. 2018; Mayda 2010; Lanati and Thiele 2018; Ortega and Peri 2013). Underlying these empirical studies is typically a model of international migration in which individuals base their decision on whether and where to migrate on a comparison of the utility associated with each possible destination (e.g. Beine and Parsons 2015). Individuals are assumed to maximize their utility across a pool of destinations, including the home country. Actual migration decisions are then determined by pull factors that make particular destinations more attractive as well as push factors that drive the decision to leave, loosely following the push-pull model of migration developed by Lee (1966).

Pull factors are largely absent from much of the existing literature on forced migration, which has centred on one specific set of push factors, namely the various forms of violent conflict that occur in countries of origin (Brück et al. 2018). There is indeed ample evidence showing that migration by refugees and asylum seekers depends strongly on political factors such as conflict and civil war in their home countries (e.g. Schmeidl 1997; Davenport et al. 2003; Moore and Shellman 2007; Hatton 2009). While most of the forced migrants flee to neighbouring countries (see Figure 1), this often does not restrict their choice to one single destination. Syrians, for example, fled in large numbers to three different countries with which Syria shares a border: Lebanon, Jordan, and Turkey. In addition, a non-negligible share (around 20%) of refugees is moving to non-neighbouring countries. Little is known about the factors driving emigration decisions when refugees have multiple re-location choices.

A small number of papers (Dreher et al. 2019; Murat 2020; Neumayer 2005) addresses the question of whether prospective countries of asylum can at least partly offset the push factors prevailing at origin and dampen the outflow of refugees from developing countries by providing foreign aid. From this literature, no clear picture emerges. According to Dreher et al. (2019), the impact of foreign aid on refugee flows worldwide and to OECD countries in particular is positive in the short run but turns negative after some years, which the authors attribute to lagged positive effects of aid on economic growth. Murat (2020) finds that asylum applications from poor countries are negatively and significantly associated with bilateral aid disbursements in the short run, with mixed evidence of more lasting effects, while applications from medium-income developing economies are positively but weakly related to aid. In both income groups, demand for asylum decreases when donors provide more humanitarian assistance. Neumayer (2005) detects no significant association between the aid disbursed to developing countries and asylum applications in Western Europe during the period 1982–1999.

Several other studies do consider the impact of pull factors on forced migration but focus on OECD destinations where refugees seek asylum (e.g. Brück et al. 2018; Hatton 2016; Kang 2021; Neumayer 2005). Brück et al. (2018) distinguish a “localist” and a “rationalist“ model of refugee migration. The localist model suggests that violence is the predominant push factor and the safety and proximity of the destination the predominant pull factor. Under the rationalist model, additional factors, such as economic opportunities in the destination country, might enter the individual’s migration decision, bringing it closer to the cost-benefit considerations of voluntary migrants predicted by the standard push-pull model. Brück et al. (2018) point to network effects and the employment rate in the destination country as key pull factors that reach beyond the localist model. Hatton (2016), Kang (2021) and Neumayer (2005) also report pull factors including incomes and diasporas at destination to be significant determinants of asylum seeking in OECD and EU countries, respectively.

In a somewhat different within-country setting, Beine et al. (2021) analyse the determinants of the internal mobility of refugees in Turkey using mobile phone data. They find, among other things, that refugees tend to leave relatively poorer locations and are attracted by relatively wealthier ones. To the best of our knowledge, there is so far no study investigating the drivers of south-south refugee movements, even though a large majority of forced migrants ends up in other developing countries.

In this paper, we take the fairly well researched and broadly agreed upon factors that force people to emigrate as given and instead perform a detailed empirical analysis of their destination choices. In contrast to previous studies, our focus is on movements to non-OECD countries, which account for the vast majority of world-wide refugee inflows. This does not only allow us to fill a remaining research gap, but also renders it possible to address the important policy question of whether through their aid allocation decisions OECD countries can have an impact on where refugees actually go. We employ a gravity model of international migration, which by the nature of its dyadic structure is particularly suited to capture key potential drivers of bilateral refugee flows. The drivers we consider include standard dyadic variables – for instance the physical distance between origin and destination country or the existence of migrant networks – as well as pull factors at destination – for instance low unemployment rates or the provision of foreign assistance just mentioned. Inclusion of the latter is important because incoming refugees are in particular need of public services such as health care, the supply of which in turn strongly depends on foreign aid projects in most of the developing country destinations (e.g. Verme et al. 2016).

Our findings suggest that refugees tend to move to safe neighbouring countries but also positively respond to local pull factors such as relatively high per-capita income levels and the availability of education and health services when choosing their country of destination. Donors have the ability to affect the direction of south-south refugee movements by investing in the social infrastructure of potential destination countries.

The remainder of the paper is structured as follows. Section 2 introduces our econometric approach. In Section 3, we describe the data used in the empirical analysis and provide some descriptive evidence on south-south versus south-north refugee movements. In section 4, we present the regression results. Section 5 concludes.

2. Empirical Strategy

Our econometric specification builds on a standard structural gravity model of international migration (e.g., Ortega and Peri 2013, Lanati et al. 2021), where bilateral stocks of refugees from country of origin *i* to country of destination *j* are a function of dyadic (OD_{ijt-1}) as well as destination-specific factors (D_{jt-1}). The baseline specification is given by:

$$\ln(REF_{ijt}) = \alpha_{ij} + \alpha_{it} + \ln(D_{jt-1}) * \Delta + \ln(OD_{ijt-1}) * \vartheta + e_{ijt} \quad (1)$$

Among the dyadic determinants, we distinguish time-varying migrant network effects, which we capture by the pre-determined stock of migrants from country *i* living in country *j*, and time-invariant migration costs proxied by geographical factors (physical distance and a common border) and cultural links (common language and common religion). The destination-specific factors considered in the regression analysis include growth rates and levels of GDP per capita as proxies for expected earnings over the shorter and longer term, respectively. School enrolment rates and the number of hospital beds serve as indicators for the availability of social services. An index composed of different governance indicators is used to proxy institutional quality. Population approximates the extension of the labour market, while the unemployment rate signals the difficulty of finding a job.

Finally, foreign aid given to destination countries is employed as a policy variable that donors might use to influence where refugees actually settle. Immigration policies at destination could also affect the number of incoming refugees, but no standardised indicators representing these policies are available for meaningful cross-country comparisons.

We are not including origin characteristics such as violent conflict that have featured prominently in the previous literature and on which there is broad agreement among researchers; the impact of those factors will be absorbed by the inclusion of origin-time fixed effects (α_{it}). In addition, the inclusion of origin-year fixed effects in a gravity model captures corrections for the so-called multilateral resistance to migration, i.e. the confounding influence that the attractiveness of alternative destinations exerts on the bilateral migration rate, which may lead to biases in the estimation of the coefficients of the determinants of migration (see Beine et al. 2015 for a discussion). To further address the potential correlation between origins and alternative refugee destinations, we exploit the panel dimension of the dataset and additionally include asymmetric destination–origin fixed effects (α_{ij}) along the lines of Faye and Niehaus (2012).[1] The inclusion of country-pair dummies also addresses the bias that might result from the omission of unobserved bilateral determinants of refugee movements. For example, political or cultural proximity – which does not vary much over the short to medium run we consider and is often difficult, if not impossible, to measure with quantitative data – between countries is likely to be positively correlated with both refugee flows and migrant network.

A key advantage of our structural gravity specification is that it allows us to examine the isolated impact of pull factors at destination once dyadic effects such as geographical proximity, which are known to affect refugee flows, are fully accounted for. Omitting the dyadic-specific determinants of refugee flows as in the monadic model (e.g. Benček and Schneiderheinze 2020; Clemens 2020) might lead to biased estimates of the pull factors. For instance, a country like Pakistan has relatively higher numbers of refugees because of its geographical proximity with Afghanistan, which might wrongly be attributed to its comparably high aid inflows.

With no consistent panel datasets on refugee flows available, we choose refugee stocks as the dependent variable of our regression analysis, following previous studies for regular migrants by, for instance, Adovor et al. (2021) and Clemens (2020). The alternative option would be to calculate flow data by taking the difference between bilateral stocks of refugees in subsequent time periods. This would, however, lead to negative refugee flows when bilateral stocks decline over time, which might be the result of refugees returning home, moving on to a third country, or death. As argued by Clemens (2020) for the case of voluntary migration, in particular emigrant deaths as a source of change in emigrant stocks would cause a downward bias in the measure of net emigration flows. The major disadvantage of using stocks – it includes people who left their home countries long ago, a decision that is unlikely to be related to current drivers of refugee migration – doesn't weigh heavily in our panel setting with country fixed effects where the focus is on time variations of bilateral refugee stocks. While we thus regard refugee stocks as our preferred dependent variable, as a robustness test we present estimates of our baseline gravity model where the dependent variable is specified using differences in bilateral stocks, either dropping negative values or treating them as zeros.

In accordance with previous gravity model applications (e.g., Bertoli and Moraga 2015; Beine and Parsons, 2015), we rely on the Poisson pseudo-maximum likelihood (PPML) approach to estimate Equation (1). Our preferred choice is driven by the share of zeros that is fairly low but still not negligible (around 12.5% of total observations). As Silva and Tenreyro (2006) pointed out, the presence of zeros creates correlation between the covariates and the error term, leading to inconsistency of OLS estimates. To check for the robustness of our PPML estimates of Equation (1), we compare them with results based on alternative estimators that have previously been applied in gravity settings such as EK Tobit and Gamma PML (see, for example, Head and Mayer 2014).

1 At a theoretical level, the inclusion of country-pair dummies allows us to realistically assume that refugees are heterogeneous in their preferences towards subsets (nests) of destinations (Bertoli and Fernandez Moraga 2015). More precisely, we account for correlation in the error term between all origin-destination pairs in our sample.

While the PPML estimates of Equation (1) are consistent, they might be biased due to reverse causality. Most notably, donors are likely to give more foreign aid to support countries that host a large number of refugees (e.g. Czaika and Mayer 2011). We mitigate this problem through the lag structure of our model specification. In addition, we carry out an instrumental variable (IV) estimation as a further robustness test. For this purpose, we adopt a two-step strategy (see, for example, Adovor et al. 2021; Eaton and Kortum 2002), where the first stage is based on a structural gravity model and the second stage reduces to a monadic setting for which a standard instrumentation can be implemented.[2] We employ three instruments related to political representation in aid-receiving countries: (i) the vote share of opposition parties; (ii) the existence of limitations for re-election; and (iii) a dummy indicating whether the chief executive is a military officer. The validity of the exclusion restriction hinges on the assumption that these variables affect the immigration of refugees only indirectly through their impact on foreign aid. To the best of our knowledge, no study establishes a direct link between indicators of political representation in destination countries and refugee movements, and our results below also do not suggest that the quality governance in destination countries acts as a pull factor for refugees. As for the indirect link, there is evidence that the recurrent promises to reward more democratic recipients have been heeded by some, if not all, OECD donor countries (e.g. Clist 2011; Hoeffler and Outram 2011; Thiele et al. 2007). According to the first-stage regressions reported in Appendix Table A2, all three variables employed in our instrumental variable estimation turn out to have a statistically significant impact on foreign aid, with coefficients exhibiting the expected sign – positive for opposition vote shares and re-election limits, negative for military executives. The first-stage Cragg-Donald and Kleibergen-Paap F-statistic and the Hansen J-statistic also generally support the validity of the chosen set of instruments. We still caution against a strong causal interpretation of our results.

A further potential methodological concern relates to the consistency of the standard errors, which are clustered by country pairs in our baseline specification. In doing so, the error term in the gravity specification might be correlated within dimensions of the panel, leading to inconsistent estimates of Equation (1). To address this potential bias, we perform a robustness check with non-nested multi-way clustering of the standard errors along each of the three dimensions of the panel – origins, destinations, and years (see, for example, Faye and Niehaus 2021; Cameron, Gelbach, and Miller 2011).

3. Data and Descriptive Evidence

Figure 2 shows the evolution of the share of refugees hosted by OECD DAC donor countries and aid recipients, respectively, over the period 2002-2021. Throughout this time span the vast majority of refugees – between 80% and 90% – have been hosted by developing countries, with a slightly increasing trend. The gap in the share of hosted refugees might be even larger as the figures reported by the UNHCR refer to refugees that are officially registered, which is likely to be an underestimation of the actual number of people seeking protection, especially in low and middle-income countries. The composition of the major refugee-hosting countries has changed quite remarkably over time (Table A1). For instance, when comparing the largest refugee-hosting countries in 2004 and 2019, only three of them (Germany, Iran and Uganda) turn out to be among the top 10 refugee recipients in both years. The case of Turkey, which hosted hardly any refugees in 2004 but topped the list by far in 2019, reveals how dramatically single events – in this case the Syrian war – can shape the pattern of international refugee movements. At the same time, the example of the Syrian war illustrates that even people who are pushed to flee from extreme violence may be able to choose among different destinations in their neighbourhood: Beside Turkey, Lebanon and Jordan became significant hosts for Syrian refugees. This observation motivates our empirical approach of taking a closer look at the pull factors that drive refugees' destination choices.

2 To the best of our knowledge, there is no suitable instrument that can be applied in the dyadic setting of our baseline specification.

The sample used in the subsequent empirical analysis includes 111 countries of origin and 117 countries of destination, which all are potential recipients of foreign aid.[3] The period under consideration is 2004-2019. By restricting our sample to foreign aid recipients, we only cover a subset of refugee-hosting destination countries and do not analyse South-North refugee movements. Yet, as shown above, our sample comprises a very large part of the worldwide refugee population. Refugee stocks are defined as the yearly number of registered refugees under UNHCR's mandate in a country of asylum classified according to the country of origin. The missing observations in the refugee data set are automatically dropped.

All the proxies for geographical and cultural proximity are from CEPII's gravity database. As for the destination-specific pull factors, a dummy that takes the value of one in the presence of conflicts is taken from the Uppsala Conflict Data Program (UCDP) Monadic Conflict Onset and Incidence Dataset. For total aid received by refugee-hosting destinations data are gross disbursements expressed in 2017 constant US dollars from the OECD Creditor Reporting System (CRS) data set. Non-reported values of ODA are treated as zeros. We take two-year averages (t−1, t−2) for the total aid received to account for the volatility of annual aid flows. The indicators that we use to instrument for foreign aid are included in the DPI2020 Database of Political Institutions (Scartascini et al. 2021). We follow Ariu et al. (2016) and construct a synthetic indicator of the quality of governance based on a principal component analysis (PCA) of the six World Bank Governance Indicators.

The remaining destination-specific variables are taken from standard statistical data bases such as the World Bank Development Indicators. Table A3 in the appendix lists the sources and provides a brief description of all variables employed in the empirical analysis, while Table A4 reports basic descriptive statistics for each of them.

4. Results

Table 1 shows how refugees' choices are affected by the dyadic factors that are commonly included in gravity models of migration. When only looking at the geography of refugee movements (column 1), we find – as expected – a strong tendency of refugees to flee to destinations with which their country of origin shares a border, simply leaving the violence prevailing at home behind. Distance per se appears to play a much less decisive role; the variable even loses its statistical significance in a more complete specification where cultural ties and network links are taken into consideration (column 2). The existence of diasporas turns out to be another strong predictor of the countries that refugees chose as destinations, which is in accordance with the findings of most previous studies where the focus was on voluntary migration (e.g. Beine and Parsons 2015; Lanati and Thiele 2018). Refugees also tend to prefer destinations where the dominant religion is the same as in their home country.

In Table 2, we add destination-specific determinants of refugee movements to the picture.[4] Employing the baseline specification given in equation 1 (columns 1-3), GDP per capita levels, foreign aid inflows and (the absence of) conflict emerge as relevant pull factors. The significance of the conflict variable – in combination with the strong impact of a shared border between origin and destination our results suggest – would confirm the prediction of the localist model that refugees tend to move to safe neighbouring countries (Brück et al. 2018). Yet, they also appear to consider opportunities in terms of higher potential income, foreign aid provisions and cost-saving migrant networks when choosing a destination, which is more in line with the rationalist model of refugee migration and blurs the distinction between refugees and voluntary migrants when it comes to modelling migration decisions.

3 The full list of refugee destination countries is reported in Table A5.

4 Refugees from South Sudan are excluded from our baseline sample because there are no information available on emigrant stocks from South Sudan and almost no information on "dyadic" variables from all versions of the CEPII gravity dataset. In Table A6 in the Appendix we estimate a more parsimonious gravity model which includes refugees from South Sudan. The coefficients of interest are in line with the baseline statistics and the main conclusions remain unaffected.

Furthermore, the impact of these pull factors is not only statistically significant, but also relevant in substantive terms: For example, according to our point estimates, a 10 percent higher GDP per capita levels at destination is on average associated with a 10 percent larger refugee population.

As concerns the impact of foreign aid on migration, previous research has pointed to considerable effect heterogeneity across aid categories (e.g. Gamso and Yuldashev 2018; Lanati and Thiele 2018). In a next step, we therefore distinguish aid for economic infrastructure and support for public services, disaggregating the latter further into governance aid, aid for education and aid for health. The results reported in Table 3 reveal a clear pattern: while economic and governance aid do not turn out to act as pull factors for refugees, we find a positive and sizeable association between social sector aid and refugee movements, most notably for the case of education. Our estimates suggest that a 10 percent rise in aid for education would raise the refugee population in destination countries by slightly below three percent on average. While we can establish this general link between aid to the social sector and refugee flows, due to a lack of more fine-grained data we are not able to show more specifically, for example, whether the link is driven by donor support given to refugee camps. Refugees' positive response to social sector aid is in accordance with previous research showing that donors can contribute to lower voluntary emigration flows from developing countries by targeting foreign assistance to their social sectors (e.g. Lanati and Thiele 2018; Lanati and Thiele 2020).

Among the additional destination-specific factors we consider in our empirical analysis, the proxies for the availability of education and health services – school enrolment rates and the provision of hospital beds – are positively and significantly associated with refugee movements (Table 4).[5] This result can be interpreted as being a mirror image at the destination country level of Dustmann and Okatenko's (2014) finding that improved quality of local amenities in countries of origin has a significant (negative) impact on migration propensities. For all other potential pull factors, our estimates do not point to significant impacts.

Robustness Checks

In the baseline regressions, our sample is restricted to refugees, leaving out asylum seekers as they constitute only a small minority of south-south movements of forced migrants. When comparing refugees and asylum seekers, as we do in our first robustness check reported in Table 5, similarities as well as differences in migration decisions can be observed between the two groups. For both, high income levels and high amounts of foreign aid given to potential destination countries act as significant pull factors. By contrast, asylum seekers differ from refugees in that moving to neighbouring countries and to countries where they can rely on existing diasporas is less prevalent among them. Somewhat surprisingly, the level of conflict at destination does not appear to be a decisive factor when migrants decide where to apply for asylum. Hence, there is little evidence that asylum seekers behave according to the localist model of refugee migration. In addition, unlike refugees, asylum seekers tend to move to destinations with which they share a common language, arguably because this facilitates integration into the host societies where they plan to stay permanently.

Second, we use refugee flows instead of stocks as the dependent variable. As shown in Table 6, the alternative definition of the dependent variable leaves results for the pull factors and most of the dyadic variables qualitatively unaffected, irrespective of whether we drop negative values (columns 1-3) or treat them as zeros (columns 4-6). The only qualitative difference compared to the specification with refugee stocks is that common religion turns significantly positive.

5 It has to be noted that limited data availability has restricted our choice of health and education indicators. Health and education expenditures, for example, could not be employed because data on these variables are too sketchy for the case of developing countries. Kang et al. (2021), for instance, find that social expenditures are a significant determinant of asylum applications in the EU.

Third, we address potential endogeneity due to reverse causality by instrumenting foreign aid given to potential destination countries with the above-mentioned set of variables related to political representation. Our assumptions regarding the validity of the instruments are supported by the first-stage statistics. When we consider the three instruments jointly (columns 3 and 6 in Table 7), the Cragg-Donald and Kleibergen-Paap F-statistics are above the rule-of-thumb critical value of 10, while the Hansen-J test confirms the validity of the over-identifying restrictions. All instruments are statistically significant in the first-stage regressions and enter with the expected sign (Table A2). The correlation between per-capita aid and *oppvote*, however, appears to be weaker than that between aid and the other two instrumental variables. As a result, if we drop *oppvote* from our set of instrumental variables in column (2) and (5) of Table 7, the joint strength of the remaining two instruments - *military* and *termlimit* – even increases a bit as indicated by somewhat higher first stage F-Statistics, while the Hansen-J test still supports the validity of the exclusion restriction. Overall, despite marginal differences across specifications, the IV estimates confirm the positive relationship between foreign aid inflows and the immigration of refugees.

Fourth, employing multi-way clustering instead of clustering standard errors at the level of country pairs leaves the baseline results largely unaffected (see Table 8). The only exception is that the variable depicting common religion turns insignificant. Lastly, as shown in Table 9, our key findings also hold when applying common alternative gravity estimators.

5. Summary and Conclusions

In this paper, we have investigated the drivers of south-south refugee movements based on a gravity model of international migration. Our results confirm the standard hypothesis that refugees tend to move to safe countries with which they share a common border, but we also obtain robust evidence supporting the view that they respond to the opportunities available at potential destinations once geographic proximity is accounted for. Among these pull factors are existing migrant networks, high levels of per capita income, and the provision of education and health services. Donors can affect refugees' destination choices by investing in social infrastructure. Aid for education turns out to be a particularly strong pull factor for refugees.

From a policy perspective, our findings therefore suggest that efforts by OECD members to steer refugees towards destinations close to their countries of origin can be effective. However, it must be noted that as better socio-economic conditions make specific countries more attractive as refugee destinations, over time the effectiveness of donors' support in those countries could be limited by new (and sizeable) refugee inflows. This problem could be mitigated if donors spread their aid fairly evenly across potential host countries rather than selecting "aid darlings" as they often do. In addition, our analysis does not allow to assess whether making developing country destinations more attractive would reduce pressure on asylum systems in high-income countries, which arguably is part of the rationale to support developing host countries.

A promising area for future research would therefore be to investigate whether and to what extent refugees emigrating to other developing countries would tend to stay there as long as the cause of their flight continues to exist, or whether they would eventually move on to seek asylum in the OECD. To better inform policymaking related to foreign aid, one would also need to conduct a more detailed analysis identifying the specific social services in destination countries that refugees value most.

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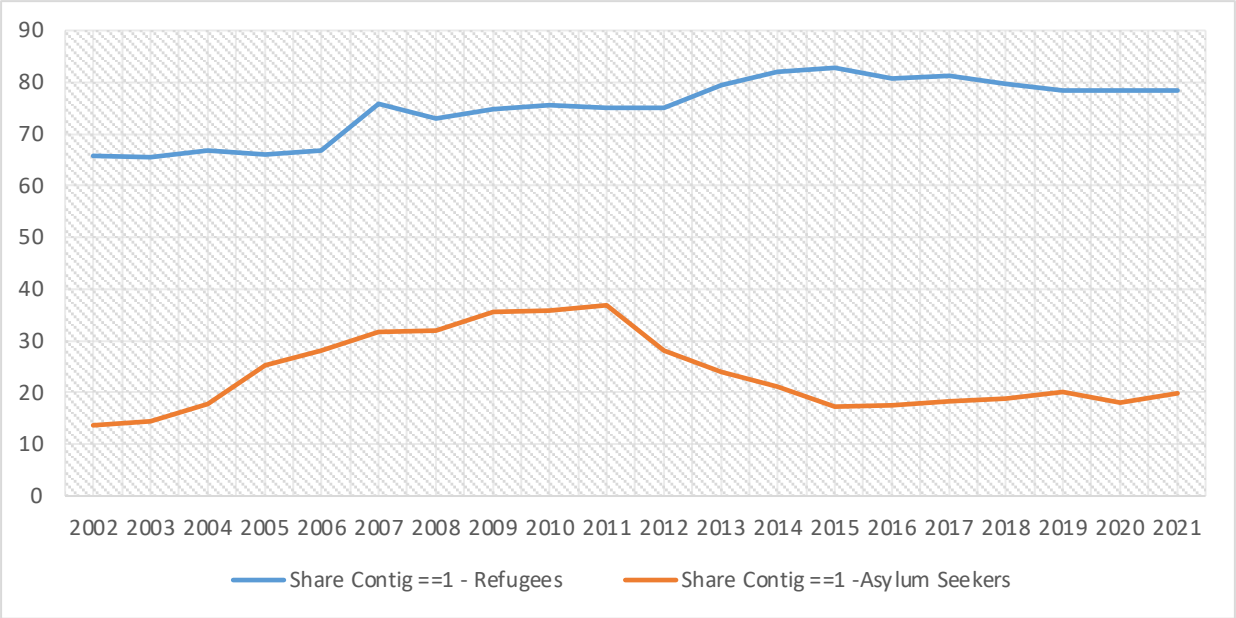
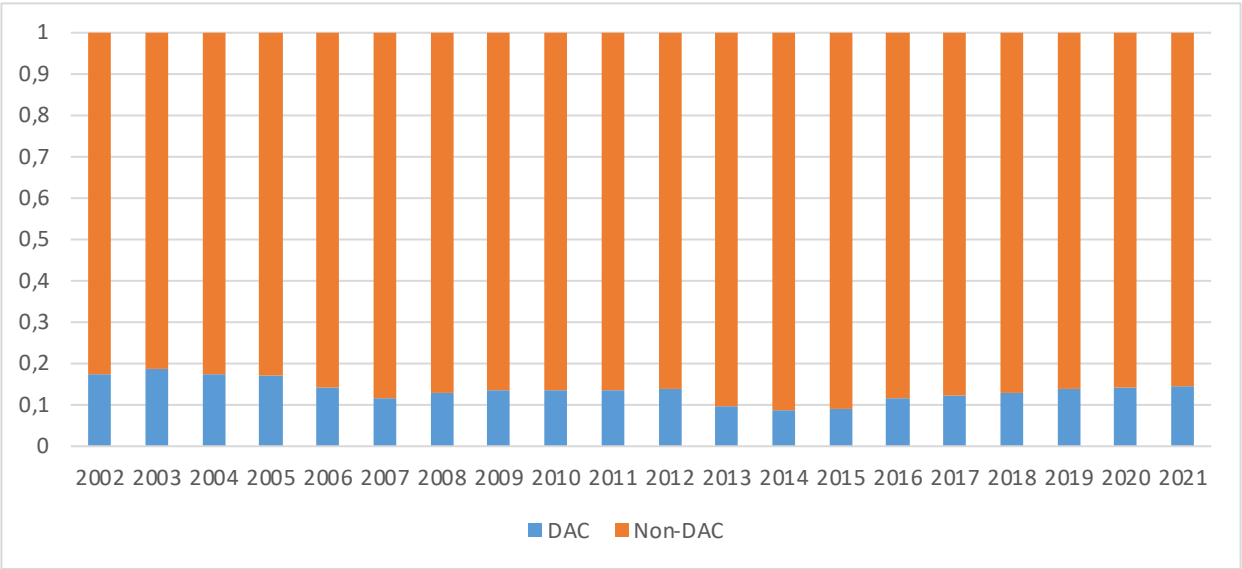
Figure 1 – Share (%) of Refugees and Asylum Seekers Hosted in Neighbouring Countries



Notes: The Blue line is the yearly share (%) of world refugees by nationality hosted in neighbouring countries over the total. The aggregate values are obtained using the dummy variable *"contig"* from the CEPII Gravity Dataset. *"Contig"* takes the value of one two countries share a common border, 0 otherwise. Figures do not include refugees hosted in and originating from countries that are not included in the CEPII Gravity Dataset. *"Contig"* values for South Sudan have been added manually as they were reported as "missing" in all versions of the CEPII gravity dataset. The Orange line refers to the correspondent share for asylum seekers.

Figure 2 – Share of Hosted Refugees: DAC vs Non-DAC Members



Notes: in Blue the share of Refugees hosted by DAC members (over total), in Orange the share of Non-DAC members. Donor Countries according to the DAC classification are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, Germany Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom, United States.

Table 1 – Dyadic Determinants: Geography vs Cultural and Network Links

	(1)	(2)
Estimator	PPML	PPML
Dep. Var.	Refugees	Refugees
Common Border (od)	3.856***	2.108***
	(9.12)	(6.64)
Log Distance (od)	-1.131***	-0.238
	(-4.15)	(-1.40)
Log Diaspora (od,t)		0.500***
		(8.21)
Common Language (od)		0.260
		(1.07)
Common Religion (od)		1.456**
		(2.28)
N	20460	110
Share Zeros	20460	107
12.5%	110	X
12.5%	107	X
Origins	X	
Destinations	X	
Origin*Year FEs		
Dest*Year FEs		

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Standard Errors are clustered by country-pairs. The sample covers the period 2004-2019. Diaspora is lagged at (t-2) with respect to the dependent variable. Destination countries are recipients of Official Development Assistance.

Table 2 – Pull Factors at Destination

Estimator Dep. Var.	(1) PPML Refugees	(2) PPML Refugees	(3) PPML Refugees	(4) PPML Refugees	(5) PPML Refugees	(6) PPML Refugees
Log Diaspora (od,t)	0.0926** (2.94)	0.0874** (2.69)	0.0899** (2.80)	0.447*** (7.36)	0.445*** (7.31)	0.445*** (7.41)
Log GDP pc (d,t)	0.995* (1.79)	1.177** (2.31)	1.140** (2.39)	0.838 (1.50)	1.007** (2.01)	0.959** (1.98)
Log ODA Total (d,t)		0.252** (2.58)	0.265** (2.76)		0.260** (2.33)	0.263** (2.38)
Conflict (d,t)			-0.145** (-3.19)			-0.0979 (-1.63)
Log Distance (od)				-0.0688 (-0.50)	-0.0696 (-0.51)	-0.0715 (-0.53)
Common Language (od)				0.295 (1.38)	0.308 (1.44)	0.309 (1.44)
Common Religion (od)				1.294* (1.95)	1.306* (1.94)	1.304* (1.93)
Common Border (od)				2.197*** (6.05)	2.202*** (6.00)	2.196*** (5.97)
N	20665	20665	20665	20558	20558	20558
Share Zeros	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%
Origins	111	111	111	111	111	111
Destinations	117	117	117	117	117	117
Dyadic Fes	X	X	X			
Origin*Year Fes	X	X	X	X	X	X
Dest. Fes				X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Standard Errors are clustered by country-pairs. The sample covers the period 2004-2019. All destination specific covariates are lagged at (t-1) with respect to the dependent variable, while Diaspora is lagged at t-2. Destination countries are recipients of Official Development Assistance.

Table 3 – ODA Sectoral Disaggregation

Estimator	(1) PPML	(2) PPML	(3) PPML	(4) PPML	(5) PPML	(6) PPML
Dep. Var.	Refugees	Refugees	refugees	refugees	refugees	refugees
ODA CRS Sector	Total	Economic	Social	Social EDUCATION	Social HEALTH	Social GOVERNANCE
Log Diaspora (od,t)	0.0899** (2.80)	0.0931** (2.97)	0.0861** (2.72)	0.0841** (2.75)	0.0810** (2.78)	0.0922** (3.05)
Log GDP pc (d,t)	1.140** (2.39)	0.988* (1.80)	0.955* (1.89)	0.883* (1.74)	0.888** (2.01)	0.868* (1.71)
Conflict (d,t)	-0.145** (-3.19)	-0.132** (-2.80)	-0.136** (-3.02)	-0.156** (-3.09)	-0.112** (-2.41)	-0.130** (-2.82)
Log ODA Total (d,t)	0.265** (2.76)					
Log ODA Economic (d,t)		-0.0132 (-0.32)				
Log ODA Social (d,t)			0.265** (2.09)			
Log ODA Education (d,t)				0.274** (2.82)		
Log ODA Health (d,t)					0.108*** (4.18)	
Log ODA Governance (d,t)						-0.0986* (-1.70)
N	20558	20266	20558	20548	20522	20548
Dyadic Fes	X	X	X	X	X	X
Origin*Year Fes	X	X	X	X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Standard Errors are clustered by country-pairs.

Table 4 – Additional Pull Factors

Estimator Dep. Var.	(1) PPML refugees	(2) PPML refugees	(3) PPML refugees
Log Diaspora (od,t)	0.0899** (2.80)	0.0755** (2.55)	0.0656** (2.37)
Log GDP pc (d,t)	1.140** (2.39)	1.243** (2.46)	0.213** (2.28)
Log ODA Total (d,t)	0.265** (2.76)	0.199** (2.04)	1.481** (2.99)
Conflict (d,t)	-0.145** (-3.19)	-0.0920 (-1.56)	-0.0860 (-1.30)
Additional Controls			
Log Population (d,t)		-0.926 (-0.77)	-0.572 (-0.50)
Log School Enrollment (d,t)		1.524** (2.26)	1.659** (2.44)
Log Hospital Beds (d,t)		0.0959* (1.79)	0.111** (2.01)
GDP Growth Dummy (d,t)			0.0694 (0.88)
Institutional Quality PCA (d,t)			-0.172 (-1.20)
Unemployment (d,t)			-0.00304 (-0.13)
N	20554	18948	18835
Dyadic Fes	X	X	X
Origin*Year Fes	X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Standard Errors are clustered by country-pairs.

Table 5 – Robustness Check: Refugees vs Asylum Seekers

Estimator	(1) PPML	(2) PPML	(3) PPML	(4) PPML	(5) PPML	(6) PPML
Dep. Var.	Asylum Seekers	Asylum Seekers + Refugees	Refugees	Asylum Seekers	Asylum Seekers + Refugees	Refugees
Log Diaspora (od,t)	0.277*** (8.25)	0.448*** (9.29)	0.507*** (8.24)	0.0233 (1.27)	0.101** (2.82)	0.102** (2.36)
Log Distance (od)	-0.309** (-2.23)	-0.206 (-1.53)	-0.210 (-1.22)			
Common Language (od)	0.951*** (4.12)	0.457** (2.21)	0.303 (1.27)			
Common Religion (od)	0.410 (0.96)	1.241** (2.33)	1.546** (2.40)			
Common Border (od)	0.426* (1.73)	1.788*** (6.88)	2.137*** (6.65)			
Log ODA Total (d,t)				0.222* (1.89)	0.355*** (3.67)	0.278** (2.98)
Log GDP pc (d,t)				1.346** (2.84)	1.401** (2.77)	1.144** (2.41)
Conflict (d,t)				0.0378 (0.42)	-0.126** (-2.76)	-0.143** (-3.18)
N	23178	23178	22931	21109	22754	19560
Origin*Year FEs	X	X	X	X	X	X
Dest*Year FEs	X	X	X			
Dyadic Fes				X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Standard Errors are clustered by country-pairs. The sample size refers to the regression with Asylum Seekers as dependent variable and is the same across the regressions. Destination countries are recipients of Official Development Assistance.

Table 6 – Robustness Check: Differences in Refugee Stocks as Dependent Variable

Estimator Dep. Var.	(1) PPML Diff. in Stocks <0 Dropped	(2) PPML Diff. in Stocks <0 Dropped	(3) PPML Diff. in Stocks <0 Dropped	(4) PPML Diff. in Stocks <0 as Zeros	(5) PPML Diff. in Stocks <0 as Zeros	(6) PPML Diff. in Stocks <0 as Zeros
Log Diaspora (od,t)	0.331*** (5.04)	0.325*** (4.94)	0.328*** (5.03)	0.314*** (4.84)	0.308*** (4.74)	0.313*** (4.86)
Log GDP pc (d,t)	4.811*** (4.22)	4.927*** (4.70)	4.377*** (4.54)	5.327*** (4.73)	5.352*** (5.00)	4.696*** (5.02)
Log ODA Total (d,t)		0.499** (2.05)	0.486** (2.02)		0.461** (2.01)	0.460** (2.09)
Conflict (d,t)			-0.580** (-3.11)			-0.592** (-2.75)
Log Distance (od)	-0.208 (-1.64)	-0.226* (-1.91)	-0.246** (-2.09)	-0.178 (-1.44)	-0.189 (-1.54)	-0.186 (-1.53)
Common Language (od)	0.719** (2.64)	0.749** (2.77)	0.751** (2.66)	0.652** (2.13)	0.663** (2.15)	0.689** (2.11)
Common Religion (od)	1.789** (2.44)	1.793** (2.47)	1.950** (2.69)	1.665** (2.15)	1.668** (2.19)	1.761** (2.27)
Common Border (od)	1.695*** (7.01)	1.705*** (7.09)	1.639*** (6.98)	1.722*** (6.90)	1.710*** (6.89)	1.679*** (6.84)
N	12530	12530	12530	18125	18125	18125
*Origin*Year FEs*	X	X	X	X	X	X
Destination FEs	X	X	X	X	X	X

t statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard Errors are clustered by country-pairs.

The Table reports the estimates of Equation (1) with the difference in refugee stocks as dependent variable. In Columns (1-4) the differences in stocks which lead to negative values in the dependent variable are dropped out of the sample, whereas in Columns (5-8) the negative values are treated as zeros.

Table 7 – Robustness Check: IV Estimates – 2-Step Strategy

	(1)	(2)	(3)	(4)	(5)	(6)
Method	Two-Step	Two-Step	Two-Step	Two-Step	Two-Step	Two-Step
First Step Estimator	PPML	PPML	PPML	OLS	OLS	OLS
Dependent Var.	$\hat{S}_{i,t}$	$\hat{S}_{i,t}$	$\hat{S}_{i,t}$	$\hat{S}_{i,t}$	$\hat{S}_{i,t}$	$\hat{S}_{i,t}$
Second Step Estimator	OLS	IV-2SLS	IV-2SLS	OLS	IV-2SLS	IV-2SLS
		Over Identified	Over Identified		Over Identified	Over Identified
Log ODA Total (d,t)	0.395***	1.018**	1.354**	0.184***	1.252**	1.213***
	(5.69)	(2.00)	(2.74)	(3.33)	(3.29)	(3.48)
Log GDP pc (d,t)	1.663***	2.090***	2.322***	0.783***	1.533***	1.506***
	(5.89)	(4.50)	(4.99)	(4.05)	(4.04)	(4.20)
Conflict (d,t)	-0.183**	-0.228**	-0.244**	-0.185**	-0.245**	-0.243**
	(-2.19)	(-2.43)	(-2.46)	(-2.57)	(-2.66)	(-2.66)
N	1527	1510	1510	1531	1514	1514
Destination FEs	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X
Cragg-Donald F-stat		14.309	11.784		14.275	11.818
K-Paap F-Stat		12.959	11.548		13.005	11.635
Hansen J Stat (P-Val)		0.6131	0.3290		0.8109	0.9560

t statistics in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.001. Errors are clustered at the destination-time level; Robust standard errors in parentheses. First Stage Statistics are reported in Table A2 in the Appendix. The included instruments are the *Vote Share of Opposition Parties* (column 3 and 6), *Military* (Columns 2-3 and 5-6) and *Termlimit* (Columns 2-3 and 5-6). *Military: Dummy – is chief executive a military officer? Termlimit: Describes the existence of limitations for reelection Oppvote: vote share of opposition parties.*

Table 8 – Robustness Check: Multi-Way Clustering of Standard Errors

Estimator Dep. Var.	(1) PPML refugees	(2) PPML Refugees
Log Diaspora (od,t)	0.0875* (1.76)	0.431*** (5.08)
Log Distance (od)		-0.141 (-0.69)
Common Language (od)		0.298 (1.03)
Common Religion (od)		1.363 (1.27)
Common Border (od)		2.205*** (6.18)
Log ODA Total (d,t)	0.268** (2.77)	0.263** (2.69)
Log GDP pc (d,t)	1.109** (2.32)	0.661** (2.35)
Log Population (d,t)	-0.920 (-0.47)	-4.008** (-2.08)
Conflict (d,t)	-0.138** (-3.05)	-0.0689 (-0.92)
N	20558	20558
Share Zeros	12.6%	12.6%
Dyadic Fes	X	
*Origin*Year FEs*	X	X
Destination FEs		X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Standard Errors are multi-way clustered by destination, origin and year.

Table 9 – Robustness Check: Alternative Gravity Estimators

Estimator Dep. Var.	(1) Scaled OLS Log(1+refugees)	(2) OLS Refugees (HIS)	(3) EK Tobit Log Refugees	(4) Gamma PML Refugees
Log Diaspora (od,t)	0.195*** (10.90)	0.202*** (10.86)	0.202*** (34.08)	0.220*** (39.91)
Log Distance (od)	-0.679*** (-7.05)	-0.728*** (-7.22)	-0.702*** (-23.35)	-1.044*** (-30.29)
Common Language (od)	0.405** (2.72)	0.435** (2.81)	0.391*** (8.55)	0.472*** (10.32)
Common Religion (od)	1.736*** (7.94)	1.753*** (7.77)	1.735*** (26.69)	2.606*** (38.03)
Common Border (od)	0.104 (0.42)	0.0960 (0.36)	0.0846 (1.08)	0.399*** (4.81)
Log ODA Total (d,t)	0.110** (2.29)	0.113** (2.17)	0.113** (3.27)	0.138*** (3.86)
Log GDP pc (d,t)	0.740*** (3.50)	0.802*** (3.57)	0.728*** (4.77)	0.553*** (3.63)
Log Population (d,t)	0.0226 (0.04)	-0.0341 (-0.06)	-0.344 (-0.57)	0.0576 (0.18)
Conflict (d,t)	-0.162** (-3.22)	-0.169** (-3.13)	-0.148** (-2.78)	-0.175*** (-3.68)
N	20558	20558	20558	20558
*Origin*Year FEs*	X	X	X	X
Destination FEs	X	X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

In Column 2 refugees are specified in inverse hyperbolic sine. Standard Errors are clustered by country-pairs in Columns 1-2. Due to convergence issues, in Columns 3 and 4 heteroskedasticity robust standard errors are include

Appendix

Table A1 – Refugees by Hosting Country (Year 2019)

Turkey	3579531	Switzerland	110162	Nepal	19570	Namibia	3182	Kuwait	686	Curacao	42
Pakistan	1419596	Ecuador	104560	Armenia	17980	Peru	2850	Philippines	680	Cayman Islands	34
Uganda	1359458	Canada	101757	Somalia	17882	Belarus	2725	Latvia	665	Belize	29
Germany	1146682	Algeria	98599	Syrian Arab Rep.	16213	Luxembourg	2548	Montenegro	653	Monaco	22
Sudan	1055489	Thailand	97556	Israel	16107	Panama	2536	Colombia	634	Turkmenistan	21
Iran (Islamic Rep. of)	979435	Netherlands	94417	Senegal	14467	Portugal	2375	Kazakhstan	518	Mauritius	20
Lebanon	916141	Mauritania	84901	Malawi	14087	Trinidad and Tobago	2308	Uruguay	498	Guyana	14
Bangladesh	854779	Greece	80454	Poland	12658	Ukraine	2166	Gabon	454	Uzbekistan	13
Ethiopia	733123	Burundi	78465	Cyprus	12311	Czechia	2054	Sierra Leone	441	Fiji	12
Jordan	693668	South Africa	78395	Togo	11964	Chile	2046	Rep. of Moldova	417	Bahamas	10
Dem. Rep. of the Congo	523733	Afghanistan	72227	Ghana	11946	Cote d'Ivoire	2020	Guatemala	408	Sint Maarten	5
Chad	442670	Venezuela	67749	Indonesia	10287	Guinea-Bissau	1846	North Macedonia	354	Saint Kitts and Nevis	5
Kenya	438899	Belgium	61662	Papua New Guinea	9698	Lithuania	1822	Kyrgyzstan	347	Turks and Caicos Isl.	5
France	407915	Australia	58529	Zimbabwe	8956	Tunisia	1732	Estonia	331	Aruba	0
Cameroon	406259	Spain	57751	Malta	8908	New Zealand	1709	Nicaragua	322	Myanmar	0
United States	341715	Zambia	57518	Liberia	8225	Japan	1463	Saudi Arabia	315	Jamaica	0
China	303379	Nigeria	54157	Ireland	7795	Georgia	1355	Oman	308	Haiti	0
South Sudan	298309	Norway	53882	Central African Rep.	7170	United Arab Emirates	1242	Bahrain	251	Barbados	0
Iraq	273986	Russian Federation	42413	Morocco	6642	Benin	1238	Cuba	233	Mongolia	0
Yemen	268503	Denmark	37533	Costa Rica	6204	Botswana	1113	Qatar	202	Cambodia	0
Egypt	258391	Brazil	32844	Hungary	5750	Azerbaijan	1109	Eritrea	199		
Sweden	253787	Mexico	28517	Bosnia & Herzegovina	5241	Sri Lanka	1041	Dominican Rep.	164		
Tanzania	242171	Mali	26672	Guinea	4964	Paraguay	1014	Lesotho	143		
Italy	207602	Serbia and Kosovo	26427	Libya	4730	Slovakia	965	China, Hong Kong SAR	128		
India	195103	Burkina Faso	25869	Mozambique	4713	Eswatini	940	Liechtenstein	125		
Niger	179997	Angola	25793	Gambia	4302	Croatia	916	Albania	120		
Rwanda	145054	Congo	25668	Romania	3860	Iceland	894	Madagascar	113		
Austria	135951	Finland	23458	Argentina	3857	Bolivia	863	Honduras	75		
United Kingdom	133083	Bulgaria	20438	Tajikistan	3788	Nauru	755	El Salvador	48		
Malaysia	129107	Djibouti	19639	Rep. of Korea	3196	Slovenia	741	Suriname	44		

Note: The table reports the *complete* list of refugees hosting countries for the year 2019, which includes aid donors. Source: UNHCR, Refugee Data Finder.

Continued Table A1 – Refugees by Hosting Country (Year 2004)

Pakistan	1290980	Sierra Leone	65433	Togo	11286	Japan	1967	Somalia	311
Iran (Islamic Rep. of)	1045975	Denmark	65305	Mali	11256	China, Hong Kong SAR	1865	Niger	296
Germany	876614	Australia	63478	Costa Rica	10413	Russian Federation	1851	Slovenia	208
Tanzania	602088	Cameroon	58861	Azerbaijan	8604	Tajikistan	1835	Nicaragua	206
United States	420846	Rwanda	50221	Ecuador	8425	Lebanon	1753	Venezuela	197
China	299367	Burundi	48807	Nigeria	8395	Czechia	1624	El Salvador	193
United Kingdom	298827	Switzerland	47654	Hungary	7702	Romania	1610	Iceland	192
Serbia and Kosovo	276677	Iraq	46053	Papua New Guinea	7626	Panama	1596	Morocco	172
Chad	259880	Uzbekistan	44452	Guinea-Bissau	7537	Luxembourg	1590	Indonesia	171
Uganda	250477	Norway	44031	Gambia	7339	Malta	1561	Liechtenstein	165
Saudi Arabia	240551	Ghana	42049	Zimbabwe	6875	Kuwait	1519	Colombia	126
Kenya	239833	South Africa	27675	Ireland	6530	Jordan	1096	Philippines	109
Armenia	235233	Central African Rep.	25019	Spain	5690	North Macedonia	1003	United Arab Emirates	97
Dem. Rep. of the Congo	199323	Malaysia	24900	New Zealand	5334	Cuba	791	Uruguay	93
Zambia	173907	Bosnia and Herzegovina	22209	Benin	4800	Peru	757	Tunisia	74
Algeria	169053	Senegal	20802	Bulgaria	4676	Belize	732	Sri Lanka	62
India	162683	Bangladesh	20450	Mexico	4336	Belarus	719	Rep. of Moldova	46
Sudan	141587	Djibouti	18033	Eritrea	4242	Eswatini	703	Albania	28
Canada	141402	Austria	17777	Kyrgyzstan	3756	Guatemala	655	Qatar	22
France	139852	Kazakhstan	15845	Malawi	3682	Mozambique	617	Paraguay	19
Guinea	139240	Italy	15668	Croatia	3662	Chile	566	Rep. of Korea	18
Netherlands	126792	Syrian Arab Rep.	15600	Brazil	3333	Israel	564	Afghanistan	15
Nepal	124920	Liberia	15168	Turkey	3029	Cyprus	525	Honduras	6
Thailand	121145	Namibia	14773	Argentina	2898	Bolivia	524	Latvia	5
Ethiopia	115979	Angola	13963	Botswana	2831	Burkina Faso	494	Oman	0
Egypt	90335	Gabon	13780	Georgia	2559	Mauritania	473	Estonia	0
Sweden	73383	Belgium	13522	Poland	2491	Lithuania	469	Bahrain	0
Cote d'Ivoire	72084	Turkmenistan	13252	Greece	2479	Slovakia	396	Timor-Leste	0
Congo	68536	Libya	12164	Ukraine	2442	Cambodia	380		
Yemen	66379	Finland	11309	Viet Nam	2360	Portugal	368		

Notes: The table reports the *complete* list of refugees hosting countries for the year 2004, which includes aid donors. Source: UNHCR, Refugee Data Finder.

Table A2 – Instrumental Variables: First-Stage Regression

Dependent Var.	(1) OLS *Log ODA Total*	(2) OLS *Log ODA Total*
Log GDP pc (d,t)	-0.657*** (-5.85)	-0.644*** (-5.74)
Conflict (d,t)	0.0444 (1.07)	0.0459 (1.11)
Military (d,t)	-0.000909*** (-3.87)	-0.000928*** (-4.02)
Term Limit (d,t)	0.000420*** (3.96)	0.000394*** (3.85)
OppVote (d,t)		0.00187** (2.54)
N	1514	1514
Destination FE	X	X
Year FE	X	X

t statistics in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.001. Errors are clustered at the destination-time level; Robust standard errors in parentheses. Columns (1-2) refer to the models whose results are reported in Columns (2-3) and Columns (4-5) in Table 6 respectively.

Table A3 – Variables Used and Related Sources

Variable	Short description	Source
Dependent variable		
Number of Refugees (o to d)	Yearly stock of refugee population in a given country d from origin o at time t. The refugee population also includes people in refugee-like situations. Full definition available here	UNHCR
Explanatory variables		
ODA (d)	Total transferred ODA received (at t-1) by country d from all donors normalized by the total population of country d, gross disbursements in Constant US dollars (2 years average).	CRS-OECD DAC
GDP Per Capita (d)	GDP per capita (at t-1), expressed in PPP constant US$ (2011 prices)	World Bank
Conflict (d)	Dummy = 1 in the presence of conflict in the country of origin, 0 otherwise	UCDP Monadic Conflict Onset and Incidence Dataset
Diaspora (o to d)	Stock of migrants born in country o and resident in country d at time t-2. Values for intermediate years are linearly interpolated.	World Bank
Log Distance (od)	Weighted Distance (Pop wt, km)	CEPII Gravity Dataset
Common Religion (od)	Dummy=1 if origin and destination have common religion, 0 otherwise	CEPII Gravity Dataset
Common Border (od)	Dummy=1 if origin and destination share a common border, 0 otherwise	CEPII Gravity Dataset
Common Language (od)	Dummy=1 if origin and destination share the same official language, 0 otherwise	CEPII Gravity Dataset
School Enrolment (d)	School enrollment, primary (% gross), in country d at time t-1	UNESCO Institute for Statistics (uis.unesco.org)
Hospital Beds (d)	Hospital beds (per 1,000 people), in country d at time t-1	WHO, World Health Organization, supplemented by country data
GDP Growth Dummy (d)	Dummy=1 if GDP growth (annual %) is positive, 0 otherwise	World Bank
Institutional Quality PCA (d)	A synthetic indicator of quality of governance based on a Principal Component Analysis (PCA) of the six World Bank Governance Indicators (vae, pve, gee, rqe, rle, cce)	World Development Indicators, World Bank
Population (d)	Total Population in country d at time t-1	World Bank
Unemployment (d)	Unemployment in country d at time t-1, total (% of total labor force)	International Labour Organization, ILOSTAT database.
Instrumental Variable Analysis		
Military	Is Chief Executive a military officer? "1" if the source includes a rank in their title, "0" otherwise. If chief executives were described as officers with no indication of formal retirement when they assumed office, they are always listed as officers for the duration of their term. If chief executives were formally retired military officers upon taking office, then this variable gets a 0.	Scartascini et al. (2021).

Term Limit	Does the chief executive have limitations in their ability of being re-elected? 1) No limitation at all, either in the absence of any provision to the contrary or with a specific provision allowing for unlimited re-election 2) Limitation on consecutive terms (with no maximum number) 3) Limitation through fixed number (two) of possible terms 4) Limitation through fixed number (two) of possible consecutive terms 5) Absolute ban on re-election 6) Limitation through fixed number (three) of possible consecutive terms 7) Re-election possible after sitting out two consecutive terms 8) Limitation on consecutive terms (with fixed number = 2)	Scartascini et al. (2021).
Opposition Vote	Vote Share of Opposition Parties Records the total vote share of all opposition parties. Because other variables are generated by formulas that reference this cell, a real number must always be reported.	Scartascini et al. (2021).

Table A4 – Summary Statistics

Variable			
Log Diaspora (od, t)			
Mean	4.843488	Min	0
St. Dev.	3.936643	Max	15.11957
Log ODA Total Per Capita (d, t)			
Mean	3.123024	Min	-1.580336
St. Dev.	1.252349	Max	6.439455
Log GDP Per Capita (d, t)			
Mean	8.787491	Min	6.324924
St. Dev.	.9502083	Max	10.7308
Log Distance (od)			
Mean	8.02559	Min	2.349362
St. Dev.	.9999004	Max	9.813853
Common Border (od)			
Mean	.1440245	Min	0
St. Dev.	.3511231	Max	1
Common Religion (od)			
Mean	.2693271	Min	0
St. Dev.	.3146257	Max	.99301
Common Language (od)			
Mean	.3048786	Min	0
St. Dev.	.4603672	Max	1
Conflict (d, t)			
Mean	.2205178	Min	0
St. Dev.	.4146058	Max	1

Notes: Means and standard deviation refer to Column 6 of Table 2.

Table A5 – Destination Countries included in the Baseline Sample

Afghanistan	Djibouti	Lebanon	Somalia
Albania	Dominican Rep.	Liberia	South Africa
Algeria	Ecuador	Libya	Sri Lanka
Angola	Egypt	Maldives	Sudan
Argentina	El Salvador	Mali	Syrian Arab Rep.
Armenia	Equatorial Guinea	Mauritania	Tanzania
Azerbaijan	Eritrea	Mexico	Tajikistan
Bangladesh	Ethiopia	Morocco	Thailand
Belarus	Fiji	Mozambique	Togo
Benin	Gambia	Myanmar	Tunisia
Bhutan	Georgia	Namibia	Turkey
Bolivia	Ghana	Nepal	Turkmenistan
Bosnia and Herzegovina	Guatemala	Nicaragua	Uganda
Brazil	Guinea	Niger	Ukraine
Bulgaria	Guinea-Bissau	Nigeria	Tanzania
Burkina Faso	Haiti	North Macedonia	Uzbekistan
Burundi	Honduras	Pakistan	Venezuela
Cambodia	Hungary	Palestinian	Viet Nam
Cameroon	India	Panama	Yemen
Central African Rep.	Indonesia	Paraguay	Zambia
Chad	Iran (Islamic Rep. of)	Peru	Zimbabwe
Chile	Iraq	Philippines	
China	Israel	Poland	
Colombia	Jamaica	Romania	
Congo	Jordan	Russian Federation	
Costa Rica	Kazakhstan	Rwanda	
Cote d'Ivoire	Kenya	Saudi Arabia	
Croatia	Kuwait	Senegal	
Cuba	Kyrgyzstan	Serbia and Kosovo	
Dem. Rep. of the Congo	Lao People's Dem. Rep.	Sierra Leone	

Notes: The table lists the destination countries (aid recipients) included in the baseline sample (Table 2).

Table A6 – Including South Sudan in a more parsimonious Gravity Model

	(1) PPML refugees	(2) PPML refugees	(3) PPML refugee[s]
Log GDP pc (d,t)	0.844*	1.034**	1.007**
	(1.73)	(2.22)	(2.27)
Log ODA Total (d,t)		0.246**	0.256**
		(2.40)	(2.50)
Conflict (d,t)			-0.128**
			(-2.60)
N	21304	21304	21304
Dyadic Fes	X	X	X
*Origin*Year Fes*	X	X	X

t statistics in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$.

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