Emigration as a Pacifying Force?*

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Abstract

Civil conflicts push a significant number of people out of their home countries, as the recent refugee crisis has shown. But what if emigration itself worked as a pacifying force and, by opening their borders, developed countries could alleviate conflict back home? Using a theory-driven instrumental variable approach and country level panel data of 117 developing countries for the period 1985-2010, I find that emigration to developed countries decreases civil conflict incidence in the countries of origin. The identification strategy relies on comparing conflict likelihood in countries in years after proximate developed countries become more attractive to conflict likelihood in years after these countries are less attractive. In terms of mechanisms at play, I find no evidence for the indirect effect of emigration on civil conflict through remittances. In addition, emigration of men reduces the conflict likelihood, while emigration of women has the opposite effect. Finally, I document that home political regimes do not worsen following emigration, which points to the fact that emigration is rather welfare improving. In terms of policy implications, these findings point that, by opening their borders, developed countries could contribute to saving the lives of the migrants as well as of those left home.

Keywords: Civil Conflict, Emigration, Instrumental Variable, Gravity Equation Model
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1 Introduction

Civil conflicts are dramatic events with lasting negative effects and creating significant forced displacements of individuals. The recent conflicts in the Middle East (Syria, Iraq, Afghanistan) pushed millions of people out of their homes, first to neighboring countries and then mainly towards Europe. This exodus created the largest refugee crisis after the Second World War and put a great pressure on the European Union to manage its asylum policy. As The Economist (2015 a) states the issue, "a refugee crisis is hard to cope with because its very existence is a symptom of warfare, persecution or misrule. [...] You cannot impose peace upon Libya and Syria or wish good government on Eritrea and Somalia". I challenge this statement by asking whether developed countries can boost chances for peace in fragile countries by opening their borders for migrants. In other words, the question this paper addresses is whether emigration itself works as a pacifying force for the countries of origin.

Emigration has a direct effect on conflict incidence through several channels: It induces a depletion in the number of possible rebels as well as a reduction in the pressure on resources and the labor market, which therefore weakens the motives for fighting. A historical example supporting this hypothesis is the large European exodus to the United States which coincided with a decrease in political violence in Europe at the end of the 19th century: emigration diminished the pressure on job opportunities, which previously had motivated the revolutionaries to voice their discontent in 1848[1]. Another example is how the imposed post-colonial borders limited movement and therefore favored conflict in Africa (Herbst, 1990, 2014). Given the poor border enforcement before the colonial era, people were moving at their will to overcome their economic and political grievances. During the colonial era, random borders were imposed which forced people to express their discontent through violent protests rather than emigration. However, this direct channel has not been explored so far by the empirical literature on civil conflicts.

The only channel that has received attention is the indirect one through money sent back home by migrants potentially used to finance the rebel groups. An eloquent example in this sense is the Tamil diaspora in the US, sending money to support the rebellion in Sri Lanka. The most relevant study analyzing the effect of emigration on civil war is that of Collier and Hoeffler (2004) who investigate exactly this channel: they find a positive effect of a country's diaspora in the US on civil war onset. Nevertheless, causal inference cannot be drawn from their identification and they do not separate the direct effect of emigration from the indirect effect of remittances. Finally, money flows sent back home could alleviate economic grievances, increasing the opportunity costs of fighting and therefore making the effect of remittances ambiguous.

In this paper, I show that conflict incidence in developing countries is significantly reduced by emigration to developed countries. The analysis is based on an exhaustive bilateral migration dataset of 117 non-OECD origin countries and 20 OECD destination countries and civil conflict data during 1985-2010. The negative effect of emigration on conflict is quantitatively sizable: The

[1]There is evidence that this European mass migration contributed to the convergence in wages between the two regions. According to Hatton and Williamson (2005), wages raised in Europe by 9% and decreased in the US by 8%.

increase in emigration rate during the period decreased on average conflict incidence by 38%.

The key identification challenges are omitted variable bias and reversal causality. Omitted variable bias is partially solved by controlling for a full battery of fixed effects and time-varying covariates of emigration that could potentially affect conflict: Controlling for remittances, aid, trade and FDI inflows allows to disentangle the different channels which correlate with emigration and which might impact violence at the origin. However, other time-varying omitted variables like forced recruitment into rebel groups cannot be controlled for. In addition, conflict is very likely to drive emigration (e.g. the millions of people escaping from the war-torn Syria), which potentially biases the OLS estimates upwards.

The identification strategy I employ consists in a theory-driven instrumental variable approach which tackles both challenges: I compare conflict incidence in a country in years after proximate developed countries become more attractive to conflict incidence in years after these countries are less attractive. In other words, I instrument emigration with time-varying pull (i.e. destination specific) factors proxying for the attractiveness of host countries (GDP and population proxy for agglomeration effects and immigration restrictions tightness provides a measure for the borders' openness at destination) weighted by the geographical and cultural proximity between origin and destination countries.

Further evidence emphasizes the different mechanisms at play. Firstly, I identify the indirect channel of emigration through remittances inflows, but I find no significant effect of the latter on conflict incidence. Secondly, the effect of emigration depends on the demographic characteristics of those who leave. The additional results document a negative effect of the emigration of men and a positive effect of the emigration of women, which goes in line with the fact that men are more likely to take part in rebellions, while women have an important role for the households' stability. Moreover, emigration of high skilled men has a slightly stronger negative impact than the emigration of less skilled men: If the high skilled are those who coordinate rebellions, then their departure decreases the likelihood of conflict even further.

In order to interpret the welfare implications of these results, I test whether the home political regimes become more autocratic, repressive or corrupt following emigration. I find no evidence in this sense, which leads to the conclusion that, at least on short to medium term, emigration is welfare improving by saving the lives of migrants, but also of those left home. Furthermore, immigrant-friendly policies and attractiveness of geographically and culturally proximate developed countries have the potential of reducing pressure and conflict in developing countries. Therefore, by opening their borders to migrants, Western countries could contribute to the enforcement of peace so "migration policies should be viewed in part as adjuncts to aid programs" (Collier, 2013).

In a nutshell, this paper is novel with respect to various dimensions. It is the first paper, to the best of my knowledge, which investigates the causal effect of emigration on civil conflict. I construct a theory-driven instrument for migration such that the reduced form identifies how the exogenous time variation in the attractiveness of destination countries affects conflict incidence at the origin. Secondly, I disentangle the direct effect of emigration from the indirect effect through

remittances. Thirdly, I examine the heterogeneous effects by gender and skill of migrants. Finally, I analyze the welfare consequences for the countries of origin.

The remainder of the paper is organized as follows. Section 2 reviews the literature. Section 3 presents the data as well as the instrumental variable approach. In section 4, I discuss the main results and the exclusion restriction validity. Section 5 covers the different mechanisms at play and Section 6 provides insights on the welfare consequences of these findings. Finally, Section 7 concludes and discusses the policy implications for destination countries.

2 Related Literature

Regarding the nexus between conflict and emigration, several relevant streams of literature have recently grown. First, there are the empirical studies investigating country-specific determinants of civil conflicts: economic and political grievances, rebellions financing opportunities, conflict-specific capital stocks, geographic and climatic characteristics, ethnic polarization (see Blattman and Miguel (2010) for a complete review of the literature). Moreover, through different mechanisms countries might be trapped in continuous states of violence[2]. External factors might also influence political violence. Nunn and Qian (2014) find that US food aid prolongs existing conflicts in the recipient countries by feeding the rebel groups, but has no effect on the onset of new conflicts[3], while De Ree and Nielsen (2009) show that aid decreases the continuation probability of conflict.

On the other side, conflicts drive people out of their countries: the Arab Spring and the recent conflicts in the Middle East created a significant number of asylum seekers and refugees either in neighboring or in developed countries[4]. What is the impact of these flows of people on conflict incidence? As Gleditsch (2007) and Saleyhan (2007) point out, more than half of all insurgencies since the Second World War have been conducted by rebels operating from outside the target state. The reason is that neighboring states provide safe heavens and even active support such that insurgents can coordinate rebellions from abroad. Steele (2007) argues that the displacement of civilians could be in itself a strategic choice of armed groups.

However, migration has become a significant factor of global welfare improvement[5]. In addition, several recent studies examine how emigration affects home political institutions[6]. Docquier et al. (2013) find an overall positive effect of emigration on the level of democracy in the country

[2]Besley and Reynal-Querol (2014) find evidence on the historical persistence of civil wars. Rohner et al. (2014) propose a theoretical model where current violence harms future trust and trade, thus leading to war perpetuation. Voigtlaender and Voth (2013) explain why Europe, despite being so prosperous, experienced so many wars in the Malthusian Era: war-induced deaths increased land-human capital ratio, wages and therefore tax revenues which consequently financed war.

[3]In the same vein, using a regression discontinuity design in Philippines, Crost et al. (2014) show that aid programs motivate conflicts. However, they infer a different mechanisms: insurgents disrupt aid inflows because, otherwise, the external funds would weaken the civilians' support for rebellions.

[4]Hatton (2012) reviews the asylum literature and explains asylum seekers flows to OECD countries.

[5]For a review of this literature, see Clemens (2011), Hanson (2010) and Freeman (2006).

[6]For a review of this literature, see Collier (2013), Kapur (2014) and Moses (2013).

of departure[7]. Moreover, Spilimbergo (2009) finds that students trained in democratic countries exert pressure for democracy back home, while Mercier (2013) shows that the quality of leadership benefits if a future leader gained his education in a high income democracy. On the other hand, Wright (2010) argues that if citizens have attractive exit alternatives, an economic crisis causes them to exit rather than protest, making democratization less likely in authoritarian regimes.

Several recent papers make use of individual level data to show how emigrants can change political preferences especially through the so-called "social remittances" or cultural transmission. Mahmoud et al. (2015) find evidence that in Moldavian communities from where people emigrated to the West rather than to the East, voters supported the anti-Communist party. In another vein, Sellars (2014) points out that the return of migrants, but not their departure favors political change. Using the Great Depression as an exogenous shock reducing emigration from Mexico to the US, she shows that the return of emigrants from the US increased political pressure on the Mexican government to implement land reforms.

The incumbent government might affect emigration availability by either closing the borders (i.e. the Berlin Wall, North Korea) or favoring emigration. Political regimes could try to enforce their citizens' stay: if they leave, they are no longer under the control of the government so they can easily coordinate against the regime[8]. On the other hand, it might be in the interest of the regime to allow dissidents to leave or even expel trouble-makers and thus release political pressure[9]. Lenin was exiled by the Tsarist regime in Switzerland, from where he initiated the group which led the 1917 Revolution. In 1922, Lenin itself kicked out his possible opponents.

Emigration affects home countries directly through the departure of citizens, but also indirectly through remittances. Yang (2011) makes a review of the studies investigating what motivates migrants to send money back home and how remittances affect the economy. Ahmed (2012) shows that both remittances and foreign aid can be channeled by autocratic regimes to finance patronage and therefore increase autocratic survival. On the other hand, Escriba-Folch et al. (2013) find evidence for remittances increasing the likelihood of democratization and reducing the electoral support for incumbents in party-based dictatorships.

Democracy concerns the institutional rules, while conflict is about fighting for power and limited resources. Moreover, the institutional framework favors or hampers conflict: in autocracies people are under repression so they cannot organize rebellions, while in democracies free speech eases rebellions. In the current paper, I focus on civil conflict as a proxy of voice or collective action, controlling for democracy as the institutional framework governing a country.

A relevant theory for the link between emigration and conflict is the one of "exit, voice and

[7]Beine and Sekkat (2013) confirm these findings for different measures of institutional quality, except from voice and accountability which are negatively affected.

[8]McKenzie (2007) finds that high passport costs proxying for barriers to exit are associated with poor governance and low migration. Miller and Peters (2014) show that the prospect of emigration to democratic countries pushes governments to enforce emigration restrictions, while Aleman and Woods (2014) find evidence that the authoritarian regimes that restrict emigration are more stable than those that do not.

[9]For example the British government "exported" a large number the 1830/31 Swing rioters to Australia. Using this historical example, Aidt and Franck (2015) document the positive effect of revolution threat induced by the Swing riots violence on votes supporting pro-reform politicians.

loyalty" pioneered by Hirschman (1970). It states that, in an organization, the exit of members decreases the voice or the demand for change. If emigration stands for exit and rebellion stands for voice then emigration is expected to decrease chances for conflict. In a more recent theoretical model, Mariani, Mercier and Verdier (2014) framework conflict as the fight between elites and opposition, where the social planner of each group decides between peace or conflict and an exogenous fraction of the opposition emigrates. If the opposition social planner cares only about residents, then migration makes opposition more prone to peace and the elites more prone to conflict, given that emigration reduces the opposition.

The most relevant empirical study[10] analyzing the nexus between emigration and civil war is Collier and Hoeffler (2004). They find a positive effect of diasporas in the US on civil war onset in the home countries due to the fact that emigrants preserve their own hatreds which motivates them to finance rebellions from abroad. Nevertheless, causal inference cannot be drawn from their identification due to endogeneity issues. Moreover, they consider only migration to the US and cannot separate the direct effect of emigration from the indirect effect of the diaspora financing conflicts[11]. A second close reference is Docquier et al. (2013) who find an overall positive impact of emigration to OECD countries on democracy. They construct an instrument for emigration based on distance and its interactions with year dummies, as well as language similarities, guest worker programs and population of the country of origin[12].

To my knowledge, the current paper is the first one which analyzes the causal effect of emigration on conflict. In comparison with Collier and Hoeffler (2004), I address the endogeneity issues through an instrumental variable approach, while controlling for the appropriate battery of fixed effects and covariates. The main point of the identification strategy consists in explaining the causal effect of emigration on conflict through the variation in external factors which impact migration, but not conflict[13]. Moreover, I disentangle the direct channel from the indirect channel through remittances and analyze the heterogeneous effects by gender and skill of migrants. Finally, I investigate the welfare implications in the origin countries.

[10]Ware (2005) shows that emigration acts as a safety valve for discontent in the Pacific regions: emigration from and remittances to Polynesia decrease tensions, while low mobility outside Melanesia is associated with violence and coups. Using group and country level data on minorities at risk between 1990-1999, Okamoto and Wilkes (2008) document that, when threats arise, minorities are more likely to engage in both rebellion and emigration than only rebellion.

[11]In a more recent paper, Lei Miller and Hencken Ritter (2013) investigate the relationship between emigration and home conflict only by decades for 1981-2008. They find evidence for three hypotheses: relative deprivation between origin and destination increases conflict at the origin; remittances, used to finance rebellions, also have positive effect; and the access to international non-governmental organizations through migration creates pressure for peace and negatively affects conflict. Nevertheless, endogeneity again biases these estimates.

[12]Another related study is Docquier et al. (2014) who find a positive effect of bilateral people flows on the probability that origin and destination countries fight one against each other. Here, I will focus on civil conflict incidence in the country of origin and the effect of emigration on this kind of events.

[13]Among other studies, McKenzie et al (2014) use this approach to find that positive GDP shocks in destination countries increase the number of migrants, but not of wages the migrants are paid. As part of the conflict literature, similar strategies have been employed to explain the effect of economic factors on conflict through external shocks (Berman and Couttenier, 2015, Dube and Vargas, 2013) and the impact of financial aid on conflict through donor countries' characteristics (Nunn and Qian, 2014, and De Ree and Nielsen, 2009).

3 Data and Identification Strategy

3.1 Data and Descriptive Statistics

Emigration Data. The principal explanatory variable is the emigration rate defined as the total number of emigrants from a certain origin country divided by the total population in that country. I construct this variable based on Bruecker et al. (2013) database, which consists of bilateral stocks of migrants aged at least 25 years old from all origin countries to 20 OECD countries by 5-year intervals for the period 1980-2010[14]. The country of origin is defined as the country of birth. Moreover, this data also offers the stock of migrants by skill[15] and gender, which allows for exploring the migrants' characteristics. As mentioned by the authors, this migration database includes foreign-born permanent residents and temporary migrants who have residence permits. Therefore, recognized refugees are more likely to be part of the database than asylum seekers applying for refugee status. Moreover, international students are included if the host country provided them residence permits.

I focus on migration from non-OECD to OECD countries as this study aims to contribute to the debate on how developed countries can push the enforcement of peace in fragile countries[16]. Furthermore, analyzing this uni-directional migration has policy implications on whether developed countries should impose immigration restrictions on individuals from less developed countries. Moreover, restricting the set of origin countries only to the developing ones reduces the risk of a feedback effect, namely that war at origin could be affected by war at destination.

The whole set of non-OECD origin countries consists of 176 countries. After controlling for the available covariates, the baseline sample consists in 117 origin countries and 20 destination countries, which are enumerated in Appendix B, over the period 1985-2010. In comparison with other bilateral migration databases, the one employed in this analysis allows for the largest time span so the largest number of observations per country, the smallest aggregation bias (only 5-year intervals, but not 10-year intervals like in Ozden et al, 2011), as well as for exploiting the gender and skill dimensions of migrants.

Civil Conflict Data. The main variable proxying for civil conflict incidence is based on the UCDP/PRIO (2013) internal conflict incidence, which is the most complete and widely used panel data on civil conflicts. Civil conflict is defined as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least

[14] As described in Bruecker et al (2013, p. 4-5), they obtain the 5-year intervals emigration data through an imputation method given that the majority of destination countries perform their censuses each 10 years, except from Australia, Canada and New Zealand, which perform their censuses each 5 years and for which the emigration rate variable relies on the original censuses.

[15] Low skilled corresponds to no schooling, primary and secondary school, medium-skilled requires a high-school certificate, while high skilled implies a university degree.

[16] According to the OECD International Migration Outlook (OECD, 2015), migration to OECD countries in 2013 raised to 117 million migrants, i.e. a half of total world migration which is estimated to around 3.2 % of global population. Moreover, South-North migration (roughly equivalent to migration from developing to developed countries) raised to about 35% of total migrant population in 2013 and contributed the most to the global migration rate in the last decades.

one is the government of a state, results in at least 25 battle-related deaths". To be able to match this conflict data with the emigration data (available by five years intervals), I define the main dependent variable as follows: it takes the value of f 1 if there was any conflict in the 5-year interval and 0 if there was no conflict in that same interval.

Covariates Data. I also account for several time-varying covariates: population and GDP per capita, democracy (Polity IV - Marshall et al., 2013), repression (Political Terror Scale measured by Amnesty International - Gibney et al., 2013), emigration restrictions (Cingarelli, Richards and Clay, 2014). Moreover, alternative globalization channels through which developed countries could impact conflict at home are controlled for: remittances, financial aid, trade and FDIs. Additional countries of origin characteristics are used to analyze the different heterogeneous effects. All covariates are obtained by averaging by 5-year periods such that they can be matched with the conflict and emigration database. Definitions and sources of the data are described in Appendix A.

Table 1: Descriptive Statistics - Baseline Sample

Variable	**Mean**	**StDev Overall**	**StDev Within**	**Min.**	**Max.**
Civil Conflict ($\geq$25 deaths), max 5-years	0.268	0.444	0.260	0	1
L.Emigration Rate	0.019	0.034	0.008	0.000	0.290
- men	0.009	0.016	0.004	0.000	0.129
- women	0.009	0.018	0.004	0.000	0.167
- high skilled (HS)	0.006	0.012	0.003	0.000	0.119
- med skilled (MS)	0.005	0.010	0.003	0.000	0.095
- low skilled (LS)	0.008	0.016	0.003	0.000	0.186
- MS +LS men	0.006	0.012	0.003	0.000	0.115
- HS men	0.003	0.006	0.001	0.000	0.045

Note: The baseline sample consists of 117 countries. War variables are defined as 1 if any war within each 5-years period. Emigration rates are obtained by dividing the number of emigrants (total, by skill or by gender) by total population in the country of origin.

Descriptive Statistics. The summary statistics for the baseline sample are reported in Table 1. Civil conflict (leading to at least 25 battle-related deaths) occurs in 26.8% of the country-period cells[17]. The average emigration rate is 1.9% in the baseline sample, comparable to the world migration rate of 3%. Men and women are equally represented in the sample migrant population. In terms of skill, the low skilled emigration rate is slightly higher than for high and medium skilled. If we separate men into potential fighters (low and medium skilled) and leaders (high-skilled), then the former are two times more likely to emigrate than the latter (without considering the skill composition at origin).

[17]This average is comparable to other studies analyzing civil conflict in non-OECD countries. For example, Nunn and Qian (2014) use a sample of 125 developing countries over the period 1970-2006 for which the average civil conflict probability is 22%.

3.2 Identification Strategy

Now, we go back to the research question on how emigration affects civil conflict incidence. Figure 1 in Appendix C shows the unconditional cross-country correlation between lagged emigration and conflict. As the figure shows, the correlation between emigration and conflict is negative and significant. However, unobserved covariates of emigration and conflict might bias this effect. Therefore, relying on panel data to be able to account for country-specific fixed effects and controlling for time-varying covariates is a more appropriate approach.

3.2.1 Within Estimation

The panel structure of the data makes possible the within country estimation of the effect of lagged emigration rate on conflict incidence. Therefore the regression model takes the form:

$$\text{CONFLICT}_{irt} = \alpha_0 + \beta \text{EMIGRATION}_{irt-1} + \mathbf{X'_{irt-1}}\delta + \alpha_{ir} + \alpha_t + \alpha_{rt} + v_{irt} \quad (1)$$

CONFLICT_{irt} takes the value of 1 at period t if any conflict occurred in the last 5 years in country i situated in region r, which led to more than 25 battle-related deaths. $\text{EMIGRATION}_{irt} = \frac{\sum_{j \in OECD} \text{EMIGRANTS}_{irjt}}{\text{POPULATION}_{irt}}$ is the emigration rate in country i located in region r at period t. The time dimension t consists thus in 5-year intervals: emigration in a given year is assumed to affect conflict incidence after 1 year and up to 5 years. This time format is due to the availability of migration data, but it also allows to filter out the spurious effects of political and business cycles. A sudden increase in nationalist sentiments or an economic bust could drive both emigration and conflict, but in 5 years' time, they should have less of an impact.

I additionally control for a whole battery of fixed effects. Country of origin fixed effect α_{ir} captures time-invariant country-specific geographic characteristics (landlockedness, area, climate) as well as legal origin or ethnic fractionalization potentially affecting migration, but also correlating with violence. Secondly, there could be a spurious correlation between the global decrease in violence documented by Pinker (2011) and the increase in migration due to globalization. Therefore, α_t controls for confounding global shocks. Thirdly, emigration opportunities are similar within regions and conflict events are clustered within regions as shown by Gleditsch (2007). In order to account for this co-variation within regions, α_{rt} controls for region-specific time trends[18]. Finally, error terms are clustered at the country level in all regression specifications.

In addition, $\mathbf{X_{it-1}}$ is the vector of time-varying covariates (averaged by 5-year periods), which have been documented by the conflict literature and could correlate with emigration. Firstly, country-level characteristics like population[19], the level of poverty (GDP/capita), democracy (Polity

[18]The seven regions which are considered are: East Asia and Pacific, Europe and Central Asia, Middle East and Northern Africa, South Asia, Western Europe, North America, Sub Saharan Africa and Latin America and the Caribbean.

[19]Fearon and Laitin (2003) find a positive correlation between conflict and the population level, since in large population countries, rebels could easily hide from repression

IV)[20], repression (Political Terror Scale measured by Amnesty International) and emigration restrictions (Cingarelli, Richards and Clay, 2014) are accounted for, since they could affect both emigration opportunities and motives for conflict. For example, a poor country with an autocratic regime and closed borders might be more likely to experience conflict and a low emigration rate. In a second step, multilateral openness could correlate with both emigration and conflict: foreign aid inflows[21], trade[22], FDI inflows and remittances inflows could both finance or reduce incentives for rebellion. Moreover, this last set of controls allows for disentangling the different channels through which emigration impacts home conflict. This issue will be discussed in detail in Section 5.4.

3.2.2 Instrumental Variable Estimation

The within estimation described above is unbiased and consistent if $E(\text{EMIGRATION}_{irt-1}, v_{irt}) = 0$. However, this condition might not be fulfilled under certain conditions: omitted variable bias, reverse causality or attenuation bias. Firstly, despite the full battery of fixed effects described above, one can still think of some other time-varying covariates of emigration and conflict we cannot control for. For example, in certain countries, rebel groups might forbid fighters to leave (like, for instance, in Eritrea where desertion is denied) which might potentially increase the probability of future conflict, biasing the β coefficient upwards. Omitted variable bias due to unobserved heterogeneity could, therefore, be an issue.

Secondly, emigration itself might be affected by violence. Reverse causality is partially tackled by lagging emigration. Moreover, by restricting the set of origin countries such that they differ from the set of destination countries, the risk of transmission of conflict from home to host countries and vice versa is mitigated. Nevertheless, anticipated violence could still induce emigration. More precisely, expected future conflict increases emigration today so the OLS estimates suffer from an upward bias.

Finally, the attenuation bias which is driven by the risk that war prone countries report less migration is minimized since the data relies on OECD sources. Nevertheless, illegal migration could be more likely from countries hit by conflict. This measurement bias is partially solved by lagging emigration and controlling for the country-specific fixed effects. In spite of this, within country of origin variation in illegal migration might still be an issue.

The instrumental variables estimation technique addresses all these potential sources of bias. The first and second stage equations take the following form:

$$\text{EMIGRATION}_{irt-1} = \alpha_1 + \beta_1 \text{PULL}_{irt-1} + \mathbf{X'_{irt-1}}\delta_1 + \alpha_{ir} + \alpha_t + \alpha_{rt} + u_{irt-1} \quad (2)$$

$$\text{CONFLICT}_{irt} = \alpha_2 + \beta_2 \text{EMIGRATION}_{irt-1} + \mathbf{X'_{irt-1}}\delta_2 + \alpha_{ir} + \alpha_t + \alpha_{rt} + v_{irt} \quad (3)$$

[20]Collier and Rohner (2008) find evidence that in poor countries, which are dependent on natural resources, democracy eases conflict, while in rich countries, it has the opposite effect.

[21]As pointed by Nunn and Qian (2014), foreign aid finances rebel groups having a positive impact on conflict.

[22]Martin et al. (2008) point to the fact that trade may act as a deterrent if trade gains are put at risk during civil wars (high intensity civil wars), but also as an insurance if international trade provides a substitute to internal trade during civil wars (low intensity conflicts).

where PULL_{irt} is the gravity-generated instrument I construct in a way I describe in detail below. The intuition behind the instrument is that it addresses endogeneity by focusing on the component of emigration that is due to the destination countries' specific factors weighted by the proximity between origin and destination. Therefore, within country variation in conflict is driven by within country variation in lagged emigration due to variation in the relative attractiveness of potential host countries for migrants.

The entire identification strategy consists in a three stage approach. Firstly, I build a theoretical-based gravity model to predict time-varying bilateral migration and use the predictions of this model to generate the instrument PULL_{irt}. In a second step, the first and second stages are estimated as described above using this instrument. The main idea on which the instrument is constructed is using time variation in destination specific factors weighted by proximity between destination and origin to explain time variation in emigration.

The specific identification I rely on is inspired from similar strategies which were employed by Frankel and Romer (1999) and Ortega and Peri (2014) for instrumenting time-invariant cross-country trade. Nevertheless, I exploit time variation in destination characteristics in a similar way to Freyer (2009) who instruments trade to explain its impact on income; Montalvo and Reynal Querol (2007) who instrument refugees inflows to explain malaria incidence at destination; or Alesina, Harnoss and Rapoport (2014) who instrument immigration to estimate its effect on economic prosperity. The identification I rely on resembles the most with the one used by Felbermayr and Groeschl (2013) who instrument trade by natural disasters in trading partner countries to identify the effect of trade on income at home.

For the estimator $\hat{\beta}_2$ to be consistent, $E(\text{PULL}_{it-1}\text{EMIGRATION}_{it-1}) \neq 0$ and $E(\text{PULL}_{it-1}u_{it}) = 0$. The validity of the instrument stands thus in how strong it correlates with emigration rate, while respecting the exclusion restriction. Regarding this last point, the key assumption is that, plausibly, incentives for fighting are correlated with PULL_{irt} only through motives for emigration. To rule out other channels through which PULL_{irt} could affect conflict at home, $\mathbf{X_{irt-1}}$ controls for these alternative channels (remittances, aid, FDI inflows and trade). Moreover, I perform a falsification test to challenge the exclusion restriction.

Constructing the Instrument Pull. Now, I present in detail the gravity model based on which I construct the instrument. The bilateral migration rate is estimated through an empirical gravity model regression, similar to the literature pioneered by Mayda (2010):

$$\ln(\text{EMIGRATION}_{ijt}) = \alpha_0 + \alpha_1 \mathbf{\Omega_{jt}} + \alpha_2 \mathbf{\Omega_{jt}} \times \mathbf{Proximity_{ij}} + \alpha_3 \mathbf{Proximity_{ij}} + \lambda_\mathbf{i} + \lambda_\mathbf{j} + \lambda_\mathbf{t} + \epsilon_{ijt} \quad (4)$$

where $\mathbf{\Omega_{jt}} = \{\text{GDP/CAP}_{jt}, \text{POP}_{jt}, \text{RESTRICT}_{jt}\}$ is the vector of time-varying destination specific factors and $\mathbf{Proximity_{ij}} = \{-\ln(\text{DISTANCE}_{ij}), \text{BORDER}_{ij}, \text{LANGUAGE}_{ij}, \text{COLONY}_{ij}\}$ is the vector of proximity between destination and origin under different aspects: geographic proximity, whether these countries share a border, linguistic proximity and whether they share colonial ties. Finally, λ_i, λ_j and λ_t control for origin, destination and period fixed effects.

Time-variation is thus driven by $\mathbf{\Omega_{jt}}$ which consists first of GDP/CAP_{jt} and POP_{jt} proxying for the attractiveness of destination country j in period t. The other component is RESTRICT_{jt} defined as the tightness of immigration restrictions (referring to entry and stay of immigrants as well as asylum seekers) imposed by country j in period t. This last set of measures are based on Ortega and Peri (2013) immigration restrictions database obtained out of immigration laws[23]. Definitions and sources of these data are reported in Appendix A.

This bilateral regression is not meant to estimate the determinants of bilateral migration, but to use its predictions to describe the correlation between emigration and time-varying destination factors weighted by proximity and use this variation to generate exogenous predictions for emigration. The purpose is thus is to construct a strong instrument that doesn't correlate with the error term in the second stage. So, in the gravity equation I can control for variables at origin that are strictly exogenous or that I can control for in the first and second stage like λ_i and λ_t as well as time-invariant destination specific factors λ_j[24].

This instrumental variable approach consists in using the time variation in destination specific factors weighted by proximity between origin and destination to explain the time variation in emigration in a way that is exogenous to conflict. With the same objective in mind, Docquier et al (2013), inspired from Feyrer (2009), propose using the interaction between period fixed effects and distance arguing that improvements in airplane transportation push up migration, these shocks being exogenous to the country of origin, but different across country pairs. However, period fixed effects can stand for other factors, making the exclusion restriction discussion more problematic. Therefore, I choose to exploit a more specific exogenous time-variation in emigration, namely the relative attractiveness of destination specific factors.

The gravity regression described in equation (4) is estimated through the Pseudo-Poisson Maximum Likelihood (PPML) method developed by Santos-Silva and Tenreyro (2006). The main advantage of this method is that it allows to control for a large set of fixed effects, it bounds the dependent variable above 0 and it accounts for the bias arising from log-transformation. Moreover, the PPML estimation makes it possible to keep the zero emigration cells and thus to reduce out-of-sample predictions. Furthermore, the error terms are clustered at the dyad origin-destination level. The gravity regressions results are presented in Table 10 in Appendix D.

After the bilateral emigration rate is estimated using the gravity-based model, the predictions are summed up across destinations to obtain the generated instrument PULL_{it}:

$$\text{PULL}_{it} = \sum_j \hat{\text{EMIG}}_{ijt} = e^{\lambda_\mathbf{i}+\lambda_\mathbf{t}} \sum_j e^{\lambda_\mathbf{j}} e^{\hat{\alpha}_0+\hat{\alpha}_1\mathbf{\Omega_{jt}}+\hat{\alpha}_2\mathbf{\Omega_{jt}}\times\mathbf{P_{ij}}+\hat{\alpha}_3\mathbf{P_{ij}}} \tag{5}$$

[23] According to Ortega and Peri (2013), even if tightness is narrowly defined, it allows for a precise measure closely related to immigration flows. For example, immigration entry tightening happens if the number of quotas for entry is reduced, the requirements, fees or documents for entry become stricter or the waiting time for obtaining residence or working permits gets longer.

[24] If the purpose would have been to correctly estimate bilateral migration, then I would need to control for origin time trends and destination time trends to capture multilateral resistance as in bilateral migration estimations. However, for the present scope, doing this might contaminate the so-generated instrument with information on conflict in the country of origin.

The sum over destination countries in equation (5) consists of two parts. The first part includes the origin and period fixed effects which is controlled for in the first and second stage. The second part is a weighted average of the pull factors, proximity vector and pull factors interacted with proximity. The weights consist of the destination dummies and the estimated coefficients from the gravity equation, and are equal across origin countries. Any exogenous weights could have been used, but using weights generated from a gravity equation increases the strength of the instrument. Alternatively, λ_{ij} could nest for country dummies and control for time-invariant multilateral resistance, excluding thus the proximity vector. The estimation results of the gravity regression using this last strategy is explored as a robustness check in Section 4.5.

The instrument employed in the two-stage estimation is thus generated from the gravity model described in equation (5), i.e. $\text{PULL} = g(\hat{\alpha}, W)$. Following Wooldridge (2002), under the condition that the second stage error term isn't correlated with the terms based on which the instrument is constructed (i.e. $E(u|W) = 0$), the IV standard errors are asymptotically valid [25]. Additional correction would be needed if a regressor, but not the instrument, was generated.

All in all, the gravity model described above allows to generate a strong enough instrument. Several alternatives for constructing the instrument are described in section 4.5. The identification assumption is that, conditional on the first and second stage controls, PULL has no effect on conflict other than through emigration. Therefore, the identification in the second stage comes from the component of the excluded instrument that is uncorrelated with the other covariates.

4 Baseline Estimation Results

Now let us have a look at the baseline results. Firstly, I examine the Logit and OLS estimates. Secondly, I interpret the IV estimation results, discussing the first and second stage as well as the reduced form results. Thirdly, I challenge the exclusion restriction validity by performing several falsification tests. Finally, I run different robustness checks which support the baseline results.

4.1 Logit and OLS Estimates

As the dependent variable is binary, I firstly estimate the regression equation (1) through a Logit model. However, given the need to account for the full battery of fixed effects described above, Logit estimation would keep only those countries for which there is variation in conflict. Therefore, the Linear Probability Model would be more convenient, while still remaining a reliable approximation method for estimating the probability of conflict (Wooldridge, 2002).

Table 2 displays the Logit and Linear Probability Model results. All specifications indicate a negative correlation between emigration and future conflict incidence. These results give a first hint to the fact that the departure of possible rebels and the associated reduction in the pressure

[25] Additional conditions for inference purposes can be easily tested. The functional form g(.) given by the PPML is confirmed by the Ramsey Regression Equation Specification Error Test. In addition, $\hat{\alpha}$ is $\sqrt{N}$ consistent and $E(\nabla_{\alpha} g(\alpha W)u) = 0$.

on resources lowers the probability of conflict[26].

Controlling for the level of democracy takes into account that emigration could affect the probability of civil conflict through the impact it has on institutional arrangements[27]. In addition, accounting for remittances reduces the confounding effect of the diaspora's money financing rebellion or reducing poverty; including aid inflows alleviates the channel through which diaspora lobbies for peace-favoring financial support from developed countries; and controlling for trade and FDI inflows removes other confounding openness channels. Accounting for all these covariates severely reduces the coefficient of lagged emigration, which points to the fact that omitting them would have biased the estimates.

Table 2: Logit and Linear Probability Model Results

	(1) LOGIT	(2) LOGIT	(3) LOGIT	(4) LPM	(5) LPM	(6) LPM
	Dependent Variable: Conflict					
L.Emigration Rate	-2.253**	-3.246	-49.66**	-0.861***	-0.411**	-4.285**
	(1.005)	(3.184)	(19.529)	(0.226)	(0.178)	(1.980)
Pseudo R^2	0.0539	0.20004	0.4022			
R^2				0.0346	0.582	0.701
N	1051	396	140	1051	1051	425
Period FE	yes	yes	yes	yes	yes	yes
Country FE	no	yes	yes	no	yes	yes
Region Time Trends	no	no	yes	no	no	yes
Time-varying Covariates	no	no	yes	no	no	yes

Note: Average marginal effects are reported for the logit estimation. All time-variant controls are averaged by 5-years interval. Robust standard errors are clustered at country level. *** p<0.01, ** p<0.05,* p<0.1.

4.2 First Stage and Reduced Form Estimates

In choosing the benchmark specification, there are two important elements to consider: a strong enough instrument and a significant reduced form coefficient. Firstly, the relevance of the instrument stands in the excluded instrument being strongly correlated with the endogenous regressor after controlling for the included instruments. Otherwise, if the instrument is weak (Kleipenberg-Paap F-test statistics is lower than the conventional threshold of 10), then the IV estimation performs even worse than the OLS estimation. Secondly, a significant reduced form coefficient supports the idea that the identification in the second stage comes from the component of the excluded instrument that is uncorrelated with the other covariates.

Panels B and C in Table 3 present the first stage and reduced form coefficients under the different alternatives of constructing the instrument. The simplest form is when the instrument is generated based on the immigration restrictions vector (entry, stay and asylum) and geographical

[26]The pacification effect of emigration might also work through return migration, as migrants could come back with different social norms. Nevertheless, I assume that the change in social norms takes time and thus it cannot drive the short term negative effect.

[27]Docquier et al (2013) show that emigration improves the level of democracy in the countries of departure.

distance or the whole proximity vector as these factors directly impact the cost of migration. The KP F-statistic reveals a strong enough instrument in the first case (column (2)), but not in the second case (column (3)). Moreover, the reduced form coefficient is negative, but not significant. One could argue that GDP per capita and population are important pull factors, accounting for agglomeration effects so attractiveness of the destination. Adding them in the set of destination specific factors Ω_{jt} considerably improves both the first stage (KP F-statistic of 12.11) and reduced form results. Column (5) is thus the benchmark result.

4.3 Second Stage Estimates

Now, let us compare the OLS and the 2SLS estimators in Panel A of Table 3. Both coefficients are negative and significant at 5%. When comparing the benchmark 2SLS coefficient in column (5) of -10.80 with the OLS coefficient in column (1) of -4.29, the former is much smaller than the latter. In other words, the assumed upward bias in the OLS estimates, especially due to emigration being affected by expected conflict, is legitimate. In all the robustness check estimations discussed in Section 4.5, the 2SLS coefficient is always larger than the OLS coefficient. Is this effect quantitatively important? One standard deviation increase in past emigration rate leads to a decrease in the probability of civil conflict from its mean of 26.8% to 18.3%. This is equivalent to about a third of the standard deviation in conflict incidence, which is a 2.5 times larger effect than the OLS coefficient suggested.

Another way of interpreting this result is to quantify the exact contribution of the historical increase in emigration between 1985-2005 on the decline of conflict incidence between 1985-2010. During the period, the average emigration rate to OECD countries for the whole sample of origin countries more than doubled from 1.3% in 1985 to 2.8% in 2005. On the other hand, the incidence of civil conflict decreased on average from 36.5% in 1990 to 17.9% in 2010. Through a counter-factual thought experiment, I estimate the difference between the predicted probability of conflict in 2010 assuming emigration rate takes the value it had in 1985 and the actual predicted probability of conflict in 2010. The in-sample predicted decrease in conflict during the period is of about 12 percentage points, from 31.6% to 19.3%. This effect translates into a 38% decrease in conflict incidence due to the increase in emigration during the period [28]. An alternative quantification exercise relies on assuming that all countries close their frontiers (i.e. set all emigration rates at zero) and compare conflict incidence with and without migration for the whole sample. Following this counter-factual exercise, emigration decreases the average conflict by 20 percentage points from 47.2% if no migration is assumed to 26.8% with actual migration so a 43% decrease[29].

[28] The out-of-sample predicted decrease in conflict is of about 14% percentage points (from 32.1% to 17.9%)

[29] Graphs 3 and 4 in Appendix C present the effects of these two quantification exercises on a set of Sub-Saharan African countries.

Table 3: Baseline Instrumental Variables Regression Estimates

	(1) OLS	(2) IV	(3) IV	(4) IV	(5) IV
Generated IV based on and interactions with:		Restrict Distance	Restrict Proximity	Restrict & Attract Distance	Restrict & Attract Proximity
PANEL A		**SECOND STAGE:** Conflict			
L.Emigration Rate	-4.285**	-8.005*	-8.629*	-8.369*	-10.80**
	(1.980)	(4.443)	(4.467)	(4.377)	(4.827)
R^2	0.701	0.698	0.697	0.698	0.693
N	425	425	425	425	425
PANEL B		**FIRST STAGE:** L.Emigration Rate			
L.Pull		1.039***	0.636**	0.897***	0.741***
		(0.286)	(0.282)	(0.272)	(0.213)
R^2		0.981	0.976	0.980	0.978
KP F-stat		13.16	5.071	10.88	12.11
PANEL C		**REDUCED FORM:** Conflict			
L.Pull		-8.318	-5.484	-7.506	-8.009**
		(5.516)	(4.237)	(5.004)	(3.706)
R^2		0.701	0.700	0.701	0.703

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. All generated instruments are based on regressions including origin, destination and year fixed effects. Robust standard errors are clustered at country level. *** p<0.01, ** p<0.05,* p<0.1.

4.4 Exclusion Restriction

The identification strategy relies on the fact that the variation in destination specific factors affects civil conflict in origin countries only through emigration. For the exclusion restriction to be violated, destination specific factors weighted by proximity should affect conflict through other channels than migration. In order to alleviate this concern, alternative channels are controlled for in the two stages: remittances, aid, trade and FDI inflows. Moreover, period fixed effects sort out confounding global shocks potentially affecting variation in both pull factors and conflict. In addition, geographical or language proximity might correlate with absolute geography and culture which could impact both conflict and migration incentives, but these time invariant factors are absorbed by origin fixed effects. Moreover, pull factors interacted with proximity are similar within a region, while conflicts, as we have seen, are clustered within a region. Controlling for region specific time trends accounts for the possible bias arising from the correlation between conflict propensity and the dependence of emigration prospects on destination specific factors.

As a consistency check, I perform a falsification test by constructing two placebo sub-samples. One subsample is restricted to open borders (no emigration restrictions) so the link through emigration remains active. In the other subsample, only country-period cells with closed or semi-closed borders[30] are kept such that the link through emigration is shut down. As results in Table 4 show, the reduced form coefficients are negative and significant only for the open borders subsample (Panel A), while in the case of the closed and semi-closed borders (Panel B), the coefficient is non-

[30]The variable measuring emigration restrictions relies on Cingarelli, Richards and Clay (2014). The exact definition of the variable is described in Appendix A.

significant. This falsification test points to the fact that the instrument affects violence at origin only through emigration.

Table 4: Exclusion Restriction: Falsification Test

Generated IV based on and interactions with:	(1) Restrict Distance	(2) Restrict Proximity	(3) Restrict & Attract Distance	(4) Restrict & Attract Proximity
PANEL A	**OPEN BORDERS (Emigration Restrictions=0)**			
	REDUCED FORM: Conflict			
L.Pull	-14.74***	-8.055*	-13.25***	-11.37***
	(4.997)	(4.472)	(4.494)	(3.804)
R^2	0.711	0.701	0.711	0.715
N	173	173	173	173
PANEL B	**CLOSED BORDERS (Emigration Restrictions=1 or 2)**			
	REDUCED FORM: Conflict			
L.Pull	-0.741	1.335	0.267	0.339
	(12.451)	(9.237)	(10.306)	(13.891)
R^2	0.77	0.77	0.77	0.77
N	252	252	252	252

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

Another threat to the exclusion restriction could be that destination factors are affected by conflict at origin. However, the time variation in the instrumental variable Pull comes from the time variation in pull factors common to all countries of origin. Therefore, given the large number of countries of origin, demographic and business cycles as well as immigration policies at destination are unlikely to be affected by the probability of conflict in a specific home country. Moreover, emigration and the gravity-generated instrumental variable Pull are lagged and the past destination factors are even less likely to be determined by current conflict. In addition, when I control for lagged conflict in column (1) of Table 13, the benchmark estimates stay robust as discussed in section 4.5.

In spite of this, conflicts are persistent events so host countries characteristics might be influenced by current and future conflicts. For example, immigration restrictions might reflect how humanitarian or left-wing host countries policies are, but also the support for regimes in the countries of origin, which might consequently affect the probability of conflict. For example, Italy made an agreement with Libya's Colonnel Muammar Gaddafi to shut off migration routes for a time. As a robustness check, I firstly consider the instrumental variable Pull based only on GDP/cap since, among the destination factors used to construct the instrument, GDP/cap is the least likely to be affected by home conflict. As presented in section 4.5, when I make use of this alternative instrumental variable in column (1) of table 10, first stage remains valid and the coefficient of the second stage stays negative and significant.

For an additional test, I control in the first and second stage for the similarity in political interests between origin and destination countries given by the Affinity of Nations Index constructed

by Gartzke (2010) [31], weighted by proximity and summed over destination countries. Table 5 shows the second stage results after controlling for the Affinity Index interacted either with the geographical distance or with the whole proximity vector. In all cases, the coefficient on lagged emigration rate remains negative, significant and slightly lower than the benchmark coefficient. This points to the fact that common political interests between host and home governments are unlikely to bias the results.

Table 5: Exclusion Restriction: Controlling for Origin-Destination Political Affinities

	(1) Benchmark	(2) Affinity(2)	(3) Affinity(3)
	SECOND STAGE: Conflict		
L.Emigration Rate	-10.80**	-12.01**	-11.90**
	(4.827)	(4.886)	(4.794)
$\sum_j Affinity_{ijt} \times -ln(Distance_{ij})$		-0.00291	-0.00296
		(0.003)	(0.003)
$\sum_j Affinity_{ijt} \times Colony_{ij}$		-0.280*	-0.258
		(0.154)	(0.189)
$\sum_j Affinity_{ijt} \times Border_{ij}$		0.255*	0.310*
		(0.153)	(0.184)
$\sum_j Affinity_{ijt} \times Language_{ij}$		-0.240*	-0.313**
		(0.125)	(0.149)
R2	0.693	0.692	0.693
KP F-stat	12.11	11.03	11.51
N	425	425	425

Note: Affinity(2) corresponds to Gartzke (2010) affinity index based on two category and Affinity(3) on three category UN General Assembly voting data. All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

4.5 Robustness Checks

I further perform several robustness checks: accounting for additional controls, controlling for lagged conflict, testing different lags, generating the gravity-based instrument in alternative ways, using different samples of origin and destination countries and alternative measures of conflict. Tables are relegated to Appendix D.

Separate Destination Specific Factors Gravity-Generated IV Estimates. Table 10 shows estimates using alternative ways of constructing the instrument, specifically regressing bilateral emigration on separate components of the pull factors vector. As mentioned in the discussion on the exclusion restriction, destination specific factors, especially immigration restrictions, could be determined by future conflict pulling migrants to developed countries. Making use of the instrumental variable generated from the gravity equation only with GDP/cap as time-varying pull factor alleviates this threat, since GDP/cap is the least likely to be affected by conflict in the countries

[31] I thank Dominic Rohner for pointing out to this robustness check. The affinity variable is constructed based on the United Nations General Assembly votes. The complete definition is described in Appendix A weighted by proximity. An alternative similarity index is developed by Voeten et al. (2009).

of origin. Using only the GDP/capita at destination offers a strong enough instrument and reduced form results, while regressing only on population at destination gives strong first stage results, but not a reduced form significant coefficient. The different measures of immigration restrictions used individually provide weak instruments, except from the asylum specific measure. Nevertheless, this latter measure shows non-significant reduced form estimates. Finally, only encompassing all pull factors (the benchmark gravity-generated instrument) provides strong first stage, negative and significant second stage and reduced form results.

Adding Covariates One by One. Does adding the different controls change the coefficient on lagged emigration? Table 11 shows that accounting for the covariates slightly increases the coefficient of interest in absolute value which points to an upward bias of the estimator without controls. Nevertheless, the coefficient doesn't change much staying negative and significant along all the specifications. The coefficient based on a regression controlling only for the whole set of fixed effects is -9.693 and, by adding the controls one by one, it varies between -11.63 and -10.80. The benchmark second stage estimates are reported in Column (12) with GDP/capita, repression, emigration restrictions and financial aid inflows having a positive and statistically significant effect on the probability of conflict[32].

First Stage Validity. Are the first stage results driven by time variation? Otherwise, the first stage estimates could be confounded by spurious trends between the instrument and the endogenous variable. To challenge the validity of first stage results, I perform a falsification test by regressing lagged emigration on the current generated instrument. Results are reported in Table 12: the poor KP F-statistics and the non-significant coefficient on the generated instrument are evidence that the first stage results are indeed driven by the effect of time-variation in the lagged instrument on lagged emigration rate.

Controlling for Lagged Conflict. Moreover, one might want to control for lagged conflict as past conflict correlates with past emigration. Moreover, past conflict might affect immigration restrictions at destination, which are encompassed in the gravity-generated instrumental variable, so it could be an important omitted variable. Conflicts are inherent persistent events [33], so controlling for lagged conflict differentiates the direct effect of past emigration from the indirect effect through past conflict. Column (1) in Table 13 shows that the coefficient of lagged emigration on conflict remains unchanged after controlling for lagged conflict[34].

Regressing on Current, Lead or Other Lags of Emigration. Dynamic models might suffer from misspecification as it is not clear which is the perfect lag. Columns (2)-(5) in Table 13

[32]If the Polity IV index is considered as *de jure* institutional measure, Freedom House Indices for Civil Liberties (CL) and Political Rights (PR) are *de facto* measures. Column (13) additionally controls for these indices and the first stage strength and second stage estimate for emigration rate remain unchanged.

[33]Current conflict is thus explained by past conflict: violence-driven destruction and deaths intensify hatred among civilians who become more easily recruited by rebels, while violence specific capital depreciates with time so it is more easily valued if a conflict occurred in the the recent past.

[34]The fixed effects estimator for the coefficient on the lagged dependent variable might suffer from Nickell bias which is especially strong if T is small. In any case, the bias is reduced given the set of covariates I control for.

presents the estimates where the probability of civil conflict is regressed on current, the first lead or different lags of emigration rate, where the instrument and the covariates have the same timing. Only using the first lag for the emigration rate generates reduced form and second stage negative and significant coefficients.

Alternative Estimation Methods. Standard errors might be more properly estimated by First Difference (FD) regression since these are serially correlated. Column (6) in Table 13 displays FD estimates using the benchmark instrument, with the first stage results not being strong enough. However, if the panel is unbalanced and T is small, which is the case here, then FD estimates might be concerned. Finally, System GMM estimates are reported in column (7). This approach makes use of the large statistical power of lags of emigration, accounting for the dynamics of error terms[35]. While the set of instruments is valid[36], the coefficient of lagged emigration rate is negative and non-statistically significant.

Origin-Destination Pair Fixed Effects Gravity-Generated IV. As described in subsection 3.2.2, instead of controlling for origin and destination fixed effects, an alternative is using dyad fixed effects, while dropping the proximity vector. Table 14 shows a similar pattern with the benchmark estimates. The second stage coefficient is lower, but still statistically and quantitatively significant. The reason is that including origin-destination pair fixed effects in the gravity equation better explains the bilateral emigration rate, thus increasing the first stage coefficient from 0.74 to 1.12. Therefore, for approximately the same reduced form coefficient of -8, the second stage coefficient decreases. Again, the purpose is not to estimate bilateral migration, but to use the weights based on the coefficients from the gravity regression to construct a strong instrument.

Alternative Sets of Destination and Origin Countries. In a next robustness check exercise, alternative samples using different destination and origin countries are tested in Table 15. Firstly, the immigration restrictions variables are available only for a set of 11 out of the 20 OECD host countries. As shown in column 1, restricting the set of destinations only to these countries slightly increases the KP F-statistic in the first stage, while keeping the second stage estimates negative and significant. Secondly, given that the emigration data is largely obtained through imputation methods, I restrict the set of destination countries only to those for which data relies on original censuses, i.e. Australia, Canada and New Zealand. Column (2) shows that if we restrict emigration only to these countries, then the first stage KP F-stat remains large enough and the second stage coefficient remains negative, but not statistically significant. Thirdly, I restrict migration only to the US as a country of destination, similar to Collier and Hoeffler (2004). Column (3) displays the results: the first stage is strong and the second stage coefficient remains negative and significant.

[35]The System GMM estimation method improves precision and has better finite-sample properties when the panels have a small time dimension. Nevertheless, the use of the large number of instruments and the persistence in emigration and conflict drive the conceptual limitations of this methodology.

[36]The high p-values for the Hansen test suggest that the set of instruments is valid. Moreover, the AR(1) and AR(2) tests p-values are consistent with the System GMM identification assumptions concerning the error terms.

Keeping all destinations and not limiting the set of origins to be different from the set of host countries gives similar results to the benchmark estimates as shown in column (4). Finally, emigration decreases the odds of civil conflict even when dropping, in column (5), the Sub-Saharan African countries, where conflicts are more likely to happen. A robustness check for all destination and all origin countries could be based on Ozden et al. (2011) migration dataset by decades for 1960-2000, but this database has a shorter coverage over time and provides no skill and gender specific migration. Or, alternatively, refugees stocks data from UNHCR for 1970-2012 could be used with the caveat that this is not an accurate and complete dataset.

Alternative Measures of Conflict and Collective Action. The benchmark results are based on the general definition of civil conflict leading to more than 25 battle-related deaths. Table 16 shows estimates using alternative ways of defining the dependent variable. When considering conflicts by intensity, only small scale conflicts (leading to 25-999 deaths) seem to be significantly reduced by emigration, but not more intense wars (leading to more than 1000 deaths). One possible explanation could be that more intense conflicts are not so dependent on fighters, but rather on munition[37]. Finally, I use Banks (2001) Domestic Conflict Event Database data obtained from Bueno de Mesquita et al (2004) database for different measures of violence and collective action available only for 1985-2000, but this reduces significantly the sample. Results show strong negative and significant effects only for general strikes incidence, but non-significant effects for riots, revolutions and anti-government demonstrations.

5 Channels and Mechanisms

In what follows, I provide further evidence for the channels and mechanisms through which emigration affects civil conflict incidence. Firstly, I disentangle the direct effect of emigration and the indirect effect through remittances and find robust evidence only for the former effect. Secondly, I evaluate the different effects of emigration by gender and skill and find that emigration of men reduces conflict (especially of high skilled men relative to less skilled men), while emigration of women increases conflict.

5.1 Emigration versus Remittances Effects

As previously mentioned, emigration implies both people flows and financial remittances sent by migrants to the families left home. On the one hand, emigration impacts conflict incidence directly through the shrinkage in the fighting human capital as well as through the reduction in the pressure on job opportunities and resources, which increases the opportunity cost of fighting. On the other hand, diasporas take their grievances with them and, by sending money back home, they could finance rebellions. One first example in this sense is the Tamil diaspora in North America and

[37] An important caveat of country-level data for conflicts is aggregation bias: conflicts are precisely located within a country. Therefore, an ideal empirical setup would explain geo-referenced conflicts by equally precise emigration rates, but most probably this latter variable is difficult to be measured.

Europe financing the Tamil Tiger separatist rebellion in Sri Lanka. They were influential on the perpetuation of the independence war (1983-2009) fought by Tamil Tigers against the Sri Lankan government: they paid for the Tigers military campaign from abroad and secured the exiled leadership based in London. Another example is the Irish diaspora in the US who supported the discriminated Catholic nationalist ethnic group against the Protestant unionist dominated government in the Northern Ireland conflict[38]. Nevertheless, one has to consider the potential opposite effect of remittances: external money could alleviate poverty and reduce the opportunity costs of fighting and therefore reduce motives for rebellion.

Therefore, I disentangle the direct effect of emigration[39] from the indirect effect of remittances. For this additional variable (already included in the set of covariates in the baseline results), I use migrant remittances inflows as a percentage of GDP provided by the World Bank which has a large enough coverage of destination countries of remittances[40]. Nevertheless, due to data limitations, the estimation of the coefficient on remittances should be taken with a grain of salt in terms of causal inference. The first limitation is that no bilateral remittances data is available, to my knowledge, for a large enough set of origin and destination countries and time span. Therefore, remittances cannot be restricted to the 20 OECD destination countries in the sample[41]. Secondly, even if such data were available, employing a similar instrumental approach to the one used for emigration would lead to weak first stage results given the large correlation between instruments. For example, a positive income shock in the destination country is likely to increase remittances transfers, but also emigration.

Table 6 displays OLS and IV estimates of the effect of both emigration and remittances on conflict incidence[42]. I use the second lag of remittances as instrument for lagged remittances. As we can see in column (1) and (2), the coefficient on emigration is negative and significant at 1%, while the coefficient on remittances is positive and significant at 10%. This result is in line with Collier and Hoeffler (2004) who argue that emigration increases conflict through the money sent back home which finance rebellions. As a reminder, they only estimate the effect of diasporas in the US, without making the distinction between the direct (people flows) and the indirect (money flows) channels through which emigration could affect conflict.

However, when adding the whole battery of fixed effects and control variables in columns (3) and (4), the effect of remittances becomes non-significantly different from zero. This in line with

[38] Another form of diaspora financial support for conflict is the case of Eritrea: 10% of Eritreans abroad were taxed by 2% of their income per year which helped Eritrea to finance the border war with Ethiopia in 1998-2000, which wouldn't have been possible otherwise (The Economist, 2003).

[39] As mentioned above, the direct effect of emigration could go through two sub-channels: either the drain of potential fighters or the reduction in the pressure on resources, but none of these could be specifically identified.

[40] An alternative source for the remittances variable is the World Development Indicator database, but it offers a smaller set of origin countries. Nevertheless, using this data provides similar results (available upon request).

[41] Bilateral remittances data for a considerable sample of origin and destination countries is available only for 2005-2010 (Docquier, Rapoport and Salomone, 2012). A cross-country analysis could be performed using this dataset, with the cost of losing the important advantages of a panel data.

[42] One might argue that official remittances inflows statistics underestimate the real money inflows from abroad especially for countries affected by conflict. This potential measurement bias is alleviated, as in the case of emigration, by lagging remittances and controlling for the country-specific fixed effects.

the interpretation that remittances have two opposing effects: on the one hand, the money received from abroad could feed the rebels, but on the other hand, they could alleviate the incentives for fighting. Nevertheless, in the case of the IV specification, we obtain a poor first stage KP F-statistic.

Finally, column (5) illustrates the benchmark estimation, namely where emigration is instrumented by the generated variable PULL, while controlling for remittances and the rest of covariates. The coefficient of remittances (not instrumented) is again not significant. In addition, column (6) displays the coefficient on the interaction between remittances and the level of democracy, which is negative and significant at 10%. This brings evidence that money sent from abroad might finance rebellions in less democratic regimes so for which the diaspora holds stronger grievances. In any case, as already mentioned, no causal inference could be drawn for the effect of remittances on conflict.

Table 6: Emigration versus Remittances Effects

	(1) OLS	(2) IV	(3) OLS	(4) IV	(5) IV (benchmark)	(6) IV
	Dependent Variable: CONFLICT					
L.EMIGRATION RATE	-1.083***	-1.205***	-4.285**	-10.95**	-10.80**	-10.48**
	(0.222)	(0.232)	(1.980)	(4.622)	(4.827)	(4.887)
L.REMITTANCES	0.0212*	0.0327*	-0.00858	0.0134	-0.00798	0.0308
	(0.012)	(0.017)	(0.012)	(0.051)	(0.012)	(0.027)
L.POLITY IV			-0.0366	-0.0235	-0.0459	-0.311
			(0.126)	(0.142)	(0.126)	(0.190)
L.REMITTANCES × L.POLITY IV						-0.0585*
						(0.034)
R^2	0.0453	0.0454	0.701	0.699	0.693	0.696
KP F-stat		141.0		4.444	12.11	12.09
N	717	562	425	396	425	425
Lagged Controls	no	no	yes	yes	yes	yes
Country FE	no	no	yes	yes	yes	yes
Period FE	no	no	yes	yes	yes	yes
Region Time Trend	no	no	yes	yes	yes	yes
Instrument for L.Remittances	no	L2.Remittances	no	L2.Remittances	no	no

Note: Remittances are specified as log of remittances weighted by GDP. The IV estimation consists in the lagged emigration rate being instrumented by the lagged benchmark generated instrument PULL. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

5.2 Heterogeneous Effects by Gender and Education of Emigrants

A remaining question is who migrates and who fights and whether the departure of potential fighters drives the effect of emigration on conflict. Therefore, I further investigate the different effects of emigration by gender and skill.

Heterogeneous Effects by Gender of Migrants. As Table 1 shows, male and female emigrants are equally represented in the benchmark sample. Nevertheless, men are presumably more likely to take part in rebellions: the high share of young men has been documented to explain

a large part of violence in a given country (Urdal, 2006)[43]. Table 7 considers emigration of males and females separately. The OLS estimates in column (1) show negative, but non-significant coefficients for both types of emigration. I then make use of the same instrumental variable approach as for total emigration, by separately estimating bilateral migration for males and females and constructing separate instruments for the emigration of each gender. Column (2) displays the results obtained through the IV approach: the coefficient on male emigration remains negative, but non-significant, while the coefficient on female emigration becomes positive and again non-significant. Nevertheless, given that the separate instruments are obtained through the same methodology, they are strongly correlated and, therefore, the first stage results are weak[44].

An alternative strategy is using the System GMM estimation method, which consists in instrumenting gender specific emigration rates by their lags in levels and in differences. Column (3) of Table 7 displays the System GMM estimates, which point to a negative and significant effect of men's departure. This result indicates that the negative impact of emigration on home violence might be driven by the reduction in the number of potential fighters. However, it is not clear whether these men would have fought or not, assuming that they stayed at home. But what could explain the positive and significant effect of women's emigration on conflict? Gender inequality has been found to positively correlate with intra-national conflict (Caprioli, 2005), an effect which is linked to the role of women empowerment on economic and social development (Duflo, 2012): women are more likely to save money, invest in children's education and manage the household. Therefore, the fact that mothers and wives leave weakens the stability of their households and communities motivating those left home to fight. In addition, one could argue that the departure of women implies a reduction in the number of possible sexual partners increasing frustration and therefore violent behavior of the men left home.

Heterogeneous Effects by Education of Migrants. In terms of education, both skilled and unskilled men are potential fighters. The low-skilled have a low opportunity cost of fighting so a high incentive to enroll in rebel groups. Humphreys and Weinstein (2008) show that participation in rebellions in Sierra Leone is explained, among others, by poverty and low education. As for the high-skilled, they might have a higher opportunity cost of fighting. However, they also have leadership abilities which makes them capable of inspiring those around them, as, for example, the 1848 European revolutions' leaders. Taking another point of view, Campante and Chor (2012) focus on the Arab countries to show that unemployment is positively correlated with the Arab Spring revolutions and the effect is stronger in countries with higher average years of schooling. Their explanation is that skilled individuals gain much less than their education level would entitle them

[43]The so-called "youth bulge theory" states that youth cohorts are associated with political conflict as they are easier to be recruited: they are more likely to have low opportunity costs and to experience unemployment. Unfortunately, this theory cannot be tested in the current study given that the age of migrants is not available. Only cross-section estimates of the effect of the age of high-skilled emigrants could be obtained using Beine, Docquier and Rapoport (2007) dataset for 1990-2000.

[44]Instrumenting lagged gender-specific emigration rate on their second lags as in the case of remittances gives again weak first stage results. An ideal IV strategy would imply instrumenting male and female emigration separately by destination and gender specific factors, for example, OECD countries employment rate by gender specific occupations.

to and therefore are more likely to harbor negative feelings towards their government. Therefore, I expect that both emigration of high skilled and less skilled men decreases conflict: The emigration of low skilled men drains away the pool of vulnerable individuals, which are easily recruitable by rebel groups, while the departure of high skilled men reduces the leadership potential which is necessary to coordinate rebellions.

In columns (4) to (6) of Table 7, I disentangle the emigration of high skilled men (potential leaders) and the emigration of low and medium skilled men. Both OLS and IV estimates show negative non-significant coefficients for fighters and leaders and positive non-significant coefficient for females. As above, the IV estimates are obtained by separately instrumenting emigration rates of women, high and low skilled men by their associated gravity-based instruments. However, the first stage results are again weak due to the strong correlation of instruments[45]. Finally, the System GMM estimates show strong and significant negative effects of both high and less skilled men's emigration as well as positive impact of female emigration on civil conflict incidence. Comparing the magnitude of the effects, emigration of high skilled men has a slightly stronger negative impact on conflict incidence than less skilled men quitting their country[46].

Table 7: Heterogeneous Effects: Gender and Skill Specific

	(1) OLS	(2) IV	(3) System GMM	(4) OLS	(5) IV	(6) System GMM
			Dependent Variable: Conflict			
L.Emigration Rate (males)	-5.742	-42.84	-7.377***			
	(10.685)	(28.183)	(1.477)			
L.Emigration Rate (females)	-2.772	12.18	7.461***	1.223	23.11	14.66***
	(11.985)	(27.864)	(1.417)	(14.672)	(65.163)	(1.646)
L.Emigration Rate (high skilled men)				-17.82	-78.50	-24.78***
				(29.803)	(148.624)	(3.66)
L.Emigration Rate (low and medium skilled men)				-6.463	-43.19	-11.18***
				(10.892)	(42.577)	(1.125)
R^2	0.701	0.670		0.701	0.671	
KP F-stat		4.921			0.929	
N	425	425	425	425	425	425
Nb. countries			117			117
Nb. instruments			58			77
Hansen P-value			0.835			0.774
AR(1) P-value			0.00135			0.00107
AR(2) P-value			0.183			0.193

Note: All specifications include period and country fixed effects, region specific time trend, lagged war and time-variant lagged covariates. The skill and gender specific emigration rates are instrumented by the lagged benchmark generated instrument Pull, specific by skill and gender. System GMM standard errors are obtained through the two-step procedure. Robust standard errors are clustered at country level. *** p<0.01, ** p<0.05,* p<0.1.

[45]Skill-specific instruments would be needed for the skill-specific emigration rates. Cross-section IV results could be obtained using unemployment rates by skill in OECD countries for 2005-2010. Alternatively, immigration restrictions by skill would allow to construct skill specific instruments, but no such data is available, to my knowledge.

[46]The average conflict incidence is 26.8% and a standard deviation increase in the total emigration rate reduces conflict by 8.5 p.p. Separating emigration between high and less skilled men and women leads to the following results: A standard deviation increase in the emigration of less skilled men decreases the incidence of conflict by 13.4 p.p. for a given emigration of high skilled men, while a standard deviation increase in the emigration of high skilled men decreases conflict incidence by 14.9 p.p. for a given emigration of less skilled men.

These findings are in line with the historical example of the reduction of violence in Europe at the end of the 19th century due to the departure of the 1848 revolutions' leaders. Therefore, if these skilled men stayed at home, they could have eventually coordinate rebellions. Arrived in a country where they can capitalize their potential, they have no incentives to enter the illegal market or commit crimes as their opportunity cost becomes large enough. An example which speaks for itself is the case of Tidjane Thiam, former minister in Côte d'Ivoire, who left his country following the 1999 coup and finally became the CEO of Credit Suisse in 2015. However, again it is not clear if he would have mounted up a revolt or not had he stayed at home. Moreover, emigration of skilled migrants frees labor market opportunities for those left at home, but also pushes up education investments as in the model of Docquier and Rapoport (2012).

6 Welfare Implications

Finally, what are the welfare implications of these results? If civil conflicts translate into recurrent rebellions, leading to human deaths and to even more autocratic regimes, then these findings suggest that emigration is welfare-improving. Emigration acts as a pacifying force getting countries out of persistent conflicts and violence, by diminishing the pool of potential rebels and the incentives for fighting of those left behind. Supporting the idea that conflicts reduction is welfare-improving, Cervelatti and Sunde (2013) show that countries where democracy is acquired through violence experience shorter periods of peace than countries with a peaceful transition to democracy.

However, the findings of the current paper could be read through a different lens: Civil conflicts could be a signal of an engaged society in which citizens voice for good reasons, as an expression of discontent against the constraints imposed by their political regimes. Thanks to the people who fought for freedom during the 1989 revolutions, Eastern European countries benefit from democratic institutions today. In other words, if emigration depletes countries of the demand for change[47], then how could we imagine that peace and progress can be fostered in the world?

Therefore, I test whether home political regimes become more autocratic, repressive or corrupt following the exodus of their citizens. Using the same instrumental variable approach, Table 8 displays the impact of emigration on a set of dependent variables proxying for the worsening of political institutions. Column (1) shows how emigration affects the probability that a country is governed by an autocratic regime, given that in the previous period the regime was democratic[48]. In the same vein, column (2) shows the impact on the incidence of a coup (Banks, 2001), but on a more reduced sample of countries. For column (3), I construct a variable proxying for an autocratic regime becoming more severe in a given country and a given period in comparison to the previous period. The results show that, for all of these three dependent variables, emigration does not cause the worsening of the political regime.

[47] Acemoglu and Robinson (2006) underline that democracy is especially driven by the middle class, as it acts as a buffer between the elites and the citizens. Arguably, the middle class individuals are also the most likely to emigrate: they can afford the migration costs, but they are not part of the ruling class of elites.

[48] This variable is constructed using the Polity IV index which takes values from 0 to 1, where values between 0 and 0.5 stand for autocracy and values from 0.5 to 1 for democracy.

In columns (4) and (5), lagged emigration is regressed on two measures of repression: first, the Political Terror Scale Index (Amnesty International) which has been included in the set of lagged covariates; second, the incidence of mass killings defined as one-sided violent events with civilians as victims (Political Instability Task Force, 2013)[49]. Finally, column (6) shows how perceived corruption (Transparency International) is affected by emigration. Again, there is no evidence that emigration significantly worsens the home political regimes.

Therefore, we could argue that the welfare implications of this paper's findings are positive since emigration reduces conflict, without rendering home political regimes more autocratic, repressive or corrupt. In any case, this is a short to medium term result because of three reasons. First, given the baseline regression equation, emigration is assumed to affect conflict from 1 to 5 years. Second, migrants are considered in the database if they have a residence permit thus if they are permanent rather than temporary migrants. Third, as Table 13 shows, there is a negative, but non-significant effect of second or third lag of emigration on current conflict. Therefore, we have no clear evidence for a long term reduction in violent conflicts caused by emigration.

Table 8: Welfare Implications

	(1) IV	(2) IV	(3) IV	(4) IV	(5) IV	(6) IV
Dependent Variable:	P(Autocracy$_t$| Democracy$_{t-1}$)	Coups (Banks)	P(Polity IV$_t$ <Polity IV$_{t-1}$| Autocracy$_{t-1}$)	PTS (Amnesty)	Mass Killings (PTIF)	Corruption (TI)
L.Emigration Rate	1.033	1.720	0.338	9.902	1.094	14.67
	(0.952)	(4.887)	(0.768)	(8.030)	(1.234)	(15.319)
R^2	0.310	0.530	0.541	0.800	0.734	0.924
KP F-stat	12.11	9.251	12.11	11.79	7.323	2.387
N	425	232	425	413	362	262

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged benchmark instrument. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

7 Conclusion

To sum up, his paper shows that emigration to OECD countries significantly reduces conflict in developing countries. The identification strategy relies on comparing conflict in countries in years after proximate developed countries become more attractive to years after these are less attractive. In other words, I instrument emigration by time-varying pull (i.e. destination specific) factors interacted with different measures of proximity between origin and destination. In addition, I disentangle the direct effect of emigration from the indirect effect through remittances inflows and I find a robust negative effect only for the direct channel. I also find evidence for a negative effect of the emigration of men (especially of high skilled men) and a positive effect of the emigration of

[49]In comparison with civil conflict, mass killings are rather purges by the state against civilians, rather than armed conflicts between the state and rebels.

women. In order to interpret the welfare implications of these results, I additionally test whether the home political regime becomes more autocratic, repressive or corrupt following emigration. I find no evidence in this sense so emigration is rather welfare improving by saving the lives of both migrants and non-migrants in the countries of origin.

Moreover, this paper has important implications for the humanitarian policies of developed countries: The results point to the fact that attractive conditions for migration in geographically and culturally proximate OECD countries have the potential of reducing conflict in developing countries. Therefore, by opening their borders, Western countries could not only contribute to saving the lives of migrants, but also of those left behind. Making a parallel to the 2015 refugee crisis (The Economist, 2015 a, b), the fact that the European countries welcomed the hundreds of thousands of migrants is expected to reduce conflict in their countries of origin. However, such a large influx of migrants raised free-rider worries, namely about how receiving countries should coordinate their immigration policies in an efficient way. One possible solution could be the so-called "tradable immigration quotas" proposed by Fernandez-Huertas Moraga and Rapoport (2014, 2015) through which receiving countries and migrants are matched according to both sides' preferences and countries can exchange the quotas they are assigned.

In addition, the recent terrorist attacks fueled the fear that immigrants might commit crimes which increased the support for right-wing extremist parties and for tighter immigration restrictions. In Couttenier et al. (2016), we make use of the exogenous allocation of asylum seekers in Swiss cantons to identify the perpetuation of violence through the exposure to civil conflicts or mass killings during childhood (1-12 years old). More precisely, we find that exposed cohorts are on average 40 percent more likely to commit violent crimes than their co-nationals born after the conflict. We also explore the large variation in asylum seekers cantonal policies and show that early access to labor market and large acceptation rates can substantially mitigate the increased risk in crime perpetrated by conflict-exposed migrants. Overall, these findings raise awareness of the fact that welcoming asylum and immigration policies play an important role in the reduction of violence both in home and host countries and motivate more research to be done in this direction.

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A Data Definitions and Sources

Countries of Origin Control Variables

GDP/cap: Gross domestic product per capita, PPP level, at constant 2005 level USD millions, World Development Indicators.

Population: Number of inhabitants, in millions, Penn World Tables 8.1.

Democracy: Polity IV level of democracy modified from taking values $\in [-10, 10]$ to $\in [0, 1]$, where 0 is defined as complete autocracy and 1 complete democracy, Marshall et al (2013) Polity IV Project.

Repression: Political Terror Scale reported by Amnesty International, ranging from 1 to 5, where 1 stands for "Countries under a secure rule of law, people are not imprisoned for their view, and torture is rare or exceptional. Political murders are extremely rare" and 5 defines "Terror has expanded to the whole population. The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals", Gibney et al (2013) Political Terror Scale Database.

Emigration Restrictions: The inverse of foreign movement freedom, defind as "citizens freedom to leave and return to their country", such that 0 means "unrestricted freedom of foreign movement", 1 refers to "the freedom of foreign movement was somewhat restricted" and 2 represents that "the freedom of foreign movement was severely restricted", Cingarelli, Richards and Clay (2014).

Other Globalization Channels Control Variables

Remittances per GDP: Migrant Remittance Inflows in USD millions (% of GDP), World Bank.

Aid per GDP: Received Net Official Aid and Official Development Assistance (% of GDP), World Development Indicators.

Trade per GDP: Trade (% of GDP), World Development Indicators.

FDI Inflows per GDP: Foreign direct investment, net inflows (% of GDP), World Development Indicators.

Variables for Constructing the Instrument

GDP/cap at destination: Gross domestic product per capita, PPP level, at constant 2005 level USD millions, World Development Indicators.

Population at destination: Number of inhabitants, in millions, Penn World Tables 8.1.

Immigration Restrictions: Based on 240 immigration laws (by entry, stay and asylum) for 11 OECD countries, immigration restrictions tightness is defined as follows: in 1980 it takes the value of 10, the next year it remains constant if no relevant changes in immigration laws, it increases by 1 if more restrictive laws and it decreases by 1 if more relaxed laws, Ortega and Peri (2013).

Distance: Geodesic distance between origin and destination countries are calculated following the great circle formula, which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population), CEPII.

Border: Takes the value of 1 if origin and destination countries are contiguous, otherwise 0, CEPII.

Colony: Takes the value of 1 if origin and destination countries have ever had a colonial link, otherwise 0, CEPII.

Language Proximity: Common Language Index between origin and destination countries, based on a log specification (including several measures of language proximity: common official, common spoken, common native and closeness of two different native languages along a purely lexical scale), Melitz and Toubal (2012).

UN Votings Affinity Index: Measure of state preferences, or more precisely, the interest similarity among pairs of states (dyads) based on United Nations General Assembly voting results collected by Voeten et al (2009) for the period 1946 to 2008. Values for the Affinity Index range from 1 (least similar interests) to 1 (most similar interests). The Affinity data are coded with the S indicator (S is calculated as $1 - \frac{2d}{d_{max}}$, where d is the sum of metric distances between votes by dyad members in a given year and d_{max} is the largest possible metric distance for those votes). There are two definitions for the UN General Assembly data: from 2 category (1 = yes or approval for an issue; 2 = no or disapproval for an issue.) or 3 category (1 = yes or approval for an issue; 2 = abstain, 3 = no or disapproval for an issue.). Gartzke (2010).

Alternative Measures of Violence, Collective Action or Political Stability

General Strikes: Workers movements in which more than 1000 workers and more than one employer are involved, Banks (2001) obtained from Bueno de Mesquita et al (2004) database, available for 1980-1999.

Riots: Violent demonstrations/clashes of more than 100 citizens involving physical force, Banks (2001) obtained from Bueno de Mesquita et al (2004) database, available for 1980-1999.

Revolutions: Illegal or forced change in top government elite or attempt to gain independence, Banks (2001) obtained from Bueno de Mesquita et al (2004) database, available for 1980-1999.

Anti-government demonstrations: Peaceful public gathering of more than 100 people to express discontent, Banks (2001) obtained from Bueno de Mesquita et al (2004) database, available for 1980-1999.

Coups: Coups d'Etat or sudden and usually illegal seizure of the state, Banks (2001) obtained from Bueno de Mesquita et al (2004) database, available for 1980-1999.

Mass Killings: Events that involve the promotion, execution, and/or implied consent of sustained policies by governing elites or their agents - or in the case of civil war, either of the contending authorities that result in the deaths of a substantial portion of a communal group or politicized non-communal group.", Political Instability Task Force, 2013.

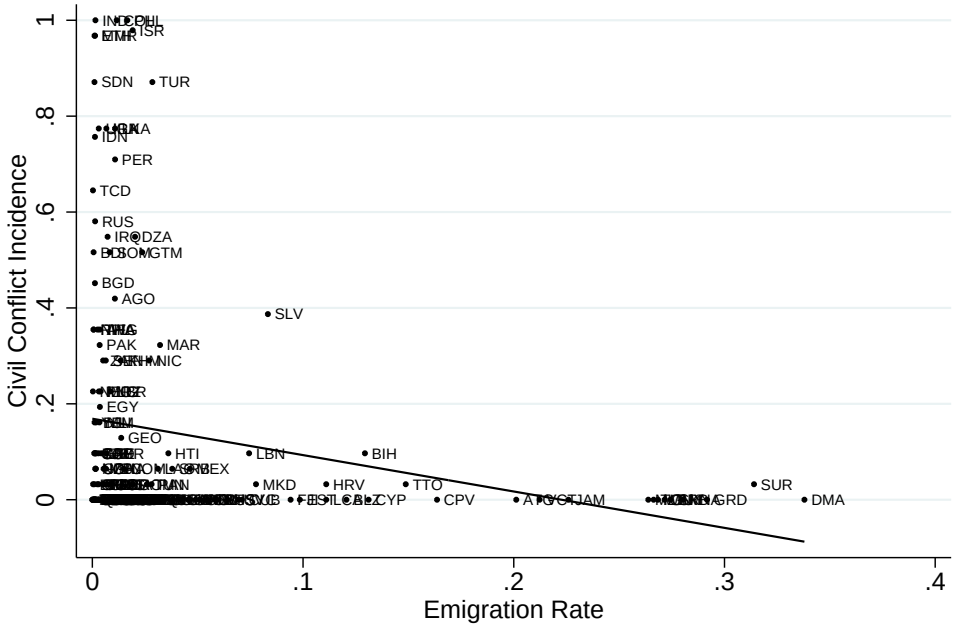
Corruption Perception: Perception of the public about corruption in the public sector, defined as the abuse of public office for private gain, Transparency International, available for 1995-2010.

B Origin and Destination Countries in the Baseline Sample

Origin countries						Destination countries
AGO	COL	GTM	LSO	PAK	TCD	AUS
ALB	COM	HND	LTU	PAN	TGO	AUT
ARG	CPV	HRV	LVA	PER	THA	CAN
ARM	CRI	HUN	MAR	PHL	TJK	CHE
AZE	CYP	IDN	MDA	POL	TKM	CHL
BDI	CZE	IND	MDG	PRY	TTO	DEU
BEN	DJI	IRN	MEX	QAT	TUN	DNK
BFA	DOM	ISR	MKD	ROM	TUR	ESP
BGD	ECU	JAM	MLI	RUS	TZA	FIN
BGR	EGY	JOR	MNG	RWA	UGA	FRA
BIH	EST	KAZ	MOZ	SAU	UKR	GBR
BLR	ETH	KEN	MRT	SDN	URY	GRC
BOL	FJI	KGZ	MUS	SEN	VEN	IRL
BRA	GAB	KHM	MWI	SLE	VNM	LUX
BTN	GEO	KOR	MYS	SLV	YEM	NLD
BWA	GHA	KWT	NAM	SUR	ZAF	NOR
CHN	GIN	LAO	NER	SVK	ZMB	NZL
CIV	GMB	LBN	NGA	SVN		PRT
CMR	GNB	LBR	NPL	SWZ		SWE
COG	GNQ	LKA	OMN	SYR		USA

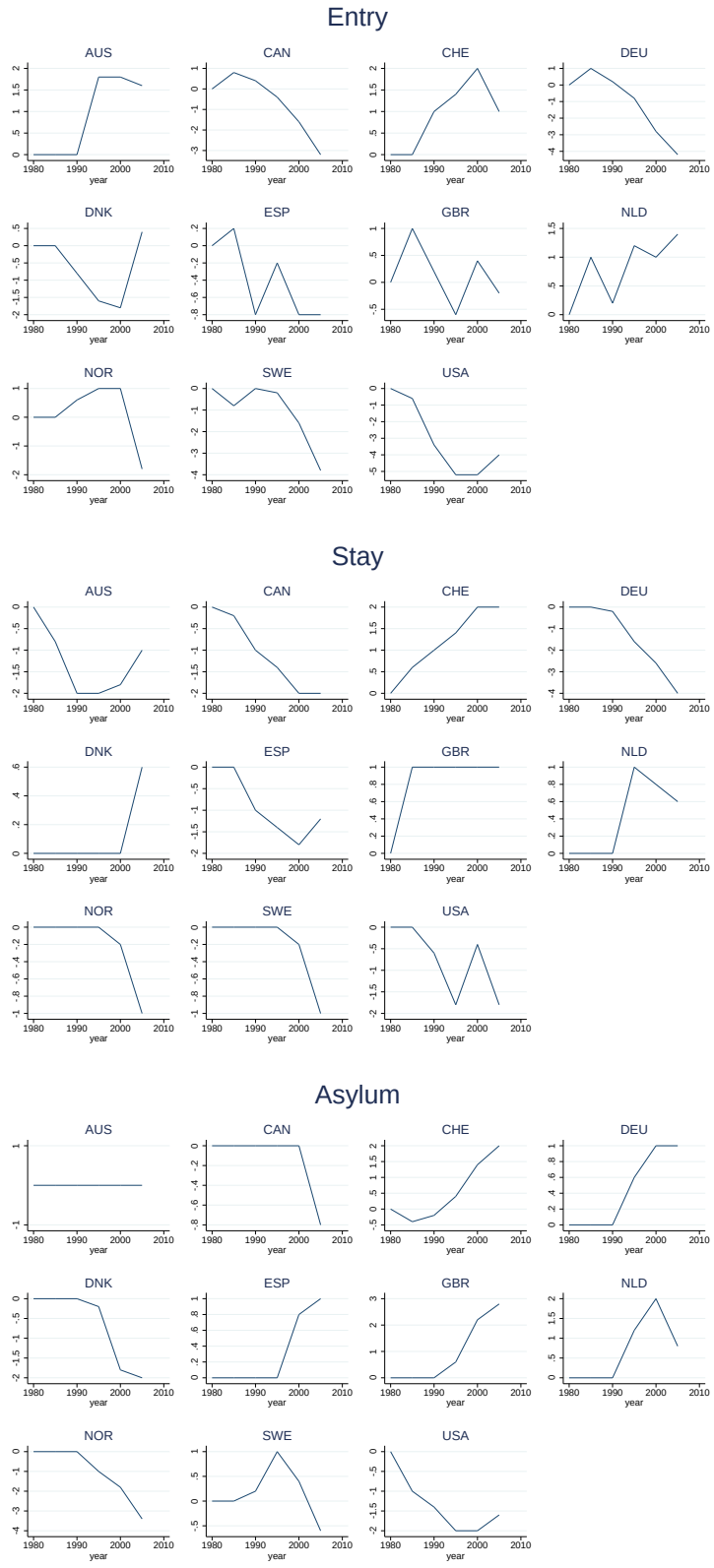
C Figures

Figure 1: Unconditional Cross-Country Correlation



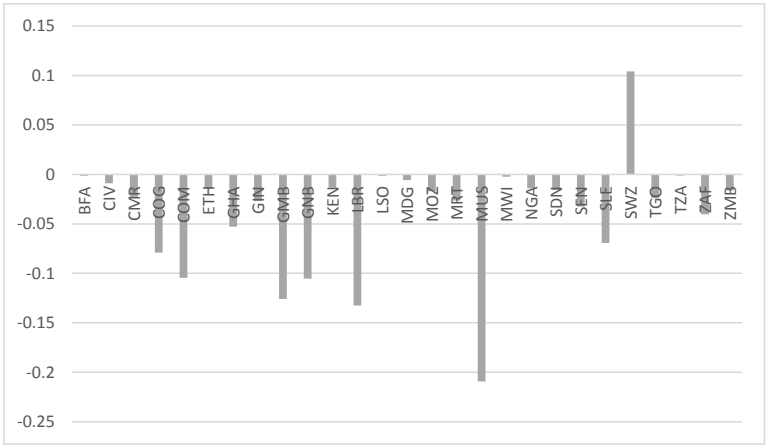
Note: Variables are averaged at the country level for the period 1980-2010
Slope=-0.76, Std. Error=0.27, N=169

Figure 2: Immigration Restrictions Tightness



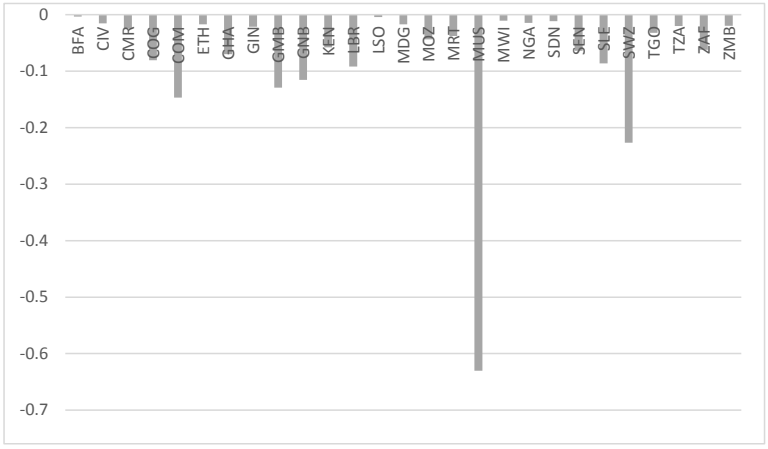
Source: Ortega,Peri (2014)

Figure 3: The Effect of Emigration on Civil Conflict between 1985 and 2010 on Sub-Saharan Africa



Note: Each value represents the predicted decrease in the probability of conflict between 1990 and 2010 due to the increase in the emigration rate between 1985 and 2005.

Figure 4: The Difference between the Actual Predicted Probability of Civil Conflict and the Predicted Probability of Conflict with No Emigration on Sub-Saharan Africa



Note: Each value represents the predicted difference between the actual probability of conflict and the probability of conflict with zero migration.

D Tables

Table 9: Gravity Regression Results

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Dependent Variable: EMIGRATION RATE$_{ijt}$					
$-ln(Distance_{ij})$	1.082	-0.0917	1.469***	1.716***	2.289***	2.569***	1.527	-7.772**
	(2.085)	(1.551)	(0.234)	(0.457)	(0.651)	(0.941)	(2.986)	(3.442)
$Border_{ij}$	-0.788	4.320	0.845	-1.374	10.44**	4.564	-20.01	-9.007
	(7.138)	(6.967)	(0.703)	(1.647)	(4.200)	(4.833)	(15.315)	(16.782)
$Language_{ij}$	-3.652	3.710	1.672	0.828	0.531	-0.910	-8.791	5.477
	(4.492)	(3.663)	(1.041)	(1.316)	(1.366)	(1.609)	(7.395)	(8.660)
$Colony_{ij}$	3.922	12.68**	0.823	-2.537	4.950***	-0.601	-14.51	-1.642
	(2.805)	(6.177)	(1.163)	(2.062)	(0.781)	(2.113)	(9.785)	(9.136)
$ln(GDP/cap_{jt})$	-0.594						1.509	3.316
	(1.754)						(2.935)	(2.975)
$ln(GDP/cap_{jt}) \times -ln(Distance_{ij})$	-0.0116						0.0779	0.330
	(0.195)						(0.328)	(0.331)
$ln(GDP/cap_{jt}) \times Border_{ij}$	0.152						2.320*	1.706
	(0.667)						(1.368)	(1.155)
$ln(GDP/cap_{jt}) \times Language_{ij}$	0.531						0.776	1.696**
	(0.455)						(0.719)	(0.725)
$ln(GDP/cap_{jt}) \times Colony_{ij}$	-0.0923						1.520*	1.505**
	(0.277)						(0.905)	(0.739)
$ln(Pop_{jt})$		1.356						5.145***
		(1.222)						(1.594)
$ln(Pop_{jt}) \times -ln(Distance_{ij})$		0.0619						0.347***
		(0.089)						(0.089)
$ln(Pop_{jt}) \times Border_{ij}$		-0.204						-0.248
		(0.377)						(0.445)
$ln(Pop_{jt}) \times Language_{ij}$		-0.123						-1.265***
		(0.210)						(0.327)
$ln(Pop_{jt}) \times Colony_{ij}$		-0.561						-0.672**
		(0.347)						(0.322)
$EntryRestrictions_{jt}$			-0.554**			-0.245	-0.208	0.759**
			(0.223)			(0.308)	(0.358)	(0.337)
$EntryRestrictions_{jt} \times -ln(Distance_{ij})$			-0.0585**			-0.0286	-0.0215	0.0800**
			(0.025)			(0.035)	(0.041)	(0.038)
$EntryRestrictions_{jt} \times Border_{ij}$			-0.104			-0.202	-0.0424	-0.155
			(0.094)			(0.370)	(0.297)	(0.306)
$EntryRestrictions_{jt} \times Language_{ij}$			0.0849			-0.0477	0.0158	-0.246***
			(0.064)			(0.088)	(0.098)	(0.089)
$EntryRestrictions_{jt} \times Colony_{ij}$			0.267**			0.101	0.224	0.0375
			(0.106)			(0.092)	(0.146)	(0.113)
$StayRestrictions_{jt}$				-0.872*		-0.516	-0.558	-0.878
				(0.480)		(0.584)	(0.575)	(0.609)
$StayRestrictions_{jt} \times -ln(Distance_{ij})$				-0.0847		-0.0484	-0.0472	-0.0631
				(0.056)		(0.068)	(0.066)	(0.071)
$StayRestrictions_{jt} \times Border_{ij}$				0.162		0.321	0.285	0.318**
				(0.164)		(0.406)	(0.261)	(0.146)
$StayRestrictions_{jt} \times Language_{ij}$				0.169		0.177	0.201	0.556***
				(0.116)		(0.149)	(0.163)	(0.134)
$StayRestrictions_{jt} \times Colony_{ij}$				0.595***		0.507***	0.463***	0.512***
				(0.191)		(0.177)	(0.161)	(0.163)
$AsylumRestrictions_{jt}$					-1.210**	-0.806	-0.670	-0.603
					(0.576)	(0.587)	(0.623)	(0.615)
$AsylumRestrictions_{jt} \times -ln(Distance_{ij})$					-0.135*	-0.0900	-0.0747	-0.0835
					(0.071)	(0.076)	(0.077)	(0.077)
$AsylumRestrictions_{jt} \times Border_{ij}$					-1.098**	-0.604	-0.627**	-0.581**
					(0.469)	(0.436)	(0.316)	(0.238)
$AsylumRestrictions_{jt} \times Language_{ij}$					0.197*	0.205	0.139	-0.0315
					(0.107)	(0.125)	(0.147)	(0.164)
$AsylumRestrictions_{jt} \times Colony_{ij}$					-0.133**	-0.196**	-0.413***	-0.406***
					(0.060)	(0.089)	(0.138)	(0.118)
R^2	0.727	0.750	0.775	0.775	0.774	0.779	0.771	0.804
N	20751	21371	11528	11528	11528	11528	11373	11373

Note: All regressions include origin, destination and period fixed effects. Robust standard errors are clustered at country-pair level. *** p<0.01, ** p<0.05,* p<0.1.

Table 10: Robustness Checks: Separate Destination Specific Factors Gravity-Generated IV Estimates

	(1) IV	(2) IV	(3) IV	(4) IV	(5) IV	(6) IV	(7) IV	(8) IV
Generated IV based on and interactions with	GDP Proximity	Pop Proximity	Entry Proximity	Stay Proximity	Asylum Proximity	Restrict Proximity	Restrict & GDP Proximity	Restrict & Attract Proximity
PANEL A				**SECOND STAGE:** Conflict				
L.Emigration Rate	-7.924*	-7.220*	-8.411	-8.637	-6.629*	-8.629*	-11.28***	-10.80**
	(4.216)	(4.029)	(5.338)	(5.254)	(3.867)	(4.467)	(4.075)	(4.827)
R^2	0.698	0.699	0.697	0.697	0.700	0.697	0.692	0.693
N	425	425	425	425	425	425	425	425
PANEL B				**FIRST STAGE:** L.Emigration Rate				
L.Pull	1.195***	1.212***	0.920***	0.843**	0.810***	0.636**	0.709***	0.741***
	(0.263)	(0.229)	(0.304)	(0.352)	(0.216)	(0.282)	(0.228)	(0.213)
R^2	0.984	0.985	0.977	0.976	0.980	0.976	0.977	0.978
KP F-stat	20.66	28.14	9.134	5.728	14.04	5.071	9.640	12.11
PANEL C				**REDUCED FORM:** Conflict				
L.Pull	-9.470*	-8.754	-7.740	-7.280	-5.371	-5.484	-7.999**	-8.009**
	(5.214)	(5.460)	(6.950)	(6.384)	(4.327)	(4.237)	(3.705)	(3.706)
R^2	0.702	0.702	0.700	0.700	0.700	0.700	0.703	0.703

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged generated instrument Pull based on the gravity equation including period fixed effects and origin and destination fixed effects. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

Table 11: Robustness Checks: Adding Covariates One by One

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Dependent Variable: Conflict							
L.Emigration Rate	-1.151*	-9.201***	-9.693***	-11.30***	-11.23***	-11.14***	-11.51***	-11.40**	-11.63**	-11.60**	-10.95**	-10.80**	-10.57**
	(0.607)	(2.647)	(3.081)	(3.695)	(3.517)	(3.641)	(4.461)	(4.473)	(4.533)	(4.518)	(4.814)	(4.827)	(4.807)
L.ln(Pop)				-0.540*	-0.473	-0.504	-0.473	-0.520	-0.536*	-0.537*	-0.364	-0.339	-0.295
				(0.320)	(0.319)	(0.319)	(0.325)	(0.322)	(0.322)	(0.322)	(0.353)	(0.356)	(0.353)
L.ln(GDP/cap)					0.0941	0.0726	0.145	0.150	0.133	0.128	0.227**	0.228**	0.227**
					(0.118)	(0.114)	(0.105)	(0.102)	(0.102)	(0.105)	(0.112)	(0.112)	(0.113)
L.PolityIV						-0.169	-0.0382	-0.0148	-0.0268	-0.0301	-0.0469	-0.0459	-0.165
						(0.120)	(0.122)	(0.122)	(0.126)	(0.127)	(0.126)	(0.126)	(0.136)
L.PTS(Amnesty)							0.136***	0.134***	0.135***	0.135***	0.136***	0.137***	0.141***
							(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.038)
L.Emig.Restr.								0.0571	0.0592	0.0606	0.0709*	0.0735*	0.077*
								(0.041)	(0.041)	(0.042)	(0.042)	(0.043)	(0.044)
L.ln(Trade/GDP)									0.0679	0.0670	0.0437	0.0372	0.035
									(0.091)	(0.090)	(0.088)	(0.091)	(0.090)
L.ln(Remit./GDP)										-0.00769	-0.00852	-0.00798	-0.007
										(0.012)	(0.012)	(0.012)	(0.011)
L.ln(Aid/GDP)											0.0686**	0.0675**	0.066 **
											(0.032)	(0.032)	(0.032)
L.ln(FDI/GDP)												0.00629	0.004
												(0.015)	(0.014)
L.Freedom House (CL)													0.011
													(0.043)
L.Freedom House (PR)													-0.034
													(0.036)
R^2	0.0286	0.664	0.667	0.666	0.667	0.669	0.685	0.687	0.687	0.688	0.692	0.693	0.694
KP F-stat	404.9	14.63	11.69	10.91	10.90	11.04	11.77	11.72	12.11	12.04	12.10	12.11	12.03
N	425	425	425	425	425	425	425	425	425	425	425	425	425
Period FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country FE	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Region Time Trend	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level.
*** p<0.01, ** p<0.05,* p<0.1.

Table 12: Robustness Checks: First Stage Validity - Falsification Test

Generated IV based on and interactions with:	(1) Restrict Distance	(2) Restrict Proximity	(3) Restrict & Attract Distance	(4) Restrict & Attract Proximity
		FIRST STAGE: L.Emigration Rate		
Pull	-0.161	-0.163	-0.156	-0.172
	(0.134)	(0.131)	(0.134)	(0.133)
R^2	0.972	0.972	0.972	0.972
KP F-stat	1.429	1.545	1.355	1.658
N	425	425	425	425

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

Table 13: Robustness Checks: Alternative Estimation Methods

	(1) IV	(2) IV	(3) IV	(4) IV	(5) IV	(6) FD IV	(7) System GMM
				Dependent Variable: Conflict			
L.Emigration Rate	-10.66**					-18.01*	-0.892
	(4.840)					(10.772)	(0.669)
Emigration Rate		-7.985					
		(11.935)					
F.Emigration Rate			-9.143				
			(16.451)				
L2.Emigration Rate				-8.487			
				(12.795)			
L3.Emigration Rate					-8.417		
					(13.717)		
R^2	0.698	0.652	0.581	0.764	0.801	0.0308	
KP F-stat	12.88	1.963	1.963	10.16	9.251	4.743	
N	425	509	509	330	232	291	
IV	L.Pull	Pull	F.Pull	L2.Pull	L3.Pull	D.L.Pull	
Covariates	Lagged	Current	Lead	Lagged2	Lagged3	FD	Lagged
Additional Controls	L. Conflict						
Nb. Instruments							36
Hansen P-value							0.458
AR(1) P-value							0.001
AR(2) P-value							0.173

Note: All specifications include period and region specific time trend, lagged conflict and lagged covariates. Emigration rate is instrumented by the benchmark instrument Pull with the different timings. Columns (1)-(5) include also country fixed effects. System GMM standard errors are obtained through the two-step procedure. Robust standard errors are clustered at country level. *** p<0.01, ** p<0.05,* p<0.1.

Table 14: Robustness Checks: Origin-Destination Pair Fixed Effects Gravity-Generated IV

	(1) OLS	(2) IV	(3) IV	(4) IV	(5) IV
Generated IV based on and interactions with:		Restrict Distance	Restrict Proximity	Restrict & Attract Distance	Restrict & Attract Proximity
PANEL A		**SECOND STAGE:** Conflict			
L.Emigration Rate	-4.285**	-6.434	-7.550	-7.207	-7.712*
	(1.980)	(5.080)	(5.135)	(4.633)	(4.308)
R^2	0.701	0.700	0.699	0.699	0.698
N	425	425	425	425	425
PANEL B		**FIRST STAGE:** L.Emigration Rate			
L.Pull		0.883**	1.024***	0.921***	1.121***
		(0.377)	(0.286)	(0.311)	(0.255)
R^2		0.978	0.981	0.980	0.984
KP F-stat		5.496	12.79	8.778	19.26
PANEL C		**REDUCED FORM:** Conflict			
L.Pull		-5.680	-7.733	-6.641	-8.642*
		(6.184)	(4.921)	(5.609)	(4.542)
R^2		0.699	0.701	0.700	0.702

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged generated instrument Pull based on the gravity equation including period fixed effects and origin-destination pair fixed effects. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

Table 15: Robustness Checks: Alternative Sets of Destination and Origin Countries

	(1)	(2)	(3)	(4)	(5)
Sample of Destinations	11 OECD	No Imputed Data	USA	Benchmark	Benchmark
Sample of Origins	Benchmark	Benchmark	Benchmark	All	Drop SSA
			Dependent Variable: Conflict		
L.Emigration Rate	-11.25**	-12.64	-9.401**	-9.528*	-10.49***
	(5.092)	(13.703)	(4.392)	(5.237)	(4.060)
R^2	0.698	0.699	0.702	0.697	0.751
N	425	425	425	430	273
KP F-stat	15.89	13.93	38.81	11.97	12.85

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.

Table 16: Robustness Checks: Alternative Measures of Conflict and Collective Action

	(1)	(2)	(3)	(4)	(5)	(6)
	Conflict	Conflict	Gen.Strikes	Riots	Revolutions	Anti-Gov Dem.
	$(25-999d)$	$(\geq 1000d)$	Banks (2001)	Banks (2001)	Banks (2001)	Banks (2001)
			Dependent Variable: Conflict			
L.Emigration Rate	-10.75**	-1.787	-30.39**	10.70	-13.90	11.45
	(4.840)	(1.938)	(12.424)	(15.843)	(20.320)	(9.778)
R^2	0.654	0.683	0.628	0.703	0.695	0.738
KP F-stat	12.11	12.11	9.251	9.251	9.251	9.251
N	425	425	232	232	232	232

Note: All specifications include period and country fixed effects, region specific time trend and lagged covariates. The lagged emigration rate is instrumented by the lagged benchmark generated instrument Pull. Robust standard errors are clustered at country level; *** p<0.01, ** p<0.05,* p<0.1.