

## CIVIL WARS AND REFUGEES

### Why do Some Civil Wars Generate More Refugees than Others?

Oguzhan Turkoglu<sup>1</sup>

The causes of refugee migration are an under-researched topic in social sciences. Even though there are a few quantitative studies on the general causes of refugee migration, the number of studies which specifically analyze the relationship between the civil wars and refugees is very limited. This study sets out to analyze why some civil wars generate more refugees than others and focuses on the geographical aspects and the location of the country in which the civil war takes place. This study examines the relationship between civil wars and refugees through a large-n analysis that covers the civil wars between 1964 and 2014.

*Keywords: civil war, refugees, location, border, coastline border*

Civil wars are the most common type of conflict in the last century and they affect almost every part of daily life. In addition, their detrimental effects are not limited to countries which experience the civil war but exceed national borders and impact regional and global stability and security. One of the negative consequences of civil wars is to displace people, both internally and externally. Moreover, there is a quite broad range for the number of displaced people by civil wars. While some civil wars generate hundreds of displaced people, others generate millions of displaced people. In this study, I will look at the relationship between refugee migration and civil wars and try to answer the question of why some civil wars generate more refugees than others through a large-n analysis which covers civil wars between 1964 and 2014. First, I will briefly review the literature, then present theoretical explanations, afterward lay down operationalization and measurement of concepts. Lastly, I will discuss the results of the large-n analysis.

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## LITERATURE REVIEW

Refugee migration and its causes is an under-researched topic in social sciences. The literature has seen quite a few idiographic studies that generally focus on a single issue as a cause for refugee migration such as economics (Osborne, 1980; Stanley, 1987), ethnic relations (Newland, 1993), genocide (Midlarsky, 2005; Uzonyi, 2014) or conflict (Ibanez and Velasquez, 2009). There are also a few case studies that examine the refugee migration in a part of a country (Czaika and Kis-Katos, 2009), in a country (Adhikari, 2012; 2013) or in a region (Zolberg et al. 1989; Iqbal, 2007; Neumayer, 2005), yet the number of quantitative studies in that field is surprisingly limited. Moreover, some of them suffer from methodological shortcomings. For instance, Apodaca (1998) focuses only on cases that generate forced migration and thus includes selection bias. In addition, some scholars put a very high threshold on the number of refugees and limit their studies' scope like Wood (1994) did in his analysis which sets the threshold as 100.000 refugees. This literature review focuses on significant quantitative studies. However, as a qualitative study, Weiner's (1996) article which uses some statistics is one of the most important studies in the field and I start exploring the literature with this study.

Weiner is known for studying the relationship between international migration and security and he has also contributed to the literature with the term of 'sons of the soil' (1978). In his inquiry into the causes of refugee flows (1996), he articulates four significant causes for refugee flows: interstate wars, ethnic conflict, non-ethnic conflict, and authoritarian and revolutionary regimes. He analyses the refugee flows in 1969, 1982 and 1992, roughly a decade apart and renders that more than half of the refugees fled due to civil conflicts (1996:12). He concludes his study by stating that civil wars and thus, refugee migration are significant problems in our globalized world because of two main reasons: first, they affect regional and global security and second,

governments and citizens can no longer ignore human rights violations in faraway countries (1996:41).

The quantitative analysis of Schmeidl (1997) is regarded as a milestone in forced migration literature. Other significant quantitative studies position themselves in relation to this study (Davenport et. al, 2003:30; Moore and Shellman, 2004:725). In her time-series analysis, she examines refugee flows from 109 developing countries (Southeast Asia, the Middle East, Africa and Latin America) between 1971 and 1990. She defines economic underdevelopment, population pressures, human rights violations, ethnic and civil conflicts, external intervention and interstate wars as causal variables (1997:287-289). In her study, civil wars, genocide, interstate wars and foreign military intervention have explanatory power, but the effect of economic underdevelopment and population pressures are insignificant. The effect of interstate wars is debatable because when she re-runs the analysis without outliers, the interstate wars variable loses its significance (1997:300). For this loss of significance, she highlights the fact that civil wars outnumber the interstate wars and they coexist together (1997:304). Furthermore, she analyzes the effect of facilitators and obstacles to flight such as land access and migration networks and finds no significance.

Another significant quantitative study was done by Davenport, Moore, and Poe (2003). They begin their study by criticizing former studies for focusing purely on push factors and ignoring pull factors. To overcome this shortcoming and assess the push and pull factors, they analyze net stock of displaced persons in source countries (2003:38). They define forced migration as an exception rather than a norm and identify the physical threat as the main causal variable. They articulate state violence, dissident violence and state-dissident violence as main sources of the threat. In their study, genocide, civil wars, and dissident conflict find statistical significance.

While democracy score does not impact the number of refugees, the stability - change in polity score - has explanatory powers over forced migration. In addition, their study finds no significance for the effect of GNP per capita and population. As another remarkable study, the analysis of Moore and Shellman (2004) is quite similar to other quantitative papers. Their analysis covers forced migration between 1952 and 1995 and adopts negative binomial regression as the method. Civil wars variable has the greatest substantive effect on forced migration. Furthermore, this analysis asserts that ethnic and revolutionary civil wars have no significant difference and the effect of military intervention is controversial (2004:739).

Melander and Oberg carried out a project on forced migration in armed conflict and published two papers together and one paper with Hall. In their first study (2006), they analyze forced migration in general, while in subsequent studies (2007; 2009) they scrutinize the relationship between forced migration and conflict. In their first article, the main finding is about duration dependence and it concludes that forced migration abates rather than soars over time. That is to say, previous years without positive flows of forced migration leads to reduced numbers of forced migrants because previous flows play a role in shaping people's expectations about the cost of staying or leaving (2006:135). In contrast to previous studies, their analysis finds no significant effect of accumulated stock of forced migration and genocide over forced migration. For the insignificance of genocide, they highlight the considerable overlaps with other variables (2006:144). Their latter two studies (2007; 2009) are quite similar and analyze the forced migration in countries that experience civil war. They contend that the number of people who are threatened enough to leave their homes depends on the scope of fighting rather than the toll in wars. Civil wars have varying effects on people who live in different parts of the country (2007:159). While the geographical scope of fighting finds statistical significance, the number of battle death has no

explanatory power (2007:163). In the analysis of the Cold War effect, they could not find a linear relationship. The intensity of displacement is ordered 1990-94, 1985-89, 1995-1999 and 1981-84, respectively (2009:527). In both studies, they find no significant difference between ethnic and revolutionary wars.

## THEORETICAL EXPLANATIONS: FEASIBILITY OF MOVEMENT

The literature has inquired into the main determinants of refugee migration; however, the effect of geography and location and the extent to which leaving the country is a feasible option have been ignored in much of the research. The geographical features of the origin country may play an important role in the number of refugees either by facilitating or impeding movement. Mountains, forests, and seas/oceans might obstruct mobility because they increase the difficulty and cost of moving. Thus, certain geographical features are expected to limit the number of refugees. However, considering the plight of refugees, while mountains and forests are not supposed to impact the number of refugees; being landlocked and the ratio of coastline to the total border are supposed to have a significant effect. Because even though it is not easy to travel through mountains and forests, it is not as dangerous as traveling at the sea. When we talk about traveling over the sea, we should not picture fancy well-equipped cruises. In general, refugees travel by small sailing boats or rowing boats. These vessels can be easily overturned and refugees may find themselves in the middle of the sea with no food and no help. Unfortunately, they may have nothing to do other than waiting for death. However, forests and mountains offer sanctuary, hiding places, places in which the human body may be shielded from the elements in a way that we cannot when we are in a rowing boat on the water. In addition, it is much easier to find help on the land than at the sea. It is not reasonable to claim that people who pass through forests and mountains never die. however, the number of deaths at the land border can be considered as

minuscule (Carling, 2007:324). The story of a Somalian man in Wissink et al. (2013:1096)'s semi-structured survey based qualitative analysis, exemplifies the danger and the dissuasiveness of the sea. He was planning to across the border over the sea, but after hearing that his friend lost his life at the sea, he changed his mind and gave up on the travel. Moreover, in order to travel over the sea, refugees need other people's help who are generally smugglers and they have to pay for this travel (Icduygu and Toktas, 2002:44). On the other hand, people can pass through land borders by themselves or they can come together and travel as a group. Of course, they can pay someone to help them; however, they do not necessarily have to pay to anyone. All in all, I am not suggesting that the presence of large bodies of water impedes all movement of refugees, but I claim it makes movement harder and decreases the number of refugees.

*Hypothesis 1: Civil wars in countries with a lower ratio of coastline to the total border generate more refugees than civil wars in countries with a higher ratio of coastline to the total border, ceteris paribus.*

Furthermore, people generally escape to neighboring countries (Iqbal, 2007:117; Weiner, 1996:6) or geographically close countries even though they do not share a border (Moore and Shellman, 2007:813; Yoo and Koo, 2014:53). Hence, a higher number of neighboring countries provides more opportunities for escape and is supposed to increase the volume of refugee migration. Furthermore, policies of neighboring countries regarding refugee flows are another significant determinant. Neighboring countries may adopt the open-door policy which allows people to enter the country without any control like Turkey did during the Syrian refugee crisis. Alternatively, neighboring countries may close their borders and do not accept any refugee like Saudi Arabia did in the same crisis (CNN, 2015). In addition, neighboring countries may use refugees as a "tool" of foreign policy and use them to have leverage over source country or other countries. For instance, Turkey tried to use Syrian refugees to affect Syrian politics. She also used

refugees as leverage in the negotiations for the Schengen visa exemption, as well as negotiating the readmission agreement of irregular migrants with the European Union. Therefore, the higher the number of neighboring countries, the more places refugees have in which to seek asylum and the higher diversity of accommodation policies.

*Hypothesis 2: Civil wars in countries with a higher number of neighboring countries generate more refugees than civil wars in countries with a lower number of neighboring countries, ceteris paribus.*

Another geographical aspect that affects the number of refugees is border access of the country. A country may have a large land and short border or a small land but a long border. Below, table 1 compares the border length and land area of a few selected countries. Border access of Burkina Faso is as twice as high as border access of Saudi Arabia and Croatia's border access is more that twenty-three times as high as Burkina Faso's access.

Table 1

Country	Border Length in km	Land Area in km <sup>2</sup>
Croatia	8,072	55,974
Burkina Faso	1,495	273,800
Saudi Arabia	6,912	2,149,690

People in Croatia have much more alternatives to flee from the country than people in Burkina Faso and Saudi Arabia since Croatia's border is more meandering than other two countries' borders. In addition, the longer the length of the border, the harder it is to control and easier to escape. This expectation finds support in a study which analyzes refugee hosting at dyadic level uses the length of shared border as an interaction variable. While the interaction between shared border and GNP per capita is positively correlated, the interaction between shared border and regime transition negatively correlated with the number of refugees that is hosted (Moore and Shellman, 2007:825)

*Hypothesis 3: Civil wars in countries that have a higher border access generate more refugees than civil wars in countries that have a lower border access, ceteris paribus.*

Existing explanations suggest that people migrate to neighboring countries (Iqbal, 2007:117; Weiner, 1996:6) or geographically close countries even though they do not share a border (Moore and Shellman, 2007:813; Yoo and Koo, 2014:53). Therefore, the proximity of source country and host countries impacts the number of refugees, *ceteris paribus*. For instance, people trying to leave Papua New Guinea have different options than those leaving Bosnia-Herzegovina. In 2010, while Bosnia-Herzegovina has 20 countries within a distance of 500 km and 30 countries within 900 km distance from its borders, Papua New Guinea has 3 countries within 500 and 900 km distance from its borders. Even though the abundance of neighboring countries is a significant determinant in terms of the number of refugees, the living standards of these countries is also significant. Refugees are escaping from the fear of persecution, violence and repression. Thus, they look for places in which they can live free from problems that they have escaped from. Let us compare the Central African Republic and Switzerland in terms of neighboring countries. The Central African Republic is surrounded by Sudan, South Sudan, Chad, Cameroon, Republic of Congo and Democratic Republic of Congo. Almost all of these countries have civil wars, authoritarian regimes, economic underdevelopment and other problems. One of the most developed countries in the neighborhood is Kenya and the minimum distance between Kenya and the Central African Republic is around 1,000 km. On the other hand, countries that border Switzerland are France, Italy, Germany and Austria. None of these countries have a civil war, they are all democracies and wealthier than most of the world. The number of Central African Republic's neighbors may be higher than that of Switzerland; however, the living standards in the neighboring countries of Switzerland are higher than in the neighboring countries of the Central African Republic. For a Central African Republican person, life will not be very different in Sudan



than it was in the Central African Republic. Unless the fear of persecution is severe, people will not leave the Central African Republic because life on the other side of the border is not very different from the source country. On the other hand, let us assume Switzerland has a civil war. In this scenario, the life will be very different for a Swiss person in France than it is in Switzerland. I do not claim that people cannot go to other countries than neighboring ones. For instance, Central African Republic people can leave their country and go to France; however, the distance between France and the Central African Republic makes it harder. The farther the distance between host and source countries, the less accessible the host country is for refugees. Even though transportation facilities have been improved recently and have made travel easier, refugee movements are not ordinary mobilizations which are done by planes or well-equipped vehicles. Therefore, the distance between the source and host countries affects the accessibility. In other words, the longer distance makes host countries less attractive for source country and may demotivate people to leave the country<sup>2</sup>.

The location of the source country is an important factor for the number of refugees. The location has two main components: (1) proximity between the host and source countries and (2a) polity and (2b) development level of host countries. In general, democratic countries are favored over autocratic countries. Authoritarian regimes are known for being repressive (Collier and Hoeffler, 2004:576). People who are escaping from violence, war, and repression will prefer places that are less prone to conflict and repression. Moreover, refugees flee from their countries because

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<sup>2</sup> For an example of migration to neighboring countries, we can look at Syrian refugees in 2014. Of the total number of 3,883,554 refugees; 86% of them were hosted by only Turkey, Jordan and Lebanon. There are also a lot of refugees who migrated to European countries; but the number of refugees that these states host and the level of attraction of them differs. France hosted twice the number of Syrian refugees than Spain. Spain, in turn, hosted five times more refugees than Poland (UNHCR, 2016). The main reason for hosting different numbers of refugees in these countries can be considered as the result of the living standards in them.

they do not enjoy their basic rights. If the host country is an authoritarian regime in which people cannot enjoy their basic rights, refugee's situation may not have improved after the relocation. However, since democracies respect fundamental human rights and they adopt the rule of law and adhere the principle of accountability, refugees are more likely to enjoy their basic rights. In addition, democracies are less repressive than autocracies and people are less likely to be persecuted because of race, religion, nationality, membership of particular social group or political opinion. Therefore, democratic host countries may act as a pull factor for refugees.

Economic underdevelopment is considered as a source of various plights from civil wars to corruption (Fearon and Laitin, 2003:84; Collier and Hoeffler, 2004:573; Sambanis, 2001:273; Chang and Golden, 2010:17). Hence, underdeveloped countries are less favorable than well-developed countries to live. When refugees move to other countries, they leave their houses, their jobs and their day-to day-lives in the source country. They start a new life in the host country and in order to do so they need money. Although in some cases the host country covers some basic needs or allocates them a limited amount of money, refugees still have to work to live. Developed countries offer more economic opportunities than underdeveloped countries (Sambanis, 2004:836). In addition, better living conditions in a country attract more people. Thus, development may affect the preferences of refugees and lead to the accommodation of a higher number of refugees. When countries are closer to developed countries, refugees may be more willing to leave their source country.

*Hypothesis 4: Civil wars in countries with a better location generate more refugees than civil wars in countries with a worse location.*

In the literature, the effect of geography and location has been neglected, especially in quantitative studies that analyze refugee migration in general (Moore and Shellman, 2004;

Melander and Oberg, 2006;2007; Melander, Oberg, and Hall, 2009). Some scholars underline the salience, but do not explore it further (Davenport et al. 2003:37; Neumayer, 2005:393). Of the myriad quantitative analyses, only Schmeidl considers the effect of geography and she examines the number of neighboring countries, land access which is defined as the ratio of the land border to total border, and additionally the existence of obstacles such as forest, mountains, desert etc. which is operationalized as a dichotomous variable. In her study, geography variables have no explanatory power (1997:296). On the other hand, studies which analyze the refugee movement at the individual level through surveys, scrutinize the effect of geography and feasibility of movements via different operationalization such as road length (Adhikari, 2012:601; 2013:87) or transport station (Czaika and Kis-Katos, 2009:410) and these studies find significance. The possible reason for the insignificance in Schmeidl's analysis is that she treats these variables as a cause for refugee migration *per se* and analyzes them for both those countries which generate and do not generate refugees<sup>3</sup>. However, considering oceans, mountains and forests as displacement generating factors is not compatible with the refugee definition. First and foremost, there should be a reason to leave the country. There should be fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion. Of course, it is unreasonable to suggest that the geographical features of countries should generate this fear. Instead, these factors facilitate or impede the movement of refugees. Since civil war is a source of fear and generates refugees, I do not have a problem similar to one encountered and expect to find significance for explanatory variables.

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<sup>3</sup> By this hypothesis, she expects Switzerland and Qatar will generate refugees just because Switzerland has mountains and Qatar has deserts. However, mountains and deserts are not source for the fear of persecution.

## DATA AND OPERATIONALIZATION

In this study, for civil wars, I use UCDP/PRIO Armed Conflict dataset definition which is stated as ‘a contested incompatibility that concerns government and/or territory where the use of armed force between two parties of which at least one is the government of a state, results in at least 25 battle-related deaths’ (Gleditsch et al. 2002:619). Instead of UCDP/PRIO dataset, I could use Correlates of War data; however, since it sets the battle-related death threshold as 1,000, it would exclude many violent events which could not reach the threshold. In addition, 1,000 deaths may be seen as a high threshold for small-scale countries and in return it may lead to biased results (Gleditsch, 2007:297; Sambanis, 2002:238).

In this study, the dependent variable is the number of refugees in civil war years/per year for the duration of the civil war. For refugees, I use the UNHCR definition which is expressed as people who flee from the country of their nationality due to “well-founded fear of being persecuted for reasons of race, religion, nationality, membership of particular social group or political opinion”. I exclude internally displaced persons (IDPs are people who migrate in/within the country) movement for two key reasons. First, IDPs migration and refugee migration are different phenomena<sup>4</sup>. They have different causes and therefore different factors impact them differently and the same variables have different effects (Moore and Shellman, 2006:600)<sup>5</sup>. The source of threat, geography, institutions and economic situation in both origin country and neighboring countries affect the number of refugees and IDPs differently. For instance, geographical impediments increase the number of IDPs, but decreases the number of refugees. While democratic

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<sup>4</sup> According to the United States Committee for Refugees and Immigrants, the correlation coefficient between Refugees and IDPs from 1964 to 2008 is 0.2329 (Marshall, 2009). This is quite a low coefficient and can be considered as an indicator of the difference between refugee and IDPs migration.

<sup>5</sup> There are studies which state that the root causes of IDPs and refugee migration are similar (e.g. Schmeidl, 2000:152). However, these studies suffer from the lack of statistical support.

institution and good economic situations in origin country increase the number of IDPs, they have the reverse effect on the number of refugees (Moore and Shellman, 2006:605)<sup>6</sup>. Second, the effects of two different type of migration also differ. As IDPs migration is the movement within countries, they solely affect the source countries<sup>7</sup>. However, refugee migration can affect regional or global security, by spreading civil wars (Salehyan and Gleditsch, 2006) and transnational terrorism (Choi and Salehyan, 2013; Milton et al. 2013). It also disturbs the stability by spreading diseases (Ghobarah et al. 2003:192; Salehyan, 2007:127). Therefore, the two different phenomena should be studied separately.

In order to analyze the causes of refugee/forced migration, as the dependent variable, some studies use the stock of refugees/forced migration by calculating the change in the stock from one year to the next and in general, they truncate the negative values at zero (Schmeidl, 1997:292; Moore and Shellman, 2004:729; Melander and Oberg, 2006; 137, 2007:160; Melander, Oberg and Hall, 2009:516)<sup>8</sup>. In order to analyze both push and pull factors<sup>9</sup>, some studies use the net stock of forced migration, which is equal to the sum of the refugees and IDPs, also extracting the number of hosted refugees (Davenport et al. 2003:37)<sup>10</sup>. However, to capture the effects of pull factors, studies should adopt a dyadic approach because monadic analyses assume all countries as uniform<sup>11</sup>. Nonetheless, countries do not attract equivalently people from different countries . For

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<sup>6</sup> Whether the causes of refugee migration and IDPs migration are similar or different is a controversial issue. It needs more detailed analysis; however, it is a topic for another paper and due to space limitation, I will not go in detail. For a detailed analysis, see Moore and Shellman (2006).

<sup>7</sup> The aspect of human rights violations regarding the internal displacement can be considered a matter of international politics.

<sup>8</sup> Refugee/Forced migration stock = (The number of refugees/the total number of refugees and IDPs)<sub>t</sub> - (The number of refugees/the total number of refugees and IDPs)<sub>t-1</sub>

<sup>9</sup> While push factors refer to negative factors in the source country, pull factors denote positive/attractive dynamics in the host country. Some scholars criticize papers which uses refugee/forced migration stock as they ignore pull factors (Davenport et al. 2003:29)

<sup>10</sup> Net stock of forced migration = (Total number of refugees and IDPs) – (Total number of hosted refugees)

<sup>11</sup> Davenport et al. also, highlight this shortcoming in their study (2003:37).

instance, Turkey as a host country is not the same for refugees from Syria or Iraq. While in 2014, the number of Syrian refugees in Turkey was greater than 1.5 million; in 2005 after the U.S. intervention in Iraq, the number of Iraqi refugees was less than 2500 (UNHCR, 2016).

Using the stock of refugees as the dependent variable is problematic in terms of proper scientific interpretation. First of all, human beings are rational creatures and value their lives and liberty. When they feel a threat in their hometown, they leave and whenever they feel safe, they return. Second, taking the difference between one year and the previous one may lead to misinterpretations. For the Rwandan case (Table 2) and Afghanistan case (Table 3), the number of refugees and the difference from the previous year is represented in below.

TABLE 2

<b>Year</b>	<b>Number of Refugees</b>	<b>Difference</b>
<b>1990</b>	361,322	41,821
<b>1991</b>	431,240	69,918
<b>1992</b>	434,736	3,496
<b>1993</b>	450,462	15,726
<b>1994</b>	2,257,573	1,807,111
<b>1995</b>	1,819,366	-438,207
<b>1996</b>	469,136	-1,350,230
<b>1997</b>	68,003	-401,133

If people who left the country in 1991 did not return to the hometown in 1992, they are not only refugees because of the events in 1991 but also because of the events in 1992. If one claims that the events in 1992, does not impact 431.240 refugees, the question of why these people did not return the hometown needs to be explained. Moreover, if one uses the refugee stock as the dependent variable, she also claims that 1990 generated more refugees than 1995 which leads to misinterpretation. Third, truncating negative values at zero is also another source of misinterpretation because this method assumes the 1995 and 1997 as the same which seems hard to believe. Fourth, in the subsequent years of civil wars, the country may have exceeded its limit

in terms of people who could leave. That is to say, there might be no one who was negatively affected by war or had the possibility to leave the country and all people who could flee, have already fled from the country.

TABLE 3

<b>Year</b>	<b>Number of Refugees</b>	<b>Difference</b>
<b>1987</b>	5,511,740	417,457
<b>1988</b>	5,622,982	111,242
<b>1989</b>	5,643,989	21,007
<b>1990</b>	6,339,095	695,106
<b>1991</b>	6,306,301	-32,794

For instance, in Afghanistan for 1990 and 1991, the number of refugees was 6.339.095 and 6.306.301, and the population was 12.067.570 and 12.789.374, respectively. For 1990, the ratio of the number of refugees to the population is more than 0.5, people who could leave the country might leave the country in 1990 and thus, there might be no one to leave the country in 1991. According to the stock model, the number of refugees for 1991 was 0 as it has a negative value which ignores more than 6 million people. Lastly, since the UNHCR and USCRI do not keep the record of flows but the total number of refugees, refugee flow calculations are controversial. Even though it is not likely, in Rwanda 1995, it is possible that 2.257.573 refugees might return to the country and 1.819.366 new people might leave the country. Due to the differences between refugees and IDPs and shortcomings of using the refugee stock, I use the total number of refugees as my dependent variable. In order to measure the number of refugees, I use the UNHCR database.

Independent variables in this study are based on the geographical features and location of the source country. The first independent variable is the coastline border ratio and it can be defined as the ratio of the length of coastline border to the length of the total border. The second independent variable is the border access and it can be operationalized as the ratio of total border

length to the size of the land. In above, I try to explain that higher coastline border ratio decreases the number of refugees. However, in order to operationalize the border access, I use both land border and coast border. Even though coastline border ratio decreases the number of refugees, coastlines do not impede all movement of refugees. People still flee from their countries through coastline borders. Moreover, let us assume country A and country B has the same length of the land border; but, while country A has no coastline border, country B has coastline border as long as its land border. In the case of the exclusion of the coastline border from the operationalization of border access will result in measuring country A and country B as the same. In addition, if the coastline border is not included, island countries will have no border access and it may lead to biased results. This is why I do not exclude coastline from the total border. In order to measure the size of the land and the length of both coastline border and land border, I use the World Factbook (2016) dataset.

$$Coastline\ border\ ratio = \frac{\text{Length of the coastline border}}{\text{Length of the total border (coastline border + landborder)}}$$

$$Border\ access = \frac{\text{Length of the total border}}{\text{Size of the land}}$$

The third independent variable is the number of neighboring countries in 500 km. For the calculation of 500 km, I use the minimum distance between countries. Instead of using minimum distance, I could use the distance between capitals or the distance between the center of countries. However, for refugees, the important thing is to leave the source country and to enter in the host country and the minimum distance is the proper measurement to capture this aspect. In addition, instead of sharing a border, I use 500 km threshold. Because the important thing is not necessarily sharing a border; but, the relocation cost since the distance increases the relocation cost. In the presenting/introducing article of CShapes dataset, Weidmann et al. (2010:101) look at the



neighborhood effect on democracy and analyze spatial dependence since proximate countries and closer countries impact each other. They define countries as connected if the minimum distance between countries is equal or lower than 500 km. Following Weidman et. al (2010:102), I also adopt 500 km threshold. In order to measure the number of neighboring countries in 500 km, I use CShapes dataset of Weidmann et al. (2010).

Last independent variable is the location of the source country. The operationalization of this variable is not conventional and measure by two different variables: polity weighted by distance and development weighted by distance. These weighted variables have two components: distance between the host and source country and the development/polity features of the host country. In order to measure development, I use GDP per capita which is commonly used in the literature and as the source for GDP per capita, I use Gleditsch (2002) and World Bank (2016) datasets. In order to measure polity, I use Polity IV project's Polity2 variable (Marshall et al. 2016). Instead of Polity, I use Polity2 because standardized authority codes in the Polity (-88, -77 etc.) are converted to conventional scores in Polity2. For Polity2, higher values stand for democratic and free countries. In order to combine distance and the aspect of the host country, first, I created a connectivity matrix which presents the minimum distance between the boundaries of the source and the host countries. If countries share a border, the distance between them coded as zero. Then, I multiplied the development/democracy variable of the host countries with 1 divided by the logged version of the distance because the higher the distance, the less attractive the host country is. Lastly, I performed this formula for each country and each year and summed them by source country and year. For instance, for France's development weighted by distance in 2010, I created the connectivity matrix between France and all countries. Then, I multiplied the GDP per capita of countries with 1 divided by the logarithmic version of the matrix. Before taking the log of the

distance, I recoded 0 as 1 because  $\log(0)$  is an undefined value and after taking logarithm, I recoded 0 as 1 as dividing by zero is also undefined. Afterwards, I summed all values. In order to exemplify, we can look at the effect of Germany, Austria and China on the development weighted by distance variable of France. The distance of Germany, Austria and China is 0, 149 and 5155 km and their GDP per capita is \$37,574, \$37,761 and \$8,538, respectively. While the contribution of Germany to the development weighted by distance variable of France is 37,574, the contribution of Austria is 7,546 and the contribution of China is 999. I performed this for every country, summed all values and at the end acquired the development weighted by distance variable of France in 2010. In the case of using the raw distance, Germany's contribution will be again 37,574; Austria's contribution will be 253 and China's contribution will be 1.7. In this case, the effect of Austria decreases drastically and the effect of China almost evaporates. I used logarithmic distance instead of raw distance; because, if the raw distance is used, when the distance increases, the difference among countries eradicates. In return, this will ignore the aspects of countries but focus on only the distance. In order to avoid from this kind of bias, I use log distance. In, order to create connectivity matrix and to measure the distance, I use Weidman et al.' CShapes dataset (2010). The formula of development weighted by distance variable can be seen below. If GDP per capita is replaced by Polity2 variable, polity weighted by distance variable can be obtained.

$$\text{Development weighted by distance} = \sum_{i=1} \frac{1}{\ln(\text{distance}_i)} * \text{GDP pc of the host country}_i$$

Following the literature, I control for source country's democracy level, GDP per capita, population, interstate war, genocide, battle-related deaths, internationalization and incompatibility type of the civil war. I use Polity IV's polity2 score for democracy level; Gleditsch (2002) and World Bank Dataset (2016) for GDP per capita; World Bank Dataset (2016) for population;

UCDP/PRIO Armed Conflict Dataset (Pettersson and Wallensteen, 2015) for interstate war, internationalization and incompatibility type of the civil war; the Political Instability Task Force (Goldstone, et al. 2010) for genocide; and lastly, PRIO Battle Deaths Dataset (Lacina and Gleditsch, 2005) for the number of battle-related deaths. I also control for the region, because variables, particularly geography variables may be correlated with the region. Summary of descriptive statistics can be seen in table 4.

Table 4: DESCRIPTIVE STATISTICS

Variable	Mean	Std. Dev.	Min	Max
Number of Refugees	9.822978	3.164476	0	15.66225
Number of Battle Related Deaths	3529.133	7154.142	25	100500
Territory Incompatibility	.4393939	.4965821	0	1
Internationalization of Civil War	.1590909	.3659589	0	1
Level of Democracy	.0930736	6.197193	-10	10
GDP per capita	7.478352	1.191652	4.503802	10.90833
Interstate War	.0541126	.2263622	0	1
Genocide	.1688312	.3748056	0	1
Population	7.18e+07	1.88e+08	403003	1.32e+09
Coastline Border Ratio	30.02361	30.35269	0	100
Border Access	2.078581	2.70705	.3246365	15.21253
Countries in 500 km	8.849567	4.556625	1	26
Middle East	.1396104	.3467701	0	1
Asia	.254329	.4357192	0	1
Africa	.4350649	.496034	0	1
America	.1179654	.3227418	0	1
Development Weighted by Distance	192551.8	94130.89	17772.82	432900.5
Democracy Weighted by Distance	37.17904	50.43431	-78.27202	132.4565

## RESULTS

In this study, I try to include as many cases as possible since there is no temporal or spatial boundary to theory and the higher the number of observation, the more confidence we will have in the results (King et al. 1994:120). The dataset is unbalanced panel data and the unit of analysis is civil war year. Issues of data availability limit my data to the years between 1964 and 2014. The best model to test my theoretical arguments is the fixed effects least square regression (OLS

regression with dummy variables). I checked for the random effects model; however, Hausman (1978) specification tests favored the fixed effects model, for the reason that the fixed effects model considers unobserved differences between individuals as a set of fixed parameters. On the other hand, in the random effects models, unobserved differences are considered as random variables (Allison, 2009:2). Also, since observation within countries (e.g. Colombia 1990 and Colombia 1991) are not independent from each other, I clustered standard errors within countries. Even though clustering relaxes the independency assumption within groups, it still assumes the independency across groups. In addition, while clustering has an impact on the standard errors and variance-covariance matrix of estimators, it does not affect the estimated coefficients (Hamilton, 2013:191). Moreover, because of the possibility of across-group independency, I also run linear regression with panel-correlated standard errors models<sup>12</sup>. Linear regression with panel-correlated standard error is favored over Parks method (fit panel-data models by using Generalized Least Square) because the latter may lead to inaccurate standard errors and t-ratios, especially if the time frame is smaller than the number of units which is the case in my dataset (Beck and Katz, 1995:644).

Below, Table 5 presents the models for refugees in civil wars. While first and second model are fixed effects models, third and fourth model are linear regression with panel correlated standard errors models. I run different models for development weighted by distance and polity weighted by distance since there is a high correlation between two of these variables.

As is expected, the coastline border ratio is negatively correlated to the number of refugees, the border access and the number of neighboring countries are positively correlated with and have

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<sup>12</sup> Linear regression with panel-correlated standard error assumes Colombia 1990 and Colombia 1991 are independent from each other; but Colombia 1990 and Myanmar 1990 are not independent from each other.

Table 5: MODELS FOR REFUGEES IN CIVIL WARS, 1964-2008

	Fixed Effects Models		Linear Regression with Panel Correlated Standard Errors	
	(1)	(2)	(3)	(4)
Battle Related Deaths	0.0000356 (0.0000205)	0.0000329 (0.0000199)	0.0000165 (0.00000853)	0.0000167* (0.00000836)
Territory Incompatibility	0.843 (0.614)	0.963 (0.644)	0.0522 (0.284)	0.0808 (0.279)
Internationalization of Civil War	0.781* (0.323)	1.021** (0.371)	0.462* (0.183)	0.586** (0.183)
Level of Democracy	-0.0656 (0.0693)	-0.0710 (0.0722)	-0.0277 (0.0219)	-0.0322 (0.0222)
GDP per capita	0.494 (0.511)	0.819* (0.405)	-0.0713 (0.369)	0.309 (0.304)
Interstate War	0.440 (0.427)	0.323 (0.430)	0.238 (0.307)	0.188 (0.299)
Genocide	0.985* (0.442)	1.261* (0.494)	0.663** (0.219)	0.838*** (0.217)
Population	9.86e-09*** (2.29e-09)	1.04e-08*** (2.39e-09)	1.27e-08*** (2.34e-09)	1.33e-08*** (2.10e-09)
<i>Coastline Border Ratio</i>	-0.551*** (0.135)	-0.503** (0.160)	-0.0494*** (0.00704)	-0.0549*** (0.00720)
<i>Border Access</i>	0.726*** (0.158)	0.700*** (0.178)	0.336*** (0.0556)	0.307*** (0.0555)
<i>Countries in 500 km</i>	0.345** (0.113)	0.342* (0.133)	0.245** (0.0792)	0.255*** (0.0757)
<i>Location</i>				
<i>Development Weighted by Distance</i>	0.0000110** (0.00000407)		0.0000136*** (0.00000253)	
<i>Polity Weighted by Distance</i>		0.0165* (0.00697)		0.0198*** (0.00271)
Constant	-1.042 (3.517)	-2.317 (3.086)	3.220 (3.378)	2.111 (2.993)
<i>N</i>	778	778	778	778
<i>r2</i>	0.743	0.745	0.671	0.672

Robust standard errors in parentheses. The dependent variable is log-transformed. Coefficients on country dummies and region dummies are not reported. Model 3 and 4 are specified with first-order autocorrelation.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

explanatory power over the number of refugees that are generated by civil wars. None of these variables is a cause for refugee migration, *per se*. Nonetheless, when there is a reason to leave the country, these geographical aspects of the source country impede or facilitate the movement. If people have more opportunities to go or more possibilities to leave the country, the number of refugees will be higher than people who have fewer opportunities. While an increase in the coastline border ratio leads to a decrease in the number of refugees, a rise in border access and the number of neighboring countries result in an increase in the number of refugees. Due to the operationalization of these geographical variables, it is not easy to infer exact substantive relations, especially for the coastline border ratio and border access. The effect of the number of neighboring countries in 500 km can be shown. My models predict that a country that has 6 neighbors and generates 200,000 refugees, would generate around 230.000 refugees if this country had 7 neighbors. Also, I could not present coefficients of country and region dummies because of the space limitation. Middle Eastern and South American countries have higher coefficients than countries in other regions.

The location of the source country and characteristics of its neighbors play an important role in the number of refugees. The results in the models corroborate my hypothesis. Both variables of development weighted by distance and polity weighted by distance are positively correlated and an increase in these variables leads to an increase in the number of refugees. Since the operationalization of both of these variables is not conventional, I cannot go beyond reporting telling the direction of the relationship. However, it can be inferred that a civil war in a country which is surrounded by developed and democratic countries generate more refugees than a civil war in a country which is surrounded by underdeveloped and autocratic states. Sometimes, refugees may not have the chance to choose the country in which they seek asylum because the

war may be too intense, the only thing that matters is to leave the country. Nonetheless, this kind of intense wars is not common to see, more than 90% of civil war years saw less than 10,000 battle-related deaths, more than 99% of them saw less than 37,500 tolls. Therefore, refugees may choose to stay in their home country if the experience in the host country is one of similar violence and repression, and therefore offers little improvement over the situation at home.

Among control variables, whilst internationalization of civil war, genocide and population find statistical significance which is compatible with the literature, battle-related deaths, territory incompatibility (ethnic civil wars), the level of democracy, GDP per capita and interstate war have no explanatory power over the number of refugees. The reason for their insignificance may stem from the fact that this study only looks at civil wars and countries that experience civil wars may have certain features like economic underdevelopment. As our dataset only covers civil wars, particular inherent features of civil wars may not let these variables show significance.

## ROBUSTNESS CHECK

I employ additional datasets to perform robustness checks. First instead of GDP per capita, I use energy consumption per capita to measure development. Since rural societies have a lower development than industrialized countries, energy consumption can be considered as an indicator for the industrialization and thus development (Schmeidl, 1997:293). In order to measure energy consumption per capita, I used Correlates of Wars Project's National Material Capabilities v4.0 (Singer et al. 1972). As this dataset is available until 2007, the model (1) in which this variable is used covers between 1964 and 2007. In addition, instead of Polity2, I used Freedom House's Freedom in the World index country status variable to measure polity. This variable does not exactly measure the regime type but the freedom in the country. Since theoretical explanations are

also related to freedom, using this dataset instead of Polity2, will not pose any serious problems. In this dataset, each individual country can take on one of three values. 1 is coded as not free, 2 is coded as partly free and 3 is coded as partly free. Due to the availability of data, the model (2) in which this variable is used analyze civil wars between 1973 and 2008. Lastly, the dataset for battle-related deaths goes up to 2008 and this is the only dataset that impedes running the test for years between 1964-2014. Results in table 5 show that the number of battle-related deaths has no explanatory power over the number of refugees. Thus in order to increase the number of observation, I run the model (1) and (2) in table 6 again without the battle-related deaths variable and present the results in the model (3) and (4).

The results in table 6 corroborate the previous results and variables of coastline border ratio, border access, countries in 500 km, and location variables are significant in every model. Only, countries in 500 km variable has no explanatory power in Model (2). In addition, substantive effect of the variable in Table 6 is similar to results in Table 5. I also run the models with a dummy variable for being landlocked instead of coastline border ratio and this variable which is measured at a different level also finds statistical significance and revealed that civil wars in landlocked countries generate more refugees than civil wars in non-landlocked countries. For the border access variable, I did not differentiate land border and coastline border. However, a higher coastline border ratio decreases the number of refugees. Hence, it can be said that land border provides more access than coastline border. This is why I operationalized border access variable as:

$$Border\ Access = \frac{(Land\ Border * 2) + Coastline\ Border}{Land\ area}$$

I run the model with this variable and results are still robust.



Table 6: FIXED EFFECTS MODELS FOR THE NUMBER OF REFUGEES IN CIVIL WARS

	(1) 1964-2007	(2) 1973-2008	(3) 1964-2014	(4) 1964-2014
Battle Related Deaths	0.0000348 (0.0000202)	0.0000283 (0.0000181)		
Territory Incompatibility	1.100 (0.686)	0.415 (0.710)	0.249 (0.421)	0.277 (0.462)
Internationalization of Civil War	0.905* (0.354)	1.332** (0.404)	0.515 (0.425)	0.720 (0.435)
Level of Democracy	-0.0538 (0.0728)	-0.106 (0.0723)	-0.0632 (0.0628)	-0.0690 (0.0655)
GDP per capita	0.898 (0.547)	0.386 (0.446)	0.173 (0.422)	0.271 (0.384)
Interstate war	0.248 (0.423)	-0.0714 (0.484)	0.673 (0.362)	0.625 (0.377)
Genocide	1.002* (0.466)	1.382* (0.563)	1.014* (0.464)	1.304* (0.516)
Population	9.95e-09*** (2.41e-09)	1.07e-08*** (2.90e-09)	9.75e-09*** (2.20e-09)	1.11e-08*** (2.24e-09)
<i>Coastline Border Ratio</i>	-0.592*** (0.141)	-0.533** (0.161)	-0.584*** (0.135)	-0.562*** (0.157)
<i>Border Access</i>	0.865*** (0.168)	0.766*** (0.178)	0.719*** (0.159)	0.728*** (0.176)
<i>Countries in 500 km</i>	0.343** (0.117)	0.107 (0.153)	0.417*** (0.122)	0.407** (0.139)
<i>Location</i>				
<i>Development Weighted     by Distance (Energy C.)</i>	0.0319* (0.0149)			
<i>Polity Weighted by     Distance (Freedom     House)</i>		0.208*** (0.0589)		
<i>Development Weighted     by Distance (GDP per     capita)</i>			0.00000809* (0.00000352)	
<i>Polity Weighted by     Distance (Polity IV)</i>				0.0161* (0.00687)
_cons	-6.243 (3.198)	-6.170 (3.457)	0.868 (3.323)	0.927 (3.306)
N	756	733	924	924
r2	0.740	0.769	0.703	0.707

Robust standard errors in parentheses. The dependent variable is log-transformed. Coefficients on country dummies and region dummies are not reported. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Moreover, I also control for the geographical scope of fighting following the findings of Melander and Oberg (2006; 2007). Both the geographical scope of ethnic wars and revolutionary wars have no explanatory power in models and also they did not affect key findings of this study. In their study, Melander and Oberg use the Political Instability Task Force (Marshall et al. 2016) for the geographical scope of fighting. PITF does not include around one-fifth of civil war years which UCDP/PRIO armed conflict dataset has between 1964-2014. I also run the models with geographical scope of fighting variables with a dataset based on PITF civil war years instead of UCDP/PRIO civil war years to probe whether the main reason for the insignificance in my study is the dataset that I use; however, these variables could not find significance in these models, either. Furthermore, in this study, almost half of the civil wars does not meet the threshold of 1,000 battle-related deaths. I created a dichotomous variable for civil wars that exceed 1,000 battle-related deaths threshold and run models with this variable. This variable could not find statistical significance and also did not change results. Therefore, the results of this study can be considered as robust.

## CONCLUSION

This study set out to analyze why some civil wars generate more refugees than others and focused on the geographical aspects and the location of the country in which the civil war takes place. This study adopts a different approach from other studies in the literature in regards to the operationalization of the dependent variable. The main causal variables in this study are not a source of refugee migration, *per se*; however, they can impede or facilitate mobilization. While coastline border ratio makes it harder to leave the country, border access and neighboring countries serve to provide people with more opportunities to flee from the country. The location of the

country both may impede or facilitate the movement. Davenport et al. (2003) paper was titled as ‘Sometimes You Just Have to Leave’; but they forget that sometimes you cannot leave.

Civil war is the most common type of conflict in the last century (Sarkees and Wayman, 2007). Civil wars do not only result in the death of people but they also disturb social and economic life. Therefore, people can leave their country to escape from the violence and problems that are created by civil war. As this study shows, not everybody is fortunate enough to be able to leave their country whenever they want and as not everybody has the same opportunities to leave. This is why, as one of the most important implications of this study, the international community should pay more attention to people in disadvantaged countries in terms of the feasibility of the movement.

In this paper, development weighted by distance and polity weighted by distance are used to analyze refugee migration for the first time. Previous studies which analyzed geographical features of the source country treated them as a cause for refugee migration. In addition, it is the first paper which analyzes the effect of geography and location only for those cases that generate refugees and justification for why we look at only refugee generating cases is explained above. Future studies may (1) analyze the explanatory variables that are studied in this paper and extend them beyond civil wars to all causes of refugee migration; (2) apply development weighted by distance and polity weighted by distance approach to other concepts; (3) scrutinize features of neighboring countries in detail and (4) may collect data on the border policies of neighboring countries –for starters, the variable can be coded as open door, closed door and no regulation- and study it because it may be another facilitator or impediment.

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