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The Decision to Flee: Exploring Gender-Specific Determinants of International Refugee Migration

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The Decision to Flee: Exploring Gender-Specific Determinants of International Refugee Migration *

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Abstract

While the determinants of refugee migration are well-studied, heterogeneities within the group of refugees have received little attention. In this paper, we use data on female and male refugee movements among African and Asian countries in the years 2002–2018 to explore gender differences in flight behavior along three dimensions: reasons for leaving, associated costs, and factors attracting individuals to specific asylum countries. Most prominently, our results show that women are more deterred by longer distances than men and flee significantly more often to neighboring countries. In addition, the number of battle-related fatalities increases male flows to neighboring countries significantly more than female flows. This gender difference decreases when conflict intensity is high. We also find significant differences concerning the economic situation: extreme poverty has a larger impact on women whereas GDP per capita plays a more important role for male than for female flows.

JEL-Code: F22, O15, J16
Keywords: Refugees, International Migration, Distance, Conflict, Gender

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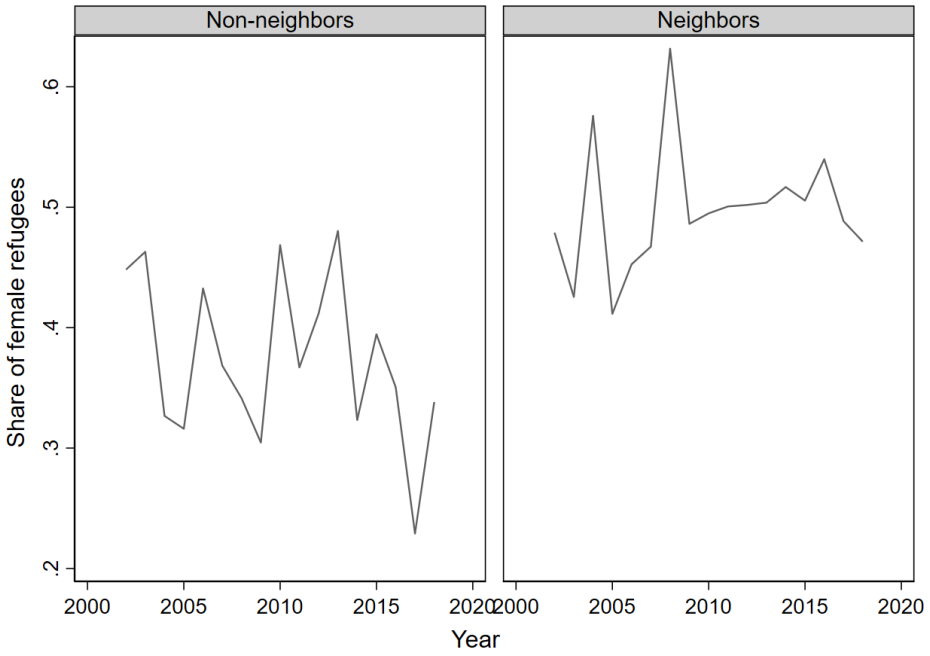
1 Introduction

March 23, 2022 marked the shameful milestone of 100 million forcibly displaced people around the globe.[1] This equates to more than 1% of the world's population that is involuntarily on the move. Understanding determinants of fleeing and heterogeneities within the group of displaced persons is crucial for managing refugee flows as well as developing adequate asylum and integration policies. While there has been considerable scholarly research on the determinants of flight, not enough attention has been paid to the heterogeneity of refugees. This is surprising considering patterns such as that presented in Figure 1. Illustrating refugee movements by gender, it shows that the share of female refugees is higher in neighboring than in non-neighboring countries indicating that men and women respond differently to distance and/or border crossings.

Figure 1 Share of female refugees fleeing to neighboring vs. non-neighboring countries



Note: Own calculations, data provided by UNHCR. The share of female refugees in total refugees is aggregated over all dyads.

Therefore, this study analyzes refugee movements with respect to gender[2]. Specifically, we explore whether systematic gender differences in the decision to flee exist and which

[1] `https://www.unhcr.org/news/press/2022/5/628a389e4/unhcr-ukraine-other-conflicts-push-forcibly-displaced-total-100-million.html`.

[2] We use the terminology "gender" which is a social concept and refers to cultural norms and roles of men and women instead of "sex" which is a physical concept based on biological attributes (Clayton and Tannenbaum 2016; Coen and Banister 2012). However, we acknowledge that both concepts are closely intertwined and can hardly be separated from each other (Stefanick and Schiebinger 2020). With the use of gender in the context of flight determinants we emphasize the importance of both physical/biological differences as well as socially constructed roles, norms, and behavior of men and women that may shape decisions differently.

factors are weighted differently by male and female refugees. This question is motivated by data as well as by theory. Starting with the data, Figure 1 is an excellent example of how males and females display systematic differences in their flight patterns. Theoretically, one may think of three categories in which men and women differ and which may, separately or together, lead to heterogeneous flight movements. These are differences with respect to (i) biological attributes, (ii) preferences, and (iii) cultural norms and traditions.

Our analysis is based on a simple model for the decision to flee, allowing for selection into fleeing and sorting into asylum countries by gender, inspired by the self-selection model for migration (see, for example, Borjas 1987; Grogger and Hanson 2011). Using this model, we derive hypotheses regarding gender differences in flight patterns along three dimensions – origin-specific push factors, destination-specific pull factors, and dyad-specific cost factors. These are then explored using data on dyadic refugee stocks by gender provided by the United Nations High Commissioner for Refugees (UNHCR) for the years 2002-2018 in Africa and Asia.

Our results are strongest for factors associated with the risks and costs of fleeing. We find that female refugee flows decrease significantly more than male flows when geographic distance between a country pair is increased or they are not contiguous. This finding may be associated with greater risks along the route for women, which is supported by reports and studies showing that women face higher exposure to sexual assault and gender-based violence on their journeys (Freedman 2016a,b; Altai-Consulting 2013; MixedMigrationCentre 2018b; UNDP 2019). Further, the pattern from Figure 1 is supported by showing that the effects of many determinants vary between neighboring and non-neighboring country pairs. For flight into neighboring countries, conflict fatalities are a decisive factor. In contrast, variables of political violence are the main push factors into non-neighboring countries. With respect to gender differences when fleeing to neighboring countries, low-intensity conflicts (in terms of battle-related fatalities) are associated with significantly larger male flows compared to females. When conflict intensity is high, however, the gender difference disappears. While the number of civilian fatalities in conflict increases refugee flows to neighboring countries, it even reduces flow to non-neighboring countries. However, the effect is significantly smaller for females than for males which may reflect women suffering more from attacks on civilians. Lastly, we find an interesting pattern concerning mean income and extreme poverty: The (negative) push and (positive) pull effect of GDP per capita is significantly stronger for males than for females. In contrast, extreme poverty has a more substantial (positive) push and (negative) pull effect on female than on male flows, which may indicate a more severe poverty trap for women. These differences can only be observed between neighboring countries for the push and between non-neighboring countries for the pull effect.

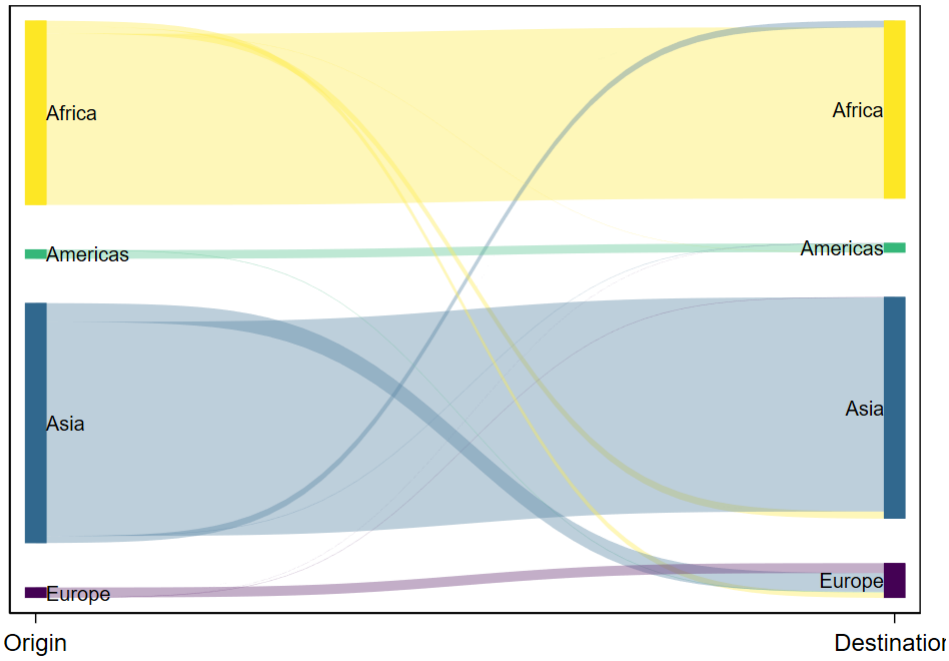
The contribution of this paper is fourfold. First, we contribute to the empirical literature on refugee migration by offering evidence on heterogeneous flight patterns by

gender.[3] Most existing studies of refugee migration only look at total flows, not distinguishing refugees by gender or other individual characteristics (e.g., Schmeidl 1997; Adhikari 2012; Moore and Shellman 2004, 2006, 2007; Echevarria and Gardeazabal 2016; Davenport et al. 2003; Iqbal 2007; Neumayer 2004, 2005b; Dreher et al. 2019).[4] Second, our article expands on the current understanding of geographic patterns of refugee migration. We compile unique data on the geography of the route from the origin to the asylum country, allowing us to go beyond the standard measures for geographic distance. Using data from OpenStreetMap, we code a novel measure of road-based distance between two countries, arguing that this represents a more realistic proxy for refugees' real routes compared to existing measures of linear distance. Combined with geographic data on deserts, mountains, and the number of border crossings, we test three different proxies for the geographic riskiness of the journey. Further, we emphasize the role of distance by allowing flight determinants to vary by (non-)contiguity of origin and asylum country. Third, in addition to the analysis of origin-country determinants of flight, we analyze the sorting of refugees into asylum countries, a dimension that has received relatively little

[3]For voluntary migration see for example Docquier et al. (2009, 2012); Beine and Salomone (2013); Ruyssen and Salomone (2018); Nejad and Young (2014); Baudassé and Bazillier (2014).

[4]A study by Aksoy and Poutvaara (2021) on the (educational) self-selection of male and female refugees into Europe and a study by Rüegger and Bohnet (2018) focusing on the ethnicity of refugees are two exceptions where individual characteristics of refugees are considered when examining their flight behavior.

Figure 2 Total refugee flows between continents from 2002–2018



Notes: The figure depicts the sum of all refugee flows aggregated by continent from 2002-2018. Own calculations based on data provided by UNHCR.

attention to date (see, e.g., Moore and Shellman 2007; Echevarria and Gardeazabal 2016). Fourth, by focusing on Africa and Asia, this study analyzes the world regions where most refugee flows take place. Figure 2 shows refugee flows by continent and illustrates that the majority of refugees move within these two continents. Despite this fact, most of the studies on refugee migration include only high-income destinations, such as European, Western or OECD countries (Hatton 2016, 2017; Aksoy and Poutvaara 2021; Barthel and Neumayer 2015; Neumayer 2004, 2005b).

The remainder of the paper is organized as follows. Section 2 outlines our theoretical model for a gendered flight decision and deducts hypotheses for our empirical analysis. In Section 3 the data is presented and the empirical estimation strategy is then laid out in Section 4. We describe and interpret the results in Section 5 and provide several robustness checks in Section 6. Lastly, in Section 7 we offer a concluding discussion.

2 Gender Differences in the Decision to Flee: A Simple Model

2.1 Basic Principles

Refugee migrants are often described as involuntary or forced migrants. In line with, e.g., Richmond (1993) and Bates (2002), we argue that the decision to migrate occurs along a continuum of agency, i.e., the possibility to be free over migration decisions. Existing research supports this approach by emphasizing that migrants – including refugees – have the choice to stay or to leave, and when opting to leave, they have a choice of where to go (Richmond 1993; Neumayer 2005b; Melander and Öberg 2006; Davenport et al. 2003; Moore and Shellman 2006; Iqbal 2007; Krieger et al. 2020). Nevertheless, we acknowledge that the room for decision is typically much more constrained for refugees than it is for (labor or student) migrants.

In the literature on economic migration, individuals maximize utility by comparing the benefits of migrating to the costs of leaving (Sjaastad 1962). They conduct a cost-benefit calculus along three dimensions: *Push factors* representing characteristics of the country of origin, factors associated with the *costs* of migrating, and lastly, factors associated with the destination country, i.e., *pull factors*. The cost-benefit calculus may describe the idea of agency by adding weights and factors such as survival probabilities and life-threatening risks versus income maximization that differ between refugee and economic migration.

In addition to macro-level push, pull, and cost factors, personal characteristics matter to the evaluation of these determinants on the individual level, resulting in the so-called self-selection of migrants. The personal characteristic that is most studied is the individuals' level of education (e.g., Borjas 1987; Docquier and Marfouk 2006; Grogger and Hanson 2011; Bertoli et al. 2013). Others are risk-attitudes (Bauernschuster et al. 2014)

or, most related to our study, gender (e.g., Docquier et al. 2009, 2012; Beine and Salomone 2013; Ruyssen and Salomone 2018). However, studies analyzing selection by gender are sparse and the results mixed. Docquier et al. (2009), for example, document increasing female emigration rates and a greater rate of high-skilled women emigrating than men for migration into few OECD countries. Their explanation of this pattern is women's desire to escape gender-based discrimination in the labor market. Other studies hint towards gender discrimination in general being a push factor for high-skilled females (Baudassé and Bazillier 2014; Nejad and Young 2014) or at least for females' intention to migrate. Nevertheless, when making final migration preparations, more traditional factors win out (Ruyssen and Salomone 2018). Docquier et al. (2012) argue that (in their case, skilled) females tend to follow their spouses abroad more than vice versa.[5] Concerning migration intentions, Friebel et al. (2018) find no gender difference for changes in migration routes from Africa to Europe, while Migali and Scipioni (2019) document higher migration intentions for men than for women in general. Others do not find differences in the effects of networks (Beine and Salomone 2013) or economic freedom in the home country (Meierrieks and Renner 2017) on the migration behavior of men and women. However, for refugee migration, we are not aware of any such study examining gender-specific patterns.

On a more conceptual note, we want to highlight three different pathways that potentially result in systematic differences by gender in flight patterns[6]: (i) Physical differences between men and women, for example, when it comes to strength and endurance (Wells and Plowman 1983; Handelsman et al. 2018), reactions to pain and stress (e.g., Shansky and Murphy 2021) as well as a higher propensity to be affected by gender-based violence during migration may lead to a different evaluation of the risk of staying or leaving. (UNDP 2019, p. 48; Freedman 2016b).[7] (ii) Differing preferences, e.g. social or economic preferences, (see e.g., Croson and Gneezy 2009; Falk and Hermle 2018) and especially risk preferences may result in different flight decisions.[8] (iii) Cultural norms and the role of women and men in society constrain freedom and choices (UNDP 2019, p. 42; MixedMigrationCentre 2018a, p. 36) or shape preferences differently for men and women (for climate change adaption, see, e.g., Lau et al. 2021). Connected to the role of women is often the responsibility for children, which can affect the flight decision differently (UNDP

[5]However, they are not able to test this directly but instead refer to the effect of a male diaspora on female migrants.

[6]Note that we are not able to test which of these pathways matter most or how they interact. This would require fine-grained micro-level data, which we do not have.

[7]A study by the UNDP (2019, p. 42) shows that also the financial costs of the journey from Africa to Europe are significantly higher for women than for men. This may be due to women buying safer journeys or men being more likely to work instead of paying the smuggler.

[8]In the behavioral and experimental economics literature, gender differences in preferences is a highly debated topic. A range of studies finds that women are, on average, more risk-averse than men, however, this finding often depends on context or culture (e.g. Dohmen et al. 2011; Friedl et al. 2020; Falk and Hermle 2018; Croson and Gneezy 2009; Charness and Gneezy 2012). Nelson (2015, 2016) cautions against confirmation and publication bias (an issue also addressed by Croson and Gneezy (2009)) and finds that gender differences are much less pronounced than often stated.

2019, p. 21; Freedman 2016a, p. 574) and is also found to influence female emigration intentions (Ruyssen and Salomone 2018). Based on anecdotal evidence, these gender differences also converge when it comes to familial expectations: Males are more likely to be sent abroad by their family with the expectation to work and send money home as an investment for the (extended) family, which in turn implies that others (i.e., women) need to stay behind and take care of the (extended) family (World Bank 2017, p. 49; UNDP 2019, p. 41).[9] Overall, these described pathways may result in a different weighting of influential factors for the decision to flee as well as differences in agency over this decision.

2.2 Formalizing Gender Differences in the Decision to Flee

Most approaches to refugee migration are not based on a theoretical model of the decision-making process, with two exceptions: Aksoy and Poutvaara (2021) and Chin and Cortes (2015) propose adaptations of the Borjas model (Borjas 1987). Conflict or persecution enters the calculus either as a *loss* in terms of wages in the home country (Aksoy and Poutvaara 2021) or as a *disamenity* (Chin and Cortes 2015, p. 598). While Chin and Cortes (2015, p. 599) discuss self-selection related to income and skill levels, the model put forth by Aksoy and Poutvaara (2021) examines the self-selection of refugees based on skill and gender. For the first, they include a skill premium on wages. For the latter, they allow the costs of fleeing to vary by gender.

In our model, we combine the approaches by Aksoy and Poutvaara (2021), Chin and Cortes (2015), and the skill-selection model by Grogger and Hanson (2011).[10] We introduce gender-specific terms for each dimension, i.e., the benefits and costs of staying, the costs of fleeing, and the utility of being in a country of asylum. By including a gender-neutral term for each factor as well as a female-specific term, we can hypothesize and test whether a gender difference (i.e., a female-to-male difference) exists and, if so, in which direction.

Individual i with gender g faces the decision of whether or not to flee from the origin country o to a country of asylum a. The utility of staying depends on the expected future income as well as the economic and political situation and further amenities (e.g., cultural, climatic, or environmental amenities), all summarized in A_{io} (following Chin and Cortes 2015). The binary variable D_i^g equals one if the individual is female, i.e.,

[9] Opposing this, there is anecdotal evidence for Afghanistan, that in some cases families decide to send (pregnant) women first in order to facilitate asylum and family reunification (MixedMigrationCentre 2018a, p. 26). Unfortunately, our data does not allow more insights here.

[10] Accordingly, our model faces the same limitations as these models: The model requires the decision between alternative asylum countries to be independent and that it is a one-shot decision, i.e., no return or transit migration occurs. These assumptions are especially strong considering the nature of refugee movements. We will carefully address them in our empirical analysis.

$g = f$. The female-specific term $D_i^f A_{io}^f$ allows for gender-based differences that lead to a lower (higher) utility of staying for women, if $A_{io}^f < (>) 0$, compared to men. If $A_{io}^f = 0$, no gender differences in amenities exist, for example, when there is no gender inequality concerning wages or the use of public spaces. *Push factors* such as conflict, persecution, or oppression lead to a loss of amenities L_{io}, realized with the risk r_o. As for the amenities, the female-specific loss $D_i^f L_{io}^f$ can either be (i) zero, if both genders face equal losses, (ii) positive if women lose more utility, e.g., in the case of attacks on civilians, or (iii) negative if men face more severe utility losses, e.g., if they are more involved in fighting due to physical or cultural differences. Lastly, the stochastic term $\epsilon_{i,o}$ captures unobservables associated with staying. In sum, the utility of an individual i with gender g in origin country o is described by Equation 1:

$$U_{io}^g = A_{io} + D_i^f A_{io}^f - r_o(L_{io} + D_i^f L_{io}^f) + \epsilon_{io} \tag{1}$$

The utility to be expected in the country of asylum U_{iao}^g, shaped by *pull factors*, consists of income, economic and political factors, and amenities summarized in A_{ia} net of the *costs of fleeing* from o to a. The costs c_{ioa} are a function of geographic factors such as distance between home and asylum country or relatedness in terms of language, culture, religion, or historical ties. Again, we allow for gender differences by adding female-specific costs $D_i^f c_{iao}^f$ and pull factors $D_i^f A_{ia}^f$. The sign of the female-specific terms indicates again whether women are more or less strongly affected than men. Additionally, being in the country of asylum implies opportunity costs in terms of the foregone utility of staying in the home country, U_{io}^g. Further, we add a stochastic term for unobservables ϵ_{ia} attracting individuals into a specific country of asylum. Thus, we can formulate the utility of fleeing from o to a in Equation 2:

$$U_{iao}^g = A_{ia} + D_i^f A_{ia}^f - c_{iao} - D_i^f c_{iao}^f + \epsilon_{ia} - U_{io}^g \tag{2}$$

An individual decides to flee if, and only if, the expected utility is positive, i.e., $E\left[U_{iao}^g\right] > 0$, giving us the condition for fleeing from o to a:[11]

$$A_{ia} + D_i^f A_{ia}^f - c_{iao} - D_i^f c_{iao}^f - A_{io} - D_i^f A_{io}^f + r_o\left(L_{io} + D_i^f L_{io}^f\right) > \epsilon_{io} - \epsilon_{ia} \tag{3}$$

There will be self-selection of individuals who decide to flee depending on gender whenever Equation 4 is satisfied. In that case, the refugee population in the country of asylum will not be random but a selected sub-population of the origin countries' residents with respect to gender.

[11] From the individual calculus, we can derive the population migration (or fleeing) rate, which we do not discuss in detail here. The derivation would follow, for example, Borjas (1987) and Grogger and Hanson (2011).

$$D_i^f \left(A_{ia}^f - c_{iao}^f - A_{io}^f + r_o L_{io}^f \right) \neq 0 \tag{4}$$

As the direction of gender differences may vary for each term, the differences may net each other out. For example, suppose women experience higher costs of fleeing ($c_{iao}^f > 0$) and higher losses resulting from conflict at home ($L_{io}^f > 0$), while all else is equal for both genders (i.e., $A_{ia}^f = 0$, $A_{io}^f = 0$). In this case, the fleeing population may not be selected by gender (if $c_{iao}^f = L_{io}^f$). Such situations will result in a gender-balanced refugee population from the origin country in the country of asylum. Nevertheless, the analysis may reveal female-to-male differences by factor, even if they lead to no differences in the aggregate.

2.3 Hypotheses on Gender Differences across Determinants of Flight

Based on the theoretical model from Section 2.2 as well as existing literature on total refugee movements or economic migrants, we develop hypotheses to answer our research question: Do male and female refugees react *differently* to various determinants of flight?

Cost factors, c_{iao}^f: The costs of flight comprise monetary, physical, and psychological costs as well as the risks for violence, torture, or slave-like treatment (UNHCR 2019; Horwood et al. 2018) or political or environmental dangers along the route (Camarena et al. 2020). All of these cost factors increase with distance and the number of borders that are crossed. Accordingly, all studies for total refugee flows find that shorter distances and/or sharing a border significantly reduce migration costs and, in turn, increase refugee movements (Moore and Shellman 2007; Iqbal 2007; Barthel and Neumayer 2015; Echevarria and Gardeazabal 2016). Contiguity may have additional effects as it may change the risk and utility assessments for other factors. Distinguishing neighboring and non-neighboring countries, Moore and Shellman (2007), for example, find that a higher GDP per capita in the country of asylum positively affects inflows into neighboring countries. Yet, for non-neighboring countries the effect is slightly negative. Similarly, Turkoglu and Chadefaux (2019) report that flows are larger for smaller distances in combination with higher mean income and democracy in the asylum country. For this reason, we distinguish effects for neighboring from non-neighboring country pairs.[12]

Gender differences in costs of fleeing have not been studied before, but may occur due to the aforementioned differences with respect to biology, (risk) preferences, or cultural norms. For example, females may be more likely to experience sexual and gender-based violence on their flight (Freedman 2016b; UNHCR 2019, p. 18-20; World

[12]Our analysis (described in Section 4) is a fully-interacted regression testing for gender differences; therefore we refrain from specifically testing contiguity indirectly enforcing or weakening other factors but proceed with sample splits for all dimensions.

Bank 2017, p. 84). Moreover, other characteristics of the route may be riskier for females than for males. Obstacles such as mountainous or desert terrain require more physical strength and may increase dependency on smuggling networks.[13] Since many female migrants perceive their smugglers as criminals (MixedMigrationCentre 2018a, p. 37) and commonly report them as perpetrators of sexual or other physical abuse (MixedMigrationCentre 2018a, p. 21; UNHCR 2019, p. 18-20; Freedman 2016b, p. 21) this dependency is particularly problematic for women.

> **H1: (a)** Longer distances and **(b)** riskier routes between home and destination country increase the costs of fleeing more for women than for men, i.e., $c^f_{iao} > 0$. Hence, female flows decrease more strongly than male flows and the female-to-male difference in flows is negative.

Prominent factors reducing migration costs comprise diasporas in the asylum country (Neumayer 2005b; Moore and Shellman 2007; Havinga and Böcker 1999; Adhikari 2012; Rüegger and Bohnet 2018; Hatton 2016)[14] as well as other factors of relatedness between home and asylum country (Moore and Shellman 2007; Havinga and Böcker 1999; Rüegger and Bohnet 2018; Barthel and Neumayer 2015; Krieger et al. 2018). For economic migrants, some find that females are more more commonly drawn to a male diaspora, potentially driven by family reunification where wives follow their husbands (Docquier et al. 2012; Cummings et al. 2015, p. 30), while others find such a positive effect for same-gender networks (Curran and Rivero-Fuentes 2003, for Mexico-US-migration). Other case studies show that networks, in general, increase female migration (Davis and Winters 2001; Heering et al. 2004; Docquier et al. 2009). Concerning relatedness, results on total flows are less clear-cut. A common language may lower the costs and increase movements (Conte and Migali 2019; Moore and Shellman 2007; Barthel and Neumayer 2015; Neumayer 2004). Yet, this relationship is not found by Echevarria and Gardeazabal (2016). Having colonial ties significantly increases flows only in some of the analyses (Havinga and Böcker 1999; Moore and Shellman 2007; Neumayer 2004), whereas in others it does not (Barthel and Neumayer 2015; Murat 2020) or only for non-neighboring countries (Moorthy and Brathwaite 2016). If women are at least to some extent more risk-averse than men (see Section 2.2), we hypothesize that women may be more interested in closer related countries and larger diasporas, as both potentially decrease information and integration costs.

[13] Especially for Africa-to-Europe migration, the use of smugglers is widespread due to their knowledge about routes, geography, and navigating the terrain (Altai-Consulting 2013).

[14] One exception to this pattern is the study by Melander and Öberg (2006) who find a negative association between diasporas and refugee flows. They argue that with increasing refugee outflows, the population left in the origin country is increasingly unable or hesitant to leave the country.

H2: Stronger relatedness in terms of (**a**) cultural ties between origin and asylum country and **(b)** a larger diaspora in the asylum country have a stronger cost-reducing effect on women's decision to flee, i.e, $c^f_{iao} < 0$. Hence, female flows increase more than male flows and the female-to-male difference in flows is positive.

Push factors, $r_o L^f_{io}$ and A^f_{io}: Research has consistently found that refugee flows (or stocks) increase with heightened violence, such as war or military conflict, in the home country, and with increasing conflict intensity (Schmeidl 1997; Davenport et al. 2003; Moore and Shellman 2004; Neumayer 2005b; Moore and Shellman 2007; Iqbal 2007; Hatton 2009; Echevarria and Gardeazabal 2016; Rüegger and Bohnet 2018; Conte and Migali 2019; Dreher et al. 2019; Murat 2020).[15] Both, an individual's agency to decide over fleeing as well as their vulnerability to conflict may differ across gender and conflict-intensity levels. As discussed in Section 2.1, the agency of women may be lower due to cultural norms and care duties within the family and society at large. Concerning vulnerability, men are more affected by conflict as they face higher propensities of being drafted for military service or of being killed in combat (Buvinic et al. 2013; Aksoy and Poutvaara 2021).

However, with increasing conflict intensity, women and children also become more vulnerable to deteriorating public health systems and the risk of being killed in civilian attacks (Bendavid et al. 2021, p. 85; Jawad et al. 2021). Considering women's agency in high-intensity conflict situations, social networks (and their constraints on women) at home may become less relevant "[b]eyond a certain threshold of severity" (for Syrian refugees, see Schon 2019, p. 16) of the conflict. Looking at migration intentions, Smith and Floro (2020) find that women react to food insecurity only if the insecurity becomes severe enough, whereas men are already motivated by low levels of food insecurity. To conclude, we expect differential effects for conflict intensity: For low-intensity conflicts, the limited agency of women and higher vulnerability of men may result in stronger reactions of men to increases in conflict intensity. For high-intensity conflicts, differences in agency and vulnerability may lose their relevance, resulting in reduced or negligible gender differences.

Further, conflict strategies can affect males and females differently. Sexual violence, for example, is a frequently used strategy in armed conflicts. In such environments, women are much more vulnerable as they are the prime victims of sexual assault (Koos 2017; Cohen and Nordås 2014b; Davies and True 2015). Moreover, due to the composition of fighting forces, attacks on civilians are more likely to strike women, whereas men are more likely to be wounded or killed on the battlefield. Hence, if women are heavily

[15]For related outcomes such as internally displaced persons (Davenport et al. 2003) or the recognition rate of asylum applications in Western European countries (Neumayer 2005a), results go in the same direction.

affected by the conflict through attacks on civilians and sexual violence, we expect to see higher outflows of female refugees compared to males.

> **H3:** **(a)** For low-intensity conflicts, the utility loss of staying is higher for men than for women, i.e., $L_{io}^{f} < 0$. Hence, female flows increase less than male flows, and the female-to-male difference is negative. **(b)** For high-intensity conflicts, the utility loss of staying is equal for men and women, i.e., $L_{io}^{f} = 0$. Hence, female flows increase at the same rate as male flows, and the female-to-male difference is zero.

> **H4:** In conflicts where **(a)** civilians are attacked or **(b)** sexually assaulted, the utility loss of staying is higher for women than for men, i.e., $L_{io}^{f} > 0$. Hence, female flows increase more, and the female-to-male difference is positive.

A different treatment of men and women in society – usually to the disadvantage of females – can shape migration decisions differently but has only been studied for voluntary migration to date (Ruyssen and Salomone 2018; Baudassé and Bazillier 2014; Nejad and Young 2014). For refugee migration, gender inequality in the home country could work in two directions: Limiting women's possibilities within society could either make them want to leave their country[16] or be an obstacle for women's self-determined flight. As evidence is scarce for both options, we refrain from formulating a hypothesis.

For political and economic factors, the deduction of hypotheses on gender differences is similarly problematic for two reasons. First, the literature shows inconsistent patterns. In some studies, civil liberties (Murat 2020; Echevarria and Gardeazabal 2016; Hatton 2016, 2017), human rights (Dreher et al. 2019; Conte and Migali 2019; Neumayer 2005b), democracy or regime transition (Moore and Shellman 2007; Melander and Öberg 2006) are relevant. However, most of the significant findings stem from a set of high-income asylum countries (Neumayer 2005b; Hatton 2016, 2017; Conte and Migali 2019), which are not included in our study. Second, potential gender differences along the lines of physical differences, (risk) preferences, and cultural norms are not straightforward for political and economic determinants from a theoretical perspective. Accordingly, we choose not to derive hypotheses here.

Pull factors, A_{ia}^{f}: While there is much agreement on push and cost factors, there is less consensus on which factors influence the sorting of refugees into asylum countries. Nevertheless, some factors may be parallel to the push dimension. As refugees flee from violence, security issues are a major concern. For instance, Iqbal (2007) as well as Moore

[16] The rise of the Taliban in 2021 is a prominent example of worsening gender inequality forcing women and girls to flee UNHCR (2021, p. 81).

and Shellman (2007) find that war in the destination country decreases refugee inflows. To the extent that women are more risk-averse and value security more than men, we hypothesize that less political violence and more peace in the destination may have greater positive pull effects on female than on male refugees. Further, gender discrimination in the destination country has been argued to play a role for voluntary migration decisions (Nejad and Young 2014; Docquier et al. 2012). Thus, in terms of gender equality, we hypothesize that there may be a significantly greater pull effect for women compared to men.

> **H5:** **(a)** Peace, **(b)** less political violence, and **(c)** gender equality in the destination country increase the utility of leaving more for women than for men, i.e., $A_{ia}^{f} > 0$. Hence, female flows increase more, and the female-to-male difference is positive.

Other potential pull factors are the political and economic situation in the country of asylum. Therefore, in most of the very few studies on the sorting of refugees, factors like civil liberties (Echevarria and Gardeazabal 2016; Hatton 2017) or democracy (Moore and Shellman 2007) as well as GDP per capita and population (Moore and Shellman 2007; Echevarria and Gardeazabal 2016; Hatton 2016, 2017; Rüegger 2019) are included. However, the same caveats apply as in the push dimension: findings are inconsistent, again focusing on high-income asylum countries, and gender differences are less obvious. Thus, we remain agnostic a priori and leave the prevalence and direction of gender differences to the data.

3 Data

3.1 Dependent Variable: Demographic Data on Refugee Flows

We use publicly available data from the UNHCR, containing stocks of refugees by gender from a given origin country living in a country of asylum every December for the period 2002–2018 (UNHCR 2022).[17] The UNHCR gathers this data from governments in asylum countries or by own collection.[18]

Sample restriction We restrict our sample to the regions of Africa and Asia. We do so for two reasons: First, reporting of refugee data by gender is much sparser in European and American high-income countries (UNHCR 2007, p. 47; UNHCR 2020b). Second, as depicted in Figure 2 in Section 1, we include the world regions where most refugee flows

[17] To our knowledge, no other study has used this demographic data to date. Most have used the time series data for stocks of refugees by country of asylum and home country that has been available earlier (e.g. Moore and Shellman 2006, 2007; Moorthy and Brathwaite 2016; Echevarria and Gardeazabal 2016; Dreher et al. 2019).

[18] Angenendt et al. (2016) outline some of the problems inherent to this type of refugee data collection.

take place globally. Together, Africa and Asia host around 65% of the worldwide refugee population in 2019 (UNHCR 2020a, p.19). [19] Furthermore, we restrict our sample to all country pairs for which the data set contains at least one observation.

Imputation The UNHCR demographic data on refugees comprises only country pairs for which the refugee stock is positive. However, the data is not always complete. In cases where a country pair time series has a one-year gap, we use linear interpolation (as discussed by Marbach 2018). For all other missing observations per dyad, i.e., more than one in a row or if the first or the last year is missing, we do not interpolate. Instead, we follow the standard approach for those cases and impute a zero (following, e.g., Dreher et al. 2019; Rüegger and Bohnet 2018; Echevarria and Gardeazabal 2016).[20]

From stocks to flows From the dyadic stock data, i.e., the number of refugees R of gender g (female or male) living in a country of asylum a and fleeing from their origin country o, we construct the net flow of refugees for year t by gender:

$$R^g_{oat} - R^g_{oat-1} = Flow^g_{oat} \tag{5}$$

The changes in stocks result from calculations of newly arrived refugees minus those who left (either returning or moving on), changes in status (either naturalized or received a non-humanitarian residency permit), births, or deaths. While this procedure is far from optimal, it is the only feasible way to assess the movements of refugees and is done correspondingly by others (e.g., Dreher et al. 2011; Bertoli and Moraga 2015; Melander and Öberg 2006; Moore and Shellman 2007; Beine et al. 2011; Barthel and Neumayer 2015).[21] Whenever the net flow turns negative, more people from the origin country o have left, died, or changed their status compared to new arrivals or refugee births in the country of asylum a. We set these flows to zero as this comes closest to the variable of interest for us, which is the inflow of refugees, in line with related literature (Dreher et al. 2019, 2011; Bertoli and Moraga 2015; Melander and Öberg 2006; Moore and Shellman 2007).[22] Given that our research question is about *gender differences* in response to flight determinants, a potential under- or overestimation of real flows is not an issue of concern. Further, it is unlikely that there are systematic gender differences related to naturalization, deaths, births, or the return of refugees to their home country; this supports the use of the flow variable as described.

[19] A list of origin and destination countries analyzed in this study can be found in the Online Appendix, Tables B-1 and B-2.

[20] The data set contains the number of men, women, and unknown by age cohorts (below 18, 18-59, 60+, unknown) and in total. As the age cohort information is more comprehensive, we calculate the sum over all age cohorts for each gender and country pair-year.

[21] For voluntary migration, many studies proceed similarly, as in- or outflows of migrants are rarely published.

[22] As a robustness check, we drop those flows, which has a negligible effect on the results.

3.2 Explanatory Variables

In the empirical set up, we explore gender differences along the three dimensions of the refugee calculus as described in Section 2: (i) cost factors, (ii) push factors, and (iii) pull factors.[23]

Cost factors: Characteristics of the route between two countries increasing the costs and risks of flight as proposed by *H1* are measured using four different variables derived from our own coding. For all variables, the underlying assumption is that refugees are more likely to travel by foot or on roads than by taking a plane. Thus, the riskiness of the route is closely aligned with the geography of the route.[24] First, we construct a *distance* measure (in km) that is based on the roads (data from Open Street Map) between two countries' centroids. We argue that especially when road infrastructure is poor, this measure may substantially differ from existing measures based on linear distance[25] and more accurately reflects the actual flight route that refugees encounter. Based on this route, we calculate the percentage of the route that passes through a *desert*, the percentage that passes through *mountainous terrain* as well as the *number of borders* that need to be crossed. Data on mountains has been taken from the Global Mountain Biodiversity Assessment, and information on deserts has been gathered from Natural Earth Data and OpenStreetMaps.

Addressing the effect of networks (*H2a*), we include a variable for the *refugee diaspora* coded as the mean stock of refugees from each origin in each asylum country over the last three years. We calculate this measure separately for males and females. Additionally, we have the logged stock of *legally registered migrants* from each home country in each asylum country in the year 2000 from the Global Bilateral Migration Database by Özden et al. (2011).[26]

To test relatedness according to *H2b*, we add binary variables that capture common *colonial ties* and a *shared official language*, from Head et al. (2010). Moreover, we include *religious distance*, *linguistic distance* and *genetic distance* between paired countries. All variables are taken from Spolaore and Wacziarg (2016) and are constructed to reflect

[23] A description of variables and data sources (Table A-1) as well as summary statistics (Tables A-2, A-3, and A-4) for all variables can be found in the Appendix.

[24] By using geographic variables as physical cost factors, we take our lead from Schmeidl (1997), yet – after more than 20 years – with more refined measures.

[25] In Table A-5, Column (8) and Table A-6, Column (6) we also use the *population weighted distance* provided by Head and Mayer (2014). This measure weights the linear distance between the two largest cities by population agglomerations. Results do not change.

[26] Despite the importance of networks in the flight decision, both diaspora variables are an issue of concern due to their endogeneity. As, for example, Beine et al. (2011) discuss, there may be unobserved third factors that have an effect on the size of the diaspora and on refugee flows at the same time. Since this may bias the results, we compare the results with and without the inclusion of the diaspora variables (see Tables A-5 and A-6) and resort to the specification without diaspora measures as our preferred specification.

different dimensions of cultural proximity between two countries. The indices range from 0 (minimum distance) to 1 (maximum distance).[27]

Push factors: Using the UCDP Georeferenced Event Dataset (Sundberg and Melander 2013; Högbladh 2021), we construct several conflict measures.[28] We aggregate conflict events to country-year level and construct a count variable for the number of battle-related fatalities and divide it by 1000 to capture conflict intensity, which is used to test *H3a* and *b*. For *H4a*, we include civilian fatalities in the same manner.[29] *H4b* is tested by including sexual violence during conflict, i.e., whether one of the conflict parties is reported to actively use sexual violence in a way that relates to the conflict. This information has been taken from the Sexual Violence in Armed Conflict Data Project (SVAC) 2.0 by Cohen and Nordås (2014a)[30] and is described by Cohen and Nordås (2014b).

We include two different variables for women's rights and the situation concerning gender inequality in the analysis: *freedom of domestic movement for women* from the Varieties of Democracy Dataset (V-Dem) described by Coppedge et al. (2021), which is used to capture whether basic human rights also apply to women. The second variable included is *female labor force participation* from the World Development Indicators, which aims at measuring equal participation and representation of men and women in society. Political oppression is captured by *freedom from political killings* and *freedom of religion*, also both from the V-Dem Dataset. To account for socio-economic and political country characteristics, we include the *polity score* measuring the level of democracy (Marshall and Gurr 2018) ranging from -10 (full autocracy) to +10 (full democracy). A dummy variable for *political instability* is coded 1 when a home country experienced a change in the polity score of three or more points within three years and zero otherwise (following Fearon and Laitin 2003). Furthermore, *GDP per capita* (from the World Development Indicators) and *population size* (from Head et al. 2010) are used in logs. Additionally, as a proxy for poverty constraints, we add *child mortality* (under five years old, deaths per

[27]Genetic distance may be seen as a summary measure of relatedness that may capture long-term beliefs and norms beyond religion and language. The correlation of these three variables is surprisingly low and, thus, not of concern for the analysis.

[28]In the literature, a variety of measures are used, which lead to comparable findings: Genocide and politicide (Schmeidl 1997; Davenport et al. 2003; Neumayer 2005b; Moore and Shellman 2007), civil wars (Schmeidl 1997; Davenport et al. 2003; Moore and Shellman 2004), interstate wars (Schmeidl 1997; Moore and Shellman 2007; Iqbal 2007; Hatton 2009), armed conflict (Iqbal 2007; Echevarria and Gardeazabal 2016; Dreher et al. 2019), the number of battle deaths (Hatton 2009; Rüegger and Bohnet 2018; Conte and Migali 2019), political terror (Moore and Shellman 2004; Hatton 2009, 2016; Conte and Migali 2019; Murat 2020), or the area affected by combats (Conte and Migali 2019).

[29]When adding the number of unknown deaths to these, we get the total number of fatalities. Results for this variable are shown in Table A-7 and A-8, Column 9. For all fatality measures, we use the category of best estimates (Högbladh 2021, p. 11).

[30]The SVAC uses conflicts as coded by the UCDP/PRIO Armed Conflict Database and also considers the 5 years after a conflict ends. This implies that only conflicts with more than 25 battle-related deaths are considered for this coding. For our analysis, in line with the imputation of refugee flows, we set all missing values to zero.

1,000 births) from the World Development Indicators.

In an extension, we take a closer look at conflict dynamics by including a variable for *long and intense conflict* (longer than 5 years and on average more than 25 fatalities per year), for *conflict duration* (consecutive years of conflict in the origin country) as well as dummy variables for the first, second or third year of a conflict. All variables are based on the UCDP Georeferenced Event Dataset.

Pull factors: To test *H5a*, we include variables regarding the peacefulness and security of countries, such as the number of conflict-related *fatalities* (divided by 1000) and *peace duration*, coded as the number of consecutive years of peace, both based on the UCDP Georeferenced Event Dataset. To test a potential pull effect of gender equality (*H5b*), we use the same variables as in the push dimension – *freedom of movement for women* and *female labor force participation* – but for the country of asylum. Also corresponding to the push equation, we include factors of political oppression - *freedom from political killings* and *freedom of religion*, the *polity indicator*, a dummy for *political instability*, *GDP per capita*, *population size* and *child mortality*, all as described above. Lastly, we add a variable for *male and female refugee diaspora*, as described in the cost factors section.[31]

4 Estimation Strategy

To test our hypotheses, we use separate regressions for each dimension relying on gravity models for the dyadic flows by gender.[32] The separate estimation for each dimension enables us to include different sets of fixed effects in order to exclude the influence of omitted variables, following, for example, Bertoli and Moraga (2015); Beine and Parsons (2015); Beine et al. (2019).

To answer our research question on whether gender differences (i.e., female-to-male differences) exist and which direction they take, we estimate a fully interacted model with a gender dummy (D^g) for each factor, as shown in Equation 3 in Section 2. To do so, we reconstruct our panel data set to a stacked data set that allows us to estimate the effect of all covariates for male refugee flows ($D^{g=m}$=0) and the interaction effect, i.e., the female-to-male difference ($D^{g=f}$=1).

The cost effects of flight and their impact on the gender composition of refugees are estimated in the model depicted in Equation 6, for the flow of refugees by gender g, from

[31] Our second measure for diaspora - legally registered migrants in 2000 - is time-invariant and therefore captured in this model by the dyad fixed effects.

[32] Similarly, Echevarria and Gardeazabal (2016) have applied a gravity approach on refugee migration, however, using total stocks. We stick more closely to the recent approach in migration research and analyze *flows* (for refugee migration, e.g., Dreher et al. 2019; Moore and Shellman 2007), which is also the original idea of the gravity model in the trade literature (Silva and Tenreyro 2006). The use of flows is also intuitive as we want to study the effect on refugee movements rather than on refugee stocks.

origin country o to asylum country a in year t. We exploit time invariant dyadic variation by including origin-year fixed effects γ_{ot} and destination-year fixed effects γ_{at}.

$$\begin{aligned}\text{Flow}^{g}_{oat} = \beta_0 + \beta_1 \text{Distance}_{oa} + \beta_2 \text{Geography}_{oa} + \beta_3 \text{Relatedness}_{oa} \\ + D^f \left(\beta^f_0 + \beta^f_1 \text{Distance}^f_{oa} + \beta^f_2 \text{Geography}^f_{oa} + \beta^f_3 \text{Relatedness}^f_{oa})\right) \\ + \gamma_{ot} + \gamma_{at} + \epsilon_{oat}\end{aligned} \tag{6}$$

Equation 7 shows the estimation for gender-specific push effects o nrefugee migration. It comprises different forms of violence, political factors, variables of gender equality and economic variables in the origin country as well as origin country fixed effects γ_o, destination-year fixed effects γ_{at} and country pair fixed effects γ_{oa}. The only remaining variation relates to time-varying origin country characteristics. We include push factors in year t, arguing that flight is a relatively short-term decision, taking into account the situation at the moment.[33] Furthermore, our dependent variable captures the change in refugee stocks from December in t-1 to December in year t, allowing for push factors to impact flows over the entire year. At the same time, we are not concerned about strong reverse causality as the outflow of refugees is unlikely to fuel conflict at home or to have immediate effects on the economic or political situation.

$$\begin{aligned}\text{Flow}^{g}_{oat} = \beta_0 + \beta_1 \text{Violence}_{ot} + \beta_2 \text{Politics}_{ot} + \beta_3 \text{Gender equality}_{ot} + \beta_4 \text{Economics}_{ot} \\ + D^f \left(\beta^f_0 + \beta^f_1 \text{Violence}^f_{ot} + \beta^f_2 \text{Politics}^f_{ot} + \beta^f_3 \text{Gender equality}^f_{ot} + \beta^f_4 \text{Economics}^f_{ot}\right) \\ + \gamma_o + \gamma_{at} + \gamma_{oa} + \epsilon_{oat}\end{aligned} \tag{7}$$

Lastly, Equation 8 depicts how pull variables influence the gender composition of refugee flows. To control for potential unobservables, we include asylum fixed effects γ_a, origin-year fixed effects γ_{ot}, as well as dyad-fixed effects γ_{oa}. Independent variables are time-varying destination-specific characteristics such as peace, security, the political system, gender equality, and the economic situation. Note that for this dimension, we include all variables from $t-1$ in order to account for information lags.

$$\begin{aligned}\text{Flow}^{g}_{oat} = \beta_0 + \beta_1 \text{Security}_{at-1} + \beta_2 \text{Politics}_{at-1} + \beta_3 \text{Gender equality}_{at-1} + \beta_4 \text{Economics}_{at-1} \\ + D^f \left(\beta^f_0 + \beta^f_1 \text{Security}^f_{at-1} + \beta^f_2 \text{Politics}^f_{at-1} + \beta^f_3 \text{Gender equality}^f_{at-1} + \beta^f_4 \text{Economics}^f_{at-1}\right) \\ + \gamma_a + \gamma_{ot} + \gamma_{oa} + \epsilon_{oat}\end{aligned} \tag{8}$$

We apply a Poisson pseudo-maximum-likelihood (PPML) estimator to explain the

[33] In an extension, we test different lag structures, t-1. t-2 and t-3 .

differential change in dyadic stocks, i.e., flows by gender.[34] Silva and Tenreyro (2006, 2011) show that this estimator outperforms log-linear OLS regressions and is more consistent even with a large number of zeros. Furthermore, PPML estimators are common for gravity equations in trade (see, e.g., Head and Mayer 2014) and with increasing availability of dyadic migration data also more often applied to migration studies (e.g., Beine and Parsons 2015; Bertoli and Moraga 2015; Czaika and Parsons 2017; Beine and Parsons 2017) and specifically refugee migration (Dreher et al. 2019; Echevarria and Gardeazabal 2016).[35]

5 Results

We present coefficient plots of the main specification for each dimension to ease the interpretation of our analysis using stacked and fully interacted estimation. The plots show the effect (coefficient and confidence interval) of various flight determinants on male and female refugee flows. The focal point of our research question, the female-to-male difference, is the interacted term for each factor. The coefficient plots illustrate the interaction term, which is labeled with its p-value.[36]

In Figures 3, 4, and 5, we show the results of our preferred specification for each of the three dimensions: cost, push and pull factors. The corresponding tables are provided in the Appendix. These tables also depict the step-wise inclusion of variables alleviating collinearity concerns. To allow for differential effects by (non-)contiguity as discussed in Section 2.3, we split the sample and analyze neighboring and non-neighboring country pairs separately.[37]

[34]The estimator cannot accommodate negative flows. As explained above and similar to Bertoli and Moraga (2015), we set those flows to zero. As a robustness check, we drop all negative flows, which does not change the results substantially (see Tables A-15, A-16, A-17, A-19, A-21 and A-23). Other studies use a two-step model that assesses selection into positive refugee stocks (see for example, Rüegger and Bohnet 2018; Moorthy and Brathwaite 2016; Moore and Shellman 2007). They argue that the process of flight follows two connected but consecutive processes. However, we are only working with the subset of countries that receive positive inflows of refugees at some point, so this two-step procedure is not suitable for our approach. Furthermore, Echevarria and Gardeazabal (2016) argue that this process cannot be adequately disentangled and that PPML estimators can be applied for data with a large number of zeros.

[35]Due to the high-dimensionality of our data (as $t = 17$ and $n_o = 99, n_a = 91$), we use the ppmlhdfe command for Stata by Correia et al. (2020), which is based on the reghdfe command, written and described by Guimarães and Portugal (2011).

[36]Note that two separate regressions are combined in these plots: One interacted estimation for the direct effect on male and female refugees, respectively, and another one including the full factorial to derive the female-to-male difference and its p-value.

[37]Although less than 10% of the observations are classified as contiguous, about 90% of refugee flows occur in this sub-sample. The results for the full sample are available in the Online Appendix.

5.1 Cost Factors

The results for the cost dimension (see Equation 6) are displayed in Figure 3. Here, we analyze the full and non-neighboring sample by looking at time-invariant dyadic factors.[38]

Distance In accordance with earlier findings, longer distances are negatively associated with net male and female flows in both samples. The female-to-male difference is significant and negative, suggesting that distance is a stronger barrier for women than for men, in line with *H1a*. The coefficients on contiguity in the left panel also support this pattern, suggesting that refugee flows are significantly higher if countries are neighbors. Again, the female-to-male difference indicates that this effect is more pronounced for women. Further, the effect of distance is diminishing, i.e., the longer the distance, the smaller the deterring effect of an additional kilometer on the number of refugees.[39]

Route characteristics Looking at the riskiness of the route, we find that more mountainous terrain along the route correlates with a higher number of male and female refugees in the *full sample*. In the civil conflict literature, mountainous terrain has been linked to increased conflict, as it provides insurgents a place to hide from government forces (Buhaug and Gates 2002; Fearon and Laitin 2003). Analogously, it could provide refugees (and smugglers) protection from the police or border controls (for anecdotal evidence, see Moore and Shellman 2006, p. 617). This association is less pronounced for women, as the negative and significant female-to-male difference indicates, partly supporting hypothesis *H1b*.[40] For *non-neighboring* countries, the effect of mountainous terrain is less precisely estimated and insignificant, while the share of deserts is positive and significant for both men and women without significant differences.

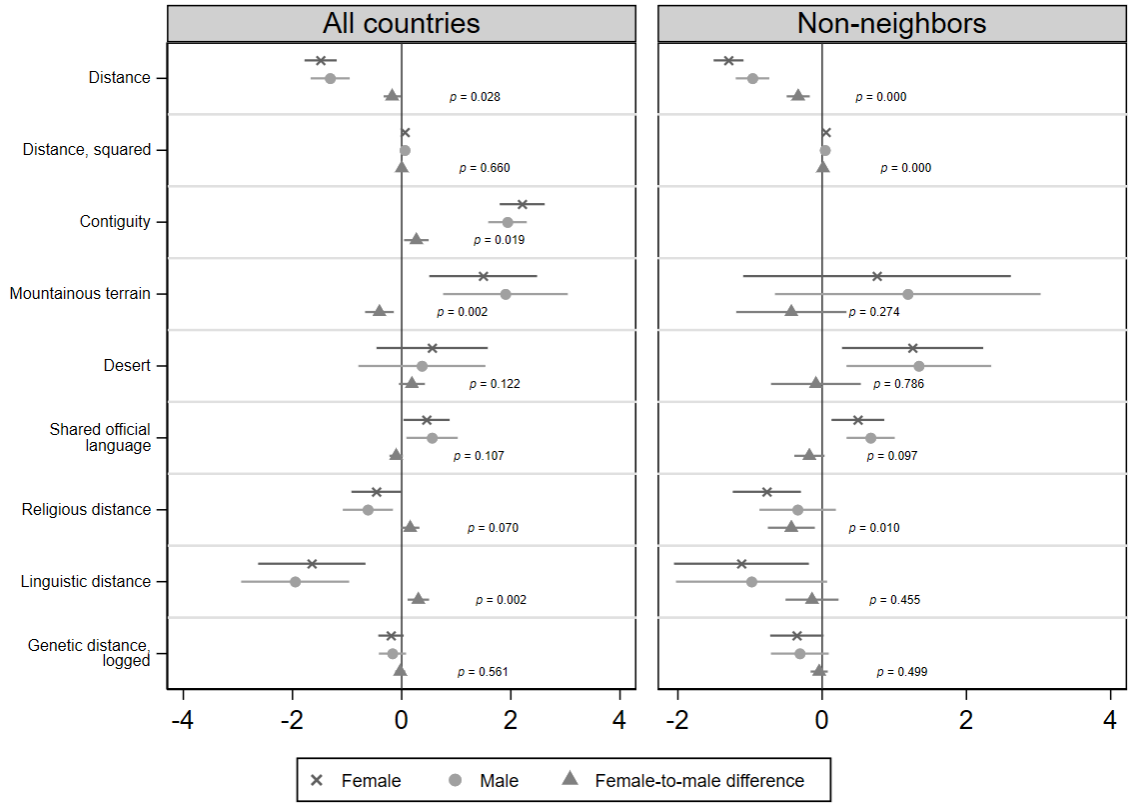
Relatedness Turning to *H2a*, we explore relevant relatedness factors between origin and asylum country, such as common official language, linguistic, religious, and genetic distance. While genetic distance is not significant, the three other variables correlate significantly with the size of refugee flows. In the *total sample*, our results contradict our hypothesis. That is, the negative effect of linguistic and religious distance is more substantial for male flows than for female flows. For *non-neighboring countries*, *H2a* is supported for religious distance, which is associated with a stronger reduction in female flows. At the same time, this hypothesis does not hold for having a shared language, since the positive effect is smaller for female than for male flows.

[38] We do not use the sub-sample with only neighboring country pairs as the variation in the time-invariant distance and relatedness measures is rather small for this sample. Technically, separation effects occur, and collinearity may become problematic.

[39] A test for a U-shaped relationship following Lind and Mehlum (2010) confirms this. The maximum is approximately 11,000 km, which is almost twice the average distance traveled.

[40] Adding the number of border crossings (Table A-5, Column (7) and A-6, Column (5)), does not change the results and the coefficients are not significant.

Figure 3 Effects of cost factors on refugee flows by gender



Notes: Results of two PPML regressions with refugee flows by gender as the dependent variable: an interacted estimation for the male and female total effects and an estimation including the full factorial to derive the female-to-male difference and its p-value. Coefficient and confidence intervals are shown for male and female flows as well as for the interaction term, which depicts the female-to-male difference. The p-value indicates whether the difference is statistically significant. Origin-year fixed effects and destination-year fixed effects are included. Constant not shown. The corresponding results are displayed in Table A-5, Column (6) and A-6, Column (4) in the Appendix.

Diaspora While the network effect, which is addressed in *H2b*, is important from a theoretical point of view (see, e.g., Beine et al. (2011) for migrants, or Moore and Shellman (2007) for refugees), it is difficult to analyze due to its high risk of endogeneity, as discussed in Chapter 3. Therefore, we do not include the diaspora variables in our preferred specification. However, results are shown in Tables A-5 and A-6, Columns (9)-(11). An increase in the stock of legally registered migrants increases refugee flows without any gender difference in both samples, while the (gendered) refugee diaspora has no effect. Hence, *H2b* is not supported.

5.2 Push Factors

Conflict and violence Looking at factors that make people leave their origin country (Figure 4), we observe that – in line with the existing literature – violence has a strong and significant impact on decision-making. For both genders, more conflict-related fatalities (civilian and battle-related) are associated with higher refugee outflows to *neighboring* countries, as shown in the left panel of the Figure 4. Here, the significant conflict variables

follow a cubic relationship, indicating that the increase of refugee outflows per additional fatality is higher for both, small and large numbers of fatalities, i.e., for very mild and very intense conflicts. For battle-related fatalities, the female-to-male difference is significant and indicates that the push effect is smaller for women than for men as long as the number of fatalities is relatively low. This supports hypothesis *H3a* and may be explained by men being more vulnerable (due to their involvement on the battlefield), and at the same time having a higher agency about the decision to flee than women usually do. The quadratic term exhibits a negative female-to-male difference. This shows that for moderate intensity, the push effect for each additional fatality decreases more strongly for female than male flows. For high-intensity conflicts, i.e., the cubed term, the gender difference is barely significant, supporting *H3b*: Gender differences become less relevant.[41]

Interestingly, *non-neighboring* asylum countries exhibit a different pattern which does not support *H3*: Here, relevant push factors are political killings, religious freedom, and battle-related fatalities, all without a significant gender difference. However, considering that movements into non-neighboring countries come with higher costs, these movements typically require more planning and therefore may be less a result of conflict than of persecution.[42]

Regarding strategies used in conflicts, we find mixed results: Civilian fatalities are positively associated with refugee outflows into *neighboring countries*, and the effect is highest for low-intensity conflicts and decreases for medium-intensities without any gender differences. For *non-neighboring* countries, the female-to-male differences are significant, with stronger effects for female flows. However, an increase in civilian fatalities is not significantly associated with the size of flows. This can be interpreted as weak support for *H4a* for non-neighboring countries. Surprisingly, the prevalence of sexual violence in conflict is a significant determinant for refugee migration among both men and women equally, which means that hypothesis *H4b* must be rejected.[43]

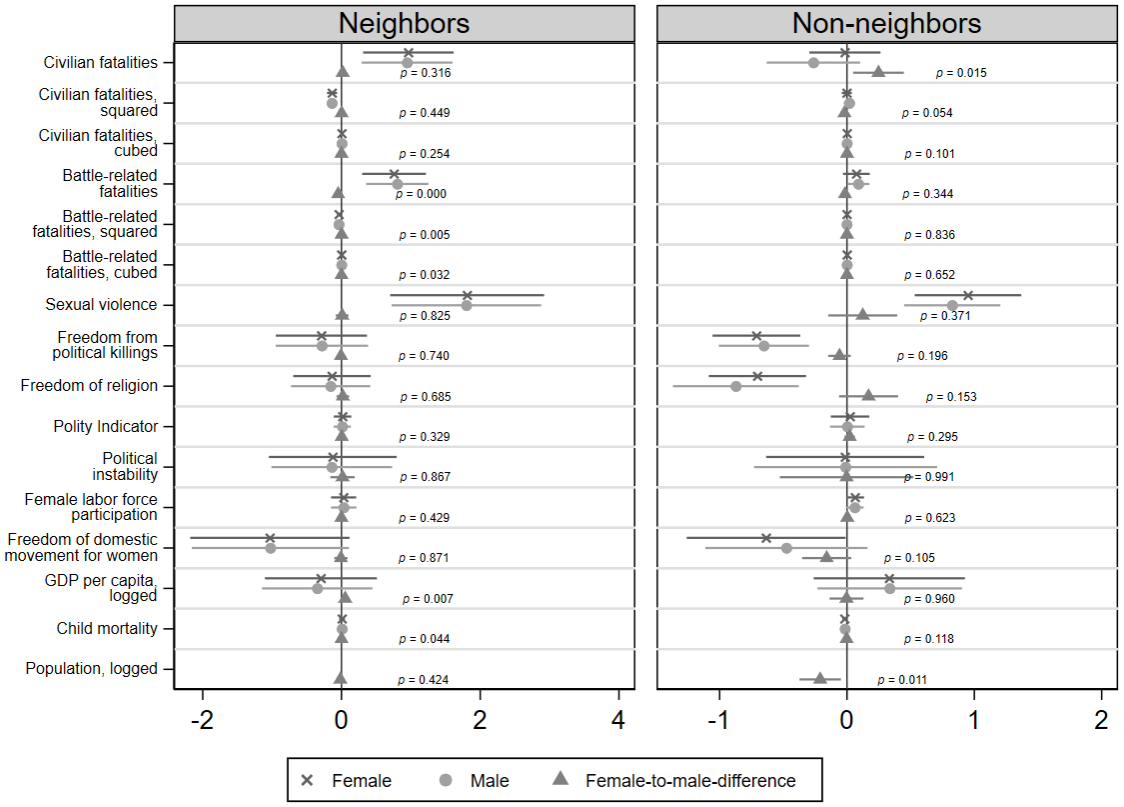
(Socio-)Economic and political factors Lastly, the exploration of economic and political variables of the origin country shows minor associations with the decision to flee and its gender differences. Within *neighboring* country pairs, the significant female-to-

[41] We note that there may be cases where men are actively kept from fleeing. If this happens in specific countries, country fixed effects absorb this.

[42] Addressing the issue of planning horizons and lagged decision making, we analyze conflict dynamics in an extension. Table A-12, Columns (2)-(4) show that for flight into neighboring countries, mainly current and to a lesser extent previous year's civilian fatalities are determining factors. Similarly, for the non-neighboring sample (Table A-14, Column (5)), sexual and political violence variables only have an immediate but no lagged impact on refugee flows. We cannot observe any gender difference in response to lagged conflict dynamics. Further, in our sample, neither length, duration, nor the specific year of an ongoing conflict is relevant (see Tables A-11 and A-13).

[43] Replacing the binary variable prevalence of sexual violence in conflict with a measure of the intensity of sexual violence in conflicts does not change the results. Moreover, excluding the variable from the estimation (as done in Column (6) of Tables A-18 and A-20) also yields similar results, indicating that the effect of sexual violence on refugee flows is not captured by another variable.

Figure 4 Effects of push factors on refugee flows by gender



Notes: Results of two PPML regressions with refugee flows by gender as the dependent variable: an interacted estimation for the male and female total effects and an estimation including the full factorial to derive the female-to-male difference and its p-value. Coefficient and confidence interval are shown for males and females separately as well as for the interaction term which depicts the differential gender effect or the female-to-male difference. The p-value indicates whether the gender difference is statistically significant. Coefficients and confidence interval for population suppressed for reasons of readability. Coefficients and standard errors are the following: Neighbors: Females 0.153 (1.946), Males: 0.165 (1.941), Non-neighbors: Females -3.670 (1.758), Males -3.463 (1.750). Origin fixed effects, destination-year fixed effects and country pair fixed effects are included. Constant not shown. The corresponding results are displayed in Tables A-7 and A-8, Column (8) in the Appendix.

male difference suggests a lower mean income (GDP per capita) in the origin country is associated with greater levels of male flight compared to females. In contrast, female flows increase significantly more than male flows in the case of extreme poverty (high child mortality rate).[44] For the *non-neighboring* sample, GDP per capita does not seem to play any role for the (gendered) flight decision. We find a negative association between extreme poverty and male flows (significant at the 10% level, see Table A-8, Column (8)), while female flows show an even stronger negative association. Thus, we gather that in the case of extreme poverty, fleeing is mostly directed towards neighboring countries and is impeded to non-neighboring countries, with women showing a stronger reaction in both

[44]The direct effects on flows by gender are insignificant.

cases.[45]

In the *non-neighboring* sample, more populous origin countries tend to show smaller refugee outflows, which is even more pronounced for female flows. One reason may be that large countries offer more options to move within the country's borders.[46]

Changes in the level and stability of democracy are not significant across both samples and genders. For gender inequality, we do not find any gender differences, and effects on male and female flows are only significant at the 10% level.[47]

5.3 Pull Factors

Conflict and violence As conflict and violence are relevant push factors, they are also likely to be relevant to the choice of a destination. Results shown in Figure 5 for *neighboring* countries, supports this notion, since increased fatalities in the asylum country are associated with a decrease in refugee inflows. Counterintuitively, an increase in the number of peaceful years in a row in the asylum country also has slightly negative effects. For both, the female-to-male difference is not statistically significant; hence there is no support for hypothesis *H5a*.

In the *non-neighboring* sample, religious freedom has a positive effect on refugee flows but no significant female-to-male difference exists. Hence, *H5b* is not supported and it appears that more religious freedom in a non-neighboring asylum country is a motivating factor for both female and male refugees similarly. Freedom from political killings has neither a direct effect on refugee flows nor a gender-specific effect, supporting the rejection of *H5b*.

Gender equality Turning to women's rights, the association is only significant for *non-neighboring* countries, but no significant gender differences exist. A higher degree of female labor force participation attracts male and female refugees alike into non-neighboring countries. Accordingly, *H5c* is not supported.[48]

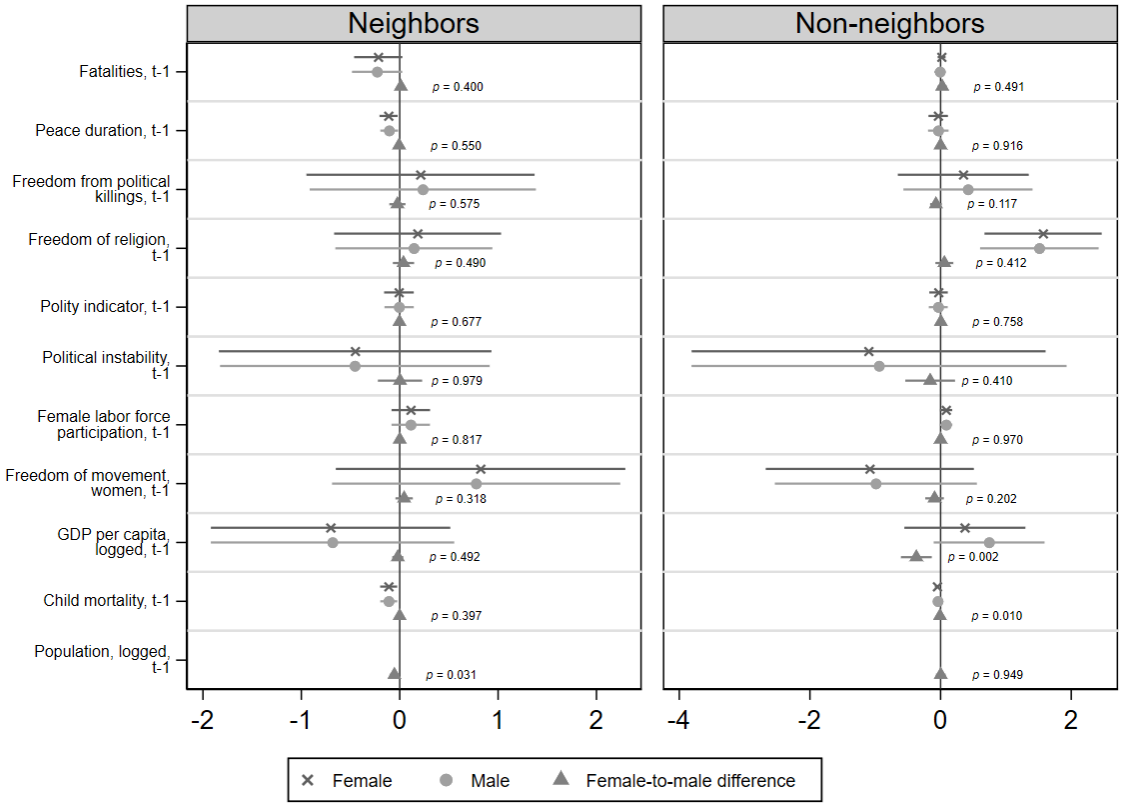
[45]This corresponds to the literature on voluntary migration, which finds that poverty constraints matter for the selection of emigrants, affecting women and low-skilled individuals to a greater extent (Belot and Ederveen 2012), or showing that wealth constraints are relevant in poor countries and stronger for women's migration intentions (Dustmann and Okatenko 2014, p. 60).

[46]Intra-country movements could be regular migration to another place but could also imply moving as an internally displaced person (IDP). Including a variable on IDPs in the origin country does not change the results, and the variable is not significant (see Tables A-18 and A-20, Column (2)).

[47]For neighboring countries, increases in freedom of domestic movement for women have a slightly significant negative effect on the size of flows while female labor force participation is not significant. For non-neighboring countries, female labor force participation is positive and significant, while freedom of movement is not.

[48]In Table A-24, we replace freedom of movement with *property rights for women*, also from V-Dem. This does not change the results in the neighbor sample. In the non-neighboring sample, the property rights variable is significant. It seems to capture part of the effect of female labor force participation, which loses its explaining power. The female-to-male difference is still not significant.

Figure 5 Effects of pull factors on refugee flows by gender



Results of two PPML regressions with refugee flows by gender as the dependent variable: an interacted estimation for the male and female total effects and an estimation including the full factorial to derive the female-to-male difference and its p-value. Coefficient and confidence interval are shown for males and females separately as well as for the interaction term which depicts the differential gender effect or the female-to-male difference. The p-value indicates whether the gender difference is statistically significant. Coefficients and confidence interval for population suppressed for reasons of readability. Coefficients and standard errors are the following: Neighbors: Females -14.684 (3.211), Males: -14.631 (3.2131), Non-neighbors: Females -2.784 (2.36), Males -2.786 (2.345). Asylum country fixed effects, origin-year fixed effects as well as dyad fixed effects are included. Constant not shown. The corresponding results are displayed in Tables A-9 and A-10, Column (5) in the Appendix.

(Socio-)Economic and political factors Mean income in the asylum country matters only for *non-neighboring* countries in a positive direction, i.e., increasing refugee inflows.[49] The female-to-male difference is significant and negative, indicating that the pull effect of GDP is stronger for males than for females. Similarly, severe poverty in a destination country has a negative effect on refugee flows [50], however with a stronger effect on females as indicated by the negative and significant female-to-male difference. This finding matches the observations for push factors, where women show a stronger response to severe poverty than men. However, this finding should be viewed cautiously, given that the significant effects are not robust to modifications such as dropping top countries in terms of conflict or refugee outflows.

[49] Although we find a significant positive relationship in the preferred specification, this does not hold in most of our robustness checks.

[50] In our preferred specification, this relationship also holds for *neighboring* countries, but is not robust to many of our modifications.

Lastly, population size is a relevant factor in deciding where to go. Among the *neighboring* destination countries, larger countries are less attractive for refugees, with a significantly more substantial negative impact on women. This relationship is not supported by other findings, (e.g. Echevarria and Gardeazabal (2016) find the opposite) and thus, opens an avenue for further investigation.

Political factors such as democracy or political stability do not seem to impact flight decision, regardless of gender and (non-)contiguity of countries.

6 Robustness Checks

Our analysis shows interesting correlative results. However, concerns about selection, omitted variables, or endogeneity may weaken the findings. Thus, we run a variety of additional estimations to test the robustness. The detailed results can be found in Tables A-15 to A-24. In the following, we briefly describe our tests.

Changes to the sample:[51] First, by *excluding the top outflow countries*, Syria, Afghanistan, Iraq, South Sudan, and Somalia, we test whether these countries drive the results. Similarly, we *exclude the five countries with the most conflict fatalities*, Syria, Afghanistan, Iraq, Mexico, and Nigeria. Given these substantial modifications of the sample, we find a surprisingly small impact on our main results in both cases. The most notable changes are (i) for neighboring countries, the positive effect of battle-related fatalities on refugee outflows turns negative without any gender difference, and (ii) relatedness factors play less of a role in the flight decision.

We further *exclude transit countries*, Morocco, Algeria, Tunisia, Turkey, Mali [52], to minimize the bias that occurs due to refugees not being counted in their final destination but on the route to Europe, for example. The analysis yields essentially the same results.

Changes to the dependent variable:[53] As explained in Section 3.1, in our preferred model we set all negative refugee flows to zero. Alternatively, we *drop all observations with negative flows* following Beine et al. (2011). Although this reduces the number of observations by 15-20%, it does not change the results substantially.

To reduce the impact of a few very large refugee flows and smooth the distribution of flows, we *log the dependent variable*; an approach also followed by Dreher et al. (2019)

[51] The results for the sample changes can be found in columns (2)–(4) in Table A-15, A-16, A-17, A-19, A-21, A-23.

[52] There is no uniform definition of transit countries. The Maghreb is highly relevant for routes into Europe (e.g., Herbert 2022) and Mali has been reported to be a relevant transit country as well (`https://www.iom.int/news/mali-remains-country-emigration-and-transit-iom-migration-profile-confirms`).

[53] The results for the changes in the dependent variable can be found in columns (5)–(8) in Table A-15, A-16, A-17, A-19, A-21, A-23.

or Beine et al. (2011). We add 1 to all flows before taking the log in order to keep all zero observations in the analysis.[54] For the logged dependent variable, we apply an OLS regression. This does not systematically change the results; however, significant gender differences in distance or conflict fatalities disappear. Yet, this is no surprise as Silva and Tenreyro (2006) also find quite different results when applying the PPML estimator to the gravity equation as compared to the (prior) standard approach of running an OLS estimation in the log-linearized specification.

Using stocks instead of flows[55], we see no major deviations in the cost and pull dimension. For push factors, however, conflict fatalities are no longer a driver for flight into neighboring countries. Instead, income and population seem to play a more significant role. For non-neighboring countries, gender differences in flows related to civilian victims disappear. The coefficients decrease drastically in size but their directions remain the same. It should be mentioned, though, that this approach conflicts with the foundations of the gravity model (see, e.g. Beine and Parsons 2015).

Further control variables:[56] In order to address a potential omitted variable bias or measurement error, we test whether the inclusion or replacement of covariates changes the results substantially. Following other studies of refugee migration (e.g. Davenport et al. 2003; Moore and Shellman 2006; Neumayer 2005b; Hatton 2017), we include the *Political Terror Scale (PTS)* (Gibney et al. 2020) indicator in our analysis. This variable captures the existence of human rights violations by agents of the state and is highly correlated with our measure of freedom from political killings. Thus, we use them as alternative measures and not in combination. Similarly, we test *freedom from torture* from the V-Dem data set (Coppedge et al. 2021). Both show largely the same behavior as freedom from political killings and the remaining results are unchanged. As a pull factor to non-neighboring countries, however, low levels of political terror seem an attractive factor for all refugees, while freedom from torture shows this association significantly more for males than for females.

Another asylum country factor that potentially affects male and female flight decisions differently is the education situation, which could be relevant for families or a signal for economic development. Proxied by the number of years of schooling (Barro and Lee 2013), we account for this possibility. The coefficient on schooling is insignificant, and the inclusion does not change the results substantially.

The legal regulations concerning the entry of refugees into a specific country can substantially affect observed refugee flows and the decision-making of refugees, given

[54]Note that Echevarria and Gardeazabal (2016) emphasize the incompatibility of this transformation with the gravity model.

[55](Logged) stocks are, for example, studied by Grogger and Hanson (2011) for migrants and Neumayer (2005b) or Hatton (2004, 2009, 2016) for asylum applications.

[56]The results for additional variables can be found in Tables A-18, A-20, A-22, A-24.

they know about such regulations. To account for these potential barriers, we include a measure of de jure refugee and asylum policies which comprise refugees' entry, services, and livelihood in a destination country. Data comes from the Developing World Refugee and Asylum Policy (DWRAP) data set (Blair et al. 2022). Surprisingly, more liberal refugee policies seem to reduce the number of inflows into a neighboring destination with a significantly stronger effect on men. However, we should be aware that the data reflect de jure regulations, and we have no information as to what extent these regulations are implemented or applied and whether refugees are informed. Additionally, within-country variation over the time period studied is somewhat limited, which may distort the results.

7 Concluding Discussion

In this study, we empirically examined gender differences in the decision to flee among African and Asian refugee movements. Our results show that the costs of fleeing affect the flight decision for men and women differently: Women are significantly more likely to flee to neighboring countries and to go shorter distances than men. This pattern may reflect a higher vulnerability of women on the journey (with respect to (sexual) attacks and physical strength) as well as a higher probability of women being accompanied by children or elderly family members. Additionally, we find that extreme poverty in the origin and in the asylum country is more relevant for females compared to males, both as a push factor and as a barrier. In contrast, males tend to react more strongly to per capita GDP in the origin as well as in the asylum country. Cost-reducing factors of relatedness between origin and asylum country are a relevant determinant of refugee migration, but the effects on men and women vary only slightly.

For refugees overall, flight into neighboring countries is often driven by conflict, whereas political and religious oppression are motivating factors for flight into non-neighboring countries. With increasing numbers of battle-related fatalities, significantly more men flee to neighboring countries; however, as conflicts intensify, gender differences decrease.

For other factors, it seems that men and women are more similar than initially hypothesized: For our newly compiled data on geographic characteristics of the flight route, we do not observe a gender-specific response. Also, sexual violence as a conflict strategy does not have a differential effect for men compared to women. Similarly, we find no gender difference based on the level of security and gender equality in the destination country.

As most studies of migration and particularly refugee movements, this one also has some limitations with respect to the data gathering and the documentation of such flows. The results of this study are based upon registered refugees who meet the criteria according to the 1951 Geneva Convention. Yet, we are fully aware that there are many cases of unrecognized refugees who are not registered by any authority or the UNHCR

and are thus, not included in our data. Additionally, as refugees are only registered when entering a country, we do not know whether they stay in the country or proceed which may lead to double-counting of individuals in more than one country (see also Section 3). Hence, with currently available data the accurate calculation of dyadic refugee flows is very challenging and more precise data is required to improve the understanding of the dynamics of refugee flows.

The political relevance of this study is highlighted when looking at potential consequences of refugee in- and outflows for destination and origin countries (for a comprehensive overview, see Becker and Ferrara 2019). Despite the fact that very few studies consider individual characteristics of refugees, it is clear that getting a better understanding of refugees' needs and backgrounds helps to develop and facilitate more targeted policies. For example, integration policies in asylum countries may be more efficient if they consider the composition of refugee inflows. With respect to the gender of refugees, different patterns have been found for labor market integration (Brell et al. 2020; Azlor et al. 2020; Bakker et al. 2017; Ala-Mantila and Fleischmann 2018), the effect of early childhood education availability on social inclusion (Gambaro et al. 2021) as well as factors associated with psychological distress (Thapa and Hauff 2005). At the same time, refugee movements may result in demographic imbalances in origin or asylum countries. Emigration of high-skilled females, for example, may have negative consequences on education and health in the origin country (Dumont et al. 2007). Further, there is evidence that gender equality, be it in terms of equal rights or simply sex ratios within a population, fosters economic growth (e.g., Duflo 2012; De la Croix and Vander Donckt 2010; Branisa et al. 2013) as well as the stability of nations (e.g., Hudson and den Boer 2004; Dahlum and Wig 2020; Hudson and Hodgson 2020). Thus, understanding and potentially predicting the drivers for gender differences in refugee movements may benefit policymakers in regulating flows and enacting meaningful policies for migration and integration.

In the specific context of this study, policy implications mainly build on the deterring effect of distance and borders for women. Considering that women are often accompanied by children, we can derive that neighbors of conflict-ridden countries have a greater need for infrastructure that supports families. Moreover, labor market integration and language programs in these countries can be more specifically directed at women and their needs as caretakers within the family. Finally, we advocate for safe and legal flight journey, especially but not only for women, given the considerable deterring effect that geographic distance and contiguity have on refugee flows. Refugees who fall under the 1951 Geneva Convention deserve protection, both in the country of asylum and on their way there.

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8 Appendix

This Appendix comprises a table of variable definitions and sources, summary statistics for each of the three dimensions, tables of the regression results as well as the results tables for the extended analysis of the push dimension and the robustness checks.

Table A-1 Variable Definitions and Sources (in alphabetical order)

Variable	Definition	Source
Child mortality	Mortality rate, under-5 (per 1,000 live births).	World Development Indicators (WDI)
Colonial ties	Dummy equal to 1 if pair ever was in colonial or dependency relationship (including before 1948).	The CEPII Gravity Database (Conte et al. 2021) based on Head et al. (2010)
Contiguity	Dummy equal to 1 if countries are contiguous.	The CEPII Gravity Database (Conte et al. 2021) based on The Geodist Database (Mayer and Zignago 2011)
Diaspora registered immigrants, logged, 2000	The bilateral stock of legally registered migrants in the year 2000, logged.	Özden et al. (2011)
Desert	Share of the road-based route between countries that crosses deserts.	Own coding based on data from OpenStreetMap and Natural Earth (Patterson and Kelso 2012)
Distance	Shortest road-based distance between the centroids of two countries, divided by 1000.	Own coding based on data from OpenStreetMap
Distance, population weighted	Linear distance between the largest cities of two countries, weighted by the share of the city in the overall country's population, divided by 1000.	The CEPII Gravity Database (Conte et al. 2021) based on The Geodist Database (Mayer and Zignago 2011)
Fatalities (All, Civilians, Battle-related)	The best (most likely) estimate of total fatalities resulting from an event, summed up by year and country and divided by 1000.	UCDP Georeferenced Event Dataset, Version 21.1 (Sundberg and Melander 2013; Högbladh 2021)
Female labor force participation	Proportion of the female population aged 15-64 that is economically active.	World Development Indicators (WDI)

Female refugee diaspora	Average dyadic stock of female refugees of the past 3 years.	Own coding based on UNHCR (2022)
Freedom from political killings	Interval scale from -5 to 5. Political killings are killings by the state or its agents without due process of law for the purpose of eliminating political opponents.	Varieties of Democracy (V-Dem) (Coppedge et al. 2021)
Freedom of movement for women	Interval scale from -5 to 5 evaluating to which extent all women are able to move freely, in daytime and nighttime, in public thoroughfares, across regions within a country, and to establish permanent residency where they wish.	Varieties of Democracy (V-Dem) (Coppedge et al. 2021)
Freedom of religion	Interval scale from -5 to 5 evaluating to which extent individuals can choose a religion, change their religion, and practice that religion in private or in public.	Varieties of Democracy (V-Dem) (Coppedge et al. 2021)
GDP per capita, logged	Logged GDP per capita in current thousands US$.	World Development Indicators (WDI)
Genetic distance	Genetic distance between two countries measured on a range from 0 (very distant) to 1 (very close).	Spolaore and Wacziarg (2016)
Linguistic distance	Linguistic distance between two countries measured on a range from 0 (very distant) to 1 (very close).	Spolaore and Wacziarg (2016)
Male refugee diaspora	Average dyadic stock of male refugees of the past 3 years.	Own coding based on UNHCR (2022)
Mountainous terrain	Share of the road-based route between countries that crosses mountainous terrain.	Own coding based on data from OpenStreetMap and the Global Mountain Biodiversity Assessment (GMBA) (Körner et al. 2017)
Number of borders	Number of borders crossed based on the road-based distance between two countries.	Own coding based on data from OpenStreetMap

Peace duration	Number of consecutive peace years in a country.	Own coding based on UCDP Georeferenced Event Dataset, Version 21.1 (Sundberg and Melander 2013; Högbladh 2021)
Political instability	Dummy equal to 1 when a home country experienced a change in the polity score of three or more points.	Own coding based on Fearon and Laitin (2003); Marshall and Gurr (2018)
Polity Score	Index of democracy ranging from +10 (strongly democratic) to -10 (strongly autocratic).	Polity5 Project (Marshall and Gurr 2018)
Population size, logged	Logged population size in thousands.	The CEPII Gravity Database (Conte et al. 2021) based on the World Development Indicators (WDI) and Angus Maddison's Statistics on World Population
Religious distance	Religious distance between two countries measured on a range from 0 (very distant) to 1 (very close).	Spolaore and Wacziarg (2016)
Sexual Violence	Dummy equal to 1 if sexual violence in conflict is prevalent in this origin-year.	Sexual Violence in Conflict Data Project (SVAC) 3.0, 1989-2019 by Cohen and Nordås (2014a)
Shared official language	Dummy equal to 1 if countries share a common official or primary language.	The CEPII Gravity Database (Conte et al. 2021) based on The Geodist Database (Mayer and Zignago 2011)

Table A-2 Summary Statistics - Cost factors (in alphabetical order)

	Non-neighbors					Neighbors				
Variables	N	Mean	Min	Max	SD	N	Mean	Min	Max	SD
Desert	28,980	0.261	0	1	0.245	3,671	0.260	0	1	0.344
Distance	28,980	6.462	0.381	20.81	4.291	3,671	1.467	0.188	4.748	0.922
Female refugee flow	28,980	21.12	0	57,973	499.5	3,671	1,851	0	693,917	19,135
Genetic distance, logged	28,980	-3.751	-9.197	-2.661	0.772	3,671	-4.561	-9.175	-3.240	1.054
Linguistic distance	28,980	0.950	0	1	0.124	3,671	0.824	0	1	0.255
Male refugee flow	28,980	35.72	0	60,853	707.0	3,671	1,944	0	763,858	21,571
Mountainous terrain	28,980	0.165	0	0.777	0.134	3,671	0.202	0	1	0.267
Religious distance	28,980	0.735	0	1	0.355	3,671	0.523	0	1	0.429
Shared official language	28,980	0.326	0	1	0.469	3,671	0.523	0	1	0.500

Table A-3 Summary Statistics - Push factors (in alphabetical order)

	Non-neighbors					Neighbors				
Variables	N	Mean	Min	Max	SD	N	Mean	Min	Max	SD
Child mortality	26,660	76.54	3.700	213.9	45.81	3,819	76.40	3.700	213.9	46.79
Fatalities	26,660	1.493	0	76.80	7.141	3,819	0.996	0	76.80	5.234
Female labor force participation	26,660	51.62	6.260	88.84	22.78	3,819	55.33	6.260	88.59	21.25
Female refugee flow	26,660	22.91	0	57,973	528.1	3,819	1,900	0	1.657e+06	29,729
Freedom from political killings	26,660	-0.0755	-2.973	2.813	1.200	3,819	0.0757	-2.973	2.813	1.176
Freedom of movement, women	26,660	0.388	-3.055	2.311	1.056	3,819	0.438	-3.055	2.311	1.091
Freedom of religion	26,660	0.491	-3.843	2.615	1.394	3,819	0.441	-3.843	2.615	1.402
GDP per capita	26,660	6.996	4.751	10.83	1.127	3,819	7.076	4.751	11.35	1.199
Male refugee flow	26,660	41.45	0	60,853	816.6	3,819	1,935	0	1.966e+06	33,993
Political instability	26,660	0.0883	0	1	0.284	3,819	0.0838	0	1	0.277
Polity indicator	26,660	0.643	-10	9	5.237	3,819	0.427	-10	9	5.179
Population	26,660	9.921	6.283	14.14	1.384	3,819	9.888	6.402	14.14	1.359
Sexual violence	26,660	0.327	0	1	0.469	3,819	0.274	0	1	0.446

Table A-4 Summary Statistics - Pull factors (in alphabetical order)

	Non-neighbors					Neighbors				
Child mortality	25,081	55.58	3.700	208.1	42.95	3,573	71.91	3.700	208.1	44.94
Fatalities	25,081	0.941	0	76.80	5.995	3,573	0.927	0	76.80	5.248
Female labor force participation	25,081	49.68	6.260	88.84	20.85	3,573	54.67	6.260	88.59	20.52
Female refugee flow	25,081	34.45	0	79,202	768.1	3,573	2,728	0	1.657e+06	34,718
Freedom from political killings	25,081	0.482	-2.973	2.813	1.194	3,573	0.211	-2.973	2.813	1.171
Freedom of movement, women	25,081	0.604	-3.055	2.311	1.035	3,573	0.613	-3.055	2.311	1.032
Freedom of religion	25,081	0.479	-3.843	2.615	1.370	3,573	0.599	-3.843	2.615	1.328
GDP per capita	25,072	7.671	4.751	11.35	1.242	3,567	7.177	4.751	10.83	1.155
Male refugee flow	25,081	60.86	0	160,812	1,358	3,573	2,885	0	1.966e+06	40,107
Peace duration	25,081	3.244	0	31	6.026	3,573	2.886	0	31	5.795
Political instability	25,081	0.0502	0	1	0.218	3,573	0.0532	0	1	0.224
Polity indicator	25,061	1.649	-10	9	5.645	3,567	1.126	-10	9	5.220
Population	25,066	9.958	6.431	14.14	1.471	3,564	9.812	6.605	14.14	1.316

Table A-5 Cost factors - All countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Distance	–2.717***	–1.698***	–1.714***	–1.620***	–1.301***	–1.310***	–1.453***		–1.252***	–1.378***	–1.366***
	(0.222)	(0.185)	(0.181)	(0.173)	(0.179)	(0.182)	(0.153)		(0.184)	(0.275)	(0.267)
Distance, squared	0.124***	0.074***	0.074***	0.071***	0.057***	0.057***	0.057***		0.055***	0.060***	0.059***
	(0.011)	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)		(0.008)	(0.012)	(0.012)
Distance, pop. weighted								–1.244***			
								(0.192)			
Distance, pop. weighted, squared								0.070***			
								(0.013)			
Contiguity		2.005***	1.972***	1.897***	1.983***	1.938***	1.999***	2.347***	1.823***	1.994***	1.983***
		(0.190)	(0.198)	(0.190)	(0.178)	(0.174)	(0.199)	(0.184)	(0.219)	(0.292)	(0.287)
Mountainous terrain			1.186***	1.737***	1.836***	1.901***	1.888***	1.694***	2.007***	1.957***	1.941***
			(0.416)	(0.332)	(0.530)	(0.519)	(0.522)	(0.532)	(0.577)	(0.494)	(0.486)
Desert			0.438	0.276	0.203	0.371	0.424	0.946*	0.541	0.404	0.397
			(0.576)	(0.492)	(0.621)	(0.564)	(0.518)	(0.512)	(0.566)	(0.540)	(0.540)
Number of borders							0.130				
							(0.112)				
Colonial tie				–0.191	–0.290						
				(0.367)	(0.408)						
Shared official language				0.720***	0.605**	0.557**	0.562**	0.606**	0.476*	0.578**	0.576**
				(0.270)	(0.248)	(0.247)	(0.249)	(0.265)	(0.261)	(0.246)	(0.245)
Religious distance					–0.661**	–0.620**	–0.624**	–0.923***	–0.595**	–0.642***	–0.641***
					(0.261)	(0.265)	(0.285)	(0.225)	(0.275)	(0.232)	(0.232)
Linguistic distance					–1.771***	–1.951***	–1.863***	–2.604***	–2.167***	–1.961***	–1.958***
					(0.536)	(0.524)	(0.542)	(0.549)	(0.529)	(0.543)	(0.542)
Genetic distance, logged					–0.198	–0.169	–0.197	–0.228	–0.110	–0.155	–0.158
					(0.138)	(0.139)	(0.149)	(0.161)	(0.141)	(0.134)	(0.132)
Migrant diaspora,logged, 2000									0.071**		
									(0.029)		
Female refugee diaspora										–0.025	
										(0.072)	
Male refugee diaspora											–0.021
											(0.073)
Female	0.128	–0.241	–0.181	–0.124	–0.524	–0.382	–0.126	–0.743***	–0.371	–0.352	–0.305
	(0.104)	(0.150)	(0.161)	(0.197)	(0.370)	(0.380)	(0.538)	(0.281)	(0.385)	(0.379)	(0.385)
× Distance	–0.170**	–0.066	–0.083	–0.091	–0.149**	–0.175**	–0.156**		–0.173**	–0.179**	–0.183**
	(0.070)	(0.056)	(0.066)	(0.074)	(0.075)	(0.080)	(0.067)		(0.079)	(0.077)	(0.077)
× Distance, squared	0.003	–0.004	–0.003	–0.003	0.000	0.002	0.006		0.002	0.002	0.002
	(0.003)	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.005)		(0.004)	(0.004)	(0.004)
× Distance , population weighted								–0.015			
								(0.058)			
× Distance, pop. weighted, squared								–0.032***			
								(0.011)			
× Contiguity		0.277***	0.282***	0.303***	0.296***	0.269**	0.168	0.337***	0.274**	0.274**	0.283**
		(0.103)	(0.104)	(0.100)	(0.111)	(0.115)	(0.161)	(0.093)	(0.116)	(0.120)	(0.119)
× Mountainous terrain			–0.209*	–0.253*	–0.393***	–0.408***	–0.402***	–0.283**	–0.403***	–0.399***	–0.379***
			(0.125)	(0.130)	(0.141)	(0.134)	(0.137)	(0.125)	(0.145)	(0.126)	(0.124)
× Desert			0.117	0.156	0.188*	0.187	0.148	0.173	0.186	0.189	0.190
			(0.117)	(0.124)	(0.107)	(0.121)	(0.111)	(0.111)	(0.128)	(0.116)	(0.115)
× Number of borders							–0.082				
							(0.058)				
× Colonial tie				–0.624***	–0.616***						
				(0.082)	(0.097)						
× Shared official language				–0.077	–0.066	–0.101	–0.100	–0.071	–0.094	–0.101	–0.096
				(0.074)	(0.058)	(0.063)	(0.062)	(0.065)	(0.060)	(0.065)	(0.065)
× Religious distance					0.107	0.156*	0.163*	0.167**	0.151*	0.159*	0.161**
					(0.079)	(0.086)	(0.097)	(0.083)	(0.087)	(0.082)	(0.081)
× Linguistic distance					0.330***	0.305***	0.286***	0.237**	0.307***	0.304***	0.298***
					(0.107)	(0.100)	(0.101)	(0.101)	(0.107)	(0.100)	(0.099)
× Genetic distance, logged					–0.045	–0.027	–0.011	–0.055	–0.029	–0.024	–0.021
					(0.045)	(0.046)	(0.059)	(0.041)	(0.047)	(0.045)	(0.046)
× Migrant diaspora,logged, 2000									–0.003		
									(0.012)		
× Female refugee diaspora										–0.002	
										(0.005)	
× Male refugee diaspora											–0.006
											(0.006)
Observations	65,290	65,290	65,290	65,290	65,302	65,302	65,302	65,302	65,302	65,302	65,302
Dyads	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921
Years	17	17	17	17	17	17	17	17	17	17	17
Log likelihood	–85,277,612	–85,277,612	–85,277,612	–85,277,612	–85,280,476	–85,280,476	–85,280,476	–85,280,476	–85,280,476	–85,280,476	–85,280,476
Pseudo-R2	0.701	0.710	0.710	0.712	0.713	0.713	0.713	0.710	0.713	0.713	0.713

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (6). For reasons of comparability to the non-neighboring subsample the variable Colonial tie is dropped in column (6). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-6 Cost factors - Non-neighboring countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Distance	–1.190***	–1.192***	–1.131***	–0.965***	–1.153***		–0.776***	–0.938***	–0.941***
	(0.101)	(0.105)	(0.105)	(0.119)	(0.114)		(0.121)	(0.232)	(0.223)
Distance, squared	0.050***	0.050***	0.047***	0.040***	0.042***		0.033***	0.039***	0.039***
	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)		(0.004)	(0.009)	(0.008)
Distance, pop. weighted						–1.319***			
						(0.168)			
Distance,pop. weighted, squared						0.077***			
						(0.010)			
Number of borders					0.138				
					(0.087)				
Mountainous terrain		0.407	0.784	1.187	1.095	1.485	1.038	1.141	1.137
		(1.149)	(1.124)	(0.933)	(0.953)	(0.960)	(0.858)	(1.001)	(0.992)
Desert		0.248	0.725	1.340***	1.552***	1.735***	1.715***	1.286**	1.309**
		(0.460)	(0.463)	(0.509)	(0.525)	(0.500)	(0.517)	(0.609)	(0.596)
Shared official language			0.832***	0.672***	0.643***	0.616***	0.607***	0.649***	0.648**
			(0.175)	(0.170)	(0.167)	(0.158)	(0.184)	(0.249)	(0.264)
Religious distance				–0.340	–0.326	–0.428*	–0.118	–0.340	–0.350
				(0.267)	(0.274)	(0.258)	(0.270)	(0.265)	(0.259)
Linguistic distance				–0.979*	–1.005*	–0.358	–0.941*	–0.985*	–0.967*
				(0.542)	(0.534)	(0.449)	(0.521)	(0.524)	(0.529)
Genetic distance, logged				–0.309	–0.313	–0.446***	–0.311*	–0.300	–0.303
				(0.205)	(0.198)	(0.167)	(0.178)	(0.185)	(0.188)
Migrant diaspora,logged, 2000							0.177***		
							(0.039)		
Female refugee diaspora								0.021	
								(0.123)	
Male refugee diaspora									0.021
									(0.113)
Female	0.455***	0.589***	0.672***	0.781*	1.065**	0.433	0.553	0.831**	0.953**
	(0.164)	(0.137)	(0.131)	(0.465)	(0.451)	(0.397)	(0.411)	(0.395)	(0.403)
× Distance	–0.365***	–0.384***	–0.389***	–0.332***	–0.224***		–0.301***	–0.335***	–0.341***
	(0.070)	(0.069)	(0.064)	(0.082)	(0.058)		(0.073)	(0.081)	(0.079)
× Distance, squared	0.014***	0.015***	0.015***	0.012***	0.013***		0.011***	0.012***	0.013***
	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)		(0.003)	(0.003)	(0.003)
× Distance, pop. weighted						–0.401***			
						(0.087)			
× Distance,pop. weighted, squared						0.018***			
						(0.006)			
× Number of borders					–0.113				
					(0.074)				
× Mountainous terrain		–0.604	–0.654	–0.427	–0.352	–0.452	–0.454	–0.414	–0.379
		(0.380)	(0.401)	(0.390)	(0.459)	(0.401)	(0.370)	(0.373)	(0.354)
× Desert		0.065	0.186	–0.086	–0.186	–0.144	–0.102	–0.100	–0.124
		(0.301)	(0.337)	(0.318)	(0.280)	(0.296)	(0.328)	(0.323)	(0.318)
× Shared official language			–0.173	–0.177*	–0.089	–0.176*	–0.156	–0.171	–0.160
			(0.107)	(0.107)	(0.098)	(0.104)	(0.099)	(0.109)	(0.107)
× Religious distance				–0.427**	–0.479***	–0.471***	–0.417**	–0.418**	–0.398**
				(0.166)	(0.166)	(0.165)	(0.171)	(0.170)	(0.168)
× Linguistic distance				–0.140	–0.213	0.056	–0.076	–0.153	–0.184
				(0.187)	(0.166)	(0.210)	(0.186)	(0.173)	(0.173)
× Genetic distance, logged				–0.041	–0.001	–0.074	–0.089	–0.043	–0.040
				(0.061)	(0.059)	(0.060)	(0.067)	(0.056)	(0.056)
× Migrant diaspora,logged, 2000							–0.016		
							(0.017)		
× Female refugee diaspora								–0.008	
								(0.019)	
× Male refugee diaspora									–0.022
									(0.018)
Observations	57,908	57,908	57,908	57,908	57,908	57,908	57,908	57,908	57,908
Dyads	1,704	1,704	1,704	1,704	1,704	1,704	1,704	1,704	1,704
Years	17	17	17	17	17	17	17	17	17
Log likelihood	–7,883,064	–7,883,064	–7,883,064	–7,883,064	–7,883,064	–7,883,064	–7,883,064	–7,883,064	–7,883,064
Pseudo-R2	0.691	0.692	0.695	0.699	0.700	0.698	0.704	0.699	0.699

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (4). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-7 Push factors - Neighboring countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Civilian fatalities	0.968***	1.073***	0.908***	0.854**	0.859***	0.866***	0.944***	0.946***	
	(0.279)	(0.269)	(0.314)	(0.342)	(0.332)	(0.330)	(0.342)	(0.336)	
Civilian fatalities, squared	−0.159***	−0.170***	−0.146***	−0.141***	−0.141***	−0.143***	−0.138***	−0.138***	
	(0.033)	(0.031)	(0.034)	(0.035)	(0.034)	(0.033)	(0.035)	(0.038)	
Civilian fatalities, cubed	0.005***	0.005***	0.005***	0.005***	0.005***	0.005***	0.004***	0.005***	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Battle-related fatalities	0.887***	0.846***	0.858***	0.864***	0.865***	0.870***	0.788***	0.805***	
	(0.243)	(0.232)	(0.215)	(0.218)	(0.219)	(0.223)	(0.215)	(0.225)	
Battle-related fatalities, squared	−0.037***	−0.036***	−0.038***	−0.038***	−0.039***	−0.039***	−0.037***	−0.039***	
	(0.012)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	
Battle-related fatalities, cubed	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Fatalities									0.659***
									(0.133)
Fatalities, squared									−0.019***
									(0.004)
Fatalities, cubed									0.000***
									(0.000)
Sexual violence		1.623***	1.693***	1.691***	1.699***	1.707***	1.804***	1.801***	1.794***
		(0.506)	(0.493)	(0.506)	(0.511)	(0.510)	(0.534)	(0.554)	(0.635)
Freedom from political killings			−0.735***	−0.666**	−0.678**	−0.626**	−0.318	−0.282	−0.039
			(0.282)	(0.262)	(0.274)	(0.269)	(0.327)	(0.340)	(0.463)
Freedom of religion				−0.235	−0.242	−0.253	−0.124	−0.156	0.063
				(0.295)	(0.280)	(0.269)	(0.323)	(0.285)	(0.295)
Polity Indicator					0.022	0.011	0.013	0.012	0.059
					(0.064)	(0.070)	(0.064)	(0.064)	(0.068)
Political instability						−0.137	−0.146	−0.140	0.013
						(0.400)	(0.396)	(0.432)	(0.408)
Female labor force participation							0.030	0.032	0.004
							(0.095)	(0.093)	(0.126)
Freedom of domestic movement for women							−1.232*	−1.024*	−1.495*
							(0.636)	(0.578)	(0.767)
GDP per capita, logged								−0.349	1.693***
								(0.418)	(0.643)
Population, logged								0.861	−2.499
								(1.964)	(2.465)
Child mortality								0.008	0.054
								(0.021)	(0.042)
Female	0.046**	0.046	0.053	0.050	0.036	0.034	0.133*	−0.170	−0.201
	(0.023)	(0.035)	(0.044)	(0.049)	(0.052)	(0.053)	(0.072)	(0.257)	(0.292)
× Civilian fatalities	0.023*	0.021	0.023*	0.025	0.016	0.017	0.017	0.018	
	(0.014)	(0.015)	(0.013)	(0.018)	(0.018)	(0.023)	(0.019)	(0.018)	
× Civilian fatalities, squared	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	
× Civilian fatalities, cubed	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Battle-related fatalities	−0.047***	−0.045***	−0.043***	−0.039***	−0.038***	−0.038***	−0.049***	−0.048***	
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.009)	(0.012)	(0.011)	
× Battle-related fatalities, squared	0.001***	0.001***	0.001**	0.001**	0.001**	0.001**	0.002**	0.002***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	
× Battle-related fatalities, cubed	−0.000*	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000*	−0.000**	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Fatalities									−0.010
									(0.007)
× Fatalities, squared									0.000
									(0.000)
× Fatalities, cubed									−0.000
									(0.000)
× Sexual violence		0.000	−0.004	−0.010	−0.008	−0.008	−0.012	0.010	0.001
		(0.047)	(0.051)	(0.053)	(0.051)	(0.050)	(0.043)	(0.047)	(0.048)
× Freedom from political killings			0.008	0.008	−0.007	−0.007	−0.006	−0.007	−0.021
			(0.015)	(0.016)	(0.026)	(0.032)	(0.023)	(0.022)	(0.021)
× Freedom of religion				0.019	0.012	0.011	0.032	0.019	−0.009
				(0.021)	(0.018)	(0.017)	(0.032)	(0.046)	(0.042)
× Polity Indicator					0.006	0.006	0.005	0.004	0.008
					(0.005)	(0.006)	(0.004)	(0.004)	(0.005)
× Political instability						0.014	0.015	0.015	0.003
						(0.066)	(0.074)	(0.089)	(0.092)
× Female labor force participation							−0.002	−0.001	0.000
							(0.002)	(0.002)	(0.002)
× Freedom of domestic movement for women							−0.016	−0.008	0.012
							(0.038)	(0.049)	(0.055)
× GDP per capita, logged								0.053***	0.034*
								(0.020)	(0.020)
× Population, logged								−0.016	−0.011
								(0.020)	(0.022)
× Child mortality								0.001**	0.001**
								(0.000)	(0.000)
Observations	7,602	7,602	7,602	7,602	7,602	7,602	7,602	7,602	7,602
Dyads	245	245	245	245	245	245	245	245	245
Years	17	17	17	17	17	17	17	17	17
Log likelihood	–	–	–	–	–	–	–	–	–
	59,795,497	59,795,497	59,795,497	59,795,497	59,795,497	59,795,497	59,795,497	59,795,497	59,795,497
Pseudo-R2	0.851	0.859	0.862	0.862	0.862	0.862	0.864	0.864	0.850

Notes: Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (8). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-8 Push factors - Non-neighboring countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Civilian fatalities	0.048	0.111	−0.250	−0.255	−0.253	−0.253	−0.251	−0.264	
	(0.239)	(0.216)	(0.211)	(0.233)	(0.222)	(0.226)	(0.206)	(0.183)	
Civilian fatalities, squared	−0.021	−0.032	0.010	0.011	0.010	0.010	0.012	0.018	
	(0.035)	(0.029)	(0.026)	(0.028)	(0.026)	(0.026)	(0.024)	(0.022)	
Civilian fatalities, cubed	0.001	0.001	0.000	0.000	0.000	0.000	0.000	−0.000	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Battle-related fatalities	0.157***	0.090**	0.104***	0.097***	0.097**	0.098**	0.075**	0.089**	
	(0.051)	(0.041)	(0.036)	(0.032)	(0.040)	(0.041)	(0.035)	(0.045)	
Battle-related fatalities, squared	−0.004**	−0.001	−0.002***	−0.002***	−0.002*	−0.002	−0.001	−0.001	
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	
Battle-related fatalities, cubed	0.000	0.000	0.000*	0.000	0.000	0.000	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Fatalities									0.014
									(0.062)
Fatalities, squared									0.001
									(0.002)
Fatalities, cubed									−0.000
									(0.000)
Sexual violence		0.950***	0.880***	0.854***	0.857***	0.846***	0.851***	0.826***	0.836***
		(0.198)	(0.154)	(0.179)	(0.174)	(0.161)	(0.180)	(0.186)	(0.194)
Freedom from political killings			−1.052***	−0.800***	−0.803***	−0.800***	−0.710***	−0.652***	−0.648***
			(0.166)	(0.132)	(0.176)	(0.170)	(0.198)	(0.182)	(0.176)
Freedom of religion				−0.918***	−0.913***	−0.912***	−0.927***	−0.873***	−0.795***
				(0.294)	(0.292)	(0.291)	(0.305)	(0.234)	(0.224)
Polity Indicator					0.001	0.005	0.017	0.002	0.007
					(0.062)	(0.074)	(0.078)	(0.067)	(0.058)
Political instability						0.080	0.119	−0.011	−0.039
						(0.424)	(0.418)	(0.353)	(0.294)
Female labor force participation							0.054	0.061*	0.064
							(0.036)	(0.036)	(0.040)
Freedom of domestic movement for women							−0.390	−0.475	−0.660*
							(0.352)	(0.326)	(0.353)
GDP per capita, logged								0.336	0.960***
								(0.305)	(0.302)
Population, logged								−3.461**	−3.370**
								(1.576)	(1.606)
Child mortality								−0.016*	−0.019
								(0.009)	(0.012)
Female	−0.699***	−0.697***	−0.749***	−0.841***	−0.864***	−0.864***	−1.001**	1.341	0.569
	(0.197)	(0.184)	(0.215)	(0.196)	(0.217)	(0.223)	(0.495)	(1.121)	(1.190)
× Civilian fatalities	0.288**	0.279**	0.235*	0.193	0.182	0.182	0.176	0.247**	
	(0.130)	(0.135)	(0.127)	(0.130)	(0.127)	(0.132)	(0.127)	(0.101)	
× Civilian fatalities, squared	−0.025*	−0.023	−0.020	−0.016	−0.014	−0.014	−0.010	−0.020*	
	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.013)	(0.010)	
× Civilian fatalities, cubed	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Battle-related fatalities	−0.060***	−0.048**	−0.032	0.006	0.005	0.006	0.003	−0.016	
	(0.016)	(0.021)	(0.021)	(0.018)	(0.016)	(0.023)	(0.019)	(0.016)	
× Battle-related fatalities, squared	0.002**	0.001	0.001	−0.001	−0.001	−0.001	−0.001	−0.000	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
× Battle-related fatalities, cubed	−0.000	−0.000	−0.000	0.000	0.000	0.000	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Fatalities									0.020
									(0.022)
× Fatalities, squared									−0.000
									(0.001)
× Fatalities, cubed									0.000
									(0.000)
× Sexual violence		−0.010	0.001	0.010	0.006	0.007	0.027	0.124	0.158
		(0.208)	(0.174)	(0.152)	(0.143)	(0.149)	(0.156)	(0.138)	(0.136)
× Freedom from political killings			−0.062	−0.134**	−0.154**	−0.155***	−0.126**	−0.059	−0.149***
			(0.084)	(0.055)	(0.066)	(0.054)	(0.061)	(0.045)	(0.049)
× Freedom of religion				0.149**	0.144**	0.145*	0.182	0.169	0.165
				(0.068)	(0.066)	(0.078)	(0.139)	(0.118)	(0.116)
× Polity Indicator					0.015	0.015	0.022	0.022	0.021
					(0.020)	(0.022)	(0.024)	(0.021)	(0.020)
× Political instability						−0.013	−0.003	−0.003	−0.076
						(0.320)	(0.309)	(0.267)	(0.224)
× Female labor force participation							0.002	0.002	0.004
							(0.007)	(0.005)	(0.005)
× Freedom of domestic movement for women							−0.152	−0.159	−0.120
							(0.120)	(0.098)	(0.087)
× GDP per capita, logged								−0.003	0.078
								(0.068)	(0.074)
× Population, logged								−0.211**	−0.206**
								(0.083)	(0.084)
× Child mortality								−0.003	−0.002
								(0.002)	(0.002)
Observations	53,320	53,320	53,320	53,320	53,320	53,320	53,320	53,320	53,320
Dyads	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697	1,697
Years	17	17	17	17	17	17	17	17	17
Log likelihood	–	–	–	–	–	–	–	–	–
	8,270,825	8,270,825	8,270,825	8,270,825	8,270,825	8,270,825	8,270,825	8,270,825	8,270,825
Pseudo-R2	0.813	0.820	0.832	0.836	0.836	0.836	0.837	0.840	0.835

Notes: Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (8). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-9 Pull factors - Neighboring countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fatalities, t-1	–0.188	–0.187	–0.141	–0.157	–0.230*	–0.222**	–0.216**
	(0.159)	(0.149)	(0.123)	(0.100)	(0.124)	(0.105)	(0.105)
Peace duration, t-1	–0.044	–0.046	–0.050	–0.081	–0.107**	–0.105**	–0.108**
	(0.084)	(0.084)	(0.081)	(0.068)	(0.046)	(0.051)	(0.052)
Freedom from political killings, t-1		0.180	0.326	0.259	0.235	–0.268	–0.249
		(0.633)	(0.583)	(0.594)	(0.584)	(0.354)	(0.362)
Freedom of religion, t-1		–0.097	0.023	0.180	0.144	0.428	0.411
		(0.498)	(0.531)	(0.590)	(0.407)	(0.562)	(0.557)
Polity indicator, t-1			–0.076	–0.067	–0.006	0.084	0.089
			(0.100)	(0.091)	(0.076)	(0.065)	(0.066)
Political instability, t-1			–0.206	–0.373	–0.456	–0.321	–0.323
			(0.614)	(0.663)	(0.695)	(0.612)	(0.613)
Female labor force participation, t-1				0.200*	0.112	0.025	0.025
				(0.112)	(0.100)	(0.092)	(0.092)
Freedom of movement, women, t-1				0.391	0.777	1.556**	1.562**
				(0.967)	(0.738)	(0.675)	(0.672)
GDP per capita, logged, t-1					–0.683	0.302	0.293
					(0.637)	(0.611)	(0.612)
Population, logged, t-1					–14.631***	–14.882***	–14.634***
					(3.214)	(3.387)	(3.366)
Child mortality, t-1					–0.112**	–0.095*	–0.094*
					(0.044)	(0.051)	(0.050)
Female refugee diaspora						–0.316***	
						(0.078)	
Male refugee diaspora							–0.316***
							(0.078)
Female	–0.056	–0.070***	–0.064	–0.024	0.682**	0.606*	0.642**
	(0.038)	(0.023)	(0.043)	(0.074)	(0.287)	(0.318)	(0.318)
× Fatalities, t-1	–0.001	0.008	0.011	0.013	0.012	0.011	0.011
	(0.008)	(0.005)	(0.018)	(0.013)	(0.014)	(0.015)	(0.015)
× Peace duration, t-1	0.001	0.002	0.000	0.000	–0.006	–0.008	–0.008
	(0.006)	(0.005)	(0.006)	(0.007)	(0.011)	(0.010)	(0.011)
× Freedom from political killings, t-1		–0.013	–0.003	–0.006	–0.023	–0.016	–0.018
		(0.022)	(0.033)	(0.034)	(0.042)	(0.037)	(0.036)
× Freedom of religion, t-1		0.084***	0.088***	0.084**	0.038	0.038	0.039
		(0.020)	(0.034)	(0.034)	(0.055)	(0.046)	(0.046)
× Polity indicator, t-1			–0.005	–0.005	–0.002	–0.003	–0.003
			(0.009)	(0.005)	(0.005)	(0.009)	(0.009)
× Political instability, t-1			–0.037	–0.028	0.003	–0.000	–0.002
			(0.089)	(0.101)	(0.115)	(0.115)	(0.115)
× Female labor force participation, t-1				–0.001	0.001	0.001	0.001
				(0.002)	(0.002)	(0.002)	(0.002)
× Freedom of movement, women, t-1				0.031	0.045	0.039	0.039
				(0.044)	(0.045)	(0.045)	(0.045)
× GDP per capita, logged, t-1					–0.020	–0.016	–0.018
					(0.029)	(0.032)	(0.031)
× Population, logged, t-1					–0.054**	–0.054**	–0.054**
					(0.025)	(0.026)	(0.026)
× Child mortality, t-1					–0.001	–0.001	–0.001
					(0.001)	(0.001)	(0.001)
× Female refugee diaspora						0.004	
						(0.007)	
× Male refugee diaspora							0.002
							(0.007)
Observations	7,146	7,146	7,146	7,146	7,146	7,146	7,146
Dyads	239	239	239	239	239	239	239
Years	16	16	16	16	16	16	16
Log likelihood	–79,525,673	–79,525,673	–79,525,673	–79,525,673	–79,525,673	–79,525,673	–79,525,673
Pseudo-R2	0.690	0.691	0.694	0.702	0.728	0.764	0.764

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (5). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-10 Pull factors - Non-neighboring countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fatalities, t-1	–0.364**	–0.098	–0.083	–0.079	–0.009	–0.019	–0.021
	(0.145)	(0.091)	(0.074)	(0.069)	(0.044)	(0.043)	(0.044)
Peace duration, t-1	–0.054	–0.059	–0.039	–0.028	–0.035	–0.034	–0.032
	(0.091)	(0.094)	(0.070)	(0.074)	(0.080)	(0.086)	(0.086)
Freedom from political killings, t-1		0.406	0.411	0.471	0.419	0.443	0.459
		(0.421)	(0.487)	(0.501)	(0.504)	(0.489)	(0.491)
Freedom of religion, t-1		1.859***	1.812***	1.745***	1.512***	1.380***	1.386***
		(0.381)	(0.408)	(0.396)	(0.463)	(0.484)	(0.475)
Polity indicator, t-1			–0.037	–0.036	–0.036	–0.045	–0.047
			(0.079)	(0.085)	(0.074)	(0.074)	(0.074)
Political instability, t-1			–0.740	–0.879	–0.942	–1.034	–1.024
			(1.520)	(1.527)	(1.463)	(1.355)	(1.347)
Female labor force participation, t-1				0.058	0.085*	0.114**	0.114**
				(0.042)	(0.049)	(0.053)	(0.055)
Freedom of movement, women, t-1				–0.927	–0.991	–0.917	–0.881
				(0.859)	(0.789)	(0.859)	(0.863)
GDP per capita, logged, t-1					0.743*	0.393	0.318
					(0.433)	(0.546)	(0.554)
Population, logged, t-1					–2.786	–3.418	–3.401
					(2.359)	(2.517)	(2.466)
Child mortality, t-1					–0.042**	–0.047***	–0.048**
					(0.018)	(0.018)	(0.019)
Female refugee diaspora						–0.145*	
						(0.080)	
Male refugee diaspora							–0.134*
							(0.072)
Female	–0.616***	–0.570***	–0.549***	–0.465**	2.777**	2.754**	3.104**
	(0.125)	(0.094)	(0.108)	(0.202)	(1.340)	(1.283)	(1.346)
× Fatalities, t-1	0.175***	0.072	0.057	0.047	0.025	0.020	0.020
	(0.060)	(0.090)	(0.075)	(0.065)	(0.036)	(0.034)	(0.034)
× Peace duration, t-1	–0.008	–0.001	0.000	0.002	–0.001	–0.001	–0.003
	(0.010)	(0.008)	(0.010)	(0.011)	(0.009)	(0.009)	(0.009)
× Freedom from political killings, t-1		–0.188***	–0.205**	–0.204**	–0.072	–0.070	–0.075
		(0.055)	(0.081)	(0.090)	(0.046)	(0.045)	(0.048)
× Freedom of religion, t-1		0.041	0.018	0.050	0.057	0.054	0.033
		(0.045)	(0.073)	(0.082)	(0.070)	(0.076)	(0.077)
× Polity indicator, t-1			0.006	0.006	0.004	0.005	0.007
			(0.017)	(0.019)	(0.013)	(0.014)	(0.015)
× Political instability, t-1			–0.290	–0.289	–0.160	–0.156	–0.141
			(0.236)	(0.211)	(0.194)	(0.167)	(0.153)
× Female labor force participation, t-1				–0.002	–0.000	–0.000	–0.000
				(0.004)	(0.004)	(0.004)	(0.004)
× Freedom of movement, women, t-1				–0.019	–0.093	–0.087	–0.061
				(0.080)	(0.073)	(0.079)	(0.074)
× GDP per capita, logged, t-1					–0.371***	–0.367***	–0.390***
					(0.121)	(0.120)	(0.125)
× Population, logged, t-1					0.002	0.003	–0.001
					(0.038)	(0.035)	(0.033)
× Child mortality, t-1					–0.009**	–0.009**	–0.010***
					(0.004)	(0.004)	(0.004)
× Female refugee diaspora						–0.004	
						(0.017)	
× Male refugee diaspora							–0.017
							(0.016)
Observations	50,162	50,162	50,162	50,162	50,162	50,162	50,162
Dyads	1,611	1,611	1,611	1,611	1,611	1,611	1,611
Years	16	16	16	16	16	16	16
Log likelihood	–11,601,920	–11,601,920	–11,601,920	–11,601,920	–11,601,920	–11,601,920	–11,601,920
Pseudo-R2	0.781	0.801	0.802	0.805	0.810	0.818	0.819

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (5). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table A-11 Conflict dynamics - Neighbors

	(1) preferred	(2) long+intense	(3) duration	(4) first year	(5) second year	(6) third year
Civilian fatalities	0.946***	0.942***	0.943***	0.944***	0.957***	1.243***
	(0.336)	(0.323)	(0.341)	(0.337)	(0.345)	(0.315)
Civilian fatalities, squared	–0.138***	–0.136***	–0.137***	–0.138***	–0.140***	–0.213***
	(0.038)	(0.038)	(0.039)	(0.037)	(0.039)	(0.043)
Civilian fatalities, cubed	0.005***	0.004***	0.004***	0.005***	0.005***	0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Battle-related fatalities	0.805***	0.818***	0.805***	0.794***	0.801***	0.662***
	(0.225)	(0.223)	(0.228)	(0.234)	(0.233)	(0.226)
Battle-related fatalities, squared	–0.039***	–0.040***	–0.039***	–0.038***	–0.038***	–0.026**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)
Battle-related fatalities, cubed	0.000***	0.000***	0.000***	0.000***	0.000***	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	1.801***	1.689***	1.792***	1.773***	1.819***	1.656***
	(0.554)	(0.560)	(0.599)	(0.551)	(0.550)	(0.491)
Freedom from political killings	–0.282	–0.283	–0.288	–0.286	–0.283	–0.154
	(0.340)	(0.348)	(0.342)	(0.336)	(0.346)	(0.332)
Freedom of religion	–0.156	–0.196	–0.165	–0.163	–0.146	–0.225
	(0.285)	(0.286)	(0.288)	(0.285)	(0.294)	(0.251)
Polity Indicator	0.012	0.031	0.015	0.010	0.011	0.022
	(0.064)	(0.067)	(0.065)	(0.065)	(0.063)	(0.063)
Political instability	–0.140	–0.002	–0.123	–0.165	–0.147	0.298
	(0.432)	(0.475)	(0.436)	(0.448)	(0.438)	(0.349)
Female labor force participation	0.032	0.024	0.037	0.026	0.035	0.022
	(0.093)	(0.091)	(0.091)	(0.094)	(0.090)	(0.084)
Freedom of domestic movement for women	–1.024*	–0.830	–1.062*	–0.976	–1.017*	–1.134**
	(0.578)	(0.596)	(0.605)	(0.598)	(0.579)	(0.469)
GDP per capita, logged	–0.349	–0.250	–0.363	–0.352	–0.369	–0.643*
	(0.418)	(0.447)	(0.413)	(0.427)	(0.425)	(0.370)
Population, logged	0.861	1.001	1.149	0.874	0.931	0.154
	(1.964)	(1.807)	(1.763)	(1.968)	(2.038)	(1.936)
Child mortality	0.008	–0.003	0.004	0.006	0.008	–0.007
	(0.021)	(0.023)	(0.023)	(0.023)	(0.021)	(0.017)
Female	–0.170	–0.155	–0.060	–0.173	–0.175	–0.174
	(0.257)	(0.275)	(0.298)	(0.250)	(0.253)	(0.251)
× Civilian fatalities	0.018	0.017	0.014	0.018	0.038	0.031*
	(0.018)	(0.018)	(0.018)	(0.018)	(0.025)	(0.018)
× Civilian fatalities, squared	0.002	0.002	0.003	0.002	–0.002	–0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
× Civilian fatalities, cubed	–0.000	–0.000	–0.000	–0.000	0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	–0.048***	–0.047***	–0.045***	–0.048***	–0.057***	–0.051***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.012)
× Battle-related fatalities, squared	0.002***	0.002***	0.002**	0.002***	0.003***	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
× Battle-related fatalities, cubed	–0.000**	–0.000**	–0.000*	–0.000**	–0.000***	–0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.010	–0.001	–0.031	0.011	0.020	0.008
	(0.047)	(0.057)	(0.060)	(0.048)	(0.048)	(0.046)
× Freedom from political killings	–0.007	–0.004	–0.009	–0.007	–0.013	–0.009
	(0.022)	(0.029)	(0.023)	(0.024)	(0.025)	(0.022)
× Freedom of religion	0.019	0.017	0.021	0.020	0.024	0.022
	(0.046)	(0.044)	(0.043)	(0.047)	(0.044)	(0.048)
× Polity Indicator	0.004	0.003	0.000	0.004	0.003	0.003
	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
× Political instability	0.015	0.021	0.013	0.015	–0.002	0.032
	(0.089)	(0.090)	(0.096)	(0.089)	(0.097)	(0.084)
× Female labor force participation	–0.001	–0.001	–0.001	–0.001	–0.002	–0.001
	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
× Freedom of domestic movement for women	–0.008	–0.003	0.003	–0.009	–0.011	–0.008
	(0.049)	(0.047)	(0.047)	(0.052)	(0.043)	(0.049)
× GDP per capita, logged	0.053***	0.053***	0.055***	0.053***	0.049**	0.054***
	(0.020)	(0.019)	(0.020)	(0.020)	(0.021)	(0.019)
× Population, logged	–0.016	–0.019	–0.032	–0.016	–0.012	–0.016
	(0.020)	(0.022)	(0.026)	(0.020)	(0.019)	(0.020)
× Child mortality	0.001**	0.001	0.001	0.001**	0.001*	0.001**
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Long, intense conflict		0.639				
		(0.582)				
× Long, intense conflict		0.028				
		(0.090)				
Duration			0.020			
			(0.047)			
× Duration			0.004			
			(0.003)			
First year of conflict				–0.715		
				(0.620)		
× First year of conflict				0.020		
				(0.125)		
Second year of conflict					0.062	
					(0.505)	
× Second year of conflict					0.164	
					(0.196)	
Third year of conflict						–2.873***
						(0.987)
× Third year of conflict						–0.076
						(0.123)
Observations	7,602	7,602	7,602	7,602	7,602	7,602
Dyads	245	245	245	245	245	245
Years	17	17	17	17	17	17
Log likelihood	–59,795,497	–59,795,497	–59,795,497	–59,795,497	–59,795,497	–59,795,497
Pseudo-R2	0.864	0.865	0.864	0.865	0.864	0.870

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-12 Lagged push effects - Neighbors

	(1) preferred	(2) fatalities t-1	(3) fatalities t-2	(4) fatalities t-3	(5) sex.+pol. violence t-1	(6) all t-1
Civilian fatalities	0.946***	0.480*	−0.152	0.080	0.883***	0.476
	(0.336)	(0.277)	(0.170)	(0.496)	(0.284)	(0.495)
Civilian fatalities, squared	−0.138***	−0.093***	−0.020	−0.044	−0.139***	−0.086
	(0.038)	(0.034)	(0.017)	(0.114)	(0.038)	(0.061)
Civilian fatalities, cubed	0.005***	0.003***	0.001	0.001	0.005***	0.003
	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.002)
Battle-related fatalities	0.805***	0.068	0.310	−0.401	0.823***	0.232*
	(0.225)	(0.090)	(0.269)	(0.363)	(0.222)	(0.135)
Battle-related fatalities, squared	−0.039***	−0.004	−0.008	0.028	−0.037***	−0.011***
	(0.012)	(0.003)	(0.013)	(0.019)	(0.011)	(0.003)
Battle-related fatalities, cubed	0.000***	0.000	0.000	−0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	1.801***	1.800**	1.994**	2.095***	−0.036	0.479
	(0.554)	(0.731)	(0.803)	(0.757)	(0.404)	(0.456)
Freedom from political killings	−0.282	−0.689***	−0.675**	−0.640**	−0.066	−0.779
	(0.340)	(0.250)	(0.321)	(0.323)	(0.435)	(0.678)
Freedom of religion	−0.156	−0.708*	−0.458	−0.465	−0.239	−0.017
	(0.285)	(0.390)	(0.319)	(0.350)	(0.246)	(0.375)
Polity Indicator	0.012	0.025	0.026	0.032	−0.028	0.230**
	(0.064)	(0.069)	(0.073)	(0.073)	(0.067)	(0.117)
Political instability	−0.140	0.165	0.290	0.319	−0.137	0.354
	(0.432)	(0.384)	(0.507)	(0.478)	(0.404)	(0.376)
Female labor force participation	0.032	−0.048	−0.049	−0.097	−0.148*	0.102
	(0.093)	(0.153)	(0.160)	(0.208)	(0.085)	(0.128)
Freedom of domestic movement for women	−1.024*	−0.790	−1.277	−0.909	−1.020*	−0.119
	(0.578)	(0.726)	(0.985)	(0.938)	(0.601)	(0.900)
GDP per capita, logged	−0.349	−0.028	0.280	0.792	−0.140	0.848
	(0.418)	(0.553)	(0.696)	(0.797)	(0.462)	(0.741)
Population, logged	0.861	−0.650	−0.864	0.835	−0.445	0.131
	(1.964)	(2.193)	(2.746)	(2.477)	(2.169)	(3.706)
Child mortality	0.008	0.018	0.050*	0.090***	0.016	0.032
	(0.021)	(0.021)	(0.026)	(0.031)	(0.023)	(0.022)
Female	−0.170	−0.208	−0.696***	−0.547**	−0.125	−0.542***
	(0.257)	(0.307)	(0.179)	(0.266)	(0.223)	(0.171)
× Civilian fatalities	0.018	−0.003	0.073*	−0.050	0.023	0.004
	(0.018)	(0.023)	(0.041)	(0.084)	(0.020)	(0.016)
× Civilian fatalities, squared	0.002	0.004*	−0.013	0.032	0.002	0.003
	(0.003)	(0.002)	(0.011)	(0.024)	(0.003)	(0.003)
× Civilian fatalities, cubed	−0.000	−0.000**	0.000	−0.001	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
× Battle-related fatalities	−0.048***	−0.013	−0.033	0.024	−0.047***	−0.008
	(0.011)	(0.010)	(0.026)	(0.035)	(0.012)	(0.010)
× Battle-related fatalities, squared	0.002***	−0.000	0.002	−0.005	0.002***	−0.000
	(0.001)	(0.000)	(0.002)	(0.003)	(0.001)	(0.000)
× Battle-related fatalities, cubed	−0.000**	0.000	−0.000	0.000	−0.000**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.010	−0.005	0.002	0.005	−0.023	−0.046
	(0.047)	(0.048)	(0.047)	(0.050)	(0.051)	(0.058)
× Freedom from political killings	−0.007	0.002	−0.005	−0.009	−0.010	0.004
	(0.022)	(0.019)	(0.030)	(0.025)	(0.019)	(0.023)
× Freedom of religion	0.019	−0.004	−0.048	−0.029	0.003	−0.050
	(0.046)	(0.045)	(0.040)	(0.043)	(0.039)	(0.038)
× Polity Indicator	0.004	0.007*	0.006	0.003	0.005	0.008*
	(0.004)	(0.004)	(0.006)	(0.006)	(0.004)	(0.005)
× Political instability	0.015	0.018	0.041	0.001	0.017	0.033
	(0.089)	(0.102)	(0.097)	(0.086)	(0.086)	(0.090)
× Female labor force participation	−0.001	0.001	0.003*	0.002	−0.001	0.003*
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)
× Freedom of domestic movement for women	−0.008	0.002	0.036	0.013	0.007	0.036
	(0.049)	(0.048)	(0.049)	(0.051)	(0.044)	(0.037)
× GDP per capita, logged	0.053***	0.041**	0.055**	0.046*	0.048**	0.052*
	(0.020)	(0.021)	(0.026)	(0.026)	(0.020)	(0.030)
× Population, logged	−0.016	−0.017	0.010	0.005	−0.017	−0.002
	(0.020)	(0.020)	(0.015)	(0.019)	(0.021)	(0.016)
× Child mortality	0.001**	0.001***	0.001***	0.001*	0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Observations	7,602	7,602	7,106	6,562	7,602	7,010
Dyads	245	245	243	240	245	242
Years	17	17	16	15	17	16
Log likelihood	−59,795,497	−59,795,497	−58,273,119	−57,052,961	−59,795,497	−57,655,796
Pseudo-R2	0.864	0.844	0.851	0.858	0.856	0.841

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. In columns (2) - (4) all civilian and battle-related fatalities variables are lagged while the rest of the variables are in year t. In column (5) the following variables are lagged: sexual violence, freedom from political killings and freedom of religion. Column (6) shows the results when all variables are from t-1.

Table A-13 Conflict dynamics - Non-neighbors

	(1) preferred	(2) long+intense	(3) duration	(4) first year	(5) second year	(6) third year
Civilian fatalities	–0.264	–0.263	–0.278	–0.261	–0.289	–0.252
	(0.183)	(0.177)	(0.186)	(0.183)	(0.206)	(0.215)
Civilian fatalities, squared	0.018	0.018	0.022	0.017	0.024	0.015
	(0.022)	(0.021)	(0.022)	(0.022)	(0.028)	(0.030)
Civilian fatalities, cubed	–0.000	–0.000	–0.000	–0.000	–0.000	–0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Battle-related fatalities	0.089**	0.085*	0.086*	0.086*	0.098**	0.085*
	(0.045)	(0.047)	(0.049)	(0.045)	(0.048)	(0.049)
Battle-related fatalities, squared	–0.001	–0.001	–0.001	–0.001	–0.002	–0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Battle-related fatalities, cubed	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	0.826***	0.829***	0.764***	0.824***	0.816***	0.823***
	(0.186)	(0.192)	(0.181)	(0.190)	(0.180)	(0.185)
Freedom from political killings	–0.652***	–0.640***	–0.657***	–0.654***	–0.664***	–0.648***
	(0.182)	(0.186)	(0.189)	(0.181)	(0.183)	(0.179)
Freedom of religion	–0.873***	–0.888***	–0.858***	–0.867***	–0.874***	–0.882***
	(0.234)	(0.236)	(0.232)	(0.232)	(0.235)	(0.291)
Polity Indicator	0.002	0.005	–0.000	0.002	0.004	0.003
	(0.067)	(0.067)	(0.066)	(0.067)	(0.065)	(0.066)
Political instability	–0.011	–0.010	–0.013	–0.014	–0.013	–0.012
	(0.353)	(0.342)	(0.368)	(0.355)	(0.352)	(0.346)
Female labor force participation	0.061*	0.062*	0.062*	0.061*	0.063*	0.061*
	(0.036)	(0.035)	(0.035)	(0.036)	(0.036)	(0.036)
Freedom of domestic movement for women	–0.475	–0.460	–0.482	–0.463	–0.476	–0.478
	(0.326)	(0.334)	(0.318)	(0.324)	(0.346)	(0.320)
GDP per capita, logged	0.336	0.339	0.336	0.344	0.365	0.325
	(0.305)	(0.307)	(0.303)	(0.306)	(0.305)	(0.313)
Population, logged	–3.461**	–3.417**	–3.499**	–3.451**	–3.396**	–3.485**
	(1.576)	(1.610)	(1.599)	(1.586)	(1.503)	(1.487)
Child mortality	–0.016*	–0.016*	–0.016*	–0.016*	–0.016*	–0.016*
	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
Female	1.341	1.407	0.567	1.336	1.344	1.314
	(1.121)	(1.146)	(1.045)	(1.114)	(1.140)	(1.131)
× Civilian fatalities	0.247**	0.227**	0.282***	0.248**	0.250**	0.234**
	(0.101)	(0.097)	(0.099)	(0.103)	(0.103)	(0.096)
× Civilian fatalities, squared	–0.020*	–0.017	–0.028***	–0.020*	–0.020*	–0.016
	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)
× Civilian fatalities, cubed	0.000	0.000	0.001**	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	–0.016	–0.008	–0.011	–0.016	–0.017	–0.011
	(0.016)	(0.018)	(0.017)	(0.016)	(0.019)	(0.017)
× Battle-related fatalities, squared	–0.000	–0.001	–0.000	–0.000	–0.000	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
× Battle-related fatalities, cubed	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.124	0.069	0.278*	0.124	0.128	0.128
	(0.138)	(0.123)	(0.150)	(0.138)	(0.142)	(0.137)
× Freedom from political killings	–0.059	–0.045	–0.046	–0.058	–0.058	–0.055
	(0.045)	(0.049)	(0.047)	(0.045)	(0.045)	(0.047)
× Freedom of religion	0.169	0.158	0.132	0.170	0.170	0.172
	(0.118)	(0.122)	(0.100)	(0.117)	(0.122)	(0.122)
× Polity Indicator	0.022	0.020	0.031	0.022	0.022	0.022
	(0.021)	(0.018)	(0.021)	(0.021)	(0.022)	(0.021)
× Political instability	–0.003	–0.013	0.006	–0.003	–0.003	–0.001
	(0.267)	(0.254)	(0.276)	(0.267)	(0.261)	(0.268)
× Female labor force participation	0.002	0.003	0.003	0.002	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
× Freedom of domestic movement for women	–0.159	–0.142	–0.152*	–0.160	–0.161	–0.165*
	(0.098)	(0.100)	(0.092)	(0.099)	(0.103)	(0.099)
× GDP per capita, logged	–0.003	0.006	–0.012	–0.003	–0.004	–0.003
	(0.068)	(0.063)	(0.066)	(0.068)	(0.070)	(0.068)
× Population, logged	–0.211**	–0.233**	–0.119*	–0.210***	–0.210**	–0.209**
	(0.083)	(0.102)	(0.071)	(0.081)	(0.083)	(0.083)
× Child mortality	–0.003	–0.003	–0.002	–0.003	–0.003	–0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Long, intense conflict		0.091				
		(0.267)				
× Long, intense conflict		0.154				
		(0.205)				
Duration			0.009			
			(0.013)			
× Duration			–0.018**			
			(0.009)			
First year of conflict				–0.228		
				(0.376)		
× First year of conflict				0.024		
				(0.316)		
Second year of conflict					–0.294	
					(0.493)	
× Second year of conflict					0.061	
					(0.199)	
Third year of conflict						–0.137
						(0.573)
× Third year of conflict						0.158
						(0.182)
Observations	53,320	53,320	53,320	53,320	53,320	53,320
Dyads	1,697	1,697	1,697	1,697	1,697	1,697
Years	17	17	17	17	17	17
Log likelihood	–8,270,825	–8,270,825	–8,270,825	–8,270,825	–8,270,825	–8,270,825
Pseudo-R2	0.840	0.840	0.841	0.840	0.840	0.840

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-14 Lagged push effects - Non-neighbors

	(1) preferred	(2) fatalities t-1	(3) fatalities t-2	(4) fatalities t-3	(5) sex.+pol. violence t-1	(6) all t-1
Civilian fatalities	–0.264	–0.085	0.363**	–0.744**	–0.073	–0.169
	(0.183)	(0.157)	(0.146)	(0.326)	(0.212)	(0.236)
Civilian fatalities, squared	0.018	0.041***	–0.055***	0.088***	–0.006	0.043
	(0.022)	(0.016)	(0.016)	(0.025)	(0.027)	(0.030)
Civilian fatalities, cubed	–0.000	–0.001***	0.002***	–0.002***	0.001	–0.001
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Battle-related fatalities	0.089**	0.002	–0.196	–0.032	0.156***	0.127**
	(0.045)	(0.086)	(0.120)	(0.139)	(0.051)	(0.061)
Battle-related fatalities, squared	–0.001	–0.004	0.006	–0.005	–0.003**	–0.008***
	(0.002)	(0.003)	(0.004)	(0.004)	(0.001)	(0.003)
Battle-related fatalities, cubed	0.000	0.000	–0.000	0.000*	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	0.826***	0.860***	0.855***	1.065***	–0.272	–0.429
	(0.186)	(0.209)	(0.181)	(0.328)	(0.476)	(0.468)
Freedom from political killings	–0.652***	–0.662***	–0.596**	–0.705**	–0.131	–0.216
	(0.182)	(0.227)	(0.247)	(0.315)	(0.215)	(0.174)
Freedom of religion	–0.873***	–0.824***	–0.977***	–0.961***	–0.695*	–0.634*
	(0.234)	(0.244)	(0.266)	(0.288)	(0.356)	(0.371)
Polity Indicator	0.002	0.014	–0.001	–0.010	–0.034	–0.036
	(0.067)	(0.072)	(0.075)	(0.072)	(0.052)	(0.041)
Political instability	–0.011	–0.051	0.046	–0.110	–0.016	0.166
	(0.353)	(0.353)	(0.414)	(0.373)	(0.407)	(0.385)
Female labor force participation	0.061*	0.082**	0.038	0.048	–0.027	–0.075
	(0.036)	(0.040)	(0.038)	(0.043)	(0.052)	(0.053)
Freedom of domestic movement for women	–0.475	–0.685*	–0.640	–0.426	–1.009***	0.001
	(0.326)	(0.382)	(0.470)	(0.570)	(0.362)	(0.583)
GDP per capita, logged	0.336	0.786**	0.187	–0.174	0.495*	0.911**
	(0.305)	(0.369)	(0.468)	(0.369)	(0.293)	(0.369)
Population, logged	–3.461**	–1.685	–2.242	–3.570**	–5.540***	–1.121
	(1.576)	(1.533)	(2.022)	(1.799)	(1.426)	(1.014)
Child mortality	–0.016*	–0.005	0.008	0.005	–0.007	0.033***
	(0.009)	(0.011)	(0.014)	(0.017)	(0.008)	(0.012)
Female	1.341	1.107	1.196	0.839	1.810	1.682
	(1.121)	(1.134)	(1.308)	(1.394)	(1.135)	(1.466)
× Civilian fatalities	0.247**	0.067	0.195**	0.006	0.267**	0.025
	(0.101)	(0.079)	(0.087)	(0.117)	(0.105)	(0.098)
× Civilian fatalities, squared	–0.020*	0.005	–0.015	0.013	–0.020**	0.009
	(0.010)	(0.010)	(0.010)	(0.017)	(0.010)	(0.015)
× Civilian fatalities, cubed	0.000	–0.000	0.000	–0.000	0.000*	–0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
× Battle-related fatalities	–0.016	0.032	–0.067**	–0.062	–0.024	0.024
	(0.016)	(0.033)	(0.031)	(0.057)	(0.017)	(0.036)
× Battle-related fatalities, squared	–0.000	–0.003*	0.002	0.001	0.000	–0.003
	(0.001)	(0.002)	(0.002)	(0.003)	(0.001)	(0.002)
× Battle-related fatalities, cubed	0.000	0.000*	–0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.124	0.157	0.123	0.141	–0.066	–0.088
	(0.138)	(0.134)	(0.117)	(0.142)	(0.133)	(0.114)
× Freedom from political killings	–0.059	–0.102*	–0.089*	–0.117*	–0.018	–0.086
	(0.045)	(0.060)	(0.052)	(0.064)	(0.063)	(0.065)
× Freedom of religion	0.169	0.197*	0.198*	0.252**	0.192*	0.190**
	(0.118)	(0.114)	(0.112)	(0.111)	(0.102)	(0.095)
× Polity Indicator	0.022	0.015	0.012	0.007	0.020	0.010
	(0.021)	(0.019)	(0.015)	(0.013)	(0.019)	(0.014)
× Political instability	–0.003	–0.078	0.026	–0.031	0.017	–0.192
	(0.267)	(0.246)	(0.227)	(0.255)	(0.291)	(0.248)
× Female labor force participation	0.002	0.001	–0.001	–0.003	0.001	–0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
× Freedom of domestic movement for women	–0.159	–0.177	–0.205*	–0.283**	–0.189	–0.210
	(0.098)	(0.115)	(0.118)	(0.135)	(0.121)	(0.158)
× GDP per capita, logged	–0.003	0.043	0.042	0.074	–0.034	0.001
	(0.068)	(0.072)	(0.072)	(0.077)	(0.075)	(0.097)
× Population, logged	–0.211**	–0.220***	–0.212**	–0.191**	–0.213***	–0.219***
	(0.083)	(0.084)	(0.091)	(0.091)	(0.073)	(0.080)
× Child mortality	–0.003	–0.002	–0.002	–0.001	–0.003	–0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	53,320	53,320	49,696	46,104	53,320	49,056
Dyads	1,697	1,697	1,678	1,657	1,697	1,670
Years	17	17	16	15	17	16
Log likelihood	–8,270,825	–8,270,825	–7,596,642	–7,332,294	–8,270,825	–7,068,952
Pseudo-R2	0.840	0.837	0.833	0.836	0.830	0.817

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. In columns (2) - (4) all civilian and battle-related fatalities variables are lagged while the rest of the variables are in year t. In column (5) the following variables are lagged: sexual violence, freedom from political killings and freedom of religion. Column (6) shows the results when all variables are from t-1.

Table A-15 Robustness checks: Change sample and dependent variable - Cost factors - All countries

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Distance	–1.310***	–1.255***	–1.266***	–1.365***	–1.411***	–0.184***	–2.062***	–0.421***
	(0.182)	(0.201)	(0.189)	(0.182)	(0.206)	(0.021)	(0.206)	(0.041)
Distance, squared	0.057***	0.053***	0.053***	0.060***	0.060***	0.006***	0.091***	0.015***
	(0.008)	(0.010)	(0.009)	(0.008)	(0.010)	(0.001)	(0.009)	(0.002)
Contiguity	1.938***	1.843***	1.907***	1.915***	2.284***	0.715***	1.593***	1.826***
	(0.174)	(0.274)	(0.228)	(0.182)	(0.231)	(0.105)	(0.215)	(0.190)
Mountainous terrain	1.901***	1.848***	1.280**	1.953***	2.103***	0.693***	1.367***	1.674***
	(0.519)	(0.590)	(0.629)	(0.569)	(0.752)	(0.232)	(0.486)	(0.490)
Desert	0.371	–0.209	–0.250	0.288	0.530	0.079	0.234	0.021
	(0.564)	(0.542)	(0.480)	(0.590)	(0.444)	(0.138)	(0.378)	(0.247)
Shared official language	0.557**	0.279	0.231	0.573**	0.496*	0.137***	0.492***	0.407***
	(0.247)	(0.248)	(0.226)	(0.254)	(0.263)	(0.043)	(0.187)	(0.090)
Religious distance	–0.620**	–0.784***	–0.882***	–0.604**	–0.488*	–0.106*	–0.488*	–0.191
	(0.265)	(0.268)	(0.216)	(0.271)	(0.271)	(0.060)	(0.264)	(0.119)
Linguistic distance	–1.951***	0.045	0.324	–2.010***	–1.603**	–0.708***	–1.270***	–0.809*
	(0.524)	(0.661)	(0.538)	(0.528)	(0.669)	(0.237)	(0.446)	(0.383)
Genetic distance, logged	–0.169	–0.148	–0.186	–0.136	–0.123	0.093**	0.006	0.185**
	(0.139)	(0.138)	(0.123)	(0.139)	(0.169)	(0.035)	(0.129)	(0.070)
Female	–0.382	–0.036	–0.034	–0.376	–0.318	–0.243***	–0.129	–0.558***
	(0.380)	(0.616)	(0.584)	(0.385)	(0.442)	(0.070)	(0.247)	(0.147)
× Distance	–0.175**	–0.168**	–0.180**	–0.177**	–0.200**	0.008	–0.135**	0.016
	(0.080)	(0.079)	(0.077)	(0.081)	(0.089)	(0.006)	(0.057)	(0.012)
× Distance, squared	0.002	–0.000	0.002	0.002	0.003	–0.000	0.003	–0.000
	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.000)	(0.003)	(0.001)
× Neighbors	0.269**	0.365***	0.343***	0.268**	0.327***	0.040	0.192**	0.054
	(0.115)	(0.119)	(0.122)	(0.116)	(0.114)	(0.032)	(0.092)	(0.041)
× Mountainous terrain	–0.408***	–0.250**	–0.257**	–0.412***	–0.546***	0.066	–0.331***	0.158*
	(0.134)	(0.127)	(0.107)	(0.135)	(0.131)	(0.043)	(0.101)	(0.089)
× Desert	0.187	0.212	0.211	0.187	0.086	0.040	0.102	0.123**
	(0.121)	(0.172)	(0.153)	(0.126)	(0.177)	(0.029)	(0.100)	(0.054)
× Shared official language	–0.101	–0.126	–0.123	–0.101	–0.111	–0.019	–0.083	–0.044
	(0.063)	(0.087)	(0.082)	(0.062)	(0.081)	(0.017)	(0.061)	(0.027)
× Religious distance	0.156*	0.139	0.122	0.155*	0.134	0.024	–0.022	0.024
	(0.086)	(0.089)	(0.090)	(0.088)	(0.120)	(0.018)	(0.074)	(0.032)
× Linguistic distance	0.305***	–0.120	–0.070	0.308***	0.296***	–0.083*	0.192***	–0.258**
	(0.100)	(0.371)	(0.313)	(0.104)	(0.091)	(0.045)	(0.059)	(0.092)
× Genetic distance, logged	–0.027	–0.017	–0.017	–0.026	–0.023	–0.038***	–0.017	–0.100***
	(0.046)	(0.062)	(0.062)	(0.047)	(0.061)	(0.008)	(0.028)	(0.021)
Observations	65,302	57,818	57,988	60,406	56,285	65,302	65,314	65,314
Dyads	1,921	1,705	1,710	1,777	1,921	1,921	1,921	1,921
Years	17	17	17	17	17	17	17	17
Log likelihood	–85,280,476	–36,891,952	–39,141,289	–84,087,493	–82,965,410	–115,342	–479,327,903	–139,892
Pseudo-R2	0.713	0.719	0.718	0.711	0.815		0.922	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-16 Robustness checks: Change sample and dependent variable - Cost factors - Non-neighbors

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Distance	–0.965***	–0.915***	–0.979***	–1.009***	–0.997***	–0.177***	–1.261***	–0.381***
	(0.119)	(0.127)	(0.134)	(0.114)	(0.121)	(0.020)	(0.159)	(0.040)
Distance, squared	0.040***	0.037***	0.040***	0.042***	0.040***	0.006***	0.051***	0.012***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.001)	(0.006)	(0.002)
Mountainous terrain	1.187	2.881**	1.474*	1.210	1.574	0.666**	2.603***	1.404***
	(0.933)	(1.329)	(0.870)	(0.935)	(1.099)	(0.245)	(0.946)	(0.468)
Desert	1.340***	1.367**	0.771	1.385***	1.375**	0.175*	0.844	–0.084
	(0.509)	(0.685)	(0.779)	(0.534)	(0.559)	(0.099)	(0.591)	(0.206)
Shared official language	0.672***	0.556***	0.469**	0.682***	0.820***	0.118***	0.785***	0.397***
	(0.170)	(0.162)	(0.190)	(0.170)	(0.192)	(0.040)	(0.231)	(0.078)
Religious distance	–0.340	0.262	0.077	–0.355	–0.316	–0.020	–0.446*	–0.066
	(0.267)	(0.267)	(0.249)	(0.283)	(0.287)	(0.049)	(0.249)	(0.101)
Linguistic distance	–0.979*	–3.951***	–3.106***	–1.243**	–1.007*	–0.906***	–0.107	–1.467***
	(0.542)	(1.140)	(1.068)	(0.532)	(0.590)	(0.218)	(0.554)	(0.398)
Genetic distance, logged	–0.309	–0.162	–0.149	–0.223	–0.330*	0.080**	–0.328	0.178**
	(0.205)	(0.225)	(0.222)	(0.197)	(0.198)	(0.031)	(0.228)	(0.071)
Female	0.781*	0.684	0.717	0.916*	0.604	–0.308***	0.335	–0.651***
	(0.465)	(0.440)	(0.448)	(0.500)	(0.541)	(0.097)	(0.399)	(0.193)
× Distance	–0.332***	–0.337***	–0.365***	–0.351***	–0.375***	0.010	–0.282***	0.023*
	(0.082)	(0.097)	(0.075)	(0.082)	(0.103)	(0.007)	(0.062)	(0.012)
× Distance, squared	0.012***	0.012***	0.015***	0.013***	0.015***	–0.000	0.012***	–0.001
	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)	(0.000)	(0.003)	(0.001)
× Mountainous terrain	–0.427	–0.334	–0.503	–0.481	–0.544	0.082	–0.413	0.223*
	(0.390)	(0.534)	(0.397)	(0.385)	(0.498)	(0.058)	(0.258)	(0.113)
× Desert	–0.086	–0.169	–0.122	–0.098	0.040	0.046	–0.025	0.160**
	(0.318)	(0.418)	(0.374)	(0.345)	(0.400)	(0.031)	(0.260)	(0.061)
× Shared official language	–0.177*	–0.215**	–0.105	–0.191*	–0.195	–0.023	–0.031	–0.038
	(0.107)	(0.103)	(0.101)	(0.104)	(0.146)	(0.018)	(0.102)	(0.029)
× Religious distance	–0.427**	–0.511***	–0.533***	–0.443***	–0.376**	0.015	–0.190	0.028
	(0.166)	(0.177)	(0.179)	(0.169)	(0.160)	(0.018)	(0.166)	(0.037)
× Linguistic distance	–0.140	–0.300	–0.159	–0.152	–0.067	–0.066	0.017	–0.301**
	(0.187)	(0.452)	(0.363)	(0.200)	(0.228)	(0.061)	(0.167)	(0.129)
× Genetic distance, logged	–0.041	–0.105	–0.092*	–0.029	–0.064	–0.050***	–0.046	–0.121***
	(0.061)	(0.068)	(0.051)	(0.066)	(0.070)	(0.011)	(0.054)	(0.027)
Observations	57,908	50,980	51,184	53,488	50,865	57,960	57,936	57,970
Dyads	1,704	1,504	1,510	1,574	1,704	1,705	1,704	1,705
Years	17	17	17	17	17	17	17	17
Log likelihood	–7,883,064	–5,647,058	–6,282,474	–7,713,297	–7,669,431	–88,153	–37,454,465	–109,057
Pseudo-R2	0.699	0.726	0.720	0.703	0.772		0.869	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-17 Robustness checks: Change sample and dependent variable - Push factors - Neighbors

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Civilian fatalities	0.946***	3.022***	2.490***	0.927***	0.873***	1.233***	0.118	0.279
	(0.336)	(0.611)	(0.950)	(0.352)	(0.308)	(0.266)	(0.127)	(0.179)
Civilian fatalities, squared	–0.138***	–1.189***	–0.947	–0.114***	–0.131***	–0.152**	–0.002	–0.025
	(0.038)	(0.328)	(0.624)	(0.034)	(0.035)	(0.059)	(0.021)	(0.040)
Civilian fatalities, cubed	0.005***	0.140***	0.120	0.003***	0.004***	0.005**	0.000	0.001
	(0.001)	(0.045)	(0.097)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Battle-related fatalities	0.805***	–3.070***	–2.297*	0.710**	0.767***	0.238	–0.055	0.239
	(0.225)	(0.930)	(1.240)	(0.361)	(0.181)	(0.153)	(0.090)	(0.151)
Battle-related fatalities, squared	–0.039***	2.612***	2.053**	–0.023**	–0.038***	–0.017*	–0.000	–0.014*
	(0.012)	(0.684)	(0.890)	(0.009)	(0.010)	(0.009)	(0.003)	(0.007)
Battle-related fatalities, cubed	0.000***	–0.408***	–0.300**	0.000***	0.000***	0.000**	0.000	0.000*
	(0.000)	(0.106)	(0.126)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	1.801***	1.878***	2.095***	1.863***	1.041***	0.646***	0.380**	0.867***
	(0.554)	(0.517)	(0.597)	(0.534)	(0.308)	(0.176)	(0.166)	(0.188)
Freedom from political killings	–0.282	–0.082	0.056	–0.220	0.035	–0.273	–0.008	–0.136
	(0.340)	(0.383)	(0.388)	(0.349)	(0.253)	(0.168)	(0.167)	(0.138)
Freedom of religion	–0.156	–0.191	–0.142	–0.231	–0.118	0.010	0.185	0.232
	(0.285)	(0.281)	(0.406)	(0.298)	(0.271)	(0.133)	(0.214)	(0.208)
Polity Indicator	0.012	–0.078	–0.069	0.020	0.020	–0.032	0.020	–0.011
	(0.064)	(0.067)	(0.070)	(0.063)	(0.070)	(0.031)	(0.039)	(0.031)
Political instability	–0.140	0.446	–0.300	–0.189	–0.312	0.148	0.233	–0.259
	(0.432)	(0.440)	(0.455)	(0.414)	(0.420)	(0.211)	(0.273)	(0.188)
Female labor force participation	0.032	–0.053	0.033	0.063	–0.035	–0.033	0.029	–0.017
	(0.093)	(0.074)	(0.094)	(0.106)	(0.101)	(0.020)	(0.039)	(0.036)
Freedom of domestic movement for women	–1.024*	–0.881*	–1.615***	–1.063*	–1.750***	–0.186	–0.303	–0.480**
	(0.578)	(0.456)	(0.518)	(0.600)	(0.590)	(0.186)	(0.329)	(0.167)
GDP per capita, logged	–0.349	–0.405	–0.936*	–0.823	–0.702*	–0.279*	–0.635***	–0.457*
	(0.418)	(0.454)	(0.519)	(0.558)	(0.404)	(0.150)	(0.225)	(0.235)
Population, logged	0.861	0.130	2.314	1.851	0.234	–0.400	–3.333*	–1.040
	(1.964)	(2.515)	(2.225)	(1.894)	(2.553)	(1.019)	(1.924)	(0.986)
Child mortality	0.008	–0.035*	–0.014	–0.011	–0.006	–0.000	0.024**	–0.004
	(0.021)	(0.019)	(0.014)	(0.019)	(0.017)	(0.007)	(0.011)	(0.009)
Female	–0.170	0.311	–0.117	–0.082	–1.773**	–0.038	–0.260	0.336
	(0.257)	(0.373)	(0.524)	(0.245)	(0.743)	(0.339)	(0.187)	(0.501)
× Civilian fatalities	0.018	0.040	0.127	0.020	–0.049	0.106**	0.004	0.178***
	(0.018)	(0.134)	(0.103)	(0.018)	(0.040)	(0.040)	(0.013)	(0.045)
× Civilian fatalities, squared	0.002	–0.004	–0.078	0.001	0.021***	–0.010*	0.002	–0.018**
	(0.003)	(0.068)	(0.063)	(0.002)	(0.008)	(0.005)	(0.002)	(0.007)
× Civilian fatalities, cubed	–0.000	0.000	0.012	–0.000	–0.001***	0.000	–0.000	0.000*
	(0.000)	(0.009)	(0.010)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	–0.048***	0.019	0.208	–0.031***	–0.176**	–0.028	–0.016**	–0.076**
	(0.011)	(0.198)	(0.293)	(0.012)	(0.085)	(0.026)	(0.008)	(0.026)
× Battle-related fatalities, squared	0.002***	–0.006	–0.115	0.001	0.014**	0.001	0.001	0.004**
	(0.001)	(0.140)	(0.177)	(0.000)	(0.006)	(0.001)	(0.000)	(0.001)
× Battle-related fatalities, cubed	–0.000**	0.000	0.016	–0.000	–0.000***	–0.000	–0.000	–0.000**
	(0.000)	(0.023)	(0.025)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.010	0.053	0.018	0.013	0.056	–0.041	0.012	–0.010
	(0.047)	(0.054)	(0.053)	(0.046)	(0.098)	(0.050)	(0.031)	(0.050)
× Freedom from political killings	–0.007	0.006	–0.015	–0.011	–0.093*	0.018	0.008	0.015
	(0.022)	(0.029)	(0.035)	(0.023)	(0.056)	(0.023)	(0.012)	(0.026)
× Freedom of religion	0.019	–0.018	–0.007	0.025	–0.071	0.023	–0.006	0.007
	(0.046)	(0.047)	(0.044)	(0.041)	(0.075)	(0.020)	(0.019)	(0.046)
× Polity Indicator	0.004	0.002	0.005	0.003	0.015	0.006	0.001	0.015
	(0.004)	(0.005)	(0.006)	(0.004)	(0.011)	(0.006)	(0.004)	(0.009)
× Political instability	0.015	0.047	–0.022	0.013	0.009	–0.026	–0.041	–0.068
	(0.089)	(0.112)	(0.090)	(0.093)	(0.138)	(0.115)	(0.028)	(0.063)
× Female labor force participation	–0.001	–0.002	–0.000	–0.002	0.004	0.000	0.000	0.001
	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)	(0.002)	(0.001)	(0.002)
× Freedom of domestic movement for women	–0.008	0.053	0.033	–0.005	0.100	–0.029	–0.007	–0.049
	(0.049)	(0.054)	(0.042)	(0.043)	(0.083)	(0.024)	(0.024)	(0.040)
× GDP per capita, logged	0.053***	0.004	0.067**	0.069***	0.133***	–0.009	0.035**	–0.024
	(0.020)	(0.036)	(0.033)	(0.019)	(0.032)	(0.028)	(0.015)	(0.030)
× Population, logged	–0.016	–0.027	–0.039	–0.028	0.038	0.010	–0.006	–0.031
	(0.020)	(0.026)	(0.030)	(0.019)	(0.049)	(0.017)	(0.013)	(0.029)
× Child mortality	0.001**	0.000	0.000	0.001	0.003**	–0.001	0.001***	–0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)
Observations	7,602	7,194	7,150	7,038	5,671	7,638	7,650	7,650
Dyads	245	221	225	228	243	245	246	246
Years	17	17	17	17	17	17	17	17
Log likelihood	–59,795,497	–20,609,574	–26,803,583	–35,876,918	–55,503,735	–16,467	–185,123,724	–14,665
Pseudo-R2	0.864	0.756	0.784	0.808	0.924		0.924	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-18 Robustness checks: Add variables - Push factors - Neighbors

	(1) preferred	(2) IDP	(3) PTS	(4) torture	(5) drop sex. vio.
Civilian fatalities	0.946***	0.753**	0.760***	0.986***	0.813***
	(0.336)	(0.309)	(0.294)	(0.318)	(0.311)
Civilian fatalities, squared	–0.138***	–0.101***	–0.159***	–0.142***	–0.130***
	(0.038)	(0.035)	(0.036)	(0.036)	(0.038)
Civilian fatalities, cubed	0.005***	0.003***	0.005***	0.005***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Battle-related fatalities	0.805***	0.685***	1.001***	0.777***	0.848***
	(0.225)	(0.242)	(0.202)	(0.225)	(0.232)
Battle-related fatalities, squared	–0.039***	–0.036***	–0.040***	–0.037***	–0.039***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Battle-related fatalities, cubed	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	1.801***	1.083***	1.907***	1.811***	
	(0.554)	(0.280)	(0.577)	(0.549)	
Freedom from political killings	–0.282	–0.283			–0.245
	(0.340)	(0.326)			(0.316)
Freedom of religion	–0.156	–0.434	–0.030	–0.063	–0.149
	(0.285)	(0.279)	(0.260)	(0.345)	(0.296)
Polity Indicator	0.012	0.030	–0.024	0.018	–0.022
	(0.064)	(0.062)	(0.067)	(0.061)	(0.069)
Political instability	–0.140	0.066	0.165	–0.218	–0.076
	(0.432)	(0.447)	(0.440)	(0.361)	(0.433)
Female labor force participation	0.032	–0.006	–0.354**	0.031	–0.137
	(0.093)	(0.101)	(0.160)	(0.091)	(0.085)
Freedom of domestic movement for women	–1.024*	–2.032***	–0.129	–0.825	–0.926
	(0.578)	(0.705)	(0.550)	(0.548)	(0.575)
GDP per capita, logged	–0.349	–0.102	–0.181	–0.319	–0.199
	(0.418)	(0.386)	(0.380)	(0.399)	(0.400)
Population, logged	0.861	–0.029	–0.536	0.322	–0.207
	(1.964)	(2.048)	(1.852)	(1.945)	(1.978)
Child mortality	0.008	0.008	0.015	–0.001	0.014
	(0.021)	(0.024)	(0.022)	(0.023)	(0.020)
Female	–0.170	–0.607**	–0.136	–0.104	–0.143
	(0.257)	(0.241)	(0.265)	(0.205)	(0.299)
× Civilian fatalities	0.018	0.003	0.007	0.022	0.021
	(0.018)	(0.017)	(0.021)	(0.018)	(0.015)
× Civilian fatalities, squared	0.002	0.003	0.003	0.002	0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
× Civilian fatalities, cubed	–0.000	–0.000	–0.000	–0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	–0.048***	–0.049***	–0.042***	–0.046***	–0.049***
	(0.011)	(0.014)	(0.013)	(0.012)	(0.011)
× Battle-related fatalities, squared	0.002***	0.002**	0.002**	0.002**	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
× Battle-related fatalities, cubed	–0.000**	–0.000*	–0.000*	–0.000*	–0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.010	–0.021	–0.016	0.006	
	(0.047)	(0.056)	(0.071)	(0.047)	
× Freedom from political killings	–0.007	0.006			–0.007
	(0.022)	(0.024)			(0.017)
× Freedom of religion	0.019	–0.024	0.013	0.024	0.018
	(0.046)	(0.041)	(0.040)	(0.045)	(0.041)
× Polity Indicator	0.004	–0.005	0.003	0.002	0.004
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)
× Political instability	0.015	0.015	0.003	0.013	0.009
	(0.089)	(0.079)	(0.127)	(0.088)	(0.094)
× Female labor force participation	–0.001	0.001	–0.001	–0.001	–0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
× Freedom of domestic movement for women	–0.008	0.051	0.018	–0.016	–0.005
	(0.049)	(0.054)	(0.039)	(0.045)	(0.044)
× GDP per capita, logged	0.053***	0.051**	0.046	0.050**	0.051**
	(0.020)	(0.021)	(0.034)	(0.020)	(0.026)
× Population, logged	–0.016	0.016	–0.029	–0.019	–0.017
	(0.020)	(0.016)	(0.023)	(0.019)	(0.020)
× Child mortality	0.001**	0.001	0.001*	0.001*	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
IDP, logged		0.035			
		(0.043)			
× IDP, logged		0.011			
		(0.008)			
Political Terror Scale			0.663*		
			(0.351)		
× Political Terror Scale			0.043		
			(0.039)		
Freedom from torture				–0.493	
				(0.335)	
× Freedom from torture				0.008	
				(0.022)	
Observations	7,602	4,508	7,300	7,602	7,602
Dyads	245	154	235	245	245
Years	17	17	17	17	17
Log likelihood	–59,795,497	–51,651,107	–58,548,779	–59,795,497	–59,795,497
Pseudo-R2	0.864	0.862	0.882	0.865	0.856

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** <0.01, ** p<0.05, * p<0.1.

Table A-19 Robustness checks: Change sample and dependent variable - Push factors - Non-neighbors

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Civilian fatalities	−0.264	−0.279	−0.433	−0.158	−0.070	0.063*	−0.104*	0.023
	(0.183)	(0.812)	(0.909)	(0.198)	(0.216)	(0.035)	(0.056)	(0.053)
Civilian fatalities, squared	0.018	0.106	0.138	0.007	0.021	−0.016***	0.011	−0.009
	(0.022)	(0.309)	(0.361)	(0.025)	(0.020)	(0.003)	(0.008)	(0.007)
Civilian fatalities, cubed	−0.000	−0.016	−0.017	0.000	−0.001	0.001***	−0.000	0.000
	(0.001)	(0.029)	(0.034)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Battle-related fatalities	0.089**	0.389	0.592	0.053	−0.148*	0.079***	0.069***	0.105***
	(0.045)	(0.743)	(0.869)	(0.045)	(0.088)	(0.022)	(0.025)	(0.033)
Battle-related fatalities, squared	−0.001	−0.006	−0.126	0.001	0.008**	−0.002*	−0.001	−0.002*
	(0.002)	(0.287)	(0.356)	(0.002)	(0.004)	(0.001)	(0.001)	(0.001)
Battle-related fatalities, cubed	0.000	−0.007	0.005	−0.000	−0.000**	0.000	0.000	0.000
	(0.000)	(0.025)	(0.031)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	0.826***	0.752***	0.755***	0.797***	0.859***	0.150***	0.464***	0.263***
	(0.186)	(0.190)	(0.186)	(0.194)	(0.283)	(0.031)	(0.105)	(0.048)
Freedom from political killings	−0.652***	−0.505*	−0.624**	−0.607***	−0.398***	−0.095***	0.046	0.039
	(0.182)	(0.277)	(0.281)	(0.225)	(0.127)	(0.030)	(0.120)	(0.048)
Freedom of religion	−0.873***	−0.697***	−0.828***	−0.866***	−0.459**	−0.198***	−0.518***	−0.223***
	(0.234)	(0.216)	(0.229)	(0.240)	(0.224)	(0.037)	(0.099)	(0.059)
Polity Indicator	0.002	−0.005	0.005	0.003	−0.016	0.001	−0.033	0.001
	(0.067)	(0.044)	(0.053)	(0.063)	(0.045)	(0.006)	(0.027)	(0.008)
Political instability	−0.011	−0.473	0.000	0.005	0.009	0.016	−0.026	−0.037
	(0.353)	(0.391)	(0.322)	(0.379)	(0.239)	(0.065)	(0.118)	(0.084)
Female labor force participation	0.061*	0.086*	0.082*	0.062	0.059	−0.001	0.052***	−0.009
	(0.036)	(0.045)	(0.048)	(0.041)	(0.039)	(0.005)	(0.018)	(0.006)
Freedom of domestic movement for women	−0.475	−1.115**	−0.607	−0.767	−0.511**	−0.101*	0.089	−0.151*
	(0.326)	(0.469)	(0.586)	(0.559)	(0.220)	(0.048)	(0.178)	(0.074)
GDP per capita, logged	0.336	0.633*	0.619	0.408	0.077	−0.105**	−0.275	−0.214***
	(0.305)	(0.343)	(0.378)	(0.312)	(0.322)	(0.037)	(0.213)	(0.058)
Population, logged	−3.461**	1.397	−4.079**	−3.010	−2.889***	−0.344*	−2.112***	−1.004***
	(1.576)	(1.827)	(1.978)	(2.050)	(1.070)	(0.178)	(0.760)	(0.239)
Child mortality	−0.016*	−0.015	−0.015	−0.019**	−0.011	0.002	−0.009	0.005***
	(0.009)	(0.010)	(0.011)	(0.009)	(0.010)	(0.001)	(0.007)	(0.002)
Female	1.341	2.895**	2.485*	1.572	1.179	−0.142	1.713***	−0.290
	(1.121)	(1.350)	(1.485)	(1.185)	(1.284)	(0.088)	(0.480)	(0.202)
× Civilian fatalities	0.247**	0.612	0.867*	0.248**	0.218**	−0.005	0.034	−0.006
	(0.101)	(0.435)	(0.446)	(0.099)	(0.092)	(0.023)	(0.029)	(0.029)
× Civilian fatalities, squared	−0.020*	−0.197	−0.314	−0.032**	−0.020**	0.001	0.004	0.002
	(0.010)	(0.177)	(0.201)	(0.013)	(0.008)	(0.004)	(0.003)	(0.005)
× Civilian fatalities, cubed	0.000	0.015	0.026	0.001**	0.001**	−0.000	−0.000**	−0.000
	(0.000)	(0.017)	(0.021)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	−0.016	0.483	0.414	0.035	0.002	−0.008	0.005	−0.039**
	(0.016)	(0.322)	(0.365)	(0.025)	(0.023)	(0.010)	(0.015)	(0.014)
× Battle-related fatalities, squared	−0.000	−0.104	−0.061	−0.001	−0.001	0.000	−0.001	0.001*
	(0.001)	(0.123)	(0.130)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
× Battle-related fatalities, cubed	0.000	0.005	0.000	0.000	0.000	0.000	0.000	−0.000
	(0.000)	(0.011)	(0.011)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.124	0.080	0.031	0.097	0.114	−0.014	−0.031	−0.096***
	(0.138)	(0.170)	(0.174)	(0.157)	(0.163)	(0.014)	(0.051)	(0.029)
× Freedom from political killings	−0.059	0.053	0.037	−0.023	−0.122*	0.009	−0.062*	0.005
	(0.045)	(0.070)	(0.080)	(0.060)	(0.067)	(0.009)	(0.034)	(0.014)
× Freedom of religion	0.169	0.142**	0.214**	0.192*	0.250**	0.000	0.078*	−0.012
	(0.118)	(0.065)	(0.090)	(0.102)	(0.127)	(0.009)	(0.042)	(0.019)
× Polity Indicator	0.022	0.007	−0.003	0.018	0.011	0.002	0.015***	0.006
	(0.021)	(0.019)	(0.017)	(0.020)	(0.023)	(0.002)	(0.005)	(0.004)
× Political instability	−0.003	0.067	−0.152	−0.093	0.006	−0.015	0.043	−0.029
	(0.267)	(0.170)	(0.212)	(0.224)	(0.186)	(0.036)	(0.062)	(0.061)
× Female labor force participation	0.002	0.003	0.004	0.003	0.001	0.001***	−0.003	0.003***
	(0.005)	(0.006)	(0.006)	(0.005)	(0.006)	(0.000)	(0.003)	(0.001)
× Freedom of domestic movement for women	−0.159	−0.080	−0.128	−0.188	−0.206	−0.020*	0.062	−0.036
	(0.098)	(0.091)	(0.099)	(0.115)	(0.134)	(0.011)	(0.050)	(0.023)
× GDP per capita, logged	−0.003	−0.142	−0.098	−0.028	0.009	0.005	−0.048	0.006
	(0.068)	(0.091)	(0.102)	(0.068)	(0.077)	(0.008)	(0.037)	(0.019)
× Population, logged	−0.211**	−0.278***	−0.268***	−0.217**	−0.208***	0.001	−0.156***	0.000
	(0.083)	(0.087)	(0.089)	(0.086)	(0.080)	(0.005)	(0.029)	(0.010)
× Child mortality	−0.003	−0.004*	−0.005*	−0.003	−0.003	−0.001***	−0.002*	−0.002***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.000)	(0.001)	(0.001)
Observations	53,320	49,524	48,478	47,990	46,263	53,320	54,386	54,386
Dyads	1,697	1,506	1,518	1,530	1,696	1,697	1,744	1,744
Years	17	17	17	17	17	17	17	17
Log likelihood	−8,270,825	−5,302,349	−5,923,143	−7,162,099	−8,027,236	−74,932	−45,363,468	−81,351
Pseudo-R2	0.840	0.812	0.814	0.828	0.898		0.961	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-20 Robustness checks: add variables - Push factors - Non-neighbors

	(1) preferred	(2) IDP	(3) PTS	(4) torture	(5) drop sex. vio.
Civilian fatalities	–0.264	–0.247	–0.380*	–0.194	–0.315
	(0.183)	(0.198)	(0.198)	(0.192)	(0.204)
Civilian fatalities, squared	0.018	0.019	0.033	0.012	0.025
	(0.022)	(0.023)	(0.022)	(0.022)	(0.024)
Civilian fatalities, cubed	–0.000	–0.000	–0.001	–0.000	–0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Battle-related fatalities	0.089**	0.081	0.063	0.073**	0.153***
	(0.045)	(0.052)	(0.054)	(0.033)	(0.038)
Battle-related fatalities, squared	–0.001	–0.001	–0.001	–0.000	–0.004***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)
Battle-related fatalities, cubed	0.000	0.000	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sexual violence	0.826***	0.769***	0.706***	0.803***	
	(0.186)	(0.261)	(0.223)	(0.182)	
Freedom from political killings	–0.652***	–0.627***			–0.610***
	(0.182)	(0.202)			(0.181)
Freedom of religion	–0.873***	–1.109***	–1.107***	–0.937***	–0.891***
	(0.234)	(0.290)	(0.246)	(0.241)	(0.226)
Polity Indicator	0.002	–0.014	–0.023	0.009	–0.004
	(0.067)	(0.067)	(0.064)	(0.069)	(0.057)
Political instability	–0.011	0.075	–0.023	–0.190	0.025
	(0.353)	(0.325)	(0.261)	(0.316)	(0.395)
Female labor force participation	0.061*	0.105**	0.047	0.062*	0.004
	(0.036)	(0.043)	(0.045)	(0.033)	(0.041)
Freedom of domestic movement for women	–0.475	–0.333	–0.652*	–0.327	–0.715**
	(0.326)	(0.370)	(0.342)	(0.410)	(0.280)
GDP per capita, logged	0.336	0.313	–0.024	0.391	0.372
	(0.305)	(0.314)	(0.353)	(0.326)	(0.294)
Population, logged	–3.461**	–4.039***	–3.514***	–5.517***	–3.662**
	(1.576)	(1.481)	(1.206)	(1.509)	(1.771)
Child mortality	–0.016*	–0.026**	–0.029**	–0.021**	–0.012
	(0.009)	(0.011)	(0.012)	(0.009)	(0.011)
Female	1.341	0.962	2.154**	1.632	1.488
	(1.121)	(1.076)	(1.026)	(1.152)	(1.165)
× Civilian fatalities	0.247**	0.210**	0.323***	0.287***	0.266**
	(0.101)	(0.099)	(0.100)	(0.107)	(0.105)
× Civilian fatalities, squared	–0.020*	–0.015	–0.028***	–0.022**	–0.022**
	(0.010)	(0.009)	(0.011)	(0.010)	(0.010)
× Civilian fatalities, cubed	0.000	0.000	0.001**	0.001*	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Battle-related fatalities	–0.016	–0.045**	–0.026	–0.021	–0.019
	(0.016)	(0.022)	(0.019)	(0.016)	(0.016)
× Battle-related fatalities, squared	–0.000	0.001	0.000	–0.000	–0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
× Battle-related fatalities, cubed	0.000	–0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
× Sexual violence	0.124	0.192	0.166	0.132	
	(0.138)	(0.141)	(0.175)	(0.135)	
× Freedom from political killings	–0.059	–0.115**			–0.056
	(0.045)	(0.057)			(0.045)
× Freedom of religion	0.169	0.356***	0.125	0.158	0.164
	(0.118)	(0.112)	(0.097)	(0.116)	(0.125)
× Polity Indicator	0.022	0.029	0.015	0.021	0.022
	(0.021)	(0.022)	(0.017)	(0.019)	(0.020)
× Political instability	–0.003	–0.072	0.042	–0.016	0.014
	(0.267)	(0.226)	(0.232)	(0.269)	(0.282)
× Female labor force participation	0.002	–0.005	0.002	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
× Freedom of domestic movement for women	–0.159	–0.350***	–0.157	–0.164	–0.145
	(0.098)	(0.132)	(0.116)	(0.106)	(0.107)
× GDP per capita, logged	–0.003	0.003	0.007	–0.023	–0.018
	(0.068)	(0.068)	(0.070)	(0.075)	(0.078)
× Population, logged	–0.211**	–0.153**	–0.262**	–0.224***	–0.203***
	(0.083)	(0.071)	(0.103)	(0.081)	(0.078)
× Child mortality	–0.003	–0.002	–0.004	–0.003*	–0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IDP, logged		0.037			
		(0.023)			
× IDP, logged		–0.001			
		(0.011)			
Political Terror Scale			0.732**		
			(0.317)		
× Political Terror Scale			–0.082		
			(0.132)		
Freedom from torture				–0.769***	
				(0.245)	
× Freedom from torture				–0.007	
				(0.079)	
Observations	53,320	34,960	51,700	53,320	53,320
Dyads	1,697	1,157	1,643	1,697	1,697
Years	17	17	17	17	17
Log likelihood	–8,270,825	–7,271,913	–7,865,918	–8,270,825	–8,270,825
Pseudo-R2	0.840	0.850	0.851	0.841	0.835

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-21 Robustness checks: Change sample and dependent variable - Pull factors - Neighbors

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Fatalities, t-1	–0.230*	0.030	–0.162	–0.124	–0.157**	–0.012	–0.044***	–0.006
	(0.124)	(0.191)	(0.230)	(0.110)	(0.075)	(0.010)	(0.013)	(0.012)
Peace duration, t-1	–0.107**	0.021	0.030	–0.098*	–0.101**	0.007	–0.060	–0.022
	(0.046)	(0.059)	(0.052)	(0.050)	(0.047)	(0.017)	(0.039)	(0.019)
Freedom from political killings, t-1	0.235	0.365	0.982*	–0.006	0.909	0.078	0.164	0.117
	(0.584)	(0.315)	(0.526)	(0.389)	(0.711)	(0.109)	(0.218)	(0.152)
Freedom of religion, t-1	0.144	–0.162	0.305	0.321	–0.263	–0.322	–0.307	–0.228
	(0.407)	(0.358)	(0.399)	(0.392)	(0.369)	(0.241)	(0.187)	(0.199)
Polity indicator, t-1	–0.006	0.200**	0.064	0.082	0.014	0.022	0.052**	–0.003
	(0.076)	(0.084)	(0.089)	(0.086)	(0.053)	(0.046)	(0.023)	(0.025)
Political instability, t-1	–0.456	1.008	0.641	–0.437	0.378	0.123	0.136	0.055
	(0.695)	(0.636)	(0.643)	(0.769)	(0.525)	(0.149)	(0.184)	(0.288)
Freedom of movement, women, t-1	0.777	0.747	1.483	2.560**	0.201	0.154	–0.053	0.124
	(0.738)	(0.784)	(1.004)	(1.085)	(0.882)	(0.201)	(0.225)	(0.178)
Female labor force participation, t-1	0.112	0.016	–0.042	–0.085	–0.017	–0.016	0.101*	0.014
	(0.100)	(0.059)	(0.077)	(0.060)	(0.133)	(0.029)	(0.052)	(0.027)
GDP per capita, logged, t-1	–0.683	0.352	0.225	0.554	0.339	–0.194	0.560*	0.015
	(0.637)	(0.652)	(0.705)	(0.828)	(0.617)	(0.244)	(0.306)	(0.198)
Population, logged, t-1	–14.631***	1.708	1.094	–10.444***	–10.602***	0.801	–5.043***	0.568
	(3.214)	(1.895)	(2.282)	(3.583)	(4.088)	(1.246)	(1.694)	(1.058)
Child mortality, t-1	–0.112**	–0.031	–0.044	–0.070**	–0.051	–0.004	–0.026	–0.005
	(0.044)	(0.024)	(0.034)	(0.035)	(0.032)	(0.009)	(0.021)	(0.010)
Female	0.682**	0.021	0.622*	0.401	0.564	–0.596	0.039	0.081
	(0.287)	(0.497)	(0.352)	(0.530)	(1.124)	(0.388)	(0.323)	(0.447)
× Fatalities, t-1	0.012	0.009	0.001	0.013	0.031	–0.004	0.002	0.000
	(0.014)	(0.026)	(0.031)	(0.016)	(0.025)	(0.004)	(0.003)	(0.009)
× Peace duration, t-1	–0.006	–0.006	–0.008	–0.008	–0.016*	0.003	–0.004	–0.003
	(0.011)	(0.005)	(0.006)	(0.010)	(0.010)	(0.005)	(0.004)	(0.006)
× Freedom from political killings, t-1	–0.023	–0.034	–0.015	–0.009	–0.003	0.004	–0.004	–0.047
	(0.042)	(0.027)	(0.030)	(0.043)	(0.082)	(0.028)	(0.015)	(0.034)
× Freedom of religion, t-1	0.038	–0.029	–0.001	0.039	0.021	0.037	0.037	0.011
	(0.055)	(0.033)	(0.037)	(0.046)	(0.063)	(0.036)	(0.029)	(0.051)
× Polity indicator, t-1	–0.002	0.003	–0.004	–0.003	–0.007	–0.001	–0.007**	0.009
	(0.005)	(0.007)	(0.006)	(0.011)	(0.011)	(0.007)	(0.003)	(0.009)
× Political instability, t-1	0.003	0.039	–0.022	0.090	0.183	–0.029	–0.091**	0.028
	(0.115)	(0.051)	(0.041)	(0.158)	(0.189)	(0.116)	(0.046)	(0.078)
× Freedom of movement, women, t-1	0.045	0.113**	0.057	0.020	0.045	–0.085*	0.025	–0.045
	(0.045)	(0.045)	(0.038)	(0.052)	(0.086)	(0.043)	(0.028)	(0.048)
× Female labor force participation, t-1	0.001	–0.002	–0.003*	0.002	0.002	0.002	0.000	0.002
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
× GDP per capita, logged, t-1	–0.020	0.017	–0.036	0.005	–0.017	0.039	0.019	0.014
	(0.029)	(0.053)	(0.042)	(0.045)	(0.085)	(0.029)	(0.027)	(0.033)
× Population, logged, t-1	–0.054**	–0.016	–0.020	–0.050*	–0.047	0.017	–0.026**	–0.041
	(0.025)	(0.019)	(0.017)	(0.029)	(0.037)	(0.015)	(0.013)	(0.030)
× Child mortality, t-1	–0.001	0.001	0.000	–0.001	–0.002	0.000	0.001	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
Observations	7,146	6,454	6,558	6,602	5,274	7,146	7,208	7,208
Dyads	239	216	220	222	240	239	241	241
Years	16	16	16	16	16	16	16	16
Log likelihood	–79,525,673	–19,347,881	–29,465,750	–56,957,182	–73,465,680	–15,723	–279,400,423	–13,615
Pseudo-R2	0.728	0.675	0.733	0.685	0.831		0.910	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-22 Robustness checks: Add variables - Pull factors - Neighbors

	(1) preferred	(2) PTS	(3) torture	(4) education	(5) refugee policies	(6) property rights
Fatalities, t-1	–0.230*	–0.263	–0.295*	–0.313*	–0.237	–0.176*
	(0.124)	(0.168)	(0.164)	(0.173)	(0.223)	(0.091)
Peace duration, t-1	–0.107**	–0.103**	–0.099**	–0.107**	–0.097*	–0.105**
	(0.046)	(0.050)	(0.048)	(0.050)	(0.052)	(0.049)
Freedom from political killings, t-1	0.235			–0.021	0.267	0.610
	(0.584)			(0.321)	(0.630)	(0.594)
Freedom of religion, t-1	0.144	0.143	0.241	–2.139***	0.357	0.358
	(0.407)	(0.426)	(0.436)	(0.820)	(0.494)	(0.519)
Polity indicator, t-1	–0.006	0.003	0.072	0.146*	–0.017	0.006
	(0.076)	(0.083)	(0.117)	(0.085)	(0.077)	(0.075)
Political instability, t-1	–0.456	–0.476	–0.403	–1.140	–0.591	–0.381
	(0.695)	(0.703)	(0.693)	(0.942)	(0.851)	(0.706)
Freedom of movement, women, t-1	0.777	0.859	1.343***	0.860	0.866	
	(0.738)	(0.527)	(0.515)	(2.718)	(0.801)	
Female labor force participation, t-1	0.112	0.121	0.088	–0.055	0.075	0.074
	(0.100)	(0.099)	(0.086)	(0.068)	(0.119)	(0.089)
GDP per capita, logged, t-1	–0.683	–0.834	–0.886	1.472	–1.075	–0.212
	(0.637)	(0.800)	(0.835)	(1.289)	(0.767)	(0.658)
Population, logged, t-1	–14.631***	–14.513***	–13.792***	–7.166	–14.670***	–13.457***
	(3.214)	(3.127)	(3.050)	(7.542)	(3.227)	(3.112)
Child mortality, t-1	–0.112**	–0.117**	–0.114***	–0.093	–0.103***	–0.106**
	(0.044)	(0.047)	(0.043)	(0.057)	(0.038)	(0.042)
Female	0.682**	0.702**	0.739**	0.545	1.009***	0.630**
	(0.287)	(0.300)	(0.306)	(0.386)	(0.259)	(0.308)
× Fatalities, t-1	0.012	0.010	0.011	0.030*	0.029	0.011
	(0.014)	(0.018)	(0.015)	(0.017)	(0.052)	(0.012)
× Peace duration, t-1	–0.006	–0.007	–0.005	–0.010	–0.002	–0.005
	(0.011)	(0.009)	(0.009)	(0.012)	(0.008)	(0.011)
× Freedom from pol kill, t-1	–0.023			–0.009	–0.071**	–0.021
	(0.042)			(0.088)	(0.034)	(0.037)
× Freedom of religion, t-1	0.038	0.033	0.040	0.027	0.068	0.055
	(0.055)	(0.047)	(0.044)	(0.076)	(0.049)	(0.056)
× Polity indicator, t-1	–0.002	–0.004	0.001	–0.006	0.004	–0.002
	(0.005)	(0.007)	(0.007)	(0.011)	(0.006)	(0.006)
× Political instability, t-1	0.003	–0.015	–0.006	–0.060	0.104	0.001
	(0.115)	(0.097)	(0.102)	(0.312)	(0.094)	(0.110)
× Freedom of move, women, t-1	0.045	0.066	0.043	0.051	0.064	
	(0.045)	(0.056)	(0.044)	(0.078)	(0.047)	
× Female labor force part, t-1	0.001	0.000	0.000	0.003	–0.003	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
× GDP per capita, logged, t-1	–0.020	–0.028	–0.027	–0.019	–0.024	–0.020
	(0.029)	(0.030)	(0.025)	(0.039)	(0.026)	(0.031)
× Population, logged, t-1	–0.054**	–0.062*	–0.055**	–0.047	–0.083***	–0.053**
	(0.025)	(0.034)	(0.025)	(0.029)	(0.020)	(0.026)
× Child mortality, t-1	–0.001	–0.001	–0.001	–0.002**	–0.000	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Political Terror Scale, t-1		0.004				
		(0.500)				
× Political Terror Scale, t-1		0.045				
		(0.089)				
Freedom from torture, t-1			–0.820			
			(0.815)			
× Freedom from torture, t-1			–0.043			
			(0.041)			
Education, t-1				0.558		
				(0.833)		
× Education, t-1				0.005		
				(0.025)		
Refugee Policy Index, t-1					–3.376*	
					(1.784)	
× Refugee Policy Index, t-1					0.375*	
					(0.225)	
Property rights, women, t-1						–1.114
						(0.711)
× Property rights, women, t-1						0.011
						(0.043)
Observations	7,146	6,894	7,146	4,742	6,632	7,146
Dyads	239	230	239	180	219	239
Years	16	16	16	14	16	16
Log likelihood	–79,525,673	–77,930,944	–79,525,673	–39,469,066	–76,064,606	–79,525,673
Pseudo-R2	0.728	0.733	0.731	0.672	0.737	0.730

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-23 Robustness checks: Change sample and dependent variable - Pull factors - Non-neighbors

		Change sample			Change dependent variable			
	(1) preferred	(2) top flows	(3) top conflict	(4) transit	(5) drop flows<0	(6) ln(flow) OLS	(7) stocks	(8) ln(stocks)
Fatalities, t-1	–0.009	0.009	–0.003	–0.012	0.001	–0.004	–0.011	–0.010**
	(0.044)	(0.019)	(0.034)	(0.064)	(0.026)	(0.003)	(0.012)	(0.004)
Peace duration, t-1	–0.035	0.009	–0.012	–0.015	–0.021	–0.005	–0.008	–0.005
	(0.080)	(0.057)	(0.059)	(0.060)	(0.067)	(0.005)	(0.025)	(0.007)
Freedom from political killings, t-1	0.419	–0.978**	–0.124	0.505	0.312	–0.060	–0.119	–0.208***
	(0.504)	(0.421)	(0.340)	(0.601)	(0.535)	(0.048)	(0.116)	(0.054)
Freedom of religion, t-1	1.512***	2.035***	1.589***	1.940***	0.589**	0.076	0.428***	–0.027
	(0.463)	(0.603)	(0.514)	(0.439)	(0.285)	(0.074)	(0.156)	(0.082)
Polity indicator, t-1	–0.036	0.072	–0.010	0.026	–0.016	–0.013	0.023	–0.004
	(0.074)	(0.120)	(0.099)	(0.093)	(0.066)	(0.008)	(0.025)	(0.012)
Political instability, t-1	–0.942	–2.890	–2.485	–2.519	–1.184	0.011	0.139	0.010
	(1.463)	(1.813)	(1.684)	(1.708)	(1.360)	(0.066)	(0.209)	(0.079)
Freedom of movement, women, t-1	–0.991	0.845**	0.532*	–0.828	–0.840	0.134*	–0.216	0.171*
	(0.789)	(0.430)	(0.285)	(0.856)	(0.654)	(0.066)	(0.154)	(0.092)
Female labor force participation, t-1	0.085*	0.164**	0.045	0.060	0.118***	0.011	0.060**	0.008
	(0.049)	(0.080)	(0.054)	(0.055)	(0.045)	(0.009)	(0.027)	(0.009)
GDP per capita, logged, t-1	0.743*	0.023	0.313	0.590	0.249	0.056	0.403	0.133*
	(0.433)	(0.536)	(0.523)	(0.386)	(0.329)	(0.066)	(0.303)	(0.072)
Population, logged, t-1	–2.786	–1.178	–2.400	–1.678	–4.006*	–0.323	–1.720	–0.970**
	(2.359)	(3.434)	(3.535)	(2.182)	(2.216)	(0.204)	(1.413)	(0.335)
Child mortality, t-1	–0.042**	–0.042**	–0.034**	–0.038**	–0.058***	0.001	–0.016*	0.006*
	(0.018)	(0.017)	(0.017)	(0.018)	(0.016)	(0.003)	(0.009)	(0.003)
Female	2.777**	2.796*	1.981	2.810**	2.731*	0.233	0.854	0.231
	(1.340)	(1.697)	(1.387)	(1.359)	(1.550)	(0.158)	(0.657)	(0.247)
× Fatalities, t-1	0.025	–0.005	0.022	0.042	0.017	0.001	0.006	0.006**
	(0.036)	(0.007)	(0.025)	(0.056)	(0.018)	(0.001)	(0.007)	(0.002)
× Peace duration, t-1	–0.001	0.000	–0.004	–0.002	0.005	–0.000	–0.007**	–0.008***
	(0.009)	(0.006)	(0.009)	(0.009)	(0.009)	(0.001)	(0.003)	(0.003)
× Freedom from political killings, t-1	–0.072	–0.090	–0.064	–0.055	–0.063	–0.016	–0.080***	–0.028
	(0.046)	(0.058)	(0.062)	(0.051)	(0.046)	(0.010)	(0.026)	(0.020)
× Freedom of religion, t-1	0.057	0.003	–0.022	0.065	0.104	0.011	0.079*	0.021
	(0.070)	(0.080)	(0.069)	(0.071)	(0.076)	(0.010)	(0.046)	(0.017)
× Polity indicator, t-1	0.004	0.009	0.006	–0.005	–0.001	0.003	–0.002	0.001
	(0.013)	(0.015)	(0.015)	(0.011)	(0.015)	(0.002)	(0.007)	(0.004)
× Political instability, t-1	–0.160	0.086	0.334**	0.092	–0.106	–0.008	–0.148	0.028
	(0.194)	(0.146)	(0.167)	(0.193)	(0.184)	(0.038)	(0.098)	(0.043)
× Freedom of movement, women, t-1	–0.093	–0.017	–0.020	–0.068	–0.126	–0.025*	–0.052	–0.070***
	(0.073)	(0.046)	(0.065)	(0.075)	(0.100)	(0.012)	(0.038)	(0.021)
× Female labor force participation, t-1	–0.000	–0.005	0.002	0.000	–0.002	–0.001	0.000	–0.001
	(0.004)	(0.003)	(0.005)	(0.004)	(0.004)	(0.001)	(0.002)	(0.001)
× GDP per capita, logged, t-1	–0.371***	–0.378**	–0.352***	–0.384***	–0.369***	–0.009	–0.211***	0.002
	(0.121)	(0.153)	(0.131)	(0.125)	(0.140)	(0.014)	(0.057)	(0.023)
× Population, logged, t-1	0.002	0.006	0.042	0.011	0.003	–0.019***	0.058**	–0.039***
	(0.038)	(0.048)	(0.045)	(0.038)	(0.042)	(0.006)	(0.023)	(0.011)
× Child mortality, t-1	–0.009**	–0.005*	–0.007**	–0.010**	–0.008**	–0.001**	–0.005***	–0.001*
	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)	(0.000)	(0.002)	(0.001)
Observations	50,162	43,924	44,870	44,402	43,135	50,162	50,806	50,828
Dyads	1,611	1,408	1,439	1,431	1,610	1,611	1,633	1,633
Years	16	16	16	16	16	16	16	16
Log likelihood	–11,601,920	–6,930,021	–9,250,247	–10,453,382	–10,686,446	–72,952	–54,186,143	–75,954
Pseudo-R2	0.810	0.813	0.820	0.815	0.859		0.949	

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A-24 Robustness checks: Add variables - Pull factors - Non-neighbors

	(1) preferred	(2) PTS	(3) torture	(4) education	(5) refugee policies	(6) property rights
Fatalities, t-1	–0.009	–0.010	0.014	–0.070	–0.003	0.002
	(0.044)	(0.042)	(0.025)	(0.111)	(0.048)	(0.042)
Peace duration, t-1	–0.035	–0.049	–0.034	0.004	–0.234**	–0.040
	(0.080)	(0.077)	(0.074)	(0.063)	(0.100)	(0.074)
Freedom from political killings, t-1	0.419			1.066	0.520	0.357
	(0.504)			(0.812)	(0.528)	(0.480)
Freedom of religion, t-1	1.512***	1.513***	1.183**	0.774	1.749***	1.795***
	(0.463)	(0.445)	(0.517)	(0.559)	(0.593)	(0.480)
Polity indicator, t-1	–0.036	–0.051	–0.135	–0.183	–0.039	0.001
	(0.074)	(0.071)	(0.095)	(0.122)	(0.067)	(0.050)
Political instability, t-1	–0.942	–0.846	–1.009	–1.989	–0.264	–0.748
	(1.463)	(1.371)	(1.430)	(1.363)	(1.108)	(1.213)
Freedom of movement, women, t-1	–0.991	–0.916	–0.406	–1.622*	–0.928	
	(0.789)	(0.703)	(0.341)	(0.856)	(0.760)	
Female labor force participation, t-1	0.085*	0.070	0.084*	0.099	0.114**	0.070
	(0.049)	(0.052)	(0.048)	(0.071)	(0.046)	(0.047)
GDP per capita, logged, t-1	0.743*	0.694	0.812*	–0.512	0.919*	0.761
	(0.433)	(0.427)	(0.429)	(0.706)	(0.470)	(0.464)
Population, logged, t-1	–2.786	–3.208	–1.661	–9.411	–3.823	–3.090
	(2.359)	(2.227)	(2.592)	(6.447)	(2.697)	(2.318)
Child mortality, t-1	–0.042**	–0.034*	–0.041**	–0.065**	–0.054***	–0.040**
	(0.018)	(0.019)	(0.017)	(0.026)	(0.020)	(0.018)
Female	2.777**	3.273**	2.854**	2.182**	2.661*	2.589*
	(1.340)	(1.328)	(1.324)	(1.090)	(1.375)	(1.379)
× Fatalities, t-1	0.025	0.026	0.012	0.043	0.034	0.023
	(0.036)	(0.033)	(0.024)	(0.082)	(0.037)	(0.035)
× Peace duration, t-1	–0.001	–0.009	0.002	–0.011*	0.030**	–0.005
	(0.009)	(0.010)	(0.011)	(0.006)	(0.015)	(0.009)
× Freedom from pol kill, t-1	–0.072			–0.061	–0.068*	–0.105**
	(0.046)			(0.054)	(0.039)	(0.048)
× Freedom of religion, t-1	0.057	0.051	0.075	0.078	0.001	–0.014
	(0.070)	(0.070)	(0.063)	(0.095)	(0.085)	(0.077)
× Polity indicator, t-1	0.004	–0.000	0.031	–0.004	0.009	0.001
	(0.013)	(0.013)	(0.021)	(0.012)	(0.013)	(0.014)
× Political instability, t-1	–0.160	–0.105	–0.178	0.033	–0.235	–0.140
	(0.194)	(0.192)	(0.185)	(0.129)	(0.159)	(0.171)
× Freedom of movement, women, t-1	–0.093	–0.103	–0.117	–0.060	–0.062	
	(0.073)	(0.072)	(0.081)	(0.070)	(0.110)	
× Female labor force part, t-1	–0.000	–0.000	–0.002	0.000	0.001	–0.001
	(0.004)	(0.004)	(0.004)	(0.006)	(0.005)	(0.004)
× GDP per capita, logged, t-1	–0.371***	–0.404***	–0.348***	–0.327***	–0.395***	–0.353***
	(0.121)	(0.120)	(0.114)	(0.073)	(0.123)	(0.121)
× Population, logged, t-1	0.002	0.010	–0.024	0.012	0.025	0.003
	(0.038)	(0.040)	(0.039)	(0.046)	(0.043)	(0.041)
× Child mortality, t-1	–0.009**	–0.010***	–0.008**	–0.008**	–0.011***	–0.008**
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
Political Terror Scale, t-1		–0.525**				
		(0.265)				
× Political Terror Scale, t-1		–0.084				
		(0.091)				
Freedom from torture, t-1			1.057			
			(0.655)			
× Freedom from torture, t-1			–0.217**			
			(0.095)			
Education, t-1				–0.020		
				(0.459)		
× Education, t-1				0.022		
				(0.026)		
Refugee Policy Index, t-1					–2.644	
					(1.938)	
× Refugee Policy Index, t-1					0.354	
					(0.310)	
Property rights, women, t-1						–1.143***
						(0.442)
× Property rights, women, t-1						0.072
						(0.064)
Observations	50,162	49,742	50,162	34,420	42,980	50,162
Dyads	1,611	1,596	1,611	1,252	1,378	1,611
Years	16	16	16	14	16	16
Log likelihood	–11,601,920	–11,582,938	–11,601,920	–9,237,446	–10,606,363	–11,601,920
Pseudo-R2	0.810	0.812	0.813	0.827	0.822	0.810

Notes: Dependent variable is refugee flow by gender. Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

9 Online Appendix

The Online Appendix contains supplementary information such as lists of origin and asylum countries, cross-correlation tables by dimension and regression tables for the total sample, not distinguishing neighboring and non-neighboring countries.

Table B-1 List of origin countries (in alphabetical order)

Afghanistan
Angola
United Arab Emirates
Armenia
Azerbaijan
Burundi
Benin
Burkina Faso
Bangladesh
Bahrain
Brunei Darussalam
Bhutan
Botswana
Central African Republic
China
Ivory Coast
Cameroon
Democratic Republic of the Congo
Republic of the Congo
Comoros
Djibouti
Algeria
Egypt
Eritrea
Ethiopia
Gabon
Georgia
Ghana
Guinea
The Gambia
Guinea-Bissau
Equatorial Guinea
Indonesia
India
Iran
Iraq
Israel
Jordan
Kazakhstan
Kenya
Kyrgyzstan
Cambodia
South Korea
Kuwait
Laos
Lebanon
Liberia
Libya
Sri Lanka
Lesotho
Morocco
Madagascar
Maldives
Mali
Burma/Myanmar
Mongolia
Mozambique
Mauritania
Mauritius
Malawi
Malaysia
Namibia
Niger
Nigeria
Nepal
Oman
Pakistan
Philippines
North Korea
Palestine
Qatar
Rwanda
Saudi Arabia
Sudan
Senegal
Singapore
Sierra Leone
Somalia
South Sudan
Sao Tome and Principe
Swaziland
Seychelles
Syria
Chad
Togo
Thailand
Tajikistan
Turkmenistan
Timor-Leste
Tunisia
Türkiye
Tanzania
Uganda
Uzbekistan
Vietnam
Yemen
South Africa
Zambia
Zimbabwe

Table B-2 List of asylum countries (in alphabetical order)

Afghanistan
Angola
United Arab Emirates
Armenia
Azerbaijan
Burundi
Benin
Burkina Faso
Bangladesh
Bahrain
Botswana
Central African Republic
China
Ivory Coast
Cameroon
Democratic Republic of the Congo
Republic of the Congo
Comoros
Cyprus
Djibouti
Algeria
Egypt
Eritrea
Ethiopia
Gabon
Georgia
Ghana
Guinea
The Gambia
Guinea-Bissau
Hong Kong
Indonesia
India
Iran
Iraq
Israel
Jordan
Japan
Kazakhstan
Kenya
Kyrgyzstan
Cambodia
South Korea
Kuwait
Lebanon
Liberia
Libya
Sri Lanka
Lesotho
Morocco
Madagascar
Mali
Mongolia
Mozambique
Mauritania
Mauritius
Malawi
Malaysia
Namibia
Niger
Nigeria
Nepal
Oman
Pakistan
Philippines
Qatar
Rwanda
Saudi Arabia
Sudan
Senegal
Singapore
Sierra Leone
Somalia
South Sudan
Swaziland
Syria
Chad
Togo
Thailand
Tajikistan
Turkmenistan
Timor-Leste
Tunisia
Türkiye
Tanzania
Uganda
Uzbekistan
Vietnam
Yemen
South Africa
Zambia
Zimbabwe

Table B-3 Cost factors - Cross-correlation table

	Distance	Distance, pop. weighted	Contiguity	Number of borders	Mountainous terrain	Desert	Colonial tie	Shared official language	Religious distance	Linguistic distance	Genetic distance, logged	Migrant diaspora, logged, 2000	Male refugee diaspora	Female refugee diaspora
Distance	1													
Distance, pop. weighted	0.978	1												
Contiguity	–0.363	–0.362	1											
Number of borders	0.912	0.900	–0.421	1										
Mountainous terrain	0.083	0.080	0.076	0.017	1									
Desert	0.082	0.108	–0.002	–0.032	–0.356	1								
Colonial tie	–0.055	–0.053	0.157	–0.071	0.014	0.075	1							
Shared official language	–0.283	–0.287	0.131	–0.237	–0.260	0.061	0.057	1						
Religious distance	0.191	0.199	–0.181	0.217	0.058	–0.168	–0.082	–0.147	1					
Linguistic distance	0.324	0.330	–0.266	0.319	0.150	0.064	–0.028	–0.306	0.145	1				
Genetic distance, logged	0.616	0.630	–0.302	0.566	–0.083	0.229	–0.046	–0.189	0.147	0.473	1			
Migrant diaspora,logged, 2000	–0.413	–0.437	0.443	–0.459	0.072	–0.146	0.068	0.148	–0.155	–0.280	–0.450	1		
Male refugee diaspora	–0.287	–0.295	0.366	–0.303	0.066	–0.130	0.064	0.125	–0.116	–0.182	–0.158	0.271	1	
Female refugee diaspora	–0.306	–0.313	0.397	–0.325	0.082	–0.133	0.064	0.128	–0.123	–0.211	–0.195	0.308	0.938	1

Table B-4 Push factors - Cross-correlation table

	Fatalities	Civilian fatalities	Battle-related fatalities	Sexual violence	Freedom from political killings	Freedom of religion	Polity Indicator	Political instability	GDP per capita, logged	Population, logged	Child mortality	Female labor force participation	Freedom of domestic movement for women
Fatalities	1												
Civilian fatalities	0.933	1											
Battle-related fatalities	0.988	0.872	1										
Sexual violence	0.237	0.233	0.222	1									
Freedom from political killings	-0.299	-0.300	-0.273	-0.268	1								
Freedom of religion	-0.208	-0.173	-0.208	0.031	0.280	1							
Polity Indicator	-0.166	-0.160	-0.165	0.028	0.443	0.479	1						
Political instability	-0.006	-0.026	0.001	0.132	-0.111	-0.051	-0.135	1					
GDP per capita, logged	0.047	0.057	0.045	-0.121	0.123	-0.398	-0.164	-0.042	1				
Population, logged	0.060	0.051	0.053	0.160	-0.076	-0.173	0.046	0.009	0.127	1			
Child mortality	-0.083	-0.063	-0.095	0.147	0.016	0.489	0.236	0.001	-0.677	-0.198	1		
Female labor force participation	-0.247	-0.207	-0.248	-0.042	0.092	0.609	0.086	-0.064	-0.524	-0.223	0.481	1	
Freedom of domestic movement for women	-0.247	-0.210	-0.241	-0.139	0.474	0.759	0.412	-0.096	-0.244	-0.177	0.367	0.491	1

Table B-5 Pull factors - Cross-correlation table

	Fatalities	Peace duration	Freedom from political killings	Freedom of religion	Polity Indicator	Political instability	GDP per capita, logged	Population, logged	Child mortality	Female labor force participation	Freedom of movement, women	Female refugee diaspora	Male refugee diaspora
Fatalities	1												
Peace duration	-0.085	1											
Freedom from political killings	-0.314	0.291	1										
Freedom of religion	-0.171	0.037	0.188	1									
Polity Indicator	-0.162	-0.003	0.378	0.548	1								
Political instability	-0.004	-0.101	-0.110	-0.015	-0.103	1							
GDP per capita, logged	-0.015	0.096	0.280	-0.294	-0.128	0.007	1						
Population, logged	0.040	-0.295	-0.142	-0.120	0.136	0.044	-0.036	1					
Child mortality	-0.027	0.002	-0.161	0.372	0.107	-0.030	-0.731	-0.123	1				
Female labor force participation	-0.202	0.062	0.084	0.589	0.191	-0.001	-0.338	-0.109	0.396	1			
Freedom of movement, women	-0.221	0.157	0.352	0.696	0.522	-0.052	-0.265	-0.125	0.317	0.553	1		
Female refugee diaspora	0.042	-0.030	-0.115	0.009	-0.023	0.033	-0.061	0.021	0.057	0.002	-0.051	1	
Male refugee diaspora	0.023	-0.010	-0.088	0.027	-0.006	0.029	-0.066	0.031	0.072	0.026	-0.014	0.938	1

Table B-6 Push factors - All countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Civilian fatalities	0.835***	0.915***	0.729***	0.662**	0.665**	0.665**	0.698***	0.671**	
	(0.233)	(0.222)	(0.265)	(0.276)	(0.270)	(0.265)	(0.267)	(0.267)	
Civilian fatalities, squared	−0.129***	−0.137***	−0.110***	−0.104***	−0.104***	−0.103***	−0.101***	−0.094***	
	(0.026)	(0.025)	(0.029)	(0.029)	(0.028)	(0.027)	(0.029)	(0.028)	
Civilian fatalities, cubed	0.004***	0.004***	0.004***	0.003***	0.003***	0.003***	0.003***	0.003***	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Battle-related fatalities	0.662***	0.599***	0.602***	0.603***	0.603***	0.603***	0.561***	0.556***	
	(0.154)	(0.161)	(0.155)	(0.155)	(0.156)	(0.156)	(0.150)	(0.149)	
Battle-related fatalities, squared	−0.031***	−0.027***	−0.029***	−0.029***	−0.029***	−0.029***	−0.028***	−0.029***	
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	
Battle-related fatalities, cubed	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Fatalities									0.493***
									(0.091)
Fatalities, squared									−0.014***
									(0.003)
Fatalities, cubed									0.000***
									(0.000)
Sexual violence		1.484***	1.521***	1.523***	1.528***	1.527***	1.478***	1.441***	1.424***
		(0.398)	(0.393)	(0.402)	(0.407)	(0.398)	(0.434)	(0.462)	(0.495)
Freedom from political killings			−0.750***	−0.651***	−0.667***	−0.669***	−0.458*	−0.404	−0.268
			(0.233)	(0.210)	(0.229)	(0.227)	(0.273)	(0.286)	(0.347)
Freedom of religion				−0.364	−0.368	−0.368	−0.298	−0.344	−0.150
				(0.256)	(0.251)	(0.243)	(0.283)	(0.257)	(0.261)
Polity Indicator					0.017	0.018	0.015	0.006	0.024
					(0.054)	(0.060)	(0.057)	(0.056)	(0.060)
Political instability						0.026	0.023	−0.003	0.089
						(0.324)	(0.320)	(0.338)	(0.316)
Female labor force participation							−0.018	−0.023	−0.045
							(0.064)	(0.065)	(0.088)
Freedom of domestic movement for women							−0.894*	−0.747	−1.071*
							(0.539)	(0.485)	(0.571)
GDP per capita, logged								−0.114	1.533**
								(0.368)	(0.595)
Population, logged								−1.546	−4.072*
								(1.784)	(2.260)
Child mortality								0.005	0.038
								(0.014)	(0.031)
Female	−0.077	−0.045	−0.050	−0.063	−0.077	−0.072	−0.216	−0.340	−0.661
	(0.057)	(0.063)	(0.070)	(0.068)	(0.080)	(0.089)	(0.205)	(0.331)	(0.410)
× Civilian fatalities	0.100***	0.099***	0.094***	0.099**	0.092**	0.090**	0.100**	0.108***	
	(0.033)	(0.036)	(0.034)	(0.041)	(0.037)	(0.039)	(0.040)	(0.037)	
× Civilian fatalities, squared	−0.003	−0.003	−0.003	−0.004	−0.002	−0.003	−0.003	−0.005	
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	
× Civilian fatalities, cubed	0.000	0.000	0.000	0.000	−0.000	−0.000	−0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Battle-related fatalities	−0.072***	−0.061***	−0.058***	−0.048***	−0.047***	−0.046***	−0.037**	−0.039**	
	(0.020)	(0.013)	(0.013)	(0.018)	(0.015)	(0.017)	(0.019)	(0.019)	
× Battle-related fatalities, squared	0.002**	0.002***	0.001**	0.001	0.001*	0.001*	0.001	0.001	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
× Battle-related fatalities, cubed	−0.000*	−0.000*	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
× Fatalities									0.011
									(0.014)
× Fatalities, squared									−0.000
									(0.000)
× Fatalities, cubed									0.000
									(0.000)
× Sexual violence		−0.063	−0.055	−0.067	−0.067	−0.065	−0.029	0.008	0.027
		(0.090)	(0.099)	(0.102)	(0.097)	(0.095)	(0.095)	(0.095)	(0.105)
× Freedom from political killings			−0.002	−0.005	−0.020	−0.020	0.012	0.019	−0.034
			(0.023)	(0.023)	(0.030)	(0.031)	(0.041)	(0.038)	(0.058)
× Freedom of religion				0.046	0.041	0.043	0.064	0.067	0.014
				(0.035)	(0.035)	(0.039)	(0.059)	(0.060)	(0.082)
× Polity Indicator					0.006	0.005	0.005	0.004	0.010
					(0.007)	(0.008)	(0.008)	(0.008)	(0.011)
× Political instability						−0.039	−0.053	−0.054	−0.087
						(0.115)	(0.113)	(0.122)	(0.136)
× Female labor force participation							0.002	0.002	0.005
							(0.003)	(0.003)	(0.003)
× Freedom of domestic movement for women							−0.074	−0.072	−0.011
							(0.061)	(0.054)	(0.089)
× GDP per capita, logged								0.085***	0.092***
								(0.028)	(0.027)
× Population, logged								−0.050	−0.041
								(0.033)	(0.034)
× Child mortality								0.000	0.001
								(0.001)	(0.001)
Observations	60,958	60,958	60,958	60,958	60,958	60,958	60,958	60,958	60,958
Dyads	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942
Years	17	17	17	17	17	17	17	17	17
Log likelihood	–	–	–	–	–	–	–	–	–
	93,292,458	93,292,458	93,292,458	93,292,458	93,292,458	93,292,458	93,292,458	93,292,458	93,292,458
Pseudo-R2	0.881	0.887	0.890	0.890	0.890	0.890	0.891	0.891	0.881

Notes: Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (8). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

Table B-7 Pull factors - All countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fatalities, t-1	−0.197	−0.193	−0.138	−0.187*	−0.185**	−0.180**	−0.176**
	(0.147)	(0.139)	(0.107)	(0.098)	(0.093)	(0.081)	(0.080)
Peace duration, t-1	−0.027	−0.030	−0.033	−0.072	−0.079	−0.083	−0.083
	(0.079)	(0.080)	(0.077)	(0.054)	(0.055)	(0.056)	(0.057)
Freedom from political killings, t-1		0.155	0.327	0.394	0.379	−0.006	0.014
		(0.518)	(0.474)	(0.436)	(0.466)	(0.274)	(0.281)
Freedom of religion, t-1		−0.001	0.107	0.100	0.152	0.275	0.262
		(0.373)	(0.428)	(0.379)	(0.390)	(0.473)	(0.470)
Polity indicator, t-1			−0.080	−0.021	−0.020	0.055	0.057
			(0.096)	(0.078)	(0.079)	(0.072)	(0.072)
Political instability, t-1			−0.136	−0.327	−0.391	−0.287	−0.286
			(0.573)	(0.569)	(0.602)	(0.542)	(0.540)
Female labor force participation, t-1					0.093	0.041	0.043
					(0.074)	(0.068)	(0.068)
Freedom of movement, women, t-1					−0.017	0.571	0.563
					(0.716)	(0.744)	(0.741)
GDP per capita, logged, t-1				−0.684	−0.485	0.049	0.012
				(0.627)	(0.514)	(0.457)	(0.463)
Population, logged, t-1				−13.540***	−12.852***	−13.038***	−12.835***
				(3.211)	(2.924)	(3.041)	(3.019)
Child mortality, t-1				−0.103***	−0.100***	−0.087***	−0.086***
				(0.027)	(0.028)	(0.031)	(0.030)
Female refugee diaspora						−0.258***	
						(0.063)	
Male refugee diaspora							−0.251***
							(0.063)
Female	−0.105***	−0.117***	−0.125***	1.444***	1.513***	1.240**	1.350**
	(0.032)	(0.029)	(0.040)	(0.535)	(0.527)	(0.499)	(0.535)
× Fatalities, t-1	0.006	0.011	0.022	0.022	0.025	0.024	0.024
	(0.008)	(0.007)	(0.018)	(0.015)	(0.015)	(0.016)	(0.016)
× Peace duration, t-1	−0.008	−0.005	−0.008	−0.016	−0.016	−0.016	−0.017
	(0.009)	(0.009)	(0.010)	(0.011)	(0.012)	(0.011)	(0.011)
× Freedom from political killings, t-1		−0.042	−0.017	−0.010	−0.013	0.002	−0.003
		(0.027)	(0.040)	(0.041)	(0.043)	(0.035)	(0.034)
× Freedom of religion, t-1		0.068***	0.092***	0.058*	0.051	0.055	0.055
		(0.025)	(0.024)	(0.035)	(0.045)	(0.042)	(0.042)
× Polity indicator, t-1			−0.013	−0.010	−0.011	−0.012*	−0.012*
			(0.009)	(0.008)	(0.006)	(0.007)	(0.007)
× Political instability, t-1			−0.024	0.062	0.071	0.074	0.071
			(0.080)	(0.099)	(0.108)	(0.090)	(0.090)
× GDP per capita, logged, t-1				−0.101**	−0.105**	−0.090**	−0.097**
				(0.051)	(0.050)	(0.046)	(0.048)
× Population, logged, t-1				−0.065**	−0.067**	−0.064**	−0.065**
				(0.029)	(0.029)	(0.030)	(0.029)
× Child mortality, t-1				−0.002*	−0.002*	−0.002*	−0.002*
				(0.001)	(0.001)	(0.001)	(0.001)
× Female labor force participation, t-1					−0.000	0.000	−0.000
					(0.002)	(0.002)	(0.002)
× Freedom of movement, women, t-1					0.021	0.012	0.014
					(0.053)	(0.051)	(0.052)
× Female refugee diaspora						0.011	
						(0.008)	
× Male refugee diaspora							0.006
							(0.009)
Observations	57,308	57,308	57,308	57,308	57,308	57,308	57,308
Dyads	1,850	1,850	1,850	1,850	1,850	1,850	1,850
Years	16	16	16	16	16	16	16
Log likelihood	−125,589,067	−125,589,067	−125,589,067	−125,589,067	−125,589,067	−125,589,067	−125,589,067
Pseudo-R2	0.776	0.777	0.779	0.799	0.800	0.820	0.819

Notes: Clustered (by countrypair) standard errors in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. Preferred specification in column (4). Constant not shown. Due to the stacked model the number of observations is doubled, N/2 is the number of dyad-years.

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