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Whither Will They Go? A Global Study of Refugees' Destinations, 1965–1995

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A common public perception in OECD countries suggests that refugees are mostly ''economic migrants'' in search of a better standard of living. Does the empirical record belie this belief? The authors explore that question within a rationalist approach using aggregate-level data that allow them to explore a variety of other covariates of the choice to seek refuge in one country relative to another. In addition to wages, they consider fear of persecution, culture, and the costs of relocation. The results are at odds with the ''bogus refugees'' image: the effect of average wages is mediated by proximity such that higher average wages are associated with fewer refugees, except among bordering countries. In addition, refugees seek asylum in neighboring countries, especially those at war with their own country or those experiencing a civil war. Those who seek refuge in countries other than their neighbors follow colonial ties.

At various times and locations large numbers of people who fear persecution choose to abandon their property and livelihoods to relocate elsewhere. Known as forced migrants, many of them relocate within their country of origin, but others flee across an international border and invoke the protection of international law as refugees. This study focuses on the latter group and asks: ''What leads people to seek refuge in one country versus another?'' In doing so, we are able to address a secondary question that is of considerable interest in industrialized, Western democracies: ''Are refugees pushed by violence or pulled by

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economic opportunity?'' Scholars uniformly agree that violence is the key factor that pushes people to abandon their homes and livelihoods, regardless of whether they relocate abroad or within their country.[1] But to date only two large-N studies have examined the destination choices of refugees (Böcker and Havinga 1998; Neumayer 2004),[2] and both focus exclusively on European countries of asylum. This study is the first global analysis of the destinations of refugees.

Where do refugees seek asylum? The data from the United Nations High Commissioner (UNHCR) used in this study indicate that the top five destinations for those seeking refuge between 1955 and 1995 were: Iran, Pakistan, Zaire (now Democratic Republic of Congo), Somalia, and Sudan.[3] The United States and (West) Germany are sixth and seventh, and Tanzania, Hong Kong, and Ethiopia round out the top 10. With the exception of the U.S.A. and Germany, each of the top 10 destinations shares a border with countries from which people sought refuge: Afghanis and Iraqis dominate the refugees who fled to Iran and Pakistan; Tanzania and Zaire hosted Rwandans and Burundis; Somalia, Sudan, and Ethiopia exchanged populations; and Hong Kong served as a refuge center primarily for Chinese in the 1950s. The United States and Germany, on the other hand, hosted people from nonbordering countries.

As these data imply, most refugees seek asylum in a neighboring country. Thus, one might conjecture that the answer to our question is simple: refugees go to bordering countries. To determine the number of countries in which refugees fleeing persecution seek asylum, one would count the number of countries that border the country from which people are fleeing. And that conjecture is consonant with the notion of a forced migrant: people fleeing persecution seek the closest available refuge. Yet the fact that the U.S.A. and Germany are among the top 10 destinations for refugees suggests that the story is not that simple. In fact, scholars emphasize that forced migrants do not unthinkingly respond to a persecution threat by fleeing to the nearest safe haven. Rather, they are people making choices under *highly constrained circumstances* (e.g., Kunz 1973, 1981; Richmond 1988, 1993; Van Hear 1998; Davenport et al. 2003; Neumayer 2004, 2005; and Edwards 2007), but nonetheless choosing where to flee.[4] The evidence demonstrates that while the vast majority of refugees do indeed cross the border, a minority manages to seek refuge in other nearby (but nonbordering) countries, and some even further away.

Do aggregate, global data support the popular image of large numbers of refugees as economic opportunists seeking to find a better standard of living, or are the data more consistent with the international definition of people seeking refuge from a fear of persecution and making highly constrained choices? We explore that question within a rationalist framework which we use to develop hypotheses not only about that specific question, but also a host of other potential factors that influence the asylum location question. To organize the set of concepts and variables produced by our framework, we distinguish among

[1] See, for example, Stanley (1987), Zolberg, Suhrke, and Aguayo (1989), Morrison (1993), Gibney, Apodaca, and McCann (1996), Schmeidl (1997), Apodaca (1998), Davenport, Moore, and Poe (2003), and Neumayer (2004, 2005).

[2] We have also found two studies that use statistical analysis to examine variation over destinations within or across one or two countries: Riddle and Buckley (1998) and Schneider, Holzer, and Carey (2002). Barsky (1995), Havinga and Böcker (1999), and Day and White (2001) use interviews and/or surveys to study the destination choices among specific groups of refugees.

[3] The data were provided by Bela Hovy, Head of the Population Data Unit, Division of Operational Support, UNHCR, Geneva.

[4] Kunz (1973, 1981), Richmond (1988, 1993) and Van Hear (1998) are primarily interested in developing typologies of different types of migrants and emphasize that dichotomies such as ''economic migrant'' and ''forced migrant'' are unhelpful conceptualizations. We do not take advantage of the rich typological work developed in that literature, as our data do not enable us to distinguish between ''proactive'' and ''reactive'' refugees, those who return versus those who do not, or among those in their first country of relocation versus their second or third, etc.

characteristics of single countries (i.e., monads), country pairs (i.e., dyads), and flows from one country to another (i.e., directed-dyads) to help explain the variety in the destination choices of forced migrants.[5]

The literature and data on refugee flows suggest a number of stylized facts that warrant further investigation (and run counter to the popular Western image of a flood of refugees from the ''third world'' to the ''first''). First, distance plays a major role in determining the destination to which refugees flee: neighboring countries are by far the most likely destination, generally absorbing over 90% of those who flee a given country.[6] Second, not all refugees flee to the nearest ''port in the storm'': some seek refuge in nearby countries that do not share a border with their country of origin, and others travel long distances. Third, refugee exodus is a rare event: though there are some 32 million forced migrants, they only represent five-tenths of 1% of the global population (CIA 2007; UNHCR nd). Fourth, some countries are more prone to produce refugees than other countries. Our study builds on these facts to produce the first large-N, global analysis of refugee flows from one country to another.

The study begins by asking what we would expect to find in the evidence if the popular image of refugees as ''bogus'' was correct. We explain why the spatial clustering of wealthy countries creates a research design challenge and how we address it. We then lay out the general rationalist account and the hypotheses it implies. Having done so, we turn to other research design issues and then describe our empirical results. We conclude by recapping the major findings and proposing future research directions.

Relevant Evidence and Spatial Clustering

Neumayer (2005) finds that the average wage (as measured by GNP/capita) in the country of origin is negatively associated with the number of refugees who seek asylum in Western Europe, and Neumayer (2004) reports that the average wage (again, measured as GNP/capita) in Western European countries is positively associated with the share (of the European total) of asylum applications that country receives. Although neither study notes it, taken together these results *appear to be* consistent with the popular Western image of an asylum seeker as an opportunist taking advantage of ''instability'' in her or his homeland to seek a better standard of living elsewhere under the guise of a fear of persecution.

What evidence might contradict that popular Western image? A negative relationship between the average wage in (potential) asylum countries and the number of refugees would challenge the folk wisdom, yet Neumayer's studies may suggest a positive relationship. To infer this, however, would be an error: because the studies only examine European destination countries, which comprise only a small fraction of the countries in which refugees seek asylum, his evidence is only relevant to the population of European asylum seekers. That is, we cannot draw a general inference about the impact of average wages on refugee destination choice. We hasten to add that this is not a critique of Neumayer's studies: while it *appears* that Neumayer's two studies support the popular Western image, it turns out that they do not adequately speak to the question (which is why Neumayer does not raise the issue).

To find relevant evidence, then, one must study a global sample that includes *all* possible destination choices.[7] Yet, the fact that wealthy countries are not

[5] We also limit the discussion of results to a handful of key findings and defer a complete discussion to an online Appendix, available at the *ISQ* data archive Web site http://www.isanet.org/data_archive/.

[6] This percentage is based on the data we used for our study (please see note three), described in detail in the online Appendix (please see note five).

[7] Note that studying only those countries to which refugees fled will also impose a selection bias. The appropriate sample must include all *potential* countries to which refugees might flee.

randomly distributed across the globe adds another research design wrinkle to our quest to query relevant evidence. If one accepts that the distance people travel is a function of its cost and that greater distances are more costly (as we will argue below), then it follows that to draw valid inferences, one must account for the spatial clustering of wealthy (e.g., European) countries. We discuss this issue more fully in the research design section below and observe here that because they tend to be clustered next to one another, wealthy countries do not, on average, share borders with poor countries. As such, we can look for relevant evidence by interacting our measure of average wage in the country of (potential) asylum with a measure of shared border. If the popular Western image of ''bogus'' refugees is ill-founded, we should find that the average wage in nonbordering countries is negatively associated with the probability that refugees seek asylum in a nonbordering, wealthy country, and further that if any do seek refuge in such a country, the number who do will be negatively associated with the average wage in such countries. Having briefly identified the primary piece of evidence that we wish to examine, we turn our attention to a presentation of our rationalist framework and the hypotheses it implies for monadic, dyadic, and directed-dyadic conceptualizations of the characteristics of countries in the international system.

Argument and Hypotheses

We build on the work of others who conceptualize refugee flows as the aggregate observable of the constrained choices of individuals (e.g., Kunz 1973, 1981; Richmond 1988, 1993; Riddle and Buckley 1998; Van Hear 1998; Davenport et al. 2003; Moore and Shellman 2004a; and Neumayer 2004, 2005). This research emphasizes that while the term ''forced migrant'' suggests a person who had no choice but to leave her/his home, few (if any) refugees actually had no other option: they could have stayed and risked imprisonment or martyrdom. While the aggregate nature of our data prohibits us from taking advantage of some of the useful distinctions among different categories of refugees offered in the work of Kunz, Richmond, and Van Hear,[8] like Riddle and Buckley (1998) and Neumayer (2004), we are nonetheless able to develop some useful findings about how people tend to respond to aggregate information. Thus, we ground our argument in the choices of individuals.

Specifically, we develop a two-stage, stylized, rationalist account of an individual's decision of whether to become a refugee. In the first stage, we theorize about what causes one to flee their homeland, and in the second stage we theorize about what influences the destination choices of those who do choose to leave their homeland.[9] We contend that the first decision hinges on one's expectations of victimization and the current state of socio-politico-economic opportunities in her/his origin country, while the second decision hinges on one's expectations of victimization and socio-politico-economic opportunities in potential destination countries. We also argue that many of the variables that inform the constrained decisions refugees make are systematically (i.e., nonrandomly) distributed across space. This is consistent both with econometric work on spatial-autocorrelation (e.g., Gleditsch and Ward 2001) and refugee research that emphasizes ''bad neighborhoods'' (e.g., Weiner 1996).

[8] For example, these authors distinguish between those refugees who flee in anticipation of persecution and those who flee in response to persecution and argue that the demographic characteristics of these groups are different. One might argue that the destination choices of these groups are also likely to differ (e.g., those anticipating persecution might be more likely to travel far distances than those who respond to persecution). As our data preclude us from distinguishing among members of any given group of refugees, we do not pursue these arguments.

[9] It is possible to develop these claims formally, but doing so does not produce insights that are not apparent from a verbal development. See Moore and Shellman (2004b) for such an effort.

Stage 1: Push Characteristics[10]

In the first stage, we argue that people use information in their environment to form expectations about the chances of becoming a victim of persecution. We submit that a threshold exists for the perceived risk of persecution at which the average person will choose to abandon her or his home. When the average perceived risk in a country is below that threshold—and at any given moment, in the vast majority of countries in the world, we submit that it is—forced migration will remain rare. That said, we posit that several characteristics of the country of origin will affect an individual's decision to stay or go. Because we develop these hypotheses more explicitly elsewhere (Moore and Shellman 2004a, 2006), we give them minor attention here.

To begin, we argue that the coercive/violent activity of combatants (i.e., the state, dissidents, and foreign soldiers) influences peoples' expectations about their chances of victimization. Individuals monitor the behavior of combatants, and if the level of violence increases, we expect more people to abandon their homes. Second, we argue that people value institutions that (1) protect individual rights and freedoms and (2) increase the prospects for economic prosperity. Finally, we believe that people value their culture—language, religion, families, and customs. Stated as hypotheses, we expect people to be more likely to abandon their homes when (1) violence occurs, (2) the institutions in their country of origin are less democratic, (3) expected wages in their country of origin are low, and (4) a Diaspora provides both opportunities to find their culture and family members in locations away from their present home, and information about how to get there and what life will be like once they arrive (Faist 2000).[11] Having briefly laid that foundation, we turn now to the development of hypotheses for the main object of inquiry here: the decision of where to relocate.

Stage 2: Pull Characteristics

While we submit that local information will affect one's initial decision to stay or go, we contend that additional information will affect where one seeks refuge. Specifically, we argue that individuals will respond to asylum countries' characteristics (i.e., monadic characteristics), the characteristics of potential countries of asylum relative to the country of origin (i.e., dyadic characteristics), and the characteristics of relations between origin and potential asylum countries (i.e., directed-dyadic characteristics).[12] We discuss each in turn below.

[10] This section draws heavily on sections in Moore and Shellman (2004a, 2006).

[11] Some readers have found our classification of Diaspora confusing. Please note that a Diaspora can be conceptualized at the monadic, dyadic, and directed-dyadic unit of analysis. Conceptualized at the monadic level a Diaspora is the presence or absence (or number) of people abroad without reference to where they are (other than abroad). At the dyadic level we conceptualize a Diaspora as the presence or absence (or number) of people from one country (or nation) in another country (or nation) without reference to (or distinction between) origin and destination country (or nation). Finally, one thinks that at the directed-dyadic level a Diaspora refers to the presence or absence (or number) of people from one country (or nation) in another country (or nation).

[12] Havinga and Böcker (1999) propose a three-group typology of explanatory concepts: links between the country of origin and destination (our directed-dyads), characteristics of the country of destination (our monads), and events during flight. In the third group, they include geographic distance and air routes (which we would consider dyadic) and the behavior of border agents and other barriers. Because they conduct interviews and surveys, they can gather information about the nondyadic ''events during flight.'' We cannot. Further, as we explain below, we conceptualize state policy toward refugees as a monadic concept. Neumayer (2004) develops his hypotheses within the context of expected-utility theory, but does not offer a typology of relevant causes that will enter the calculations.

Monadic Asylum Characteristics

What is it about certain countries that make them more (or less) attractive to asylum-seekers? The literature on forced migration has identified several indicators of violence that increase the flow of refugees from a country: human rights violations, state-sponsored genocide/politicide, the violent behavior of dissidents,[13] civil war, and international war (e.g., Gibney et al. 1996; Schmeidl 1997; Apodaca 1998; Davenport et al. 2003; Moore and Shellman 2004a; Neumayer 2005). Similarly, we posit that countries with low levels of these types of violence will be more attractive as destinations than countries with high levels of such violence. More specifically, we expect both the chance of observing people from an origin country to seek refuge in a (potential) asylum country, and the number of such people (given that there are some)[14] to be inversely related to the number of violent events in the country of (potential) asylum. This study is the first to propose and test this hypothesis.

Research has also shown that the level of wealth in a country has a negative impact on the number of people who flee a given country (Apodaca 1998; Moore and Shellman 2004a; Neumayer 2005).[15] The same should hold true for the level of democracy (Moore and Shellman 2004a; Neumayer 2005).[16] We suggest that the obverse should be true for countries of asylum: both a greater probability of observing people from an origin country to seek refuge in a (potential) asylum country, and the number of these people, should be associated with higher levels of democracy and national wealth.

Finally, we expect that a potential country of refuge's policies toward migrants in general, and refugees in particular, will influence both the probability that some people will take refuge there and the number of those who will do so (Böcker and Havinga 1998; Riddle and Buckley 1998; Havinga and Böcker 1999; Neumayer 2004). We particularly have in mind whether the state in question has publicly declared a willingness to observe international law with respect to *nonrefoulment* of those who seek asylum.

Dyadic Characteristics

Having identified four types of monadic characteristics of the country of (potential) asylum, we turn our attention to the dyadic characteristics of the country pair that we expect to influence the probability and (conditional) size of refugee flows. Specifically, we expect six dyadic-level factors to have an impact: a shared border, war between the two countries, a civil war in both countries, the number of other countries bordering the country of origin, a language common in both countries, and the presence of a military alliance.

The first joint characteristic of countries that researchers have argued will influence the size of refugee flows is a shared border (e.g., Weiner 1996; Schmeidl 1997; Moore and Shellman 2006). The closest place to seek refuge is across the border. As the top-10 destinations noted above suggest, the most

[13] We use a broad definition of "dissident" to include those who take public action to demand change in government policies and/or challenge the sovereignty of the government.

[14] Rather than tediously repeating the conditional qualification "given that some refugees seek asylum in that country" throughout the manuscript, we ask the reader to bear it in mind. When we discuss the results, we will initially include the reminder, but whenever we discuss the number of refugees or the size of the refugee flow, we are always referring to that conditional on a positive refugee flow.

[15] Schmeidl (1997) and Davenport et al. (2003) find that level of wealth does not affect refugee flows, but Moore and Shellman (2004a) and Neumayer (2005) find that it does.

[16] Schmeidl (1997), Davenport et al. (2003), and Moore and Shellman (2006) find that level of democracy does not affect refugee flows, but Neumayer (2005) finds that it does, and Moore and Shellman (2004a) find that it affects the number of forced migrants a country produces.

common destination for refugees is a neighboring country. We thus expect that the presence of a shared border will not only increase the probability of a refugee flow but will also be associated with larger refugee flows.

We argued above that we expect people to avoid countries experiencing war. We wish to complicate the claim by conditioning our expectation on a military clash between the two countries. Previous research establishes that wars produce refugee flows (e.g., Weiner 1996; Schmeidl 1997 and Moore and Shellman 2004a). When two bordering countries are at war and battles are fought on both sides of the border, one would expect movements of refugees across the border in both directions—population exchange. Thus, when the country of potential asylum is a bordering country that is at war with one's country of origin, we expect a positive—not a negative—impact on refugee flows.

We argued above that we expect refugees to avoid potential countries of asylum that are experiencing civil war. However, we also observed in the introduction that Salehyan and Gleditsch (2006) find that cross-border refugee flows are associated with a heightened risk of civil war in the country of asylum and that finding is consistent with Weiner's (1996) contention that ''bad neighborhoods'' (e.g., those with high levels of civil war) tend to produce refugee flows. We thus add a corollary to our argument about avoiding civil wars: we expect higher levels of refugee flows between two bordering countries when both are experiencing civil wars.

In addition, Schmeidl (1997) and Moore and Shellman (2006) have argued that the number of neighbors with which a country of origin shares a border will increase the number of refugees who flee the country; the greater the number of low-cost (in terms of transportation) options there are available, the more people will choose to flee. Unlike those studies, however, we are interested in the number of people who will seek refuge in a given destination, not the number who will leave a given origin. Thus, under our framework, additional options are substitutes for any given option. We argue that the number of low-cost alternatives (i.e., alternative bordering countries) will be inversely related to both the probability of observing a positive refugee flow between a pair of countries and the number of refugees who cross their border.

The presence of a pool of people speaking a language in which one can communicate will presumably make a country more attractive as an asylum destination, as the costs of interacting with other people are dramatically lower. Thus, we expect that refugee flows will be larger when a common language is spoken in both countries.

Military alliances[17] might also influence refugee flows between countries, though arguments can be developed to support either a positive or a negative expected direction. First, the presence of a military tie is likely to be associated with both lower transaction costs and greater familiarity with the country in question. We would not expect these effects to be as strong as they would be for a colonial tie, but nonetheless anticipate that the presence of a military alliance between a country of origin and a (potential) country of asylum will increase refugee flows. Alternatively, one might expect military alliances to serve as a proxy measure of a state's affinity for the regime. U.S. foreign policy has often been criticized for supporting repressive regimes (e.g., the Reagan administration vis-à-vis El Salvador or Guatemala in the 1980s). To the extent that alliances reflect this sort of relationship, the presence of a military alliance

[17] Because nonaggression pacts are rather different from the other obligations that an alliance might entail, we exclude them from our argument. For discussions of different types of alliances, see Singer and Small (1966) and Leeds (2005:4–5, 12, 37–39).

might reduce refugee flows between allies.[18] This is ultimately an empirical question.

Directed-Dyadic Characteristics

Finally, directional flows might also affect the destination choice of people seeking refuge from persecution. Specifically, we use our rationalist framework to conjecture that three directed-dyadic characteristics will affect variation in refugees' destinations: the number of migrants from the origin country in the (potential) destination country, the cost of relocating from the origin country to the (potential) destination country, and the presence of a colonial tie between the origin country and the (potential) destination country.

First, a large literature exists on the impact of familial and conational networks on migration (e.g., Boyd 1989 and Massey 1990), and these arguments have been echoed in the forced migration literature (e.g., Kunz 1973; Richmond 1993; Van Hear 1998) and in statistical studies of forced migration (e.g., Schmeidl 1997; Riddle and Buckley 1998; Davenport et al. 2003; Neumayer 2004; Moore and Shellman 2006). The presence of a Diaspora should increase the probability of a refugee flow to a country of (potential) asylum, and the size of such a Diaspora will covary positively with the number of refugees who find their way there.

The second directed-dyadic level characteristic has an even more venerable status in the migration literature: the cost of relocation. Kunz (1973) brought this concept to bear on the study of forced migration, and it has become a standard concept in the literature (e.g., Richmond 1993; Riddle and Buckley 1998; Van Hear 1998; Neumayer 2004). The greater the costs of relocating between a country of origin and a country of (potential) asylum, the lower will be both the likelihood that we observe a refugee flow and—given that some go—the number of refugees who do.

Third, we expect the presence of a colonial tie to positively influence refugee flows (Havinga and Böcker 1999; Neumayer 2004). We submit that colonial ties produce both travel routes (i.e., direct plane flights and boat traffic) and familiarity with the former colonial metropole as a potential destination. That is, traveling to a former colonial metropole will often impose fewer transaction costs than traveling to a different distant country, and people are likely to have more information (i.e., less uncertainty) about relocating to such a country than other alternatives.

Interaction of Monadic, Dyadic, and Directed Dyadic Characteristics

Kristian Gleditsch and his colleagues' research on spatial heteroskedasticity in international relations (Gleditsch and Ward 2001; Beck, Gleditsch, and Beardsley 2006) led us to consider whether some of our variables are distributed in spatial clusters relative to a given random point on the globe. We observe above that wealth is spatially clustered, and descriptive statistics indicate that democracy, treaty signatory, and common language are also distributed differently across contiguous and noncontiguous dyads. More specifically, both democracy scores and the observed frequency of *nonrefoulement* treaty signatories are lower among the (potential) asylum countries in *contiguous* directed-dyad-years that might experience a refugee flow than they are among the (potential) asylum countries in *noncontiguous* directed-dyad-years that might experience a refugee flow.

[18] Military aid flows between two countries would be an even more direct measure of this sort of relationship. Unfortunately, constructing such an indicator is a substantial undertaking and beyond the scope of this study (e.g., the Stockholm International Peace Research Institute's data only cover a portion of the sample in this study). However, it is an excellent direction for future research, particularly studies that focus on OECD destinations.

Similarly, the probability that two countries share a common language is higher for bordering countries than it is for two countries that do not share a border.

Upon reflection none of this is surprising: Weiner's (1996) ''bad-neighborhoods'' claim in conjunction with the geographical clustering of democracies in North America, Europe, and Japan–Australia–New Zealand is consistent with such spatial heteroskedasticity. Further, the OECD countries are more likely to sign the *nonrefoulement* treaties than non-OECD countries (result not reported), both because they are more democratic and because democratic institutions are strongly associated with either civil or common (as opposed to Islamic) legal systems. Due to different expectations about contracting, states with civil or common legal systems have a greater propensity to sign international treaties than states with Islamic legal systems (Powell 2006). Third, contiguous directed-dyads that might experience a refugee flow have a greater observed frequency of sharing a common language than do noncontiguous directed-dyads that might experience a refugee flow.

Given the spatial clustering across these variables we hypothesize that their effects will depend on whether or not the origin and asylum countries border one another. As noted above, we expect that because rich countries tend to be further away from refugee producing countries, the average wage in the nonbordering (potential) asylum countries will covary negatively with directed dyadic refugee flows. Yet, when countries border one another, higher average wages in (potential) asylum countries will be associated with larger refugee flows between the origin and bordering (potential) asylum country. We expect the same conditional relationships to hold among regime type, common language, and treaty signatories: positive for contiguous dyads and negative for noncontiguous country pairs.

Moreover, we also suspect that relocation costs might have differing effects across country pairs that share a common language and those where both have signed the UN Refugee Convention treaties. Signatories may receive fewer refugees than nonsignatories because signatories are—on average—further away from the typical nonsignatory. Thus, near-by signatories might attract more refugees than far-off signatories. The same interactive effects might operate for nearby countries that share a common language versus countries that are far apart and share a common language. Finally, because contiguous dyads that share a common language have considerably lower relocation costs—on average—than noncontiguous dyads that share a common language, holding relocation costs constant, we would expect that more refugees would flee to contiguous countries that share a common language than noncontiguous, noncommon language sharing countries.

Research Design

Sample: Spatial-Temporal Domain and Unit of Observation

Like most studies of this type we take a census-type approach to sampling and collect data on as large a spatial-temporal domain as possible. Our temporal domain is 1964–1995 and we include all countries for which we are able to obtain data (thereby excluding ''micro-states''). Doing so reduces the likelihood that our results are due to an unrepresentative sample.

Our unit of observation is the directed-dyad-year: an ordered pair of countries in a given year where the order is the country of origin and the country of (potential) refuge. When using directed-dyads one can take one of two approaches to case selection: (1) include all directed-dyads or (2) include only those directed-dyads where the first (or origin) country in the dyad produced a refugee outflow. The merits of these two choices remain a matter of some debate

(Maoz 1997; Lemke and Reed 2001; Clark and Nordstrom 2003). Lemke and Reed (2001:136) state that ''Whenever cases are drawn by any rule other than randomization, selection bias is a potential problem.'' If we only include in our analyses directed-dyads with a refugee outflow in the first country, we may introduce selection bias because the selection criteria (producing refugees) may correlate with both the dependent and independent variables. Lemke and Reed (2001) report evidence of selection bias in ''relevant-dyad'' research yet find that it does not affect the substantive inferences drawn from samples of relevant dyads. Of course the generality of these findings is difficult to assess, as inferences can only be drawn with respect to a given sample, variables, and design.

That said, our argument tells us to begin with a large inclusive sample. We wish to show which countries are likely to produce flows and, as such, should consider all possible countries. To test the first stage of our model (i.e., which countries produce a refugee flow), we begin with a sample of all directed-dyad-years (631,880) for which we could obtain data over the period 1964–1995. We contend next that individuals displaced from their homes make asylum destination choices and information about potential asylum choices should explain such decisions. Here, we select only those directed-dyad-years where the first (or origin) country produced a refugee flow. These directed-dyad-years contain zero and non-zero observations and include nonbordering directed-dyads. For example, because Rwanda produced a refugee flow in 1994, we include in our study all country pairs in which Rwanda is the first country for the year 1994. Directed dyads include such cases as Rwanda–Burundi, Rwanda–Cameroon, and Rwanda–U.S. In years when Rwanda did not produce a refugee flow, the country pairs in which Rwanda is the first country are excluded from the sample. This yields almost 80,000 directed-dyad-years. The dependent variable for the second stage is the number of people who crossed from the first country in the directed-dyad-year to the second country in the directed-dyad-year. Specifically, 77,248 directed-dyad-years produced zero refugees, while 1,134 produce a positive count. In this second stage, we then specify a model that helps distinguish the destination choices of refugees fleeing countries that produce refugees.

The design permits inferences regarding both the first and second stages of our argument. Moreover, we produce unbiased coefficient estimates by considering the factors that lead to inclusion in the sample of interest. One further way to select cases may be to only include dyads where both countries border one another. However, observed refugee flows from Rwanda to Cameroon and from Afghanistan to India would not appear in those data. Rather than select the sample that way we include all directed-dyad-years in which the origin country produced a refugee flow and code a variable ''border'' to represent whether or not the pair of countries in the dyad share a border. The design includes all directed-dyad-years that observed a flow, thereby reducing the risk of selection bias.

Operationalization

To measure our dependent variable, we use a data set collected by the UNHCR which records the annual estimated stock of refugees in a given country who originated in another given country over the period 1955 through 2001.[19] Because flow data do not exist,[20] we use the stock data to create a flow measure. We take the first difference in the stock (i.e., the value in year t minus the value in year $t-1$) and then truncate it at zero (thereby eliminating the negative

[19] Please see note three.

[20] See Schmeidl (2000) and Crisp (2000) for useful discussions of the strengths and weaknesses of the data on forced migration.

TABLE 1. Data Sources and Operationalization

Variable	*Source: Brief Summary of Operationalization*
Refugee dummy	UNHCR: Presence/absence of origin flow*
Violent dissent	Banks: frequency of riots + guerrilla attacks (origin)‡
Genocide	Harff (2003; with Gurr 1988, 1996): Presence/absence genocide/politicide (origin)
Civil war	COW: Presence/absence of civil war (origin)§
War on territory	COW: Presence/absence of international war with at least one battle fought
Democracy	Polity IV: Democracy—autocracy score (origin)¶
Transition regime	Polity IV: Presence/absence of transition regime (e.g., −88, etc. codes)¶
GNP per capita	World Bank World Development Indicators** with missing values supplemented by Banks‡
Refugee stock$_{t-1}$ (Origin to Asylum)	UNHCR: Presence/absence of flow from origin to asylum
Asylum treaty signatory	UNHCR: Presence/absence of asylum country signing UNHCR1951 and 1967 treaties††
Asylum border	Shellman (2001): Presence/absence of border
Number of asylum borders	Shellman (2001): Number of asylum bordering countries
Relocation costs	COW§ Distance between capitals measure weighted by GNP/c. (World Bank** and Banks‡)
Border and civil war in each	Presence/absence of both dyadic countries in the state of civil war (COW and Border)
Border war	Presence/absence of both directed dyadic countries engaged in interstate war
Alliance	ATOP (Leeds 2005): Presence/absence of shared dyadic alliance across countries
Common language	CEPII: Presence/absence of at least 9% of population speaking same language across dyads‡‡
Colonial tie	ICOW: Presence/absence of colonial relationship excluding occupations§§
Refugee flow	UNHCR: Positive Change in the Stock Measure (i.e., positive counts in year *t*)*

All the sources and specific operationalizations of our variables are discussed in the online Appendix. *The UNHCR data were provided by Bela Hovy, Head of Statistics Division, UNHCR; Many of these variables are measured for both the origin and asylum countries; ‡Banks'' refers to the Banks Cross-National Time-Series Data Archive available here: (see http://www.databanks.sitehosting.net); COW refers to the Correlates of War projects data archive. See http://www.correlatesofwar.org/; ¶Polity IV (see http://www.cidcm.umd.edu/polity/); **World Bank World Development Indicators CD-ROM (http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,contentMDK:20899413~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html); ††UNHCR Treaties (UNHCR 2000:302–305); ‡‡CEPII (See http://www.cepii.fr/anglaisgraph/bdd/distances.htm#); §§ICOW (http://garnet.acns.fsu.edu/~phensel/icowdata.html#colonies).

values). We discuss the reliability and validity of these data in our online Appendix.[21]

The indicators used to measure our independent variables are described briefly in Table 1 and at length in the online Appendix to this study. Table 2 reports the descriptive statistics for all of our indicators.

Statistical Model

To estimate parameters we employ both a two-step, sample-selection model and a zero-inflated negative binomial (ZINB) regression model. This decision is described at some length in the online Appendix to this study and sketched

[21] The online Appendix is available at the *ISQ* data archive Web site http://www.isanet.org/data_archive/.

TABLE 2. Descriptive Statistics

Variable	*Mean*	*SD*	*Range*
Origin refugee dummy	0.160	0.367	0–1
Origin violent dissent	0.755	2.38	0–55
Origin genocide	0.049	0.216	0–1
Origin civil war	0.095	0.293	0–1
Origin war on territory	0.015	0.121	0–1
Origin democracy	−0.545	7.59	−10 to +10
Origin transition regime	0.036	0.186	0–1
Origin GNP per capita	4,533	7,661	33.31–47,851
Asylum violent dissent	0.682	2.08	0–55
Asylum genocide	0.045	0.208	0–1
Asylum civil war	0.099	0.299	0–1
Asylum war on territory	0.012	0.110	0–1
Asylum democracy	0.262	7.58	−10 to +10
Asylum transition regime	0.037	0.188	0–1
Asylum GNP per capita	4,979	8,232	33.31–47,851
Refugee stock$_{t-1}$ (origin to asylum)	968	19,262	0–2,000,000
Asylum treaty signatory	0.64	0.480	0–1
Asylum border × treaty	0.021	0.143	0–1
Asylum border	0.033	0.178	0–1
Number of asylum borders	4.78	2.57	0–15
Asylum border × asylum democracy	−0.079	1.30	−10 to 10
Asylum border × asylum GNP per capita	77.39	962.90	0–39,029.20
Relocation costs	16.30	21.46	0.003–285.07
Border and civil war in each	0.002	0.039	0–1
Border war	0.0003	0.017	0–1
Alliance	0.048	0.213	0–1
Common language	0.119	0.324	0–1
Common language × border	0.012	0.110	0–1
Colonial tie	0.007	0.080	0–1
Common language × relocation costs	0.998	4.21	0–76.47
Relocation costs × Treaty	10.01	18.48	0–285.07
Refugee flow	250.6	8,705	0–1,200,000

Note. The statistics are calculated from two different samples. The ''origin'' descriptive statistics are calculated from 631,880 directed-dyad-years and are computed for the origin country in those dyads only. The ''asylum'' descriptive statistics were calculated from 78,382 directed-dyad-years and are calculated for the asylum countries in those dyads only. All other dyadic or directed-dyadic variables' statistics were calculated from the 78,382 directed-dyad-years.

briefly here. Because the country-years that produce a refugee flow are not drawn randomly from the population of country-years in our study, we model that process with a sample-selection model. Doing so enables us to estimate a parameter we can then use in the subsequent regression to correct for sample-selection bias. The second regression is a ZINB model which is composed of two equations. The first of those equations is useful for distinguishing two sets of cases in a (sub)sample: those that produced a particular outcome and those that did not. In our study, the outcome of interest is a non-zero refugee flow from an origin country, *O*, to an asylum country, *A*, conditioned on country *O* having sent refugees abroad to at least one country in that year. The second enables one to estimate the impact of covariates on the expected count of a variable of interest (in our case, the number of refugees that fled *O* for refuge in *A*).

To correct for the geographical clustering of countries with certain characteristics (regime type, high wages, and treaty signatories) and spatial heteroskedasticity across these clusters, we created five interaction terms using border and each of the variables: democracy, transition, treaty signatory, common language, and average wages (i.e., equivalent to transforming variables by calculating a

spatial weighting—aka ''contiguity''—matrix where the weight is the absence/presence of a border [see the discussion of the binary spatial connectivity matrix in Gleditsch and Ward 2001:750–751].[22]

To test our interrelated hypotheses about common language and relocation costs, we interacted the two variables by multiplying them together. We also interacted relocation costs with treaty signatory to test the multiplicative effects of the two variables. Finally, we interacted border with relocations costs and those two variables with common language to test our hypothesis that more refugees would flee to contiguous countries that share a common language with higher relocation costs than noncontiguous, noncommon language sharing countries with just as high relocation costs.

Results

Description of Tables and Figures

We begin with a discussion of our primary result and then organize a brief presentation of other key findings around the monadic, dyadic, and directed dyadic levels of analysis. We use a table and figures to communicate these effects. Table 3 reports the estimates from three equations: the first step of the Heckman (i.e., the probit) and the two equations of the ZINB regression: a probit and a negative binomial (NB) count. The probit equation from the first step of the Heckman distinguishes the 78,382 directed-dyad-years where the country of origin produces a refugee flow from the 553,498 directed-dyad-years that did not. The ZINB then estimates two separate equations: a probit (aka inflate) model for a dichotomous variable, coded one when there is a zero flow and zero when there is a non-zero flow, and a NB model for the number of refugees who went from country *O* (origin) to country *A* (asylum), conditional on a predicted non-zero flow in the probit model. We report estimated coefficients for all the models, and incident rate ratios (IRRs) for the NB model.

We concentrate on interpreting the IRRs for the NB model because they more readily indicate the effect that a one unit increase in the variable has on the expected count than do the estimated coefficients[23] (which are also made available in Table 3). An IRR with a value between zero and one indicates a reduction in the expected count given a one-unit increase in the independent variable.[24] Values greater than one represent an increase in the expected count,[25] and an IRR with a value of one indicates no impact. Unfortunately, IRRs are not very informative for variables with large ranges (e.g., GNP per capita): a one-unit increase in such a variable is unlikely to have a considerable effect on the expected count (i.e., one would have to calculate the IRR to perhaps six or seven significant digits to determine the effect). Because of this, we also produce

[22] For readers familiar with time-series analysis, adopting the spatial weighting matrix correction rather than employing one of the more recently developed techniques is analogous to correcting for autocorrelation by estimating a rho parameter (e.g., a Prais–Winsten regression) rather than using an ARIMA, distributed lag, or GARCH modeling approach. In other words, we treat spatial autocorrelation as a ''nuisance to be corrected'' rather than a ''process to be substantively modeled.'' The latter approach is surely superior, but beyond the scope of our ability, and we thus leave it to others. See Ward and Gleditsch (2002), the other articles in that special issue of *Political Analysis*, Hoff and Ward (2004), and Beck et al. (2006) for path-breaking discussions of modeling spatial processes.

[23] The incident rate ratio, IRR, equals $e^{\beta i}$, where β_i is the coefficient estimate and e is the exponent operator.

[24] When $0 < IRR < 1$, one can calculate the substantive effect of a unit increase in the variable as the percentage decrease by calculating: (1-IRR) × 100. Thus, an IRR of 0.01 means that a one-unit increase in x produces a (1–0.01) × 100 = 99% decrease in the expected count, whereas an IRR of 0.90 produces a (1–0.90) × 100 = 10% decrease in the expected count.

[25] When IRR > 1, one calculates the percentage change in the expected count given a one-unit increase in x with the equation (IRR-1) × 100. For example, an IRR of 1.5 means that a one-unit increase in x produces a (1.5–1) × 100 = 50% increase in the expected count, whereas an IRR of 2.0 produces a (2–1) × 100 = 100% increase in the expected count.

TABLE 3. Heckman Two-Step Sample Selection Zero-Inflated Negative Binomial Model: Refugee Flows, 1964–1995

	Heckman Step One	*Zero-inflated Negative Binomial Regression*	
Variable	*Probit coefficient (standard error)*	*Probit coefficient (standard error)*	*Negative Binomial incident rate ratio*[†] *(coefficient; standard error)*
Monadic Level			
Origin violent dissent	0.005** (0.002)	–	–
Origin genocide/politicide	0.749*** (0.016)	–	–
Origin civil war	0.885*** (0.013)	–	–
Origin war on territory	0.350*** (0.023)	–	–
Origin democracy	−0.008*** (7.3×10^{-04})	–	–
Origin transition regime	0.441*** (0.015)	–	–
Origin GNP per capita	-9.02×10^{-05}*** (1.55×10^{06})	–	–
Asylum violent dissent	–	−0.008 (0.008)	0.985 (−0.014; 0.037)
Asylum genocide/politicide	–	−0.293** (0.148)	0.456*** (−0.784.; 0.306)
Asylum civil war	–	0.163** (0.116)	1.10 (0.095; 0.301)
Asylum war on territory	–	−0.026 (0.314)	0.240** (−1.42; 0.705)
Asylum democracy	–	−0.004 (0.004)	0.992 (−0.008; 0.019)
Asylum transition regime	–	−0.039 (0.150)	4.44* (1.49; 0.940)
Asylum GNP per capita	–	-3.12×10^{-05}*** (2.00×10^{-06})	1.000** (-2.05×10^{-05}; -1.01×10^{-05})
Asylum treaty signatory	–	0.072 (0.079)	0.399*** (−0.917; 0.327)
Dyadic Level			
Contiguous border	–	−1.33*** (0.144)	2.16*** (0.771; 0.362)
Border war	–	−1.03 (0.919)	29.87*** (3.39; 0.900)
Border and civil war in each	–	−0.209 (0.219)	1.97** (0.677; 0.412)
Number of contiguous borders	–	0.017** (0.010)	0.907*** (−0.097; 0.030)
Common language	–	−0.498*** (0.100)	0.348*** (−1.06; 0.255)
Alliance	–	−0.321*** (0.077)	0.940 (−0.061; 0.198)

TABLE 3. (Continued)

Variable	*Heckman Step One*	*Zero-inflated Negative Binomial Regression*	
	Probit coefficient (standard error)	*Probit coefficient (standard error)*	*Negative Binomial incident rate ratio† (coefficient; standard error)*
Directed-Dyadic Level			
Refugee stock$_{t-1}$ (logged) (origin to asylum)	–	−0.008*** (0.002)	1.000*** (3.42×10^{-06}; 5.77×10^{-07})
Relocation costs	–	0.024*** (0.006)	0.914*** (−0.089; 0.036)
Colonial tie	–	0.071 (0.192)	5.15*** (1.64; 0.567)
Interaction Terms			
Border × asylum GNP per capita	–	4.08×10^{-05}*** (1.28×10^{-05})	1.000* (4.41×10^{-05}; 3.507×10^{-05})
Border × asylum democracy	–	0.008 (0.009)	0.982 (−0.018; 0.029)
Border × transition regime	–	−0.455** (0.294)	0.677 (−0.390; 1.10)
Border × treaty signatory	–	−0.627*** (0.140)	0.871 (−0.138; 0.387)
Border × common language	–	0.551*** (0.137)	2.79*** (1.03; 0.347)
Treaty signatory × relocation costs	–	−0.014*** (0.006)	1.11*** (0.106; 0.037)
Common language × relocation costs	–	0.014 (0.111)	1.00 (−0.007; 0.021)
Other Quantities			
Constant†	−1.01** (0.008)	2.36*** (0.104)	10.23*** (0.387)
Inverse Mills Ratio†	–	0.197*** (0.047)	−0.830*** (0.160)
N	631,880	Zeros: 77,248	Positive Counts: 1,134
Over-dispersion Parameter†	–	14.15*** (0.258)	
Wald χ^2	18,508.43***	435.40***	

Notes. ***<.01, **<.05, and *<.01 statistical significance.
(one-tailed test); †The constant, IMR, and over-dispersion parameters are coefficients only, not IRRs.

graphs that show the substantive effects of the variables with large ranges and discuss these rather than their IRRs.

Figure 1 plots the expected change in refugees given changes in most of our independent variables. Figure 1a shows the expected changes for our dummy variables given a one-unit change from zero (absence) to one (presence). Figure 1b illustrates the effects for our interval variables. Note that the graphs in Figure 1 represent the effects for noncontiguous countries when all of our dummy variables, including border, are set equal to zero. We set all other interval and ordinal variables equal to their means unless otherwise noted in the figure. Figure 2 depicts the expected count of directed-dyadic refugees given the absence/presence of a border war and the absence/presence of bordering civil wars. One can calculate the expected change by taking the difference between the counts across the absence and presence of the conditions. Note that we

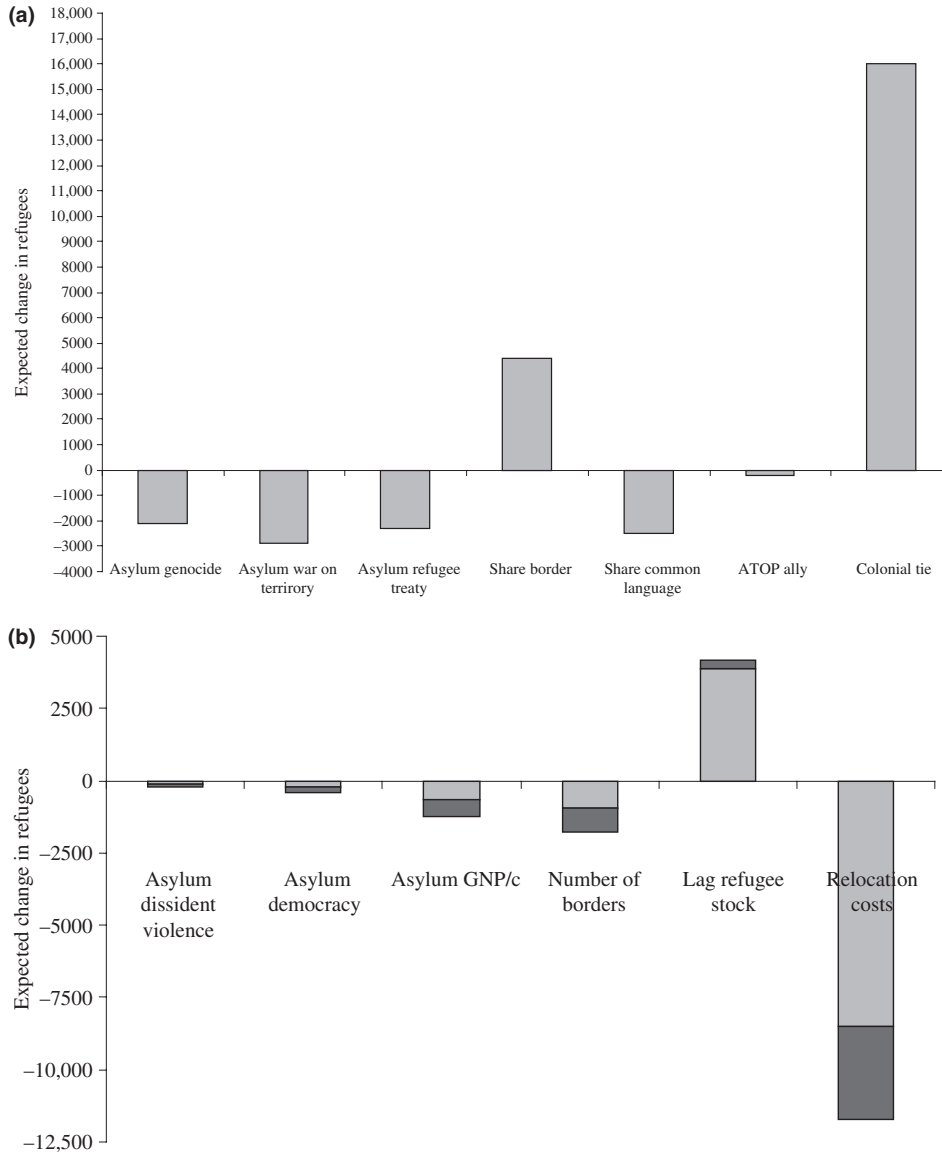

FIG. 1. Expected Change in Number of Directed-Dyadic Refugees Given Changes in the Independent Variables (a) Change From Absence of Condition (0) to Presence of Condition (1), (b) Change from Mean to +1/2 Standard Deviation (shaded light) and from +1/2 Standard Deviation to +1 Standard Deviation (shaded dark). *Note*: All dummy variables are set equal to zero and all interval variables are set equal to their means.

usually set all dummy variables equal to zero to produce our substantive effects. Yet, in these cases, other variables, like border, asylum, civil war, and international war taking place on asylum territory, are assumed to be one under certain conditions. We factored these values into our calculations of the expected counts depicted in Figure 2.

Finally, we graph the interactive effects of a few variables of interest in Figure 3. Figure 3a depicts the interactive relationship among relocation costs, treaty signatories, and expected directed-dyadic refugee counts. Figure 3b illustrates the interactive relationship among asylum GNP per capita, bordering countries, and

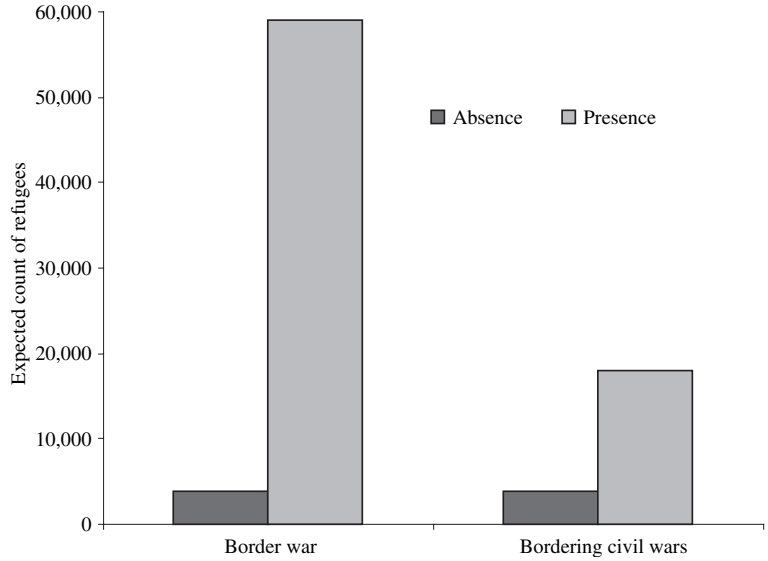

FIG. 2. Expected Count of Directed Dyadic Refugees Given Changes in the Bordering Violence Variables. *Note*: All dummy variables are set equal to zero, and all interval variables are set equal to their means. To produce the Border war expected count, we set Border, Asylum international war territory, and Border war equal to 1. To produce the Bordering civil wars expected count, we set Border, Asylum civil war, and Bordering civil wars equal to 1.

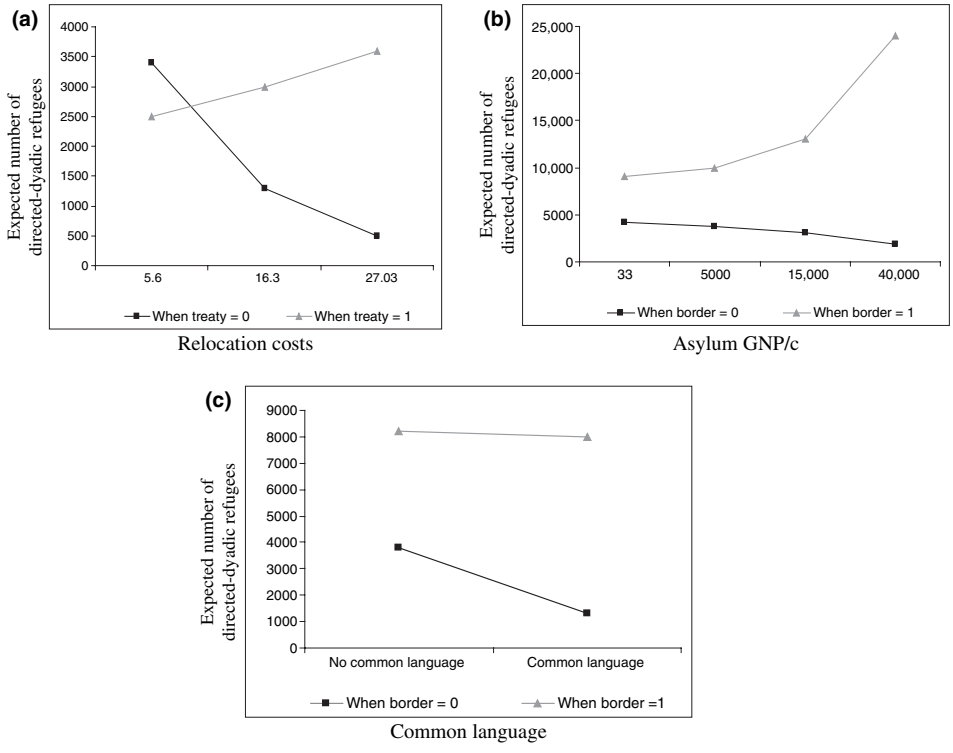

FIG. 3. Expected Value of Directed-Dyadic Refugee Flows Given Interactive Effects among Independent Variables. (a) Relocation Costs, (b) Asylum GNP/c, (c) Common Language. *Note*: All other interval and ordinal variables are set at their means, and all other dummy variables are set equal to zero.

expected directed-dyadic refugee counts. Finally, Figure 3c shows the interactive relationship among common language, bordering countries, and expected directed-dyadic refugee counts.

Is the Typical Refugee "Bogus"?

Do countries with high average wages attract refugees? Public concern throughout the OECD suggests that this is the case, and research by Neumayer (2004) shows that these variables make a difference among those asylum seekers who go to Europe. Studying a global sample, however, leads to different inferences. Recall that our measure of average wages, GNP per capita, is spatially clustered, so we interacted it with the absence/presence of a border between the two countries. Figure 3b depicts the interaction and shows that for countries that do not share a border, greater levels of GNP per capita in the (potential) country of asylum are associated with a slight *decrease* in the expected number of refugees. Further, the slope becomes more negative as the average wage rises. This finding is consistent with our hypothesis and directly challenges the popular Western image of refugees as economic opportunists.

Note further that Figure 3b also shows that when two countries share a border, the expected number of refugees rises as GNP per capita rises in the (potential) host country. And the slope increases strongly as our measure of the average wage rises above U.S. $5,000 per year. This is also consistent with our hypothesis and shows that refugees do, *ceteris paribus*, respond positively to average wages, but only in neighboring countries. Finally, in results not reported in the table and figures, we find that our measure of average wages is negatively correlated with the number of refugees a country produces (Moore and Shellman 2004a; Neumayer 2005; and Moore and Shellman 2006 also report this result).

Taken together these results suggest that, *ceteris paribus*, refugees do prefer to relocate in countries with higher average wages: the better their own countries' economic opportunities, the fewer of them that will seek refuge abroad, and those who seek refuge in a bordering country are more drawn to well-to-do countries than to poor ones. Yet among (potential) asylum countries that do not border their country of origin, refugees are not simply indifferent to average wages, they are actually less likely to seek refuge in countries with higher wages, and if any do, fewer of them will do so. Note that this is so *despite* the strong effect of colonial ties and Diaspora networks on refugee destination decisions (as noted below). Both of these variables reduce the cost to relocating in wealthy Western countries, and as we show, they have large substantive effects. Yet, even with these strong pulls of nonbordering (almost exclusively) countries, we find that the average wages of nonbordering countries actually has a *negative* effect on the probability of a refugee flow, and on the number of refugees when there is such a flow.

Why is this relationship reversed when it comes to nonbordering countries? We believe this result is likely due to the fact that countries with the highest average wages are, on average, farther away from any refugee-producing country than those with middle to low average wages. As such, we find that while those seeking refuge would likely prefer to relocate to a country with superior wage levels, the costs of relocation to such countries are sufficiently high that they instead relocate to neighboring countries (which have considerably lower relocation costs) with lower average wages.

In addition to the concern that refugees are opportunists in search of higher wages, some Westerners might believe that they are opportunists in search of democracy. Our findings belie any such claim. Specifically, democratic institutions in a (potential) host country, fail to attract refugees, regardless of whether the (potential) asylum country shares a border or is further away.

Other Key Findings

For a full discussion of the results reported in Table 3 and the figures, please see the online Appendix that accompanies this study.[26] Here, we highlight the most interesting findings. We begin with a discussion of the violence characteristics and discuss each level of analysis, then turn to the other characteristics.

Three of the monadic violence characteristics of the country of (potential) refuge influence refugee flows to that country: genocide/politicide events decrease the likelihood and number of refugees; foreign soldiers fighting a war in a noncontiguous country decrease the number of refugees (but not the likelihood); and civil wars decrease the probability of a refugee flow to a noncontiguous country (but not the expected number).[27] In other words, refugees avoid countries experiencing genocide/politicide, and international wars reduce the number who will seek refuge in a noncontiguous country. Substantively, the IRR values indicate that genocide/politicide reduces the expected number of refugees by 54% and foreign troops fighting in a noncontiguous country reduce it by 76%. Civil war in a noncontiguous country of (potential) asylum, on the other hand, decreases the probability that some refugees will go there, but does not affect the number that do.

Note, however, that when two countries share a border and both are experiencing a civil war, the number of expected refugees crossing that border rises 97%. Figure 2 indicates that the expected count of refugees going from *O* (i.e., origin) to *A* (i.e., asylum) is 20,000 when bordering countries are each experiencing civil war. Further, when two bordering countries go to war with one another, the expected number of refugees moving from one to the other rises by almost 28 times! These findings strongly endorse Weiner's (1996) arguments about ''bad neighborhoods'' and supplement the Salehyan and Gleditsch (2006) finding that refugee flows increase the probability of civil war in the host country.

Another interesting finding involves the signatories of the UN *nonrefoulement* treaties. Unexpectedly, this variable reduces the probability that refugees will seek asylum in a neighbor country, though, as expected, it increases the expected number of refugees in nonbordering countries. Figure 3a demonstrates that the expected number of refugees increases as signatories get farther away from the country of origin and decreases as countries get closer. This is consistent with the clustering of signatories in Europe, North America and Austral-Asia as well as among states that do not have an Islamic legal system, all of which tend to be further away than nonsignatories—on average—from countries in the data set that tended to produce refugees.

At the dyadic level, the presence of a common language is conditional on the presence/absence of a border. When countries sharing a common language also share a border, however, the probability that refugees will seek asylum increases and the expected number rises by 179%. Yet, while noncontiguous country pairs that share a common language (among at least 9% of their citizens) have a higher probability of observing a refugee flow,[28] if a flow occurs, the expected number of refugees *drops* by 65%.

What might account for the unexpected negative finding with respect to the impact of a common language in noncontiguous dyads? We suspect that clustered spatial distribution is at work. Note that colonial ties increase the expected

[26] Please see note 19.

[27] The probit coefficient for Asylum Civil War is positive, indicating that the probability of *not* observing a refugee flow increases when there is a civil war in a noncontiguous country. This is the same as saying that the probability of observing a flow declines.

[28] Recall that in the ''inflate'' equation a negative sign indicates a lower probability of *not* observing a flow. Stated positively a negative sign indicates a greater probability.

number of refugees that seek asylum (see Table 3 and Figure 1a), in part because of a common language. Yet countries near the metropole are also likely to have populations that speak the primary metropole language, and to the extent that this is so, common languages should be clustered at relatively large distances. While the presence of a colonial tie will raise the number of expected refugees to that country, nearby countries that also share that language should not have larger values. Thus, we interacted common language with both the absence/presence of a border and the relocation costs variables. While the latter did not produce statistically significant relationships, Figure 3c plots the interaction between common language and border and supports our conjecture. Between contiguous countries a common language has little effect on the expected number of refugees. However, when two countries are noncontiguous, the expected number of refugees drops considerably when they share a common language.

Finally, we examined three directed-dyadic concepts and all three produce statistically significant coefficient estimates. First, the stock of refugees from *O* in country *A* increases both the probability and the expected number of refugees leaving *O* for *A*. Figure 1b indicates that a one-half standard deviation increase in the stock of refugees produces an expected increase in the flow of refugees by approximately 4,100. Second, relocation costs reduce the probability of observing a refugee flow and also reduce the expected number of refugees. Because we interact it with other variables, we produced Figures 1b and 3a to indicate the impact of relocation costs. Figure 1b demonstrates that increasing the costs by one-half standard deviation dramatically reduces the expected number of refugees, and Figure 3a indicates that higher relocation costs considerably reduce the expected number of refugees to nonsignatories to the UN Refugee Convention treaties, but slightly increases the number to signatory countries.

Discussion

We find that refugees are not ''bogus'' opportunists in search of better wages in wealthy countries. While refugees do, *ceteris paribus*, respond to average wages in both their country of origin and neighboring countries, they are not drawn in large numbers to OECD countries, despite the presence of colonial ties and Diaspora communities. Further, the destinations of refugees are shaped by a number of other factors: our results suggest that several monadic, dyadic, directed-dyadic, and interactions between monadic and dyadic variables affect directed-dyadic refugee flows. Of these findings, the most interesting to us include the effects that border wars and bordering civil wars have on such flows.

The findings about bordering countries (1) at war with each other or (2) each experiencing civil war are consistent with Weiner's (1996) contention that ''bad neighborhoods'' produce refugee flows and with the Salehyan and Gleditsch (2006) finding that the propensity of civil war is higher for asylum countries receiving cross-border refugees than those not receiving such refugees. Moreover, we find even stronger relationships between international border wars and directed-dyadic refugee flows. Although our directed-dyadic structure does not permit inference of the impact of border wars on neighboring third countries, case studies demonstrate that some refugees will flee to those countries, further increasing the likelihood of civil war there, and, consequently, future refugee flows. This is precisely the type of dynamic Weiner discusses in his descriptive analysis.

Our findings with regard to relocation costs and bordering countries suggest that refugees most often flee to the nearest port in the storm. While refugees tend to seek out richer contiguous countries more often than poorer contiguous countries, the same findings do not hold for noncontiguous countries. If refugees seek asylum great distances away, they are more likely to do so in countries

that (1) have colonial ties to their origin country or (2) have signed the UN refugee treaties. We also found that refugees—for good reason—avoid countries experiencing genocide and go where other refugees have gone before. Finally, our study contradicts claims that higher wages and democratic institutions attract waves of refugees to OECD countries. In particular, democratic institutions did not affect the flows of refugees regardless of whether countries were neighbors or distant from one another.

Conclusion

To recapitulate, our study asks why people seek refuge in some countries rather than others. We use a rationalist approach that focuses attention on fear of persecution, wages, culture, and the costs of relocation. Our findings suggest all four of these factors play a role. More specifically, while the violent behavior of combatants in the country of origin push people to seek refuge abroad, refugees do not discriminate among destinations on the basis of the behavior of these actors in (potential) countries of asylum. The only exception was the presence of genocidal activity in potential asylum countries. In contrast, we found that refugees were often produced in bad neighborhoods and often sought refuge in bordering countries experiencing civil war or in bordering countries at war with the origin country. Further, we found little support for the hypotheses that institutions that protect freedoms and economic opportunities play roles in destination choices.

Culture and costs, on the other hand, play significant roles. Diaspora population has the largest substantive impact, and transaction costs, especially as measured by the presence of a border, have large substantive effects as well. Thus, our study finds that people have a strong tendency to go (1) where others have gone before them and (2) to the nearest location where they can avoid high-level, state-sponsored violence. Put differently, refugees flee violence, and their destination choice is overwhelmingly near-by, where others like them have gone in the past.

These findings contrast to those reported by Neumayer (2004). We submit that research design largely accounts for this difference: studies that focus on asylum applications in European countries can only examine variance among the relatively small portion of refugees who travel great distances. Neumayer's findings indicate that those who do travel great distances are influenced by opportunities for greater economic benefits and political freedom. Our study focuses on all refugees and suggests that relocation costs prohibit people from acting on preferences for greater wages and political freedom (assuming they have such preferences).[29] Instead of responding to greater wage opportunities and institutional democracy, people go where others have gone before them, usually crossing a nearby border. While the studies that have focused on asylum in Europe might be read as having found some support for the image of ''refugee as opportunist'' our study strongly supports the image of ''refugee as forced migrant.''

We close with a brief discussion of ways in which our study can be extended and/or improved, and consider three opportunities. First, global sample pooled cross-sectional time series studies like this produce average effects. While average effects are important, policy makers understandably have limited interest in such findings. Yet an understanding of the destination choices of forced migrants has policy implications: contingency planning could be well served by a model capable of producing serviceable out-of-sample forecasts. And a global model such as

[29] Consistent with this study, Neumayer (2005) finds such effects dissipate when origin characteristics are accounted for.

this one is a poor candidate for such a model. However, it can serve as a foundation upon which to construct a model.

The first step would be to conduct time-series case studies like Stanley (1987), which examines Salvadoran refugee flows to the United States, and Shellman and Stewart (2007a), who examine Haitians interdicted by the United States Coast Guard. While our study illuminates the average effect of these variables, we do not know whether these effects represent a broad spectrum of ''typical cases'' or if cases are actually clustered in such a way that few actual cases exhibit this particular constellation of relative effects.[30] Time-series case studies also make it possible to leverage the often considerable descriptive-historical literature on the case. In addition, superior measurement is possible in time-series case studies. These issues are important if we are to contribute useful tools for contingency planners.

Another set of extensions involves the exploration of more complex models that endogenize the violent behavior we treat as exogenous here. In our brief discussion of Weiner's (1996) notion of ''bad neighborhoods'' we argue that violent activity may diffuse across borders. This is, of course, something of a conventional wisdom. And while constructing theoretically informed models that endogenize such conflict processes is a far-from-trivial task that implies multiple-equation modeling, it is nevertheless a frontier that beckons.[31]

A third potentially interesting direction for future work is to parse the impact of the size of the Diaspora in the (potential) asylum country. This variable not only varies considerably across directed dyads, but will grow over time in any given directed dyad once a nontrivial number of refugees become established in the country of refuge. Because we have focused on the estimated coefficients, which represent the mean effects across a sample of directed dyads, we cannot say much about this process: few directed dyads are likely represented by these coefficients given the temporal and cross-directed dyad variance in the variable. Future work should probe this more, perhaps conducting time-series case studies along the lines of those reported in the Hatton and Williamson (1998) study of migration. These are just some ideas—readers will surely think of others. We look forward to seeing what future work on this topic can teach us.

References

Apodaca, Clair. (1998) Human Rights Abuses: Precursor to Refugee Flight? *Journal of Refugee Studies* 11(1): 80–93.

Barsky, Robert F. (1995) Arguing the American Dream à la Canada: Former Soviet Citizens' Justification for Their Choice of Host Country. *Journal of Refugee Studies* 8(2): 125–141.

Beck, Nathaniel, Kristian S. Gleditsch, and Kyle Beardsley. (2006) Space Is More Than Geography: Using Spatial Econometrics in the Study of Political Economy. *International Studies Quarterly* 50(1): 27–44.

Böcker, Anita, and Tetty Havinga. (1998) Asylum Applications in the European Union: Patterns and Trends and the Effects of Public Policy Measures. *Journal of Refugee Studies* 11(3): 245–266.

Boyd, Monica. (1989) Family and Personal Networks in International Migration: Recent Developments and New Agendas. *International Migration Review* 23(3): 638–670.

Central Intelligence Agency. (2007) *The World Factbook*. Available at https://www.cia.gov/library/publications/the-world-factbook/print/xx.html. (Accessed September 21, 2007).

Clark, David, and Timothy Nordstrom. (2003) Risky Inference: Unobserved Treatment Effects in Conflict Studies. *International Studies Quarterly* 47(3): 417–429.

Crisp, Jeff. (2000) Who Has Counted the Refugees? UNHCR and the Politics of Numbers. In *Humanitarian Action: Social Science Connections*, edited by S. C. Lubkemann, L. Minear, and T. G. Weiss. Occasional Paper #37, Providence: Thomas J. Watson, Jr. Institute for International Studies.

[30] One potentially fruitful approach would be to use the replication data set to identify outliers and other influential cases on the results reported here, and then conduct time-series case studies on those directed-dyads.

[31] Recent work by Shellman and Stewart (2007b) employs multiple equations to forecast refugee flows.

DAVENPORT, CHRISTIAN, WILL H. MOORE, AND STEVEN C. POE. (2003) Sometimes You Just Have to Leave: Domestic Threats and Forced Migration, 1964-1989. *International Interactions* 29(1): 27–55.

DAY, KATE, AND PAUL WHITE. (2001) Choice or Circumstance? The UK as the Location of Asylum Application by Bosnian and Somali Refugees. *GeoJournal* 55: 15–16.

EDWARDS, SCOTT S. (2007) *A Composite Theory and Practical Model of Forced Displacement.* Unpublished Ph.D. Dissertation, Champaign-Urbana: University of Illinois.

FAIST, THOMAS. (2000) *The Volume and Dynamics of International Migration and Transnational Social Spaces.* Oxford: Clarendon Press.

GIBNEY, MARK, CLAIR APODACA, AND JAMES MCCANN. (1996) Refugee Flows, the Internally Displaced and Political Violence (1980-1993): An Exploratory Analysis. In *Whither Refugee? The Refugee Crisis: Problems and Solutions*, edited by D. L. Cingranelli. Leiden: PIOOM.

GLEDITSCH, KRISTIAN S., AND MICHAEL D. WARD. (2001) Measuring Space: A Minimum Distance Database and Applications to International Studies. *Journal of Peace Research* 38(6): 739–758.

HATTON, TIMOTHY J., AND JEFFREY G. WILLIAMSON. (1998) *The Age of Mass Migration: An Economic Analysis.* New York: Oxford University Press.

HAVINGA, TETTY, AND ANITA BÖCKER. (1999) Country of Asylum by Choice or Chance? Asylum-Seekers in Belgium, the Netherlands, and the UK. *Journal of Ethnic and Migration Studies* 25(1): 43–61.

HARFF, BARBARA, AND TED ROBERT GURR. (1988) Toward Empirical Theory of Genocides and Politicides: Identification and Measurement of Cases since 1945. *International Studies Quarterly* 32(3): 359–71.

HARFF, BARBARA, AND TED ROBERT GURR. (1996) Victims of the State: Genocides, Politicides, and Group Repression from 1945 to 1995. In *Contemporary Genocides: Causes, Cases, Consequences*, edited by Albert J. Jongman. Leiden: PIOOM. pp. 33–58.

HOFF, PETER D., AND MICHAEL D. WARD. (2004) Modeling Dependencies in International Relations Networks. *Political Analysis* 12(2): 160–175.

KUNZ, EFRON F. (1973) The Refugee in Flight: Kinetic Models and Forms of Displacement. *International Migration Review* 7(2): 125–146.

KUNZ, EFRON F. (1981) Exile and Resettlement: Refugee Theory. *International Migration Review* 15(1/2): 42–51.

LEEDS, BRETT ASHLEY. (2005) *Alliance Treaty Obligations and Provisions (ATOP) Codebook*, Version 3.0. Available at http://www.atop.rice.edu/download/ATOPcdbk.pdf. (Accessed October 2006).

LEMKE, DOUGLAS, AND WILLIAM REED. (2001) The Relevance of Politically Relevant Dyads. *Journal of Conflict Resolution* 45(1): 126–144.

MAOZ, ZEEV. (1997) Domestic Political Change and Strategic Response: The Impact of Domestic Conflict on State Behavior, 1816-1986. In *Wars in the Midst of Peace*, edited by D. Carment, and P. James. Pittsburgh, PA: Pittsburgh University Press.

MASSEY, DOUGLAS S. (1990) The Social and Economic Origins of Immigration. *Annals of the American Academy of Political and Social Science* 510: 60–70.

MOORE, WILL. H., AND STEPHEN M. SHELLMAN. (2004a) Fear of Persecution. *Journal of Conflict Resolution* 48(5): 723–745.

MOORE, WILL. H., AND STEPHEN M. SHELLMAN. (2004b) Whither Will They Go? A Global Analysis of Refugee Flows, 1955-95. Paper presented at the annual meeting of the Midwest Political Science Association. Available at http://www.garnet.acns.fsu.edu/~whmoore/research/Whither.march 2004.pdf. (Accessed April 15–18, 2005).

MOORE, WILL. H., AND STEPHEN M. SHELLMAN. (2006) Refugee or Internally Displaced Person? To Where Should One Flee? *Comparative Political Studies* 39(5): 599–622.

MORRISON, ANDREW R. (1993) Violence or Economics? What Drives Internal Migration in Guatemala? *Economic Development and Social Change* 4: 817–831.

NEUMAYER, ERIC. (2004) Asylum Destination Choice: What Makes Some European Countries More Attractive Than Others? *European Union Politics* 5(2): 155–180.

NEUMAYER, ERIC. (2005) Bogus Refugees? The Determinants of Asylum Migration to Western Europe. *International Studies Quarterly* 49(3): 389–410.

POWELL, EMILIA. (2006) Conflict, Cooperation and Legal Systems of the World. Unpublished Ph.D. dissertation. Tallahassee, FL: Florida State University. Available at http://www.etd.lib.fsu.edu/theses/available/etd-05312006-150609/. (Accessed March 5, 2007).

RICHMOND, ANTHONY H. (1988) Sociological Theories of International Migration: The Case of Refugees. *Current Sociology* 36(2): 7–25.

RICHMOND, ANTHONY H. (1993) Reactive Migration: Sociological Perspectives on Refugee Movements. *Journal of Refugee Studies* 6(1): 7–24.

Riddle, Liesl A., and Cynthia Buckley. (1998) Forced Migration and Destination Choice: Armenian Forced Settlers and Refugees in the Russian Federation. *International Migration* 36(2): 235–253.

Salehyan, Idean, and Kristian S. Gleditsch. (2006) Refugees and the Spread of Civil War. *International Organization* 60(2): 335–366.

Schmeidl, Susanne. (1997) Exploring the Causes of Forced Migration: A Pooled Time-Series Analysis, 1971-1990. *Social Science Quarterly* 78(June 2): 284–308.

Schmeidl, Susanne. (2000) The Quest for Accuracy in the Estimation of Forced Migration. In *Humanitarian Action: Social Science Connections*, edited by S. C. Lubkemann, L. Minear, and T. G. Weis. Occasional Paper #37, Providence, RI: Thomas J. Watson, Jr. Institute for International Studies.

Schneider, Gerald, Thomas Holzer, and Sabine Carey. (2002) Hirschmann auf dem Prufstand: 'Voice' und 'Exit' Als Widerstreitende Fluchtursachen. In *Asylpolitik auf Abwegen: Nationalstaatliche und Europaische Reaktionenauf die Globalisierung der Fluchtlingsstrome*, edited by Gerald Schneider, and Thomas Holzer. Opladen: Leske und Budrich.

Shellman, Stephen M. (2001) Global Directed Dyad Geographic Borders Database, 1964–1999. Available at http://smshel.people.wm.edu/Research/Data.html. (Accessed February 2006).

Shellman, Stephen M., and Brandon M. Stewart. (2007a) Political Persecution or Economic Deprivation? A Time-Series Analysis of Haitian Exodus, 1990-2004. *Conflict Management and Peace Science* 24(2): 121–137.

Shellman, Stephen M., and Brandon M. Stewart. (2007b) Predicting Risk Factors Associated With Forced Migration: An Early Warning Model of Haitian Flight. *Civil Wars* 9(2): 174–199.

Singer, J. David, and Melvin Small. (1966) Formal Alliances, 1815-1939: A Quantitative Description. *Journal of Peace Research* 3(1): 1–32.

Stanley, William Deane. (1987) Economic Migrants or Refugees From Violence? A Time-Series Analysis of Salvadoran Migration to the United States. *Latin American Research Review* 22: 132–155.

UNHCR. (2000) *The State of the World's Refugees: Fifty Years of Humanitarian Action*. Oxford: Oxford University Press.

UNHCR. (nd) The Refugee Story in Statistics. Available at http://www.unhcr.org/statistics.html. (Accessed September 21, 2007).

Van Hear, Nicholas. (1998) *New Diasporas: The Mass Exodus, Dispersal and Regrouping of Migrant Communities*. Seattle, WA: University of Washington Press.

Ward, Michael D., and Kristian Skrede Gleditsch. (2002) Location, Location, Location: An MCMC Approach to Modeling the Spatial Context of War and Peace. *Political Analysis* 10(3): 244–260.

Weiner, Myron. (1996) Bad Neighbors, Bad Neighborhoods: An Inquiry Into the Causes of Refugee Flows. *International Security Summer* 21(1): 5–42.

Zolberg, Aristide R., Astri Suhrke, and Sergio Aguayo. (1989) *Escape From Violence: Conflict and the Refugee Crisis in the Developing World*. New York: Oxford University Press.