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Where do Migrants from Countries Ridden by  
Environmental Conflict Settle? On the Scale, Selection  
and Sorting of Conflict-induced Migration

Tim Krieger, Laura Renner, Lena Schmid

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**Where do migrants from countries ridden by environmental conflict settle?  
On the scale, selection and sorting of conflict-induced migration**

Tim Krieger, Laura Renner & Lena Schmid  
(University of Freiburg)

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*Abstract*

Environmentally induced conflicts can trigger migration. This paper analyzes the location decisions of migrants, i.e., the ‘sorting’ of migrants into alternative destinations. We argue that this sorting depends on a variety of factors. The selection of migrants affects preferences over where to settle and depends on the underlying type of environmentally induced conflict. In addition to (transport-related) migration costs, migration governance shapes the sorting pattern of migrants. Immigration policies in destination countries impose further costs to migration or even prevent settlement. At the same time, national immigration policies depend on the ‘supply’ of migrants that are expected to arrive, as well as on other countries’ policies regarding immigration. In addition, coordination failure of destination countries may feed back to the sorting decisions of migrants. The chapter discusses sorting not only from a theoretically but also empirical perspective, thereby highlighting both existing studies on sorting and the empirical challenges to analyzing sorting behavior in the context of migration that is induced by environmental conflict.

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## **Introduction**

Environmental, resource, and climate conflicts have been named as important individual-level triggers of migration. People leave their home countries when soil degradation, extreme weather conditions, natural disasters, and the existence of valuable mineral resources result in domestic conflicts. These conflicts may come about due to, e.g., general resource scarcity, ethnic groups fighting over scarce resources such as fresh water, or rebel groups trying to get hold of valuable minerals to fund their activities, all of which often harm the population.

In the face of such conflicts, individuals – or specific groups of individuals – may decide to leave their home country and move elsewhere. Where exactly migrants head is an open question, given that there are dozens of potential destinations. What drives the decision of an individual to choose a destination, move, and settle there? How do individual decisions aggregate to migration flows into a destination? The concept of *migrant sorting* provides insights into these questions.

The sorting of migrants is the last step of the larger process of migration. In response to environmental conflict, a subset of potential migrants becomes actual migrants by deciding to leave their home countries. Often, these migrants are not a random draw from the source-country population, but some share of the population that finds migration more important than other parts of the population. For example, migrants might come from an ethnic minority forcefully blocked from using a scarce resource by the majority. Finally, this specific group of migrants, or parts of this group, not only decide to sort into a specific destination, but must also be allowed to enter it. That is, migration governance does not prevent them from doing so. This is not always the case. For instance, migrants who flee because of slowly changing climate conditions may simply be considered economic migrants according to national immigration legislation and not be allowed in.

In this paper, we will focus on the last link in this chain and explore the mechanisms, empirical evidence and policy implications of migrant sorting in the context of environmental conflict-induced migration. In a first step, we will lay out the theoretical foundations of migrant sorting, followed by a discussion of empirical approaches and challenges. We will then apply our (general) findings to the environment-conflict-migration nexus before turning to the question how migration governance reshapes the individual preferences for sorting into specific destinations.

## **Theoretical foundations of migrant sorting**

Since Borjas (1987), the analysis of the selection of migrants has become an important topic in (empirical) migration economics. One reason is that in the standard economic migration model, individuals, who want to maximize their income, weigh the costs and benefits of migrating. More specifically, utility-maximizing individuals decide to migrate to a different location if, and only if, the benefits of migration exceed the costs (Sjaastad, 1962). Benefits and migration costs differ between individuals and can be both monetary and non-monetary. For instance, individual skill level is an important factor in determining (expected) income at home and abroad (Borjas, 2014). Typically, the net gains of migration are higher for better skilled individuals. This is because of, e.g., higher skill premia in the destination country or lower costs of migration (such as lower search and information costs, or lower legal hurdles to settle in a destination). Thus, migrants are not a random draw from the source country population but differ (measurably) in terms of skills (Borjas, 2014) and (presumably) also in other characteristics such as risk aversion (Bauernschuster et al. 2014).

The selection of migrants is, however, only one aspect within a broader framework for analyzing individual migration decisions. For the full picture, two further dimensions of the migration decision must be added. Grogger and Hanson (2011) aggregate individual migration decisions along the following lines to characterize, and make predictions about, international migration flows. First, the *scale* of migration indicates how many people decide to leave a country (or more precisely, the fraction of the population that emigrates) once some migration trigger occurs. Second, the *selection* of migrants provides information on the composition of a group of emigrants with respect to an individual characteristic (e.g., the skill level) relative to the population left behind. Third, the *sorting* of migrants refers to the composition of emigrants' characteristics by destinations. In the following, our focus will be on the latter, but we will relate it to the other two dimensions frequently.

The distinction between scale, selection and sorting is, however, less clear-cut than it appears at first glance. Rather, it is distorted by the fact that each step in the migration process (from scale to sorting) depends on the previous step. Selection occurs only if people have previously decided to migrate at all. Even more importantly for our paper, the sorting of migrants is closely tied to their selection. Selection concerns which people leave their home country and differentiates people by skill, gender, risk aversion and other characteristics, including – possibly – vulnerability to environmental hazard, climate change and the resulting conflicts. Individuals with different characteristics may also prefer different destinations and thus may sort into different destinations.

For closer inspection, let us first turn to source countries to discuss a reoccurring question in public and academic discourse on migration policy, namely whether migrants are a 'positive' selection or a 'negative' one (e.g., Hatton and Williamson, 2006). From the perspective of the source country, a positive selection with respect to skills indicates that the education level of the migrating population is higher than that of the residents staying behind. A negative selection implies that the migrants are less skilled than the population staying. Hence, a positive selection of emigrants implies a brain drain from the source country.<sup>1</sup>

Turning to destination countries, the question of positive versus negative selection is relevant as well and indeed becomes a highly political one. This is because the location choice of migrants, i.e., their sorting into destinations, obviously depends – at least partly – on the immigration policies of destination countries and these, in turn, depend on whether the arriving migrants are a positive or negative selection. Typically, destination country policy-makers prefer skilled and positively selected immigrants (Haupt et al., 2014, 2016). However, a high skill level and positive selection may not be the same. While migrants may be a positive selection from the perspective of the source country (because they have better skills than those left behind), the 'quality' of arriving migrants (Hatton and Williamson, 2006) in terms of their skills may be insufficient from the perspective of the destination country.

Two reasons may explain why destinations may be skeptical about migrants that are a positive selection from the perspective of the source country. First, most migration flows occur between less developed and developed countries, with – on average – large skill differentials between them. Therefore, it is a priori not clear whether a 'positive selection' (source-country perspective) also leads to a beneficial sorting (destination-country perspective) of migrants. This is simply because arriving migrants may not possess the skills required for fast (economic) integration and dynamic labor market performance, turning them into a burden, not a boon for the destination country. Second, while attractive migrants may have left their home countries, they could as well choose not to come to a specific destination and instead go elsewhere. Here,

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<sup>1</sup> Recent research shows, however, that emigration of skilled workers could also trigger a 'brain gain'. This could be the case, e.g., when chances of leaving an unattractive home country depend on investment in one's human capital (Docquier and Rapoport, 2012).

the sorting process does not lead to the desired outcome for this destination country. This could also be the case when attractive migrants are scared away by negative ‘signals’ (e.g., in terms of restrictive immigration laws or xenophobia) they receive from a destination.

We can conclude that whether the sorting turns out to be positive or negative from the perspective of the destination country is a matter of the previous individual migration decisions and thereby closely connected to selection. As the previous discussion shows, the difference between selection and sorting is small and sometimes hard to disentangle, as the questions are intertwined.<sup>2</sup> Here, we refer to ‘sorting’ whenever we consider the perspective of a destination country, which receives migrants who have chosen to come to this destination and who exhibit certain (selective) characteristics.

The push-pull theory of migration (Lee, 1966) provides another angle on migrant sorting. While push factors are specific to the country of origin, pull factors attract individuals to a destination country. These factors enter the cost-benefit calculus of individuals and their effects might differ with personal characteristics. For the migration decision both sides matter: Migration is only an option if individual gains from pull factors (such as income gains or living in a peaceful or environmentally clean surrounding) as well as from push factors (such as by avoiding political repression) outweigh the costs of migration (Mayda, 2010). Thus, push factors are related to the scale as well as selection of migrants, and thereby *indirectly* to the sorting across destinations. Push factors lead to a specific selection of migrants, whose choice of destination is not arbitrary, but depends on a set of destination country characteristics (pull factors). These characteristics affect a migrant’s cost-benefit calculus to different degrees and shape the decision for a destination. For instance, there may physical attributes of a given source-destination pair, such as distance, which increase migration costs. At the same time, socio-economic well-being and economic growth, peace and stability, environmental factors (such as a milder climate) or pre-existing ties based on prior migration or geographic proximity can serve as pull factors for migration (Docquier et al. 2014).

In terms of migrants’ cost-benefit considerations, one group of migrants may find it easier to cope with these costs than some other group (or enjoy a new location more than yet another group). For example, according to Krieger et al. (2018), skilled migrants can overcome cultural barriers between countries more easily. Belot and Hatton (2012) find that poverty constraints increase positive selection among emigrants as poverty hinders the low-skilled more strongly from emigration. Again, selection and sorting of migrants cannot easily be separated as large barriers hamper entry of low-skilled migrants, who – if they are the relevant selection – may decide to move to another, culturally more related country. In these cases, the individual cost-benefit calculus drives the observed pattern of migration.

In the same vein, migration governance has the potential to affect individual migration decisions through changing one’s cost-benefit calculus. Economically, politically induced barriers to immigration simply raise migration costs (Mayda, 2010, Ortega and Peri, 2013). While immigration policies that are restrictive across the board ought to cause a negative scale effect (e.g., Ortega and Peri, 2013), selective migration policies may decrease the costs of migration for some and increase it for others (Czaika and Parsons, 2017). That is, one expects a direct effect on the sorting of migrants (based on specific selections of migrants) into the available destinations. This mechanism is even more complex in reality as immigration policy is – most likely – endogenous, i.e., any decisions of destination countries to keep borders open or closed may also depend on expected immigration flows.<sup>3</sup> In turn, these policies signal to potential immigrants whether they are welcome or not. As countries have different policy preferences

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<sup>2</sup> This is probably the reason, why the term ‘selection’ is often used in discussions of the location decision (i.e. sorting) of migrants when their self-selection is included (e.g. Czaika and Parsons, 2017).

<sup>3</sup> Unfortunately, there is hardly any scientific empirical evidence on this issue, as Hatton (2014) points out.

over immigration, migration governance does have a strong impact on international migration flows and may provide incentives for countries to act strategically (e.g. Facchini and Mayda, 2008, Giordani and Ruta, 2013). We will turn to this issue below and investigate the problem of uncoordinated policy choices.

Turning to the question at hand, environmental conflict acts as a push factor that decreases the benefit of staying compared to migrating. As a push factor, its main effect is on the scale and selection of migration flows. Depending on who is hurt most by such a conflict, the composition of the migrant population with respect to skills might not be random. These selected migration flows translate into the sorting of migrants across destinations. The composition with respect to specific characteristics (such as skills) across destinations will be further affected by migration costs such as distance or immigration policies that affect migrants differently depending on their characteristics.

### **Empirical approaches to migrant sorting**

In technical terms, the previously discussed blurring of migrant selection and sorting has consequences for empirical analysis, too. Additional questions concern the choice of variables, data needs and the estimation strategy. In order to better understand the relevant empirical strategies and the connected challenges, let us consider the scale, selection and sorting of migrants separately.

To analyze drivers for the scale of migration, home country characteristics matter, such as (per-capita) income but also the quality of institutions, including personal security (e.g., Dreher et al., 2011), level of corruption (Dimant et al., 2013) or (economic) freedom (Meierrieks and Renner, 2017). To assess the scale and the skill composition of migration flows from one country to another, the differences between home and destination matter (e.g., wage differences). Similarly, factors connected to migration costs such as distance or networks of earlier migrants in the destination are important (e.g. Bertoli, 2010, Mayda, 2010). In order to capture that an individual only leaves if he or she is better off in the destination, a dataset including bilateral source and destination country-specific variables is necessary. At the same time, for the sorting across destinations, home country factors are less important. Technically, they could be captured by entering source-country fixed effects<sup>4</sup> (e.g., Grogger and Hanson, 2011; Beine and Parsons, 2015).

Applying source-country fixed effects while controlling for potential pull factors on the destination-country level can give information on what shapes the individual destination choice. For this location decision, the features of the destination country and any bilateral factors connected to migration costs (related to, e.g., migration governance) are of interest. Examples for the first are a destination country's economic attractiveness (e.g., Mayda, 2010; Grogger and Hanson, 2011) or – capturing network effects – the size of the diaspora originating from a given source country (Beine et al., 2011; Bertoli, 2010; Bertoli and Ruysen, 2018).

Regarding bilateral factors associated with migration costs, a key factor for the destination choice is immigration policy. For one, it matters how open destination countries are with respect to asylum seekers (Grogger and Hanson, 2011), whether they apply skill-specific immigration policies (Czaika and Persons, 2017; Krieger et al., 2018) or bilateral immigration policies for related countries (Krieger et al. 2018). For migration into OECD countries, Czaika and Persons (2017) show that skill-specific policies such as point systems increase positive sorting (and

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<sup>4</sup> Source-country fixed effects capture time-invariant characteristics such as geography or long-term cultural beliefs. In a cross-country setting (without a time dimension), these effects would account for all characteristics which differ between source countries. Adding country-pair fixed effects could analogously capture bilateral factors such as distance or colonial linkages.

selection) while occupation-specific policies have little or slightly negative effects on the skill composition.

In addition to this direct effect on sorting patterns, migration policies may enforce (weaken) other pull (push) effects. For example, Mayda (2010) finds that demographic pressure in the source country has a stronger positive effect when immigration laws become less restrictive. Furthermore, what matters for sorting is not so much the absolute restrictiveness of a country's immigration policy, but how its policy compares with other destination countries (Bertoli and Moraga, 2015). The picture gets more complicated when one immigration policy applies to several potential destination countries (such as in the European Union). Here, different intended destinations by different migrant groups meet different preferences of destination countries for allowing immigration. This intermingling of different interests and strategic incentives of several actors (migrants, governments) complicates proper statistical identification of the sorting decision.

Bertoli et al. (2013) provide one of the most advanced studies incorporating many of the challenges outlined above. The authors consider the interconnectedness of effects by modeling and estimating the decision for a destination, thereby incorporating selection into migration itself. Looking at one source country (Ecuador) and two destination countries (Spain versus US), they find that higher earnings in the destination increase the individual propensity to migrate into this destination. If earnings increase in one destination relative to the other destination, this increases the migration propensity into this specific country as its relative attractiveness has increased. However, this increase does not come from an increase in total migration from Ecuador but from a relatively lower attractiveness of the other destination. Thus, one could say that the relative wage matters for the destination choice conditional on migration in the first place (Bertoli et al., 2013).

### **Migrant sorting and environmental conflict**

The discussion of the previous section does not specifically refer to migrant sorting in the context of environmental conflict-induced migration. The simple reason is that very few studies consider and empirically test this issue. This is largely due to a lack of appropriate data. The necessary data requires information on conflicts that have their origin in environmental issues; e.g., conflicts that arise after a natural disaster or conflicts over dwindling sources of fresh water due to drought or environmental deterioration. Often, these types of conflict arise slowly and last long, which makes it even more difficult to identify migration movements that could be triggered by a particular dispute (Carius et al., 2007).

Ideally, geo-coded data on environmental hazards, resulting local conflicts and migrants originating from precisely these locations could be employed. If this information were available for every migrant arriving in a given destination country, bilateral migration flows could be investigated with respect to selection and sorting behavior. However, available data on migration suffer from several shortcomings in this regard. First, data are only available for a limited number of country-pairs, and often fail to cover migration movements between countries of the global south. This is problematic because it is very likely that environmental conflict-induced migration occurs precisely in this region of the world and most migration flows are directed toward neighboring countries (mainly due to almost prohibitively high migration costs for migrating to the industrialized world). Hence, any analysis of sorting behavior is necessarily incomplete (Barrios et al., 2006; Ruysen and Rayp, 2014; Rügger and Bohnet, 2018).

Second, most data are only available for large time intervals such as 5-year periods or decades. Not only does this result in imprecise estimations in general, but it also means that sudden

events, such as conflicts arising in the aftermath of natural disasters like earthquakes (Brancati, 2007), can hardly be analyzed with respect to their effect on migration patterns. Third, data mostly come from national censuses in destination countries where countries exhibit substantial variation in how they collect and process their data. In order to establish a comprehensive dataset imputed data is often added. Concerning existing datasets on conflicts, the Peace Research Institute Oslo (PRIO) provides a comprehensive and detailed database on armed conflict; however, environmental distress as a trigger for conflict is not included and cannot be identified.

Nevertheless, we can transfer the existing evidence from the – more traditional – selection and sorting literature to environmental conflict-induced migration to make predictions about migrants' likely sorting behavior and patterns. Considering the destination choice in the case of environmentally or climate-induced conflict implies a non-trivial relation similar to the one analyzed by Bertoli et al. (2013). Environmental problems, resource extraction and climate change may work both as direct and – via conflict – indirect triggers of migration, i.e., they are by definition push factors affecting the home country (e.g., Reuveny and Moore, 2009; Naudé, 2010). Depending on their skill or income (or age or gender or health), different parts of the population can be affected differentially. A further aspect that affects migrant selection in the case of environmental conflict might be the type of conflict onset or the time period within which environmental change occurs. Slow or quick onset of the conflict or the environmental problem changes the characteristics of migrants and their decisions. Taken together, these migration decisions result in a selected migrant population. For the sorting into different destinations, any measures making some destinations more attractive than others (such as less restrictive immigration policies, distance, ease of integration/assimilation) matter. The relative safety (in terms of environmentally- or climate-induced conflict) of a destination country could also be a pull factor.

To get a better understanding of the potential sorting patterns conditional on previous migrant selection caused by environmentally induced conflict, let us briefly summarize some key findings on selection<sup>5</sup> and investigate which sorting patterns we can expect.<sup>6</sup> As argued above, specific (macro-level) push factors, i.e. different types of environmental, resource and climate distress and the resulting conflicts,<sup>7</sup> may produce different types of migrants and migration decisions (Bates, 2002). These push factors, which affect individuals differently, have to be combined with further personal characteristics, such as skills, income and gender, in order to understand how potential migrants shape their migration and/or destination choices. Bates (forthcoming) emphasizes that it is migrants' 'level of agency' that ultimately determines their selection and sorting behavior. For sorting, this implies that there does not exist one general sorting pattern of environmental migrants. Rather, sorting depends on the type of the environmental crisis as well as one's individual characteristics regarding the ability to cope with, or the vulnerability to, environmental conflict.

Environmental distress can come in various forms. For instance, the onset character seems to play a large role in determining the selection – and therefore the sorting – of migrants. Bates (forthcoming) distinguishes sudden onset events, such as natural disasters, that cause immediate flight, i.e., refugee migration or internal displacement of people, and slow-onset events, such as soil degradation. The resulting selection in these distinct scenarios can be characterized as follows (although in reality there is, of course, no "either...or", and the two mentioned types

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<sup>5</sup> For an extensive discussion of selection effects in the context of environmental conflict-induced migration, please refer to Bates (forthcoming).

<sup>6</sup> For the moment, we ignore the influence of migration governance, but return to this issue in the next section.

<sup>7</sup> Please refer also to De Soysa (forthcoming), Ide (forthcoming), and Thalheimer and Webersik (forthcoming).



illustrate only polar cases and their respective effects on the cost-benefit calculus that underlies migration decisions).

Sudden onset leads to forced migration where return intentions are relatively more pronounced, while slow onset leaves people time to consider their options more carefully, i.e., here long-term migration intentions and choices play a larger role. Hence, in the first case, migration costs (especially transport costs) weigh more heavily in the migrants' decisions than in the second case. At the same time, economic or political (pull) factors will not play a big role in their location decisions. Neither does selection into migration with respect to skill or ability, which may not matter much when there is no option of staying. However, sorting patterns may still depend to some extent on individuals' characteristics. Typically, this implies that the sorting pattern includes the most vulnerable individuals heading mainly to neighboring countries in the first place (or migrating internally), while richer individuals' behavior often depends on their ability to cope with, or their actual vulnerability toward, the disaster (Black et al., 2011: 448-449).

When it comes to slow environmental change that allows migrants a longer decision process, economic opportunities, political freedom and strong institutions become more important in destination choices. Here, sorting is much more dependent on previous selection; i.e., factors such as the ability or skill level of individuals start to play a more relevant role for the migration decision and the choice of the destination. For instance, highly skilled individuals are more willing and able to migrate over larger distances to particularly attractive destinations which match their abilities best (Borjas, 1992), e.g., because their skills are in demand and well rewarded. These destinations often lie in the developed world, where income is not only higher, but also environmental and climatic conditions are more favorable. At the same time, the barriers to settling in these countries are particularly high and only highly skilled individuals can easily cross them (legally).

More generally, when comparing sudden onset and slow onset, in the latter case the decision to leave the home country (at a specific point in time) is of relatively lower importance than the decision of where to settle in the future. Hence, pull factors of potential destination countries (also relative to each other) are of fundamental importance. In a similar vein, the presumed consequences of environmental conflict may influence migrants' location decisions. Where people expect that, e.g., a disaster will destroy all their property or they will not be able to return soon (e.g. because of a long-lasting drought) they might consider their migration destination more carefully. In any case, the type of environmental distress or conflict is an essential determinant of the selection of migrants, which in turn may have a major impact on sorting patterns of migrants.

### **Migration governance as a factor in migrant sorting and its consequences**

The ultimate sorting of migrants into destinations cannot solely be explained by the location choices of migrants, but one also needs to take into account migrants' success in settling in their most preferred destination. Whether or not migrants will be able to settle also depends on the destination country's willingness or obligation to accept the migrant. 'Willingness' refers to cases in which national immigration policy may be more or less restrictive, while 'obligation' applies when, e.g., international law requires a country to accept an immigrant for humanitarian reasons (i.e., as a refugee). Therefore, migration governance both at the national and international level ought to have a relevant impact on the ultimate sorting outcome. What is more, migrants' sorting preferences may also affect migration governance, as argued above.

Despite some efforts to establish the notion of 'environmental refugees' in international law, this group is not yet recognized as such (Williams, 2008). At the same time, refugees who flee

from internal conflict and civil war are granted protection in many countries with reference to the 1951 Refugee Convention and the 1967 Protocol Relating to the Status of Refugees (Goodwin-Gill and McAdam, 2007). At first glance, it appears that environmental conflict-induced migration may fall under this provision due to conflicts being triggers of flight. However, protection is usually granted only when refugees fulfil the strict requirements of the Convention. This requires that there must be a ‘well-founded fear of being persecuted’ among migrants and that the reasons for persecution are related to ‘race, religion, nationality, membership of a particular social group or political opinion’. While this may sometimes be the case, e.g., when environmental conflict occurs along ethnic or religious lines and results in the oppression of minorities, most migrants do not fall in this category.

As a consequence, migrants who leave their home countries due to environmentally induced conflicts are usually not granted any preferential status in their preferred destinations. Thus, they are treated according to national (rather than international) (im-)migration law. In particular, in cases of slow onset (such as climate change), migrants are typically treated as – unwelcomed – ‘economic’ refugees (which is indeed often a correct description of their situation given that their subsistence deteriorates with environmental change). Only if these refugees or migrants have characteristics considered beneficial to the destination country may they be treated more accommodatingly. In cases of sudden onset, temporary residence status may be granted with the clear expectation that migrants return home after the environmental situation normalizes.

While some countries are more willing to accept migrants for environmental and conflict reasons, others tend to be restrictive. Since any migration flow generates costs to the destination country (which are weighed against the benefits of these inflows), countries want to be in control over their immigration policy; but in the international context this is not always easy to achieve. When migrants are not allowed to sort into their preferred destination, they choose the next best alternative. Technically, this implies that one country’s restrictive immigration policy generates a negative externality on other countries. According to standard externality theory (e.g., Cornes and Sandler, 1996), immigration policy in the first country is then too restrictive and globally inefficient because the country does not internalize the redirection of migrants (in addition, migrants do not achieve maximum utility). At the same time, a generous immigration policy will come at the cost of excessive inflows, reducing the burden of immigration on other countries. In their attempt to keep the costs of immigration in check, destination countries enter an ‘arms race’ of increasingly restrictive immigration policies. Only international policy coordination or even harmonization could bring this development to a halt (e.g., Boeri et al., 2002; Hatton, 2004; Hatton and Williamson, 2006; Facchini et al., 2006; Minter, 2015), but sovereign nation states have few incentives to cooperate on this issue.

Related problems can be observed in the European Union, where there is hardly any common, coordinated immigration and asylum policy. Rather, the current legal framework allows each member state to determine the strictness of its immigration and asylum policy as well as its efforts to securing the Union’s external borders (e.g., through providing resources to the common border protection agency FRONTEX). Within the Schengen area, where no internal border controls between EU member states exist, national policies cause externalities on other countries (Boeri and Brücker, 2005; Haake et al., 2010). For instance, too little effort in securing the EU external border in one country leads to a weakest link problem because illegal immigrants may enter through this (transit) country and move on to their preferred destination.<sup>8</sup> This is because the port-of-entry country does not experience long-run costs of immigration

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<sup>8</sup> Legally, immigrants are not allowed to do so according to the Dublin Regulation (Regulation No. 604/2013) and member states required to hinder them from moving on. Practically, the lack of barriers to onward migration due to the Schengen Agreement precludes this.

when migrants move on anyway. At the same time, they do not internalize the costs migrants generate in their ultimate destination (Krieger and Minter, 2007; Mayr et al., 2012; Haake et al., 2013).

Based on the observation that environmental conflict-induced migration is often generated in the global south, the previous discussion provides some hints at how actual sorting behavior is shaped by individual preferences interacting with migration governance. Attractive destinations (both economically and environmentally) in the industrialized world can be entered legally usually only by rich or high-skilled migrants because national and international migration governance does not support migration of other types. Illegal migration to these countries, e.g. by climate refugees, requires certain characteristics and skills, leading to a specific group of migrants entering the destination. The main outcome of this sorting process is therefore heightened migration to neighboring countries and internal displacement. Economically, due to relatively low migration costs, and politically, due to less restrictive migration governance, these places are the preferred destinations of poor and low-skilled migrants who leave home because of environmental, resource and climate induced conflicts. That is, this specific type of migration is – as most other types of migration – heavily influenced by economic considerations as well.

## **Conclusions**

Policy-makers in many countries are concerned with the inflow of migrants from all over the world. Whether or not these migrants are beneficial or detrimental to a destination country is a topic of hot political debate. Therefore, the analysis of the sorting patterns of migrants is a most helpful instrument to provide informed predictions about expected inflows. The purpose of the present paper is to provide such insights by exploring the underlying theoretical mechanisms, empirical evidence and policy implications of migrant sorting in the context of environmental conflict-induced migration. In doing so, we also considered how migration governance (possibly based on information about sorting patterns) reshapes the individual decisions on sorting into specific destinations.

We argue that sorting is the final link in a chain of migration processes. First, people must decide to actually leave their home country once some migration trigger occurs. Second, some groups in society are more likely to leave depending on the trigger of migration, leading to a specific selection of migrants. Finally, those population groups that actually migrate must choose into which of many potential destinations they want to sort. This last step depends on existing migration governance, while migration governance in turn is shaped by the anticipated sorting of migrants.

Hence, predicting the sorting outcome of migration processes that start out from individuals being harmed by environmental conflict is highly complex. Many factors play a role: the type of environmental hazard, the type of conflict, the individual propensity to migrate among different groups of society, the selection pattern of migrants, the attractiveness of destinations with respect to various characteristics (relevant to a given selection of migrants), as well as national and international migration governance.

While our analysis suggests that one cannot easily disentangle individual sorting behavior from migration governance, some predictions can nevertheless be made about where environmental conflict-induced migration will end up. Due to the lack of encompassing coordination of immigration policies internationally, most migrants – especially the poor and low-skilled – will not be able to enter those countries that would fit their needs best; i.e., peaceful countries without environmental or climate hazards. For both economic and political reasons, they will migrate only to neighbor countries or resettle internally. Individuals with a higher level of

agency, like rich or high-skilled persons, have better chances to sort themselves into their preferred country of destination. However, in addition to personal characteristics, the type of the environmental conflict has a substantial effect on the destination choice of migrants.

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