

Impacts of Hosting Forced Migrants in Poor Countries

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Abstract

Most of the world's displaced people are hosted in low-income countries. Focusing on evidence from poor countries, we review the literature on the economic consequences of hosting refugees or internally displaced people. In the short run, violence, environmental degradation, and disease propagation are major risks to the host populations. In the long run, infrastructure, trade, and labor markets are key channels that determine the impacts on host communities. These impacts can be positive or negative and often unequally distributed among different hosts. We discuss policy options for building resilience in the light of this evidence. Investments in road infrastructure and deepening trade with refugees' countries of origin are strategies worth exploring for enhancing resilience and transitioning from humanitarian assistance toward development. Finally, we identify key knowledge gaps in this literature and formulate a research agenda for the near future.

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1. INTRODUCTION

Every year, thousands of people flee their country (or subnational region) of origin due to civil unrest or changes in the environment (Black 2001, Moore & Shellman 2007, Marchiori et al. 2012). Because these people are forced to seek protection in other countries (or other areas within the same country), we refer to them as forced migrants, which include refugees, asylum-seekers, returnees, stateless people, or internally displaced people (IDPs). Since the end of the Cold War, the number of forced migrants has increased dramatically. Recently, the civil war in Syria caused massive flows of refugees, now mainly hosted in neighboring countries (Turkey, Lebanon, Jordan, and Iraq). In 2017, more than 700,000 Rohingya refugees fled Myanmar, while renewed violence in the Democratic Republic of Congo (DRC) has raised concern about new emigration flows into neighboring countries. As a result of these and similar events elsewhere, there are nearly 70 million forced migrants today—more than three times the number in 1990 (UNHCR 2017).

Contrary to the common perception in the West, most of the world's forced migrant populations are not located in Australia, Europe, and the United States but in the world's poorest countries. **Figure 1** shows how Africa and Asia in particular have seen an enormous increase in the number of forced migrants in the last 15 years. Africa, the poorest continent in the world, hosts a three-times-larger forced migrant population than Australia, Europe, and North America combined.

Such large inflows and settlements of forced migrants are likely to have far-reaching consequences on the hosting communities, especially in poor countries. These consequences are nearly always thought to be negative and protracted due to the long-lasting and repeatable nature of civil conflicts. For example, recent policy reports documenting case studies from Liberia (WFP 2011; 2013a,b), Burkina Faso, Chad, Liberia, Niger (FAO 2013), and the countries neighboring Syria (ACTED 2013) claim that refugees increased food insecurity among host populations, due to increased pressure on natural resources, disruptions in the food and labor markets, and pressures on health services. But these claims fail to account for counterfactual outcomes, i.e., what would have happened in the absence of the refugee influx. Indeed, as most refugees are hosted by the poorest countries, it is easy to associate refugees with increased food insecurity. This view may be misplaced and is illustrated using a simple regression. **Figure 2a** shows the correlation between food security (measured as the prevalence of chronic undernutrition among children under five) and

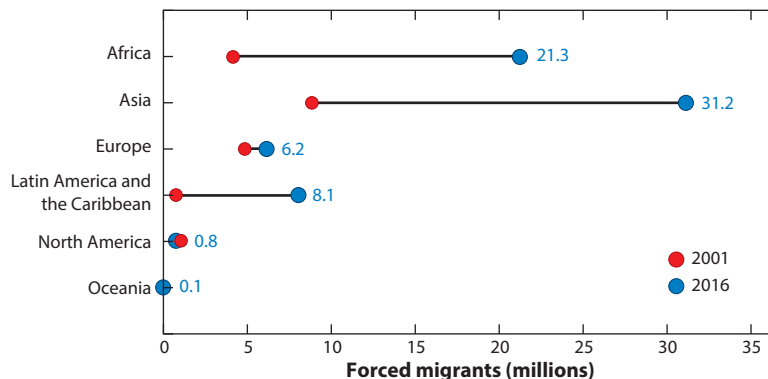


Figure 1

Changes in the number of forced migrants by world region (2001–2016). Authors' calculation from data in UNHCR (2017). Numbers next to the blue dots refer to the number of forced migrants hosted in the region in 2016.

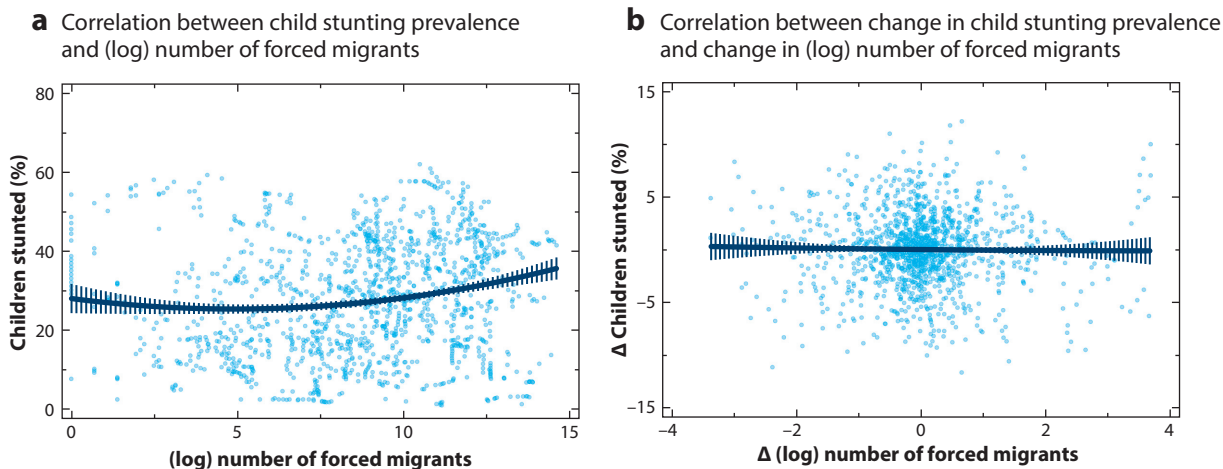


Figure 2

Correlation between child stunting and natural logarithm of forced migrant population, 2001–2016. The fitted lines are based on predictions from a quadratic regression method using data from 127 countries. The vertical bars represent 95% confidence intervals. Prevalence of chronic child undernutrition (stunting) is measured as the percentage of children under age five whose height-for-age is more than two standard deviations below the sex- and age-specific median for the international reference population. A linear interpolation technique was used to address missing data on child stunting. Panel *a* indicates the raw correlation between stunting and (log) forced migrant population, whereas panel *b* shows the correlation when the variables are measured as deviations from country's long-term (2001–2016) mean. Authors' calculation using forced migrant population data from UNHCR (2012b). Data on child stunting rates come from the Demographic Health Survey (primary source) and the World Bank (secondary source).

forced migrant population (in natural logarithm) during 2001–2016. **Figure 2a** contrasts the level of food insecurity [child undernutrition (stunting)] to the level of forced migrant population. The graph suggests that hosting a larger number of forced migrants leads to higher food insecurity [child undernutrition (stunting)]. In **Figure 2b**, we use demeaned values to assess how changes in forced migrant populations are correlated with changes in undernutrition. The positive correlation disappears; the regression line is completely flat, suggesting that a change in forced migrant population is not associated with a change in food security in host countries.

The purpose of this article is to review the evidence on the economic consequences of forced migration on hosting communities in poor countries. Based on a selective review of the interdisciplinary literature, we highlight the complexity of the channels through which forced migrants affect host communities; the dynamic and distributional nature of these impacts; and the different adaptation strategies among the hosting populations. Our review complements other recent reviews on this topic. Similar to Ruiz & Vargas-Silva (2013a), we focus on the consequences of forced migration in low-income countries. In that respect, we differ from Fasani (2016) and Becker & Ferrara (2019), who explore recent research on forced migration in high-income countries. Our review differs from Ruiz & Vargas-Silva (2013a) by offering an interdisciplinary perspective integrating knowledge and methods from other disciplines than economics. We also cover the evidence that has emerged over recent years, partly due to the attention paid to large inflows of Syrian refugees in the Middle East. We also place more emphasis on policy options to build resilience to population shocks in poor countries.

We also identify key knowledge gaps. The current research on this topic focuses on quantifying the impact of forced migrants on health and violence prevalence in host communities. This focus is clearly too limited and the lessons are too context specific. It also abstracts from potential

positive indirect impacts through (labor and goods) market-based mechanisms that depend on local supply capacity, preexisting conditions (e.g., infrastructure), and policies. That said, environmental degradation and disease propagation should be taken seriously as potential (short- and long-term) negative impacts of forced migration on the host community, requiring the need for policies and programs that enhance environmental resilience in host communities. Moreover, forced migration is likely to have profound distributional consequences. Households in the host community with access to capital (physical, human, or social) are often in a better position to respond to (changing) economic opportunities that arise in these situations. In contrast, while poor households might benefit from improvements in public resources, they often stand to lose from increased competition, potentially trapping them into poverty. National and international (humanitarian) policies play an important role in supporting (dynamic) adaptation mechanisms to minimize the negative impacts. Finally, we identify an urgent need for stronger evidence on the short-term and long-term impacts of proposed interventions in protracted refugee situations, such as the use of cash, vouchers, or food transfers or incentives for repatriation, resettlement, or local integration.

2. IMPACTS OF FORCED MIGRATION IN HOST COMMUNITIES

As refugee crises unfold, it is critical to understand how these mass movements of people influence their host communities. Based on an interdisciplinary literature review, we explore how a sudden inflow of displaced people may affect, both directly and indirectly, economic development in hosting communities in a low-income country context.

2.1. Health

The earnings capacity of a household depends critically on the health of its adult members (see, e.g., Beegle 2005). Because incomes in rural areas depend largely on labor-intensive agricultural production, the health status of the household might be vulnerable to the influx of forced migrants through various health-related channels. Refugee movements have been associated with the spread of infectious diseases (Kalipeni & Oppong 1998) and especially with the diffusion of malaria (Kazmi & Pandit 2001, Montalvo & Reynal-Querol 2007). If forcibly displaced people increase the prevalence of infectious disease (e.g., malaria or HIV), this increase is likely to lower the earnings of agricultural households and may suppress the overall availability of food in the hosting areas. The host government's financial and administrative capacity to manage the sudden increase in the demand for health services largely determines the impact on healthcare provision (Porignon et al. 1995, Goyens et al. 1996, Whitaker 2002). It also puts the existing health infrastructure and health system to a serious test. While inequality and tensions between the refugees and the hosts are the result of parallel systems of healthcare provision in Uganda (Lawrie & Van Damme 2003, Orach & De Brouwere 2004), evidence from Guinea, Kenya, and Tanzania shows that more integrated health systems actually improve host populations' access to health care (Van Damme 1995, NORDECO 2010, Maystadt & Verwimp 2014).

The evidence on the impact of displaced influxes on adult health outcomes in the hosting areas is almost nonexistent. At the global level, the study by Montalvo & Reynal-Querol (2007) is often presented as supportive evidence of the negative consequences of refugees on the host country (e.g., Bosker & Garretsen 2009, Baez 2011, Barreca et al. 2012). The authors find that the spread of malaria in host countries occurs through the movement of refugees. This reported effect is, however, restricted to the sample of tropical countries, not to all refugee-hosting countries. A major methodological challenge in this literature is linked to the measurement of the outcome variable: the incidence of malaria. As Gallup & Sachs (2001) note, measuring malaria incidence in

a given population is notoriously difficult, as there is no well-defined method to diagnose malaria. Moreover, weather shocks, often shared by the origin and host country, not only are linked with malaria outbreaks (Craig et al. 1999) but may also trigger conflicts (Hsiang et al. 2013) and therefore refugee inflows. These econometric challenges (measurement error and omitted variables) make the interpretation of the impact of refugee shocks on malaria outbreaks difficult.

Another strand of research has assessed the impacts on child health and growth outcomes. In the case of the Kagera region in Tanzania, Baez (2011) studied the effect of the presence of Rwandan and Burundian refugees on Tanzanian (host) children's height and found that it was associated with slower growth in child height and a significant increase in the prevalence of child morbidity and child mortality rates among the host communities. Baez hypothesized that this impact was due to an increase in the prevalence of infectious diseases and vector-borne illnesses or the competition for various resources (labor, food, land, and wood) caused by the arrival of refugees.¹ One caveat in the Baez (2011) study is that, at the time, he did not observe the final adult height of the children studied, only their height in puberty or just before onset of puberty.² Recent studies in human biology, however, show that puberty may offer an opportunity window for recovering height growth losses experienced in early childhood (see Coly et al. 2006, Prentice et al. 2013, Hirvonen 2014). The affected cohort of children could be able to catch up with the unaffected cohort during the adolescent growth spurt.³

The foregoing discussion demonstrates that more research is needed to better understand the long-term health consequences of hosting displaced people. In particular, there is no longitudinal quantitative evidence on the implications for youth and adult health outcomes. Moreover, the qualitative studies highlight the importance of context, especially on the capacity of the hosting government to handle a sudden refugee shock to its healthcare system, and the extent to which refugee-focused external health assistance can affect health outcomes of the host populations.

2.2. Security and Conflict

Perceptions of the impact of displacement on the hosting community through the security and conflict mechanism often begin with the notion that forcibly displaced people pose a security threat in host countries (Salehyan & Gleditsch 2006, Fisk 2014, Bohnet et al. 2018). Salehyan & Gleditsch (2006) argue that the presence of refugees enhances the likelihood of a host country experiencing political instability and conflict. Refugee camps may encourage the expansion of rebel social networks across borders by feeding grievances among refugees and allowing for an exchange of resources (weapons, combatants, and ideas). Refugee camps can also be used for mobilization and logistical coordination to perpetuate violence in the countries of origin or to provide motivation and resources for domestic political opposition in the host country. Examples portraying this situation are the conflict prior to 1992 between the Palestine Liberation Organization and both Jordan and Lebanon (Salehyan & Gleditsch 2006), the emergence of the Taliban as former Afghan refugees in Pakistan (Keen 2008), and the situation in eastern DRC and Darfur

¹Baez (2011) related the refugee crisis in Kagera to a "natural experiment" that was sudden, with a sharp variation in its impact across the region. The geographical variation as well as the access to data before and after the crisis allowed the author to construct control and treatment groups akin to a setting in a more conventional randomized controlled trial. As a consequence, a causal interpretation could be given to the estimates.

²Height is a particularly useful measure here because, unlike weight, it captures the long-term effects of poor health and undernutrition (Ruel & Hoddinott 2008).

³To assess this possibility, we estimated the same regression model as Baez (2011) using the recent 2010 round of the Kagera Health and Development Survey. We find that the height gap between children originating from areas characterized by high and low densities of refugee inflows is no longer statistically significant when in early adulthood. Results are provided in Mabiso et al. (2014).

(Sudan) (De Waal 1997, Milner & Loescher 2004, Prunier 2008).⁴ Bohnet et al. (2018) hypothesize that IDPs can change the ethnic composition in the receiving area and provide ethnic support to rebel groups. Policy makers have linked insecurity and conflict with refugee inflows and thereby tend to believe that refugees affect security in host communities (Jacobsen 2000, Rutinwa & Kamanga 2003). Indeed, experiences of the protracted refugee situations have raised much concern over the security implications of displaced people on host countries, even though empirical evidence is fairly limited (except for Salehyan & Gleditsch 2006, Fearon & Laitin 2011, Bohnet et al. 2018).

From a methodological point of view, it is often very difficult to separate conflict spillovers associated with refugees' or IDPs' presence from conflict arising from economic and political motives (greed and grievances) and ethnic differences (Stavenhagen 1996, Fearon & Laitin 2003, Collier & Hoeffler 2004) as well as operational factors such as access to arms, illicit trade and finances, and geographic factors (Ballentine & Sherman 2003, Buhaug et al. 2009). Establishing causality is a major challenge for this literature because the impact of displaced people cannot be isolated from other negative conflict spillovers arising from, for example, trade channels or disease propagation. Moreover, much of the literature assesses the effects of refugee inflows from the onset of conflict, defined at the national level. Given the lack of evidence showing that the refugee inflow is the actual cause of conflict spillover, it is difficult to conceive of refugees as posing a direct threat to security at the national level. Recently, Zhou & Shaver (2018) overcame these challenges by exploiting geocoded data on refugee sites and conflict data at the subnational level from 1989 to 2008. The authors find that provinces with refugee sites experience substantial decreases in the risk and intensity of conflict. Although further work is needed to unpack the mechanisms, these findings reject the notion that forced migration constitutes a major security threat and further support the evidence questioning the perception of forcibly displaced people as a burden to the local hosts.

2.3. Environmental Degradation and Resource Competition

Large-scale displacement is likely to increase population pressure on the often already fragile environment and accelerate natural resource depletion in host areas (Jacobsen 1997, Martin 2005, Berry 2008). The environmental impacts of displaced people indirectly affect sustainable development of the host community through deforestation, soil erosion and land degradation, unsustainable water extraction, and water pollution, which have both short-run and long-run effects (Akokpari 1998, Whitaker 2002, Martin 2005). The presence of refugees in Tanzania accelerated deforestation rates and depletion of soil nutrient availability for agricultural crops, causing additional soil erosion, thereby affecting the host's agricultural production and food security (Berry 2008).⁵ Competition for land between IDPs and the local hosts has resulted in a sharp decline in vegetation in Darfur (Alix-Garcia et al. 2013). Moreover, increased firewood depletion forces women to spend more time collecting firewood, negatively affecting child nutrition and women's

⁴In his insightful book, Prunier (2008) showed that refugees from a similar country may have very different security implications across borders. Beginning in April 1994, approximately 1.5 million Rwandese refugees hosted in eastern DRC differed significantly from their counterparts fleeing to western Tanzania. Practically all politicians and military men, also called the *génocidaires*, went to the DRC (former Zaire), where President Mobutu favored the fallen regime (Prunier 2008). The dynamics of mobilization and militarization enforced in the eastern Congolese camps through, for example, the control of food supply and the purchase of weapons were some of the roots of the subsequent conflict in DRC in 1997, known as the first Congolese war (Prunier 2008).

⁵Refugees used 65% more wood than the local average Tanzanian because most firewood would be sold as charcoal or used for building materials.

ability to care for their children (UNEP 2005). Similarly, excessive water extraction arising from refugee inflows reduces the amount of water available per capita in the host community and increases competition. Women are forced to spend more time obtaining water, and downstream communities have less water available for irrigation (Johnson & Libecap 1982). Environmental degradation is therefore blamed for driving imbalances in the intrahousehold allocation of tasks in refugee-hosting populations (Ruiz & Vargas-Silva 2018).

The environmental impact channels of forced migration on host communities are certainly plausible, but rigorous research on these impact channels in emergency settings is still lacking. Moreover, establishing causality in these relationships is difficult because environmental scarcity is argued to act as an indirect cause of conflict, and settlement patterns also influence the environmental impacts of refugees (Jacobsen 1997). Negative (exogenous) environmental impacts are thought to engender competition for resources, which may then cause conflict and displacement situations as people flee conflict, but this impact pathway has been contested in the literature (Gleditsch 1998, Homer-Dixon 1999, Schwartz et al. 2000). Hence, there might be misconceptions about the negative impacts of displaced people on the environment because it is difficult to determine the exact environmental impacts of displaced people, given the lack of an adequate counterfactual outcome (Kibreab 1997, UNEP 2005).

The main livelihood/occupation of the displaced relative to that of locals appears to determine the extent of resource competition and natural resource depletion that occurs in displacement situations (Black 1994). Hence, some have advocated for providing displaced people with alternative livelihood opportunities that are different from the main livelihoods that the local poor depend on. More importantly, the livelihood opportunities proposed are alternatives to those that involve deforestation and charcoal trading that are common in many refugee situations in Africa. Cooperative resource management solutions are believed to mitigate the impacts of refugees on the environment, thereby attenuating the risks of resource-related conflicts (Martin 2005) and improving successful integration (World Bank 2011). In that respect, the environmental support programs limiting the collection of firewood by refugees around the Dadaab camp in Kenya or providing alternative fuel sources have shown relative success in limiting environmental degradation and likely mitigating impacts on the host communities (Milner & Loescher 2004).

2.4. Local Production, Transport, and Trade

Contrary to common notion, the existing literature suggests that host communities may actually benefit from the presence of displaced people for several reasons. First, a large-scale arrival of forcibly displaced people may offer trade opportunities for the local community. The increase in the size of the local market provides greater market access and opportunities for farmers to sell their surplus (Whitaker 2002). For example, prior to the arrival of refugees, farmers in western Tanzania often had to rely on cross-border trade with neighboring Burundi and Rwanda due to difficulties in finding local markets (Whitaker 2002). As a result of the refugee presence, markets moved closer to the local Tanzanian farmers, who then benefited from better access to trade opportunities. Furthermore, the availability of land in the northwestern part of Tanzania facilitated the expansion of agricultural production. In this context, the nonfarm sector also benefited from increased demand from national and international humanitarian workers, although at the cost of driving petty businesses out of the market due to increased competition (Alix-Garcia et al. 2012, Maystadt & Verwimp 2014).⁶ In Kenya, pastoralists have also taken the opportunity to sell

⁶The new attractiveness of refugee-hosting areas seems to be accompanied by fiercer competition following the entry of larger-scale and more efficient entrepreneurs coming from other regions, like Mwanza, Shinyanga, or Kilimanjaro (Maystadt & Verwimp 2014).

livestock products to the refugee camps, a trade that is estimated to yield the host country US\$3 million per year (NORDECO 2010). Moreover, trade and employment opportunities have emerged around the Dadaab camps. Wholesalers inside refugee camps are reported to import commodities from Somalia with high unit values, such as sugar, powdered milk, pasta and fruit drinks, as well as upmarket consumer goods. Such market expansion is further confirmed quantitatively and qualitatively by Alix-Garcia et al. (2018) and Betts et al. (2017). In Rwanda, Taylor et al. (2016) find that aid to refugees created positive spillovers to businesses of the hosting populations. The authors also find that trade between the local economy and the rest of Rwanda expanded. The expansion of business and trade opportunities are reported in other contexts, resulting from IDPs in Colombia (Bozzoli et al. 2013) and Syrian refugee inflows in Turkey (Akgündüz et al. 2018, Altındag et al. 2018).

Another benefit is the improved market efficiency and trade dynamism due to road investments by international organizations (Jacobsen 2002). In the context of Northwest Tanzania, Maystadt & Durantón (2019) find that positive externalities may persist several years after the refugees have been repatriated, thanks to the long-term benefits of improved road infrastructure. In other contexts, refugee influxes are associated with increased pressure on infrastructure and public services in host countries, requiring additional public spending from often already financially strapped governments. Overall, the short-term impacts on hosting economies will depend on the ability of producers, notably in terms of input (land, labor, capital) to react to the upward shift in demand. Meanwhile, investments in roads—initially made to serve the refugee camps—may lead to long-term benefits in the hosting areas.

2.5. Prices

A massive arrival of forcibly displaced people is likely to change prices in hosting areas. However, the impact of the presence of refugees or IDPs and humanitarian workers is expected to be product and time dependent and to affect both the demand and supply of food and nonfood items. Increased demand often exerts an immediate upward pressure on non-aid prices (food and non-food) in hosting areas, leading to a general increase in the cost of living, while food aid partially offsets this upward pressure on prices (Werker 2007).⁷ In contrast, both food aid and the incentives to produce more of the preferred goods may have a second-order decreasing effect on prices.⁸ The equilibrium prices resulting from both demand and supply changes will vary across products and over time as factor allocations may take time to adjust to prices. Hence, the net effect on prices depends on the main food aid delivered, local preferences, reaction of local producers, the degree to which local markets are integrated, and the ability to import substitutes. Although markets are likely to correct the initial increase in food prices over time, distributional consequences of such price effects may persist.

In the case of Tanzania, Alix-Garcia & Saah (2010) show how refugee influx led to large price spikes on some agricultural products, mainly non-aid food goods (e.g., plantains, legumes, milk, and beans) and nonfood goods (e.g., housing). However, the increased supply of maize through

⁷The impact of food aid on local market prices is of course not specific to the refugee-hosting economy, although the evidence in other contexts is more mixed; see Margolies & Hoddinott (2015) for a review. Recent studies from Mexico and Ethiopia assessing the impact of food and cash transfer on local prices suggest that the impacts are trivially small for both modalities (Cunha et al. 2019, Hoddinott et al. 2018). However, in both contexts, the price effects become larger in more remote, poorly integrated, localities.

⁸A decrease in price may potentially result from within-camp production, but the price effect is likely to be marginal. At least in the case of Tanzania, refugee density makes the land allocation too small to have any potentially large effect on total food supply and prices.

the food aid delivered by the World Food Programme (WFP) mitigated the increase in price, causing the net effect for maize to be close to zero. Interestingly, the higher non-aid prices could potentially induce producers to expand production (especially for bananas). Due to limited data availability, the long-term consequences of such general equilibrium effects remain unknown. An exception is the study by Maystadt & Duranton (2019) that shows how areas close to refugee camps actually had lower price levels 15 years later than areas that were farther away from the camps. According to the authors, the main channel was linked to better road infrastructure (built because of the camps) that reduced transportation costs.

In another context, similar price dynamics are found by Alix-Garcia et al. (2012) in Darfur. Although the authors were cautious in giving causal interpretation to price trends, they did observe strong correlations between the inflows of IDPs in 2004 and changes in food prices. For the preferred food items (sorghum and millet), average annually measured prices sharply increased but were potentially compensated afterward by imported food aid. However, the exogenous increase in supply of the bulk product of food aid (wheat) was not compensated by any significant increase in demand because it is not the preferred grain in Darfur. Such analysis underlines the importance of taking into account local preferences when predicting price effects in the short and long run. Alix-Garcia et al. (2012) also reported a large increase in the rental markets and urban sprawl along the main city (Nyala) close to IDP camps, having clear distributional consequences depending on the initial housing ownership. Finally, anecdotal evidence from Kenya suggests similar price reactions. According to NORDECO (2010), the price of basic commodities such as maize, rice, wheat, sugar, and cooking oil was at least 20% lower in refugee camps than in towns without the camps in arid and semiarid parts of Kenya due to food aid and illegal imports from Somalia. Alix-Garcia et al. (2018) point to these price effects in the surroundings of the Kakuma camp in Kenya to explain possible redistributive effects, as households that tend to be net sellers of livestock benefit from the increase in price of (and demand for) livestock. In summary, the case studies from Tanzania, Kenya, and Uganda point to the importance of price reactions to the inflows of displaced people. However, the general equilibrium and long-term effects would again depend on the extent of food aid inflows and the ability of households to adjust their production and consumption decisions to changes in prices.

Finally, price effects have also been documented in middle-income countries. In Turkey, Balkan & Tumen (2016) and Tumen (2016) show how consumer prices decreased in the regions hosting Syrian refugees. This price decline is mainly explained by the supply side through lower reservation wages among refugees and the resulting lower labor costs in labor-intensive sectors. As the authors note, we should be careful in generalizing these findings to low-income country settings because markets are often less integrated in poor countries. As a result, the supply side is typically slow to react to the increase in demand in the short term. These findings are in contrast to those of Depetris-Chauvin & Santos (2018), who study the impact of IDPs on rental prices in Colombia. They show that IDP inflows increased the demand for low-income housing, thereby increasing rental prices. This is likely to have notable distributional consequences, where property owners benefit and renters lose out.

2.6. Labor Markets

The presence of forced migrants typically shapes labor markets in hosting areas. Displaced people constitute a large supply of mainly low-skilled labor, creating opportunities that benefit both local farmers and entrepreneurs. Qualitative evidence from Tanzania suggests that the abundance of refugee labor enabled farmers to expand and increase production (Whitaker 2002). The evidence from the Karagwe district of Tanzania suggests that, on average, farmers doubled their production

of bananas and beans between 1993 and 1996 (Whitaker 2002). Similarly, in Guinea, Liberian refugee labor gave a boost to rice production by facilitating an expansion of cultivation to the lower swamp areas (Van Damme 1995).

However, a large influx of forced migrants may lead to increased competition for low-skilled jobs in the hosting areas. Based on data from more than 2,700 households followed over time between 1991 and 2004, Maystadt & Verwimp (2014) show that the agricultural workers in the region of Kagera in Tanzania were the most vulnerable to increased labor market competition, while farmers were more likely to benefit through increased demand for their products and cheaper labor. Household consumption per adult equivalent increased by approximately 8% in real terms following the doubling of refugees in Kagera. However, those initially working as agricultural workers or self-employed in nonagricultural activities benefited less.⁹ Ruiz & Vargas-Silva (2013b, 2016) document similar distributional effects in Tanzania. The study by Kreibaum (2016) suggests that economic gains varied among the host communities in Uganda, with benefits specifically concentrated among those owning businesses or properties, compared to those relying on wage income. Comparing urban households in Darfur that saw massive inflows of IDPs in their neighborhoods with similar households in Kordofan with no IDPs, Alix-Garcia & Bartlett (2015) document how IDPs led to changes in occupational structures over a ten-year period. Darfurians, especially women, abandoned agricultural activities in favor of the service sector.

In Kenya, the impact assessment led by NORDECO (2010) did not detect similar substitution effects between refugees and unskilled labor in the host areas, possibly because the local wages appeared to be considerably higher in Dadaab than in other comparable parts of Kenya. This situation can be linked to the importance of pastoralism in these areas, serving as a complementary activity to diversify the sources of livelihood. Around the Dadaab refugee complex, low-middle-income groups and the poor are primarily engaged in selling their products to refugee camps (NORDECO 2010). The locals may also benefit from increased employment opportunities in the international relief organizations (Whitaker 2002, Landau 2004). Interestingly, Alix-Garcia et al. (2018) confirm that the increased availability of new employment (together with the price changes reported in the previous section) is driving the boost in economic activities and increased consumption in areas close to the Kakuma camp. Again, the dominance of pastoralist livelihoods in the Turkana region seems to limit the possible labor market competition (labor substitutability) between refugees and their hosts.

In the middle-income country contexts of Jordan and Turkey, Fakhri & Ibrahim (2016), Certigolu et al. (2017), Tumen (2016), and Del Carpio & Wagner (2015) find a null or limited impact of Syrian refugees on formal native employment. Exploiting newly released panel data, recent findings for Jordan confirm the marginal effect on Jordanians' employment, working hours, and wages (Fellah et al. 2018), but a negative impact on existing economic migrants (Malaeb & Wahba 2018). Economic migrants were more likely to work in the informal sector, work fewer hours, and received lower wages as a result of the Syrian refugee influx. Such a distributional effect is explained by the higher degree of substitution of economic migrants with Syrian refugees. The analyses on Turkey are in line with a negative impact on informal employment (Del Carpio & Wagner 2015, Tumen 2016, Certigolu et al. 2017).¹⁰ In the case of large flows of IDPs in

⁹Maystadt & Verwimp (2014) argue that these results can be causally interpreted as lower-bound estimates because (a) there was little maneuvering room to move large and unanticipated flows of refugees very far away from the border, (b) refugee camps were systematically located in the worst places (in terms of initial welfare), (c) results could not be explained by a trend existing before the refugees arrived, and (d) native displacements and attrition rates were actually lower in refugee-hosting areas compared with other areas.

¹⁰Del Carpio & Wagner (2015) differ from other studies in the wage effects. By documenting the occupational upgrading of Turkish workers, the creation of higher-wage formal jobs and the resulting change in the

Colombia, Calderón-Mejía & Ibáñez (2016) find a disproportionate burden on low-skilled and informal workers on real hourly wages. Morales (2017) confirms that informal markets were likely to absorb the large majority of the IDPs with detrimental impact on average wages, in particular for low-skilled women. However, he indicates that such detrimental effects tend to dissipate or disappear in the long run, through the promotion of out-migration from IDP-hosting municipalities in Colombia.

The labor market impacts typically differ between IDP and refugee settings. This is mainly due to the absence or limited role of the humanitarian sector in the IDP settings. In refugee-hosting countries, skilled workers from the public sector may leave their positions to work for relief agencies due to higher salaries offered by these organizations (Whitaker 2002). In Tanzania, the employment opportunities generated by national and international organizations around refugee camps are reported to have attracted (relatively skilled) migrants from other regions of Tanzania (Landau 2004). This migration may result in long-term benefits for the hosting economies through the accumulation of human capital and agglomeration economies (see Maystadt & Duranton 2019), but it may come at a cost to the neighboring regions. Büscher & Vlassenroot (2010) provide qualitative evidence of this employment boost in the context of the eastern part of the DRC. The authors illustrated how the humanitarian presence has transformed the city of Goma in North Kivu by providing labor opportunities not only in the humanitarian sector but also in the service sector (e.g., tourism, restaurants, shops, hotels, private security).

In summary, the economic impacts of large-scale influxes of forced migrants on host communities are both important and complex. In the previous sections, we have discussed an emerging body of literature that attempts to quantify these impacts on host communities. So far, the findings are highly context specific, but several preliminary lessons can be drawn. We also identify some important research questions for building resilience against population shocks in host communities.

First, the current emphasis on health and violence in displacement situations is clearly too limited. The literature review points to the multiple direct and indirect impact pathways that need to be considered. For example, the role of labor and commodity markets as adaptation mechanisms is often critical in refugee settings, because these markets can provide vehicles for positive impacts on economic development as well as negative impacts for certain subgroups of the host community. The positive impacts of these market-based mechanisms depend on the ability of local producers to respond to increased demand (in particular for food), the ability of traders to engage in trade (of both food and nonfood that are not produced locally), and the potential for transferring technical skills between migrant and host-community labor. These factors depend on preexisting conditions such as infrastructure, labor skill levels, land availability, and agricultural potential, but also on policies toward the displaced (e.g., refugee work regulation, refugees' access to land, restrictions on trade and refugee mobility). Therefore, it is critical to evaluate a broad spectrum of policies and investments that have the potential to strengthen the ability of host households and displaced people to adapt to the dynamics of population flows through goods and labor market mechanisms, even if such policies and investments may take time to be implemented. We return to these policy options in the next section.

Second, environmental degradation should be taken seriously as one potential impact pathway of forced migrants' impact on the host community, both in the short and long run. Resilience of host communities may be strengthened by enhancing environmental resilience through various policies and programs such as the careful selection of camp locations and settlement structure (based on environmental research evidence) as well as implementation of environmental programs

composition of the workforce led to a higher average wage in Turkey. This result is consistent with the creation and expansion of businesses reported in Turkey (Akgunduz et al. 2018, Altindag et al. 2018).

designed to mitigate the negative environmental impacts (e.g., reforestation and soil conservation interventions). The long-term nature of these adaptation mechanisms and policies highlights the need for longitudinal studies in these settings.

Third, as Chambers (1986) seminaly argued, the inflows of displaced people are likely to have profound distributional impacts. Overall, the impacts on local households depend on a number of factors (such as age, gender, class, and occupation), but these factors are also likely to determine the distribution of (positive and negative) impacts among the host population. For instance, the immediate effects of a food price increase are twofold. As net consumers of food absorb a negative income effect from higher prices, surplus-producing farmers benefit from an increased demand for their agricultural products in local markets. The different context (rural versus urban settings), the importance of the informal sector, and the importance of land availability to increase agricultural production and productivity may constitute an important driver of such redistributive effects. Poorer households in the host community are likely to benefit from increased public goods (such as health infrastructure) and services, yet they may fare less favorably in terms of market-based economic opportunities that arise from the inflow of refugees. Those households who initially have access to some physical (e.g., land, housing, livestock), human (education), and social (community ties, leadership) capital are in a better position to reap most of the economic benefits while minimizing the costs associated with an influx of refugees in their community. The likely result is that better-off households enter more rewarding economic activities (e.g., new businesses or work in the humanitarian sector) or profitably expand existing activities (e.g., agricultural production), while the worse-off are possibly trapped in poverty (e.g., informal, landless agricultural laborers competing with cheap refugee labor). Therefore, expanding or initiating safety-net policies into hosting areas could be an option to minimize the negative impacts. However, to this end, rigorous evidence on the effectiveness of such programs remains limited. We discuss this and other knowledge gaps in the concluding section.

Finally, there is a need to recognize the interdependencies between forced migrants and their hosts, including the period for some years after the forced migrants have left the area. Households and local communities may need some time to adjust to the population shock—both to the sudden influx at the beginning and the departure at the end. In the short run, environmental degradation and disease propagation are major risks that need to be controlled for to support adaptation mechanisms. Moreover, the risk of violence and crime cannot be understated. However, in the long run, humanitarian assistance has a great potential to pave the way for development efforts. In particular, the host community may reap long-term benefits from improved road infrastructure and social networks formed during the refugee or IDP situation. Discussing policy options to transition from humanitarian assistance to development support is another focus of the next section.

3. POLICY OPTIONS AND ADAPTATION MECHANISMS

Our literature review points to multiple direct and indirect impact pathways of how displaced people interact with their host populations. In particular, the role of labor and goods markets, as adaptation mechanisms, is critical. This is because these markets can provide vehicles for positive impacts on economic development. Yet, policy has an important role to play in order to minimize the negative impacts on certain subgroups in the host communities. In this penultimate section, we consider policies that the host country and the international community can take.

3.1. Host Country Policies

Ethiopia, Rwanda, and Uganda have recently initiated so-called refugee self-reliance policies that permit refugees to farm, work, or engage in entrepreneurial and industrial activities, often in

special economic zones. The available evidence suggests that these policies have a positive impact on the economic and food security situation in the hosting areas (Taylor et al. 2016, Alloush et al. 2017). In Rwanda, refugees were allowed to interact with the host-country population, even though Rwandan nationals were not permitted to enter refugee camps. In addition, refugees who received cash transfers appeared to generate more economic benefits than those who were given food assistance (Taylor et al. 2016). This policy appears to have facilitated positive economic outcomes from refugees' participation in labor and goods markets. In the case of Ethiopia, anecdotal evidence suggests that Eritrean refugees residing in the Adi Harush camp benefited from loan and vocational training programs administered within the confines of the camp (Mallett et al. 2018). However, beneficiaries who invested in microenterprises soon encountered market saturation challenges, as they were not permitted to expand and sell outside the camp (Mallett et al. 2018, Zetter & Ruaudel 2018).

In Uganda, Congolese refugees were found to benefit from agri-entrepreneurial activities, which were permitted under the Refugee Act, although they were often required to pay fees for a work permit in the capital city of Kampala (Betts et al. 2017). Also in Uganda, those refugees confined to the Rwamwanja emergency camp lived under tighter restrictions imposed on their movements, and the district government imposed an entry tax on any Ugandan wishing to engage in economic transactions with the camp residents. In this latter case, positive economic impacts were not realized for the refugees, nor for the host community. This emerging evidence stresses the crucial role of policy in enabling refugees to harness the labor and goods markets and generate economy-wide benefits in the host population. Although some countries, such as Ethiopia and Jordan,¹¹ have already started creating special economic zones for refugees to work and be productive, it remains to be seen how effective they are relative to simply allowing the refugees to engage in the regular economy. Anecdotal evidence in Jordan suggests that these initiatives have not (yet) delivered their developmental promise given the low uptake of work permits by Syrian refugees (Amjad et al. 2017). Understanding the barriers to labor market integration for displaced people and low uptake of work permits in Jordan and other settings is needed to generate policy-relevant evidence on the impacts of special economic zones for forced migrants.

3.2. External Assistance

Humanitarian aid constitutes a wide variety of policy instruments that have been used in displacement settings, especially in the short run. The timing, source, and type of aid as well as where and to whom it is targeted have considerable implications for the resilience of the host community (Barrett & Maxwell 2005, Tschirley & Del Castillo 2008, Lentz et al. 2013). Of all the different types of humanitarian aid, food aid has been under considerable scrutiny and analysis. In general, food aid improves food availability and can mitigate sharp increases in prices of aid-related food items in the short run (Del Ninno et al. 2007, Kirwan & McMillan 2007). However, depending on whether it is directed only to refugee camps or displaced in other settings or to nearby households in the host community, it will have varying distributional impacts. Often the poorer households of the host population are disfavored if the supply is not sufficient to prevent local food price hikes, and in these circumstances, the aid likely erodes their capacity to build resilience and long-term food security (Chambers 1986).

In most cases, food aid is delivered (or targeted) to refugee camps and excludes the poor in the host communities. Often, refugees will trade some of the food aid they receive with the host

¹¹Jordan, in partnership with the European Union and the World Bank, is investing approximately US\$1.7 billion in special economic zones for refugees, as part of the Jordan Compact, which is designed to attract the private sector and employ Syrian refugees.

communities to obtain cash for purchasing other goods and services. This trade typically involves wealthier groups in the host communities, a practice that also has distributional implications in the host community. This mechanism has led to the notion that it may be more efficient and equitable to provide cash transfers or vouchers (conditional or unconditional) to both displaced migrants and poor households in the host communities, especially if food and other goods can be purchased at affordable prices from the local markets (Jaspars et al. 2007, Bailey et al. 2008, UNRWA 2011, GHA 2012, UNHCR 2012a). A major risk is that cash-based interventions may have a stronger impact on nonbeneficiaries and potentially lead to localized food inflation if food markets are not well integrated (Basu 1996, Hoddinott et al. 2018, Cunha et al. 2019).

Another risk in the humanitarian context is related to the fungible nature of cash-based interventions, which may be diverted with less difficulty than food aid by armed groups in conflict-prone areas. Vouchers may constitute an interesting alternative in more fragile environments. UNHCR (2012a) has already experienced cash-based interventions in a wide range of countries, targeted to refugees with a particular focus on returnees (e.g., in Chad, DRC, Jordan, Kenya, Pakistan, and Tanzania), IDPs (in Darfur and Somalia), and in limited cases, the host population (e.g., in Lebanon). However, little is known about the relative efficiency of the interventions, which would require making the different modalities fully comparable in terms of program design, magnitude of transfers, and frequency of transfers (Hidrobo et al. 2014), while scaling up such interventions to the local hosts imposes an additional challenge of targeting the most in need among the host population. The randomized evaluation by Hidrobo et al. (2014) in Ecuador provides an interesting benchmark for future studies on the subject. The authors found that the quantity and quality of food consumed improved under all modalities (cash, food, or vouchers), but food transfers led to larger increases in calories consumed, while vouchers did much more to improve dietary diversity among both Colombian refugees and Ecuadorian hosts. Lehmann & Masterson (2018) also show that cash transfers to Syrian refugees in Lebanon may mitigate hostility against refugees, through either direct transfers to the local hosts or indirect transfer arising from increased demand for goods and services sold by host individuals. However, these studies are too limited in scope to be able to draw general conclusions on the subject. The same authors (Masterson & Lehmann 2018) also find that cash transfers are unlikely to ease political mobilization among the recipients.

Whether food aid is procured locally, regionally, or from overseas is another aspect of food aid that has to be considered in terms of its implications for the host community. If food aid is imported from overseas and is not procured from local markets, it may reduce the incentives for farm production in the long run, thereby limiting the ability of the host community to transition from humanitarian aid to development. This effect of overseas imported food aid is reinforced in displacement settings because food production is often hampered by conflict and lack of security and by the lack of production capacity and price incentives, once the security conditions improve. Therefore, provision of food aid sourced from overseas may have less of an adverse effect in the short run, up to the point where conflict has abated. It may thus be advisable to phase out procurement of food aid from overseas and build capacity for agricultural production and marketing in the host community as security conditions improve, contingent on monitoring and evaluation of local markets, food production, and consumption requirements.

3.3. Long-Run Development Implications

In the long run, there is a need to recognize the interdependencies between forced migrants and their hosts, including the period for some years after the displaced persons have left the host areas. In particular, development efforts may have an opportunity to capitalize on investments such as improved road infrastructure and social networks formed during the refugee situation, for

example, by fostering trade that takes place via the improved roads or is based on the social networks formed between the repatriated refugees and host communities. Traditionally, though, the international community, under the leadership of the UNHCR, has relied on three main solutions to address protracted refugee situations: voluntary repatriation, local integration, and resettlement.¹² These programs assume that integrated interventions in host communities are effective at addressing the challenges of protracted refugee situations. However, there is limited formal evaluation of the long-term impacts of these approaches. The assertion that dispersed settlements offer a superior solution in the long run lacks empirical evidence. For instance, Ginn (2018) recently questions that assertion by showing that camps offer considerable advantages in terms of coordination and accommodation costs. At the very least, more research is needed to be more conclusive on the subject. Building the evidence base on effective strategies to enhance resilience in host communities should be central in moving the research agenda forward. The current limited research means that policy decisions are often made without a good idea of their consequences. Therefore, a more open and collaborative framework is needed that includes policy makers, development practitioners, and researchers to generate the necessary evidence base for enhancing resilience in host communities.

4. CONCLUSION: MOVING THE RESEARCH AGENDA FORWARD

An emerging literature assesses the impacts of forcibly displaced people on host communities, in particular, through the goods and labor markets, as well as through health channels. However, our understanding of the economic impacts of forced migrants on host communities is in its infancy and requires pushing the research agenda forward into several directions.

First, most analyses have focused on one particular sector or impact channel. However, a more comprehensive view is needed. The issue is complex given the multiple and indirect channels through which forced migrants can affect host communities. The impacts may also change over time and space and have heterogeneous distributional consequences, likely affecting the poorer and disadvantaged negatively compared to wealthier groups. The complexity of the impacts calls for more complementary and integrative research approaches that use innovative qualitative and quantitative research methods.

Second, this review has shed light on the paucity of evidence on the three main solutions to protracted refugee situations that UNHCR has traditionally used in most of its activities. Weighing the costs and benefits of each policy option requires a better understanding of the general impacts on the host population, the forced migrants, and their places of origin. In particular, there is a need to pay more attention to the consequences of repatriation and integration of forced migrants on local communities, which seem to have strong linkages with the economic outcomes of the host community. In addition, these options have often been implemented with limited consideration of the long-term implications for the host communities. For instance, we know little about the relative efficiency of different interventions, such as conditional or unconditional cash, vouchers, food transfers, or a combination thereof, in protracted refugee situations. Similarly, the impacts of infrastructure investments that take place in refugee situations and their implications in the long run need to be understood to inform approaches for linking humanitarian aid and economic development efforts.

¹²Another type of intervention is the provision of economic and educational activities within forced-migrant settings, which has been implemented by nongovernmental organizations and mainline refugee agencies such as the United Nations Relief and Works Agency and the International Organization for Migration. These interventions allow refugees to maintain a basic livelihood as well as obtain livelihood skills that they can use later, upon eventual repatriation.

Third, due to data availability, many quantitative studies have focused on assessing the impact of refugee camps on the host population. Studies contrasting the differential impact that could be hypothesized between refugees and IDPs and studies of other refugee accommodation types (e.g., camps versus self-settlement approaches) are urgently needed, as the lessons drawn from refugee situations may not be directly exportable to other types of settings.

Fourth, the literature appears to be divided between assessing impacts on displaced people and impacts on the local hosts. Our literature review indicates that the nature of interactions between forced migrants and hosts largely determines outcomes conditioned on the type of interventions (such as food versus cash, education, employment). For example, targeting one group may have indirect welfare implications for the other, and understanding this interaction is an important area of research. A better understanding of the social interaction and perceptions between displaced people and local hosts, and of the disparities between the two groups, could help in the attempt to employ local integration as a viable policy option. For example, the level of trust or social cohesion versus tension has reportedly been affected by structural changes in the local economy induced by inflows of forced migrants and associated humanitarian interventions and government policies. Understanding how social constructs such as mistrust or tensions may change due to the advent of forced migrants and associated policies or interventions can be integral in enhancing resilience to conflict in the local communities and hence economic development.

Finally, a more practical knowledge gap is to know how to align the incentives of policy makers, practitioners, and researchers. The urgent nature of the humanitarian activities often conflicts with time and control requirements that characterize high-quality research. Preparation of fast-track research in close collaboration with implementing partners (such as WFP and UNHCR) would be programmatically favorable but may not yield the needed rigor for empirical evidence generation. Thus, greater collaboration between researchers and practitioners is needed. An obvious precondition for this to materialize is the creation of strong institutional partnerships. This cooperation is paramount to close the existing knowledge gaps for enhancing resilience and economic development in contexts of forced migration in poor countries.

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LITERATURE CITED

ACTED (Agency Tech. Coop. Dev.). 2013. *Food security situation and livelihood intervention opportunities for Syrian refugees and host communities in North Jordan*. Assess. Rep., ACTED, Paris. https://reliefweb.int/sites/reliefweb.int/files/resources/acted_-_food_security_and_livelihoods_assessment_-_northern_jordan_august_2013.pdf

- Akgündüz YE, van den Berg M, Hassink W. 2018. The impact of the Syrian refugee crisis on firm entry and performance in Turkey. *World Bank Econ. Rev.* 32(1):19–40
- Akokpari JK. 1998. The state, refugees and migration in Sub-Saharan Africa. *Int. Migr.* 36(2):211–34
- Alix-Garcia J, Bartlett A. 2015. Occupations under fire: the labor market in a complex emergency. *Oxf. Econ. Pap.* 67(3):687–714
- Alix-Garcia J, Bartlett A, Saah D. 2012. Displaced populations, humanitarian assistance and hosts: a framework for analyzing impacts on semi-urban households. *World Dev.* 40(2):373–86
- Alix-Garcia J, Bartlett A, Saah D. 2013. The landscape of conflict: IDPs, aid and land-use change in Darfur. *J. Econ. Geogr.* 13(4):589–617
- Alix-Garcia J, Saah D. 2010. The effect of refugee inflows on host communities: evidence from Tanzania. *World Bank Econ. Rev.* 24(1):148–70
- Alix-Garcia J, Walker J, Barlett A, Onder H, Sanghi A. 2018. Do refugee camps help or hurt hosts? The case of Kakuma, Kenya. *J. Dev. Econ.* 130:66–83
- Alloush M, Taylor JE, Gupta A, Rojas Valdes RI, Gonzalez-Estrada E. 2017. Economic life in refugee camps. *World Dev.* 95:334–47
- Altindag O, Bakis O, Rozo S. 2018. *Blessing or burden? The impact of refugees on businesses and the informal economy.* Work. Pap., Bentley Univ., Boston. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3188406
- Amjad R, Aslan J, Borgnas E, Chandran D, Clark E, et al. 2017. *Examining barriers to workforce inclusion of Syrian refugees in Jordan.* Discuss. Pap. 25., Int. Lab. Off., Geneva. <https://betterwork.org/blog/portfolio/discussion-paper-25-examining-barriers-to-workforce-inclusion-of-syrian-refugees-in-jordan/>
- Baez JE. 2011. Civil wars beyond their borders: the human capital and health consequences of hosting refugees. *J. Dev. Econ.* 96(2):391–408
- Bailey S, Savage K, O'Callaghan S. 2008. *Cash transfers in emergencies: a synthesis of World Vision's experience and learning.* Rep., World Vis. Int., Middlesex, UK. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/4813.pdf>
- Balkan B, Tumen S. 2016. Immigration and prices: quasi-experimental evidence from Syrian refugees in Turkey. *J. Popul. Econ.* 29:657–86
- Ballentine K, Sherman J. 2003. *The Political Economy of Armed Conflict: Beyond Greed and Grievance.* Boulder, CO: Lynne Rienner Publ.
- Barreca AI, Fishback PV, Kantor S. 2012. Agricultural policy, migration, and malaria in the United States in the 1930s. *Explor. Econ. Hist.* 49(4):381–98
- Barrett CB, Maxwell D. 2005. *Food Aid After Fifty Years: Recasting Its Role.* New York: Routledge
- Basu K. 1996. Relief programs: when it may be better to give food instead of cash. *World Dev.* 24(1):91–96
- Becker SO, Ferrara A. 2019. Consequences of forced migration: a survey of recent findings. *Labour Econ.* <https://doi.org/10.1016/j.labeco.2019.02.007>
- Beegle K. 2005. Labor effects of adult mortality in Tanzanian households. *Econ. Dev. Cult. Change* 53(3):655–83
- Berry L. 2008. The impacts of environmental degradation on refugee-host relationships. *Afr. Secur. Stud.* 17(3):125–31
- Betts A, Omata N, Bloom L. 2017. Thrive or survive? Explaining variation in economic outcomes for refugees. *J. Migr. Hum. Secur.* 5(4):716–43
- Black R. 1994. Forced migration and environmental change: the impact of refugees on host communities. *J. Environ. Manag.* 42:261–77
- Black R. 2001. *Environmental Refugees: Myth or Reality?* Geneva: UN High Comm. Refug.
- Bohnet H, Cottier F, Hug S. 2018. Conflict-induced IDPs and the spread of conflict. *J. Conflict Resolut.* 62(4):691–716
- Bosker M, Garretsen H. 2009. Economic development and the geography of institutions. *J. Econ. Geogr.* 9(3):295–328
- Bozzoli C, Bruck T, Wald N. 2013. Self-employment and conflict in Colombia. *J. Conflict Resolut.* 57(1):117–42
- Buhaug H, Gates S, Lujala P. 2009. Geography, rebel capability, and the duration of civil conflict. *J. Conflict Resolut.* 53(4):544–69
- Büscher K, Vlassenroot K. 2010. Humanitarian presence and urban development: new opportunities and contrasts in Goma, DRC. *Disasters* 34(S2):S256–73

- Calderón-Mejía V, Ibáñez M. 2016. Labour market effects of migration-related supply shocks: evidence from internal refugees in Colombia. *J. Econ. Geogr.* 16(3):695–713
- Certigolu E, Yunculer HBG, Torun H, Tumen S. 2017. The impact of Syrian refugees on natives' labour market outcomes in Turkey: evidence from a quasi-experimental design. *IZA J. Labor Policy* 6(5):1–28
- Chambers R. 1986. Hidden losers? The impact of rural refugees and refugee programs on poorer hosts. *Int. Migr. Rev.* 20(2):245–63
- Collier P, Hoeffler A. 2004. Greed and grievance in civil war. *Oxf. Econ. Pap.* 56(4):563–95
- Coly AN, Milet J, Diallo A, Ndiaye T, Benefice E, et al. 2006. Preschool stunting, adolescent migration, catch-up growth, and adult height in young Senegalese men and women of rural origin. *J. Nutr.* 136(9):2412–20
- Craig MH, Snow RW, Le Sueur D. 1999. A climate-based distribution model of malaria transmission in Sub-Saharan Africa. *Parasitol. Today* 15(3):105–11
- Cunha JM, De Giorgi G, Jayachandran S. 2019. The price effects of cash versus in-kind transfers. *Rev. Econ. Stud.* 86(1):240–81
- Del Carpio X, Wagner M. 2015. *The impact of Syrian refugees on the Turkish labor market*. Policy Res. Work. Pap. 7402, World Bank, Washington DC. <http://documents.worldbank.org/curated/en/505471468194980180/The-impact-of-Syrians-refugees-on-the-Turkish-labor-market>
- Del Ninno C, Dorosh PA, Subbarao K. 2007. Food aid, domestic policy and food security: contrasting experiences from South Asia and Sub-Saharan Africa. *Food Policy* 32(4):413–435
- Depetris-Chauvin E, Santos RJ. 2018. Unexpected guests: the impact of internal displacement inflows on rental prices in Colombian host cities. *J. Dev. Econ.* 134:289–309
- De Waal A. 1997. *Famine Crimes: Politics and the Disaster Relief Industry in Africa*. Bloomington: Indiana Univ. Press
- Fakih A, Ibrahim M. 2016. The impact of Syrian refugees on the labor market in neighboring countries: empirical evidence from Jordan. *Defense Peace Econ.* 27(1):64–86
- FAO (Food Agric. Assoc.). 2013. *Crop prospects and food situation*. Rep., Food Agric. Assoc., Rome. <http://www.fao.org/docrep/018/aq114e/aq114e.pdf>
- Fasani F, ed. 2016. *Refugees and Economic Migrants: Facts, Policies, and Challenges*. London: VoxEU. <https://voxeu.org/content/refugees-and-economic-migrants-facts-policies-and-challenges>
- Fearon JD, Laitin DD. 2003. Ethnicity, insurgency, and civil war. *Am. Political Sci. Rev.* 97(1):75–90
- Fearon JD, Laitin DD. 2011. Sons of the soil, migrants, and civil war. *World Dev.* 39(2):199–211
- Fellah B, Krafft C, Wahba J. 2018. *The impact of refugees on employment and wages in Jordan*. Work. Pap. 1189, Econ. Res. Forum, Giza, Egypt. <http://erf.org.eg/publications/the-impact-of-refugees-on-employment-and-wages-in-jordan/>
- Fisk K. 2014. Refugee geography and the diffusion of armed conflict in Africa. *Civil Wars* 16(3):255–75
- Gallup JL, Sachs JD. 2001. The economic burden of malaria. *Am. J. Trop. Med. Hyg.* 64(Suppl. 1–2):85–96
- GHA (Global Humanit. Assist.). 2012. *Tracking spending on cash transfer programming in a humanitarian context*. Brief., March, GHA, Bristol, UK. <http://www.globalhumanitarianassistance.org/wp-content/uploads/2012/03/cash-transfer-financing-final.pdf>
- Ginn T. 2018. *Prison or sanctuary? An evaluation of camps for Syrian refugees*. Work. Pap., Stanford Univ.
- Gleditsch NP. 1998. Armed conflict and the environment: a critique of the literature. *J. Peace Res.* 35(3):381–400
- Goyens P, Porignon D, Soron'gane EM, Tonglet R. 1996. Humanitarian aid and health services in Eastern Kivu, Zaïre: Collaboration or competition? *J. Refug. Stud.* 9(3):268–80
- Hidrobo M, Hoddinott J, Peterman A, Margolies A, Moreira V. 2014. Cash, food, or vouchers? Evidence from a randomized experiment in Northern Ecuador. *J. Dev. Econ.* 107:144–56
- Hirvonen K. 2014. Measuring catch-up growth in malnourished populations. *Ann. Hum. Biol.* 41(1):67–75
- Hoddinott J, Stifel D, Hirvonen K, Minten B. 2018. *The impact of large-scale social protection interventions on grain prices in poor countries: evidence from Ethiopia*. IFPRI-ESSP Work. Pap. 116, Int. Food Policy Res. Inst., Washington, DC. <http://ebrary.ifpri.org/utis/getfile/collection/p15738coll2/id/132348/filename/132559.pdf>
- Homer-Dixon TF. 1999. *Environment, Scarcity, and Violence*. Princeton, NJ: Princeton Univ. Press

- Hsiang SM, Burke M, Miguel E. 2013. Quantifying the influence of climate on human conflict. *Science* 341(6151):1235-367
- Jacobsen K. 1997. Refugees' environmental impact: the effect of patterns of settlement. *J. Refug. Stud.* 10(1):19-36
- Jacobsen K. 2000. A framework for exploring the political and security context of refugee populated areas. *Refugee Surv. Q.* 19(1):3-22
- Jacobsen K. 2002. Can refugees benefit the state? Refugee resources and African statebuilding. *J. Mod. Afr. Stud.* 40(4):577-96
- Jaspars S, Harvey P, Hudspeth C, Rumble L. 2007. *A review of UNICEF's role in cash transfers to emergency-affected populations.* Work. Pap., Off. Emerg. Prog., UNICEF, New York. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8219.pdf>
- Johnson RN, Libecap GD. 1982. Contracting problems and regulation: the case of the fishery. *Am. Econ. Rev.* 72(5):1005-22
- Kalipeni E, Oppong J. 1998. The refugee crisis in Africa and implications for health and disease: a political ecology approach. *Soc. Sci. Med.* 46(12):1637-53
- Kazmi JH, Pandit K. 2001. Disease and dislocation: the impact of refugee movements on the geography of malaria in NWFP, Pakistan. *Soc. Sci. Med.* 52(7):1043-55
- Keen D. 2008. *Complex Emergencies.* Cambridge, UK: Polity Press
- Kibreab G. 1997. Environmental causes and impact of refugee movements: a critique of the current debate. *Disasters* 21(1):20-38
- Kirwan BE, McMillan M. 2007. Food aid and poverty. *Am. J. Agric. Econ.* 89(5):1152-60
- Kreibbaum M. 2016. Their suffering, our burden? How Congolese refugees affect the Ugandan population. *World Dev.* 78:262-87
- Landau LB. 2004. Challenge without transformation: refugees, aid and trade in western Tanzania. *J. Mod. Afr. Stud.* 42(1):31-59
- Lawrie N, Van Damme W. 2003. The importance of refugee-host relations: Guinea 1990-2003. *Lancet* 362(9383):P575
- Lehmann MC, Masterson DTR. 2018. *Do cash transfers reduce anti-refugee violence? Evidence from Syrian refugees in Lebanon.* Work. Pap., Univ. Brasilia
- Lentz EC, Passarelli S, Barrett CB. 2013. The timeliness and cost-effectiveness of the local and regional procurement of food aid. *World Dev.* 49:9-18
- Mabiso A, Maystadt J-F, Vandecasteele J, Hirvonen K. 2014. Resilience for food security in refugee-hosting communities. In *Resilience for Food and Nutrition Security*, ed. S Fan, R Pandya-Lorch, S Yosef, pp. 45-52. Washington, DC: IFPRI
- Malaeb B, Wahba J. 2018. *Impact of refugees on immigrants' labor market outcomes.* Work. Pap. 1194, Econ. Res. Forum, Giza, Egypt. http://erf.org.eg/wp-content/uploads/2018/05/1194_Final1.pdf
- Mallett R, Hagen-Zanker J, Cummings C, Majidi N. 2018. Livelihoods programming and its influence on secondary migration. *Forced Migr. Rev.* 58(June):51-53
- Marchiori L, Maystadt J-F, Schumacher I. 2012. The impact of weather anomalies on migration in sub-Saharan Africa. *J. Environ. Econ. Manag.* 63(3):355-74
- Margolies A, Hoddinott J. 2015. Costing alternative transfer modalities. *J. Dev. Effect.* 7(1):1-16
- Martin A. 2005. Environmental conflict between refugee and host communities. *J. Peace Res.* 42(3):329-46
- Masterson D, Lehmann C. 2018. *Humanitarian aid and civil war: quasi-experimental evidence that aid to Syrian refugees in Lebanon did not impact insurgent mobilization.* Work. Pap., Yale Univ., New Haven, CT. <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/a/487/files/2018/03/Masterson-Lehmann-Humanitarian-Aid-and-Civil-War-March18-2jwcchf.pdf>
- Maystadt J-F, Duranton G. 2019. The development push of refugees: evidence from Tanzania. *J. Econ. Geogr.* 19(2):299-334
- Maystadt J-F, Verwimp P. 2014. Winners and losers among a refugee-hosting population. *Econ. Dev. Cult. Change* 62(4):769-809
- Milner J, Loescher G. 2004. Protracted refugee situations and state and regional insecurity. *Confl. Secur. Dev.* 4(1):3-20

- Montalvo JG, Reynal-Querol M. 2007. Fighting against malaria: prevent wars while waiting for the ‘miraculous’ vaccine. *Rev. Econ. Stat.* 89(1):165–77
- Moore WH, Shellman SM. 2007. Whither will they go? A global study of refugees’ destinations, 1965–1995. *Int. Stud. Quart.* 51(4):811–34
- Morales JS. 2017. The impact of internal displacement on destination communities: evidence from the Colombian conflict. *J. Dev. Econ.* 131:132–50
- NORDECO (Nordic Agency Dev. Ecol.). 2010. *In search of protection and livelihoods: socio-economic and environmental impacts of Dadaab refugee camps on host communities*. NORDECO, Copenhagen. <https://www.alnap.org/help-library/in-search-of-protection-and-livelihoods-socio-economic-and-environmental-impacts-of>
- Orach CG, De Brouwere V. 2004. Postemergency health services for refugee and host populations in Uganda, 1999–2002. *Lancet* 364(9434):611–12
- Porignon D, Noterman JP, Hennart P, Tonglet R, Soron G, et al. 1995. The role of the Zairian health services in the Rwandan refugee crisis. *Disasters* 19(4):356–60
- Prentice AM, Ward KA, Goldberg GR, Jarjou LM, Moore SE, et al. 2013. Critical windows for nutritional interventions against stunting. *Am. J. Clin. Nutr.* 97(5):911–18
- Prunier G. 2008. *Africa’s World War: Congo, the Rwandan Genocide, and the Making of a Continental Catastrophe*. New York: Oxford Univ. Press
- Ruel M, Hoddinott J. 2008. *Investing in early childhood nutrition*. Policy Brief 8, Int. Food Policy Res. Inst., Washington, DC. <https://ageconsearch.umn.edu/bitstream/48929/2/bp008.pdf>
- Ruiz I, Vargas-Silva C. 2013a. The economics of forced migration. *J. Dev. Stud.* 49(6):772–84
- Ruiz I, Vargas-Silva C. 2013b. The labor market impacts of forced migration. *Am. Econ. Rev.* 105(5):581–86
- Ruiz I, Vargas-Silva C. 2016. The labour market consequences of hosting refugees. *J. Econ. Geogr.* 16(3):667–94
- Ruiz I, Vargas-Silva C. 2018. The impact of hosting refugees on the intra-household allocation of tasks: a gender perspective. *Rev. Dev. Econ.* 22(4):1461–88
- Rutinwa B, Kamanga K. 2003. *Impact of refugees in Northwestern Tanzania*. Exec. Summ., Cent. Study Forced Migr., Univ. Dar es Salaam. <https://repositories.lib.utexas.edu/bitstream/handle/2152/4679/3765.pdf?sequence=1>
- Salehyan I, Gleditsch KS. 2006. Refugees and the spread of civil war. *Int. Organ.* 60(2):335–66
- Schwartz DM, Deligiannis T, Homer-Dixon TF. 2000. Commentary: debating environment, population, and conflict. *Environ. Change Secur. Project Rep.* 6:77–94
- Stavenhagen R. 1996. *Ethnic Conflicts and the Nation-State*. London: Macmillan
- Taylor JE, Filipinski MJ, Alloush M, et al. 2016. Economic impact of refugees. *PNAS* 113(27):7449–53
- Tschirley DL, Del Castillo AM. 2008. *Local and regional food aid procurement: an assessment of experience in Africa and elements of good donor practice*. Food Secur. Int. Dev. Policy Synth. 54505, Mich. State Univ., East Lansing. <https://ideas.repec.org/p/ags/midips/54505.html>
- Tumen S. 2016. The economic impact of Syrian refugees on host countries: quasi-experimental evidence from Turkey. *Am. Econ. Rev.* 106(5):456–60
- UNEP (UN Environ. Prog.). 2005. *Impacts of Refugees and Internally Displaced Persons on the Environment in Tanzania*. Geneva: UNEP Div. Environ. Policy Implement.
- UNHCR (UN High Comm. Refug.). 2012a. *An introduction to cash-based interventions in UNHCR operations*. Rep., UNHCR Div. Prog. Support Manag., Geneva. www.unhcr.org/515a959e9.html
- UNHCR (UN High Comm. Refug.). 2012b. *Statistical Yearbook*. UNHCR, Geneva. <https://www.unhcr.org/en-us/statistics/country/52a7213b9/unhcr-statistical-yearbook-2012-12th-edition.html>
- UNHCR (UN High Comm. Refug.). 2017. *Statistical Yearbook*. UNHCR, Geneva. <https://www.unhcr.org/statistical-yearbooks.html>
- UNRWA (UN Relief Works Agency). 2011. *Sustaining change*. UNRWA, Amman, Jordan. www.unrwa.org/userfiles/201201154647.pdf
- Van Damme W. 1995. Do refugees belong in camps? Experiences from Goma and Guinea. *Lancet* 346(8971):360–62
- Werker E. 2007. Refugee camp economics. *J. Refug. Stud.* 20(3):461–80

- WFP (World Food Prog.). 2011. *Liberia—Ivorian refugee influx and food security: Nimba refugee assessment*. Rep., WFP, Rome. <https://www.wfp.org/content/liberia-ivorian-refugee-influx-and-food-security-march-2011>
- WFP (World Food Prog.). 2013a. *Syrian refugees and food insecurity in Iraq, Jordan and Turkey: secondary literature and data desk review*. Rep., WFP, Rome. <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp256922.pdf>
- WFP (World Food Prog.). 2013b. *Syrian refugees and food insecurity in Lebanon: secondary literature and data desk review*. Rep., WFP, Rome. <https://reliefweb.int/report/lebanon/syrian-refugees-and-food-insecurity-lebanon-secondary-literature-and-data-desk-review>
- Whitaker BE. 2002. Refugees in Western Tanzania: the distribution of burdens and benefits among local hosts. *J. Refug. Stud.* 15(4):339–58
- World Bank. 2011. *World Development Report 2011: Conflict, Security, and Development*. Washington, DC: World Bank. https://siteresources.worldbank.org/INTWDRS/Resources/WDR2011_Full_Text.pdf
- Zetter R, Ruaudel H. 2018. Refugees' right to work and access to labour markets: constraints, challenges and ways forward. *Forced Migr. Rev.* 58(June):4–7
- Zhou YY, Shaver A. 2018. *Reexamining the effect of refugees on civil conflict: a global subnational analysis*. Work. Pap., Princeton Univ. https://static1.squarespace.com/static/53d71184e4b0653934832e81/t/5ca57815eb393131db605eba/1554348060388/RefugeesCivilWar_Paper_JOP_RR2.pdf



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Errata

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