The Labour Market Impacts of Forced Migration

Isabel Ruiz and Carlos Vargas-Silva*

One of the key consequences of civil conflict is forced migration. The United Nations Population Division (2013) suggests that from the total global stock of 232 million international migrants in 2013, about 16 million (6.8%) were refugees. Just recently, over 2 million Syrians have been displaced since the conflict started in March 2011 (UNHCR, 2013). The magnitude and frequency of forced displacement has important economic and humanitarian implications.

One frequently overlooked aspect of forced migration is the consequences for host communities. One of these consequences, and the focus of this article, is the impact on labour market outcomes. The academic literature on the labour market impacts of forced migration is small compared to the corresponding literature in the "voluntary" migration context. The scarcity of studies looking at forced migration is surprising given that forced migration situations often have certain characteristics that could facilitate the identification of causal relationships (Ruiz and Vargas-Silva, 2013). One of the greatest challenges to identify causal relationships between migration flows and host country labour market conditions is the fact that migrants are typically attracted to locations which are expected to do better in economic terms. Violence is the main driver of emigration in the forced migration context, a factor

* Ruiz: Harris Manchester College, University of Oxford, Oxford OX1 3TD (email: isabel.ruiz@economics.ox.ac.uk); Vargas-Silva, COMPAS, University of Oxford, 58 Banbury Road, Oxford OX2 6QS (email: carlos.vargas-silva@compas.ox.ac.uk). This work was supported by the UK Department of International Development (DFID) and the Institute for the Study of Labour (IZA) Growth and Labour Markets in Low Income Countries Programme (GLM | LIC). The views expressed in this document are not necessarily those of DFID, IZA or GLM | LIC.

which in many cases is largely unrelated to the economic conditions of the destination. In these cases forced migration leads to an exogenous shift in labour supply. This article looks at a situation in which the location of forced migrants was affected by a series of geographical barriers and logistical decisions. These resulted in a natural experiment which enables the exploration of the labour market impacts of forced migration.

I. Background

Major ethnic civil conflicts erupted in Burundi and Rwanda during 1993 and 1994, respectively. These conflicts resulted in hundreds of thousands of casualties in just a few months. In addition, during the 1993-1998 period, over one million people left these two countries and sought refuge in Western Tanzania. In some regions of Tanzania, refugees outnumbered natives five to one (Whitaker, 2002).

Kagera is a region of Tanzania which borders Rwanda and Burundi. It became one of the main destinations for refugees in Tanzania due to its geographic location. However, forced migrants were not evenly distributed across Kagera. There are a series of natural topographic barriers which separate the east and west (i.e. a chain of mountains, natural reserves and lakes). These geographical characteristics, in addition to differences in distance to the borders to Rwanda and Burundi, resulted in a natural experiment in which an area (i.e. West) was much more affected by the refugee inflow in comparison to the other area (i.e. East).

The geographical barrier was not the only relevant difference between the two regions. The United Nations High Commission for Refugees (UNHCR) and the Tanzanian Ministry for Home Affairs selected locations for the refugee camps that were very close to the Burundi and Rwanda borders. This was a decision based on costs and logistic considerations since transporting refugees to other locations in Tanzania would have required a major investment (Maystadt and Verwimp, 2014).

In this article we make use of the Kagera Health and Development Survey (KHDS), a longitudinal dataset which contains information about households in different areas of Kagera before and after the forced migration shock, to explore the implications of this shock for hosts' labour market outcomes. In particular, we use the first and last rounds of this survey (i.e. 1991 and 2010) to explore the long-term labour market impacts of forced migration. Using 2010 data (about 17 years after the shock) also allows us to explore labour market outcomes of hosts after the "end" of the shock. Most refugees from Rwanda were repatriated during the late 1990s while those from Burundi have gradually returned home since 2001.

There are several channels by which a forced migration shock may affect host labour markets, including factors that could affect both supply and demand. The forced migration shock may lead to an increase in the supply of workers and therefore increased competition for the available jobs and decreased wages in some occupations. The magnitude of this effect would depend on the degree of substitutability between migrants and natives (Braun and Mahmoud, 2014). There are also short-term impacts of forced migration that may have long-lasting effects on economic activity choices. The evidence from the "voluntary" migration literature suggests that an inflow of migrants may lead to a redistribution of natives across occupations and natives may respond to immigration by changing to occupations that require more "culture" specific knowledge and communication skills (Peri and Sparber, 2011).

An additional channel is the impact on demand in the goods markets. The increase in population could lead to an increase in demand for new products and encourage enterprising natives to start different trade businesses (for example, the production of aid-related goods; Alix-Garcia and Saah, 2009). Finally, there are also long-term impacts on the younger generations. The forced migration shock could affect the inter-generational transmission of human capital, including both agricultural and non-agricultural human capital.

II. Data and Identification

The KHDS data was collected by the World Bank and contains detailed information on the labour market outcomes of individuals among many other variables. The KHDS has a very good tracking record over time. At least one member of the baseline household was re-interviewed in 89% of the cases in the 2010 round. The survey was initially conducted in 51 communities, but individuals were tracked over time even if they had moved out of the community. The first round of the survey was conducted during the September 1991 – May 1993 period. The Burundi conflict started on October 1993. Therefore, the first round of the survey precedes the start of the conflict.

The dependent variables reflect the economic activity choices of the individuals in the sample. First, we check whether individuals are doing farming or livestock work for subsistence, are in self-employment (non-farm) or are employees (i.e. working for someone outside the household). The sample includes Tanzanians who were between seven and forty-six years of age in 1991, residing in Kagera and included in the sample in both waves (panel). Seven years of age may be an early age to be included in the analysis but child labour is very common in Tanzania.

The maximum age restriction for the first round (i.e. forty-six years of age) responds to the fact that we want the individuals to be of working age in 2010 (with a top limit of 65 years of age). Official retirement age for Government positions in Tanzania is 60 years of age, but extensions are commonly granted. The residence restriction ensures that even if the individual moved from the community there are no major differences in host location labour markets. For instance, many of those who left Kagera moved to the Dar es Salaam Region which has a much more dynamic labour market. In our empirical approach, we test for the robustness of the results to these two conditions (i.e. residence in Kagera and age limits).

After exploring the main economic activities of individuals, we focus on those who are employees and explore factors related to their employment conditions. These factors include

whether the individual is a government employee, the sector of employment and whether the job will provide the individual with a pension in the future.

In our estimation strategy, we use distance from the community of residence during the first round of the survey to the borders of Rwanda and Burundi for identification purposes. These data come from Fisher (2004). The geographic (and other) barriers described earlier implied that refugees were concentrated in the West region of Kagera. The distances are indicators of the degree to which individuals were affected by the forced migration shock. This provides a more gradual distinction in the estimated intensity of the forced migration shock compared to a simple East-West split. First, we use the distance of the communities to the borders of Burundi and Rwanda separately. However, it is likely that distance to the two countries better captures the intensity of the forced migration shock. Therefore, we also use a weighted average of the distances to the border of Burundi and Rwanda. The results are presented with these three measures.

Previous studies have also used distance as a proxy for the intensity of the forced migration shock in Tanzania. Baez (2011) used distance to the border of Rwanda as a measure of the intensity of the forced migration shock, while Maystadt and Verwimp (2014) used the distance of communities from the refugee camps (most of which were close to the borders of Burundi and Rwanda). In order to make sure that distance was not capturing other differences between communities we estimated regressions between educational level during the pre-shock period (a proxy for economic conditions) and distance for each of the distance measures. We find no significant linear relationship between the variables.

III. Results

A. Main activity: All of the results of our estimations are presented in Table 1. Panel A presents the results for the main economic activities. We estimate a series of linear probability models along the following lines:

(1) $Y_{it} = \beta_0 + \beta_1\delta_i + \beta_2\lambda_w + \beta_3 t + \beta_4 D_{it} + \beta_5 X_{it} + \varepsilon_{it}$

Where Y_{it} is the binary outcome of interest for individual *i* at time *t*, δ_i is the individual fixed effect, λ_w are ward dummies, *t* is the time dummy (2010 = 1), X_{it} are a series of individual, household and regional controls and ε_{it} is the random error. D_{it} is the measure of the intensity of the forced migration shock and is the log of the inverse of the distance to the border. We use the log to decrease the impact of some communities being very close to the border. For the first period this variable is set to zero. The individual control variables are: marital status, age, education and household status. The household control variables are: gender and marital status of the household head, size of the household and child to adult ratio of the household. The regional controls include population of the district per square kilometre (from the National Bureau of Statistics of Tanzania) and the standard deviation of the daily precipitation of the location for the previous five years (from the NASA Prediction of Worldwide Energy Resource database).

The results suggest that the forced migration shock had not much impact on the likelihood of doing farming or livestock work for subsistence. This is not surprising as the share of individuals in the KHDS doing this type of work is quite high (over 80%), a fact which reflects the rural nature of the region. There are no major differences with regards to self-employment either. This is interesting in light of the substantial anecdotal evidence which suggest that Tanzanians were opening numerous shops and starting different businesses to service the needs of forced migrants and employees of international organizations. One possible explanation suggested by the previous evidence is that much of the new small business activity was driven by Tanzanians moving from other regions of the country to Kagera (Maystadt and Verwimp, 2014). There is more evidence of a significant impact of the forced migration shock on the likelihood of being an employee. In this case,

those who experienced a higher intensity of the forced migration shock are less likely to work for someone outside the household as employees.

B. Employees: The intensity of the forced migration shock has a significant negative impact on the likelihood of working for someone outside the household. However, there could be major differences between types of jobs. We also explore the impact of the forced migration shock on the characteristics of the jobs of those who work as employees. We focus on five aspects: whether the individual is a government employee, the sector of employment (agricultural/livestock, trade or professional) and whether the job will provide a pension.

One potential problem with the analysis is that there could be a selection process in which it is important to control for the fact that the individual has become an employee in the first place. We run a two-step Heckman model in order to control for this possibility. Finding a variable to omit for the exclusion restriction is challenging, therefore we tried different alternatives. Panel B of Table 1 shows the results when we use the lag of the district's population per square kilometre for the exclusion restriction. This variable comes from the Tanzania Censuses of 1988 and 2002. The first step estimation of the Heckman confirms the significant impact of the district's population on the probability of employment. Other variables that we used as an alternative for the exclusion restriction were: the lag of population for the community of origin (reported in the community questionnaire) and the standard deviation of precipitation at the regional level. The results are robust to using those alternative exclusions.

Panel B presents the regression results for the different job characteristics. Previous studies suggest that less than 5% of those in the labour force in Tanzania have access to the social security system, including old age pension (Mchomvu et al., 2002). Access is particularly limited for those in self-employment or working as employees in the informal sector. While life expectancy at birth in Tanzania was low in 2010 (59 years), it has a positive

trend and has increased markedly since 1991 (50 years). This increase in life expectancy has been accompanied by a discussion of the need to improve the pension system and expand coverage. The results show that those employees who were more affected by the shock are more likely to have a job that will provide a pension later on.

This could also relate to the other significant results in Panel B. Those who experienced a higher intensity of the forced migration shock are also more likely to work for the government and be professionals, two factors that correlate strongly with the possibility of having a job that will result in a pension. There was an increase in opportunities for government employment as a result of increasing government activity in the refugee affected areas. These positions were only available for natives (i.e. no competition from refugees). Also, international organizations working in the region provided better employment opportunities for natives.

C. Robustness: In the analysis we limited the sample to those individuals who were living in Kagera during both rounds of the survey and only included those who were between 7 and 65 years of age in both rounds. Panels C and D of Table 2 present the results when we relax these restrictions (i.e. include those who moved to other regions and those older than 65 years of age). These results confirm the robustness of our initial findings.

IV. Conclusion

Labour markets play a major role in long-term development after an episode of forced migration. The ability to work is often the only asset of forced migrants. As such, labour market impacts should be one of the main considerations of international organizations and national governments when dealing with a forced migration crisis and developing policies to respond to such crisis. Our results show multiple impacts of a forced migration shock on labour market outcomes of Tanzanians, including impacts on the probability of working for someone outside the household and the characteristics of the jobs they hold.

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TABLE 1 – THE LABOUR MARKET IMPACTS OF FORCED MIGRATION

	Intensity of the forced migration shock (i.e. log(1/distance)) constructed with distance [a] to:		
Dependent variable	Burundi	Rwanda	Weighted[b]
Panel A: Regression results for main economic activities with individual fixed effects			
Farming/livestock	0.03	0.02	0.03
	(1.71)*	(0.96)	(1.41)
Self-employment	-0.01	-0.01	-0.01
	(-1.39)	(-1.16)	(-1.24)
Employee	-0.02	-0.01	-0.02
	(-2.18)**	(-1.22)	(-2.20)**
Observations	3,884	3,884	3,884
Panel B: Regression results for employment characteristics of employees			
Government employee	0.02	0.04	0.04
	(1.89)*	(2.89)***	(2.55)**
Agricultural/livestock	-0.03	-0.03	-0.03
	(-1.22)	(-1.27)	(-1.18)
Trade	-0.00	0.00	-0.00
	(-0.27)	(0.03)	(-0.08)
Professional	0.06	0.10	0.09
	(3.50)***	(4.74)***	(4.31)***
Pension	0.03	0.05	0.04
	(2.77)***	(3.71)***	(3.37)***
Uncensored observations	892	892	892
Panel D: Robustness Test: economic activity without residency and age requirement			
Farming/livestock	-0.01	-0.01	-0.01
	(-1.34)	(-1.02)	(-1.14)
Self-employment	0.03	0.01	0.02
	(1.73)*	(0.61)	(1.34)
Employee	-0.02	-0.02	-0.02
	(-2.40)**	(-2.40)**	(-2.33)**
Observations	4,560	4,560	4,560
Panel E: Robustness Test: employment characteristics without residency and age requirement			
Government employee	0.02	0.02	0.03
	(1.48)	(2.62)***	(2.15)**
Agricultural/livestock	-0.00	-0.01	-0.00
	(-0.05)	(-0.22)	(-0.08)
Trade	-0.01	-0.01	-0.01
	(-1.07)	(-0.61)	(-0.82)
Professional	0.05	0.08	0.07
	(2.96)***	(4.26)***	(3.77)***
Pension	0.01	0.03	0.02
	(0.93)	(2.57)***	(1.82)*
Uncensored observations	1,065	1,065	1,065

Notes: The table reports the coefficient for the measure of the intensity of the forced migration shock in a linear probability model. t-statistics are reported in parenthesis. [a] The distances are the Euclidian distance from the community of residence during the first round of the survey (i.e. close to the time of the forced migration shock). [b] The weighted average is created by giving a 75% (25%) weight to the distance to Rwanda for those districts in the north (south) of Kagera and 25% (75%) weight to the distance to Burundi for those districts in the south (north). The results are robust to different weights ranging from 0 to 1. *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level.