MAGYC

Migration Governance and Asylum Crises

Research paper on the influence of long-term socio-economic trends on migration dynamics

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MAGYC: The MAGYC (**M**igr**A**tion **G**overnance and As**Y**lum **C**rises) project seeks to assess how migration governance has responded to the recent "refugee crises" and has since been influenced by it, and how crises at large shape policy responses to migration. This four-year research project (2018–2022) brings together twelve international partners: the Hugo Observatory from the University of Liège (Coordinator), Sciences Po, the University of Economics in Bratislava, the GIGA institute of Global and Area Studies, Lund University, the IDMC, SOAS University of London, the University of Milan, the Lebanese American University, the University of Macedonia, Sabanci University, IfPO/CNRS.

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MAGYC WORKING PAPER

Abstract

This deliverable aims to lay out the impact of structural drivers on migratory movements, and in particular on critical increases in flows of migration. To do so, this working paper is first quantifies crisis in terms of numbers of rapid increases of outflows from countries of origin for a time period of 1960-2015 and second as rapid increases in the migrant arrivals into destination countries. Having laid out the specific operationalizations of the independent variables that are proxies of structural drivers and the control variables, it presents the dependent variable cross sectionally and across time. It then models these sudden shifts through structural drivers of migration based on outflows from source countries. Having considered the crisis from the perspective of countries of origin, it then incorporates the recipient countries via exploring the main corridors with the help of dyadic data, which takes relationality of the country pairs into consideration. The results underline the value added of this approach to the conventinal flow conceptualization and directions for further research.

Introduction:

This workpackage of the MAGYC project takes a different direction in problematizing the concept of ‘crisis migration’ by trying to lay out an objective criteria and model it given the literature on drivers of migratory flows. D.1.1. of this workpackage has presented a thorough debate of the ethical and securitized meanings attached to this concept and positioned itself critically vis a vis ‘crisis’ in quantifying migratory flows across time and space assuming an objective set number should be the necessary condition for labeling a given flow a crisis. As a result, in addition to all flows of immigration, this study focuses on large migrations taken in relative terms, large enough for the origin or destination country relative to their populations and historical trends and defines “crisis migration” as such. Thereforee, the numbers of registered outflows and inflows of migrants both forced and voluntary nature will be the focus of this study. The main goal of this working paper is assessing the structural determinants of this mobility across time and space, which will eventually inform our future protections. Moreover, the purpose of this work is to help predicting the occurrence of these peaks/sudden increases within the plots in which they occur, and to assist those involved in managing these flows in increasing the capacity to proactively engage and better respond to them before they become ‘crisis’.

Following a quantification of crisis level flows from the perspective of countries of origin, different structural drivers of migratory flows and crisis flows will be illustrated in a comparative way. The literature on these drivers, namely economic, demographic, and political as well as their potential operationalization choices have been thoroughly presented in D1.1. This working paper incorporates therefore first lays out how these drivers have been eventually measured given the data constraints due to the long time span under investigation. This deliverable adopts a graphical illustrative approach to analyzing the long term trends of migratory flows and their determinants. The correlations between the structural determinants and migratory movements will be descriptively investigated across different time frames for available data resources. This is to illustrate the time effects as well as to account for issues of missing data. Consequently, the first two of the three step estimation approach identified in the methodological paper will be adopted.. For the first step, the goal is to estimate both the long and the short term determinants of crisis outflows, with a focus on the structural conditions in the origin countries in relation to the migratory out flow data drived from stock data by Abel (2019) for a time period of 1960-2015. This will be followed by an investigation of migration corridors using dyadic data to understand the dynamics of movement vis-à-vis the destination of peak flows. Finally, the concluding remarks will reflect on the value added of this approach to the conventinal flow conceptualization and directions for further research.

METHODOLOGY

Measurement of the Structural Determinants

As outlined above, the main focus of this research program is to estimate future migratory crisis based on extant scenarios of the evolution of the structural and environmental factors. As outlined above, at each stage of estimation, different forms of certain exploratory variables will be utilized. As these different stages relate to different dependent variables, they necessitate different measurements of the same theories some focusing on origin countries, while others the dyadic relationship between two countries. The belowmentioned descriptions relate to the basic measurement of these constructs and will be recoded according to the different stages of estimation. Deliverable 1.1 illustrated the theoretical literature behind these variables and how they have been planned to be measured. Due to some restrictions on the data and high missing values some of these needed to be slightly altered. The following section will summarize the measurement of these different set of variables that are included in the final models.

i. Demographic Drivers

Population size, population growth, age structure, educational levels and especially rates of fertility are found to have an impact on migratory movements along with the rates of urbanization (Migali et al 2018, Bell et al. 2015 Oded and Levhari 1982). Therefore, country level data on fertility rates, population growth, population sizes, as well as rates of enrollment in secondary schools across the years have been compiled for the period from 1960 to 2015 from World Development Indicators. As the flow data is for every five years, this data is also averaged for the five years preceeding the flows. So there is a natural lag in the model due to the way the independent variables are averaged for across five years. For the models with the dyadic data, these variables would be converted to a relational measurement regarding the origin and destination country.

ii. Economic Drivers

There are a range of economic drivers that relate to both origin and destination factors that are found to be important drivers of migration. Labor market and employment conditions (Migali et al 2018) along with wages (Beine et al 2014), levels of economic development as measured by GDP growth rates, per capita income (Bell et al 2015) and fluctuations are influential in individuals' migration decisions at different rates and mostly in non-linear patterns. Studies repeatedly underlined the inverse U-shaped effect of economic development on migration decisions. In particular, for low income countries, development is shown to increase migration in the short run until the purchasing parity adjusted per income GDP rates of 7,000- 8,000 USD, after which migration rates start to decrease (Carling and Talleraas 2016). While with mixed evidence, poverty and inequality are also found to be important drivers of migratory flows.

In order to measure economic development levels, GDP per capita data from World Development Indicators has been collected. Unfortunately, purchasing povery parity adjusted versions of this data is only available since 1995, hence simple per capita was preferred due to data availability. In order to account for the potential non-linearity regarding this driver, a GDP per capita squared variable is created, whose statistical significance would attest to that effect. Poverty and inequality are measured by the percentage living in poverty in each country (as defined 5 USD per day), the share of the lowest 10 percent of the population from the income, GINI index, labor force participation and rates of unemployment. These data are compiled from the Worldbank database on Poverty and Equity. The differences between the origin and destination countries are calculated for the dyadic models.

iii. Political Drivers

Contiguity and Distance: To construct the contiguity and colonial link variables CEPII dataset has been utilized. We include a variable to capture whether the two states are either contiguous by land or separated by less than 24 or less miles of water (contiguity) since neighbors may be more likely to have population movement across the borders. Land contiguity is defined as the intersection of the homeland territory of the two states in the dyad, either through a land boundary or a river (such as the Rio Grande along the US-Mexico border). Water contiguity is based on whether a straight line of no more than a certain distance can be drawn between a point on the border of one state, across open water (uninterrupted by the territory of a third state), to the closest point on the homeland territory of another state.

Distance and Colonial History: The CEPI dataset contains different distance measures and dummy variables indicating whether the two countries are share a common language or a colonial relationship. For this deliverable, the population weighted distances calculated on principal cities in each country has been utilized. weighted distance measures use city-level data to assess the geographic distribution of population inside each nation. Accordingly, the distance between two countries is calculated based on bilateral distances between the largest cities of those two countries, those inter-city distances being weighted by the share of the city in the overall country's population. For our estimation, we measured this in 1000 kms.

Finally, the dataset also provides dummy variables based on whether the countries share a common language, have had a common colonizer after 1945 (comcol), have ever had a colonial link. Based on this data for country dyads constucted two dummy variables are constructed: Whether the origin has been a colony of the destination and whether the origin has ever colonized the destination.

Conflict: Two conflict variables utilized in order to address both the internal and external dimensions. Fort he internal dimension, two datasets have been merged. The PRIO/UCDP dataset we preferred fort he internal conflict defines state-based armed conflict as: "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which one is the government of a state resulting in at least 25 battle-related deaths in a calendar year, which has been matched with the origin country. The particular intensity variable is coded in two categories: 1.Minor: between 25 and 999 battle-related deaths in a given year. 2. War: at least 1,000 battle-related deaths in a given year.

For external conflict, the Militarized Interstate Dispute Data Version 5.0 within the Correlates of War project has been utilized. Accordingly, 'a militarized dispute is based on a sequence of related militarized incidents, each of which is an outgrowth of or a response to one or more previous incidents.' For the origin based models, a dummy variabe is constructed to see if the country has been in a MIT for the last five years. For the dyadic models, hostility level is calculated for five years which is the level of hostility reached by states in dyad ranges from no militarized action (1), threat to use force (2), display of force(3), use of force(4), and war(5).

Dependent Variables and Estimation Approach:

The proposed dependent variables of this study, namely the multiple operationalizations of migratory flows, which are outlined in detail in the following section, require data on migratory flows with a sufficient time span that would lend itself to projections under different scenarios. Furthermore, these different definitions of critical level flows require data on developing countries as both origins and destinations, the availability of which is very limited in existing measures of flow data due to missing values and years. The most apt source that addresses both of these concerns is Abel's estimations of flow data derivied from bilateral flow tables estimates from sequential bilateral stock data via birthplace specific flow tables (Abel 2017:pp 817).

The benefits of this data have been discussed extensively in Deliverable 1.1. The idea behind these estimations is to use changes over time in bilateral migrant stock sizes for estimations of flows. These changes may of course arise from three different sources in addition to an increase in migratory flows, namely an increase in the size of the native born populations from births, as well as reductions in the size of foreign and native born populations from deaths, and an increase in migration flows (Abel 2014; 2019). Clearing up the effect of these in order to get migration flows, Abel implements a two round approach supplemented by demographic data. Log linear models, a form of Poisson regression model used to predict or explain count variables, in this case number of flows, where each of the parameter values are obtained using the known marginal sums and diagonal cells in stock tables with iterative proportional fitting.

These parameters for Abel (2017)'s method of imputation along with his use of three versions of UN stock data along with Özden et al.(2011)'s World Bank data enable a sensitive and comprehensive approach both geographically and temporally in estimating the missing values/gaps of flows. At a two-stage estimation, first flows over 10 year periods with alternative combinations of gender, demographic and stock data are predicted followed by an estimation of five year period flows between 1960 and 2015. These estimations produced flows of a minimum number of migrant transitions required to match the changes in the given stock data, controlling for births and deaths in each country.

Abel's flow data converted from stock data will be accumulated for each sending country based on outflows in gross numbers only. For this, the number of immigrants from country A in all other countries in the world are added up for a given year, to be followed by the next year. This way the predicted model, while focusing exclusively on push factors, will be better able to focus on cross country and time variant differences in origin countries and what crisis means from the perspective of source countries, what factors derive them and when it is more likely to happen. Three different dependent variables are constructed with this data, with the first one capturing all flows from the country (all flows one to the other for the dyadic version), all net flows from the country, with immigration received subtracted from outflows, and binary crisis/critical level migration variable, which is discussed thoroughly in the following section.

In terms of the estimation approach, a dynamic panel model is utilized to capture both the temporal and cross sectional dimensions of the data. Deliverable 1.1. has provided a detailed discussion for this choice. Following the standard diagnostics such as multi collinearity, hetroscedascity and unit roots, as well as hausmann tests for the choice of random or fixed effects, the model specification is determined as random effects models with robust standard error, clustered at the country level, that allow for intra-group correlation.

The first step aims to reveal the origin specific dynamics with cross sectional panel models estimated for all three dependent variables. The second relies on the bilateral flows as the dependent variable to also focus on recipient countries. This time, Abel's flow data will be utilized as consisting of country dyads. This is important in creating a base gravity model to identify the main destinations of the flows which are outlined in detail in the previous section.

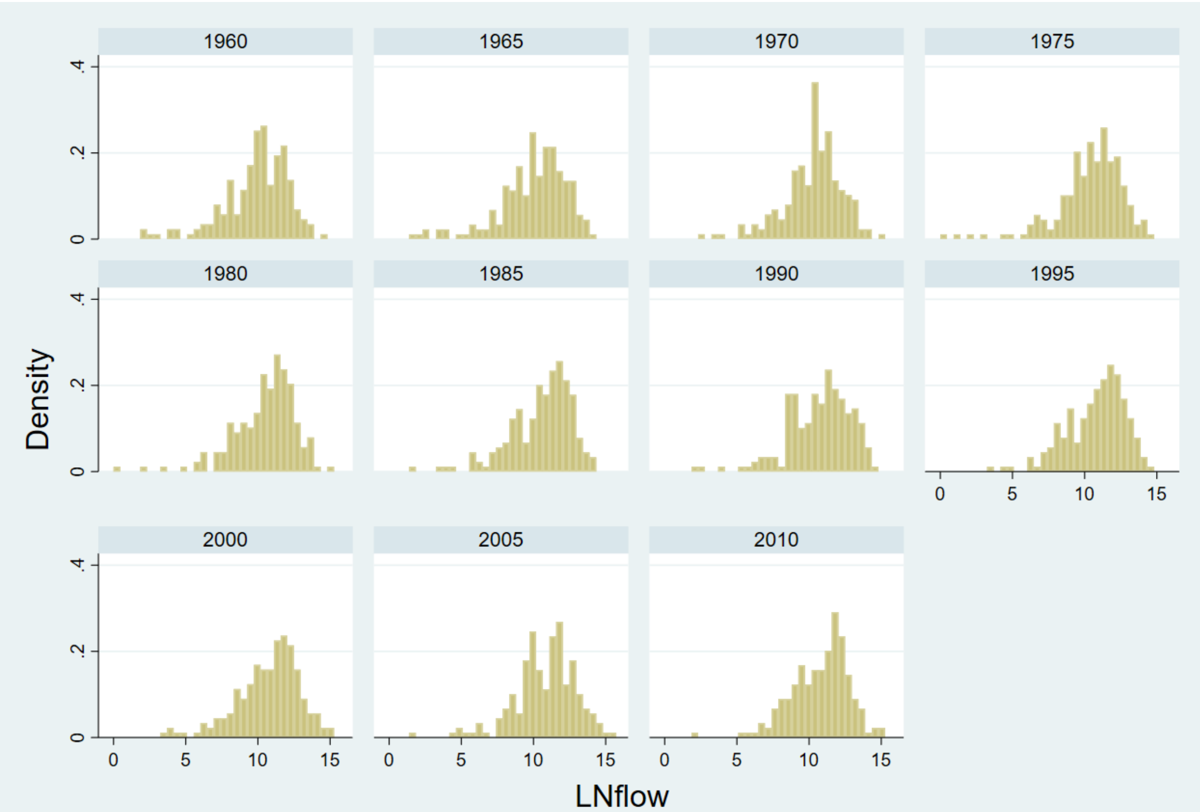
Based on the results of the estimates from the previous model, peak predictions of migratory flows will be matched with medium and high outflow countries. As a contribution to the literature, a new dataset will then be compiled with dyadic data, enabling us to identify where this migration is likely to be destined, which countries are likely to be hit by these crisis level flows and if certain countries would be easier destinations due to factors such as colonial history, network effects, trade relations, financial flows, political affinity or other cultural ties. This would show the relative impact of this crisis in different destination countries.

DESCRIPTIVE STATISTICS

Before moving to the two step estimation of determinants of migratory flows, a thorough investigation of the dependent variables and explanatory variables will be provided as a first step into understanding the data and exploring the relationships between different variables. Such exploration of the data will incorporate the presentations of distribution and co distributions of variables graphically and is important for multiple reasons. First, most of the later estimations to be conducted assume a normal distribution of the variables, an assumption that needs to be confirmed. Second, such exploration is important for understanding the distribution and identifying minimum, maximum, and outlier values. Third, this should be a first take in investigating the time effects. Especially when it comes to correlations between the drivers and migratory flows, there is reason to expect time effects, ie differences in relationships for different snapshots in time. These could be due to global economic trends, leading to stronger links through multiplied channels among the states. They could be due to global structural changes that redefine the nature of political engagement and connections across states, such as the end of the Cold War, which are also likely to have an impact on mobility. Consequently, they could be due to the fruitful effects of migration governance both in terms of changing national frameworks and international governance network. A final reason for this descriptive exploration is the widespread issue of missing values. As this workpackage defines crisis from the perspective of the countries of origin and considers not just the OECD countries but both countries of the South and North as origins and destinations, missing data issues especially regarding the exploratory variables is a challenge. While it is not possible to offset this issue, one can still be vary about its effects and showing how the data is distributed over time is one way to do it.

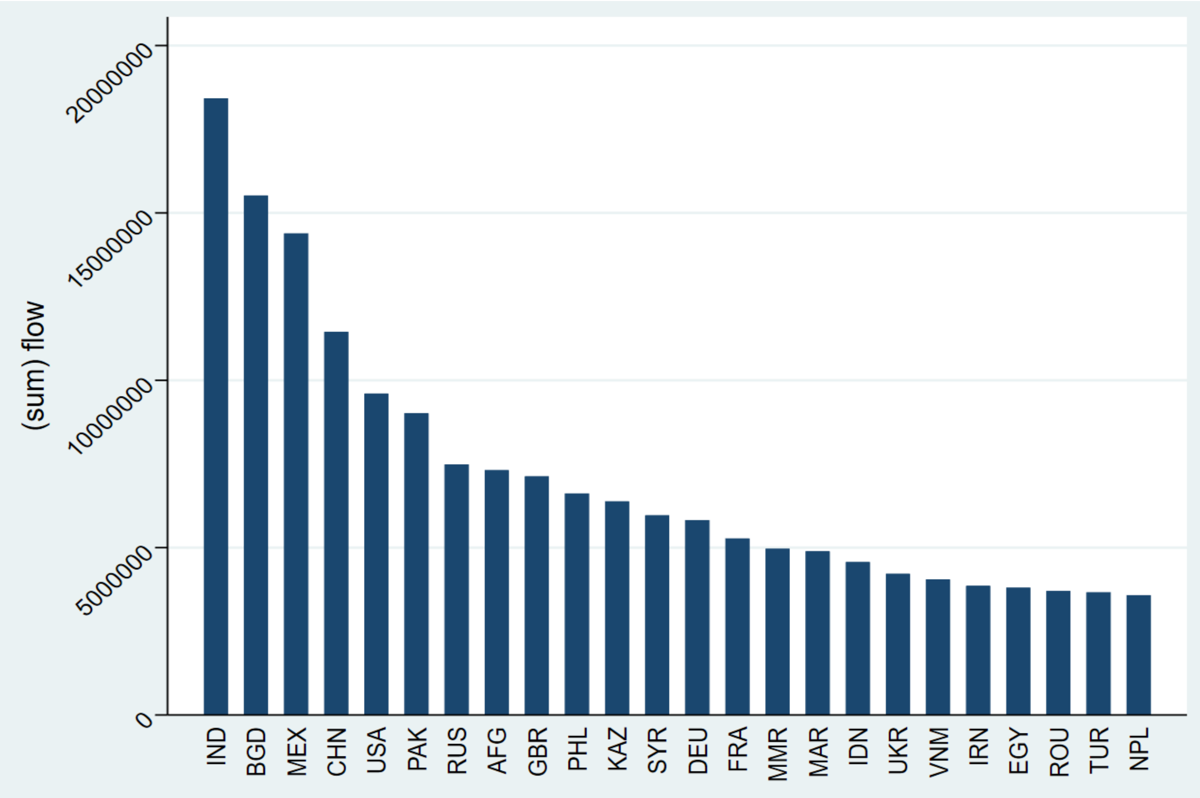
Figure 1 illustrates the distribution of migratory flows derived from stock data across time. As described earlier, this data is derived from the migrant stock data countries hold across 5 years, hence available for five year slots. This data indicates the logarithm of all flows from countries of origin for a given year, not corrected for migrant arrivals. As seen, overall the data is normally distributed making it fit for a panel estimation. For the years 1975-80 and 1990-5, it is skewed to the right indicating higher out-migration for some countries for these years, potentially stemming from changes with local impact. However the mean and mode has fully shifted to the right for 2005-2010 and 2010-2015 indicating higher numbers of outflows from many countries on average for these years. Finally, it is evident that overall the number of migratory outflows have increased over time. There are rather very low number of missing values for this variable also evident in the figures especially for earlier years.

Figure 1: Distribution of migration out-flows across time



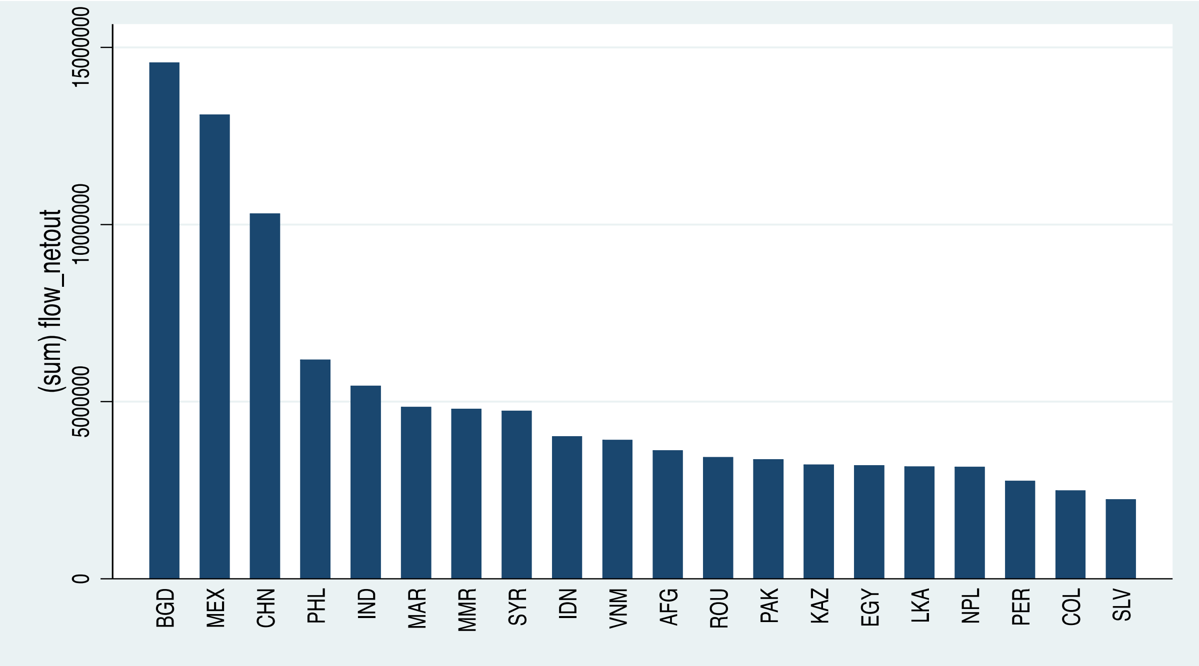
The following figure illustrates the top 24 countries which are at the same time responsible for 50 percent of all the flows of migration during this entire period. Accordingly, the countries which have experienced the highest number of out migration are India, Bangladesh, Mexico and China, followed by Pakistan, Russia, Afghanistan, Great Britain, and Philiphines. As seen, many OECD countries such as Germany, France, USA are also in this list as high number of their citizens chose to live elsewhere.

Figure 2: Countries with highest outflows for 1960-2015



Countries whose citizens migrate elsewhere can also be popular destinations for migrants, therefore, in addition to all outflows, net outflows of migrants are also considered as a dependent variable for this study. When the migrants from all countries into a country are deducted from all emigrees, net outflows are obtained. The distribution of this variable for the entire period as well as for all five year periods the data is available for is also normally distributed and can be observed in the Appendix A. The following figure replicates the previous one but this time for the net out-migration. Accordingly, many of the OECD countries disappear from the top origin countries when the migration they receive is considered. This time, for the years 1960-2015, Bangladesh, Mexico, China, Phillipines and India are closely followed by Marocco, Myanmar, Syria and Indonesia. Romania is still in the top 50 percent list, but other OECD countries no longer are.

Figure 3: Countries with highest outflows for 1960-2015



When the relationships between the flow variables and different explanatory variables are considered, a correlational plotting across the years is useful to see the varying impact of drivers. For instance, when it comes to fertility rates the lines in Figure 4 seem rather flat for all 5 year intervals potentially implying a low correlation. For the following figure, which plots the data for internal conflict, different time periods seem to elicit different relationships. For the time period 1975-1980 there seems to be a strong relationship between net outflows and internal conflict, albeit with small numbr of observations. The curves are rather flat until 2000, indicating a weak relationship but get steeper for the period after that. This changing dynamic across the years may result in a weak or no relationship in the statistical models, therefore potential time differences should be considered.

Figure 4: Net outflows and fertility rates

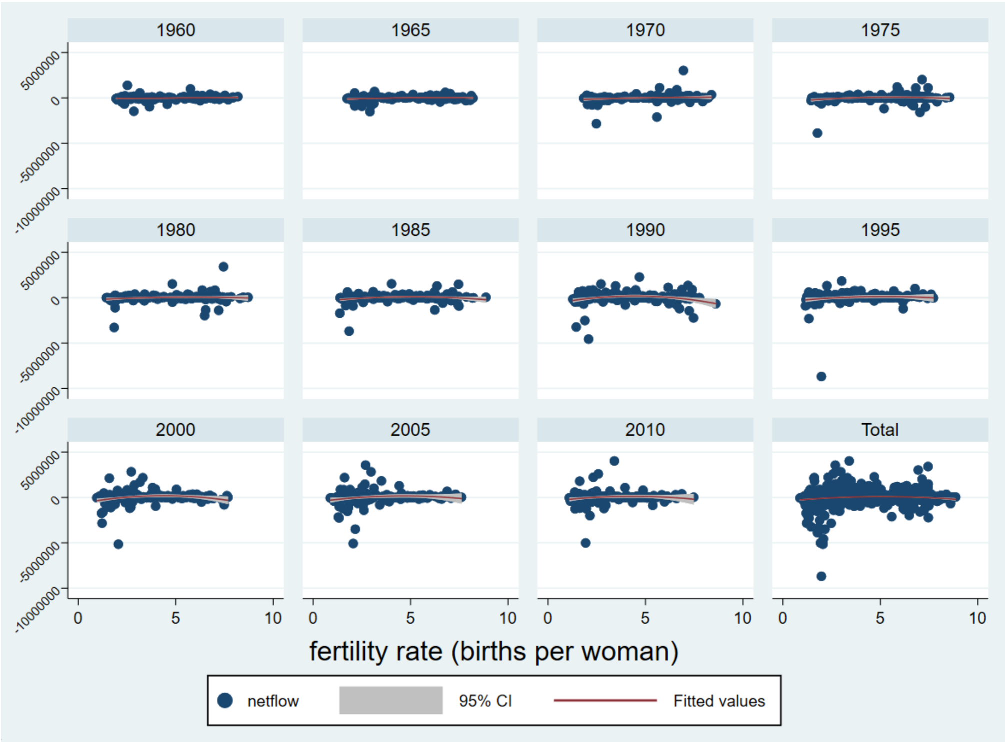
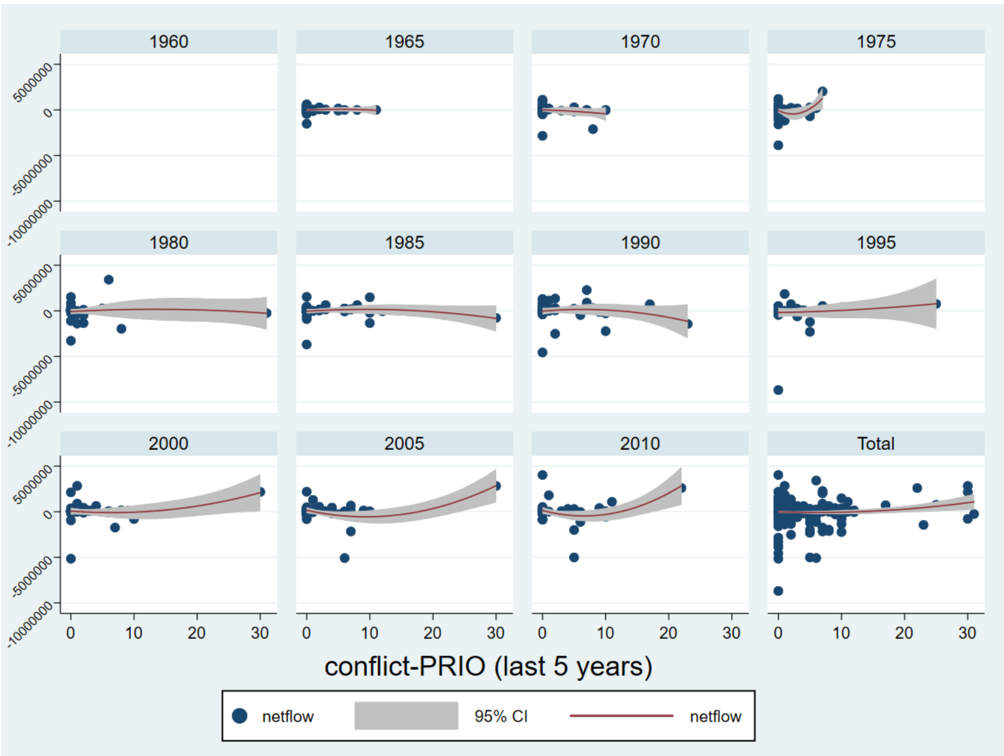


Figure 5: Net outflows and internal conflict



QUANTIFYING CRISIS

Having briefly explored the distribution of the different migrant flows and net flows as two dependent variables calculated based on the migrations from the countries of origin and the way they relate to explanatory variables, a third dependent variable is calculated in an attempt to capture the main question of interest of this variable namely 'crisis migration'. Conceptually, it is defined as 'the very high flows from a country which could potentially cause a governance crisis in the origin as well as the recipient country as a result of their critically high number'. In order to determine what this critical size could be, it is expected that first, this number should constitute an important portion of the origin country, second, it should be a nominally high number to create a sizable impact on the recipient country and/or that it should also constitute an important portion of the overall migratory flows for that five year period.

To this end, first, a new variable consisting of migratory flows for a five year period that constitute at least five percent of the origin countries population have been calculated. As countries with very small population could also end up in this new variable which would not really have a 'crisis' effect, flows below 100 thousand people were excluded from each five year interval, which were a very small share of the 5 % group (i.e for one of the highest flow years, 1995-2000, these constituted 0,036 percent of the group total of over 11 million migrants). Finally, in order not to exclude similarly sized flows from countries with a high population, their flows were included even though this number was below the 5 percent of their large populations as in the cases of China and India. The flows to be included were determined based on the Mean rate of the 5 percent group, which was about 200 thousand people. As a result all outflows from countries exceeding this number were included in the crisis variable. The following figure illustrates the outflows of migrants for the crisis countries for three different years.

As seen, while there are similarities across the years in terms of the source countries of crisis flows such as Bangladesh, India, or China, the figure also illustrates the some countries becoming a source of crisis only for certain periods of time such as Syria for 2010-2015 period or Rwanda for 1990-1995 period reflecting the political conflicts the countries are going through. It is important note though, that many developed countries such as USA, Great Britain, France, or Germany also elicit high levels of outflows, placing them in the crisis countries. This is important to remember as many of the assumptions of structural drivers rely heavily on South to North migration patterns, however not only are the forced displacements from many southern countries are destined by neighboring countries that do not fare much better in comparison in terms of these drivers, but the northern countries are also sources of migrants destined for other developed countries. These issues are expected to reveal themselves in the correlational models as statistically insignificant coefficients or reverse causal arrows.

Figure 6: Crisis outflows at different time periods

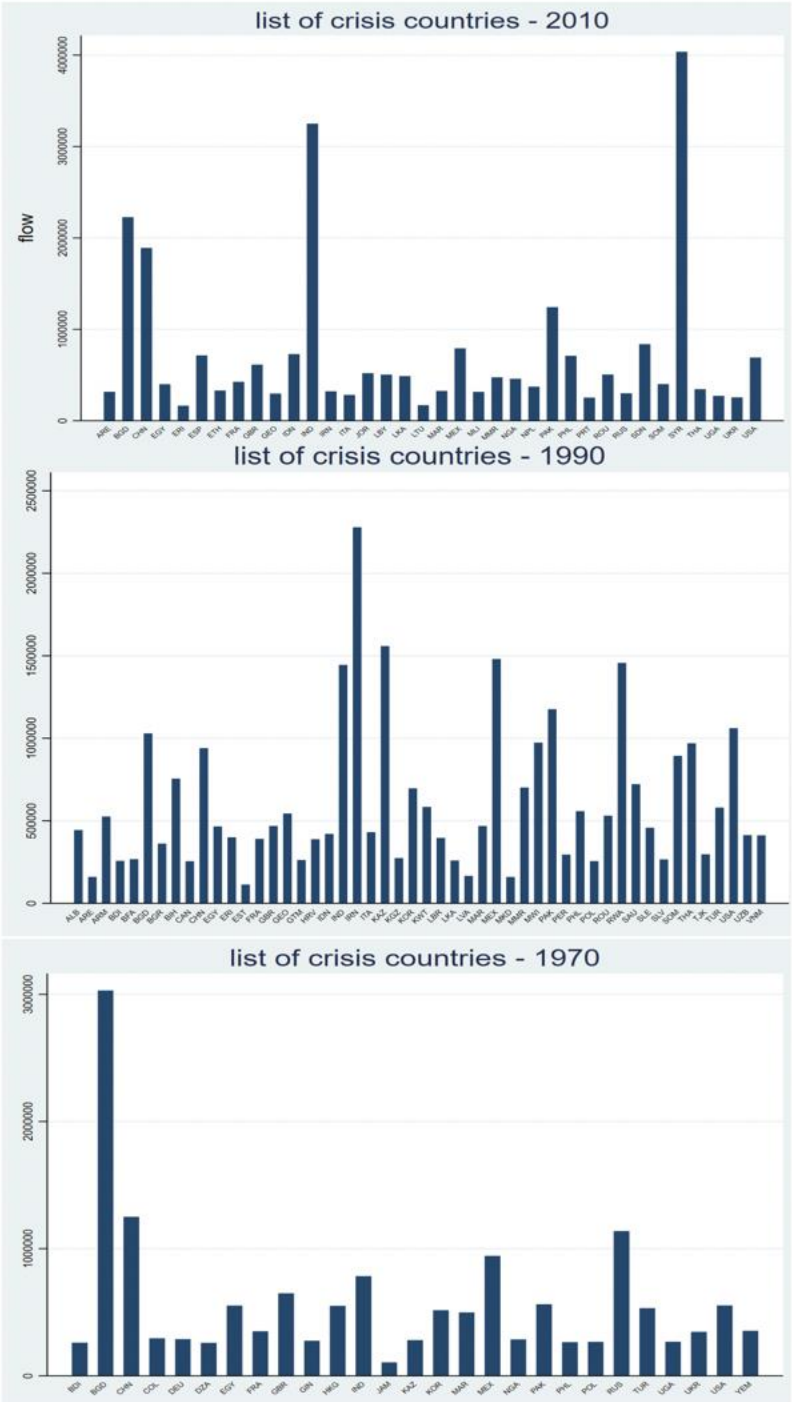
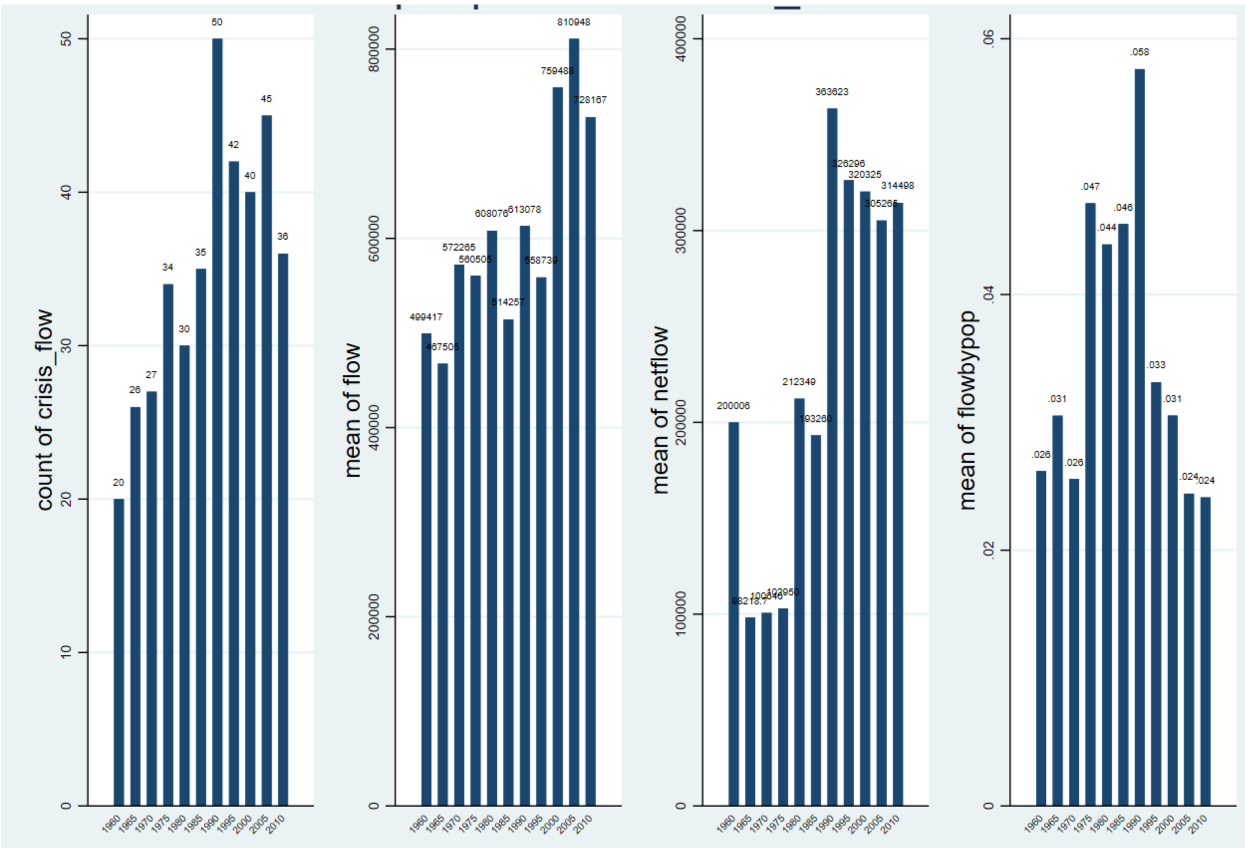


Figure 7 compares the four different ways this deliverable conceptualized the crisis flows. The first graph in the figure illustrates the number of crisis migrations across the years, a binary variable measured as described above, followed by flows from a country of origin, net flows and flows divided by population. As seen the five year period following 1990 is the peak for the crisis counts, net outflows as well as flows by population but not simple outflows and these three measures also seem to be correlated when other years are taken into consideration. Still, differences are also striking, for instance, while 1960-65 period has considerably high net flow but the lowest number of crisis level migrations. Similarly 2010-2015 has high net outflows but not a high count of crisis outflows as most of the high outflow come from a small number of countries such as Syria, India, Bangladesh, and China.

Figure 7: Crisis vs Flow DVs compared



Following the way flow variables were explored descriptively vis-a-vis different structural variables for each 5 year period graphically, the same comparison will be conducted with regards to the crisis. Due to the binary coding of the crisis variable, this will be in the form of comparing the mean values of the independent variables for both values of the crisis, where it is '0' indicating no crisis and where it is '1' indicating crisis level migration.

When the economic growth of the origin countries are considered, for the years after 1970, origin countries with crisis level out-flows have considerably lower GDP per capita than other countries. This should show in both models where the unit of analysis is origin country year or dyad year.

Figure 8: Crisis counts by GDP per capita

When the impact of povery is considered, this time, the destination country's income percentile's are considered by looking at dyads. Accordingly, as the share of the bottom ten percentile population from the national increase increases in a destination country, so does the chances of it becoming a destination for crisis flows from 1985 to 2000, however the effect is less visible for after that period and non existent for before.

Figure 9: Crisis by income share of the lowest 10 percentile in destination

Finally, the crisis and non crisis level migratory flow levels are compared with regards to political stability, with level of internal conflict being the proxy of it. As illustrated in the figure, the results are somewhat mixed across the years and most visible for 1995 to 2000 year interval and 2010-2015 with many crisis outflow from countries experiencing internal conflict such as Congo for the former and Syria for the latter.

Figure 10: Crisis by internal conflict

The descriptive discussion in this part has aimed at addressing the time effects, global trends, and missing data. Different measurements of migratory flows has first been explored across the years and countries, and then compared to the trends in different structural drivers. These illustrations are also important in detecting issues that may be hidden within large datasets. Having shown the potential for correlational relationships, the next section tests them through multivariate models in a rigorous way.

ESTIMATIONS OF FLOWS AND CRISIS FLOWS

In order to statistically test the role of the structural drivers on migration flows and crisis level flows different random effects time series models are estimated with robust standard errors are clustered at the country level, that allow for intra-group correlation. The first set of these models focuses on flows from the origin countries with the aforesaid three different dependent variables, namely flows, net flows, and crisis flows. Due to the missing values in some of the independent variables, first a base model is estimated with the better available ones, and others are added as different models. Because of the missing data issues, every model is estimated with different number of observations, making comparison across the models rather problematic. Nevertheless, it is the only way to explore the impact of different structural drivers. For each dependent variable two models are estimated, one fully with economic and demographic drivers and a second set with political structural variables, namely internal and external conflict included.

ORIGIN COUNTRY FOCUSED MODELS

Table 1 below illustrates the role of the basic economic and demographic drivers on migratory flows from origin countries. As expected, population size has a statistically significant positive impact on flows, as well as population growth. None of the other variables have a statistically significant impact in any direction. As also illustrated in the descriptive section, the years 1990-95 and 1995-2000 exert a separate effect when controlling for the drivers. The model fits as illustrated by R-Squared valueas are above .38, explaining up to 45% of variance in flows for the model incorporating the effect of the secondary school enrollment rates. second table incorporates the conflict related variables.

Table 1: Basic demographic and economic drivers of migratory flows

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LN Population	0.6580***	0.6462***	0.6493***	0.6907***	0.7182***	0.7895***
	(0.0358)	(0.0372)	(0.0383)	(0.0473)	(0.0520)	(0.0680)
Landlocked Origin	0.0631	0.0510	-0.0103	-0.0248	-0.0750	-0.1486
	(0.1740)	(0.1735)	(0.1669)	(0.1832)	(0.1820)	(0.2676)
LNGDP pc	0.5617	0.3668	0.3481	0.0571	0.3127	0.5079
	(0.4235)	(0.4694)	(0.5219)	(0.8151)	(0.7395)	(0.8942)
GDP pc Squared	-0.0391	-0.0308	-0.0236	-0.0130	-0.0270	-0.0320
	(0.0250)	(0.0268)	(0.0300)	(0.0455)	(0.0408)	(0.0485)
Fertility in Origin		-0.0662	0.1117	-0.0763	-0.0840	0.1302
		(0.0562)	(0.0784)	(0.0838)	(0.0897)	(0.1433)
Pop Growth Origin			-0.2722***			
			(0.0940)			
Labor Force P Origin				0.0003		

				(0.0090)		
Unemployment Origin					0.0072	
					(0.0123)	
Secondary School Enrollment Origin						0.0025
						(0.0087)
1965.year	-0.0537	-0.0503				
	(0.1815)	(0.1829)				
1970.year	0.2347	0.2310	0.2893			
	(0.2032)	(0.2047)	(0.1902)			
1975.year	0.2851	0.2676	0.3782			0.1106
	(0.2326)	(0.2335)	(0.2356)			(0.4362)
1980.year	0.2019	0.1606	0.2913			-0.1643
	(0.2380)	(0.2378)	(0.2499)			(0.6885)
1985.year	0.1499	0.0895	0.2651			0.2091
	(0.2308)	(0.2381)	(0.2333)			(0.4376)
1990.year	0.4052*	0.3404	0.5379**			0.3849
	(0.2083)	(0.2131)	(0.2370)			(0.4974)
1995.year	0.4148**	0.3261	0.5012**	-0.0604		0.7344*
	(0.2051)	(0.2218)	(0.2368)	(0.1306)		(0.4364)
2000.year	0.2995	0.1871	0.3917	-0.1990	-0.1411	0.6694*
	(0.2051)	(0.2244)	(0.2405)	(0.1666)	(0.1359)	(0.3753)
2005.year	0.3207	0.2042	0.4452*	-0.1813	-0.1263	0.6353*
	(0.2006)	(0.2173)	(0.2409)	(0.1532)	(0.1343)	(0.3830)
2010.year	0.2470	0.1291	0.3794	-0.2785*	-0.2343*	0.6431
	(0.2024)	(0.2189)	(0.2368)	(0.1579)	(0.1405)	(0.4217)
Constant	-1.6168	-0.0788	-0.8496	0.9470	-0.6626	-4.5185
	(1.9682)	(2.4031)	(2.6585)	(4.3326)	(3.6797)	(4.7472)
Observations	1,545	1,537	1,448	815	662	381
R-squared	0.3890	0.3811	0.3836	0.4277	0.4504	0.4668
Number of countries	178	178	178	171	171	131

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In addition to basic demographic and economic indicators, other structural variable such as poverty, inequality, or political conflict may also be important drivers of migration. To account for their effect, while also having models with an acceptable sample size across the years, they are estimated separately. As shown, both percentage living in poverty and the level of an existing conflict with another country in the origin country have a statistically significant and positive impact on migratory flows as many theories would have expected. This variable is intentionally measured as those earning less than 5.50 USD per day, because it is expected that at much lower income levels, migration is not an option due to lack of resources. Other inequality measures, incomeshare of the lowest 10 percentile and GINI, as well as internal conflict does not seem to have a statistically significant effect on the global flows explored. The lowest 10 percent variable is intentionally measured as those earning less than 5.50 USD per day, because it is expected that at much lower income levels, migration is not an option due to lack of resources.Finally, Life expextancy has the opposite effect than the one expected in that life expectancy in the origin has a positive effect on flows. This could be because most countries have reached similar high life expectancies during this period, not providing us with the desired variation, but it still deems further investigation. When it comes to model fits, all models explain above 31 percent of the variation in the dependent variable. Unfortunately, the shrinking numbers of observations due to the missing values in the explanatory variables, each model is in fact estimated with a different sample, making comparisons across models problematic. As a result it is not entirely possible to pinpoint one model in being better at estimating the flows.

Table 2: Other drivers of all migratory flows

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LN Population	0.6359***	0.6458***	0.6501***	0.6407***	0.6026***	0.5697***
	(0.0708)	(0.0364)	(0.0522)	(0.0525)	(0.0702)	(0.0873)
Landlocked Origin	0.1189	0.1326	0.1690	0.1848	0.4273	0.0769
	(0.2075)	(0.1682)	(0.2120)	(0.2173)	(0.2877)	(0.3022)
LN GDP pc	-0.0117	0.1522	0.2891	0.7256	1.0958	0.2274
	(1.1830)	(0.4877)	(0.9928)	(0.9943)	(1.1053)	(0.8021)
LN GDP Squared	-0.0125	-0.0235	-0.0311	-0.0449	-0.0714	-0.0262
	(0.0641)	(0.0272)	(0.0539)	(0.0516)	(0.0651)	(0.0437)
Fertility Origin	-0.1273	0.0076	-0.1756	-0.2100*	-0.0989	-0.1056
	(0.1449)	(0.0624)	(0.1256)	(0.1192)	(0.1291)	(0.1191)
Incomeshare L 10 %	-0.0059					
	(0.1088)					
Life Expectancy		0.0319**				
		(0.0137)				
GINI Origin			0.0065			
			(0.0092)			
% Living Poverty				0.0112**		
				(0.0050)		
Conflict 5 Yrs					-0.0170	
					(0.0237)	
Hostility Level 5 yrs						0.2196**
						(0.1091)
1965.year		-0.0984				-0.7633
		(0.1850)				(0.5209)
1970.year		0.1534			0.8034**	0.1195
		(0.1952)			(0.3631)	(0.3509)
1975.year		0.1536	-0.2911	-0.2505	1.0306**	0.3355
		(0.2195)	(0.4495)	(0.4133)	(0.4339)	(0.3522)
1980.year	0.6395	0.0013	-0.0083	-0.0701	0.1307	-0.2472
	(0.8396)	(0.2319)	(0.2487)	(0.2440)	(0.6004)	(0.5136)
1985.year	0.2312	-0.0986	-0.2590	-0.3514	0.1764	-0.3429
	(0.7356)	(0.2292)	(0.2793)	(0.2674)	(0.4721)	(0.5423)
1990.year	-0.1524	0.1367	-0.2648	-0.3429	0.3494	0.5375*
	(0.9303)	(0.1972)	(0.2587)	(0.2490)	(0.5742)	(0.3238)
1995.year	0.7583	0.1389	0.0224	-0.0779	0.2997	-0.0520
	(0.6994)	(0.2097)	(0.2364)	(0.2190)	(0.4894)	(0.3844)
2000.year	0.6425	-0.0043	-0.0053	-0.1043	0.4861	0.3209
	(0.6893)	(0.2150)	(0.2461)	(0.2311)	(0.4864)	(0.4000)
2005.year	0.4859	-0.0044	-0.0403	-0.1235	0.3573	0.3684
	(0.7021)	(0.2128)	(0.2501)	(0.2294)	(0.5113)	(0.3696)
2010.year	0.4659	-0.1185	-0.0970	-0.1597	0.0784	0.1197
	(0.7027)	(0.2072)	(0.2379)	(0.2319)	(0.5576)	(0.4419)
Constant	1.8552	-0.9984	0.8210	-1.7545	-2.5667	1.3058
	(6.3423)	(2.3273)	(5.1285)	(5.4557)	(5.5260)	(4.8479)
Observations	265	1,535	601	606	382	403
R-squared	0.3535	0.3905	0.3770	0.3755	0.3106	0.3266
Number of countries	112	178	152	152	45	74

Robust standard errors, clustered at the country level, are in parentheses

*** p<0.01, ** p<0.05, * p<0.1

When the same models illustrated in Tables 1 and 2 are estimated for net migratory flows, GDP per capita has a statistically significant effect on netflows, albeit a poisitive one increasing an increase in the per capita income resulting in an increase in netflows. This is partly due to the nonlinear effect of income on migration, which is tested via a GDP squared variable, which also is significant in a negative way, confirming the reverse U shaped effect of GDP on mobility. Even when added individually and despite the large sample size, the other variables do not seem to have a sizable impact on net flows except for population growth. As origin's population growth increases, the migratory flows form that country decreases. This could be due to a similar impact on GDP in that, below certain population growth sizes, out-migration may be minimal as in many developed countries, whereas for mid-range an opposite effect may be the case, which deems further exploration. The limited number of working independent variables in this model also reflect on the low rates of model fit in that only 10 to 14 percent of the variation in net outflows are explained by the models.

Table 3: Basic demographic and economic drivers of net outflows

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LN Population	-1811.4	-5732.6	-1840.9	4321.9	1716.0	-27991.3
	(28045.1)	(28926.8)	(32011.3)	(47870.7)	(50270.3)	(47780.8)
Landlocked O	79305.3	76305.0	70761.0	25229.2	-6380.8	-33482.9
	(51694.9)	(50458.3)	(53110.0)	(59183.9)	(57105.1)	(80346.4)
LNGDP pc	1198289.6***	1121040.5***	1214903.9***	1169271.3***	833570.5***	207114.6
	(319428.4)	(314904.6)	(348593.3)	(308213.8)	(267337.4)	(388414.4)
GDP pc Squared	-77286.0***	-73620.8***	-77894.8***	-76418.9***	-57966.5***	-21262.9
	(20134.9)	(19746.3)	(21512.2)	(18438.7)	(16060.7)	(21481.4)
Fertility in Origin		-21244.1	17577.6	19978.7	-2832.1	-80472.1**
		(17135.4)	(23179.6)	(31127.4)	(26691.3)	(38375.0)
Pop Growth Orig			-65812.9***			
			(13933.7)			
Labor F P art Orig				2419.8		
				(3067.3)		
Unemp. Orig					1596.1	
					(5071.1)	
Sec.Schoo Enrollment Origin						-3289.0
						(2047.7)
1965.year	10248.9	10942.1				
	(23605.7)	(23777.2)				
1970.year	15643.6	13062.5	2611.0			
	(43657.0)	(43631.1)	(41159.1)			
1975.year	12649.5	5188.2	5312.9			-39850.8
	(40919.4)	(41819.6)	(36741.9)			(125119.6)
1980.year	11720.0	-868.5	4314.1			58388.8
	(39998.4)	(42380.1)	(37349.0)			(126617.6)
1985.year	24338.9	6134.4	20188.0			-15921.6
	(37958.4)	(41557.5)	(37191.7)			(118615.7)
1990.year	64724.5	39946.8	58008.8			-44676.8

	(40217.6)	(42023.0)	(39698.2)			(128556.4)
1995.year	51777.1	19721.8	31373.5	-5959.6		-3763.2
	(47874.2)	(57960.0)	(56787.4)	(41810.0)		(129953.8)
2000.year	71027.8	34339.8	52078.0	21169.9	23273.9	-60051.0
	(44076.9)	(51471.5)	(52692.0)	(47668.5)	(40501.3)	(136260.5)
2005.year	89367.6*	51029.5	77535.2	45086.6	48462.9	-33749.8
	(50969.3)	(51799.5)	(51504.9)	(50496.3)	(54606.8)	(125341.7)
2010.year	66984.7*	28420.1	54741.7	24291.5	30363.7	-31069.5
	(40566.4)	(45584.3)	(44996.9)	(49408.8)	(57901.8)	(132030.9)
Constant	-4507071.1***	-3959155.9***	-4539487.8***	-4588541.2**	-2847164.9*	738559.2
	(1257779.7)	(1303034.0)	(1558007.0)	(1789076.4)	(1531318.6)	(1956881.5)
Observations	1574	1566	1477	837	678	393
R-squared	0.0945	0.1014	0.0980	0.1212	0.1366	0.1400
Number of countries	178	178	178	172	172	137

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4 below incorporated the impact of inequality, poverty and conflict as additional independent variables and the the estimated models seem to yield to some interesting results. First, higher levels of life expectancy are correlated with higher levels of out-migration measured as net flows as well. Furtermore, an increase in the percentage of those living in poverty also results in higher out-migration. Interestingly, none of the conflict variables do seem to have a statistically significant effect on flows, with the economic factors having somewhat of a more visible impact. Nevertheless, most models yield to low model fit numbers, indicating that there is more to the story than we can measure. The model fits are considerably better after the inclusion of these set of variables, but again as the sample size has shrunk considerably in all models but 2, it is hard to reach any comparative conclusions.

Table 4: Other structural drivers of net outflows

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LN Population	-22718.2	-6748.9	1932.1	-4091.0	-29329.2	-42136.6
	(62243.1)	(29116.7)	(50067.8)	(48828.4)	(82670.7)	(78946.4)
Landlocked Origin	30303.6	91558.3*	69882.5	89156.2	209088.6	158802.4
	(73002.3)	(53383.5)	(59946.7)	(65007.2)	(138293.5)	(125099.4)
LN GDP pc	913231.0	1081534.5***	1061053.0**	1219456.0**	3850318.6***	1930018.4***
	(589405.5)	(309289.8)	(417214.5)	(480214.2)	(1365523.0)	(713366.0)
LN GDP Squared	-65392.5*	-72210.1***	-74608.9***	-76773.3***	-246818.3***	-123085.6***
	(34870.6)	(19514.3)	(26634.0)	(27977.3)	(92512.9)	(45804.2)
Fertility Origin	-48536.1	-11942.6	-58795.4*	-93584.6**	-6702.0	-19630.2
	(62595.0)	(16885.6)	(33000.0)	(38758.8)	(59334.3)	(43807.1)
Incomeshare 10 %	48957.0					
	(57832.8)					
Life Expectancy		5448.3*				
		(3063.0)				
GINI Origin			-3019.9			
			(4184.1)			
% Living Poverty				6418.7***		
				(2317.5)		

Conflict 5 Yrs					27417.3	
					(29589.0)	
Hostility Level 5 yrs						-15965.7
						(21766.5)
1965.year		3470.9				-7653.2
		(24604.0)				(78548.1)
1970.year		-2115.8			-53145.5	-71330.7
		(45859.9)			(98476.5)	(112863.5)
1975.year		-16947.7	-709696.9*	-938754.7**	-58377.2	-138507.5
		(46155.7)	(399626.0)	(430989.7)	(89284.8)	(111152.9)
1980.year	130188.3	-31171.3	-892769.9**	-894214.5**	-171472.0	-167084.9
	(336415.2)	(47870.5)	(390995.3)	(377163.1)	(129440.9)	(129715.1)
1985.year	-204937.3	-30477.2	-899091.9**	-913762.5**	-126143.7	-104271.0
	(237464.2)	(48472.9)	(382840.8)	(374725.4)	(137203.7)	(134152.2)
1990.year	27884.0	-22.0	-856605.8**	-897303.7**	-18281.2	16477.0
	(208744.9)	(50491.7)	(389230.9)	(385764.2)	(122836.7)	(129567.0)
1995.year	-66763.2	-18862.4	-868899.6**	-929524.8**	-184341.9	-124941.1
	(165540.1)	(66565.6)	(417626.7)	(419001.4)	(227600.5)	(208994.1)
2000.year	-140233.8	-5601.8	-819678.4**	-876352.4**	13545.3	-17867.1
	(174312.1)	(57241.7)	(384100.0)	(383342.0)	(158702.5)	(140640.7)
2005.year	-82874.6	7630.3	-795944.3**	-839178.0**	35725.5	106783.3
	(170415.4)	(57352.3)	(374854.6)	(372178.0)	(148203.7)	(151314.5)
2010.year	-80451.2	-22391.1	-823141.6**	-848688.0**	-41781.3	-17125.8
	(164804.7)	(50542.5)	(376822.7)	(371673.7)	(154665.8)	(140565.7)
Constant	-2423688.4	-4072306.4***	-2424764.1	-3762263.2	-14188486***	-6521063.1**
	(2926064.9)	(1309486.5)	(2019889.4)	(2561010.0)	(4751745.6)	(2969949.1)
Observations	269	1564	611	616	386	406
R-squared	0.1673	0.1048	0.1286	0.1412	0.2803	0.1441
Number of countries	113	178	153	153	45	74

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, the very same models have been estimated for the crisis level migratory outflows, the calculation of which has been laid out earlier in the deliverable. As the dependent variable is a binary one indicating whether or not there is a crisis level flow, the estimation methos is a random effects logit model, therefore, the sizes of the coefficients cannot be interpreted in a straightforward way. Accordingly, regarding the first set of models, the nonlinear GDP impact is confirmed for the first two models while the population effect is visible for all. In addition, when controlling for the impact of population size and fertility, population growth seems to have a statistically significant effect on flows, with higher values predicting lower out-migration. The impact of population growth apart from fertility is most likely to be a result of migration, and therefore one can interpret this result from the perspective of developed countries that receive migration. In other words, as a country's population grows potentially due to migration, it is less likely to be an origin for crisis flows as it is a recipient country.

Table 5: Basic demographic and economic drivers of migratory crisis

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LNPopulation	1.1603***	1.1232***	1.2172***	1.2676***	1.3506***	1.6078***
	(0.1328)	(0.1327)	(0.1572)	(0.1736)	(0.2017)	(0.3121)
LNGDP pc	2.1231*	1.6899	2.0080	-1.8278	-0.1958	2.7866
	(1.1828)	(1.2217)	(1.4337)	(1.6527)	(1.6779)	(2.9470)
GDP pc Squared	-0.1447**	-0.1256*	-0.1378	0.0756	-0.0153	-0.2078

	(0.0738)	(0.0747)	(0.0882)	(0.0973)	(0.0958)	(0.1626)
Fertility in Origin		-0.1459	0.2106	-0.3372*	-0.2950	0.0247
		(0.1072)	(0.1641)	(0.1805)	(0.2123)	(0.3683)
Pop Growth Origin			-0.6394**			
			(0.2497)			
Labor Force P Origin				-0.0199		
				(0.0182)		
Unemployment Origin					-0.0121	
					(0.0304)	
Secondary School Enrollment Origin						0.0333
						(0.0243)
1965.year	0.2620	0.2726				
	(0.4135)	(0.4095)				
1970.year	0.0455	0.0363	-0.2270			
	(0.4741)	(0.4703)	(0.3901)			
1975.year	0.0303	-0.0126	-0.2093			1.4765
	(0.5348)	(0.5324)	(0.3731)			(1.4626)
1980.year	-0.2256	-0.3068	-0.4102			-0.7743
	(0.5651)	(0.5562)	(0.5192)			(1.1717)
1985.year	0.1069	-0.0126	-0.0693			1.2158
	(0.4995)	(0.4903)	(0.4471)			(1.5081)
1990.year	0.8647*	0.6940	0.6791			1.8331*
	(0.5035)	(0.4904)	(0.4696)			(1.0406)
1995.year	0.4586	0.2359	0.0848	-0.6113*		1.0129
	(0.5061)	(0.5119)	(0.4931)	(0.3612)		(0.8708)
2000.year	0.3099	0.0605	-0.0363	-0.8562**	-0.2432	0.7485
	(0.5246)	(0.5109)	(0.4812)	(0.4233)	(0.3653)	(0.7291)
2005.year	0.5380	0.2832	0.2803	-0.6011*	-0.0027	0.6220
	(0.5248)	(0.5021)	(0.4759)	(0.3644)	(0.3677)	(0.5629)
2010.year	-0.1864	-0.4344	-0.4302	-1.3887***	-0.8450*	
	(0.5138)	(0.5102)	(0.4748)	(0.4463)	(0.4567)	
lnsig2u	0.9974***	0.9448***	1.0987***	1.2587***	1.3208***	1.4477***
	(0.2441)	(0.2461)	(0.2622)	(0.2926)	(0.3112)	(0.4220)
Constant	-28.2925***	-24.7273***	-28.2776***	-9.5160	-19.9668**	-39.4638***
	(5.6270)	(6.0663)	(7.4125)	(8.4540)	(8.4697)	(14.8873)
Observations	1,607	1,599	1,508	864	702	394
Number of countries	187	187	187	181	181	140

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

When inequality and conflict variables are added to the LOGIT estimations, we see the positive impact of life expectancy and negative effect of GINI both of which are signigicant. Higher levels of inequality as measured by GINI being predictive of lower levels of migratory crisis is somewhat counter intuitive. Nevertheless, this may be due to the fact that as the level of inequality increases, the very poor become more materially deprived, so much that they cannot find the resources to migrate. Again, surprisingly internal or external conflict levels do not yield to a statistically significant impact and even their coefficient signs are inconsistent. Nevertheless, the high number of missing cases that occur once they are added to the models, may well be the reason for this result, making definite conclusions problematic.

Table 6: Other structural drivers of migratory crisis

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
LN Population	1.7091***	1.0958***	1.4467***	1.4406***	1.4046***	0.6972***
	(0.3881)	(0.1264)	(0.2378)	(0.2375)	(0.3270)	(0.1806)
LN GDP pc	-3.4608	1.0879	0.9549	-0.0366	2.0373	-0.4051
	(3.0219)	(1.2539)	(1.7696)	(1.7944)	(2.6007)	(1.7400)
LN GDP Squared	0.1384	-0.1025	-0.0945	-0.0316	-0.1424	-0.0061
	(0.1666)	(0.0751)	(0.1052)	(0.1056)	(0.1525)	(0.1016)
Fertility Origin	-0.7474**	0.0280	-0.2500	-0.3308	-0.0479	-0.3164
	(0.3548)	(0.1410)	(0.1899)	(0.2063)	(0.2718)	(0.1936)
Incomeshare 10 %	0.3235					
	(0.3967)					
Life Expectancy		0.0756**				
		(0.0377)				
GINI Origin			-0.0641*			
			(0.0344)			
% Living Poverty				0.0028		
				(0.0154)		
Conflict 5 Yrs					-0.0623	
					(0.0496)	
Hostility Level 5 yrs						0.2210
						(0.1701)
1965.year		0.1886				-0.1926
		(0.4120)				(0.8038)
1970.year		-0.1451			-0.1722	-0.2037
		(0.4781)			(0.5613)	(0.6387)
1975.year		-0.2465	1.6417	1.8262	0.8216	-0.1550
		(0.5259)	(1.7666)	(1.8156)	(0.5565)	(0.7711)
1980.year		-0.6255	-0.9338	-0.8727	-0.6758	-0.3257
		(0.5622)	(0.7998)	(0.7703)	(0.8859)	(0.8819)
1985.year	-3.0470*	-0.4042	-0.3296	-0.1434	0.1003	0.3022
	(1.5928)	(0.4922)	(0.8397)	(0.7909)	(0.7139)	(0.7587)
1990.year	1.3913	0.2542	0.7730	0.6907	-0.2047	0.3589
	(0.9003)	(0.5243)	(0.5147)	(0.5203)	(0.8979)	(0.5517)
1995.year	0.4775	-0.1705	0.8010	0.7327	-0.7911	-0.1949
	(0.8537)	(0.5261)	(0.5338)	(0.5427)	(1.0872)	(0.6810)
2000.year	0.3959	-0.3650	0.6983	0.5703	-0.9911	-0.5831
	(0.8709)	(0.5468)	(0.5270)	(0.5337)	(1.0661)	(0.7487)
2005.year	0.0020	-0.1916	0.8443*	0.7787*	-0.4859	0.1684
	(0.7009)	(0.5517)	(0.4494)	(0.4490)	(1.0249)	(0.7882)
2010.year		-1.0066*			-0.5976	-0.7249
		(0.5542)			(1.0970)	(0.7339)
lnsig2u	1.7124***	0.8018***	1.4516***	1.5739***	0.8997*	0.5976*
	(0.4917)	(0.2582)	(0.3255)	(0.3165)	(0.5106)	(0.3446)
Constant	-10.0413	-26.0915***	-24.3181***	-22.8039**	-31.1280**	-8.5746
	(15.2949)	(6.0909)	(8.7134)	(9.4306)	(13.4308)	(9.0555)
Observations	267	1,597	621	626	387	407
Number of countries	115	187	159	159	46	75

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

COUNTRY DYAD FOCUSED MODELS

Having illustrated the determinants of migratory flows from the perspective of origin countries, it is important to explore them more relationally, by looking at the interactions between country dyads. The presentation of the models will be similar to the previous section. To this end, a dyadic dataset is constructed, consisting of country dyads for the five year intervals between 1960 and 2015. The independent variables were also constructed to take this relational aspect into consideration by subtracting the origin values from the destination values for many of the determinants. With this data, random effect models with clustered robust standard errors were estimated first for overeall flows and then for crisis flows.

Table 7 below illustrates the role of several structural drivers in explaining migratory flows between dyads of countries feom 1960 to 2015. Accordingly, as expected being contiguous, sharing a common language, being a colony of the destination all have statistically significant positive impact on migration. Similarly, an increase in the distance between country dyads as well as being from a landlocked country results in lower levels of migration indicating the importance of geographical location and sea borders. In terms of the demographics, as the population of the country origin as well as the country of destination increase, so does the magnitude of migration flows. Similarly, an increase in the difference between the dyads in terms of the fertility rate results in higher migratory flows and this effect is statistically significant. This is predicted as the destination countries tend to have low fertility rates while they are higher in the origin. The difference between the GDP per capitas is also statistically significant for all the estimated models with higher difference between the dyad countries results in higher flows. When the impact of economic factors are considered, a dyadic estimation sheds light on some of the issues of income discussed with origin country models. For instance, as the difference between the country of origin and country of destination increase, so do the flows of people, showing the impact of economic growth as well as relative international deprivation. The next set of variables are included one by one, to show their sole impact to the base models as well as to make sure not to lose much data due to missing cases. While the differences in school employment or unemployment rates do not seem to have a statistically significant effect, a difference in labor force participation does. In particular, an increase in the difference in labor force participation between country dyads increase results in higher migration rates from the former country to the latter, also confirming the importance of job opportunities in countries of origin. These models demonstrate a much better fit to the data as evidenced by at least 35 percent of the variance in the dependent variable being explained.

Table 7: Basic structural drivers of migratory all flows based on country dyads

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
Contiguity	2.8388***	2.8066***	2.9495***	2.8700***	2.8450***	2.7821***
	(0.1896)	(0.1950)	(0.3515)	(0.2244)	(0.2112)	(0.1866)
Common Language	0.8905***	0.8850***	1.0002***	0.8926***	0.8557***	0.9032***
	(0.0686)	(0.0699)	(0.1303)	(0.0848)	(0.0844)	(0.0685)
Colony of Destination	2.8779***	2.9559***	2.1854***	3.2605***	3.1369***	2.8829***
	(0.1715)	(0.1724)	(0.2709)	(0.2045)	(0.1890)	(0.1696)
Colonizer of Destination	0.7334	0.6823	1.5599***	-0.0166	-0.0695	0.6768
	(1.2834)	(1.2065)	(0.4644)	(1.0377)	(1.0124)	(1.2372)
Distance in 1000km	-0.1097***	-0.1088***	-0.1203***	-0.1107***	-0.1081***	-0.1096***
	(0.0065)	(0.0065)	(0.0130)	(0.0082)	(0.0082)	(0.0063)
LN Origin Population	0.3235***	0.3242***	0.4205***	0.4002***	0.4223***	0.3270***
	(0.0231)	(0.0238)	(0.0545)	(0.0341)	(0.0329)	(0.0231)
LN Dest. Population	0.3738***	0.3787***	0.4657***	0.4286***	0.4121***	0.3734***
	(0.0138)	(0.0142)	(0.0257)	(0.0173)	(0.0175)	(0.0138)
Fertility Rate Difference	0.1235***	0.0892***	0.1674***	0.1526***	0.1421***	0.0678***
	(0.0206)	(0.0246)	(0.0633)	(0.0268)	(0.0250)	(0.0227)
LN GDP Diff	0.3899***	0.3791***	0.5251***	0.4810***	0.4232***	0.4161***
	(0.0173)	(0.0172)	(0.0361)	(0.0224)	(0.0209)	(0.0183)
Origin Landlocked	-0.5526***	-0.5636***	-0.6732***	-0.6310***	-0.4976***	-0.4594***
	(0.0918)	(0.0922)	(0.1728)	(0.1234)	(0.1265)	(0.0895)
Destination Landlocked	0.0195	0.0464	0.1307**	0.0875**	0.0344	-0.0312
	(0.0412)	(0.0420)	(0.0543)	(0.0426)	(0.0433)	(0.0433)
Diff in Pop Growth		0.0814***				
		(0.0190)				
Diff in Sec. Sch. Enroll			-0.0046			
			(0.0038)			
Diff in Unemployment				0.0058		
				(0.0037)		
Diff in Labor Force Partic					0.0173***	
					(0.0033)	
Diff in Life Expectancy						-0.0224***
						(0.0045)
1965.year	-0.1576					-0.1568
	(0.1257)					(0.1276)
1970.year	0.1884	0.3549***				0.1465
	(0.1351)	(0.1099)				(0.1346)
1975.year	-0.1284	0.0217	-0.0834			-0.1897
	(0.1660)	(0.1351)	(0.4438)			(0.1644)
1980.year	-0.1025	0.0640	-0.2176			-0.1720
	(0.1744)	(0.1482)	(0.4215)			(0.1726)
1985.year	-0.1479	0.0415	-0.1267			-0.2230
	(0.1740)	(0.1476)	(0.3774)			(0.1716)
1990.year	-0.5519***	-0.3775***	-0.3678			-0.6179***
	(0.1361)	(0.1351)	(0.4179)			(0.1330)
1995.year	-0.4704***	-0.3025**	-0.2281		0.0751	-0.5320***
	(0.1338)	(0.1274)	(0.3674)		(0.0950)	(0.1274)
2000.year	-0.6109***	-0.4248***	-0.6099**	-0.1568*	-0.0902	-0.6732***
	(0.1352)	(0.1361)	(0.2890)	(0.0888)	(0.0906)	(0.1302)
2005.year	-0.6723***	-0.5019***	-0.6858**	-0.2375**	-0.1746*	-0.7455***
	(0.1363)	(0.1403)	(0.2956)	(0.1015)	(0.0899)	(0.1317)
2010.year	-0.8635***	-0.6826***	-0.9890***	-0.4587***	-0.4036***	-0.9488***
	(0.1245)	(0.1333)	(0.2815)	(0.0809)	(0.0980)	(0.1202)
Constant	-10.8817***	-11.0768***	-14.5823***	-14.1490***	-13.8553***	-10.9928***

	(0.5159)	(0.5098)	(1.2429)	(0.7495)	(0.7111)	(0.5185)
Observations	115,211	111,214	13,530	56,456	68,859	115,027
R-squared	0.362	0.356	0.414	0.367	0.371	0.365
Number of dyads	17,744	17,703	7,501	15,488	15,780	17,743

Robust standard errors, clustered at the country level, are in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The models are reestimated with poverty and conflict related drivers plugged in and the results for all six models are illustrated in Table 8. Accordingly, basic demographic and economic variables continue to exert their statistically significant effect. In addition, the difference between the share of the lowest 10 percent from the national income also an important driver in that as it increases, so do the flows. For all models except the first one, whether or not the destination country is landlocked has now have a statistically significant effect, which was not the case for the previous, indicating the role played by ease of access through waterways. The impact of GINI is counter intuitive and neither internal, nor external conflict seems to have any statistically significant contribution to the models. The model fits are also slightly improved but deem careful comparison due to the different samples from which the models are estimated as a result of the missing values on these variables.

Table 8: Other structural drivers of migratory all flows based on country dyads

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
Contiguity	1.8165***	2.9409***	2.9325***	2.8134***	2.7970***	2.2151***
	(0.3471)	(0.2544)	(0.2525)	(0.4104)	(0.4046)	(0.3342)
Common Language	1.3855***	1.0968***	1.0894***	1.5215***	1.5275***	1.4036***
	(0.2068)	(0.0938)	(0.0920)	(0.1824)	(0.1775)	(0.1388)
Colony of Destination	2.8459***	2.6561***	2.6751***	5.0122***	4.9966***	3.0501***
	(0.2939)	(0.2074)	(0.2045)	(1.6373)	(1.6575)	(1.0356)
Colonizer of Dest	0.5600	-0.0585	0.0237			-1.4361
	(2.2243)	(2.0597)	(2.0535)			(1.6578)
Distance in 1000km	-0.1277***	-0.1088***	-0.1111***	-0.1051***	-0.1072***	-0.1394***
	(0.0206)	(0.0101)	(0.0098)	(0.0177)	(0.0179)	(0.0142)
LN Origin Population	0.5326***	0.4195***	0.4112***	0.3232***	0.3414***	0.4409***
	(0.0630)	(0.0344)	(0.0349)	(0.0494)	(0.0422)	(0.0431)
LN Dest. Population	0.5477***	0.4043***	0.4014***	0.3707***	0.3660***	0.4831***
	(0.0322)	(0.0193)	(0.0188)	(0.0389)	(0.0371)	(0.0287)
Fertility Rate (D)	0.2841***	0.2911***	0.2831***	0.0945**	0.0723*	0.1617***
	(0.0608)	(0.0305)	(0.0291)	(0.0387)	(0.0404)	(0.0453)
LN GDP (D)	0.7271***	0.6486***	0.6565***	0.4189***	0.4208***	0.6868***
	(0.0541)	(0.0272)	(0.0349)	(0.0459)	(0.0435)	(0.0386)
Origin Landlocked	-0.7264***	-0.5675***	-0.5847***	-0.7153***	-0.7725***	-0.7328***
	(0.2055)	(0.1186)	(0.1148)	(0.1942)	(0.1996)	(0.1888)
Dest Landlocked	0.0593	0.0639*	0.0805**	-0.2521*	-0.2426*	-0.3405***
	(0.0709)	(0.0380)	(0.0393)	(0.1447)	(0.1296)	(0.1283)
Incshare Low 10 % (D)	0.2113***					
	(0.0802)					
GINI (D)		-0.0105**				
		(0.0041)				
% Living Poverty (D)			-0.0010			

			(0.0027)			
Conflict L5 Yrs (D)				0.0155		
				(0.0199)		
Cum Conf (D)					0.0043	
					(0.0041)	
Host Level (D)						-0.0083
						(0.0330)
1965.year					-0.4532	-0.3310
					(0.2983)	(0.3713)
1970.year				0.1348	-0.3138	-0.2770
				(0.1673)	(0.2915)	(0.3371)
1975.year		-1.2890***	-2.0169***	-0.1741	-0.6279*	-0.7022*
		(0.4180)	(0.7636)	(0.2655)	(0.3560)	(0.4115)
1980.year	-1.5422	-3.1814***	-3.0706***	-0.1723	-0.6049	-0.9906**
	(1.7276)	(0.6927)	(0.6904)	(0.3384)	(0.4135)	(0.4789)
1985.year	-2.0664***	-2.6812***	-2.6003***	-0.4354	-0.8728**	-1.1839**
	(0.6353)	(0.4186)	(0.3951)	(0.3116)	(0.4031)	(0.4887)
1990.year	-3.0178***	-3.1208***	-2.9811***	-0.6630**	-1.1091***	-1.0231***
	(0.4181)	(0.3735)	(0.3737)	(0.3064)	(0.2874)	(0.3413)
1995.year	-2.3130***	-2.7739***	-2.6525***	-0.4383	-0.9017***	-1.1543***
	(0.2301)	(0.3569)	(0.3571)	(0.2730)	(0.3115)	(0.3187)
2000.year	-2.5356***	-2.8876***	-2.7667***	-0.9179***	-1.3786***	-1.3863***
	(0.1735)	(0.3493)	(0.3492)	(0.3323)	(0.2824)	(0.2710)
2005.year	-2.6925***	-3.0904***	-2.9645***	-0.8796***	-1.3476***	-1.5712***
	(0.1560)	(0.3522)	(0.3509)	(0.3255)	(0.2685)	(0.3631)
2010.year	-2.9144***	-3.2911***	-3.1661***	-0.9215***	-1.3879***	-1.7340***
	(0.1463)	(0.3561)	(0.3542)	(0.3300)	(0.2726)	(0.3134)
Constant	-17.2493***	-12.3464***	-12.3595***	-11.3692***	-11.1484***	-15.9927***
	(1.4769)	(0.9258)	(0.9586)	(1.0097)	(1.0537)	(1.0493)
Observations	7,662	30,687	30,958	7,129	7,429	7,866
R-squared	0.404	0.428	0.426	0.384	0.389	0.366
Number of dyads	4,883	11,476	11,505	1,086	1,089	2,481

Having illustrated the impact of different drivers in a relational way based on country dyads, similar models are estimated this time only for origin countries with crisis level origins, yielding to the results in the following table. This is to see if any of the drivers work differently for the crisis level migratory flows. Accordingly, contiguity, distance, common language and colonization history all seem to be significantly affecting the variation in flows from crisis origin countries, much like the overall flow models. The coefficients of certain drivers are different, and overall have higher values. For instance, the difference in GDP per capitas beween the countries is almost double of what it was for all flows. Similary, contiguity, colonization past, fertility, distance between the countries in the dyad also exert a higher influence and also continues to be statistically significant. In particular, Overall, the results are similar but the model fits have visiby improved indicating these drivers are better at modeling high level flows.

Table 9: Basic structural drivers of flows based on country dyads for crisis origins

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Contiguity	3.3170***	3.2787***	2.7036***	2.9796***	3.1723***	3.2781***
	(0.3177)	(0.3275)	(0.5366)	(0.3821)	(0.3458)	(0.3201)
Common Language	0.9879***	0.9643***	1.1573***	0.9576***	0.8486***	1.0327***
	(0.1422)	(0.1509)	(0.2284)	(0.1749)	(0.1605)	(0.1434)

Colony of Destination	3.3237***	3.3294***	2.4156***	3.5267***	3.4874***	3.2871***
	(0.2690)	(0.2628)	(0.5626)	(0.3808)	(0.3133)	(0.2667)
Colonizer of Dest	0.0510	0.1098	1.0557**	-0.5133	-0.6658	-0.0041
	(1.4119)	(1.3660)	(0.4417)	(1.2314)	(1.2716)	(1.3632)
Distance in 1000km	-0.1446***	-0.1459***	-0.1704***	-0.1381***	-0.1435***	-0.1430***
	(0.0095)	(0.0096)	(0.0262)	(0.0124)	(0.0114)	(0.0096)
LN Origin Population	0.3145***	0.3131***	0.7412***	0.3862***	0.4299***	0.3159***
	(0.0619)	(0.0645)	(0.1120)	(0.0752)	(0.0612)	(0.0609)
LN Dest. Population	0.5485***	0.5495***	0.6610***	0.5942***	0.5537***	0.5461***
	(0.0203)	(0.0210)	(0.0448)	(0.0257)	(0.0260)	(0.0203)
Fertility Rate Diff	0.1423***	0.1462**	0.0065	0.1117*	0.1297***	0.0612
	(0.0461)	(0.0581)	(0.1432)	(0.0593)	(0.0487)	(0.0495)
LN GDP Diff	0.6717***	0.6737***	0.7900***	0.7397***	0.6653***	0.7015***
	(0.0346)	(0.0358)	(0.0885)	(0.0446)	(0.0401)	(0.0375)
Origin Landlocked	-0.6316***	-0.6422***	-1.0762***	-0.5484*	-0.4106*	-0.5500**
	(0.2368)	(0.2417)	(0.3420)	(0.2972)	(0.2454)	(0.2238)
Dest Landlocked	0.0141	0.0115	-0.0783	0.0122	-0.0321	-0.0520
	(0.0871)	(0.0860)	(0.1696)	(0.0970)	(0.0919)	(0.0916)
Diff in Pop Growth		0.0089				
		(0.0405)				
Diff in Sec. Sch. Enroll			-0.0068			
			(0.0080)			
Diff in Unemployment				0.0010		
				(0.0142)		
Diff Labor Force Partic					0.0258***	
					(0.0056)	
Diff in Life Expectancy						-0.0258**
						(0.0104)
1965.year	-0.4221					-0.4559
	(0.3084)					(0.3165)
1970.year	-0.2671	0.2086				-0.3225
	(0.3566)	(0.2310)				(0.3747)
1975.year	-1.4705***	-1.0047***				-1.5253***
	(0.3818)	(0.2934)				(0.4018)
1980.year	-1.0074**	-0.5316*	-1.4946**			-1.0596**
	(0.4472)	(0.2961)	(0.5961)			(0.4599)
1985.year	-0.8651***	-0.4076	0.1466			-0.9158***
	(0.3313)	(0.2631)	(0.5720)			(0.3426)
1990.year	-1.0452***	-0.5736**	-1.3677**			-1.0850***
	(0.3195)	(0.2770)	(0.6360)			(0.3063)
1995.year	-1.2302***	-0.7646***	-2.1137***		-0.3110*	-1.2898***
	(0.3497)	(0.2674)	(0.7083)		(0.1664)	(0.3412)
2000.year	-1.1902***	-0.7294**	-1.1418**	0.0942	-0.2229	-1.2531***
	(0.2876)	(0.3096)	(0.5391)	(0.2148)	(0.1787)	(0.2746)
2005.year	-1.2569***	-0.7984**	-1.2045**	0.0311	-0.3044*	-1.3291***
	(0.3167)	(0.3157)	(0.5523)	(0.2421)	(0.1821)	(0.3059)
2010.year	-1.7003***	-1.2479***	-2.0938***	-0.5052**	-0.8489***	-1.7906***
	(0.3122)	(0.3203)	(0.5742)	(0.2148)	(0.1755)	(0.3000)
Constant	-	-	-	-	-	-
	14.2045***	14.6557***	23.5076***	18.1376***	17.3138***	14.3014***
	(1.1841)	(1.1442)	(2.1084)	(1.3341)	(1.0726)	(1.1973)
Observations	26,150	25,507	2,792	13,809	17,783	26,122
R-squared	0.426	0.426	0.544	0.418	0.434	0.427
Number of dyads	8,479	8,455	1,902	6,129	7,258	8,477

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, the dyad models with only crisis origins were replicated also for conflict and inequality related. drivers. Overall, except for contiguity, colonization past and fertility rates, all independent variables exert higher influence fort he crisis countries as evidenced by higher values of their coefficients. When it comes to income share held by the lowest ten percent, as the difference between the countries increases, so does the mobility, in that there is a flow between the countries from those with the poorest percentile having the a small share from national wealth to those with a larger share from the national wealth. This result indicates inequality in addition to wealth, is an important predictor of crisis level migratory flows. When political conflict related variables are considered, an increase in the difference, low numbers are indicative of a large difference in favor of the destination countries results in more migration. As in the case of tthe models illustrated with the basic drivers, these models have a better fit to the data as evidenced by high R-Squared values.

Table 10: Other structural drivers of crisis level flows

INDEP. VAR.S	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
Contiguity	1.6648***	3.0844***	2.9188***	2.8482***	2.7776***	2.6098***
	(0.5574)	(0.4329)	(0.4278)	(0.4873)	(0.4815)	(0.4160)
Common Language	2.0736***	1.3318***	1.2155***	1.7125***	1.7644***	1.5552***
	(0.4206)	(0.2201)	(0.2213)	(0.3372)	(0.3103)	(0.2870)
Colony of Destination	2.7327***	2.9566***	3.0599***	4.3979**	4.3005**	1.7187
	(0.6138)	(0.4112)	(0.3920)	(2.0999)	(2.1699)	(1.3755)
Colonizer of Dest	-0.1944	-1.1450	-0.8571			-1.2314
	(2.6706)	(2.6488)	(2.5915)			(1.8079)
Distance in 1000km	-0.1399***	-0.1010***	-0.1317***	-0.1373***	-0.1416***	-0.1427***
	(0.0405)	(0.0212)	(0.0177)	(0.0312)	(0.0310)	(0.0220)
LN Origin Population	0.4729***	0.3742***	0.3901***	0.1848	0.2180	0.2848***
	(0.1355)	(0.0733)	(0.0698)	(0.1374)	(0.1360)	(0.0913)
LN Dest. Population	0.7289***	0.5821***	0.5678***	0.5049***	0.4973***	0.5663***
	(0.0504)	(0.0301)	(0.0284)	(0.0540)	(0.0505)	(0.0447)
Fertility Rate (D)	0.2082*	0.3419***	0.2601***	0.1144*	0.0830	0.1179
	(0.1237)	(0.0617)	(0.0722)	(0.0612)	(0.0541)	(0.0836)
LN GDP (D)	0.9714***	0.8309***	0.9169***	0.6638***	0.6419***	0.8768***
	(0.1116)	(0.0510)	(0.0725)	(0.0672)	(0.0638)	(0.0643)
Origin Landlocked	-1.3257***	-0.5927**	-0.7130***	-1.0305*	-1.2168**	-0.9297**
	(0.3836)	(0.2856)	(0.2746)	(0.5358)	(0.5435)	(0.4551)
Dest Landlocked	-0.1719	0.0197	0.0431	-0.6545***	-0.6551***	-0.7711***
	(0.1360)	(0.0954)	(0.0938)	(0.1816)	(0.1663)	(0.1838)
Inc. Lowest % (D)	0.3648**					
	(0.1758)					
GINI (D)		-0.0490***				
		(0.0092)				
% Living Poverty (D)			0.0026			
			(0.0062)			
Conflict L5 Yrs (D)				0.0460***		
				(0.0163)		
Cum Conf (D)					0.0079*	
					(0.0047)	
Host Level (D)						-0.0054
						(0.0399)
1965.year					-0.6786***	-0.3159
					(0.2599)	(0.4211)
1970.year				-0.5218	-1.2041**	-0.9672
				(0.3875)	(0.5666)	(0.6266)
1975.year		-1.6145***	-2.6335***	-1.5826***	-2.2682***	-2.3121***
		(0.3470)	(0.8495)	(0.2657)	(0.3125)	(0.5763)

1980.year		-2.3672***	-2.3913***	-1.6255***	-2.3807***	-2.2056**
		(0.4519)	(0.4077)	(0.6154)	(0.7952)	(0.8641)
1985.year		-3.0614***	-2.8923***	-0.6140	-1.2489***	-1.1838**
		(0.3454)	(0.2865)	(0.4115)	(0.4037)	(0.5019)
1990.year	0.7246	-2.4175***	-2.2958***	-0.8443**	-1.4553***	-1.2260***
	(0.5846)	(0.2321)	(0.2632)	(0.3602)	(0.3752)	(0.4724)
1995.year	1.7215***	-2.4198***	-2.2719***	-0.8544***	-1.4659***	-1.3986***
	(0.2545)	(0.2681)	(0.2987)	(0.3099)	(0.4033)	(0.5014)
2000.year	1.5879***	-2.4625***	-2.2550***	-1.2595***	-1.8506***	-1.5643***
	(0.2912)	(0.1952)	(0.2360)	(0.4694)	(0.3548)	(0.4019)
2005.year	1.4734***	-2.6869***	-2.4716***	-1.4947***	-2.1327***	-2.1059***
	(0.3387)	(0.2128)	(0.2487)	(0.4901)	(0.4107)	(0.5597)
2010.year	1.0086***	-3.1749***	-2.9899***	-1.7563***	-2.3976***	-2.3049***
	(0.3432)	(0.2461)	(0.2752)	(0.4950)	(0.3703)	(0.5025)
Constant	-24.5604***	-15.7513***	-16.4711***	-11.6828***	-11.2772***	-15.1678***
	(2.7060)	(1.3980)	(1.4057)	(1.9261)	(1.9108)	(1.8136)
Observations	2,324	8,190	8,308	2,102	2,217	2,629
R-squared	0.504	0.493	0.489	0.421	0.424	0.395
Number of dyads	1,630	3,774	3,831	633	634	1,117

Robust standard errors, clustered at the country level, are in parentheses
*** p<0.01, ** p<0.05, * p<0.1

SUMMARY OF RESULTS

The models estimated in this section aimed at understanding the dynamics of crisis level migratory flows from the perspective of countries of origin based on origin specific as well as dyadic models. Following the descriptive explorations of the data, for three different conceptualizations of flows, a basic model incorporating the basic economic and demographical model has been estimated followed by an extended model including variables on poverty, inequality, as well as conflict. The models based on origin countries confirmed the non-linear role of GDP per capita for cisis and net flow versions as well as the role of the size of the origin country's population for all dependent variable conceptualizations. Poverty as measured by percentage living in poverty also has a statistically significant effect on floes and outflows. The conflict variables addressing both internal and external dimensions of conflict did not perform as expected possibly because the flow variable predominantly consists of voluntary flows, as many developed countries with no conflict are also important countries of origins and finally because of the pooled data. As illustrated by the descriptive statistics conflict seemed to matter more for certain years as opposed to others.

Overall, the models focusing on origin country characteristics were affected by missing data issues regarding the explanatory variables, making the comparison across the models based on the relative impact of different variables or overall model fits a challenging task. This issue was somewhat alleviated for the dyadic models with much larger sample sizes, but still, different independent variable availabilities across time still resulted in models estimated with different samples. When these dyadic models are considered, geographical factors such as land and sea contiguity, being land locked or not had a statistically significant effect in all the models. Same goes for sharing a common language, having past colonial ties. In terms of the economic drivers, differences in the dyad in terms of GDP per capita and labor market participation were important drivers. Differences in terms of inequality as measured by the share of the poorest 10 percent from national income mattered for all dyadic models estimated. But the results with the GINI coefficient was not consistent. These drivers that mattered for overall flows but mattered even more for the crisis level flows as evidenced by their coefficient sizes and better model fits. Finally, conflict variables did not perform well for these dyads either.

In terms of the variance explained in the dependent variable, hence our model fits, straightforward flow data rather than net flows and dyadic models rather than origin country-year models yield to better estimations. This result should inform future research in addressing this migratory flows as tapping the exact migratory mechanisms taking place at an individual level through aggregate data is a rather challenging task. Not all dyadic models in extant literature explore the relational dimension of the data, which is what this deliverable attempted by calculating the differences between the origin and destination countries for each driver indicator. This endevour does not come without a cost in that, due to the missing data issues in developing countries especially for the early years in the dataset, the sample size shrank somewhat. As a way to at least partially combat this issue, the five year averages of the independent variables were taken for the available years. That is precisely why the efforts/projects that aim to address these gaps in the data are very valuable and should not only focus on migration data but also target the structural drivers.

CONCLUSIONS

In this deliverable, it is attempted to quantify the idea of a crisis migration, explore it across the time and space and illustrate the impact of different structural drivers of migratory flows and crisis flows. In doing this, Abel (2017)'s stock to flow conversions were used with a global dataset created covering 187 countries as both countries of origin and destination for the years 1960 to 2015. The findings first underline that when looked from the countries of origin, crisis level migrations are very common and widespread. While there are a small number of recurring countries as origins of migratory crisis, source countries mostly change across time and incorporate many developed countries, which are rarely discussed in a crisis discourse in politics. When the structural determinants are concerned, levels of development as measured by GDP are important with a non linear impact, and so do certain demographic characteristics of the countries. Equally importantly, the results contribute to the discussion on the vague role of poverty and inequality on migratory flows in that there is a clear and consistent statistically significant role of income share of the lowest ten percent of the population and percentage living in poverty across almost all models. The dyadic models further underlined the important role played by georgraphical position and cultural and colonial ties which were even more pronounced for crisis level migratory flows. This deliverable contributed to the existing literature by exploring the idea of crisis migration quantitatively, testing it with the largest available dataset and focusing on the largely ignored relational aspects of country pair by bringing the differences between the origin and destination countries to the front.

As argued in the previous sections of this working paper, our ability to estimate models and forecasts is constrained by the availability of data. Even though, it is believed that the most appropriate datasets are selected to measure the dependent and independent variables, the lack of data for certain countries, as well as the time span of the data available poses some threats to the results. While the former can be offset with the generation of new datasets imputing these gaps in data such as the HumMingBird project and replication of our models with these datasets in the future, the latter is not likely to be resolved any time soon. Furthermore, more research is needed in the long term, lagged or cumulative impact of certain structural drivers on flows, which is challenging to model as the dependent variable is coded for every five years and does not avail itself to a long time series analysis. Finally, while the structural drivers are mportant in understanding migration crisis, they should be complemented with other drivers, which is what this MAGYC Workpackage set to do. Taking the cues from the findings of this deliverable, the next working paper will address the direct and indirect effects of rapid onset and slow onset environmental changes in understanding crisis level migrations.

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