Migration from Central America and Mexico to the US: Does the Movement of People Affect the Economies of the Sending Countries?

Ana Magdalena Figueroa

Ana Figueroa, 31, from San Salvador (El Salvador), is a PhD Student at University of São Paulo, Brazil, since 2014. In 2008 received her Bachelor's degree in "Accounting and Finance" at Don Bosco University in El Salvador and her Master's Degree in "Political Science and International Relations at Chosun University, South Korea in 2012, where she wrote her thesis about "The Impact of Globalization on the Human Development of Development Countries". Her research interests are Economic Development, Human Development, Migration, Globalization.

Abstract

This research intends to study the effect of migration flows and migrant networks hypothesizing that freer migration leading to bigger migrant networks are beneficial for the economies of the sending countries, using the New Economics of Labor Migration theory which views migration as an economic decision made by migrants and whose return can be seen as remittances. The data covers a period from 1980 to 2010 and is analyzed through Cross-Sectional Time-Series Feasible Generalized Least Squares. The countries analyzed are Belize, Costa Rica, El Salvador, Nicaragua, Honduras, Guatemala, Panama, and Mexico, as the sending countries, finding that the very moment when migrants leave their home countries, these economies do not seem to experience a statistically significant shock, while once migrants have established themselves in their new host country as part of migrant networks, the effects on the economies of the sending countries becomes positive and statistically significant, as well as the remittances they send.

Keywords

Migration Flows, Migrant Networks, Remittances, Sending Countries.

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Introduction

Migration shapes the world, and reshapes it. It has done so over the history of mankind. In the United States, a nation (just like all the others) built by immigrants, there are people from different countries, religions and cultures, and Latino immigrants are one of the largest groups making about 46 percent of the total immigrant population, according to the Census Bureau[27]. Over the years, the U.S. has reinforced its migration laws and physical borders, especially the frontier with Mexico, in order to cease immigrants from the South to enter the country. Nevertheless, in spite of all the efforts, mass migration seems almost impossible to stop. The reasons: unemployment, insecurity, poverty, political prosecution and income inequality in the countries of origin, just to mention the principal "push" factors. In addition "pull" factors in the U.S. like better economic opportunities make this country very attractive for migrants who seek to survive, build a better life and support their families. The Mexican and Central American governments find it very difficult to stop their populations from walking away to the North.

The importance of this topic in the Central and North American region stems not only from its economic, political and social outcomes, but also from how sensitive it is for all those people whose families are separated every day when a member of the family decides to go and look for a better future, or when the U.S. government decides to deport some members of a family that was formed in American soil, separating them. Immigrants also face many more challenges like human rights abuses and work exploitation in the host country after running away from poverty, natural disasters or persecution back home. It is important for policy makers to know how migration flows and migrant networks impact at the national scale. Over the history, migration has strengthen economic growth, the formation of nations and the enrichment of cultures (Koser, 2007). This is why this study is concerned about how migrants themselves affect the economies of their countries back home, shifting from the common perspective of remittances to a human based perspective.

Why should we study the impact of migration flows on a whole economy? Most of the studies regarding this issue have focused on the individuals or households, and at most, on the migrant sending cities. According to the new economics of labor migration theory, households are part of larger groups, like communities and countries, and because of this, households related to migrants transmit the impacts of migration to other members of those groups, and even households that are not related to migrants are affected by migration when they interact with migrant related households. Therefore, it is very likely that the impacts of migration can be found even outside of the households that send migrants and receive the remittances directly, extending to the whole economy freeing restrictions on investment many times created by market failures, for instance. It can begin by improving the life of the immigrant himself, his family, his community and eventually reshaping his country, and this is why we need to study the effects of migration not only in the sending households, but also in the sending countries as a whole. But measuring this is not easy, and this is how this research contributes not only to the migration literature but also to the economic development literature by linking these two topics.

[27] Census Bureau's 2010 and 2011 American Community Survey. http://www.census.gov/acs/www/data_documentation/2010_release/

It is clear that the economy of a country is built upon many factors, but this study is done over the interest of explaining the role of millions of people who leave their home country and decide to work abroad. The data were gathered from the World Development Indicators, Penn World Table, the Yearbook of Immigration Statistics of the U.S. Department of Homeland Security, and Fitzgeral, Leblang and Teets' dataset on migration flows and migrant stocks from 1980 to 2010 analyzed through Cross-Sectional Time-Series Feasible Generalized Least Squares. The countries analyzed are Belize, Costa Rica, El Salvador, Nicaragua, Honduras, Guatemala, Panama, and Mexico. This research will give a brief overview of the migration flows and migrant stock from Central America and Mexico to the U.S., and then analyze the literature regarding their relationship with the sending countries to discuss whether there is a positive or negative influence. After this, the methodology and the quantitative analysis will be performed.

Literature Review

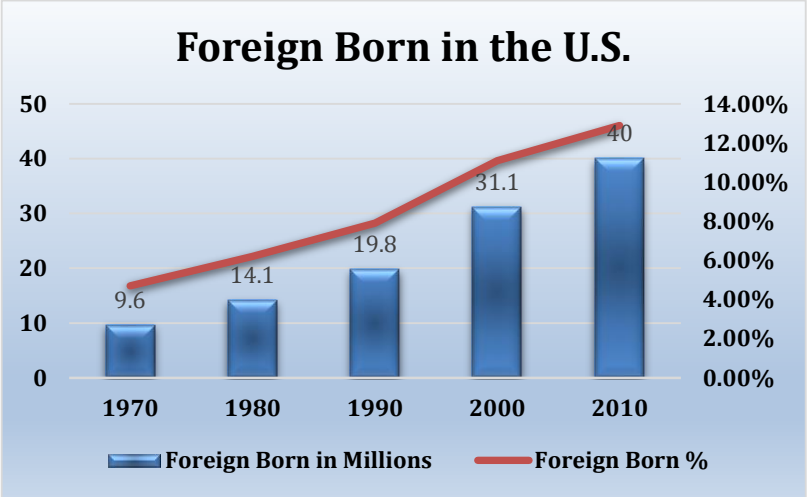
According to the Migration Policy Institute, the term "immigrants" denotes "the people residing in the United States who were not U.S. citizens at birth. This population includes naturalized citizens, lawful permanent residents, certain legal nonimmigrants (persons on student or work visas), those admitted under refugee or asylee status, and persons illegally residing in the U.S."[28] It is not easy to classify migrants because there are many reasons for them to migrate, however Koser attempts to classify migrants into three categories: a) those who can be distinguished between voluntary or forced migrants (usually refugees); b) those who can be differentiated according to their motives, such as political reasons (usually refugees) or economic reasons (low skilled and high skilled migrants); and c) those who are differentiated between legal and illegal migrants. Though some people argue that the term "illegal" is not adequate and instead the term "irregular" should be used, which covers those people who enter a country without documents or with fake documents and those who enter legally and stay in the country after their visa expires (Koser, 2007; 1975 UN General Assembly[29]).

By 2010, immigrants comprised 13 percent of the total U.S. population, and Latino immigrants made about 46 percent of the total immigrant population, according to the Census Bureau's 2010 and 2011 American Community Survey. It is estimated that 28 percent of all immigrants in the U.S. are there illegally. And nearly half of the Mexican and Central American immigrants are there illegally. Among the top sending countries, the largest percentage increase in the last decade was from Honduras (85 percent), India (74 percent), Guatemala (73 percent), El Salvador (49 percent), and China (43 percent) (Camarota, 2012). Graph 1 shows immigrants living in the U.S. represented in total number and percentage as share of the U.S. population, from 1970 to 2010.

[28] Migration Policy Institute, 2013 http://www.migrationpolicy.org/article/frequentlyrequested-statistics-immigrants-and-immigration-united-states

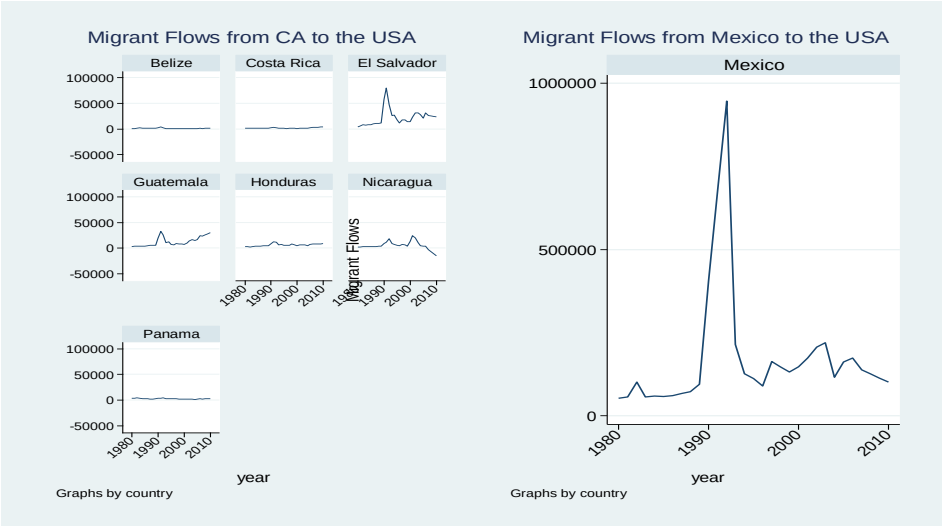
[29] 1975 UN General Assembly. Last accessed October 10th, 2015. Available at http://daccess-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/001/62/IMG/NR000162.pdf?OpenElement

Graph 1. Immigrants in the United States, Number and Percent, 1970-2010



Source: Adaptation by the author from decennial censuses, 1900 to 2010; American Community Survey, 2010 in Camarota, Steven (2012). "Immigrants in the United States. A profile of America's Foreign Born Population". Center for Immigration Studies.

Graph 2. Migrants Flows from CA and Mexico to the U.S., 1980 – 2010

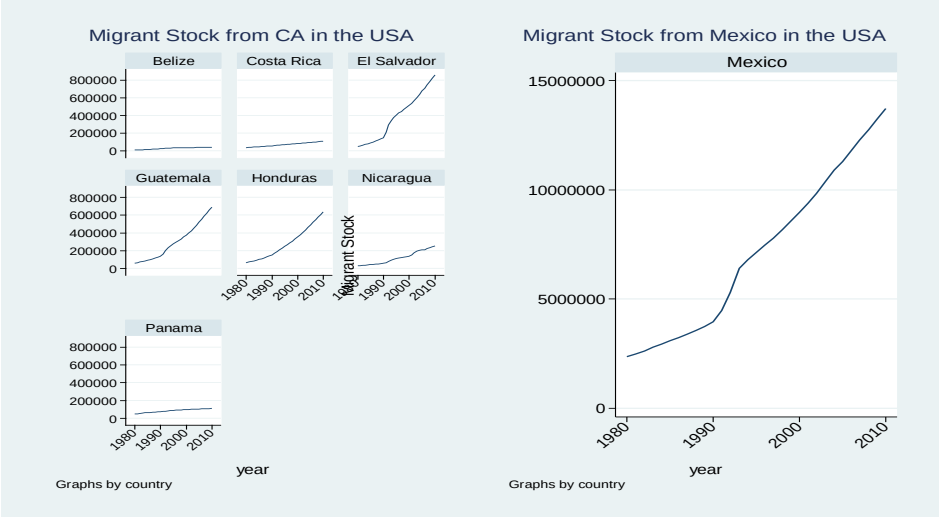


Source: Author, based on Fitzgerald, Leblang and Teets (2014). "Defying the Law of Gravity: The Political Economy of International Migration".

The increase in the rise of the immigrant population has been very remarkable especially since the 1970s. The last decade has been the highest in terms of immigrants' arrivals in the U.S. history and the impact of this on many areas of the sending and the receiving countries is undeniable. But what exactly is this impact? Is it negative or is it positive? Why? It is difficult for any country to attempt to incorporate 40 million newcomers into its society. Should the U.S. legalize them? Or should they remove them? Graphs 2 and 3 show the migrant flows from Central America and Mexico specifically to the U.S and the migrant stock in the U.S. from these countries, respectively,

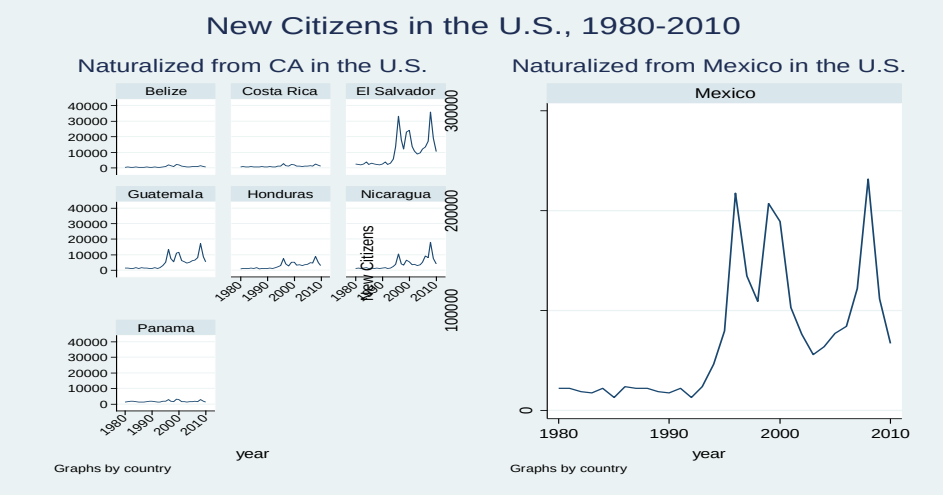
while Graph 4 shows the migrants who have been granted the citizenship status from 1980 to 2010. We can see a sharp increase in these three variables for El Salvador, Guatemala, Honduras and Mexico, while Belize, Costa Rica and Panama remain more conservative, showing a different behavior.

Graph 3. Migrant Stock from CA and Mexico in the U.S., 1980-2010



Source: Author, based on Fitzgerald, Leblang and Teets (2014). "Defying the Law of Gravity: The Political Economy of International Migration".

Graph 4. New Foreign Born Citizens from C.A. and Mexico in the U.S., 1980-2010



Source: Author, based on the Yearbook of Immigration Statistics, by the U.S. Department of Homeland Security.

Is Migration Beneficial for Mexico and The Central American Sending Countries?

"Free international migration can lessen the huge material inequalities and human injustices that many associate with today's globalizing world". (Moses, 2006).

Studies have been done on temporary migration (Epstein, 2005; Epstein, Hillmand and Weiss, 1999), and on the effect of immigrants on the local populations, that is, on the receiving country (Boeri, Hanson and McCormick, 2002). Several studies, for example, found similar result

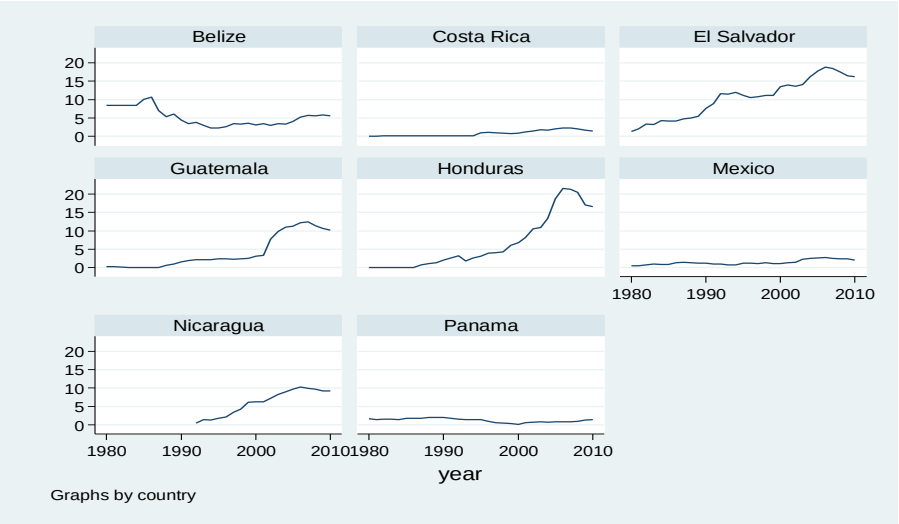
concluding that immigration has a small impact on wages and employment opportunities of natives, because immigrants who enter the country usually do the jobs that natives do not want to do (LaLonde, R. & R. Topel, 1991; Epstein and Nitzan, 2005; and Borjas & Tienda (1985). More recently, studies have been done focusing on why and how migration policies change and how they are related to trade and FDI (Peters, 2015; 2014), how migration helps rural economies (Taylor & Dyer, 2008), and on the role of remittances (Taylor, 1999). There is no a universal international migration theory through which we can analyze the impact of migration on the economies of the sending countries. Instead, we have several theories: neoclassical economic theory[30], dual labor market theory[31], world systems theory[32], network theory, institutional theory[33], the international migration system theory[34], and the new economics of labor migration (Jennissen, 2007; Massey et al., 1998).

This work is based on the new economics of labor migration theory, which argues that households must be taken into account in the decision to become a migrant. That is, the decision of becoming a migrant is not an individual decision, but rather a collective decision. For example, when there are money problems, the immediate solution is that one member of the household becomes a migrant, and once established in her new country, send remittances solving the issue (Taylor, 1999; Taylor & Dyer, 2008). This means that this work deals with economic migration, mainly. According to this theory, households are part of larger groups, like communities or countries, this is why households related to migrants transmit the impacts of migration through market interactions even to households that are not related to migrants and do not receive remittances directly. And because migration is a self-perpetuating process (Massey et al., 2005), the sending countries many times specialize in migration and are owners of a huge migrant labor force that they can export (Taylor, 1999). It is therefore, very difficult to analyze these complex effects.

As said before, immigration from Mexico and Central America to the United States increased dramatically over the last four decades, and with it, the monetary influx from the immigrants to their respective countries has also increased. Remittances are basically transfers of money sent from a migrant worker to another person in her home country. By 2012, global remittances from immigrants to their countries reached US $401 billion and are considered to be, competing with international aid and foreign direct investment, one of the largest financial inflows to developing countries, helping reduce poverty and improving human development in areas such as health, education and gender equality. Remittances not only help the receiving household but also the community in general when remittances are used for expenditures and investment, housing acquisition, financial assets and small companies (Ratha, 2013; Mesnard, 2004). The logic is very simple: remittances increase income, and income improves the quality of life. In this sense, remittances would significantly increase not only developing nations' income but also world income (Peters, 2014; Brown, 2006; Hatton and Williamson, 2008).

[30] (Bader, 2012).
[31] (Jennissen, 2007).
[32] (Amankwaa, 1995).
[33] (Jennissen, 2007).
[34] (Jennissen, 2007; Massey et al. 1993).

Graph 5. Remittances received in CA and Mexico as GDP%, 1980 - 2010



Source: Author, based on the World Development Indicators. Remittances received by Central America and Mexico as percentage of their GDP from 1980 to 2010.

The U.S. is the largest source of remittances for Latin America and the Caribbean, totaling 73 per cent of the total inflow of remittances to the region in 2011. Mexico was the principal receiver of remittances of the region in the same year, accounting for 37 per cent of them (World Bank, 2013). In the case of some Central American countries (see Graph 5), by 2010 remittances constituted very important amounts as share of their GDPs, for example, remittances represent for El Salvador the 15.7 percent of their GDP, for Guatemala it is the 10.2 percent, for Honduras 15 percent, and for Nicaragua 11.7 percent (Davis and Lopez-Carr, 2014). These are official numbers, however the remittances that are sent through irregular channels are very difficult to track and measure and are, presumably, larger. These economies, without the income from remittances, would certainly be in trouble. Remittances are expected to increase given the proposed immigration reforms in the U.S because of the large amount of immigrants that are expected to be given a legal status allowing them to increase their income and therefore, to increase the amount of remittances to their countries of origin. These policies intend to create a path for citizenship for an estimated 11 million unauthorized immigrants. (World Bank, 2013).

There is also concluding evidence supporting a positive relationship between remittances and the human development of the receiving households. According to Ratha (2013), those families who receive remittances invest more in health care and education compared to those who do not receive them, impacting directly to higher birth weights, lower rates of infant mortality and "higher health-related knowledge", lower rates of school dropping, higher school enrollment, and an increase in educational achievements for receiving families in the sending countries (Hildebrandt, 2005; UNDP, 2009; Edwards & Ureta, 2003). Adams & Page (2005), in a cross-country study with a sample of 71 developing countries found that an increase of 10 percent in per capita remittances translates into a 3.5 percent decline in the share of people who are living in poverty.

One of the strongest advantages of remittances is that they are countercyclical. This means that the flow of remittances increases when financial markets decline. In other words, remittances tend to increase not only when economic depressions happen, but also when there are political or civil

crises or natural disasters serving as insurance against loss of resources. This is because when the families in the home countries need it the most, migrants abroad respond with remittances to alleviate the need (Ratha, 2013, Adams & Cuechuecha, 2010; Adams & Page, 2005). Graph 5 shows the evolution of remittances received in the studied sending countries as percentage of their GDP from 1980 to 2010. As expected, there has been a substantial increase in the top sending countries: El Salvador, Guatemala, Honduras and Nicaragua. On the other hand, Mexico shows a stable quantity of remittances.

No wonder why most of the studies on migration focus on remittances. They represent an easier way to measure migration and its effects on the sending countries. But, what happens to the economy after people leave and before remittances come in? That is, what happens when an economy loses millions of workers to migration? Could the movement of people out of the country affect it? Theoretically, the effects could vary. For example, migration is very likely to lead to a drive up of wages benefiting the workers who remain behind, as the competition for limited jobs would decrease and wages would tend to balance. On the other hand, migration can lead to a reallocation of the scarce/abundant resources. In economic theory it is well known that, in the simplest way, countries will export the goods that make intensive use of the relatively abundant factors and import the relatively scarce ones (Heckscher-Ohlin theorem). In an economic theory of migration, sending countries would export labor because that is the abundant factor, and conversely it would import another factor of production that is scarce, e.g. capital, which is very likely to come in the form of remittances, thus reaching an equilibrium. The main assumption is that migrating is beneficial for whom migrates, and that doing so depends on her wealth and the migration policies that will encourage or discourage her (Borjas, 1989). In the case that a country loses too many workers with respect to the total labor force, the economy might eventually learn to restructure itself around labor scarcity changing to a less labor-intensive, and consequently a more capital-intensive economy balance (Taylor & Dyer, 2008).

If the sending country has surplus of labor, production is not very likely to be affected by those who leave, but it would be affected when there are labor shortages as many workers would stop producing goods and services and production would decrease substantially. Furthermore, production is very likely to be badly affected when migrants take with them human or financial capital (Taylor, 1999). On the other hand, once migrants reach the host country and find a job and establishing migrant networks, they are expected to share their income with those who stayed behind. Bigger migrant networks suppose higher incomes for migrant households and for the economy as a whole, and this would tend to increase the demand for goods and services, helping increase the prices, which would benefit the suppliers of goods and services. This, however, would work in opposite directions for the households because these injections of extra income from remittances are very likely to push up the prices and households lose as consumers as they would have to pay more money in order to buy the same products, on the other hand, they would benefit as suppliers because they would be making more money for the same products sold, encouraging investment and entrepreneurship and getting actively involved in the national and international markets. Additionally, migration can have positive effects by reducing competition for limited jobs when there are high levels of unemployment (Koser, 2007).

Data and Methodology

Model and Operationalization of Variables

For the independent variables measuring migration, this study used the work on labor migration flows (excluding refugees, asylees, and illegal immigrants) and migrant stocks from Fitzgerald, Leblang and Teets (2014), which accounts for migrants who leave their home country and go specifically to the U.S. for work and also taking into consideration the friends and family networks formed in the U.S. once they are established through the stock of migrants, helping capture the accumulated value of past bilateral flows and previous institutional agreements (e.g. guest worker programs) between the sending and the receiving country. Two additional measures of migration were used in order to reassure the consistency of the results. These two measures are from the Yearbook of Immigration Statistics of the Department of Homeland Security[35], and account for migrant stocks, being these immigrants who have been granted residency and citizenship in the U.S. For remittances and the economic dependent variables, the World Development Indicators[36] dataset was used for the countries: Belize, Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua, Panama and Mexico for a range of time from 1980 to 2010, taking the data based on 2005 US$ to account for inflation and have a more realistic view of the real changes in the economies studied. For measures of relative living standards across countries and over time (quality of life), employment, and total factor productivity, the Penn World Table[37] dataset was used.

The countries were chosen in order to study the effects of migration flows and migrant stocks in the U.S. on the whole Central American and Mexican region. Even more, the region contains countries that rely heavily on migration and whose remittances received by immigrants abroad constitute a very big piece of their GDP. On the other hand, it also has countries with lower levels of migration and it is interesting to study what is different amongst them. This study used this strongly balanced panel data set that contains 248 observations regarding eight countries during a period of 31 years, from 1980 to 2010 in order to test the hypothesis that migrant flows and migrant networks impact positively their home countries.

A very important conjecture under which we are working is that the official data on migration might not be as representative of the reality as we would wish. For instance, the number of registered migrants is very unlikely to be close to the real number of people who migrate because of all those people who travel irregularly. In the same way, the registered remittances are very unlikely to be close to the real quantity that migrants send through unofficial channels. As studying irregular migration and remittances sent through unofficial channels would demand statistical techniques in order to estimate these number, this research (for now) used only the available official data for the analysis.

[35] Yearbook of Immigration Statistics. Department of Homeland Security. Available at http://www.dhs.gov/yearbook-immigration-statistics

[36] World Bank, World Development Indicators, available at: http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators

[37] Penn World Table 8. Feenstra, R. C; R Inklaar & M. Timmer (2013). The Next Generation of the Penn World Table". Available for download at www.ggdc.net/pwt

All the variables used in the models were analyzed for unit roots finding that most of them had to be differenced once in order to make the time series stationary. Additionally, they were lagged once for their impact might not be immediate on the dependent variable. The panel errors reported constant variance, that is, they are homoscedastic.

The main linear regression model used takes the form:

$$\Delta Economy'_{t} = \Delta Economy'_{t-1} + \Delta\beta 1Migration'_{t-1} + \Delta\beta 2Fdi'_{t-1} + \Delta\beta 4Prod'_{t-1} + \Delta\delta 1Dem'_{t-1} + \Delta\delta 2Pop'_{t-1} + \Delta\delta 3Hom'_{t-1} + FEyear_{t-1} + \varepsilon'_{t-1}.$$

The first term is a lagged value of the dependent variable in order to control for its dynamics, followed by lagged independent variables, for the result of the previous year is very likely to influence the present result rather than the current one (Beck and Katz, 2011; Wilkins[38]). Some variables are very likely to be influenced by more than one past value, but in this study we will keep only the last one. Our dependent variables are different sectors of the economy at time *t* measured by: GDP (which is the value that represents all the finished goods and services produced within a country), household final consumption (which is the expenditure made by resident households or consumer spending on goods and services), employment, productivity, expenditure-side real GDP (that is used to compare the quality of life across countries and across time), and consumer price index (which compares from year to year a consistent base of products or basket of goods that people consume daily).

These variables were chosen as they are representative areas of the economy, and this is in order to estimate the impact of the dynamics of migration on these areas of the sending economies. That is, this research tries to differentiate between the effect on the economy caused when people move out of the country, that is, migrant flows, and the effect once they reached the host country through migrant networks and remittances. The model includes a set of time dummies in order to control for yearly shocks and the error term is to include other unobservable shocks to the economy. Country dummies are not included in the model as the variables have been differenced once, which would take the effect of those unobserved unit level effects.

Table 2 presents the summary statistics of the raw independent and dependent variables used for the analysis. This research controls for FDI, productivity, education, trade, population, homicide and level of democracy from the previous year. Due to the nature of the data, they were analyzed through Cross-sectional time-series Feasible Generalized Least Squares to obtain the estimates of the models to test the impact of migration flows, migrant stocks and remittances on the economies of the sending countries. This methodology was chosen as it allows for an auto regressive term of nature AR(1) in the model, as well as correlation among the independent variables and panels and heteroscedasticity (Stata Manuals, 2015[39]). When having a dynamic model, methods such as Arellano-Bond GMM and LSDVC (corrected least squared dummy variables) are widely used. However, the Arellano-Bond GMM estimation method was developed for small-T large-N panels, and this study comprises the opposite. On the other hand, the LSDVC estimation method was designed for strictly exogenous variables, and again, this study might include at least some degree of endogeneity.

[38] Wilkins, A. Working paper. (revise and resubmit at Political Science Research & Methods). Available at http://web.stanford.edu/~arjunw/LaggedDVs.pdf

[39] Stata Manuals, 2015. Last accessed October 9th, 2015. http://www.stata.com/manuals13/xtxtgls.pdf

Table 2. Summary Statistics, Independent and Dependent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP	248	9.42E+10	2.30E+11	2.96E+08	9.53E+11
Employment	248	5.56	10.89	0.04	44.20
House consumption	248	6.03E+10	1.46E+11	2.51E+08	6.49E+11
Life Quality	248	136047.3	326613.4	525.97	1433932
Productivity	248	134081.7	320807	496.99	1348946
CPI	248	46.96	32.02	0.08	100
Migrant flows	248	23499.08	50696.01	-14954.2	300000
Migrant stock	248	1050046	2648620	10941.14	1.37E+07
Total migration	248	861363	2084053	15982	9367910
Residents	248	33088.4	89791.54	400	946167
Citizens	248	12263.59	32658.39	304	231815
Remittances	248	1.57E+09	4.25E+09	100000	2.69E+10

Source: Author.

As the coefficients obtained were either too large or too small, the variables were standardized in order to seize their impact on the dependent variables, by first subtracting the variable's mean and then dividing by its standard deviation (Giles, 2013[40] apud Goldberger, 1964; UCLA, 2014[41]). The symbol ' represents standardization in the model above. Each standardized variable has a mean of 0 and a standard deviation of 1 and this allows us to see our variables as unitless which allows us to compare the coefficients even when they are expressed in different units (people, money, indices, percentages, etc.). Therefore, the right interpretation of these coefficients should be, for example, a one sample standard deviation increase in remittances leads, on average, to an increase of 0.18 standard deviations in the GDP, (or it leads to a 0.18 standard deviations above the mean of the GDP), all the other variables held constant (See Table 4).

Results

It is worth to note that the results presented in Table 4 are from different models, that is, for example, for the GDP 5 different models were designed, one for each of our main independent variables as they are highly correlated with each other (see Table 3) and because of this the models presented problems of multicollinearity, so it was decided to examine the effect of each main migration related independent variable separately in one model in order to assess its impact independently from the other predictors. In this sense, the results presented in Table 4 account for the standardized coefficients of each of these independent variables that in turn form part of an independent model which controls for FDI, productivity, education, trade, population, homicide and level of democracy, as well as a whole set of year dummies. Column one on Table 4 presents the results of the regression models for migration variables on GDP. Columns 2 to 6

[40] Giles, D. (2013). "Large and Small Regression Coefficients". Available at http://davegiles.blogspot.com.br/2013/08/large-and-small-regression-coefficients.html

[41] Introduction to SAS. UCLA: Statistical Consulting Group. From http://www.ats.ucla.edu/stat/stata/faq/standardize.htm

present the results of the same migration variables regressed on employment, household final consumption, quality of life, productivity and CPI.

Table 3. Correlation coefficients amongst main predictors.

	Migrant flows	Migrant stock	Residents	Citizens	Remittances
Migrant flows	1				
Migrant stock	0.80	1			
Residents	0.81	0.56	1		
Citizens	0.60	0.83	0.41	1	
Remittances	0.62	0.90	0.40	0.70	1

Source: Author.

Theoretically, it was expected that migrant flows would have a positive impact on the economies, but from the results on Table 4 we can observe non-significant mixed effects on the variables showing that the economies would not experience significant shocks when migrants leave, at least in the variables examined here. An exception is the employment, where migrant flows show a very small but significant effect, implying that an increase in one standard deviation of migrant flows is very likely to impact the employment in about 0.01 standard deviations from the mean. That is, employment increases from 5.56, to 5.67 percent. However, when talking about migrant stock (or networks), except for the GDP, it showed a strong positive impact in all the variables, implying a positive relationship, that is, as migrant stock increases one standard deviation, it leads to an increase of less than 0.01 standard deviations in employment, 0.55 standard deviations in household consumption, 0.38 standard deviations in the quality of life, 0.36 standard deviations in productivity and a decrease of 0.12 standard deviations in the consumer price index.

Table 4. Effects of Migration and Remittances on the Sending Countries, standardized coefficients.

			House	Quality of		
	GDP	**Employment**	**Consumption**	**Life**	**Productivity**	**CPI**
Flows USA	0.148	0.011***	0.107	0.083	0.021	-0.026
	(0.06)	(0.01)	(0.06)	(0.06)	(0.06)	(0.05)
Migrant Stock	0.373	0.001***	0.549***	0.377***	0.361***	-0.120**
	(0.05)	(0.01)	(0.05)	(0.05)	(0.05)	(0.05)
Residents	0.154	-0.019	0.101	0.14**	0.147**	0.038
	(0.08)	(0.02)	(0.08)	(0.08)	(0.08)	(0.06)
Citizens	0.262***	0.141	-0.454**	-0.277*	-0.153	0.246**
	(0.11)	(0.02)	(0.11)	(0.11)	(0.11)	(0.09)
Remittances	0.185***	0.037***	0.247***	0.351***	0.288***	-0.033
	(0.07)	(0.01)	(0.07)	(0.07)	(0.06)	(0.06)

*** p<0.05, ** p<0.01, *** p<0.001. Standardized coefficients presented with standard error in parentheses. Cross-sectional time-series FGLS regressions were performed after standardizing the variables, and year fixed effects were used to capture countries' characteristics along with control for time shocks but the results were not reported on the table. Source: Author.**

Residents, on the other hand, seem to have a strong impact on productivity and the quality of life, while citizens show a strong impact on GDP, household consumption, quality of life and CPI. It is worth to note a difference amongst these categories of migrants. Migrant stock captures those migrants who go specifically to work to the U.S., who are part of an agreement and are, therefore, economically active as part of these agreements and will be very likely to send remittances back home, revitalizing the economy in more varied ways. On the other hand, some residents and citizens are more likely to have migrated many years ago, and are more likely to have taken at least their closest relatives with them by the time they become either residents or citizens, having less need of sending remittances for families, and contributing instead in other ways such as small enterprises, migrant organizations, and so on (Koser, 2007).

Migrant networks, be they expressed in terms of migrant stock, residents or citizens, are of tremendous importance for the sending countries, as they are decisive not only economically, but also culturally and socially, as they might influence prospect migrants to decide whether to migrate or not, providing important information about what are the best places to go and economic and political advantages or disadvantages of their prospect new home. And if these people eventually decide to migrate, migrant networks are of great help in finding a new job, settlement issues and re-bonding with their nationals.

Remittances, as expected, have a very strong and positive impact on the GDP, employment, household consumption, productivity and quality of life, as one standard deviation in remittances tends to lead to 0.19, 0.04, 0.25, 0.35, and 0.29, respectively, confirming the importance of this income for the development of the sending countries, and confirming previous studies on remittances (Taylor, 1999).

Summarizing, this research finds evidence that imply that, in general, the migration related variables tested here affect the economies of the sending countries in a good way, helping them to overcome market failures. It seems like once these migrants find their place and establish in the new host country, they make a very important part of the economies of the sending countries as they boost the GDP, employment, quality of life, productivity, and consumption, albeit in different ways.

Concluding Remarks

Migration is largely motivated by economic reasons in Central America and Mexico, and from this study we can increase our confidence in that migration, through the movement and resettlement of people, seems to affect the economies of the sending countries mostly in positive ways. It is very important to acknowledge the importance of the role that people themselves play in shaping the economies of the sending countries, as migrant networks are a key variable not only because they help their economies back home but they also help those who are planning on migrating and those who recently migrated and are not established in the new host country, facilitating the process of adaptation, finding a job and reducing the cultural shocks. In addition, besides sending remittances back home, migrant networks also contribute in very important ways in foreign direct investment, international trade, cross-border portfolio and international telephone communication (Leblang, 2010; Perkins and Neumayer, 2013).

This study found strong evidence that remittances are a very important part of the economies of the sending countries, in consonance with what previous studies on remittances have found. Even after some first moments of suffering, it seems like the movement and resettlement of migrants eventually pays off compensating the initial mixed effects with strong positive effects on various areas of the overall economy, effects that come through the market interactions of migrant sending households with those that do not have direct contact with migration at all. A very unfortunate limitation of this study is the lack of data regarding irregular migration, and it will be a further effort for future research as the implications of migration for the economies of the sending countries can be best explained when looking at the whole picture.

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