PUBLIC INSECURITY AND
INTERNATIONAL EMIGRATION IN MEXICO

Liliana Meza González, Ph.D.
Michael W. Feil, Col (ret) USA

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Introduction

Mexican emigration to the US has taken place for more than one century, and the main reason behind most movements is either employment work, the search of a job or family reunification. During the last 5 years, the increase in public insecurity may have promoted flows of emigration from Mexico which greatly differ from those in previous years and decades. This new kind of emigration may be taking place while total flows are decreasing, which seems paradoxical. We argue that economic downturn in the US is behind the drop in the total flows, and that insecurity is now a major force behind the movement of people living in conflicted areas.

People fleeing Mexico for security reasons can be taken as a new phenomenon that needs better understanding. Economics are probably still the main force behind population movements from Mexico to the US, but this paper identifies certain correlations between insecurity and emigration that are worth studying. Our main findings can be useful to design interventions that facilitate decision making of families searching for protection; to provide public services of protection where they are needed, or to decrease insecurity when possible.

Environments of insecurity (EOI) have been behind large flows of people moving to safer places. These movements differ from those that take place for economic reasons in the sense that the groups that are able to make them are the most affected by turmoil, despite their socio-economic status. This means that the profile of Mexicans leaving the country can be changing, along with the sending and receiving regions.

This paper is organized in seven segments as follows. The first introduces and the second presents data about migration and insecurity and its possible relationship, while justifies our work based on some evidence collected from mass media. The third segment includes a documental analysis about the relationship between security and wellbeing. The fourth section includes a theoretical framework and a literature review. The fifth part presents the data we use in this document and some describing statistics. The sixth part includes our main empirical results, while the last one concludes with some policy considerations.

The insecurity – migration relationship

In the Twentieth Century, emigration from Mexico to the United States was influenced heavily by economics, regional factors (e.g., family reunification, social mobility), and an acceptance of the relatively open (porous) border. Those twentieth century factors appear to be present today, with consistent effect on the decision to emigrate. The graph below of Gross Domestic Products (GDPs) and unauthorized Mexican migrant population in the USA supports the concept that economic factors influence much of the MX-US migration pattern.
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But along with the economic forces, there is a perception that public insecurity may be promoting emigration from conflicted areas. As a confirmation that violence can be a factor in decisions to migrate, the studies of the Colombia conflict indicate that there is a population that under certain conditions take a preventative decision to migrate in response to the threat of violence (Pedersen, 2002). In the case of Mexico today, it appears the war against organized crime --that was openly recognized by the Federal Government in 2007-- has fostered displacement of population, mainly in the northern part of the country. The displacements may include movements to other parts of the country, or even to the US, as many mass media have argued. The following quotes give a sense of what is perceived in certain areas of the US:

1) ...there's a growing number of affluent Mexican citizens fleeing their native land and moving to Texas...they are quickly becoming part of the city's new class of entrepreneurs. Texas Public Radio

2) ...executive at ...Cemex SAB... said he can count at least 20 different families from his circle of friends who have left... for nearby Texas. "It's a rush for the exits." WSJ

3) ...we had a restaurant in Oaxaca ...It was just unrest in the city and we went out of business. ...no tourist, no life, no money, no restaurant... more people and especially people from the north part of Mexico are moving to the United States" Austin Texas

There is also evidence that an environment of insecurity (EOI) is perceived in Mexico, but especially in regions where drug cartels are fighting for the territory they once used freely for their purposes. For example, the National Murder Rate shows a significant increase from December 2006 to December 2010, as the following graph shows:

The data presented in the graph posts the following questions, “Today, is insecurity in Mexico encouraging Mexican families to migrate to the US? The purpose of this paper is twofold:

- identify how insecurity influences migration decisions, and the changing profile of migrants
- explore ways to better deal with the impacts of insecurity on emigration

From December 1st, 2006 to July 31st, 2010 there were 28,353 homicides related to organized crime in Mexico. It is generally accepted that most of these homicides are explained by struggles among the criminal organizations.

It is worth noticing, however, that the increase in homicides is not uniform across Mexico, and that some states that were once considered the leading areas for insecurity (homicides) are now being displaced by states whose rate of violent deaths are increasing. Nearly 84% of all homicides from organized crime in 2010 occurred in just four of Mexico's 32 states (Chihuahua, Sinaloa, Guerrero and Baja California) and over 70% occurred in 80 of the country’s 2,455 municipalities.
The following graphic depicts a rank ordering of individual states based on the percent increase in homicide rates from 2009 to 2010.

The states with the highest homicide rates in 2010 are all in the northern region of the country; either at the border or very close to it: Chihuahua, Sinaloa, Tamaulipas and Nuevo León. The two states with the most outstanding homicides rates in 2010 are Chihuahua and Sinaloa, and the state with the largest increase in homicides is San Luis Potosí, followed by Tamaulipas.

As 2008 came to a close, it appeared that homicides may be, along with economic opportunities within the US, highly correlated with emigration to the United States, as the following graph suggests.

Data from different sources show a small increase in international emigration in 2010, which can be related either to an economic recovery in the US, to the increasing violence in Mexico or to a combination of both. The main purpose of this work is to find evidence about the role violence is playing in recent international emigration from Mexico.

Can we now blend in subjective information with our objective data to glean insights into what conditions may exist in the future? Specifically, is insecurity changing who emigrates and is there reason to suggest that if true, will the changes in emigration continue?

Written another way, Is the combination of reactions to insecurity (e.g., increased US border intercepts), reduced labor opportunity (e.g. economic downturn), and resistance to immigration (e.g. SB 1070), causing a reduction in the traditional emigration of workers (and remittances), and an increase in the emigration related to insecurity turmoil?

Three influences have been identified as why broad trends (e.g. greater emigration related to insecurity and the persistence of insecurity) will continue into the near future (3-5 years). As highlighted below, the expected actions of the Mexican Government, Organized Crime and the United States Government, appear very likely to promote the continuation of these trends.

**Mexican Government.** The Calderón administration has argued that the military will be needed in its domestic security role until at least 2013. Reforms, like the adversarial judicial system, will require longer to fully implement.
**Organized Crime.** In some communities “dual sovereignty” is emerging. This means that parallel to the elected government stands a narco-administration that generates employment (in growing and processing drugs), keeps order (repressing rival cartels), performs civic functions (repairing facilities), collects taxes (extorting businessmen), and screens newcomers to the municipality (employing lookouts).

**United States Government.** The United States intends to follow Mexico’s lead in countering Drug Trafficking Organizations (DTOs) and violence in Mexico while expanding US attention to support countries in Latin America and increasing border enforcement.

**Well being and Security**

While investigating the relationship between insecurity and immigration, we found it useful to review aspects of well being as a larger context.

There is little argument against the existence of a relationship between violence, or the threat of violence, on the psychological disposition of a person. In fact, efforts to identify the extent to which violence plays a role in the decision to migrate were recently conducted in several Latin American countries (Wood). It seems logical to say that violence against persons directly reduces their quality of life, and by influencing the decision to emigrate, in turn violence creates greater impacts on communities as productive (potentially economically productive) members depart (Weeks).

Well being has also been referred to as quality of life, and is often characterized by the level of stability, access to economic opportunity, individual health and one’s ability to achieve/acquire additional opportunities (e.g., level of knowledge) (UNDP). Violence affects all aspects of wellbeing in this definition, and therefore insecurity can be considered a factor that negatively affects wellbeing.

**Theoretical framework**

Conflict situations along with socioeconomic deprivation can contribute to a general environment of insecurity (EOI), which may foster emigration from conflicted regions, but it may also serve as an opportunity framework for those who had existing migration “plans” (Sirkeci, 2003; Icduygu et al., 1999). During the period of wars, migration networks are established in conjunction with the formation of sizeable immigrant groups in receiving communities. These networks (Massey et al., 1993) may, indeed, serve as facilitating (influential) factors for the potential emigration of more people from the conflicted area. This is due, in part, to the perceptions of potential migrants that their family members and friends in the migration destination will be willing and
able to assist them with the problems associated with immigration, such as housing, employment, and so on. This means that as long as a conflict persists, there will be emigration of the most affected groups and of those with previous plans to emigrate. Social networks help flows increase, up to a point of equilibrium, where conflict is no longer a problem and emigration is no longer used as a protection strategy.

Contemporary international migration is better understood as a complicated human movement, involving different types of migrants, such as refugees, asylum seekers, family migrants, illegal migrants, migrant workers, and professionals. In most cases it is impossible to distinguish economic, political, or cultural reasons from each other, and that people often move with mixed and overlapping motivations.

The concept of EOI also engages with mixed causes for international migration. EOI was first formulated to explain the Kurdish rivalry in Turkey by Icduygu and Sirkeci (Icduygu et al., 1999). Later, it was expanded to explain the interaction between the international migration of Turkish Kurds and the ethnic conflict (Sirkeci, 2003). Then the EOI paved the way to develop another tool for understanding international migration behavior: “Opportunity Frameworks” of migration (Sirkeci, 2003).

EOI has two primary components. The first relates to the material environment of insecurity, which is characterized by poverty, deprivation, and armed conflict. The second refers to the non-material environment of insecurity, characterized by fear of persecution, and discrimination (Sirkeci, 2003). People exposed to the EOI have two options: (1) status quo and (2) exit.

EOI, which can be formulated as a set of combined push factors, may improve the chances of migration for those individuals already harboring migration plans and who are from conflict areas, but live in surrounding, relatively secure areas. This is clearly related to issues concerning the admission policies of receiving countries – with the tightening of admission regimes in receiving countries, migration opportunities through legal or regular channels decrease, as do the hopes for migration abroad through legal routes. It is in such contexts in which EOI appears as an opportunity framework which is utilized by potential migrants, but not necessarily by those at greatest danger. For example, in the Turkish case, many Turks as well as Turkish Kurds claimed asylum in Germany, despite coming from relatively secure areas of Turkey (mainly from the periphery of the major areas of conflict) (Sirkeci, 2003).

One example of international migration caused by an EOI is Irak, and another important and closer to the case analyzed here is the Colombian. The armed conflict over economic and political power in Colombia forced approximately 1.200.000 people -- the majority of them women and children--, to leave their homes during the period from 1985 to 1997 (El Tiempo, December 31, 1997). Despite most of the population movements in Colombia took place inside the same Colombian territory, the effect of violence on international migration has been studied by several scholars (see Kirchhoff and Ibañez, 2001).
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Extended Outline

Liliana Meza-González, Ph.D. and Col. Michael Feil
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International Human Rights law considers forced internal and international displacement a human-rights violation. Moreover, the consequences of the phenomenon for the affected countries are severe. In receiving areas it is common to experience increases in unemployment, a violent redistribution of land ownership, strong inefficiencies in resource allocation, and the effects of large and unplanned demographic inflows into cities and regions which act as receptors of the displaced. The Colombian government, the United Nations, the European Union, as well as many non-governmental and religious organizations responded to this problem in Colombia by developing assistance programs. The wide majority of these programs focused on mitigating the consequences of displacement. However, the trend of displacement and the limited ability of the receptor cities to absorb these immense masses of people made the design of prevention, assistance and resettlement policies a priority. A sine qua non condition for defining such policies is to understand the decision-making process underlying displacement. By definition, violence is the trigger of the kind of displacement considered here. Nevertheless, people react differently to given levels of direct and indirect violence. Frequently, we observe that a substantial portion of the population in areas of violence decides to stay despite the risks this implies for them. In a sense, the decision whether to move or not, is a decision between the lesser of two “evils”: staying and accepting the everyday risk of being a victim of violence; or leaving behind one’s way of life and property and moving on, to an unfamiliar place, having to find new employment and a new place to live.

The arguments included above allow us to explain the migration decision in violent situations within a theoretical framework of choice under uncertainty, where both the staying and the leaving decision imply expected outcomes. The final decision as whether or not to migrate is totally subjective, and depends in large proportions on the aversion to risk of a person or a family. In the following graph we depict a concave function of the utility of income, along with different levels of uncertain income.

Let us begin saying that person (or family) i is receiving income I1, and generating utility U(I1) when neither insecurity nor emigration have been present or considered. If insecurity hits person i’s community, he/she will think that his/her utility of income may be reduced, because he/she now faces the possibility of being a victim of organized crime. If person i becomes a victim of violence, his/her income could be as low as I3, with an associated utility of income U(I3). Therefore, living in an insecure environment brings about an expected utility of income equal to r U(I3) + (1-r) U(I1), where r represents the probability of the “bad” state of nature happening.
nature. We are aware that not only income can result affected in a violent situation; integrity of family members are at stake, along with wealth, and a “bad” state of nature can bring person i to a situation of negative zero utility for non-pecuniary reasons.

Let us assume further that person i starts considering the possibility of using migration as a means to cope with insecurity in his/her community of origin. Using the New Economics of Migration Theory, we would say that person i will make the migration decision at a family level. This emigration can be either to a different region inside the same country (displacement) or to another country, but given that we are interested in understanding the international migration decision, we will assume that the decision only involves moving to a new country. This assumption may be considered unrealistic, because families may first think of moving to another region inside the country and, only afterwards, to ponder international migration. Against this idea, we say that families affected by an EOI in Mexico are mainly located in the northern part of the country, where development is higher. In this region, ties with the United States are stronger than those to the southern part of the country. On the other hand, an EOI may give families the ideal setting to pursue international migration decision long postponed in the past, even if they are not directly affected by insecurity.

The migration decision can be represented in the last graph as the situation where I1 is still the income in the “good” state of nature, but I2 is now the income in the “bad” state of nature. Notice that I2 > I1, which means that the low income in the origin community is below the low income abroad. In this case, the expected utility of income in the foreign country would be q U(I2) + (1-q) U(I1), where q represents the probability of the “bad” state of nature abroad.

In this situation, a person or family affected by organized crime will compare the expected utility of income in the origin community and abroad, and will make a decision based on this comparison.

**Descriptive statistics**

To test the relationship between insecurity and international migration described in the former section we use data from INEGI and CONAPO. The data from INEGI measure insecurity in different ways, but the ones used in this work are: state threatens, state presence, presence of a drug cartel and the homicide rate. In this exercise, we use data from 72 municipalities in the southern border of the country. These municipalities present different levels of insecurity, measured by homicide rates. These municipalities also present different levels of development and, therefore, different intensities of emigration. Emigration intensity is here measured as the proportion of families that declare having a member working temporarily in a different country, or having had a member abroad in the past (5 years previous to the survey).

The following table includes some descriptive statistics for three different groups of municipalities classified based on their migration intensity: those with low, medium and high migration intensity. It is important to point out that southern municipalities present low migration intensity levels, and that the categories used here do not match the definition usually used by CONAPO to classify municipalities according to migration.
As the table above shows, food poverty is higher in those municipalities with medium migration intensity. This suggests that families in poor municipalities cannot afford migrating, and families in less poor municipalities are less prone to use migration as a means to cope with uncertainty. However, in the second row can be noticed that municipalities with high migration intensity present a higher per-capita income, suggesting that when there is income, this is used to migrate. This idea needs further prove, and cannot be generalized to the whole country, given that we are using data for a limited number of municipalities, located in a very specific region of the country.

Regarding inequality, municipalities do not differ much, but it could be possible that migration is more common in more unequal communities. Mora (2007) has found that migration tends to initiate in unequal communities, and that remittances tend to decrease inequality in the medium run. Now, data regarding illiteracy confirms what the poverty variable suggested: that migration takes place in more developed municipalities; i.e., in those where illiteracy and extreme poverty are lower. The education variable works in the same direction: average schooling years are higher in municipalities with high migration intensity. The rest of the indicators show the same pattern: high migration intensity happens in more developed municipalities (with lower infant mortality, more dwellings with concrete floor, higher access to health services and better basic infrastructure).

Now, a second table shows the relationship between insecurity measures and migration intensity. It is important to take into account that the insecurity measures correspond to year 2009, while migration intensity is based on data obtained in 2005 by the National Institute of Statistics and Geography (INEGI) using the so called “Conteo”¹. In this case, the first two insecurity variables refer to the ranking of the municipality in that regard. For example, if “state threats” is lower it means that the municipality is more insecure. In the case of state presence, the municipality is less secure if the variable increases because it means that the municipality is lower in the ranking.

Regarding state threats, the following table shows that threats are higher in municipalities with high migration intensity. State threats refer to the presence of organized crime groups that exert some kind of power in the municipality that happen to substitute the role of the government. For example, subversive groups against federal, state or local governments are considered state threats because their purpose is to eliminate the

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¹ The “conteo” is a survey made every 10 years between censuses, and it helps authorities to better understand population dynamics.
authorities and establish a new organization system. If a municipality ranks number 1, it means that state threats are higher. We may say then that migration seems to be higher in more threatened municipalities.

Given that the table is only showing correlations, it is impossible for us to talk about causality between migration and insecurity measures. An insecure situation can be more likely in communities with high rates of migration, or maybe another variable is both related with insecurity and migration, leading us to spurious conclusions.

The state presence variable also refers to the ranking of the municipality. If municipality $j$ ranks 1 in state presence, it means that public services like health, education, police and infrastructure are better off. Now, the lower the state presence is, the municipality is less developed. The table above suggests that migration is higher in municipalities with more state presence, which somehow supports what was described above: that migration is positively correlated to development. As has been said, the state presence variable measures the ranking of the municipality in terms of access to public services. According to the evidence presented, state presence is higher in municipalities with high migration intensity.

Finally, the last row of the table shows the correlation between homicide rates and migration intensity. In this case, the insecurity variable measures the number of homicides per each 100,000 inhabitants; this means that the higher the rate, the higher the insecurity. In this case the relationship is straightforward: the more insecure is the municipality, the higher is the migration rate.

In the last descriptive statistics table we show the same development variables used above, but now municipalities are classified according to a variable related to insecurity: presence of a drug cartel. The variables seem to be significantly different in municipalities with the presence of a drug cartel and in municipalities without the presence of a drug cartel.

First we can say that it is easier to find a drug cartel in less poor municipalities. The average proportion of population suffering extreme poverty is significantly lower in municipalities with a drug cartel. Moreover, per-capita income is significantly higher in municipalities with a drug cartel. Regarding inequality, the indicators are not quite different, but is seems that it is easier to find a drug cartel in more unequal municipalities. Illiteracy seems much lower and average schooling years much higher in municipalities with the presence of a drug cartel, while basic infrastructure seems much better. Infant mortality seems much lower, and access to health services much higher in municipalities with a drug cartel, and finally, migration intensity seems to be higher in municipalities with the presence of a drug cartel.
Estimations at a municipality level

To better understand the relationship between international migration and insecurity, we ran two different kinds of regressions. The first one has the homicide rate per municipality as the dependent variable, and in the right side of the equation it includes our measure of migration intensity in the municipality. Given that the homicide rate is a continuous variable, the regression was run with ordinary least squares, and the number of observations is 72; i.e., the number of municipalities in the southern border region in Mexico.

The table above presents the results of our first regression. According to the evidence presented in the previous section, it seems that insecurity is positively correlated with development: insecurity is higher in southern municipalities with lower levels of poverty. It is important to recognize that most municipalities included in our sample present low levels of development: they are located mostly in Chiapas, but also in Tabasco, Campeche and Quintana Roo. Our region is rather poor but with a rich biodiversity. Practically all municipalities analyzed are rural, except for Tapachula, Chiapas.

The independent variables included in the regression are, besides poverty, a measure of political competition, population dispersion and migration (measured by the proportion of households receiving remittances).

The results suggest the following: the higher the political competition among parties, the lower is the homicide rate. This result is interesting in the sense that politics seem to reduce social pressure in a municipality. Besides, it seems that dispersion of population is negatively correlated with insecurity. This supports the evidence discussed above: insecurity seems to take place in more developed municipalities, and population dispersion leads to a lack of development. Finally, our variable of interest seems to be positively correlated with insecurity. It seems that municipalities with more migration intensity are also those with higher homicide levels.

It is worth noticing that all the independent variables included are significant in the regression, at a 90% of probability, and that
they explain an important part of the variability we observe in the dependent variable \(R^2=0.291\).

We now turn to our second regression. In this one, our dependent variable is also continuous and it represents the proportion of households receiving remittances in each municipality. Therefore, the regression is also calculated with ordinary least squares; however, it is important to recognize that the left hand side variable of the equation can only take values between 0 and 1, and that this makes it necessary to change the estimation methodology (one that considers that the dependent variable is truncated).

The independent variables included in this regression are the average number of homicides in the municipality, the migration intensity and illiteracy. The migration intensity variable is included because remittances are explained by emigration rates, and the inclusion of this variable avoids biases caused by the omission of a key explanatory variable.

Our regression suggests the following: migration is higher in insecure municipalities, and in more developed ones. Also, remittances need migration to be present in a region. It is also worth noticing that all the variables included are significantly different from zero, at a 90 percent of probability.

It is important to mention that more than 50% of the variability in the dependent variable is explained by the group of independent variables.

### Concluding remarks

Mexico is going through a process of aggravated insecurity due to the war against organized crime. This process formally started in 2007, and the national homicide rate has increased steadily since then.

Along with insecurity, Mexico has experienced an economic downturn, related to an economic and financial crisis in the US. The economic recession has promoted less emigration to the US, but we have found some evidence at a macro level regarding a positive relationship between migration and insecurity. The purpose of this document is to clearly identify the possible correlation there is between the increasing homicide rate in Mexico and emigration to the US. This is important because it would mean that the profile of Mexican migrants have been changing, and with this the sending and receiving regions.

Theoretically we consider that making an emigration decision in an environment of...
insecurity represent a choice between two “evils”: staying and accepting the everyday risk of being a victim of violence; or leaving behind one’s way of life and property and moving on, to an unfamiliar place, having to find new employment and a new place to live. This is represented by a choice between two uncertain worlds. We assume that the migration decision is made if the expected benefit of leaving surpasses the expected benefit of staying; benefit measured in monetary terms.

Our descriptive analysis shows two very clear phenomena that happen to be confirmed with the regressions: migration and insecurity are both positively correlated with development. This means that when we regress both insecurity and migration we need to control for development in order to prove that we are not finding a spurious correlation between our two variables of interest.

The first regressions ran for this analysis, one for insecurity and one for migration, show a positive correlation among these two variables, even when we control for development. This suggests either that insecurity is higher in municipalities with a larger presence of households with at least one migrant, or that people are emigrating from municipalities highly insecure.

The hypothesis of a changing profile of migrants from Mexico to the US needs further analysis, but this document suggests that insecurity is influencing the decision to migrate in a significant manner in Mexico. In the future we will be using data from the 2,455 municipalities in the country, along with migration intensity data from CONAPO. The year of analysis will be 2010, given that we expect to have access to the data from the 2010 Mexican Census. We are also expecting to work with micro data at an individual and family level, in order to understand what kind of families are more prone to migrate nowadays. We know the insecurity effect is still small, but we will divide the country in regions to see if migrants differ from region to region (taking into account the social and economic development of each region). Finally, and if possible, we will use American sources to verify if the migrants of Mexico have changing characteristics over time.

We are aware that we will be basically testing leading ideas regarding the effect of insecurity on migration, given that the phenomenon might be too recent to show in the data both at a macro and at a micro level. Our work might, however, start a discussion about a very important question: is the war against drugs starting a displacement process that involves the US?, and if so, what can the Mexican Government do to decrease the cost insecurity is imposing on certain families and municipalities in Mexico?
**Bibliography**


