On the Remitting Patterns of Immigrants: Evidence from Mexican Survey Data

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I. Introduction

For a variety of reasons, a heightened interest in understanding the remitting practices of immigrants has emerged. Banks have come to recognize the untapped potential for business that resides in this burgeoning market. Economists have begun to note that remittance inflows into developing nations are, in many cases, catching up to and exceeding traditional sources of foreign currency earnings. The potential of immigrants' money flows to impact the economic development of remittance receiving economies is an area under great scrutiny by the research community. Likewise, government officials have shown an interest in controlling money laundering and other illicit transactions and have intensified efforts to bring immigrants' transactions into the formal transfer market. Such a task would minimize the odds of opportunistic criminals successfully camouflaging their transactions by sharing informal channels traditionally used by immigrants to transfer funds abroad.

In this paper, we summarize and present the basic trends observed with respect to remittance transfers from Mexican immigrants to their families in Mexico. While Mexican immigrants are not the only immigrant group with high rates of participation in the remittance transfer markets, Mexicans represent a very large segment of the total U.S foreign born population accounting for about one-third of the 33 million foreign born in the U.S. (Grieco, 2003). Furthermore, a series of large, extensive and long standing surveys that carefully detail the migration experiences of Mexican immigrants and their subsequent remittance flows exists, allowing for an in-depth analysis of these migrants and their remitting behavior. Using these data, we track patterns in remittance flows and answer a series of questions, including who

remits, how much, why, and the transfer mechanisms used to remit funds. To what extent the behavior of Mexican immigrants can be generalized to other immigrant groups is an open question. Nonetheless, by carefully detailing the experiences of this large and important immigrant group, we obtain some important insights about remittances that can stimulate discussion and invite further study of this growing phenomenon.

II. Models on Migration and Immigrant Remitting Patterns

Wage differentials and variations in economic opportunity are likely explanations of the decision to migrate for many individuals (LaLonde and Topel, 1997). Some of these migrants relocate with the intention of permanent resettlement, while others expect to relocate only temporarily. Some individuals migrate to take advantage of educational opportunities, while others seek religious or political freedoms. Still others are prompted to migrate to simply join family members who emigrated in earlier periods. The upshot is that there are numerous reasons for migration, making it difficult to generalize about this phenomenon.

A companion to the migration decision is the decision of whether or not to remit a portion of one's earnings. Much of the academic literature on remittances strives to peg down the motive for remittance flows. Are immigrants' remittance flows a reflection of altruistic feelings toward the family left behind? Or are immigrants' transfers the by-product of a co-insurance arrangement with family in the origin community who strive to smooth consumption via the geographic diversification of family earnings? Or are remittances simply the periodic accumulations of a target saver who will return home once his or her "saving for investment" goal is attained? Given the multitude of motives that lie behind the migration decision, it is likely that there are also as many different motives for remitting. In this respect, the debate over what motivates remittances is not likely to be resolved if the overriding goal is to pick one

motive at the exclusion of all others. In all likelihood, all the motives for remittances that have been suggested are at play for different subsets of migrants and their families. Remittances may be motivated by altruism, by a desire to smooth family consumption, by a co-insurance scheme, by an investment goal, by a need to repay a debt or by a multitude of others situations.

While we do not subscribe to the need to fit all migrants into one model insofar as their remitting behavior is concerned, we also recognize the importance of providing a framework through which one can better analyze, predict and understand the various circumstances that surround migrants' remitting behavior. To this end, we briefly overview the models developed to explain international money transfers by immigrants.

Altruism: One of the most common explanations given for remittance flows in the popular literature is migrants' altruism toward the family left behind (Stark 1991). This framework follows logically from the frequent economic view of migration as a quest for higher earnings. Mmigrants share their bounty with the family that has been left behind. One consequence of the altruism model is that we can expect remittance flows to respond to both host and home country economic circumstances. If immigrants experience increases in their earnings, or if their home-based families are subjected to income shortfalls, increases in altruistic payments from the host to the home country are likely to follow. Another implication of the altruism model is that remittances may decay over time. Household ties will weaken with time, diminishing the levels of altruistic transfers taking place.

Consumption Smoothing: In the consumption-smoothing model, migration takes place in order to diversify household earnings (Rosenzweig and Stark, 1989). The spreading of household members in a geographic sense allows for the alleviation of unanticipated income shortfalls with earnings derived from family jobholders living and working elsewhere. The

lower the income correlation across regions, the more likely households are to achieve consumption smoothing. In both the altruism and consumption-smoothing models it is expected that a by-product of negative income shocks in the home community is increased flows of remittances.

Target Saving: Some individuals migrate for the specific purpose of accumulating financial assets in order to make a specific investment or purchase. For example, a migrant might desire to set up a small business, or to purchase a plot of land for farming, or to construct a house. The ability to accumulate the required sum of savings to undertake these relatively large purchases is limited unless migration to areas with high paying jobs takes place. Target savers are likely to be short-term or temporary immigrants. They are less apt to make investments in the host community, they are frugal in their consumption and, instead, remit and carry large sums home (Ahlburg and Brown, 1998; Glytsos, 1997).

Insurance: In some cases, individuals migrate with the intention of eventually returning home, while in other cases migrants might not intend to return home. In either case, however, it may be in migrants' interest to maintain and secure "good standing" with the family. Migration is fraught with uncertainties making it prudent for migrants to cover for these risks by remitting funds home. In this way, immigrants may secure a place with the family in the future. Alternatively, immigrants may accumulate precautionary savings back home or self-insure (See Amuedo-Dorantes and Pozo, 2004 for models of insurance and precautionary saving in this context). The implication of this motive for sending remittances home is that immigrants who face greater risks and uncertainties with respect to the migration experience, are likely to remit larger sums back home to either "purchase insurance through family members" or to "self-insure" via the accumulation of precautionary savings. As immigrants assimilate into their host

countries and reduce their deportation and/or income risk exposure, the rationale for such transfers diminishes and, as a result, we may observe a lessening of these flows –i.e. remittance decay.

Loan Repayment: The monetary sums that are expended to undertake migration are often substantial. Immigrants may need to secure sufficient funds to cover transportation charges, smuggling charges, and a pool of resources to fund a potential period of unemployment. These expenses can add up to a relatively large amount requiring that prospective migrants borrow from friends, relatives and moneylenders. The expectation is that migrants will repay the loan with proceeds from jobs in the destination country. Hence, remittances in the early part of the migration spell might be explained by the loan repayment motive (Connell and Brown, 1995). It is, thus, anticipated that remittances may diminish over time as individuals complete their obligations with respect to loan repayments.

Models of remittances have also been developed that combine many of the above motives. For example Stark (1991) suggest that a typical migrant might have both altruistic and self-serving motives for remitting. Migrants may remit for altruistic reasons, while also seeking insurance or making payments to their families for earlier investments in their education. According to Stark's (1991) co-insurance arrangement, migrants may envision their families as insurers covering for risks encountered during migration until migrants establish themselves in their adopting nations. Once migrants permanently settle or assimilate to their host countries, they reciprocate by remitting money home to provide family members with the opportunity to engage in, sometimes risky, yet potentially lucrative investments.

III. Who Remits?

We use data from the Mexican Migration Project (MMP93) to characterize the remittance patterns, demographic, job, and home community characteristics of immigrants transferring funds back to Mexico. The MMP93 is one of the richest datasets available for studying Mexican migration to the U.S. and contains important information on immigrants' remittance and banking behavior in addition to immigrants' legal status at the time of migration. The survey is the result of a multidisciplinary study of Mexican migration to the U.S., which includes detailed information from approximately 16,000 households in 93 representative communities in 17 of Mexico's 31 states.¹ For each household, a complete life history is gathered for the household head, which includes detailed information on whether the head migrated to the United States in the past. If so, he or she is extensively queried about that migration experience. In addition, interviewers travel to the destination areas in the U.S. to administer identical questionnaires to households from the same communities in Mexico who have settled permanently in the U.S. and no longer return home. Altogether, the MMP93 provides reasonably representative data on authorized and unauthorized Mexican immigrants in the U.S. interviewed between 1982 and 2002 (Massey and Zenteno 2000, Munshi 2003).² For the purpose of this study, we use the information collected from approximately 5,000 migrating household heads.

¹ See the Mexican Migration website (at mmp.opr.princeton.edu) for details on the geographic coverage of this survey.

² The MMP93 interviews were conducted in communities of various size, ethnic composition, and economic development that are typical source regions for US bound migrants. In addition, the sample expands over time to incorporate communities in newer sending states.

Immigrant Profile in the MMP93

Table 1 displays some of the characteristics of our overall sample, as well as remitters and non-remitters. An average of 71 percent of household heads that migrated to the U.S. remitted money home on a monthly basis. For those who remitted, average remittances exceeded \$450 per month (in 2000 dollars), accounting for over 40 percent of remitters' mean monthly earnings. In addition to these monthly remittance payments, about 64 percent of immigrants in our sample return to Mexico with accumulated funds at the conclusion of their last U.S. migration spell. If the household head brought savings back to Mexico, the average amount was over \$2800 in real terms (in 2000 dollars). Only 42 percent of immigrants in the MMP93 sample were documented during their last U.S. trip, and only 14 percent had a U.S. bank account.

Other interesting demographic characteristics include immigrants' gender, age and human capital. Given that our sample is comprised of household heads who migrated to the U.S., it is not surprising that ninety-five percent of our sample is male. On average, immigrants in the sample were 33 years old when they last migrated to the U.S., and possessed limited human capital. Average educational attainment was 5 years of schooling and only 27 percent of immigrants were fluent in English. Additionally, the vast majority of our sample (95 percent) worked while in the U.S. and 78 percent left their spouses behind in Mexico with a family comprised of mostly non-working aged dependents (62 percent). Lastly, the average length of stay in the U.S. was close to 3 years.

In terms of their job characteristics, nearly forty percent worked in agriculture, another forty percent in manufacturing and most of the remaining twenty percent worked in services occupations. Very few worked in technical or professional jobs. On average, real monthly

income for migrating household heads was close to \$1700 in 2000 dollars during their last episode in the United States.

<u>Remitters versus Non-remitters</u>

1. <u>Remittances</u>

Table 1 compares the characteristics of Mexican immigrants who remit on a monthly basis with those of their counterparts who did not remit while in the U.S. According to the figures in Panel A, remitters were more likely to be male, older, and undocumented when compared to their non-remitting counterparts. Additionally, remitters tended to have fewer years of education, were less fluent in English, and were more highly reliant on social networks while in the U.S. Remitters were also more likely than non-remitters to have left their spouses, as well as a larger fraction of dependents, in Mexico.

In terms of their level of resources, those who remitted were more likely to have a job, despite the shorter duration of their trips relative to non-remitters. Remitters were also more likely to be unbanked. Of those who remitted, only 11 percent had a bank account while in the U.S. Meanwhile, close to a quarter of those who did not remit were banked. Lastly, remitters migrated from communities with relatively fewer factories and banks, possibly reflecting their more rural origins.

2. <u>Savings Brought Back</u>

In addition to information on monthly remittances, the MMP93 collects information on the amount of savings brought back to Mexico at the end of a visit to the U.S. These lump sums taken back home to Mexico are an alternative form of money transfers. The characteristics of those who brought savings back to Mexico compared with those who did not are presented in

Table 1, panel B. The differences observed in the two groups are similar to those that we found for remitters when compared with non-remitters.

For example, migrants who brought savings back were also more likely to be male, older, undocumented, married, less educated, and less fluent in English. In addition, immigrants who saved and brought some of their earnings home were less likely to have a bank account relative to non-savers. Lastly, immigrants who saved and brought some of their earnings back home at the end of their last U.S. trip originated from more rural communities back in Mexico, with fewer factories and banks.

3. Remitters (only) vs. Savings Brought Back (only)

Turning to Table 2, we present demographic, job, and community of origin characteristics of those who only remit compared to those who only bring money back with them at the end of their last migration spell in the U.S. There are significant differences between these groups. Heads of household who choose to only remit money home are more likely to be male. In addition, remitters tend to be older and more likely to have left a spouse in Mexico relative to migrants who only bring money back home. Furthermore, remitters were more likely to speak English. Thus, migrating household heads who only remit money home on a periodic basis may be more tied to the U.S. and less likely to return to Mexico regularly. In contrast, migrating household heads bringing savings back to Mexico have much shorter stays in the U.S., with a larger fraction of them working in agricultural jobs relative to their remitting-only counterparts. In addition, household heads who only remit are six percentage points more likely to have a bank account in the U.S. relative to migrants who only transfer funds to Mexico by bringing savings back at the end of a migration spell.

IV. How Much Money Do Migrants Remit and Take Back Home?

• Trends by Decade when Immigrants Last Entered the U.S.

After describing the profiles of remitters and those who bring their accumulated savings back home at the end of their migration spells, it is important to examine the magnitude of these money transfers, how it has changed over time and with the duration of immigrants' trips. Figures 1 and 2 describe some overall trends in the average dollar amount either remitted on a monthly basis or carried home by migrants according to when they last entered the U.S. The average real dollar amount remitted on a monthly basis by household heads who last came into the country during the 1960s was approximately 16 percent higher than the dollar figure sent by their counterparts who last entered the U.S. a decade earlier (from \$636 to approximately \$740). However, thereafter, the dollar amount remitted monthly by immigrants appears to have decreased, reaching a minimum of \$345 per month for migrants who last entered after the year 2000.

The average dollar figure brought back to Mexico by migrants at the end of their migration spells also declined from \$4271 (in real terms) among the immigrant cohort who last entered the country during the 1950s to approximately \$3930 among immigrants who last migrated during the 1960s. Immigrants' repatriated savings temporarily rebounded for the 1970s cohort, who brought back home an average of \$4183. However, the average dollar amount brought back home by immigrants who last entered the U.S. during the 1980s and, to a greater extent, among immigrants who last migrated during the 1990s, significantly dropped to reach a minimum of \$2037. At any rate, as with the immigrant cohort of the 1970s, a rebound in the repatriated savings of immigrant cohorts entering the U.S. after the year 2000 is, nonetheless,

evident from Figure 2. For this last cohort of Mexican immigrants, the average real dollar amount brought back home was \$2290.

Overall, much of the second half of the twentieth century has been characterized by a steady decline in the money transferred home by Mexican immigrants. Several factors may be at play in explaining this trend. First, improvements in Mexican living standards may have contributed to a decline in the average level of remittances. Second, there may be a difference in the mix of temporary and permanent immigrants according to cohort of last entry. In particular, the possibility exists that earlier cohorts contained a greater share of temporary migrants relative to permanent immigrants given less strenuous border patrol efforts in place during earlier decades. Temporary immigrants appear more likely to accumulate and remit larger sums than permanent immigrants (Glystos, 1997; Brown and Ahlburg, 1998). Therefore, the composition of migrant cohorts may be at the source for the observed decline in the average amount remitted and carried home according to the date of last entry. Our data suggest that this may indeed be the case. According to Figure A in the Appendix, the average trip duration has steadily increased over time from an average of 11 months for Mexican migrants who last entered the U.S. in the 1960s to 67 months for those who last migrated to the U.S. after the year 2000. The longer duration of immigration is suggestive of more permanent migration and, possibly, lesser remittances and returned savings.

• Trends by Duration of Immigrants' Stay

Perhaps one of the most widely recognized patterns in immigrants' remitting behavior is the tendency for the amount remitted home on a regular basis to decline as the duration of migrants' trip lengthens—referred to as 'remittance decay'. The declining remitting patterns may be due to the weakening of immigrants' ties with their home communities—and a

concurrent decrease in altruistic payments. Immigrants are also likely to reduce their remittances home as they form new families of their own in the U.S. The overall pool of migrants may also change with longer-staying immigrants saving less to take home and remitting smaller sums home than their counterparts who migrate with the sole purpose of accumulating a sum of money and returning back home, as is the case with target savers. Finally, some of the reasons for remitting money home may progressively vanish as immigrants get stable jobs and settle in the U.S., displaying less of a need for "insurance" against unexpected deportation and income risks borne during migration.

Figure 3 displays the average dollar amount remitted on a monthly basis by immigrants according to the duration of their last U.S. trip. The graph supports the 'remittance decay' hypothesis with the average dollar figure remitted on a regular basis by immigrants with longer than one year stays declining to \$440 per month from \$478 remitted by immigrants with shorter stays. This pattern is also consistent with the hypothesis that remittances are in part payment on a past loan. Many Mexican immigrants finance their voyage to the U.S. via loans from friends, family or moneylenders. Upon arrival to the U.S., the first order of business is to repay these amounts. Hence, the initial remittances flows include, not only altruistic (or investment) flows, but also loan repayment flows. Once these are paid off, the transfer may fall in magnitude.

In contrast, Figure 4 displays the growing magnitude of the savings brought back home by immigrants as the duration of their U.S. stay lengthens. Total savings are likely to be larger the longer the migrant's stay simply due to the ability to accumulate more with time.

<u>Immigrants' Money Transfer Patterns According to their Legal Status</u>

In addition to a variety of socio-demographic and employment characteristics, Table 3 displays the money transfer patterns of undocumented and documented Mexican immigrants in

our sample. Undocumented immigrants are significantly more likely to remit money home on a periodic basis as well as to save money to bring back home at the end of their migration spell. The higher likelihood of transferring money home exhibited by undocumented migrants may, in part, be related to the need of the undocumented to insure for a place back home in the event of deportation and the greater insecurities experienced by undocumented immigrants in their job situations. Alternatively, demographic considerations may be a the core of this higher likelihood as a higher fraction of these migrants are married and have migrated leaving a spouse and dependents in Mexico. However, possibly owing to the higher monthly earnings that accompany their higher educational attainment and English speaking ability, legal immigrants remit approximately \$69 more per month and bring home about \$510 more than their undocumented counterparts. Additionally, the larger sum brought back home by documented immigrants may also be partially due to their banked status (which may facilitate the accumulation of savings) as well as to the longer duration of their trips.

V. Purpose of Migrants' Monthly Remittances and Savings Brought Back Home

As explained earlier in the paper, immigrants may transfer money to their families back in Mexico, whether on a regular basis or at the end of their migration spell for a variety of reasons including altruism, consumption smoothing, target saving, loan repayment, or insurance. In some cases these remitted funds will be immediately consumed, while in other cases they may be used to purchase consumer durables or to invest in capital goods, housing or financial assets.

In Table 4, we try to obtain some insights into the consumption/investment mix of these flows. Panels A and B display the share of immigrants in the MMP93 who report each of a series of reasons as the primary motive for sending money to their families. The single most important stated category is health expenses incurred by their families, followed by food and

housing expenses. While housing can be considered partially consumption and partially investment, many of these expenses would be classified as consumption.

Figures 5 and 6 display the average dollar amount either remitted on a regular basis or brought back home at the end of the migration spells according to the primary purpose stated for remitting or taking sums home. Migrants who claimed to be remitting for a special event, as in the case of a wedding or baptism, remitted the largest sums. The next largest dollar figures are sent by migrants who claimed to be primarily remitting for what may be considered investment purposes, such as the purchase of livestock, agriculture inputs, savings, or the purchase/construction/repair of a lot or house. Migrants send, on average, in excess of \$500 on a monthly basis if they claim this category as their primary reason for remitting. In the case of the lump sums brought home, when immigrants claim recreation and the purchase of a house/lot as their primary categories, they, on average, take back amounts in excess of \$4,000. These two categories are then followed by the purchase of livestock, savings, and educational expenses. Migrants reporting these categories as the primary motive for bringing money back home reported an average dollar amount of \$3,000 for their repatriated savings.

Overall, it is worth noticing that, despite our first impressions of immigrants claiming to mainly transfer financial resources to their families for consumption purposes (as indicated in Table 2), the dollar amounts transferred tend to be larger when investment is claimed as the primary motive for remitting or taking sums home.³ As such, these patterns point to the importance of migrants' remittances and savings for the economic development of recipient areas.

³ Actually, financing a special event and recreation are associated with the largest transfers. These transactions are, of course, more fitting with consumption expenditures. However, these transfers account for only a very small share of all transfers.

VI. Methods Used by Migrants to Remit Money Back Home

In order to learn about the methods by which Mexican migrants remit money back home, we use data from the *Encuesta sobre Migración en la Frontera Norte de México* (EMIF), a migration survey carried out by the *Colegio de la Frontera Norte* (COLEF).⁴ Unlike the MMP93, the EMIF asks migrants about the method used to remit money home, allowing us to learn about immigrants' preferences for using banks or other methods for periodically remitting funds home.

The EMIF surveys are conducted in eight different cities along the United States-Mexico border: Tijuana, Mexicali, Nogales, Ciudad Juárez, Piedras Negras, Nuevo Laredo, Reynosa, and Matamoros. These cities account for more than 90 percent of the migration flows between Mexico and the United States (*Secretaría del Trabajo y Previsión Social* 2001). A representative sample of individuals voluntarily returning from the United States on foot, by train, car, bus and plane are extensively interviewed about their migration and work experience.⁵ Sociodemographic and family information is collected along with information on the migrant's documentation status, as well as specifics about remitting behavior with respect to his or her last month's earnings. Due to its objectives, the EMIF is fairly representative of the Mexican migration flow, whereas the MMP93 intends to be representative of the stock of Mexican immigrants returning to Mexico or/and staying in the U.S. As a result, the EMIF is more likely to include commuters and other frequent border crossers, who constitute an important fraction of the daily cross-border migration flow, relative to the MMP93. Due to their frequent trips across the border, these individuals are less likely to remit money home on a monthly basis compared to

⁴ COLEF carried out the survey for the Secretaría del Trabajo y Previsión Social, the Consejo Nacional de Población, and the Instituto Nacional de Migración.

their migrant counterparts in the MMP93. For instance, an estimated 47 percent of migrants remitted a fraction of their last monthly earnings home in the EMIF compared to 71 percent in the MMP93.⁶

For the purpose of this study, we use survey data from five consecutive waves of the EMIF: 1993-1994, 1994-1995, 1996-1997, 1998-1999, and 1999-2000. Our sample consists of approximately 6,000 Mexican migrants returning from the United States and who have declared remitting a fraction of their last month's U.S. earnings. The EMIF asks migrants about the method used to remit money home, distinguishing among banks, money orders, telegram, hand carried by family or friends, and regular mail. We group transfers hand carried by family and friends with regular mail and designate these as 'informal' transmission methods, while money orders and telegrams are lumped into a category we call non-bank money transfers undertaken by institutions we refer to as money transfer firms or MTFs. Figure 7 displays the percent of Mexican migrants claiming to remit via banks, MTFs, informal methods, or other non-specified methods. The vast majority of Mexican migrants used informal methods, such as friends, family, and cash in the mail, with approximately 10 percent relying on bank transfers to send money home.

The repeated design of the EMIF survey (5 waves over the 1993-2000 period) allows us to detect trends in remitting methods over time. An overview of trends and patterns is evident from the information contained in Figure 8, which lists the percentages of Mexican migrants using the four broad categories: MTFs, banks, informal methods, and unspecified other means. While MTFs constitute the preferred money transmission mechanism for most migrants, it is

⁵ See the *Encuesta sobre Migración en la Frontera Norte de México, 1998-1999* (Secretaría del Trabajo y Previsión

interesting that this method experienced a substantial decline in market share from 77 percent of transfers to 66 percent of transfers. Banks, in contrast, increased their market share from 4 percent to 17 percent over this time period. The use of informal means to remit money (using friends, family, or cash in the mail) has decreased a bit, falling from about 15 percent of transactions in 1993-1994 to about 12 percent of transactions in 1999-2000.

The finding that migrants prefer MTFs is significant because it points to the ability of the institutions to attract immigrant business despite the observation that the fees charged by MTFs for money transfers often exceed, by a significant margin, the fees charged by banks (Orozco 2002). Despite these relatively steeper fees⁷, immigrants appear to feel fairly comfortable and well served by MTFs. The extensive networks of agencies in both sending and recipient communities, apparently, compensates for the higher fees. The importance of a well spread infrastructure, when it comes to remitting money, is evident in Figure 9. According to the data presented, MTFs appear to serve both rural as well as urban areas well. As a result, the fraction of immigrants from rural and urban areas using MTFs is identical (about 73 percent). However, the fraction of Mexican migrants from urban areas who remit through banks is 2 percentage points higher than for migrants originating from rural areas in Mexico. Presumably, families in urban areas are also less likely to rely on informal methods when remitting money back home relative to their counterparts from rural areas in Mexico.

It may also be the case that differing regulations imposed on banks and non-bank MTFs with respect to transmitting funds have contributed to the greater ease that migrants appear to enjoy when remitting via non-bank MTFs. Individuals may be at a disadvantage for preserving

Social 2001) for an extensive explanation of the EMIF's sampling methodology.

their anonymity when remitting through banks. As such, it is logical that undocumented immigrants would rely to a greater extent on informal methods and MTFs to send money home, and less likely to remit through banks relative to documented and authorized immigrants.⁸

Figure 10 displays the fraction of unauthorized and legal Mexican migrants using a particular money transfer method in the first and last survey waves of the EMIF. According to the data, unauthorized immigrants appeared to use informal methods to a greater extent than their legal counterparts as of the beginning of the survey. They were also slightly less likely to use banks. By the 1999/2000 wave, however, a substantial shift in remitting methods is observed. The fraction of unauthorized Mexican immigrants remitting through informal methods had been cut in half and, furthermore, unauthorized immigrants now appeared *more* likely than their legal counterparts to remit money home through banks. It is possible that the anonymity advantage enjoyed by non-bank MTFs has recently been eroded by legislation that attempts to place more responsibility on all financial institutions for better establishing the identity of clients and for putting in place anti-laundering safeguards. This may explain a convergence in the remitting methods used by documented and undocumented immigrants.

VII. Immigrants' Banking Patterns

• Time Trends in Immigrant Banking

Using the MMP93, we are able to further explore Mexican migrants' familiarity with the U.S. banking system. More specifically, we assess trends in the share of migrating household heads with U.S. bank accounts over the past 50 years and present the characteristics of the banked for our sample. As mentioned in section II, the share of Mexican migrants with bank

⁶ Authors' tabulations using the EMIF and the MMP93.

⁷ More recent findings by Orozco (2004) suggest that a convergence of charges by banks and MTFs is taking place.

accounts while living in the U.S. has been limited. For our entire sample, only 14 percent of Mexican migrant household heads had a U.S. based bank account during their most recent trip to the U.S. However, the use of banking services has varied during the past five decades (as shown in Figure 11), increasing steadily as a share of immigrants from 1 percent in the 1950s, to 10 percent in the 80s, and reaching 23 percent in the 90s. For those household heads who last were in the U.S. between 2000 and 2002, the share banked was close to 35 percent.⁹ While the share banked is lower for the undocumented, it is evident from Figure 12 that banking trends have been on the rise for both documented and undocumented.

• <u>Who Are the 'Banked' Mexican migrants?</u>

Table 5 presents the characteristics of banked Mexican migrants in our sample relative to the characteristics of unbanked Mexican migrants. Consistent with previous research (Amuedo-Dorantes and Bansak 2004), the banked tend to send slightly lower levels of monthly remittances to Mexico (although the difference is not statistically significant), but take back more savings at the conclusion of the migration spell. While monthly remittances are rather similar for both banked and unbanked migrants, the lump sums transferred home by banked migrants are \$4951 higher than those of unbanked migrants. In addition, the banked are less likely to remit or to bring money back to Mexico, possibly reflecting their longer U.S. stay, greater assimilation, and severing of ties to theire homeland relative to the unbanked.

In terms of individual characteristics, banked Mexican migrants are more likely to be young, documented, and fluent in English relative to the unbanked. The banked also display characteristics suggesting a loosening of ties with Mexico. A smaller share of banked

⁸ See Amuedo-Dorantes and Pozo (2004) for a formal analysis of the matching of immigrant characteristics with the differing attributes embodied in the differing transfer mechanisms.

⁹ For comparative purposes, it is interesting to note that, according to the Federal Reserve's 2001 Survey of Consumer Finances (SCF), the percent of families in the U.S. with checking accounts is close to 90 percent.

immigrants has left a spouse or dependents in their community of origin and fewer rely on social networks in the U.S. relative to unbanked immigrants. Immigrants with bank accounts are more likely to have professional or technical jobs. They are also more highly represented in the manufacturing and services occupations than the unbanked, who are more highly concentrated in agriculture. Finally, banked immigrants also earn approximately \$700 more per month than those without bank accounts. This result is not surprising given that other studies (Caskey 2000; Hogarth and O'Donnell 1998) have found that lower income individuals do not find it worthwhile to open a bank account. In addition, banked immigrants have enjoyed a longer U.S. visit (on average 10 years) compared to the unbanked (average stay of 22 months), again suggesting their greater assimilation into the U.S. banking culture. Finally, immigrants with bank accounts in the U.S. are more likely to come from communities with larger numbers of banks and from communities with a bank in place before the migrant traveled to the U.S., both of which may have increased the familiarity of these migrants with the banking system. In contrast, immigrants without accounts originate from communities with fewer banks and, hence, may be less acquainted with banks and possibly more concerned with corruption in the banking system, making them more wary of the role of banks in savings and money transfers.

VIII. Conclusions

Immigrants migrate for a multitude of reasons including overcoming hunger, to enjoy higher earnings, to escape political or social persecution, to join family, to acquire education and to spread consumption risks. Given this plethora of reasons for migrating it should come as no surprise that immigrants' motives for remitting to their home economies are, at least, as varied. They include altruism, accumulating precautionary saving, asset accumulation and asset diversification, securing the option to return to the home community should the need arise, and

loan repayment. Therefore, we do not subscribe to a "one size fits all" explanation when reporting on this under-researched area. Instead we point to how the various trends and patterns in remittance flows support the various approaches.

Due to the high proportion of migrants who claim that consumption is the primary purpose for remitting, the generalization is often made that altruism is a good explanation for most of the funds that are remitted. We find, however, that the amounts remitted for consumption are relatively modest when compared to the amounts remitted for investment, which are often double in size. It follows that large portions of total dollar amounts remitted actually do serve to fund capital investments, giving rise to the investment (target saving) motive as another important determinant of remittances.

Our data also provide evidence of remittance decay. Migrants with more U.S. experience seem to reduce the amounts that they remit home. This observation is consistent with several models of remittances. First, as immigrants' ties with their home communities weaken and altruistic feelings diminish it is likely that lower amounts are remitted. Second, as immigrants become more secure in the host community and their projected earnings are subject to less risk, the need for insurance via remitting money falls. It is no longer so pressing to keep open the option of returning to the home community. Third, once loans are paid off, the amount remitted may no longer need to be as large. Lastly, our data also point to another interesting pattern – longer-staying immigrants seem to save more and carry larger sums home, as indicated by Figure 4.

We also observe a decrease in the amount remitted among, by what appear to be, more recent immigrants. This may be due to a rise in the ratio of permanent immigrants less likely to remit money home. Nonetheless, the decrease in amount remitted is not inconsistent with the

growing volumes of remittance inflows reported by Mexico. Given the explosion in immigration from Mexico to the United States it is not hard to imagine that these large numbers of immigrants make up for the decline in the average per capita transfer amount.

This data reveal that the propensity to remit seems to be greater among undocumented workers, immigrants who have left dependent in Mexico, immigrants with lower levels of education and English skills, and the unbanked. The average amount remitted for those who remit is forty percent of earnings. Additionally, for remitting migrants, MTFs continue to be the main transfer mechanism used in the survey data we analyzed. However, we also observe a substantial decline in the use of MTFs from 77 percent of all transfers to 66 percent over the period 1993 through 2000. In contrast, banks have more than quadrupled their market share from 4 percent of all transactions to 17 percent. The impact of being banking on remittances is interesting because while banked individuals appear to remit less, banked individuals appear to use banks to save. At the end of their migration spells, banked migrants bring back to their communities sums three times larger than the dollar amounts taken home by unbanked migrants. Finally, it is interesting to note the convergence in the share banked and in the methods used to remit by documented and undocumented immigrants, with the behavior of undocumented and documented migrants becoming more similar over time.

References

Ahlburg, Dennis A., and Richard P.C. Brown. 1998. "Migrants' Intentions to Return Home and Capital Transfers: A Study of Tongans and Samoans in Australia" *The Journal of Development Studies*, Vol. 35, No. 2, pp. 125-151.

Amuedo-Dorantes, Catalina and Cynthia Bansak. 2004. "Access to Banking Services and Remittances by Mexican Immigrants" Working Paper, Department of Economics, San Diego State University.

Amuedo-Dorantes, Catalina and Susan Pozo. 2004. "Remittances as Insurance: Evidence from Mexican Immigrants" Working Paper, Department of Economics, Western Michigan University.

Amuedo-Dorantes, Catalina and Susan Pozo. 2004. "On the Use of Differing Money Transmission Methods by Mexican Immigrants" *International Migration Review*, forthcoming.

Caskey, John. 2000. "Reaching Out to the Unbanked" Working Paper 00-15/ Center for Social Development, Washington University.

Connell, J. and R. P. C. Brown. 1995. "Migration and Remittances in the South Pacific: Towards New Perspectives" *Asian and Pacific Migration Journal*, Vol. 4, No. 1, pp. 1-33.

Glytsos, Nicholas P. 1997. "Remitting Behaviour of 'Temporary' and 'Permanent' Migrants: the Case of Greeks in Germany and Australia" *Labour*, Vol. 11, No. 3, pp.409-35.

Grieco, Elizabeth. October 1, 2003. *The Foreign Born from Mexico in the United States*, Migration Information Source at www.migrationinformation.org.

Hogarth, Jeanne M. and Kevin H. O'Donnell. 1998. "Being Accountable: A Descriptive Study of Unbanked Households in the U.S." *Partners in Community and Economic Development Newsletter*, Federal Reserve Bank of Atlanta, Volume 8, Number 2, Summer 1998.

LaLonde, R.J. and R. H. Topel. 1997. "Economic Impact of International Migration and of migrants" in *Handbook of Population and Family Economics*, edited by Mark R. Rosenzweig and Oded Stark, Amsterdam: Elsevier.

Massey, Douglas S. and René Zenteno. 2000. "A Validation of the Ethnosurveys: The Case of Mexico-U.S. Migration" *International Migration Review*, 34(3), pp. 766-793.

Munshi, Kaivan. 2003. "Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market" *The Quarterly Journal of Economics*, 118(2), 549-599.

Orozco, Manuel. 2002. "Remittances and Markets: New Players and Practices" in *Sending Money Home*, edited by R. de la Garza and B. L. Lowell, Oxford: Rowman & Littlefieldd Publishers Inc., pp. 125-154.

Orozco, Manuel. 2004. "The Remittance Marketplace: Prices, Policy and Financial Institutions, Pew Hispanic Center Report, June.

Rosenzweig, Mark R.and Stark, Oded. 1989. "Consumption Smoothing, Migration, and Marriage: Evidence from Rural India" *Journal of Political Economy*, Vol. 97, No. 4, pp. 905-926.

Secretaría del Trabajo y Previsión Social. 2001. Encuesta sobre Migración en la Frontera Norte de México, 1998-1999. Mexico D.F.

Stark, Oded. 1991. The Migration of Labour. Oxford: Basil Blackwell.

Characteristics	All Migrants	Remitters	Non-Remitters		
	Mean	Mean	Mean	Difference	t-stat
PERSONAL					
Probability of Remitting	0.71	1.00	0.00	1.00	
Probability of Bringing Savings	0.64	0.72	0.44	-0.28	-17.73***
Real Remittances	466.53	466.53	0.00	-466.53	-45.48***
Real Savings Returned Mexico	2854.38	2367.77	4136.89	1769.12	3.34***
Male	0.95	0.97	0.92	-0.05	-6.69***
Age	33.15	33.74	30.86	-2.88	-7.52***
Illegal	0.58	0.62	0.51	-0.11	-6.99***
Married	0.91	0.94	0.87	-0.06	-6.55***
Left Spouse in Mexico	0.78	0.84	0.62	-0.22	-15.20***
Dependents in Mexico	0.62	0.62	0.60	-0.02	-2.39**
Social Networks	0.82	0.87	0.78	-0.09	-7.11***
Years of Education	5.07	4.80	5.80	1.01	7.54***
Speaks English	0.27	0.23	0.32	0.09	6.24***
JOB CHARACTERISTICS					
Working	0.95	0.98	0.93	-0.05	-7.24***
Professional	0.01	0.01	0.01	0.004	1.29
Technical	0.002	0.001	0.003	0.002	0.93
Agricultural	0.39	0.41	0.34	-0.07	4.29***
Manufacturing	0.38	0.37	0.40	0.03	1.96*
Services	0.20	0.20	0.22	0.02	1.79*
Monthly Income	1674.84	1747.34	1684.42	-62.92	-0.62
Proportion Banked	0.14	0.11	0.23	0.12	10.14***
Duration of Last Trip in Months	35.07	27.22	52.78	25.56	10.15***
COMMUNITY OF ORIGIN					
Number of Factories in Origin	467.55	392.52	603.05	210.53	3.09***
Number of Banks in Origin	9.52	8.12	11.93	3.82	4.10***
Banks in home community	0.64	0.63	0.67	0.04	2.61***
Number of observations	5842	3492	1450		

Table 1 – PANEL A Characteristics of Remitting and Non-remitting Household Heads

Notes: ***Signifies significantly different from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better. Average figures for real remittances and savings returned home are conditional on transfers being non-zero. The number of observations for remitters plus non-remitters does not equal the number of observations for all migrants because of missing observations on migrants' remitting patterns. In particular, we only have information on the remitting patterns of 4942 migrants, 3492 remitters and 1450 non-remitters.

Characteristics	All Migrants	Savings Returned	Non-Savings Returned		
	Mean	Mean	Mean	Difference	t-stat
PERSONAL					
Probability of Remitting	0.71	0.79	0.54	-0.26	17.46***
Probability of Bringing Savings	0.64	1.00	0.00		
Real Remittances	466.53	499.14	369.71	-129.43	-6.39***
Real Savings Returned Mexico	2854.38	2854.38	0.00	-2854.38	16.34***
Male	0.95	0.97	0.94	-0.03	-4.64***
Age	33.15	33.43	31.81	-1.63	-4.47***
Illegal	0.58	0.62	0.54	-0.08	-5.51***
Married	0.91	0.94	0.88	-0.06	-6.03***
Left Spouse in Mexico	0.78	0.83	0.66	-0.18	-12.98***
Dependents in Mexico	0.62	0.62	0.60	-0.03	-3.56**
Social Networks	0.82	0.87	0.79	-0.07	-6.32***
Years of Education	5.07	4.83	5.65	0.82	6.54***
Speaks English	0.27	0.20	0.36	0.17	11.79***
JOB CHARACTERISTICS					
Working	0.95	0.98	0.94	-0.04	-5.73***
Professional	0.01	0.00	0.01	0.01	2.44**
Technical	0.002	0.001	0.005	0.004	2.14**
Agricultural	0.39	0.44	0.29	-0.14	9.64***
Manufacturing	0.38	0.36	0.43	0.07	4.27***
Services	0.20	0.19	0.24	0.06	4.23*
Monthly Income	1674.84	1730.37	1712.36	-18.00	-0.17
Banked	0.14	0.09	0.25	0.15	12.93***
Duration of Last Trip to the U.S.	35.07	20.60	60.48	39.88	16.11***
COMMUNITY OF ORIGIN					
Number of Factories in Origin	467.55	413.58	515.21	101.63	1.71*
Number of Banks in Origin	9.52	6.88	12.76	5.88	6.47***
Banks in home community	0.64	0.66	0.68	0.02	1.31
Number of observations	5842	2870	1646		

Table 1 – PANEL B Characteristics of Household Heads Returning to Mexico with and without Savings

Notes: ***Signifies significantly different from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better. Average figures for real remittances and savings returned home are conditional on transfers being non-zero.

~	All Migrants	Remit only	Savings Returned only		
Characteristics	Mean	Mean	Mean	Difference	t-stat
PERSONAL					
Probability of Remitting	0.71	1.00	0.00		
Probability of Bringing Savings	0.64	0.00	1.00		
Male	0.95	0.97	0.95	-0.02	-1.68*
Age	33.15	32.96	31.67	-1.29	-1.97**
Illegal	0.58	0.59	0.56	-0.03	-1.14
Married	0.91	0.91	0.90	-0.01	-0.45
Left Spouse in Mexico	0.78	0.75	0.69	-0.05	-2.11**
Dependents in Mexico	0.62	0.59	0.60	0.01	0.96
Social Networks	0.82	0.86	0.85	0.02	1.41
Years of Education	5.07	5.18	5.32	0.14	0.61
Speaks English	0.27	0.33	0.21	-0.12	-5.12***
JOB CHARACTERISTICS					
Working	0.95	0.98	0.97	-0.01	-1.02**
Professional	0.01	0.01	0.00	-0.01	1.44
Technical	0.002	0.00	0.005	-0.005	-2.00**
Agricultural	0.39	0.33	0.44	0.11	4.19***
Manufacturing	0.38	0.40	0.34	-0.05	-1.92*
Services	0.20	0.24	0.20	-0.04	-1.98**
Monthly Income	1674.84	1748.23	1575.97	-172.26	-1.55
Banked	0.14	0.19	0.13	-0.06	-2.93***
Duration of Last Trip to the U.S.	35.07	47.30	24.07	-23.22	-6.70***
COMMUNITY OF ORIGIN					
Number of Factories in Origin	467.55	372.66	393.00	20.35	0.24
Number of Banks in Origin	9.52	10.72	8.08	-2.64	-1.90*
Banks in home community	0.64	0.67	0.69	0.02	0.70
Number of observations	5842	836	570		

 Table 2

 Immigrant Characteristics: Remitters vs. Savings Returned Only

Notes: ***Signifies significantly different from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better.

Characteristics	All Migrants	Documented	Undocumented		
Characteristics	Mean	Mean	Mean	Difference	t-stat
PERSONAL					
Probability of Remitting	0.71	0.65	0.75	0.09	6.97***
Probability of Bringing Savings	0.64	0.59	0.67	0.08	5.50***
Real Remittances	466.53	508.21	438.87	-69.34	3.02***
Real Savings Returned Mexico	2854.38	3175.44	2665.06	-510.38	1.48
Male	0.95	0.94	0.95	0.01	1.87*
Age	33.15	34.91	31.93	-2.98	-9.13***
Illegal	0.58	0.00	1.00		
Married	0.89	0.89	0.92	0.03	3.91***
Left Spouse in Mexico	0.78	0.69	0.85	0.15	13.58***
Dependents in Mexico	0.62	0.60	0.63	0.03	4.17**
Social Networks	0.82	0.78	0.85	-0.02	-1.41
Years of Education	5.07	5.32	4.89	-0.42	-3.87***
Speaks English	0.27	0.38	0.20	-0.18	-14.6***
JOB CHARACTERISTICS					
Working	0.95	0.93	0.96	0.03	5.03**
Professional	0.01	0.01	0.00	-0.01	-2.61***
Technical	0.004	0.004	0.001	-0.003	-1.90*
Agricultural	0.39	0.46	0.35	-0.12	-8.62***
Manufacturing	0.38	0.33	0.41	0.08	5.77***
Services	0.20	0.17	0.22	0.05	4.38***
Monthly Income	1674.84	1735.18	1633.40	-101.78	-1.06
Banked	0.14	0.23	0.07	-0.15	-15.6***
Duration of Last Trip to the U.S.	35.07	43.35	29.18	-14.17	-7.21***
COMMUNITY OF ORIGIN					
Number of Factories in Origin	467.55	510.90	435.93	-74.97	-1.36
Number of Banks in Origin	9.52	10.28	8.95	-1.33	-1.80*
Banks in home community	0.64	0.66	0.63	-0.03	-2.74***
Number of observations	5842	2416	3403		

 Table 3

 Immigrant Characteristics According to Documentation Status

Notes: ***Signifies significantly different from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better. The average figures for real remittances and savings returned home are conditional on transfers being non-zero.

Reason	Share
Health Expenses	46.18
Food and Maintenance	29.79
Construction or Repair of House	7.47
Debt Payment	5.42
Purchase of Consumer Goods	4.46
Other	2.38
Savings	1.39
Purchase of House or Lot	1.02
Start/Expand a Business	0.46
Purchase of Agriculture Inputs	0.36
Education Expenses	0.36
Purchase of Livestock	0.33
Recreation	0.30
Purchase of Vehicle	0.03
Finance a Special Event	0.03

Table 4 – PANEL APrimary Reason for Remitting Funds to Mexico

Source: MMP93.

Reason	Share
Health Expenses	22.53
Food and Maintenance	21.84
Construction or Repair of House	15.86
Savings	8.35
Purchase of Consumer Goods	7.11
Debt Payment	5.15
Recreation	4.86
Other	4.83
Purchase of House or Lot	3.08
Start/Expand a Business	1.85
Purchase of Livestock	1.67
Purchase of Vehicle	1.16
Purchase of Agriculture Inputs	0.76
Finance a Special Event	0.40
Purchase of Tools	0.36
Education Expenses	0.18

Table 4 – PANEL BPrimary Reason for Bringing Money Back to Mexico

Source: MMP93.

	All Migrants	Banked Mean	Unbanked Mean		
Characteristics	Mean			Difference	t-stat
PERSONAL					
Probability of Remitting	0.71	0.53	0.74	0.21	10.51***
Probability of Bringing Savings	0.64	0.39	0.68	0.28	13.91***
Real Remittances	466.53	463.90	467.81	3.91	0.12
Real Savings Returned Mexico	2854.38	7357.08	2405.95	-4951.13	-3.70***
Male	0.95	0.95	0.95	0.00	-0.01
Age	33.15	31.21	33.26	2.06	4.56***
Illegal	0.58	0.32	0.63	0.31	17.30***
Married	0.91	0.89	0.91	0.03	2.21**
Left Spouse in Mexico	0.78	0.41	0.84	0.44	23.72***
Dependents in Mexico	0.62	0.59	0.62	0.03	3.01**
Social Networks	0.82	0.82	0.84	0.02	1.41
Years of Education	5.07	6.89	4.81	-2.08	-13.24***
Speaks English	0.27	0.69	0.18	-0.51	-28.96***
JOB CHARACTERISTICS					
Working	0.95	0.97	0.95	-0.02	-2.36**
Professional	0.01	0.02	0.00	-0.02	-3.36***
Technical	0.002	0.007	0.002	-0.006	-1.96*
Agricultural	0.39	0.17	0.43	0.26	16.85***
Manufacturing	0.38	0.52	0.36	-0.16	-8.35***
Services	0.20	0.27	0.19	-0.08	-4.57***
Monthly Income	1674.84	2307.93	1576.63	-731.31	-7.33***
Banked	0.14	1.00	0.00	1.00	
Duration of Last Trip to the U.S.	35.07	113.32	22.34	-90.97	-20.74***
COMMUNITY OF ORIGIN					
Number of Factories in Origin	467.55	554.61	448.26	106.36	1.46
Number of Banks in Origin	9.52	14.96	8.56	-6.40	-4.65***
Banks in home community	0.64	0.79	0.61	-0.17	-11.17***
Number of observations	5842	780	4862		

 Table 5

 Characteristics of Banked and Unbanked Immigrants

Notes: ***Signifies significantly different from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better. The average figures for real remittances and savings returned home are conditional on transfers being non-zero.



















Source: Encuesta sobre Migracion en la Frontera Norte de Mexico, various years





