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

CATALINA AMUEDO-DORANTES, CYNTHIA BANSAK, AND SUSAN POZO

Amuedo-Dorantes is an associate professor of economics and Bansak is an assistant professor of economics, both at San Diego State University. Pozo is a professor of economics at Western Michigan University. *This paper was presented at the Federal Reserve Bank of Atlanta conference "Payments in the Americas," October 7–8, 2004.*

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 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, and the research community is exploring the potential impact of immigrants' money flows on the economic development of economies receiving remittances. Likewise, government officials have intensified efforts to control money laundering and other illicit transactions and to bring immigrants' transactions into the formal transfer market. Such tasks would minimize the opportunities for criminals to camouflage their transactions by sharing informal channels traditionally used by immigrants to transfer funds abroad.

In this paper, we summarize and present the basic trends in remittance transfers from Mexican immigrants in the United States 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 foreign-born U.S. population, accounting for about one-third of the 33 million foreign born in the United States (Grieco 2003). A series of large, extensive, and long-standing surveys carefully detail the migration experiences of Mexican immigrants and their subsequent remittance flows, allowing for an in-depth analysis of these migrants and their remitting behavior. Using these data, we track patterns in remittance flows and answer several questions: Who remits? How much and why do they remit? What are the transfer mechanisms used to remit funds? To what extent the behavior of Mexican immigrants can be generalized to other immigrant groups remains 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.

Models of Migration and Immigrant Remitting Patterns

Wage differentials and variations in economic opportunity are likely explanations of many individuals' decision to migrate (LaLonde and Topel 1997). Some 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 simply to join family members who emigrated in earlier periods. These numerous reasons for migration make 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 the motive for remittance flows. Do immigrants' remittances reflect altruistic feelings toward the family left behind? Or are these transfers the result of a coinsurance arrangement with family in the community of origin who strive to smooth consumption by geographically diversifying family earnings? Or are remittances simply the periodic accumulations of target savers who will return home once their "saving for investment" goal is attained? Just as a multitude of motives underlie the migration decision, it is also likely that many different motives exist for remitting. In this respect, the debate over what motivates remittances will probably not be resolved if the overriding goal is to pick one motive to 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 coinsurance scheme, by an investment goal, by a need to repay a debt, or by many other situations.

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.

While we do not subscribe to the need to fit all migrants' remitting behavior into one model, 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 review the models developed to explain immigrants' international money transfers.

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 popular economic view of migration as a quest for higher earnings. Migrants share their bounty with the family that has been left behind. In the altruism model, we can expect remittance flows to respond to economic circumstances in both the host and home countries. If immigrants' earnings rise, or if their home-based families are subjected to income shortfalls, then altruistic payments from the host to the home country are likely to increase. Another implication of the altruism model is that remittances may decay over time. Household ties will weaken over time, diminishing the levels of altruistic transfers taking place.

Consumption smoothing. In the consumption-smoothing model, migration takes place to diversify household earnings (Rosenzweig and Stark 1989). The spreading of household members in a geographic sense allows for the unanticipated income shortfalls in one household to be alleviated by earnings 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, increased flows of remittances are expected as a by-product of negative income shocks in the home community.

Target saving. Some individuals migrate to accumulate financial assets to make a specific investment or purchase. For example, a migrant might desire to set up a small business, to purchase a plot of land for farming, or to construct a house. An individual's ability to accumulate the required savings to undertake these relatively large purchases is limited unless he or she migrates to an area with high-paying jobs. Target savers are likely to be short-term or temporary immigrants. They are less apt to make investments in the host community, and they are frugal in their consumption, instead remitting and carrying 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 the risk of deportation or income exposure is reduced, the rationale for such transfers diminishes, and, as a result, we may observe a decay of remittance flows.

Loan repayment. The monetary sums expended to migrate 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 prospective migrants to borrow from friends, relatives, and moneylenders. The expectation is that migrants will repay these loans 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). Thus remittances may be expected to diminish over time as individuals complete their obligations with respect to loan repayments.

Combined models. Models of remittances that combine many of the above motives have also been developed. For example, Stark (1991) suggests 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) coinsurance 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 into 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.

Who Remits?

We use data from the Mexican Migration Project (MMP93) (2004) to characterize the remittance patterns and the demographic, job, and home-community characteristics of immigrants transferring funds back to Mexico. The MMP93 is one of the richest data sets available for studying Mexican migration to the United States. It 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 United States, which includes detailed information from approximately 16,000 households in ninety-three representative communities in seventeen of Mexico's thirty-one 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 United States to administer identical questionnaires to households from the same communities in Mexico who have settled permanently in the United States and no longer return home. Altogether, the MMP93 provides reasonably representative data on authorized and unauthorized Mexican immigrants in the United States 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.

Immigrant profile in the MMP93. Table 1 displays some of the characteristics of the overall sample as well as of remitters and nonremitters. Of household heads that migrated to the United States, 71 percent remitted money home on a monthly basis. For those who remitted, average remittances exceeded $450 per month (in 2000 dollars), accounting for more than 40 percent of remitters' mean monthly earnings. In addition to making monthly remittance payments, about 64 percent of immigrants in our sample returned 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 $2,800 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.

Remittances may be motivated by altruism, by a desire to smooth family consumption, by a coinsurance scheme, by an investment goal, by a need to repay a debt, or by many other situations.

Other interesting demographic characteristics include immigrants' gender, age, and human capital. Given that our sample comprises household heads who migrated to the United States, it is not surprising that 95 percent of our sample is male. On average, immigrants in the sample were thirty-three years old when they last migrated to the United States, and they possessed limited human capital. The average educational attainment was five 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 United States, and 78 percent left their spouses behind in Mexico with a family made up of mostly non-working-aged dependents (62 percent). Finally, the average length of stay in the United States was close to three years.

Nearly 40 percent of the immigrants worked in agriculture, another 40 percent in manufacturing, and most of the remaining 20 percent in service occupations. Very few worked in technical or professional jobs. On average, real monthly income for migrating household heads was close to $1,700 (in 2000 dollars) during their last episode in the United States.

Remitters versus nonremitters. *Remittances.* Table 1 compares the characteristics of Mexican immigrants who remitted on a monthly basis with those who did not remit while in the United States. According to the figures in panel A, remitters were more likely to be male, older, and undocumented when compared to nonremitters. 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 United States.

Table 1
Characteristics of Mexican Migrant Household Heads

	All migrants (mean)	Remitters (mean)	Nonremitters (mean)	Difference	*t*-statistic
A: Remitting and nonremitting household heads					
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 to Mexico	2,854.38	2,367.77	4,136.89	1,769.12	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	1,674.84	1,747.34	1,684.42	–62.92	–0.62
Proportion banked	0.14	0.11	0.23	0.12	10.14***
Duration of last trip to U.S. (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	5,842	3,492	1,450		

(continued on page 42)

Remitters were also more likely than nonremitters 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 nonremitters. Remitters were also more likely to be unbanked. Of those who remitted, only 11 percent had a bank

1. See the Mexican Migration Project (2004) 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 U.S.-bound migrants. In addition, the sample expands over time to incorporate communities in newer sending states.

Table 1 (continued)
Characteristics of Mexican Migrant Household Heads

	All migrants (mean)	Returned with savings (mean)	Returned w/o savings (mean)	Difference	*t*-statistic
B: Household heads returning to Mexico with and without savings					
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 to Mexico	2,854.38	2,854.38	0.00	–2,854.38	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	1,674.84	1,730.37	1,712.36	–18.00	–0.17
Banked	0.14	0.09	0.25	0.15	12.93***
Duration of last trip to U.S. (in months)	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	5,842	2,870	1,646		

Notes: *** signifies a significant difference 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, expressed in 2000 dollars, are conditional on transfers being nonzero. The number of observations for remitters plus nonremitters does not equal the number of observations for all migrants because some observations on migrants' remitting patterns are missing.

Source: MMP93

account while in the United States. 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.

Savings brought back. 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 United States. These lump sums taken back home to Mexico are an alternative form of money transfers.

Table 2
Characteristics of Mexican Migrant Remitters versus Savings Returned Only

	All migrants (mean)	Remitted only (mean)	Repatriated savings only (mean)	Difference	*t*-statistic
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	1,674.84	1,748.23	1,575.97	–172.26	–1.55
Banked	0.14	0.19	0.13	–0.06	–2.93***
Duration of last trip to U.S. (in months)	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	5,842	836	570		

Notes: *** signifies a significant difference from zero at the 1 percent level or better, ** at the 5 percent level or better, and * at the 10 percent level or better.

Source: MMP93

The characteristics of those who brought savings back to Mexico compared with those who did not are presented in panel B of Table 1. The differences observed in the two groups are similar to those that we found for remitters versus nonremitters. 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 nonsavers. Finally, immigrants who brought savings back home at the end of their last U.S. trip originated from more rural communities back in Mexico, with fewer factories and banks.

Remitters (only) versus savings brought back (only). Table 2 presents 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 United States. 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 United States and less likely to return to Mexico regularly. In contrast, migrating household heads bringing savings back to Mexico have much shorter stays in the United States, with a larger fraction of them working in agricultural jobs relative to their remitting-only counterparts. In addition, household heads who only remit are 6 percentage points more likely to have a bank account in the United States relative to migrants who only transfer funds to Mexico by bringing savings back at the end of a migration spell.

Undocumented immigrants are more likely to remit money home periodically and to save money to bring back home at the end of their migration spell.

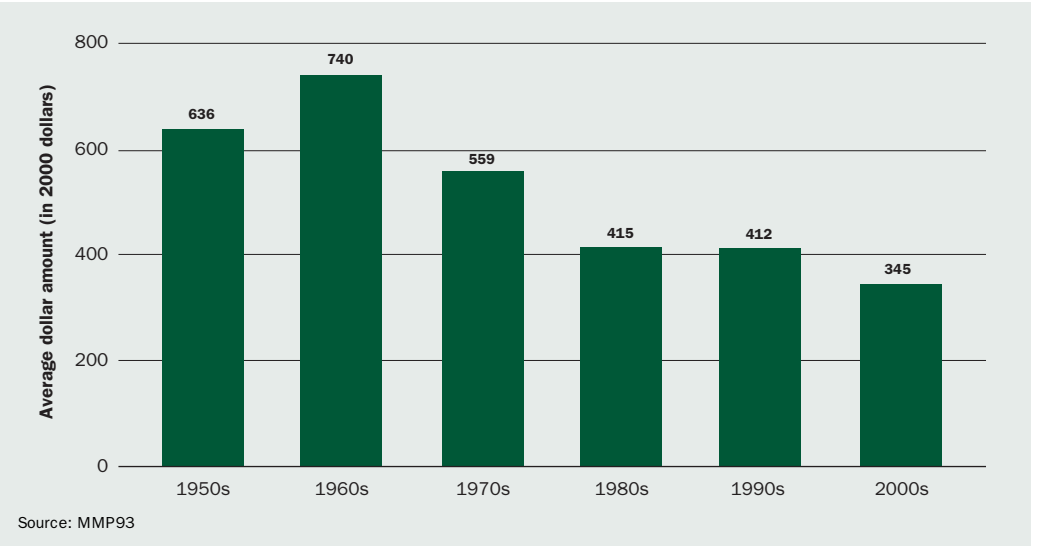
How Much Money Do Migrants Remit and Take Back Home?

Trends by decade when immigrants last entered the United States. Keeping in mind 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 and 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 United States. 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 United States a decade earlier ($740 compared with $636). However, for immigrants who entered in subsequent decades 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 $4,271 (in real 2000 dollars) among the immigrant cohort who last entered the United States during the 1950s to approximately $3,930 among immigrants who last migrated during the 1960s. Immigrants' repatriated savings temporarily rebounded for the 1970s cohort, who brought back home an average of $4,183. However, the average dollar amount brought back home dropped to $2,899 for immigrants who last entered the United States during the 1980s and even further, to $2,037, among immigrants who last migrated during the 1990s. A rebound to $2,290 occurred in the repatriated savings of immigrant cohorts entering the United States after the year 2000.

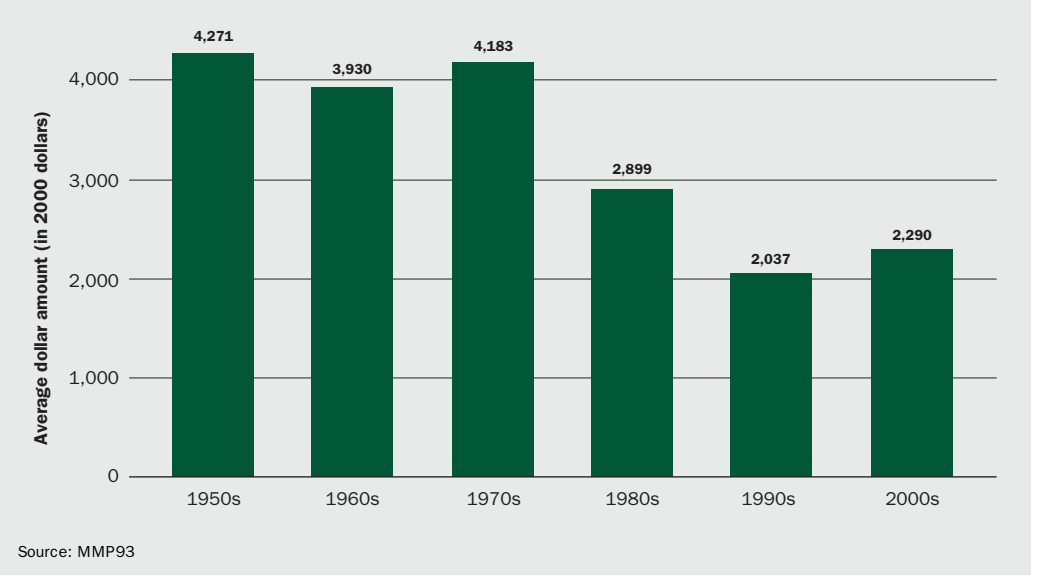
Overall, much of the second half of the twentieth century has been characterized by a steady decline in the money transferred home by Mexican immigrants. Several factors may be at play in explaining this trend. First, improvements in Mexican living standards may have contributed to a decline in the average level of remittances. Second, there may be a difference in the mix of temporary and permanent immigrants according to the decade of last entry. In particular, earlier cohorts may have contained a greater share of temporary migrants relative to permanent immigrants given that less strenuous border patrol efforts were in place during earlier decades. Temporary immigrants appear more likely to accumulate and remit larger sums than permanent immigrants do (Glytsos 1997; Ahlburg and

Figure 1
Monthly Remittances by Mexican Migrants by Decade of Last U.S. Visit



Source: MMP93

Figure 2
Savings Brought Back Home by Mexican Migrants by Decade of Last U.S. Visit

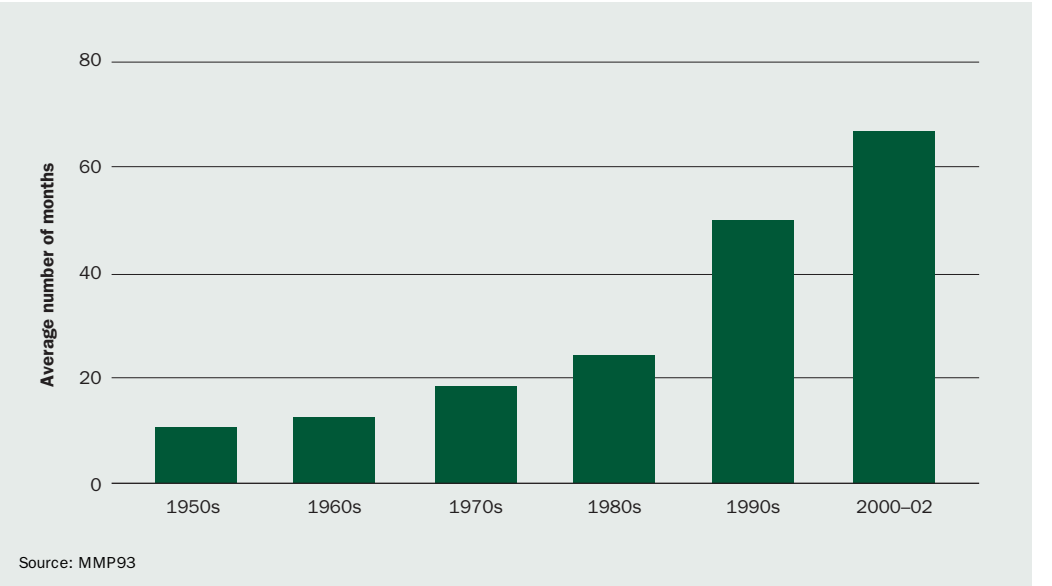


Source: MMP93

Brown 1998). Our data suggest that changes in the composition of migrant cohorts may be at least partly responsible for the observed decline in the average amount remitted and brought home.

The average trip duration of Mexican migrants has steadily increased over time—from an average of eleven months for those who last entered the United States in the 1960s to sixty-seven months for those who last migrated after the year 2000 (see Figure 3). The longer duration of immigration is suggestive of more permanent migration and, possibly, of reduced remittances and returned savings.

Figure 3
Average Duration of Mexican Migrants' U.S. Visits by Decade of Last U.S. Visit



Source: MMP93

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; this tendency is 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 United States. 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 United States, displaying less of a need for insurance against unexpected deportation and income risks borne during migration.

Figure 4 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 amount 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 trips to the United States via loans from friends, family, or money lenders. Upon arrival in the United States, 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 loans are paid off, the transfers may fall in magnitude.

In contrast, Figure 5 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 migrants stay simply because they are able to accumulate more with time.

Figure 4
Average Dollar Amount Remitted Monthly by Mexican Migrants by Duration of Last U.S. Visit

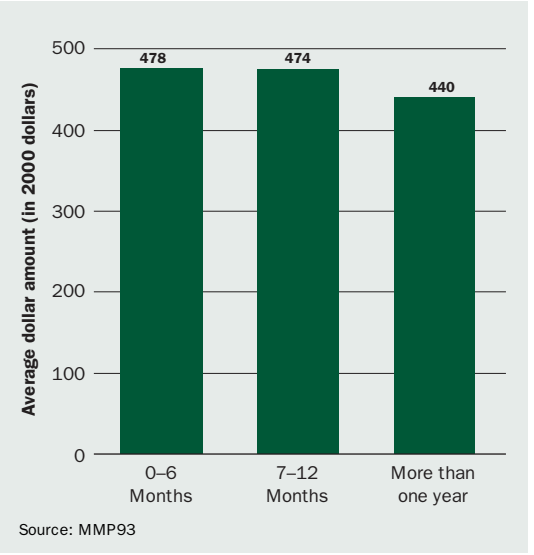
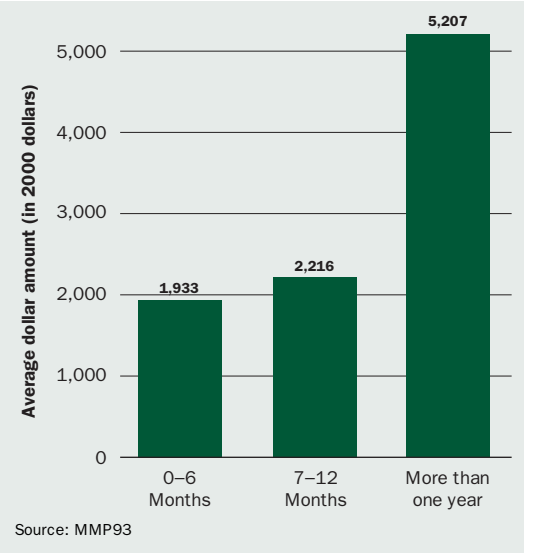


Figure 5
Average Dollar Amount Brought Back Home by Mexican Migrants by Duration of Last U.S. Visit



Immigrants' money transfer patterns according to their legal status. In addition to a variety of sociodemographic 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 be related in part 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 at the core of this higher likelihood because a higher fraction of these migrants are married and have migrated leaving a spouse and dependents in Mexico. However, possibly because of 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 in savings than their undocumented counterparts. Additionally, the larger sum brought back home by documented immigrants may also be partially accounted for by their banked status (which may facilitate the accumulation of savings) as well as to the longer duration of their trips.

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 either through regular remittances or through savings brought home at the end of their migration spell, for a variety of reasons: altruism, consumption smoothing, target saving, loan repayment, or insurance. In some cases these remitted funds will be immediately consumed while in others they may be used to purchase consumer durables or to invest in capital goods, housing, or financial assets.

In Table 4, we provide some details on the consumption/investment mix of these flows. Panels A and B display the share of immigrants in the MMP93 who reported each of a series of reasons as the primary motive for sending money to

Table 3
Characteristics of Mexican Migrants According to Documentation Status

	All migrants (mean)	Documented (mean)	Undocumented (mean)	Difference	*t*-statistic
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 to Mexico	2,854.38	3,175.44	2,665.06	–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	1,674.84	1,735.18	1,633.40	–101.78	–1.06
Banked	0.14	0.23	0.07	–0.15	–15.6***
Duration of last trip to U.S. (in months)	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	5,842	2,416	3,403		

Notes: *** signifies a significant difference 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, expressed in 2000 dollars, are conditional on transfers being nonzero.

Source: MMP93

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 6 and 7 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 money 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 remit-

Table 4
Primary Reasons for Remitting Funds or Repatriating Savings to Mexico

Reason	Share (percent)	Reason	Share (percent)
A: Reason for remitting funds to Mexico		**B: Reason for repatriating savings to Mexico**	
Health expenses	46.18	Health expenses	22.53
Food and maintenance	29.79	Food and maintenance	21.84
Construction or repair of house	7.47	Construction or repair of house	15.86
Debt payment	5.42	Savings	8.35
Purchase of consumer goods	4.46	Purchase of consumer goods	7.11
Other	2.38	Debt payment	5.15
Savings	1.39	Recreation	4.86
Purchase of house or lot	1.02	Other	4.83
Start/expand a business	0.46	Purchase of house or lot	3.08
Purchase of agriculture inputs	0.36	Start/expand a business	1.85
Education expenses	0.36	Purchase of livestock	1.67
Purchase of livestock	0.33	Purchase of vehicle	1.16
Recreation	0.30	Purchase of agriculture inputs	0.76
Purchase of vehicle	0.03	Finance a special event	0.40
Finance a special event	0.03	Purchase of tools	0.36
		Education expenses	0.18

Source: MMP93

ting for what may be considered investment purposes, such as the purchase of livestock, agriculture inputs, savings, or the purchase, construction, or repair of a lot or house. Migrants send, on average, more than $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, immigrants who claim recreation and the purchase of a house or lot as their primary categories take back, on average, 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.

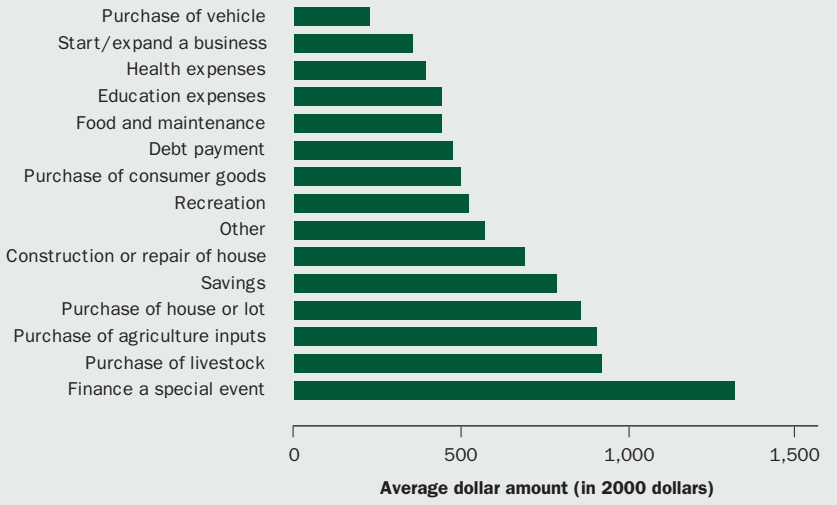
Overall, it is worth noting that, despite our first impressions of immigrants claiming to transfer financial resources to their families mainly for consumption purposes (as indicated in Table 2), the dollar amounts transferred tend to be larger when investment is claimed as the primary motive for remitting 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.

Methods Used by Migrants to Remit Money Back Home

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

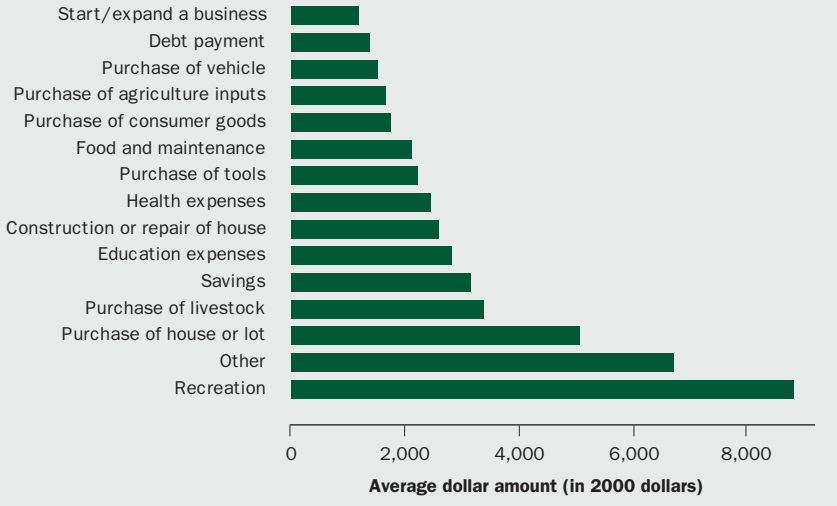
3. Actually, financing a special event and recreation are associated with the largest transfers. These transactions are, of course, more fitting with consumption expenditures. However, these transfers account for only a very small share of all transfers.
4. COLEF carried out the survey for the Secretaría del Trabajo y Previsión Social, the Consejo Nacional de Población, and the Instituto Nacional de Migración.

Figure 6
Primary Motive for Remitting and Average Amount Remitted by Mexican Migrants



Source: MMP93

Figure 7
Primary Motive for Bringing Savings Home and Average Amount Saved by Mexican Migrants



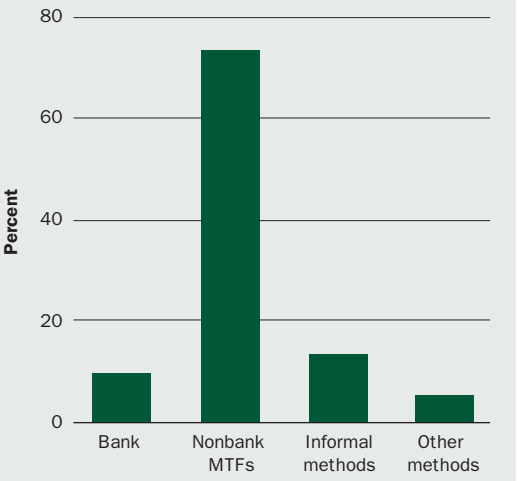
Source: MMP93

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 airplane 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. Because of its objectives, the EMIF is fairly representative of the Mexican migration flow whereas the MMP93 intends to represent the stock of Mexican immigrants returning to Mexico or staying in the United States. 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. Because they make frequent trips across the border, these individuals are less likely to remit money home on a monthly basis compared to 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]

Figure 8
Money Transfer Methods Used by Mexican Migrants



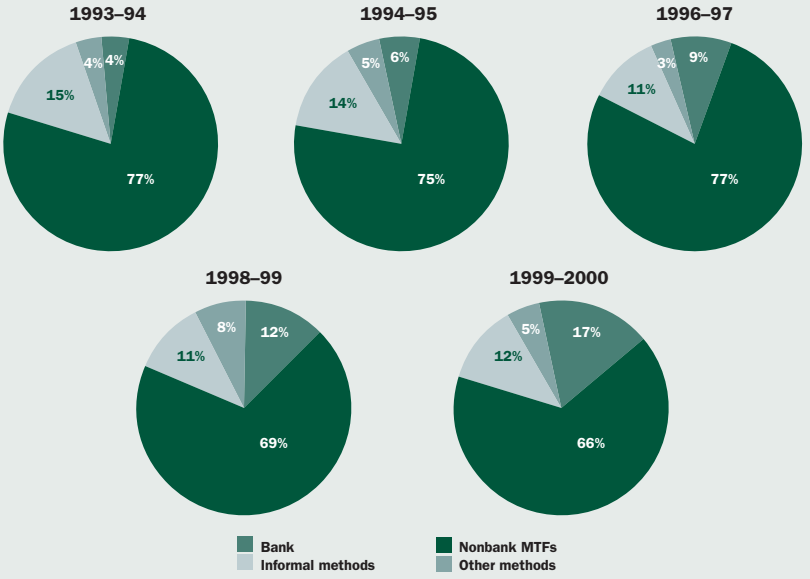
Source: Secretaría del Trabajo y Previsión Social, Encuesta sobre Migración en la Frontera Norte de México, various years

For the purpose of this study, we use survey data from five consecutive waves of the EMIF: 1993–94, 1994–95, 1996–97, 1998–99, and 1999–2000. Our sample consists of approximately 6,000 Mexican migrants returning from the United States 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, and money orders and telegrams are lumped into a category we call nonbank money transfers, undertaken by institutions we refer to as money transfer firms, or MTFs. Figure 8 displays the percentage of Mexican migrants claiming to remit via banks, MTFs, informal methods, or other nonspecified methods during the entire survey period. The vast majority of Mexican migrants, more than 70 percent, declared using MTFs to remit money home. About 13 percent of 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 (five waves over the 1993–2000 period) allows us to detect trends in remitting methods over time. An overview of trends and patterns is evident in Figure 9, which shows 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

5. See Secretaría del Trabajo y Previsión Social (2001) for an extensive explanation of the EMIF's sampling methodology.
6. This comparison reflects authors' tabulations using the EMIF and the MMP93.

Figure 9
Money Transfer Methods Used by Mexican Migrants by Time Period



Source: Secretaría del Trabajo y Previsión Social, Encuesta sobre Migración en la Frontera Norte de México, various years

for most migrants, it is interesting that this method experienced a substantial decline in market share during the survey period, 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 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 1993–94 to about 12 percent of transactions in 1999–2000.

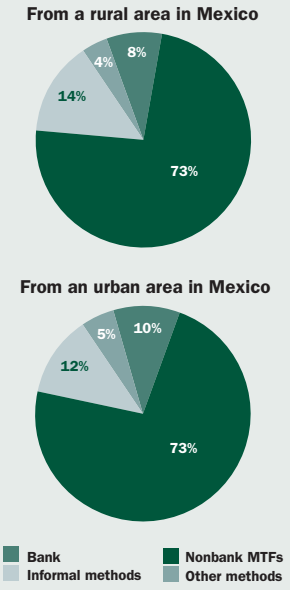
The finding that migrants prefer MTFs is significant because it shows that the institutions are able to attract immigrant business despite the fact that the fees they charge for money transfers often exceed, by a significant margin, the fees charged by banks (Orozco 2002). Despite MTFs' relatively steeper fees,[7] immigrants appear to feel fairly comfortable with and well served by MTFs. The extensive networks of agencies in both sending and recipient communities apparently compensate for the higher fees. The importance of a well-spread infrastructure for remitting money is evident in Figure 10, which shows that MTFs appear to serve both rural and urban areas. 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. Presumably, families in urban areas have the advantage of a better banking infrastructure. By the same token, Mexican migrants from 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.

Differing regulations imposed on banks and nonbank MTFs with respect to transmitting funds may also have contributed to the greater ease that migrants appear to enjoy when remitting via nonbank MTFs. Individuals may be at a disadvantage for preserving their anonymity when remitting through banks. Thus, it is logical that undocumented immigrants would rely to a greater extent on informal methods and MTFs to

send money home and would be less likely to remit through banks relative to documented and authorized immigrants.[8]

Figure 11 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. At the beginning of the survey, unauthorized immigrants appeared to use informal methods to a greater extent than their legal counterparts. They were also slightly less likely to use banks. By the 1999–2000 wave, however, a substantial shift in remitting methods had occurred. The fraction of unauthorized Mexican immigrants remitting through informal methods had been cut in half; furthermore, unauthorized immigrants now appeared more likely than their legal counterparts to remit money home through banks. It is possible that the anonymity advantage nonbank MTFs enjoyed has recently been eroded by legislation that attempts to place more responsibility on all financial institutions to better establish clients' identity and to put anti-money-laundering safeguards in place. This possibility may explain a convergence in the remitting methods used by documented and undocumented immigrants.

Figure 10
Money Transfer Methods Used by Mexican Migrants in Rural versus Urban Areas



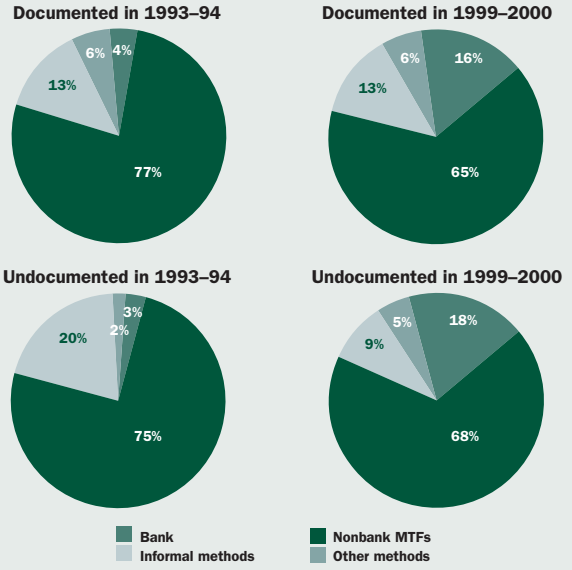
Source: Secretaría del Trabajo y Previsión Social, Encuesta sobre Migración en la Frontera Norte de México, various years

Immigrants' Banking Patterns

Time trends in immigrant banking. Using data from 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 fifty years and present the characteristics of the banked for our sample. As mentioned earlier, the share of Mexican migrants with bank accounts while living in the United States 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 United States. However, the use of banking services has varied during the past five decades (as shown in Figure 12), increasing steadily as a share of immigrants from 1 percent in the 1950s to 10 percent in the 1980s and 23 percent in the 1990s. For those household heads who were last in the United States between 2000 and 2002, the share banked was close to 35 percent.[9] While the share banked is

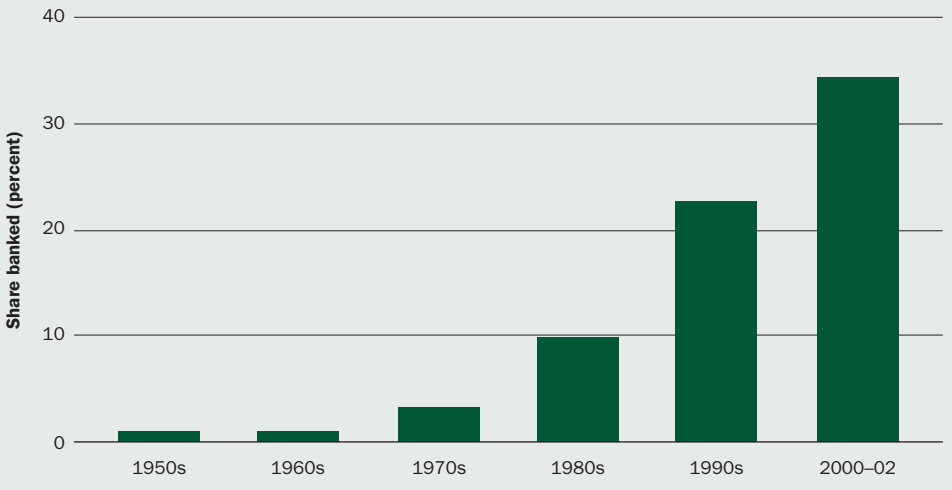
7. More recent findings by Orozco (2004) suggest that a convergence of charges by banks and MTFs is taking place.
8. See Amuedo-Dorantes and Pozo (forthcoming) for a formal analysis of the matching of immigrant characteristics with the differing attributes embodied in the various transfer mechanisms.
9. For comparative purposes, it is interesting to note that, according to the Federal Reserve's 2001 Survey of Consumer Finances (SCF), nearly 90 percent of families in the United States have checking accounts.

Figure 11
Money Transfer Methods Used by Mexican Migrants by Legal Status



Source: Secretaría del Trabajo y Previsión Social, Encuesta sobre Migración en la Frontera Norte de México, various years

Figure 12
Share of Mexican Migrants with a U.S. Bank Account by Decade of Last U.S. Visit

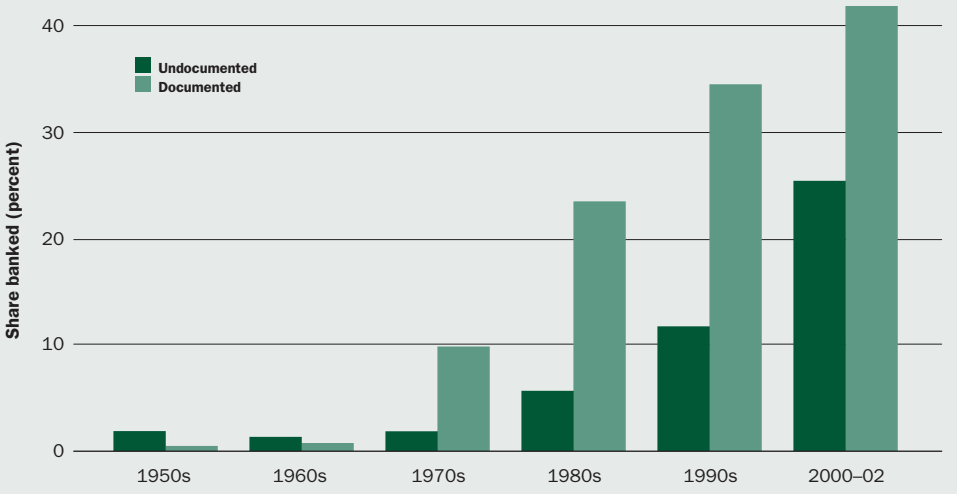


Source: MMP93

lower for the undocumented, it is evident from Figure 13 that banking trends have been on the rise for both documented and undocumented migrants.

Who are the banked Mexican migrants? 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

Figure 13
Share of Mexican Migrants with a U.S. Bank Account by Decade and Legal Status during Last U.S. Visit



Source: MMP93

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 $4,951 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 their 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 immigrants has left a spouse or dependents in their community of origin, and fewer rely on social networks in the United States 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 service 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, ten years) compared to the unbanked (with an average stay of twenty-two months), again suggesting their greater assimilation into the U.S. banking culture. Finally, immigrants with bank accounts in the United States 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 United States; both of these factors may have increased these migrants' familiarity with the banking system. In contrast, immigrants without accounts originate from

Table 5
Characteristics of Banked and Unbanked Mexican Migrants

	All migrants (mean)	Banked (mean)	Unbanked (mean)	Difference	*t*-statistic
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 to Mexico	2,854.38	7,357.08	2,405.95	–4,951.13	–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	1,674.84	2,307.93	1,576.63	–731.31	–7.33***
Banked	0.14	1.00	0.00	1.00	
Duration of last trip to U.S. (in months)	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	5,842	780	4,862		

Notes: *** signifies a significant difference 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, expressed in 2000 dollars, are conditional on transfers being nonzero.

Source: MMP93

communities with fewer banks and thus 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.

Conclusions

Immigrants migrate for myriad reasons, including overcoming hunger, enjoying higher earnings, escaping political or social persecution, joining family, acquiring education, and spreading 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. These motivations include altruism, accumulating precautionary savings, accumulating and diversifying assets, securing the option to return to the home community should the need arise, and repaying loans. 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 differing approaches.

Because a high proportion of migrants 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 remitting behavior.

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, lower amounts are likely to be 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 as the pressure to keep open the option of returning to the home community subsides. Third, once loans are paid off, the amount remitted may no longer need to be as large. Finally, our data also point to another interesting pattern—longer-staying immigrants seem to save more and carry larger sums home, as indicated by Figure 5.

We also observe a decrease in the amount remitted by more recent immigrants. This pattern may be due to a rise in the ratio of permanent immigrants less likely to remit money home. Nonetheless, the decrease in the 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 increasing numbers of immigrants make up for the decline in the average per capita transfer amount.

The data reveal that the propensity to remit seems to be greater among immigrants who are undocumented, those who have left dependents in Mexico, those with lower levels of education and English skills, and the unbanked. The average amount remitted is 40 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 1993–2000 period. In contrast, banks have more than quadrupled their market share during that period, from 4 percent of all transactions to 17 percent. The impact of banking on remittances is interesting because while banked individuals appear to remit less, they also 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.

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