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Declining Return Migration from the United States to Mexico in the late-2000s Recession

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LABOR AND POPULATION

Declining Return Migration from the United States to Mexico in the late-2000s Recession

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Abstract

Researchers in the U.S. and Mexico have variously asserted that return migration from the U.S. to Mexico has increased substantially, remained unchanged, or declined slightly in response to the 2007-2009 U.S. recession and global financial crisis. The present study addresses this debate using microdata through mid-2009 from a large-scale, quarterly Mexican household survey, the National Survey of Occupation and Employment (ENOE), after first validating the ENOE against return migration estimates from a specialist demographic survey, the 2006 National Survey of Demographic Dynamics (ENADID). No evidence of increased return migration is found. Statistically significant declines in return migration, however, are found between the immediately pre-recession 2006/07 year and the 2008/09 recession year, and between the fourth quarter of 2007 and the fourth quarter of 2008 when the global financial crisis had just been triggered.

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INTRODUCTION

The United States entered in December 2007 what may be the deepest recession since World War II (Federal Reserve Bank of Minneapolis, n.d.), perhaps even since the Great Depression. With a global financial crisis additionally triggered in September 2008 by the collapse of major U.S. investment banks, and with the not too distant memory of the Great Depression in which over 400,000 Mexicans (and in some cases their U.S. Citizen children) were repatriated from the U.S. to Mexico (Hoffman 1974), speculation in Mexico turned to the potential for a “massive return.” The Mexican press began reporting a number of anecdotal findings of large numbers of returnees to the traditional major migrant-sending regions including Sonora and Michoacán, and to newer migrant-sending regions including Mexico City (see Alarcón et al 2008, pp.3-4). The U.S press, meanwhile, has continued to report large numbers of migrants departing from major Mexican-migrant destination areas including California, Arizona, and Colorado, and also from elsewhere in the U.S. (see Camarota and Jensenius 2009, p.2). Most recently (Los Angeles Times 2009), declines in California’s foreign-born population were interpreted by U.S. demographers variously as a strong response to the recession especially among low-skilled Mexican immigrants as fewer arrive and more leave, or as no more than a continuation of ongoing declines of immigration inflows and of moves by immigrants away from traditional receiving states to newer ones.

With the emergence of preliminary data in Mexico on migrant flows, and in the U.S. on changes in migrant stocks, researchers have taken opposing positions. Examining return-migrant flow data collected in Mexico from an ongoing border survey (the Survey of Migration at the North Border, or ‘EMIF’, CONAPO 2009) through mid-

2008, Bustamante (2009) argues that the already-massive levels of return migration in recent years have increased substantially. Camarota and Jensenius (2009), applying a residual estimation methodology to U.S. Current Population Survey (CPS) data on changes in migrant stocks to 18 to 40 year old Mexican-born immigrants with less than a college education, describe a “dramatic increase” (p.14) in return migration.

Alarcón et al (2008), using the same border survey data source (the EMIF) as drawn on by Bustamante, take the contrary position that no increase in return migration has occurred. Fix et al (2009) compare return migration in the first quarter of 2009 to the first quarters of 2008 and 2007, using EMIF estimates from the data producer, and conclude that “...return migration from the United States appears to have declined...” (p.28). Passel and Cohn (2009) conclude that no overall increase in return migration of Mexicans from the U.S. occurred through the first quarter of 2009, based on a residual estimation methodology with the same CPS data source as Camarota and Jensenius (2009).

The first direct estimates of return migration flows extending into 2009 were those released by the Mexican government’s national statistical institute (INEGI 2009c). These estimates come from Mexico’s equivalent of the CPS, the National Survey of Occupation and Employment (ENOE). Notwithstanding the careful attention that the Passel and Cohn (2009) and Camarota and Jensenius (2009) studies pay to the correct treatment and adjustment of immigrant stock data, their residual methodologies rely on estimates of components of population change that are notoriously difficult to estimate for the highly mobile and hard-to-count Mexican immigrant population in the U.S. (e.g., Bean et al 2001). This makes direct estimation of returning migrant flows a very

attractive alternative. In this research note, we take advantage of ENOE microdata recently made available through mid-2009 to evaluate that survey as a data source on returning migrants from the U.S., and to draw robust conclusions about the level and trends of return migration to Mexico across the pre-recession to recession period.

Substantively, the ENOE microdata allow us to: (1) limit our estimates to Mexican-born, “return migrants” in place of the estimates of immigrants from all countries of birth that constitute INEGI’s published series (2008; 2009b; 2009c), and that are reported also by Passel and Cohn (2009); (2) alternately analyze the return migration of all Mexican-born individuals and the return of those at the same prime labor-migration ages 18 to 40 as analyzed by Camarota and Jensenius; and (3) alternately restrict the ENOE’s return migrations to exclude the seasonal ‘circular’ return migrants that Passel and Cohn claim are responsible for the higher ENOE estimates. Methodologically, the microdata allow us to: (1) conduct tests of statistical significance between point estimates of return migration in different years and quarters in the ENOE; and (2) evaluate the ENOE as a data source on international migration by comparison to the better-known National Survey of Demographic Dynamics (ENADID).

DATA AND ANALYSES

The National Survey of Occupation and Employment (ENOE) is very similar in design to the U.S. Current Population Survey (CPS). Like the CPS, the ENOE is a quarterly survey with a rotating panel of sampled residences (INEGI 2005; 2009a). The ENOE has existed since 2005 when it replaced the quarterly National Employment Survey (ENE). We use data from 2005 through to the second quarter of 2009 to construct annual and

quarterly estimates primarily of return migration to Mexico, and secondarily of emigration from Mexico to the U.S. An average of 105,648 responding ENOE households per quarter reported on 418,387 individuals who were living in the household in that quarter or in the quarter immediately preceding it. Each ENOE residence remains in the survey for five consecutive quarterly interviews. In each of the second through fifth interviews, household members who were not present in the previous interview are identified as “new residents.” Immigrant inflows are estimated quarterly from new residents “coming from another country.” Because in any given quarter, only 4 out of 5 households are in the universe of households for which new residents since the last quarter can be identified (the other 1 in 5 households are in their 1st interview), a factor of 5/4 is applied to the weighted ENOE sample to obtain population estimates of return migrants. When we applied this adjustment, we were able to match very closely the INEGI (2008; 2009b; 2009c) total emigration and immigration estimates published for the second quarter of 2006 through first-quarter of 2009. By using the ENOE microdata, we are also able to limit the universe to Mexican-born emigrants and immigrants, and to extend the period from the first quarter of 2006 through to the second quarter of 2009. Results are shown in Figure 1.

[FIGURE 1 ABOUT HERE]

Migration flows between Mexico and the U.S. are known to be seasonal (Durand, Massey, and Zenteno 2001). A major advantage of the ENOE is its quarterly collection. In every year emigration flows are greatest in the second quarter, while return migration

flows are greatest across the two winter quarters (4th quarter and 1st quarter). This seasonal patterning continued into 2007/08 and 2008/09. The clearest change in migration patterns from 2006 through 2009 is the ongoing large decline in emigration flows from a 2nd quarter peak of 358,464 in 2006 down to 274,341 and 201,469 respectively in the 2nd quarters of 2007 and 2008. In this context, the 134,290 emigrants in the 2nd quarter of 2009 may be seen as a continuation of a pattern that preceded the 2007-2009 recession and 2008 financial crisis. This decline in emigration will have reduced the stock of recent Mexican migrants in the U.S. when the recession and financial crisis hit, and this can be expected to have a downward impact on return migration flows in the 2007/08 and 2008/09 years.

The seasonal regularity of the ENOE's quarterly migration series is reassuring from the perspective of the quality of the ENOE migration estimates. Both Passel and Cohn (2009) and Camarota and Jensenius (2009) refer implicitly or explicitly to migration estimates from the ENOE, but offer contrasting perspectives on their quality. Passel and Cohn comment favorably on the design of the ENOE. They reproduce the latest of INEGI's published estimates which are based on that survey in their paper. The INEGI estimates from the ENOE, however, are far larger than Passel and Cohn's residual estimates from the CPS, including approximately four times larger for the 2008/09 year. Passel and Cohn attribute this to the ENOE's picking up additional categories of migrants:

“The [ENOE] provides estimates for a broader group of migrants. They include Mexicans who come to the U.S. for short periods and may return home within weeks or months...These ‘circular’ migrants may not appear in the CPS.”

(Passel and Cohn, p.3).

Camarota and Jensenius, meanwhile, note that the ENOE's lack of any upward trend in the return-migrant flow since 2006/07 is contrary to their finding of a "dramatic increase" in return migration over this same period. They discount the accuracy of the ENOE results, offering two justifications. First, they question whether the INEGI estimates of immigration including "...people born in other countries coming to stay in Mexico" (p.15) accurately represent Mexican migrants returning from the U.S. Second, they question whether the ENOE captures migrants effectively, suggesting it underestimates the immigrant inflow. We are not aware of any studies validating the ENOE against other migration data sources, and therefore now conduct such a validation.

Validation of the ENOE against the 2006 ENADID

We compare the ENOE's 2005/06 return migration to that in the 2006 National Survey on Demographic Dynamics (Encuesta Nacional de la Dinámica Demográfica, ENADID, CONAPO 2008). Earlier (1992 and 1997) ENADID surveys have been used by, among others, Massey and Zenteno (2000) to validate migration estimates from the Mexican Migration Project, and by Hill and Wong (2005) to supplement decennial census estimates of U.S.-Mexico migration.

We use the 2006 ENADID to compare Mexican-born return migrant flows in the 2005/06 period between the ENADID and the ENOE. The ENADID included 35,540 responding households (CONAPO 2008, p.22). Return migrants during the 2005/06 period are identified through a question about the month and year of the most recent return to Mexico of household members that had emigrated to the United States. In the 5

percent of cases in which year or month was missing we randomly imputed them based on the distribution of years and months of last return migration in cases with those data present. The most recent month of return reported was for May 2006, although April 2006 was the most recent month with substantial numbers. We therefore define the ENADID 2005/06 year as beginning in May 2005. We compare return migration in this year to return migration in the third quarter of 2005 through the second quarter of 2006. Although the match of months is not exact, both include the season of largest return migration (late fall and winter).

Unlike the earlier ENADID surveys of 1992 and 1997, the 2006 ENADID identifies return migrants only from among those who emigrated to the U.S. within the five years preceding the survey (specifically, after January 2001). This means that returning migrants that have not lived in Mexico in the last five years will be missed, resulting in some degree of underestimation of total return migration. A second source of underestimation of return migration in the ENADID compared to the ENOE is the ENADID's missing those migrants who returned to Mexico in the 2005/06 year but emigrated again before the 2006 survey interview. We are unable to estimate the magnitude of the first source of ENADID underestimation of return migration. We are, however, able to use the ENOE rotation groups to produce "ENADID-equivalent" estimates that account for the second, "re-emigrant" source of underestimation in the ENADID relative to the ENOE. This is achieved by deriving estimates from only those households that would normally still be in the sample at our 2005/06 year end (the second quarter interview of 2006) based on their rotation group (which determines the timing of their first and last interviews). For example, in the third quarter of 2005, of households in

their second through fifth interviews, only households in their second interview would normally be interviewed also in the second quarter of 2006. We are then able to remove all return migrants who re-emigrated again by the second quarter of 2006 to produce an “ENADID-equivalent” estimate of return migration. National estimates of return migrants are derived by multiplying the standard weighted estimates by the inverse of the fraction of rotation groups in a given quarter that are both in their second or later interview and that would normally be interviewed again in the second quarter of 2006. These fractions are respectively $1/5$, $2/5$, $3/5$, and $4/5$ for the third quarter of 2005 through the second quarter of 2006. Results comparing the ENADID and ENOE are presented in Table 1. Statistical tests of difference included in Table 1 (and also Table 2 below) account for the ENADID and ENOE sample design effects of stratification by state and of clustering into primary sampling units, and assume independence between time periods.

[TABLE 1 ABOUT HERE]

The most appropriate comparisons are between the “ENADID Return Migrants” and the “ENOE Return Migrants (ENADID-equivalent definition)” columns. Overall the ENOE estimate of 360,431 return migrants is 20 percent higher than the ENADID estimate of 299,488 return migrants in 2005/06, a difference that is marginally significant (p -value=0.054). The two groups that are expected to have the most dynamic migration profiles (that is, higher rates of migration and more frequent return migration), male migrants and migrants aged 18 to 40, are respectively 30 and 23 percent higher in the

ENOE than in the ENADID (differences that are statistically significant at the 5 percent significance level). The female return migration estimates do not differ significantly between the ENADID and ENOE, though are only one third as numerous as male return migrants. Even after removing those 2005/06 ENOE return migrants that re-emigrated by the end of the 2005/06 year, then, the ENOE estimates are mostly larger than the ENADID estimates. These comparisons therefore reveal no evidence of the possible undercount of migrants in the ENOE suggested by Camarota and Jensenius (2009). Instead they suggest a more sensitive collection of migration events in the ENOE than in the ENADID.

We also compare in Table 1 the subset of “ENADID-equivalent” return migrants in the ENOE with all return migrants. The difference equals the number of return migrants that subsequently re-emigrated by the end of the second quarter of 2006. These re-emigrants are often described as ‘circular’ migrants. Additionally including this set of ‘circular’ migrants who both returned and departed again in the 2005/06 year (see the third column of Table 1) does not have a large impact on the estimated numbers of return migrants. Total return migrants increase by only 13 percent from 360,431 to 406,367. Most of these ‘circular’ migrants are men: return migrant women increase by only 7 percent from 66,473 to 71,330 after including them. This is consistent with studies showing female migrants to have longer stays in the U.S. than male migrants and to be less represented among circular migrant flows (Massey and Espinosa 1997; Reyes 2001). While our “re-emigrant” additions here do not include all circular migrants, they do include exposure of the largest return flows (those occurring in the winter months) to re-emigration by the end of the quarter of peak summer emigration, and therefore can be

considered a reasonable estimate of “seasonal” circular migrants. These results of relatively small differences between the subset of ENOE return migrants who did not re-emigrate and all ENOE return migrants therefore conflict with Passel and Cohn’s (2009) claim that their CPS estimates are much lower because they miss circular migrants. In particular, Passel and Cohn’s estimate of only 31,000 return migrants in 2005/06 is less than 10 percent of our ENOE estimate of return migrants that excludes returning migrants to Mexico who re-emigrated again in the same year, whereas we found that seasonal circular migrants constitute only 11 percent of the total return migrant flow in 2005/06.

Analysis of annual and quarterly change in return migration and emigration in the ENOE, 2005 to 2009

Having shown that the ENOE-based estimates compare reasonably to estimates from the better-known ENADID data, we now use the ENOE to address the main question of our study: whether return migration to Mexico increased, remained unchanged, or decreased since the onsets of the U.S. recession beginning in late-2007 and the global financial crisis beginning in September 2008. We derive estimates of return migration from all households in their second through fifth interviews in a given quarter (see Table 2).

These estimates are again restricted to Mexican-born migrants.

[TABLE 2 ABOUT HERE]

The major substantive finding is that return migrant flows declined from the pre-recession to post-recession periods. The point estimate of 362,748 return migrants in the

year 2008/09 was 15 percent lower than the estimate of 427,140 return migrants for the year 2006/07, a difference that is statistically significant at the .05 level. This decline holds true, moreover, when we restrict the target population to 18 to 40 year old Mexican-born individuals with less than college education. This is the group suggested by Camarota and Jensenius (2009) to proxy for unauthorized migrants, and for which they estimated a “dramatic increase” in return migration between the pre-recession year 2006/07 and the recession year 2008/09. We instead estimate an 18 percent decline from 285,546 return migrants in 2006/07 to 234,830 in 2008/09. Our point estimates show the pre-recession-year to latest-recession-year decline as occurring through year-on-year reductions in return migrant flows both from 2006/07 to 2007/08 and from 2007/08 to 2008/09. These year-on-year declines, however, are not statistically significant.

When evaluating change in quarterly return migration flows, their seasonal nature makes it important to compare each quarter not to the immediate previous quarter(s) but to the equivalent quarter in the previous years (see lower panel of Table 2). We are especially interested to compare quarters either side of September 2008, when the global financial crisis was triggered. One statistically significant change occurred between such quarters: A 29 percent decline in return migration from 133,490 in the 4th quarter of 2007 to 95,238 in the 4th quarter of 2008. Because the 4th quarter of 2008 followed immediately after the onset of the global financial crisis, this decline in return migration may have been due to a dampening effect of the crisis. There is no evidence, however, of change in return migration flows in the first two quarters of 2009 compared with in the first two quarters of 2008.

Reconciliation with previous findings

We are not aware of earlier peer-reviewed estimates of return migration to Mexico that compare pre-recession and recession levels. The most authoritative estimates might then be claimed to be those of the data producers in Mexico. These are INEGI for the ENOE estimates and CONAPO for the EMIF estimates. Passel and Cohn (2009) reproduce ENOE estimates provided to them directly by INEGI, while Fix et al (2009) reproduce EMIF estimates provided to them directly by CONAPO. Neither the ENOE nor EMIF estimates, however, include measures of sampling variability. With a little over 1,000 return migrants in the annual ENOE samples (see again Table 2) and similar annual levels of return migrants shown in previous estimates using the EMIF (e.g., Rendall, Aguila, Basurto, and Handcock 2009), there will clearly be substantial levels of sampling error that may account for differences in point estimates of return migration between different years (as in the ENOE estimates reproduced by Passel and Cohn 2009), and especially between different quarters (as in the EMIF estimates reported by Fix et al 2009).

International migration estimates, moreover, can seldom be taken at face value (United Nations 2002), and it is especially worrying that our estimates from the Mexican ENOE differ so vastly from earlier residual estimates from U.S. data. Our ENOE estimate of 362,748 return migrants in 2008/09 is 260,000 higher than Passel and Cohn's (2009) estimate of 93,000 total return migrants and is 183,000 lower than Camarota and Jensenius's (2009) estimate of 550,000 return migrants in the 18-40 group with less than college education. If we match the period of our estimates more closely to the period of their return migration estimates, by summing from the 2nd quarter of 2008 to the 1st

quarter 2009 year, our ENOE estimate of annual migration changes only by 8,000 to 370,826. What then can explain such large differences between the CPS-based residual estimates and our direct estimates of return migration from the ENOE?

First, we address empirically Camarota and Jensenius' (2009) suggestion that a substantial number of immigrants in the ENOE series may not be returning migrants from the U.S. By restricting our sample from all immigrants to Mexican-born immigrants only, we estimate 15 percent fewer return migrants in our 2008/09 year. Of the now excluded, non-Mexican-born immigrants, we found that more than two thirds (69 percent) were U.S.-born children under 18, typically returning with their Mexican-born parent or parents (results not shown). We omit these children from our estimates of "return migrants", since demographically they are emigrants from the U.S. Their large presence among all non-Mexican-born immigrants, however, suggests that INEGI's failure to distinguish immigrants' country of birth in their published estimates does not result in a substantive confounding of new and return migration.

Our "Mexican-born" restriction does not, however, rule out returns of Mexicans from countries other than the U.S. While the ENOE does not identify the country from which these Mexican-born migrants returned, other recent data allow us to infer that a very small percentage, probably around 2 percent, will have returned from countries other than the United States. DuMont and LeMaitre (2005) find that only 1 percent of all expatriate Mexicans living in OECD countries at the time of the 2000 round of censuses were living in a country other than the U.S. We examined this further in the ENOE's predecessor survey, the National Survey of Employment (ENE). Unlike in the ENOE, the country the migrant returned from was identified in the ENE. We examined the

distribution of countries of last residence for returning Mexican migrants in the first two quarters of 2004, being the most recent two quarters with no missing values for the country of last residence variable, and found that only 2.1 percent of returning Mexican-born migrants returned from a country other than the U.S. in the first half of the year 2004 (results not shown).

Both Passel and Cohn (2009) and Camarota and Jensenius' (2009) residual estimates of return migration between each pair of years $y-1$ and y are basically the sum of two components: (1) decline in the mortality-adjusted target, Mexican-born population between $y-1$ and y ; and (2) immigration of the target population between $y-1$ and y . Both of these components are subject to considerable uncertainty of measurement in addition to sampling error in the CPS. Regarding the first component, both Passel and Cohn and Camarota and Jensenius estimate a decline in their respective target populations between 2007/08 and 2008/09, while only Camarota and Jensenius estimate a decline in their target population between 2006/07 and 2007/08. While Passel and Cohn estimate a decline of only 96,000 in the total Mexican-born population between 2007/08 and 2008/09, Camarota and Jensenius estimate a decline of 403,000 in the Mexican-born population aged 18-40 without any college education in the same period. We are skeptical of such divergent estimates of the direction and magnitudes of the Mexican-born population change, especially since 18 to 40 year olds without a college education constitute approximately two thirds of all return migrants from the U.S. to Mexico (see again Table 2). It seems equally plausible that the divergences in these estimates could be due, for example, to a greater increase in undercount for the 18 to 40 year olds between 2007/08 and 2008/09 than for the under-18 and over-40 year olds.

Concerning the second component that of the most recent year's immigration from Mexico, a fundamental problem is dependence on data for "arrival cohorts" that are aggregated into three-year arrival periods in the CPS for confidentiality reasons. We illustrate the consequences of this problem first for what Passel and Cohn describe (p.9) as the "relatively straightforward" case of odd-numbered CPS years. They estimate arrivals in the year from $y-1$ to y as the difference between Mexican-born individuals in the year y CPS who arrived since year $y-3$ (that is, who arrived in any of years $y-3$, $y-2$, $y-1$, or y) and Mexican-born individuals in the year $y-1$ CPS who arrived since year $y-3$ (that is, who arrived in any of years $y-3$, $y-2$, or $y-1$). The problem with this method is that return migration between year $y-1$ and y of those who arrived in $y-3$, $y-2$, or $y-1$ will result in downwardly biased estimation of immigration between years $y-1$ and y , and will therefore also result in downwardly biased estimates of annual return migration between $y-1$ and y .

Camarota and Jensenius (2009) use a different method than Passel and Cohn to estimate the annual immigration between year $y-1$ and y from the CPS's grouped year-of-arrival data. They begin by simply dividing migrants that arrived in a given year-group interval, as observed in year y , by the number of years (and part years) of that interval (p.12). This assumes a uniform distribution of immigrants across the years of the grouped-year interval. It will bias downwards migration estimated for the most recent year of the year group because the shorter is the time that has passed since the immigrant arrived, the shorter is the immigrant's exposure to return migration. Unsurprisingly, Camarota and Jensenius report that immigration in the last year appears to be underestimated, and they make ad hoc compensatory upward adjustments that "in some

years are substantial” (p.22, footnote 24). These adjustments may account for some of the difference between their residual estimates of return migration and those of Passel and Cohn, but not in a way that gives any reassurance about the soundness of the method by which Camarota and Jensenius derive their much larger estimates.

DISCUSSION

Researchers in the U.S. and Mexico have variously asserted that return migration from the U.S. to Mexico has increased substantially, remained unchanged, or declined slightly in response to the 2007-2009 U.S. recession and global financial crisis. Using data from a nationally-representative Mexican household survey through the middle of 2009, we find some evidence for a decrease in return migration flows, and no evidence for any increase. We find a statistically significant decrease, from 427,140 return migrants in the immediately pre-recession year 2006/07 to 362,748 return migrants in the recession year 2008/09. We also find that the 95,238 return migration flow in the 4th quarter of 2008, immediately after the global financial crisis was triggered, was significantly lower than the 133,490 of the previous year’s 4th quarter, a quarter that typically sees higher than average levels of return migration due to the presence of seasonal returners in late-fall and winter months. This drop suggests, therefore, an initial dampening effect of the economic crisis on return migration.

We noted that immigrant inflows from Mexico to the U.S. declined substantially during the recession, continuing a downward trend from the immediately pre-recession years. If this is because the U.S. has become a less attractive option for potential migrants in Mexico since the recession, an increase rather than a decrease in return

migration might have been expected, and this expectation appears to be behind the many U.S. and Mexican press reports claiming increased return migration, as noted above in the Introduction. To explain our findings instead of a decrease in return migration since the recession began, we first note that a pattern of sharp declines in immigrant inflows coincident with little or no increases in return migration outflows is the dominant finding of previous global economic crises in the present, post-War era. When the 1973 Oil Crisis hit Europe, two of the largest immigrant-receiving countries, Germany and France, both responded by halting new labor migration (King 1978, 1986; Fassmann and Munz 1992; Dustmann 1996), while France offered incentives to immigrants to return to their countries of origin. However, these incentives were largely ineffectual (Hollifield 1994). A recent program in Spain to offer migrants a lump sum payout of unemployment benefits if they repatriate and give up the right to return to Spain for three years has similarly met with a tepid response from migrants (Plewa 2009).

In the Mexican-U.S. case, return migration did not increase in any consistent manner during the U.S. recessions of the early 1970's and again in the early 1980's (Massey, Durand, and Malone 2002). In particular, the probability of return among undocumented men showed little variation across recession and non-recession periods. Massey and Espinosa (1997) and Reyes (2004) find some evidence of faster return migration when either the Mexican inflation rate or the Mexican real interest rate increased, or when the U.S. dollar was stronger relative to the Mexican peso. These seemingly counter-intuitive findings that factors that increase the value of earnings in the U.S. also increase return migration have been explained by the "target-earner" hypothesis (e.g., Piore 1979; Dustmann 2003). Applied to the Mexican-U.S. case, Portes and Bach

(1985) argue that Mexicans migrate temporarily to the U.S. to earn money for a predetermined investment or consumption goal, and stay for as long as it takes to attain this predetermined “target” savings amount. One prediction from the target-earner hypothesis is that worsening economic conditions in the U.S. will keep immigrants in the U.S. longer until they are able to reach their savings targets. Lindstrom (1996) finds supporting evidence for this hypothesis in a positive association between state-level U.S. unemployment rates and migrants’ durations of stay in the U.S.

In addition to economic factors, family formation and settlement migration among Mexican immigrants in the U.S. is argued (Alarcón et al 2008) to be a major force against return migration in the current recession. While Durand, Massey, and Zenteno (2001) argue that the Mexican-U.S. migration process continues to be dominated by temporary, male labor migration, others have contended that settlement migration has become increasingly important (e.g., Marcelli and Cornelius 2001). Even Durand, Massey, and Parrado (1999) claim that the landmark 1986 U.S. immigration reforms had a number of unintended effects including increases in the reunification (legal and otherwise) in the U.S. of family members with newly legalized, permanent resident Mexicans. Evidence of a transformation towards settlement is seen in increases in female migration and in the migration of married Mexican men whose wives may subsequently join them in the U.S. (Donato 1993; Davila and Mora 2001), and in increases in childbearing in the U.S. (Jonsson and Rendall 2004). Alarcón et al (2008) argue that these trends towards family-formation in the U.S. will increase the strength of Mexican immigrant’s residential ties to the U.S., and will consequently increase the likelihood of their “waiting out” the recession rather than returning to Mexico in large numbers.

Finally, return migration flows are produced by a combination of the size and composition of Mexican-born immigrants in the U.S. and of their propensities to return to Mexico. Among the immigrants with the highest return propensities are those making up the seasonal, circular-migrant group. By definition, members of this group are always recently-arrived. Our empirical analyses showed that both emigration and return migration has remained at least partly seasonal through the recession period: Inflows are greatest in the spring and summer, and outflows greatest in the winter. Our analyses also showed large year-on-year declines in immigrant inflows continuing into the recession years 2007 to 2009. These declines imply a smaller pool of seasonal immigrants to contribute in turn to the total return flows especially in the winters of 2007/08 and 2008/09. Even in the absence of changes in propensities to return to Mexico after the recession and global financial crisis, then, a reduction in return migration flows over those of the pre-recession period would have been expected. Future work exploring the impacts of the recession and financial crisis on return-migration propensities separately from changes in the “risk” population of Mexican-born immigrants in the U.S. would be a welcome next step.

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Figure 1 Quarterly emigration from and immigration to Mexico, 2006 to 2009

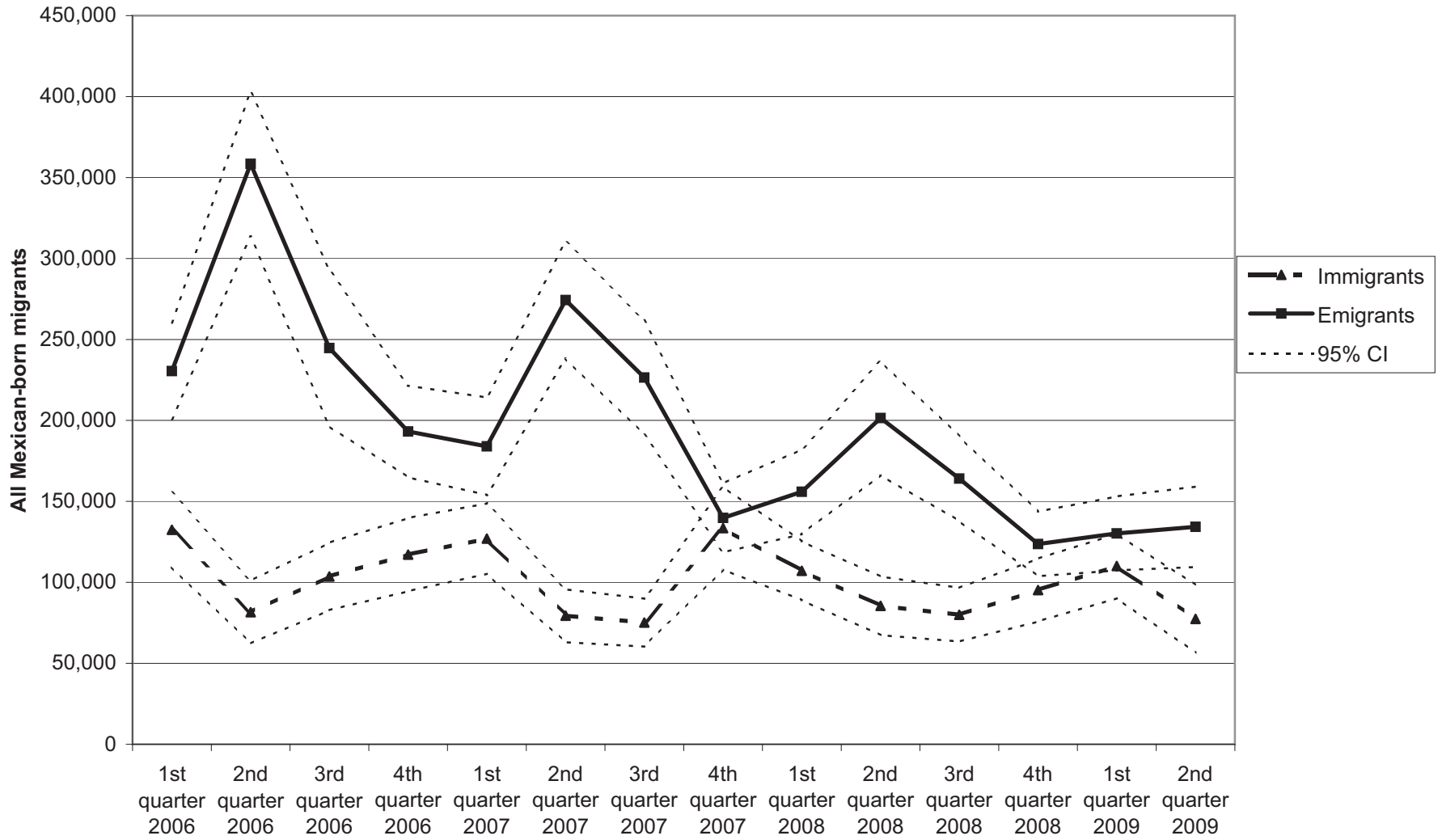


Table 1 Return migration to Mexico compared between the National Survey of Demographic Dynamics (ENADID) and the National Survey of Occupation and Employment (ENOE), 2005/06¹

	ENADID Return Migrants ²	ENOE Return Migrants (ENADID- equivalent definition) ³	Return Migrants, including re- emigrants ⁴
All ages, both genders	299,488	360,431 * [1.92]	406,367
Men	225,842	294,015 ** [2.54]	335,093
Women	73,646	66,473 [-0.57]	71,330
18-40 year olds	190,647	236,162 ** [2.02]	248,397
Unweighted return migrants, all ages, both genders	517	648	729

Notes:

1. "2005/06" is defined as the 3rd quarter of 2005 to the 2nd quarter of 2006 in the ENOE, and as May 2005 to April 2006 in the ENADID.

2. ENADID Return Migrants are Mexican-born individuals who returned in the last 12 months and who are still present in the household at survey date in April/May 2006. Numbers in square brackets are Z scores for tests of difference from the ENADID. Asterisks indicate significantly different from ENADID at levels: * $p < .10$, ** $p < .05$, *** $p < .01$.

3. ENOE sample consists of households whose interview number makes them eligible for interview up to the 2nd quarter of 2006. Return Migrants (ENADID equivalent) exclude those return migrants in the 3rd or 4th quarter of 2005 or 1st quarter of 2006 who emigrated again by the 2nd quarter of 2006.

4. The estimate here differs from the full-sample ENOE estimates of Table 2 due to its being estimated from a sample consisting only of households whose interview number (rotation group) makes them eligible for interview up to the 2nd quarter of 2006. The estimate is scaled up to adjust for the omitted rotation groups to construct an unbiased estimator of the total return migrants in 2005/06.

Source: Authors' calculations from the ENOE and the ENADID

Table 2 Annual and Quarterly Return Migration from the U.S. to Mexico, 2005 to 2009, National Survey of Occupation and Employment (ENOE)¹

	Total	Male	Female	Age 18-40, less than college education	Total return migrants, unweighted
<i>Annual return migrants</i>					
2005/06	418,680 *	344,121 **	74,559	283,330 **	1,226
	[-1.93]	[-2.30]	[-0.05]	[-2.21]	
2006/07	427,140 **	348,726 **	78,414	285,546 **	1,192
	[-2.24]	[-2.51]	[-0.36]	[-2.36]	
2007/08	401,324	324,245	77,079	255,440	1,212
	[-1.38]	[-1.57]	[-0.26]	[-1.05]	
2008/09	362,748	288,789	73,959	234,830	1,066

Significantly different from 2008/09: * p < .10, ** p < .05, *** p < .01

<i>Quarterly return migrants</i>	1st quarter	2nd quarter	3rd quarter	4th quarter
2005	119,574	75,254	86,935	117,719
	[-0.60]	[0.16]	[-0.53]	[-1.53]
2006	132,441	81,585	103,628 *	117,120
	[-1.44]	[-0.29]	[-1.74]	[-1.44]
2007	127,024	79,369	75,156	133,490 **
	[-1.13]	[-0.14]	[0.43]	[-2.34]
2008	107,165	85,513	79,999	95,238
	[0.21]	[-0.57]		
2009	110,078	77,434		

Significantly different from latest quarter (2008 or 2009): * p < .10, ** p < .05, *** p < .01

Notes:

1. Return Migrants are defined as Mexican-born individuals who returned from abroad between quarters to a household in the ENOE. Annual return migration sums over the 3rd quarter of the first year to the second quarter (inclusive) of the following year. Numbers in square brackets are Z scores for tests of difference from the year 2008/09 or from the latest quarter.
2. Statistical tests of difference account for stratification by state and for clustering in primary sampling units, and assume independence between time periods.

Source: Authors' calculations from the Mexican National Survey of Occupation and Employment (ENOE)