The Impact of Legal Status on Immigrants' Earnings and Human Capital: Evidence from the IRCA 1986

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Abstract

This paper analyzes the impact of IRCA 1986, a U.S. amnesty, on immigrants' human capital development and labor market outcomes. Because of IRCA, the 1975-1981 arrivals were all legalized by 1990. However, many of the 1982-1986 arrivals remained illegal. Using the California Latino immigrants in Census 1990, I find that the 1975-81 arrivals on average outperform the 1982-86 arrivals in men's wage, women's labor force participation rate, and English-speaking ability. This finding is not a general trend of labor market conditions, because the analysis using refugees and U.S.-born Latinos, which are two comparison groups without legal status issue, indicate no difference in outcomes between pre-1982 and post-1982 cohorts.

1. Introduction

It is estimated that the population of illegal immigrants in the U.S. in 2005 is already over 11 million (Passel, 2005). The large number of illegal immigrant population heats the policy debate about a potential new amnesty. While the debate has been on-going for years, economists have investigated the consequence of Immigration Reform and Control Act (IRCA), the largest amnesty in the U.S. history, and found that legalization increases the economic wellbeing of the originally unauthorized immigrants (Rivera-Batiz, 1999; Kossoudji and Cobb-Clark, 2002) and also benefits the development of their children in the U.S. (Pan, 2008). This paper uses census data to further assess the impact of IRCA on immigrant men's and women's labor market outcomes and human capital development. The contributions of this paper to existing literature are as follows: (a) I find that legalization benefits male and female immigrants in different ways. Legalization increases male immigrants' wages as well as the returns to human capital. Hence, men of high human capital receive more gains than men of little human capital. Legalization has no impact on female immigrants' wage and the returns to human capital, but instead, increases women's labor force participation rate.[1] Women with little human capital increase slightly more than women with high human capital. (b) Legalization is also found to motivate immigrants to speak English better. (c) I also compare the medium-term impact of legal status with its long-term impact, which is not addressed by previous researchers.

[1] Rivera-Batiz (1999) also studies the impact of legalization on female wages. However, the selection of participation in the labor force is not accounted for in female wage estimations.

IRCA took effect in 1986 and granted legal status to immigrants who had continuously lived in the U.S. since 1982. Rivera-Batiz (1999) and Kossoudji and Cobb-Clark (2002) use the data from the Legalized Population Survey, a random sample of immigrants legalized under IRCA, to study the impact of IRCA on their wages. Both papers find that legalization increases male immigrants' wages by about 10-15%. Legalization can also motivate immigrants to develop human capital. Two reasons can explain this. First, legal status increases the returns to human capital by allowing immigrants freedom in job-searching (Kossoudji and Cobb-Clark, 2002), which gives legalized immigrants incentives to accumulate more human capital, such as language skill (Chiswick 1995). Second, legalization makes immigrants certain that they can permanently stay in the host country, which is another source of incentives to invest in the host-country specific human capital. Cortes (2004) finds that refugees, who are more likely to permanently stay in the U.S. than economic immigrants, improve in English more rapidly than the latter group. Dustmann (2007) finds that the probability of immigrants' permanent migration is positively associated with the educational investment in their sons.

The goal of this paper is to evaluate the impact of IRCA on immigrants' wage, labor force participation and English-speaking ability. I use Census 1990 and Census 2000 to contrast the performance of immigrants arriving during 1975-1981 with that of immigrants arriving during 1982-1986. Note that IRCA (1986) retrospectively legalized immigrants who arrived in the U.S. before 1982. Since immigrants who arrived before 1986 did not anticipate this law, they could not react beforehand. There is no evidence

that 1975-1981 arrivals on average have different pre-determined characteristics from 1982-1986 arrivals. However, the empirical analysis finds that, conditioning on observable characteristics, pre-1982 male immigrants on average earn higher wages than their post-1982 counterparts. And pre-1982 female immigrants are more likely to participate in labor market than their post-1982 counterparts. In addition, pre-1982 immigrants speak English better than pos-1982 ones. In order to rule out the case that the gap between the two cohorts is caused by the fluctuations in the U.S. economic conditions, I conducted the same empirical analysis using two benchmark groups, who have no legal status issue. One group is refugees who arrived in the U.S. during 1975-1986, and the other one is U.S.-born Latino Americans who start their first jobs during the same period. Neither group shows that pre-1982 cohort outperform post-1982 cohort.

By comparing the occupational choices and the returns to human capital between pre-1982 immigrants and post-1982 immigrants, I find that legalization raises the returns of human capital to male immigrants by allowing them upward occupational mobility. However, upward occupational mobility of female immigrants does not change the average returns to human capital. Legalization benefit women mainly through increasing their labor force participation.

The remainder of this paper is organized in five sections: Section 2 introduces the legislative background of IRCA, describes the empirical strategy, and compares pre-1982 and post-1982 immigrants. Section 3 compares pre-1982 and post-1982 refugees and U.S.-born Latino workers. Section 4 discusses the mechanism through which legal status works. Section 5 studies the long-term impact of legal status. Section 6 concludes.

2. Pre-1982 and Post-1982 Latino Immigrants

Undocumented immigration became an issue for the United States in the 1970s. After years of debate on how to best curb illegal immigration, Congress passed the bill known as the Immigration Reform and Control Act (IRCA) in October 1986. The bill contained two amnesty programs that granted legal status to the following two types of undocumented aliens:

1) Those who have continuously resided in the United States since January 1, 1982. This is the Legally Authorized Workers (LAW) program or so called pre-1982 program.

2) Those who have worked in agriculture for 90 days or more between May 1985 and May 1986. This is the Special Agricultural Workers (SAW) program.

About 1.6 million immigrants were legalized under the pre-1982 program, and about 1.1 million immigrants were legalized under SAW. Although there were two amnesty programs, this paper focuses on studying the consequences of LAW program, because it is easier to identify from regular datasets the beneficiaries of LAW than those of SAW.[2]

The impact of the LAW program on immigrants' legal status can be detected from a few datasets. Pan (2008), using the data from Los Angeles Family and Neighborhood Survey, shows that, of the Latina immigrant women living in Los Angeles county in 2000, almost 100% of the pre-1982 arrivals have legal status, but only about 70% of 1982-1986 arrivals have legal status (See Appendix Figure A1). Census data provide similar

[2] To identify LAW beneficiaries, one only needs to know an immigrant's year of entry. However, to identify SAW beneficiaries, one needs to know an immigrant's occupation in the 1980s.

evidence. Although census data do not have records of immigrants' legal status, they reveal immigrants' citizenship. Since only immigrants with lawful permanent residence (green cards) can apply for U.S. citizenship, the size of the foreign-born naturalized citizen population can reflect to some degree the size of legal immigrant population. I use a sample of Mexican and Central American immigrants from Census 2000 5% sample, and plot the ratio of naturalized citizens to total immigrants by the entry year[3] (See Figure 1). I restrict the sample of Latino immigrants to those who are living in California cities, who came to the U.S. as adult workers (at least 15 years old), and whose education is no more than high-school. These restrictions can make the contrast of the citizen ratio between pre-1982 and post-1982 cohorts as dramatic as possible.[4]

Figure 1 displays the ratio of naturalized citizens to the total sampled immigrants in 2000 by immigrants' entry years. The ratio stays between 0.35 and 0.4 for all the cohorts of pre-1982 arrivals, and starts to decline starting with the 1982 arrivals. The figure indicates that when everyone is eligible to be naturalized (i.e. for pre-1982 immigrants), about 38% of Latino low-skilled immigrants would like to become U.S. citizens. Among post-1982 Latino immigrants, the citizen ratio drops to below 30%, suggesting that some immigrants are not eligible to apply for citizenship. These ineligible people perhaps are illegal immigrants. For 1982-1986 arrivals, the average citizen ratio is 22%. The legal immigrants should account for 58% (22% / 38%) of total 1982-1986 immigrants. In other words, about 42% of 1982-1986 immigrants are illegal immigrants. This number is

[3] Census 2000, not Census 1990, is used to examine the US citizenship, because it takes an immigrant with a green card at least five years to become a naturalized US citizen. Most of the amnestied immigrants did not obtain their green cards until 1990. Hence, they could not yet be naturalized in 1990.
[4] Please see Appendix A for the detailed explanation of the restrictions.

consistent with the results in Pan (2008).

Since almost 100% of pre-1982 immigrants are legal and only 60% of 1982-1986 arrivals are legal, if one finds that pre-1982 immigrants on average have better economic outcomes than their 1982-1986 counterparts, with other things being equal, this finding can provide evidence that legal status provides economic opportunities to immigrants. This strategy relies on one condition: immigrants arriving in different years are homogenous. Previous literature (Briggs, 2004) documents that IRCA was unexpectedly passed in 1986. Immigrants coming before 1986 did not anticipate this amnesty and thus could not react beforehand (Orrenius and Zavodny, 2003). However, after the birth of IRCA, more illegal immigrants were induced to cross border, because the immigrants legalized by IRCA could make it easier for their relatives and friends to migrate (Orrenius and Zavodny, 2003). Hence, after 1986, some aliens who originally did not plan to migrate may have changed their minds. For this reason, post-IRCA immigrants possibly have different unobservable attributes from pre-IRCA ones, and post-IRCA immigrants should not be included in this research. In this paper, only 1982-1986 immigrants are used to compare with immigrants who entered the U.S. a few years before 1982.

In Figure 2, I plot Latino immigrants' English-speaking ability and labor market outcome in 1990 by their entry years.[5] Census 1990 codes year of entry by intervals, from which I choose four: 1975-1979, 1980-1981, 1982-1983, and 1984-1986. Two intervals are before 1982 and the other two are after 1982. The labor market outcome is

[5] The sample is taken from Census 1990, using previously stated criteria. It is composed of Latino low-skilled adult immigrants, who live in California cities. An additional restriction being used is that these individuals were younger than 46 in 1990, which is a common restriction for studying the labor market outcomes.

measured by wage for men and by labor participation rate for women. The human capital outcome is measured by English speaking ability. For men, it is the rate of speaking English well; for women, it is the rate of being able to speak English.[6] Figure 2 shows that all the outcomes have a downward trend as the entry year becomes more recent, indicating pre-1982 immigrants perform better than their post-1982 counterparts. Yet this trend does not rule out the duration effect, meaning that earlier immigrants assimilate better simply because they have been in the U.S. for a longer period of time. However, a closer look at the panel (a) and (d) shows that both men's probability of speaking English well and women's labor force participation rate are relatively stable for all pre-1982 arrivals and do not drop until the 1982-arrivals. This pattern cannot be explained by the duration effect, which should otherwise cause a pattern of continuous decline as immigrants become more recent.

Is it possible that pre-1982 immigrants have better unobservable attributes? Although it is unlikely to test unobservable abilities, studying observable characteristics at least can shed some light. In Figure 3, I plot years of schooling and age at entry, which are two pre-determined characteristics, by immigrants' entry-year intervals. The figures show that pre-1982 immigrant men's and women's are younger at arrival and have less years of schooling than their post-1982 counterparts. Since pre-1982 immigrants' observable characteristics are worse than post-1982 immigrants, it is hard to conjecture that the earlier arrivals' unobservable qualities could be better than those of

[6] Appendix B explains the method that I use to construct the indicator for speaking English well and the indicator for speaking English. The men's and women's English-speaking abilities are measured by slightly different indicators, because I observe a larger difference in speaking English well than being able to speak English between pre-1982 and post-1982 male immigrants and I observe a larger difference in being able to speak English than speaking English well between the two cohorts of female immigrants.

later arrivals.

Next, I use an empirical model to estimate the wage difference between pre-1982 and post-1982 immigrants, and to isolate the IRCA effect from the impact of other factors, such as duration, age and education. The empirical model for men is:

(1) $$\ln(\text{wage})_i = \beta_0 + \beta_1 \text{pre82}_i + X_{1i}\beta_2 + \varepsilon_i ,$$

where pre82 is an indicator for pre-1982 immigrants, X_1 represents a vector of control variables, such as the duration in the U.S.(both linear and a quadratic form are used), a quadratic form in age, years of schooling, and an indicator for marital status. The empirical model for women's wage is a two-step Heckman selection model:

(2a) $$\Pr(\text{work} = 1)_i = \Phi(\alpha_0 + \alpha_1 \text{pre82}_i + X_{1i}\alpha_2 + X_{2i}\alpha_3 + v_i)$$

(2b) $$\ln(\text{wage})_i = \beta_0 + \beta_1 \text{pre82}_i + X_{1i}\beta_2 + \beta_3 \lambda_i + \varepsilon_i .$$

The first stage (Equation 2a) estimates women's propensity to work by the Probit method. X_2 is a vector of excluded variables that determine only the propensity to work but not the wage. X_2 includes the number of children and the income of other family members. The second stage (Equation 2b) is an OLS wage estimation, where λ is the inverse of Mill's ratio computed from the first stage.

The regression results are presented in Table 1. Men's wage estimates are in the left panel. Women's estimates are in the right panel, in which Columns 4 and 5 are the results of the second stage (wage equation) of the Heckman model and Columns 6 and 7 are the results of the corresponding first stage (labor force participation equation) of the Heckman model. In Table 1, Columns 1, 4 and 6 control for a linear form of duration effect. The other columns control for a quadratic form of duration effect. Columns 3 and

8 add the English-speaking ability as an additional control variable. Table 1 shows that pre-1982 Latino immigrant men and women performed better in the labor market than their post-1982 counterparts in 1990. Conditioning on experience and education, pre-1982 male immigrants earn 5% more wages than post-1982 ones. Recall that arriving before 1982 increases the fraction of legal immigrants from 60% to 100%. If one divides the 5% wage difference by the fraction of people whose legal status is changed by the law, one gets the 2SLS estimate of the impact of legal status on wages, which is 12.5%. This result is consistent with the findings of Rivera-Batiz (1999) and Kossoudji (2002). With regard to female immigrants, Columns 4 and 5 do not show that the wages of pre-1982 cohort are significantly higher than those of post-1982 cohort. However, the results in Column 6 and 7 indicate that the propensity to work of pre-1982 female immigrants is 4-6 percentage points higher than that of post-1982 female immigrants. This result implies that legal status increases female immigrants' labor force participation rate by 10-15 percentage points.

Besides experience and education, another important determinant of immigrants' wages is the English-speaking ability. I test this by adding English-speaking ability as an additional control variable. For men, the variable is an indicator for speaking English well. For women, the variable is an indicator for being able to speak English. Column 3 shows that the wages of male immigrants who speak English well are 10% higher than those who do not. Column 8 shows that female immigrants who can speak English are six percentage points more likely to participate in the labor force than those who cannot. Since the English-speaking ability rewards immigrants in the U.S. labor market, it is

interesting to examine whether legalization would give immigrants more incentive to master the host country's language. I use the following Probit models (3a) and (3b) to test whether pre-1982 immigrant men and women speak English better than their post-1982 counterparts. Model (3a) is for men. Model (3b) is for women.

(3a) $\Pr(\text{speaking English well} = 1)_i = \Phi(\beta_0 + \beta_1 \text{pre82}_i + X_{1i}\beta_2 + \varepsilon_i)$

(3b) $\Pr(\text{being able to speak English} = 1)_i = \Phi(\beta_0 + \beta_1 \text{pre82}_i + X_{1i}\beta_2 + X_{2i}\beta_3 + \varepsilon_i)$

The explanatory variables X_1 and X_2 are the same ones as in equation (1)-(2b). The regression results are presented in Table 2, in which the left panel is for men's estimates and the right panel is for women's estimates. Columns (1) and (3) control for a linear form of duration effect, while Columns (2) and (4) control for a quadratic form of duration effect.

Table 2 indicates that pre-1982 immigrant men are more likely to speak English well than their post-1982 counterparts by four percentage points. Pre-1982 immigrant women are more likely to be able to speak English by three percentage points.[7] These above results confirm the findings in Cortes (2004) and Dustmann (2007) that when an immigrant is more certain that she will stay in host country, she becomes more willing to invest in the host-country specific human capital.

3. Two Benchmark Groups: Refugees and US-born Latino Workers

Immigrants enter the U.S. labor market in different years. The U.S. macroeconomic

[7] In Column (4), the coefficient of pre82 becomes statistically insignificant when a quadratic duration form is controlled, though the point estimate is not substantially different from that in Column (3).

conditions at arrival may influence immigrants' entry wages and initial occupational choices, which can exert a long term impact on immigrants' entire working lives (Oreopoulos, Wachter and Heisz 2006). In early 1980's, there was a severe economic recession, which started in the second half of 1980 and continued till 1983. The unemployment rate peaked in 1982 and 1983. If the recession has a persistent impact on people's labor market outcomes, it would be hard for one to argue that the 1982 and 1983 arrivals do not perform as well as their precedents just because of the illegality. Therefore, in order to disentangle the effect of macro economy from the effect of IRCA, one should examine a benchmark group of people, who are very close to Latino immigrant in every aspect except that the benchmark group has no legal status issue. By comparing the pre-1982 and post-1982 cohorts of the benchmark group, one can find out the impact of macro economy.

Two benchmark groups are used. One consists of refugees who entered the U.S. during 1975-1986. The other consists of U.S.-born Latino people who entered the labor market during the same period. Both groups of people are Californian urban workers. Their years of schooling are no more than 12 years, and they are younger than 46 in 1990. The above restrictions allow the benchmark groups and the Latino economic immigrant group to be as similar as possible.

Refugees are admitted to the U.S. with no legal status problem. On the other hand, refugees, like economic immigrants, must adapt to a new language, a new culture and a new society to make a living. Therefore, refugees provide a good candidate of a benchmark group. Census data do not distinguish refugees from economic immigrants.

However, INS records show that a few countries are the main sending countries of refugees during the 1980s. Following Cortes (2004), I classify immigrants from the following countries as refugees: Afghanistan, Cambodia, Cuba, Haiti, Laos, Russia, Vietnam, and Ethiopia. Using the country of origin as the standard to determine refugee status certainly brings in measurement error. Cortes (2004) admits that the individuals from refugee-sending countries probably capture some illegal immigrants as well. However, this measurement error will only make the refugee sample more similar to the Latino economic immigrants sample and upwardly bias the difference between pre-1982 refugees and post-1982 refugees.

Table 3 presents the breakdown of the refugee population living in Californian cities in 1990 by countries of origin. Column 1 is the number of population. Column 2 is the percentage composition. Columns 3 and 4, respectively, show the percentage composition of pre-1982 cohort and post-1982 cohort. Two aspects of the table are noteworthy. First, the Vietnamese, accounting for half of the refugee population, are the largest ethnic group among refugees in California. Second, the ethnic composition of refugees varies somewhat between pre-1982 and post-1982 cohorts. In general, people from different counties should have different levels of human capital and labor market performance. This type of difference is assumed to be time-invariant. Therefore, I add the country of origin indicators to the right-hand side of models (1)-(3b) and use the country fixed-effects models for the empirical analysis of refugees.[8]

[8] Notice that the estimations of women's labor force participation (models (2a)) and immigrants' English-speaking ability (model (3a) and (3b)) now become fixed-effects Probit models. It is known that fixed effect estimators of Probit models can be biased. However, Fernandez-Val (2007) has shown that, the estimates derived from large-T panel data have negligible bias. In the setting of this paper, there are hundreds of observations for most of countries, which is certainly a large-T case. Therefore, I proceed

Panel A of Table 4 presents the regression results of the refugee group. The odd-numbered columns control for a linear duration effect; The even-numbered columns control for a quadratic form of duration effect. Columns 1 and 2 display men's wage results. Columns 3 and 4 show the results of men's probability of speaking English well. Women's wage results are shown in Columns 5 and 6, where the same Heckman selection model is used as in the previous section. The corresponding first-stage labor force participation results are displayed in Columns 7 and 8. Columns 9 and 10 are for women's probability of being able to speak English. Table 4 shows that, except for women's wages, pre-1982 refugees are no different from post-1982 refugees in any other aspect. All the differences in labor market outcomes and English-speaking abilities between pre-1982 and post-1982 refugees can be explained by duration of stay in the U.S., education, experience and other control variables. With regard to female refugees' wages, pre-1982 cohort are in fact 22% less than post-1982 cohort. Notice that the sign of pre82 is also negative in several other columns, though statistically insignificant. Hence, it is hard to conjecture that the 1982 recession has a persistent negative impact on post-1982 refugees. Since the sampled Latino immigrants and refugees are both low-skilled foreign workers, the 1982 recession may not affect Latinos in the long run either.

A possible challenge to using refugees as a benchmark group is that refugees may receive assistance from refugee agencies for initial settlement, English tutoring, and job searching. These government agencies perhaps would like to work harder to help refugees when the economy is slow. The "unobservable" government help can distort the

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with fixed-effect Probit models and present the marginal effect estimates in Table 4. As a robust check, I also use fixed-effect linear probability models. The estimates are very close to those in Table 4.

comparison between pre-1982 and post-1982 refugees. Therefore, I use U.S.-born Latinos as a second benchmark group.[9] Like economic immigrants, the U.S.-born young people generally receive no particular assistance from government agencies when they start their first jobs. Both groups are independently subject to business cycles.

Panel B of Table 4 presents the results of U.S.-born Latino workers.[10] Pre-1982 cohort is no better than post-1982 cohort in every aspect. The wages of pre-1982 males are even less than post-1982 males by 10 percent. The results of U.S.-born Latino workers are consistent to the results of refugees, which relieves the concern that refugees may not be an eligible benchmark group. The advantage of pre-1982 cohort over post-1982 cohort is a unique finding that only exists among economic immigrants, which provides strong evidence that legal status, rather than macroeconomic conditions, is the reason why pre-1982 economic immigrants outperform their post-1982 counterparts.

4. How Does Legal Status Work?

In this section, I analyze why legal status generates a benefit to immigrants' wages. Illegality restricts occupational choice for unauthorized immigrants. Unauthorized immigrant workers typically rely on the ethnic networks to get their first jobs (e.g., farm workers or food processing workers) in the U.S. (Kossoudji and Cobb-Clark 2000). The limited options for illegal immigrants actually give their employers monopsonistic power

[9] Kossoudji and Cobb-Clark (2002) use the NLSY to construct a comparison group to the population legalized under IRCA.
[10] Appendix B explains the method that I use to define the year of entry and duration of work for U.S.-born workers.

and force illegal immigrant workers to lower their reservation wages (Rivera-Batiz 1999). Additionally, the limited occupation options may not match individual workers' skills very well, particularly for those who have relatively high skills. Hence, two related hypotheses are proposed to explain the impact of legal status on wages. First, legal status increases immigrant workers' chances of upward occupational mobility. Second, legal status raises the returns to human capital.

I define four occupational categories based on the occupation codes in census data. Farming, forestry, and fishing occupations are in category one (called Farmers below); Laborer, operative and craft occupations are in category two (called Laborers below); Service occupations are in category three (called Service Workers below); Professional, managerial, technical and clerical occupations are in category four (called Professionals below). Table 5 presents the mean of years of schooling, the rate of speaking English, the rate of speaking English well, the mean of wages, and the percentage composition by occupational categories for the sampled Latino immigrant men and women. Farmers require the least years of schooling and the least English-speaking ability, followed by Laborers, Service Workers and Professionals. For men, all non-agricultural occupations pay higher than agricultural jobs. However, for women, only Professionals are paid more than Farmers. Neither Service Workers nor Laborers earn higher wages than Farmers.

The question is whether legalization enables immigrants, who were previously illegal, to move upward from low-skilled or poorly-paid occupations to relatively high-skilled or well-paid occupations. To empirically test this, I use the multinomial Logit model as follows:

(4) $$\Pr(y = j) = \exp(X\beta_j) / [1 + \sum_{h=1}^{4} \exp(X\beta_h)], \quad j = 1, 2, 3$$

where *j* indexes the occupational category choices. The base outcome is the occupation of Farmers. X is a vector of explanatory variables including the pre82 dummy, a quadratic form of duration, a quadratic form of age, a marital status indicator and educational level indicators. For estimation of women, X also include the number of children and the earnings from other family members. The results, presented in Table 6, show that arriving before 1982 increases the log-odds between working on a non-agricultural job and working on an agricultural job. In other words, pre-1982 immigrant men and women are more likely than their post-1982 counterparts to work as Laborers, Service Workers, or Professionals instead of Farmers. Since all the non-agricultural options require more education and better English-speaking ability than Farmers, the occupational choice results imply that illegal immigrant workers with higher human capital are more likely to take advantage of legalization and switch to jobs that reward their skills.

Next, I test whether pre-1982 immigrants' human capital receives higher returns than post-1982 immigrants. The same empirical models as equation (1) – (2b) are used, except that I add to the right-hand side of each equation the following interaction terms: (pre82*duration in the U.S.), (pre82* the educational level indicators), and (pre82* the English-speaking ability indicator). The coefficients of the interaction terms measure the difference in returns to human capital between pre-1982 and post-1982 cohorts. These coefficients are hypothesized to be positive, meaning the returns to human capital is expected to be higher for pre-1982 (or legalized) immigrant workers.

The regression results are presented in Table 7. Columns 1 and 2 are for men's

wages. Columns 5 and 6 are for women's wages. Columns 3 and 4 are for women's labor force participation rate. All the even-numbered columns control for English-speaking ability, while the odd-numbered columns do not. Columns 1 and 2 show that the returns to schooling and English-speaking ability for men are very different between the two cohorts. The returns to speaking English well of pre-1982 male immigrants are three times as much as that of post-1982 men. The returns to high-school graduation of pre-1982 male immigrants are twice as much as that of post-1982 men. Post-1982 male immigrants with 9-11 years of schooling do not receive rewards for their education. In contrast, pre-1982 immigrant men with 9-11 years of schooling are well rewarded for their education. The above results indicate that legalization raises the returns to male immigrants' human capital, which implies that men with high human capital benefit more from legalization than men with little human capital.

The results for women's wages are quite different from those for men. Columns 3 and 4 show that, compared to post-1982 female immigrants, pre-1982 cohort do not receive higher returns to education or English-speaking ability. Remember from Table 1 that pre-1982 female immigrants on average do not earn higher wages than post-1982 cohort either. These wage results appear to contradict to the upward occupational mobility of female immigrants that is presented in Table 6. The explanation can be found in Table 5, which shows that female Service Workers and Laborers have the same mean of wages as female Farmers. Therefore, the shift from agricultural occupations to non-agricultural occupations as the result of legalization does not bring economic benefit to female immigrants. Then, what is the benefit of legalization to women? In Columns 5

and 6 of Table 7, the coefficient of pre82 is significantly positive, while the coefficients of the interaction terms are insignificantly negative, which suggests that legalization increases the labor force participation rate of all pre-1982 female immigrants and the effect may be slightly stronger for women with little human capital than for women with high human capital. To sum it up, the impact of legalization on female immigrants' labor market outcomes is different from that on male immigrants. Legalization increases female immigrants' propensity to work rather than wages. And women with little human capital rather than those with high human capital receive more gains out of legalization.

5. The Long-term Impact of Legal Status

In this section, I use Census 2000 to examine whether the impact of IRCA observed in 1990 is sustained in 2000. The sample still includes Latino immigrants who came to the U.S. during 1975 and 1986 at ages of at least 15. They live in California cities in 2000 and their education is no more than high-school graduation. To be consistent with the maximum age restriction for the 1990 sample, the maximum age for the 2000 sample now is 55. Table 8 presents the regression results. Columns 1 and 2 are for men's wages. Column 3 is for men's English-speaking ability. Column 4 is for women's wages. Columns 5 and 6 are for women's labor force participation. And Column 7 is for women's English-speaking ability. Column 1 shows that the impact of legalization on men's wages diminishes when using Census 2000 data. However, recall that the impact of legalization on men's wage is stronger for more educated men than for less educated

men. Hence, I conduct a regression using only male high-school graduates. The results presented in Column 2 show that the pre-1982 male high-school graduates' wages are 9% higher than their post-1982 counterparts. Similar results can be observed for men's English speaking ability. Column 3 indicates that pre-1982 immigrant men do not speak English better than post-1982 cohort in 2000. However, when the sample is restricted to high-school graduates, pre-1982 cohort is found to be more likely to speak English well than post-1982 cohort by 7 percentage points. As for women's estimations, Columns 4 and 5 show that legalization has no impact on immigrant women's wages, labor force participation or English-speaking ability in 2000. However, when the sample is restricted to women with no schooling at all, pre-1982 cohort are found to be more likely to work than post-1982 cohort by 12 percentage points.

Generally speaking, the impact of legalization on immigrants' labor market outcomes and human capital development diminished in 2000, though it still existed for some particular groups. Several reasons contribute to this result. First, some post-1982 illegal immigrants were legalized by 2000 under a new amnesty. The U.S. immigration policy has a tradition of favoring a family reunion. A de facto amnesty (Section 245(i)) allowed 580,000 illegal immigrants, whose spouse or parents have legal status, to apply for status adjustment during 1995 and 1997. Though these immigrants could not officially obtain their green cards before 2001, they were treated as if they were legal immigrants while they were waiting for green cards.[11] Besides amnesty, false documentation is another source for illegal immigrants to seek a relief from illegality.

[11] Source: http://www.numbersusa.com/text?ID=1049.

Over time, many illegal immigrants have learned about where to obtain false documents (Kossoudji and Cobb-Clark 2000). Hence, the difference between pre-1982 and post-1982 immigrants probably became much weaker in 2000 than in 1990.

The second reason for the diminishing impact of IRCA legalization in 2000 is the selection of return migration. Since it is harder for illegal immigrants than legal immigrants to settle and survive in the U.S., illegal immigrants are more likely to return to their original countries. Those illegal immigrants who manage to stay in the U.S. may, on average, have better unobservable abilities than legal immigrants. Figure 3 shows that post-1982 immigrants who were present in Census 1990 had slightly more years of schooling and arrived with a little older age than their pre-1982 counterparts. If return migration is truly a negative selection, the staying illegal immigrants on average should be able to assimilate faster than their legal counterparts in the long run. Table 9 presents the mean difference between pre-1982 and post-1982 cohorts in 1990 and 2000 with regard to labor market outcomes and English-speaking ability. Consistent with previous regression results, Table 9 shows that while post-1982 immigrants lagged behind their forerunners in 1990, they managed to converge in 2000. In 1990, post-1982 immigrant men's wage and women's labor force participation were, respectively, $1.8 and six percentage points less than those of pre-1982 counterparts, yet both gaps diminished to zero in 2000. In 1990, pre-1982 male immigrants' probability of speaking English well led their post-1982 counterparts by 13 percentage points. The gap reduced to only 7 percentage points in 2000. Even more reduce can be observed for women. Therefore, after more than fifteen years of stay in the U.S., unauthorized Latino immigrants manage

to overcome illegality and converge to their legal counterparts.

6. Conclusion

This paper examines the effect of the amnesty program IRCA on immigrants' labor market outcomes and English-speaking ability. IRCA took effect on 1986 and legalized all pre-1982 illegal immigrants. Consequently, pre-1982 immigrants all have legal status. In contrast, approximately only 60% of the 1982-1986 arrivals have documents. Using Census 1990, I find that Latino immigrant men who arrived in 1975-1981 on average earn 5% higher wages than their counterparts who arrived in 1982-1986. Pre-1982 Latino immigrant women are four percentage points more likely to work than their post-1982 counterparts. In addition, pre-1982 male immigrants are four percentage points more likely to speak English well than post-1982 cohort, and pre-1982 female immigrants are three percentage points more likely to be able to speak English than post-1982 cohort. Considering that the above results reflect the difference between 100% legal immigrants and 60% legal immigrants, this implies that legalization can a) increase male immigrants' wages by 12.5%, b) increase female immigrants' labor force participation rate by 10 percentage points, and c) induce additional 8-10 percentage points of immigrants to improve their English.

In order to find out whether the gap between the two cohorts is driven by IRCA or by the U.S. macroeconomic fluctuations, I examine two other groups, who also work in the U.S., but have no legal status issue. One group is the refugees and the other is U.S.-

born Latino workers. I do not find that the pre-1982 cohort outperform the post-1982 cohort in either group. This result provides evidence that the advantage of pre-1982 economic immigrants over their pre-1982 counterparts is caused by IRCA.

The mechanism through which legalization benefits male immigrants is that men are more likely to work on agricultural jobs instead of agricultural jobs after being legalized, and consequently their human capital receives higher returns. Therefore, men with higher human capital actually gain more from legalization than men with little human capital. Female immigrants are also found to move upward from agricultural jobs. However, non-agricultural jobs do not pay higher wages to women than agricultural jobs. Therefore, upward occupational mobility does not bring economic benefit to female immigrants. The way that legalization benefits women is by increasing their labor force participation rate. And the magnitude of increase is slightly larger for women with little human capital than for women with higher human capital.

The empirical analysis using Census 2000 shows that the advantage of pre-1982 immigrants over post-1982 immigrants diminished in 2000. An additional amnesty program in late 1990s and the negative selection in illegal immigrants' return migration may be responsible for the convergence of post-1982 immigrants to their pre-1982 counterparts.

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Appendix A

Explanation of the Sample Restriction

I restrict the sample of Latino immigrants to those who are living in California cities, who came to the U.S. as an adult worker (at least 15 years old), and whose education is no more than high-school. These restrictions can make the contrast of the citizen ratio between pre-1982 and post-1982 cohorts as dramatic as possible. First, according to the estimation by Passel (2005), Latino immigrants account for 81% of the total illegal immigrants. California is the top state in the concentration of illegal immigrants, which accounts for 45% of illegal immigrants in 1990 and 24% in 2000 (Passel, 2005). Therefore, by focusing on the Californian Latino immigrant population, the sample contains a large proportion of illegal immigrant. Second, the sample is restricted to city residents. With this restriction, I try to exclude agricultural workers who can still be legalized under SAW, even if they arrived in the U.S. after 1982. Appendix Table 1 presents the distribution of sampled immigrants by cities. Among the 22 California cities identified in the Census 2000 5% sample, Los Angeles accounts for 55% of the immigrant population. Therefore, the results of this paper are mainly determined by the residents of this city. Third, the sampled immigrants' age at arrival must be at least 15 years old. For young immigrants, the year of entry is not a critical factor for legal status. U.S. immigration policy favors a family reunion. Consequently, a child immigrant who arrived after 1982 can still have legal status, if her parents were pre-1982 immigrants. Fourth, the sampled immigrants' educational attainment is no more than high-school graduate degree. The reason for this restriction is that low-skilled urban immigrant

workers were the main beneficiaries of the pre-1982 amnesty program. They perhaps could never have had legal status, if there had not been such an amnesty. Hence, with the above four restrictions, the probability of having legal status between pre-1982 and post-1982 cohorts should be dramatically different.

Appendix B

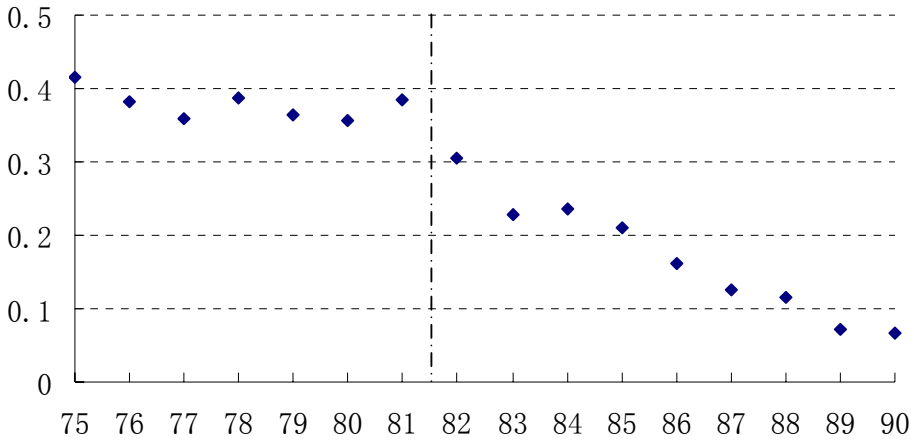
1. The Measurement of English-speaking Ability

In census data, an individual's English-speaking ability is defined by one of the following five cases: (1) speaks only English, (2) speaks very well, (3) speaks well, (4) speaks English but not well, or (5) does not speak English. I construct an indicator for speaking English well, which is one if an individual is in case (1), (2), or (3), and zero otherwise. I also construct another indicator for speaking English, which is one if an individual is in case (1), (2), (3) or (4), and zero otherwise.

2. The Definition of the Year of Entry and Duration of Work for U.S.-born People

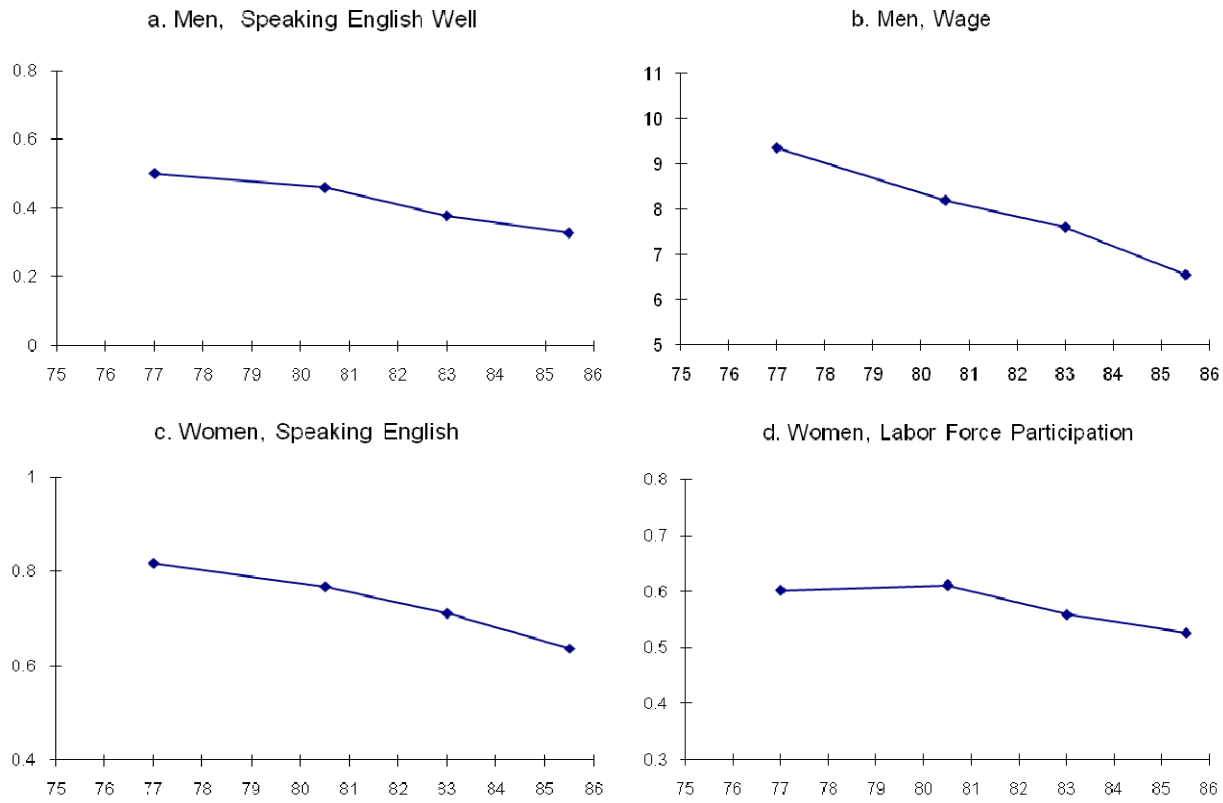
For U.S. born people who have at least 8 years of schooling, the year of entry is the year in which they finished schooling, and their duration of work can be calculated by (age - 6 - years of schooling). For those whose education is less than 8 years, consider that in the U.S. the minimum age for employment is 14, the year of entry is set to be the year that they reach 14, and duration is (age - 14).

Figure 1. Ratio of Naturalized Citizens to Total Latino Immigrants by Entry Years



Notes:
Only Mexican and Central American (except Cuban and Haitian) immigrants who entered the U.S. at an age no less than 15 and years of schooling were no more than 12 years and resided in Californian cities in 2000 are in use.
Source: Census 2000 Public Use 5% Micro Sample (PUMS).

Figure 2. Outcomes of Latino Immigrants by Entry Year



Notes:

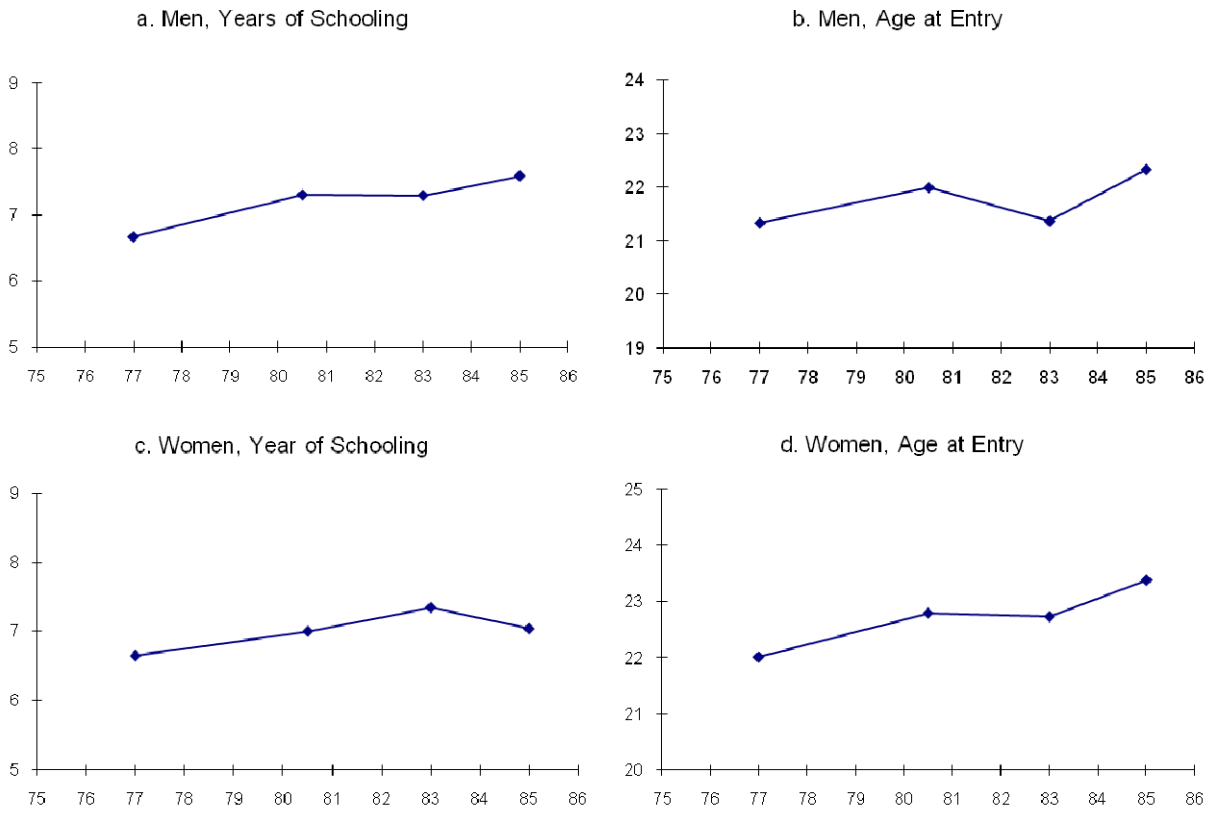
Census 1990 categorized immigrants' entry year into several intervals: 1975-1979, 1980-1981, 1982-1984, and 1985-1986. I use the middle year to represent each interval.

Only Mexican and Central American (except Cuban and Haitian) immigrants who entered the U.S. at an age no less than 15, not older than 45 in 1990, years of schooling were no more than 12 years, and resided in Californian cities are in use.

English-speaking ability is measured by an indicator, which is one if an immigrant speaks English and zero if she does not. Labor Force Participation is an indicator variable, which is one if an immigrant woman has wage income and zero if she does not.

Source: Census 1990 Public Use 5% Micro Sample (PUMS)

Figure 3. Characteristics of Latino Immigrants by Entry Year



Notes:
Census 1990 categorized immigrants' entry year into several intervals: 1975-1979, 1980-1981, 1982-1984, and 1985-1986. I use the middle year to represent each interval.
Only Mexican and Central American (except Cuban and Haitian) immigrants who entered the U.S. at an age no less than 15, not older than 45 in 1990, years of schooling were no more than 12 years, and resided in Californian cities are in use.
Sources : Census 1990 Public Use 5% Micro Sample (PUMS).

Table 1. Labor Market Outcome of Pre/Post-1982 Latino Immigrants in 1990

	Men			Women				
	lnwage			lnwage		labor force participation		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
pre82	**0.050****	**0.046****	**0.043***	0.027	0.021	**0.061*****	**0.038***	**0.036***
	[0.018]	[0.023]	[0.022]	[0.028]	[0.029]	[0.017]	[0.021]	[0.021]
duration	0.021***	0.027*	0.024	0.030***	0.040*	0.005	0.043***	0.040***
	[0.004]	[0.016]	[0.017]	[0.004]	[0.023]	[0.003]	[0.012]	[0.012]
duration^2		0.000	0.000		-0.001		-0.002***	-0.002***
		[0.001]	[0.001]		[0.001]		[0.001]	[0.001]
English-speaking			0.093***					0.063***
ability			[0.012]					[0.018]
other controls	Y	Y	Y	Y	Y	Y	Y	Y
observations	9211	9211	9211	7290	7290	7290	7290	7290

Notes:

1. Women's wage estimation uses the Heckman two-stage estimation. The first stage is a labor force participation equation. The results are presented in Columns 4 and 5. The second stage is a wage equation. The results are presented in Columns 6 and 7. The control variables excluded in the first stage but included in the second stage are the number of children and the income from other family members. The coefficients shown in Columns 6-8 are marginal effects.
2. Other controls include an indicator for high-school graduation, an indicator for 9-11 years of schooling, a quadratic form of age and an indicator for marital status. English-speaking ability variable is an indicator for speaking English well in men's estimation, and the variable is an indicator for being able to speak English in women's estimation.
3. Standard errors are clustered by cities. *** p<0.01, ** p<0.05, * p<0.1.

Table 2. English-speaking Ability of Pre/Post-1982 Latino Immigrants in 1990

	Men		Women	
Dependent	speaking English well = 1		speaking English = 1	
	(1)	(2)	(3)	(4)
pre82	**0.046*** **	**0.041*** **	**0.033***	0.024
	[0.011]	[0.012]	[0.018]	[0.017]
duration	0.026***	0.034**	0.023***	0.039***
	[0.002]	[0.015]	[0.003]	[0.010]
duration2		0.000		-0.001
		[0.001]		[0.001]
other controls	Y	Y	Y	Y
observations	9211	9211	7290	7290

Notes:

1. The coefficients shown in this table are marginal effects.
2. Standard errors are clustered by cities.
3. *** p<0.01, ** p<0.05, * p<0.1.

Table 3. Composition of Sampled Refugees by Country of Origin

Country	population	% of total population	% of pre-82 population	% of post-82 population
Cuba	70	3.32	4.57	1.43
Haiti	7	0.33	0.32	0.36
Russia	163	7.74	10.49	3.58
Cambodia	383	18.19	12.78	26.37
Laos	376	17.85	19.56	15.27
Vietnam	1,064	50.52	51.74	48.69
Afghanistan	18	0.85	0.24	1.79
Ethiopia	25	1.19	0.32	2.51

Notes: Only the aliens who entered the U.S. at an age no less than 15, younger than 46 in 1990, years of schooling were no more than 12 years and resided in Californian cities are in use.
Source: Census 1990 Public Use 5% Micro Sample (PUMS)

Table 4. Outcome of Pre/Post-1982 Benchmark Groups in 1990

	Men				Women					
	lnwage		speaking English well		lnwage		labor force participation		speaking English	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. Refugees										
pre82	-0.116	-0.155	0.113	0.086	**-0.246***	**-0.228***	**-0.084*****	-0.051	-0.030	-0.032
	[0.104]	[0.112]	[0.070]	[0.088]	[0.126]	[0.130]	[0.028]	[0.035]	[0.032]	[0.031]
duration	0.054**	0.116	0.014	0.055	0.053**	0.025	0.023***	-0.026	0.017**	0.020
	[0.024]	[0.071]	[0.014]	[0.050]	[0.022]	[0.072]	[0.007]	[0.031]	[0.007]	[0.020]
duration^2		-0.003		-0.002		0.001		0.002*		0.000
		[0.004]		[0.002]		[0.004]		[0.001]		[0.001]
observations	588	588	588	588	1073	1073	1073	1073	1073	1073
B. U.S. Born Natives										
pre82	**-0.109****	**-0.110****	-0.005	-0.004	0.033	0.006	0.010	0.045	-0.002	-0.003
	[0.040]	[0.040]	[0.016]	[0.016]	[0.063]	[0.068]	[0.038]	[0.041]	[0.006]	[0.008]
duration	0.009	0.012	-0.036***	-0.037**	0.020	0.101	-0.059***	-0.149***	0.000	0.002
	[0.028]	[0.041]	[0.012]	[0.015]	[0.037]	[0.070]	[0.019]	[0.032]	[0.003]	[0.003]
duration^2		0.000		0.000		-0.005		0.005***		0.000
		[0.002]		[0.000]		[0.003]		[0.001]		[0.000]
observations	2006	2006	2006	2006	2042	2042	2042	2042	2042	2042
C. Immigrants (from Table 1 and 2)										
pre82	**0.046****	**0.043***	**0.046*****	**0.041*****	0.027	0.021	**0.061*****	**0.038***	**0.033***	0.024
	[0.023]	[0.022]	[0.011]	[0.012]	[0.028]	[0.029]	[0.017]	[0.021]	[0.018]	[0.017]

Notes:

1. Women's wage estimation uses the Heckman two-stage estimation. The first stage (a labor force participation equation) is presented in Columns 7 and 8. The second stage (a wage equation) is presented in Columns 6 and 7. The control variables excluded in the first stage but included in the second stage are the number of children and the income from other family members. The coefficients in Columns 3, 4, 7-10 are marginal effects.

2. Other controls include an indicator for high-school graduation, an indicator for 9-11 years of schooling, a quadratic form of age and an indicator for marital status. Standard errors are clustered by cities.

Table 5. Occupational Distribution of Latino Immigrants

	years of schooling	speaking English	speaking English well	wage	percentage
A. Men					
Farmers	6.21	0.71	0.29	6.64	7.60
Laborers	7.15	0.83	0.41	8.27	64.39
Service Workers	7.28	0.87	0.45	7.47	18.09
Professionals	8.06	0.91	0.57	8.08	9.92
B.Women					
Farmers	5.61	0.59	0.25	6.71	2.41
Laborers	6.79	0.71	0.28	6.08	48.90
Service Workers	7.07	0.82	0.38	6.29	33.23
Professionals	8.84	0.88	0.57	9.01	15.46

Source: Census 1990 Public Use 5% Micro Sample (PUMS)

Table 6. Occupational Choice of Pre/Post-1982 Latino Immigrants

	Laborer	Service Workers	Professionals
	(1)	(2)	(3)
A. Men			
pre82	**0.395*** **	**0.652*** **	**0.379** **
	[0.118]	[0.179]	[0.150]
duration	0.01	0.04	0.275***
	[0.104]	[0.117]	[0.100]
duration^2	-0.003	-0.007	-0.015***
	[0.006]	[0.006]	[0.006]
other controls	Y	Y	Y
observations	9211	9211	9211
B. Women			
pre82	**1.173*** **	**1.025** **	**1.422*** **
	[0.389]	[0.408]	[0.408]
duration	0.236**	0.409***	0.209
	[0.097]	[0.119]	[0.130]
duration^2	-0.019***	-0.031***	-0.018***
	[0.005]	[0.006]	[0.006]
other controls	Y	Y	Y
observations	4119	4119	4119

Notes:

1. A multinomial Logit model (see Equation (3) in text) is used. The base outcome is the occupation of Farmers.
2. The other control variables for men include an indicator of high-school graduation, an indicator of 9-11 years of schooling, a quadratic form of age, and a marital status indicator. The additional control variables for woman include the number of children and the income of other family members.
3. Robust standard errors are in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 7. Returns to Human Capitals for Pre/Post-1982 Latino Immigrants

	Men		Women			
	lnwage		lnwage		labor force participation	
	(1)	(2)	(3)	(4)	(5)	(6)
pre82	0.033	0.018	0.080	0.050	**0.233*** **	**0.235*** **
	[0.048]	[0.051]	[0.111]	[0.114]	[0.041]	[0.048]
duration	0.023***	0.022**	0.034***	0.031***	0.020***	0.017***
	[0.008]	[0.008]	[0.010]	[0.009]	[0.006]	[0.006]
pre82*duration	-0.002	-0.004	-0.006	-0.005	**-0.022*** **	**-0.020*** **
	[0.007]	[0.008]	[0.014]	[0.013]	[0.007]	[0.006]
high school	0.060***	0.050***	0.187***	0.168***	0.073***	0.055***
	[0.012]	[0.011]	[0.041]	[0.034]	[0.013]	[0.014]
pre82*high school	**0.057*** **	**0.030* **	0.017	0.014	-0.027	-0.018
	[0.017]	[0.017]	[0.038]	[0.035]	[0.027]	[0.031]
9-11 years	-0.014	-0.019	0.113***	0.099***	0.037	0.025
of schooling	[0.014]	[0.013]	[0.029]	[0.028]	[0.023]	[0.027]
pre82 * (9-11	**0.084*** **	**0.069*** **	-0.085***	-0.090***	-0.053	-0.049
years of schooling)	[0.019]	[0.019]	[0.031]	[0.034]	[0.038]	[0.042]
English		0.046**		0.080		0.074**
		[0.018]		[0.049]		[0.030]
pre82*English		**0.084*** **		0.035		-0.023
		[0.019]		[0.033]		[0.029]
other controls	Y	Y	Y	Y	Y	Y
observations	9211	9211	7290	7290	7290	7290

Notes:

1. Women's wage estimation uses the Heckman two-stage estimation. The first stage is a labor force participation equation. The results are presented in Columns 5-6. The coefficients shown in Columns 5-6 are marginal effects. The second stage is a wage equation. The results are presented in Columns 3-4. The variables excluded in the first stage but included in the second stage are number of children, and the income from other family members.
2. The other control variables include a quadratic form of age, and an indicator for marital status. English variable is an indicator for speaking English well in men's estimation, and the variable is an indicator for being able to speak English in women's estimation.
3. Standard errors are clustered by cities. *** p<0.01, ** p<0.05, * p<0.1.

Table 8. Outcome of Pre/Post-1982 Latino Immigrants in 2000

	Men				Women				
	lnwage		speaking English well = 1		lnwage	Labor Force Participation		speaking English =1	
	all	high school	all	high school	all	all	no schooling	all	no schooling
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
pre82	0.007	**0.090****	0.032	**0.069****	0.006	-0.02	**0.123*****	-0.025	0.071
	[0.020]	[0.040]	[0.023]	[0.029]	[0.040]	[0.020]	[0.046]	[0.019]	[0.060]
duration	0.027*	0.079	-0.003	-0.05	0.022	0.028	-0.064	0.041	-0.014
	[0.014]	[0.060]	[0.032]	[0.071]	[0.049]	[0.021]	[0.042]	[0.031]	[0.083]
duration2	0.000	-0.002	0.001	0.002	0.000	-0.001	0.001	-0.001	0.001
	[0.000]	[0.002]	[0.001]	[0.002]	[0.001]	[0.001]	[0.001]	[0.001]	[0.002]
other controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
observations	7361	1773	7361	1773	6920	6920	1111	6920	1111

Notes:

1. Women's wage estimation uses the Heckman two-stage estimation. The first stage is a labor force participation equation. The results are presented in Column 5. The second stage is a wage equation. The results are presented in Column 6. The variables excluded in the first stage but included in the second stage are number of children and the income from other family members. The coefficients shown in Columns 6 are marginal effects.
2. The other control variables for men include an indicator of high-school graduation, an indicator of 9-11 years of schooling, a quadratic form of age, and an indicator for marital status.
3. Standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1.

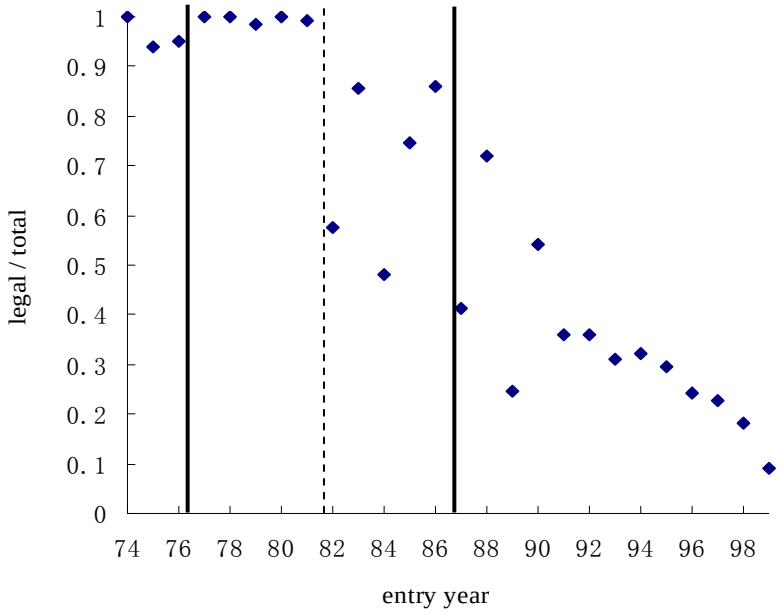
Table 9. Convergence of Pre-1982 and Post-1982 Latino Immigrants in 2000

	1990			2000		
	pre-82	post-82	difference	pre-82	post-82	difference
A. Men						
wage	8.840	7.012	1.828***	14.778	14.256	0.522
			[0.268]			[0.620]
speaking English well	0.483	0.350	0.133***	0.528	0.460	0.068***
			[0.010]			[0.011]
observations	4907	4304		3803	3558	
B. Women						
labor force participation	0.592	0.529	0.063***	0.534	0.520	0.013
			[0.012]			[0.012]
speaking English	0.796	0.667	0.129***	0.804	0.758	0.046***
			[0.010]			[0.010]
observations	4208	3082		3811	3109	

Notes: Only Mexican and Central American (except Cuban and Haitian) immigrants who entered the U.S. at an age no less than 15, younger than 46 in 1990, years of schooling were no more than 12 years, and resided in Californian cities are in use.
Sources : Census 1990 and Census 2000 Public Use 5% micro Samples (PUMS).

Appendix Figure A1.

Ratio of Legal Immigrant Women to Total Immigrant Women by Entry Year



Source: Pan (2008) Figure 3.
Data Source: Los Angeles County Family and Neighborhood Survey

Appendix Table A1. Distribution of Sampled Latino Immigrants by Cities

city	population	%
Anaheim,	1,832	4.81
Bakersfield,	386	1.01
El Monte,	862	2.26
Fresno,	934	2.45
Fullerton,	339	0.89
Garden Grove,	658	1.73
Glendale,	310	0.81
Huntingon Beach,	214	0.56
Inglewood,	689	1.81
Long Beach,	1,659	4.36
Los Angeles,	20,914	54.94
Modesto,	230	0.6
Moreno Valley,	316	0.83
Ontario,	735	1.93
Pasadena,	416	1.09
Pomona,	961	2.52
Rancho Cucamonga,	86	0.23
Riverside,	641	1.68
Sacramento,	527	1.38
Salinas,	898	2.36
San Francisco,	793	2.08
Santa Ana,	3,665	9.63
Total	38065	100

Notes: Only Mexican and Central American immigrants who entered the U.S. at an age no less than 15, age was younger than 46 in 1990, years of schooling were no more than 12 years and resided in Californian cities are in use.
Source: Census 1990 Public Use 5% Micro Sample (PUMS).