Preliminary Draft

The Impact of Amnesty on Labor Market Outcomes: A Panel Study Using the Legalized Population Survey

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Abstract

This paper tests whether amnesty, a provision of the 1986 Immigration Reform and Control Act (IRCA), affected the labor market transitions of the legalized population. Using the Legalized Population Survey (LPS) and the National Longitudinal Survey of Youth (NLSY79) from 1987-1992, a quasi-experimental framework is developed to assess the differential impact of amnesty on the legalized population relative to a comparison group. After the implementation of the amnesty program, employment fell and unemployment rose for newly legalized men relative to the comparison group of already legal U.S. residents. For women, employment also fell and transitions out of the workforce increased among the newly legalized population. Increasing returns to skill, as captured by English proficiency, only played an important role in explaining the employment of newly legalized women. Finally, newly legalized men and women enjoyed higher wage growth rates than their working native counterparts, perhaps owing to their comparatively growing returns to U.S. educational attainment over this period.

JEL Codes: F22, J15, J71
Key Words: Immigration Reform, Amnesty

1. Introduction

Undocumented immigration has been a long-standing component of the U.S. labor market as most illegal immigrants enter the U.S. in search of work. How to address the current record-high number of unauthorized workers within our borders has been the topic of heated debate. Past efforts to moderate inflows by increasing border enforcement, imposing fines on employers, and granting amnesty to long-term undocumented residents can be used to guide future immigration reform. While a number of studies have examined the effect of employer sanctions (Bansak and Raphael 2001, Bansak 2005, Cobb-Clark et al.1995) and border enforcement (Orrenius and Zavodny 2003), only a handful have examined the impact of amnesty on newly legalized (Kassoudji and Cobb-Clark 2002, 2004, Kaushal 2006). Despite recent debates regarding the usage of a generalized or partial amnesty as a means to address current immigration concerns, the impact of past amnesty programs on labor market outcomes post-legalization has not been widely documented and the analysis has been limited to men.

In this paper, we examine whether amnesty, a provision of the 1986 Immigration Reform and Control Act (IRCA), affected the labor market outcomes and wages of the legalized population by gender. The analysis is carried out by gender to address male and female differences in labor supply and earnings. Using the Legalized Population Survey (LPS) and a comparison sample from the 1979 National Longitudinal Survey of Youth (NLYS79), a quasi-experimental framework is developed to assess the differential impact of amnesty on the legalized population relative to a comparison group.

The analysis is of interest as legal status can have a direct effect on employment opportunities (employer-employee matches) if mobility is limited for undocumented workers due to discrimination, fear of apprehension, or low returns to human capital (Calavita 1992).

Specifically, if before amnesty, undocumented workers feel that they have limited job alternatives, they may exhibit a strong attachment to their employers. Furthermore, this attachment may enhance the monopsonistic power (or bargaining power) of employers who, in turn, would pay wages below the marginal revenue product (Black 1995, Raphael and Riker 1999, Pagan and Davila 1996). As such, legalization could enhance labor market efficiency and raise wages by improving mobility and the quality of job matches (Black 1995, Raphael and Riker 1999).

Our results reveal differences in the labor market outcomes and wages for the newly legalized compared to native workers by gender. To begin, employment rates fell and unemployment rose for the newly legalized male population relative to a comparison group of natives following legalization. Likewise, employment rates fell while transitions out of the workforce increased for newly legalized female immigrants when compared to their Hispanic native counterparts. An examination of the determinants of the labor market status before and after amnesty suggests that increasing returns to English proficiency played an important role in women's labor force status. Specifically, English proficient women were more likely to be employed and less likely to be out of the labor force after amnesty, while English proficiency was not a significant determinant for women before legalization. However, returns to skill played a minimal role as determinants of the labor market status of men before and after amnesty. Finally, newly legalized men and women enjoyed higher wage growth rates than their working native counterparts, possibly as a by-product of their comparatively growing returns to U.S. educational attainment over this period. In sum, amnesty may have improved labor market efficiency by increasing transparency, job mobility and the quality of job matches for some, while also reducing labor market participation of others.

2. The 1986 Immigration Reform and Control Act (IRCA)

After an intense fifteen-year debate, IRCA was passed in 1986 and was the first major immigration legislation in over two decades. The intent of IRCA was to stem the flow of increased illegal immigration into the United States. Border apprehensions of illegal immigrants had risen from 250,000 in 1970 to 1.6 million in 1986 and advocates of immigration control expressed concern over problems associated with illegal immigration. Specifically, IRCA adopted three strategies to accomplish its goals: 1) increased INS resources for border enforcement, 2) introduced employer sanctions for knowingly hiring undocumented workers and 3) offered two amnesty programs to legalize illegal resident aliens.

The two amnesty programs together enabled 2.7 million undocumented immigrants to acquire legal permanent resident (LPR) status in the United States. The first and larger program offered amnesty under section 245A of the Immigration and Nationality Act (INA) to 1.6 million illegal aliens who demonstrated continuous residency since January 1, 1982 (nearly 5 years).[1] The second program, known as the Special Agricultural Worker (SAW) program, was intended to grant amnesty to illegal workers with ties to agriculture. This program granted LPR status to 1.1 million undocumented workers with 90 days of seasonal agriculture experience in the U.S. between May 1985 and May 1986.[2] Legalization for the first group – considered long-term illegal residents – was intended to bring undocumented workers "out of the shadows" and improve their wages and working conditions by reducing workplace vulnerabilities (Kassoudji and Cobb-Clark 2002, 2004). This group was followed and surveyed through the longitudinal

[1] Between May 5, 1987 and May 4, 1988, 1.8 million persons applied for amnesty under section 245A; 1.7 million were granted temporary resident alien status and about 1.6 million were ultimately granted lawful permanent resident status (Department of Labor, 1996).

[2] According to Martin and Taylor (1990), program applications for the SAW program were nearly four times the expected number and the SAW program may have attracted new immigration into the United States and increased the immigrant supply of labor.

Legalized Population Survey and the question as to how legalization actually changed their labor market outcomes – as captured by their employment status and wages– is the focus of this paper.

3. Theoretical Predictions Regarding the Labor Market Impact of the Amnesty

A number of studies suggest that legalization or naturalization results in better labor market outcomes for immigrants (Kaushal 2006, Bratsburg et al., 2002, Kossoudji and Cobb-Clark 2002, 2004; Rivera-Batiz, 1999). Specifically relevant to our study is the work by Kossoudji and Cobb-Clark (2002), who also work with the LPS and a comparison sample from the NLSY79 to show that following legalization, English proficiency and education enhanced wage growth for male immigrants. As such, they conclude that their results show strong evidence that IRCA's amnesty provisions improved the labor market opportunities of legalized workers. However, their analysis of the impact of IRCA's general amnesty is focused on male wages before and after legalization without further consideration to the impact of legalization on their labor force status or on the labor market outcomes of women. Specifically, their study does not discuss the fact that English proficiency and educational attainment are characteristics held by a minority of the legalized population. Consequently, the possibility exists that, while skilled workers with strong ties to the labor market fared better, immigrants with limited skills were more likely to drop out of the labor market or enter the pool of unemployed following their legalization.

To guide our empirical work, it is helpful to sketch out a simple conceptual framework of the relationships between amnesty, labor force status, and wages. Suppose that legalization is likely to raise the returns to skill and, via greater mobility, raise market wages for legalized immigrants. According to the neoclassical model of labor-leisure choice (Killingsworth 1983), legalization can affect labor supply decisions of immigrants differently depending on their skill

level and preferences. Therefore, a variety of outcomes may then be observed and we explain the factors affecting the labor supply response of immigrants to amnesty below. Specifically, we distinguish three scenarios:

1. *Staying employed but earning higher wages* (Figure A): Among continuously employed skilled migrants, legalization may simply translate into higher hourly wages. Increased labor market opportunities may induce some of these migrants to either move to better paying jobs or to negotiate a higher pay with the same employers once legalized. By bringing workers 'out of the shadows', legalization may also increase the reservation wage of unskilled migrants previously lacking any bargaining power owing to their undocumented status. If the lack of the appropriate visa status was the cause for the low-paid jobs held by these workers, unskilled workers may also enjoy a wage increase in their same or in new jobs.

2. *Exiting employment* (Figure B): By raising the returns to skill and by qualifying for unemployment insurance, legalization may raise the reservation wage of skilled workers, who may choose to *search longer* for a good job match. In that event, newly legalized skilled immigrants may be more likely to be observed exiting employment at a particular point in time than before legalization. Eligibility for unemployment insurance while not working –a source of non-labor income– may create a spike in the budget constraint at zero hours of work, raising reservation wages above their pre-legalization level, which means that a return to work is only possible if the worker finds a higher-paying job (Figure B – left panel). As noted by Borjas and Tienda (1993), newly legalized unskilled workers employed in low-paid jobs are more likely to become eligible for public assistance, which may raise their reservation wages. Similar to unemployment insurance, the *receipt of social services* –another source of non-labor income– may result in a pure income effect that shifts the budget constraint outward (up to the maximum

need-based income level – a kinked budget constraint under AFDC) and reduces the employment likelihood of newly legalized unskilled immigrants (Figure B – right panel).

3. *Entering employment* (Figure C): Higher wages resulting from legalization and the opening of new job opportunities may also induce some previously non-working immigrants to become employed. Specifically, an increase in market wages would raise to the slope of the budget constraint, which in turn would attract some individuals with steep indifference curves into work.

Predictions: While the overall flow into and out of employment is an empirical question, the number of newly legalized immigrants exiting non-employment and entering into employment is likely to be small since undocumented immigrants typically have higher employment rates than their documented counterparts or natives (Borjas and Tienda 1993). Therefore, the flows out of employment are likely to be larger than the flows into employment. Additionally, the reasons behind the observed employment outflows may differ by skill level and gender. Given the comparatively higher skill level of immigrant men relative to women,[3] we would expect a higher fraction of men to be leaving their employers in search for a better job – perhaps while receiving unemployment insurance, whereas a larger percentage of newly legalized immigrant women would be exiting the workforce and qualifying for public assistance.[4] Finally, for men and women employed pre and post legalization, the theory predicts an increase in wages as a by-product of the higher mobility and returns to their skills following legalization.

[3] On average, men in the LPS have 8.4 years of education, 7.3 years of work experience and 51 percent of them are proficient in English. In contrast, their female counterparts have, on average, 8.1 years of education, 6.9 years of work experience and only 40 percent of them can read and speak English fluently.

[4] Indeed, authors' tabulations using the LPS2 data show that that a higher percentage of newly legalized immigrant women receive school lunches, food donations, Aid for Families with Dependent Children, child support and food stamps compared to their male counterparts. However, a higher percentage of newly legalized immigrant men

4. Data

This paper uses data from two longitudinal surveys in order to examine the impact of legalization under the IRCA's main amnesty program on the employment outcomes and wages of newly legalized immigrants while controlling for macroeconomic conditions in a quasi-experimental design that largely follows that of Cobb-Clark and Kassoudji (2002). Authorized by Congress, the Legalized Population Survey (LPS) is the only nationally representative dataset designed to analyze the impact of IRCA's main amnesty program on the legalized population. Participants were randomly selected and interviewed in 1989 and two-thirds were interviewed again in 1992 after most had spent more than a decade of continuous residency in the United States. The first survey (LPS1) collected information from 6,193 individuals who had applied for temporary residence status by January 31, 1989. In this survey, respondents were asked to describe their employment status in the week before the amnesty application was filed. In the follow-up survey (LPS2), approximately 4 years later, about 4,012 LPS1 respondents who were granted lawful permanent residence by 1992 were re-interviewed. These two surveys together form the longitudinal LPS panel, which we utilize for this study. It should be noted that the LPS is not representative of all amnesty recipients, but of long-term illegal aliens who were able to document continuous unauthorized residency in the U.S. since 1982 and who were able to successfully take advantage of IRCA's main amnesty program to adjust their legal status. Nonetheless, the longitudinal nature of the dataset makes it highly valuable when examining the potential impact of legalization on the employment outcomes of affected immigrants as it tracks respondents over the period surrounding their change in legal status.

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receive unemployment insurance and workers compensation than as compared to newly legalized immigrant women.

To investigate whether IRCA affected the labor market outcomes and wages of those who became legalized due to the amnesty provisions, we chose a comparison group similar to the target group but unaffected by the amnesty program. The ideal comparison group would consist of a randomly selected group of undocumented immigrants similar to the target group, but ineligible for, and unaffected by, the generalized amnesty. However, this is not possible due to the fact that IRCA was a broad-based legislation that affected undocumented immigrants who obtained legal status as well as those who did not (e.g. Bean et al. 1988, Bansak and Raphael 2001). Therefore, following Kossoudji and Cobb-Clark (2002), we work with a sample of Latino natives from the 1979 National Survey of Youth (NLSY79) of similar age and work experience.[5] While the labor market determinants of undocumented immigrants are likely to differ from those of natives, the use of panel data allows us to compare difference-in-differences and take into account divergences between these two groups at any point in time. The NLSY79 is a nationally representative sample of 12,686 civilian young men and women aged 14-21 as of December 31, 1978. This cohort was interviewed annually from 1979 through 1994.[6] We work with a sample of 1,200 Hispanic natives from the 1987 and 1992 rounds of the NLSY79 of similar age, family size, and work experience.

Using both surveys, we compare by gender the labor market outcomes before and after the legalization of the LPS sample to those of an already legal population of similar ethnicity, age, and labor market experience in the NLSY79. The usage of a comparison sample allows us to separate the impact of business and life-cycle effects concurrent with IRCA's amnesty program that may have affected the observed employment and unemployment outcomes of

[5] We restrict our sample to only natives due to the lack of information on the legal status of immigrants in the NLSY79.
[6] Starting in 1994, the interviews were conducted biennially.

legalized immigrants. Notably, the economy experienced a recession between July 1990 and March 1991 which worsened employment prospects for those in both surveys.

Table A in the appendix provides a description of the variables used in our analysis. A number of variables are only relevant for the LPS sample, such as U.S. education or English proficiency since both equal 1 for all respondents in the NLSY79 sample. Table B and Table C further show the male and female sample means in the LPS and NLSY79 samples before and after legalization, i.e. in 1987 and in 1992. An initial comparison of the LPS and NLSY79 respondents reveals a number of similarities. Because of the sample restrictions, respondents in the LPS and NLSY79 are close in age, family size (which fluctuates between 3 and 4 members in 1987) and display similar years of work experience (i.e. between 7 and 7.5 years of experience in 1987) before the legalization of the LPS sample. Additionally, more than half of all respondents in both samples of men and women are of Mexican origin. Lastly, both samples are geographically concentrated in the West (largest share for both samples) and South with a minority residing in the North East and North Central regions of the United States.

Among working respondents, the LPS sample earns somewhat less than the NSLY79 sample, although both earn relatively low real wages (between $6 and $9 in 1992 dollars). As for their Hispanic counterparts in the NLSY79, men in the LPS sample are relatively concentrated in manufacturing and trade. Women are primarily employed in service related occupations. Specifically, LPS women work predominantly in manufacturing, personal services and trade, whereas Hispanic women in the NLSY79 are primarily employed in professional related services, finance, insurance, real estate and manufacturing. These figures suggest that, owing to the often informal nature of personal service employment, newly legalized men may be more likely to qualify for unemployment insurance than their female counterparts.

5. Empirical Methodology

5.1. The Impact of IRCA on the Labor Force Status of the Legalized Population

The objective of our study is to examine the impact of IRCA's main amnesty program on the economic well-being of its beneficiaries as captured by changes in their labor market status and wages. With that purpose in mind, we use a difference-in-difference approach that relies on the usage on the identification of a target group –in our case newly legalized immigrants in the LPS– and a comparison group from the NLSY79. Assuming that unmeasured factors contemporaneous to IRCA have the same impact on the labor market outcomes of the legalized population (LPS) and Hispanic population from the NLSY79, an estimate of the relative labor market effects of IRCA's main amnesty program is given by:

$$\Delta^2_{Amnesty} = (L^A_{Legalized} - L^B_{Legalized}) - (L^A_{Legal} - L^B_{Legal}) \quad (1)$$

where L^i_j, is the labor market outcome for group j in time period i (A = post-legalization or 1992, B=pre-legalization or 1987).

The double difference estimate in equation (1) is based on the assumption that workers in the LPS and NLSY79 are similar (aside from differing in their initial legal status). However, it may be possible that these two groups of workers vary in some respects. For example, educational attainment and other background characteristics may differ across these two groups. An alternative estimate that adjusts for differences in observable and unobservable individual level characteristics can be derived from the following regression equation for the pooled sample of legalized and already legal workers:

$$P(L_{it} = 1) = \Phi(\beta_0 + \beta_1 LPS_i + \beta_2 Post87_t + \beta_3 LPS_i * Post87_t + \beta_4^{'} X_{it}) \quad (2)$$

where Φ stands for the normal cumulative density function. The i indexes individuals and t indexes time; therefore, equation (2) can be estimated using panel methods as a random-effects

probit.[7] L represents the labor market outcome in question, LPS is a dummy variable indicating that the worker belongs to the LPS sample and $Post87$ is a dummy variable indicating that the observation corresponds to the post-legalization period. The marginal effect of the interaction term gives the extent to which labor market outcomes for legalized workers differs from the comparable change experienced by legal workers before and after legalization and after controlling for observable personal characteristics included in X. Additionally, the vector X includes interaction terms between the $Post87$ dummy and education and experience to allow for changes over time in the returns to education and experience (Freeman and Katz 1994). As a result, the estimate from the $LPS * Post87$ interaction term is directly comparable to the unadjusted double-difference in equation (1), with the advantage that it also accounts for observed and unobserved individual level characteristics.

The preceding analysis tells us about the potential impact of legalization on the labor market outcomes of legalized immigrants. However, it does not reveal the factors driving such an impact. One way to understand the determinants of amnesty's effect on the labor market outcomes of the newly legalized is to estimate the probability of being in a labor market state before and after amnesty for each group of men and women and then compare changes in the coefficients of key determinants of respondents' labor force status. With that purpose, we estimate probit models of the likelihood of being employed, unemployed or not in the labor force separately by gender, group (LPS and NLSY79), and year (1987 and 1992) to then focus on the potential for changes in return to skills –as captured by English proficiency, any U.S. education, schooling and years of work experience– over this period of time.

[7] Estimation via a fixed-effects logit would drop variables of key interest, as is the case with $Legalized_{it}$ and $Post87_{it}$

5.2. The Impact of IRCA on the Wage Growth of the Legalized Population

As reflected by Figures B and C in the appendix, legalization may have affected the labor force status held by newly legalized immigrants. This is true if legalization raised the returns to skill and induced some legalized immigrants to step into the workforce (Figure C). Alternatively, higher reservation wages following their qualification for social services and unemployment insurance may have motivated some working migrants to search for better job opportunities or to step out of the workforce (Figure B). However, the possibility also exists that some immigrants may have remained employed in both periods and may have seen a change in their wages (Figure A). In an earlier study, Kossoudji and Cobb-Clark (2002) examine the impact of legalization on the wages earned by immigrants in the LPS. They estimate wage regressions in different time periods using the LPS and a comparison sample from the NLSY79. After examining the role played by wage determinants over time, they conclude that wage determinants changed after amnesty for the legalized population but not for the comparison group. Nevertheless, because they do not exploit the longitudinal nature of the LPS, their analysis cannot gauge the impact of amnesty on individual wage growth. Furthermore, their analysis is restricted to men. We address these issues by working with separate panels of employed men and women. We first estimate the relative wage impact of IRCA's main amnesty program by comparing:

$$\Delta^2_{Amnesty} = (w^A_{Legalized} - w^B_{Legalized}) - (w^A_{Legal} - w^B_{Legal}) \qquad (3)$$

where w_j^i is the log hourly wage earned by respondents in each of the two samples pre and post legalization of the LPS. However, this double difference estimate does not account for the ongoing sample selection that occurs when focusing on working respondents or for their personal and job related characteristics. Therefore, using a Heckman selection type model, we examine

the wage growth experienced by the legalized population relative to their legal counterparts while accounting for the ongoing selection into employment. Specifically, we first model the likelihood of being employed in both time periods as a probit:

$$P\left(Employed\ 87,92_i = 1\right) = \Phi\left(\gamma' X_{i,t=2} + \psi LPS_i\right), \tag{4}$$

where the vector X includes the respondents' personal characteristics used in modeling their labor force statuses. Subsequently, the expected wage growth experienced by immigrant and native men and women is computed as:

$$E\left[\left(\ln wages_{i,t=2} - \ln wages_{i,t=1}\right) | Employed\ 87,92_i\right] = \theta' Z_{i,t=2} + \xi LPS_i + \vartheta\lambda_i + \nu_i, \tag{5}$$

where the Z includes most of the variables in X, with the exception of marital status and family size to properly identify the employment selection equation. Additionally, the vector Z incorporated information on the industry where respondents were employed. The scalar $\lambda = \frac{f(\gamma' X_i)}{F(\gamma' X_i)}$ represents the inverse Mill's ratio, with $f(.)$ and $F(.)$ standing for the standard normal density and distribution function, respectively. Equation (5) is estimated by maximum likelihood.

As with the previous analysis of changes in labor force status, we also examine the determinants of changes in wage growth for the LPS and the Hispanic NLSY79 samples before and after legalization of the LPS group. To that end, we estimate Heckman selection type models of the log real hourly wages earned by men and women in the LPS and NLSY79 samples in 1987 and in 1992, conditional on being employed in both periods. We then track changes in the coefficients of male and female respondents' skill proxies within each sample to assess the role of returns to skill as determinants of the wage growth experienced by LPS men and women before and after legalization.

6. Empirical Results

6.1. The Impact of IRCA on the Labor Force Status of the Legalized Population

Table 1 presents unadjusted estimates of the amnesty effect on the legalized population in the period surrounding the implementation of IRCA. For the years 1987 (pre-IRCA) and 1992 (post-IRCA), tabulations are presented for three separate labor market outcomes according to whether the individual is in the legalized sample (LPS) or in the already legal sample (NLSY79). Recall that this approach provides us with the difference-in-difference estimator of the "amnesty effect" described in equation (1).

According to the figures in Panel A and D from Table 1, the passage of IRCA was followed by statistically significant 6.9 and 6.5 percentage point reductions in the share of employed male and female immigrants, respectively. By contrast, the employment rate of men and women in the NLSY79 sample remained stable between 1987 and 1992 (dropping by 2.4 percentage points and increasing by half a percentage point, correspondingly). Across the target and control groups, the relative decline in employment turns out to be statistically significant at the 10 percent level for both men and women, for whom the difference-in-difference estimate is 4.5 and 7.1 percentage points, respectively. As such, it appears that amnesty resulted in a fall in employment for the legalized population relative to their already legal counterparts.

Regarding unemployment, shown in Panel B and Panel E from Table 1, changes and relative changes are only significant for men. The share of unemployed male immigrants rose by 5.3 percentage points over the period under consideration, meanwhile, the unemployment rose only 2.1 percentage points for native men and this increase is not significant. Since the difference in unemployment rates pre and post between the LPS and the NLSY79 samples is greater for men, it is not surprising that the difference-in-difference estimate is a positive and

significant 3.1 percentage points. That is, unemployment increased by 3 percentage points more for the male LPS sample following legalization relative to the male NLSY79 sample.

Lastly, the figures in Panels C and F reveal changes and relative changes in the share of the legalized population dropping out of the workforce. The share of the male legalized population dropping out of the workforce grew by 1.6 percentage points. However, because the share of Hispanic natives also grew by 0.2 percentage points, the difference-in-difference estimate does not turn out to be significantly different from zero for men. The share of women "not in the labor force" rose by 4.3 percentage points for the LPS sample while it decline by 2.1 percentage points among Hispanic natives. As such, we find that the difference-in-difference estimator is positive and significant. In particular, the share of legalized women "not in the labor force" grew by 6.5 percentage points relative to their already legal counterpart over the period surrounding the implementation of IRCA's amnesty provisions.

Altogether, the figures from Table 1 suggest that the amnesty program seems to have reduced employment and raised unemployment rates among the newly-legalized male population. For women, amnesty resulted in a lower employment rate and a greater propensity to be out of the labor force. Nonetheless, these results assume that immigrants in the LPS sample and their native counterparts in the NLSY79 are similar with respect to a myriad of personal characteristics. Therefore, we next estimate equation (2) for each of the three labor market outcomes in consideration to assess whether the amnesty effects are still observed after we account for individual observable and unobservable characteristics. Additionally, equation (2) includes interaction terms between education, experience and the dummy variable indicating a post-legalization observation to allow for changes over time in the returns to education and experience.

Tables 2A and 2B present the coefficients and marginal effects from the random-effects probit models estimated for each of the labor market outcomes being examined for men and women, correspondingly. Starting with the figures in Table 2A, the coefficients on the LPS term suggest that the legalized male population is more likely than their already legal counterparts to be employed and less likely to be unemployed or out of the workforce in the pre-legalization period (1987). This result is not surprising as the labor force participation rate is typically high and unemployment low for undocumented immigrants since an improved labor market experience is the predominant reason for migration decisions (Borjas and Tienda 1993). Therefore, just as suggested by the figures in Table 1, the amnesty program appears to have reduced the employment likelihood of legalized male immigrants by 5.4 percentage points while also raising their unemployment likelihood by 4.2 percentage points.

Turning to women, the figures in Table 2B reveal that the legalized female population is more likely than their already legal counterparts to be employed and less likely to be out of the workforce in the pre-period. However, once we account for individual observed and unobserved characteristics, control for the experiences of native women, as well as for changing returns to education and experience over the period under consideration, the amnesty program seems to have reduced the employment likelihood of legalized women by 12.3 percentage points and raised their likelihood of stepping out of the workforce by 7.7 percentage points.

Overall, the figures in Tables 1 through 2B provide insight into the likely impact that legalization may have had on the employment outcomes of the newly legalized immigrant population relative to those of their already legal counterparts. However, they do not show direct evidence of changing returns to skill as motivated by our conceptual framework.

In order to explore the possibilities of changing returns to skill, we estimate probit models of the likelihood of being employed, unemployed, or not in the labor force separately by gender, group (LPS or NLSY79), and year. What can explain who is more likely to be employed, unemployed, and not in the labor force before and after IRCA's amnesty provisions were implemented? As shown in Table 3B, LPS women enjoyed small returns to their educational attainment before legalization, whereas their Hispanic native counterparts experienced sizable benefits to additional schooling. For each year of schooling, LPS women were 1.5 percentage points more likely to be employed and 0.5 percentage points less likely to be unemployed (not shown). These effects are much smaller than those for the NLSY79, which experienced a 3.1 percentage point increase in the probability of being employed for each year of education and a 0.6 percentage point decline in the probability of being unemployed.

Following their legalization, LPS women became highly rewarded employment-wise for the ability to speak English. Specifically, immigrant women proficient in English were 11 percentage points more likely to be employed and 12 percentage points less likely to be out of the labor force than their counterparts lacking those English skills. Thus, legalization appears to have reinforced the work attachment of English proficient female workers. Native Hispanic women, however, enjoyed increased returns to educational attainment and work experience. Therefore, as often noted in the migration literature, education and experience are clear signs of human capital for natives, but not for their immigrant counterparts.

As their female counterparts, native Hispanic men enjoyed increasing returns to their educational attainment over the 1987-1992 period (see Table 3A); however, skill (as captured by education, experience or English proficiency) has no explanatory power in predicting the employment status of immigrant men both before and after their legalization. This finding

further corroborates the fact that education and work experience are rewarded differently for natives and immigrants. Furthermore, the fact that English proficiency is not as important in explaining the employment of men as compared to women may be due to a variety of factors. For instance, immigrant men are more likely to be at work than immigrant women. As such, English proficiency may not play as much of a crucial role in explaining male (relative to female) employment. Additionally, immigrant women may occupy service sector jobs where English proficiency may be more highly valued than in manufacturing jobs typically held by their male counterparts.

6.2. The Impact of IRCA on the Wage Growth of the Legalized Population

As depicted in Figure A, legalization may not have affected the employment status of some migrants. Yet, these individuals may have still seen an improvement in their wages and experienced a move to a higher indifference curve. To examine the validity of this hypothesis, we first compute a difference-in-difference estimate of the wage growth in the legalized and already legal samples between 1987 and 1992 in Table 4. According to these preliminary estimates, male and female hourly wages of the legalized population sample grew by a statistically significant 6.9 and 13.8 percent, respectively, during the period under consideration. In contrast, only the hourly wages of female natives seem to have significantly grown from 1987 to 1992 by approximately 7.1 percent. Nonetheless, the difference-in-difference estimates or relative increases in hourly wages are not statistically significant for men or women.

While informative, the figures in Table 4 fail to account for a wide variety of individual level characteristics possibly affecting workers' earnings as well as for the ongoing selection incurred when focusing on individuals employed in 1987 and 1992. Therefore, in Table 5, we display the results from estimating a Heckman selection type model of the wage growth

experienced by male and female LPS and NLSY79 workers employed in 1987 and in 1992. The likelihood-ratio test for the independence of the earnings and employment equations is reported at the bottom of Table 5. This test examines whether $\rho = 0$ and, therefore, compares the results from estimating the employment and the wage equations separately versus jointly. As indicated by the likelihood ratio test, the joint estimation of the two-equation Heckman selection model is recommended. Additionally, the sample selection correction term (i.e. lambda) is negative and statistically different from zero, signaling that respondents' unobservable characteristics positively linked to a higher wage growth are negatively correlated to those respondents' unobservable characteristics that make them more likely to be employed in both periods. In terms of wage growth, this result indicates that the sample is negatively selected.

The results from the bottom panel of Table 5 reveal some anticipated relationships between respondents' personal and work related characteristics and their employment status in 1987 and 1992. In particular, we find that older, married men, with smaller families and more years of experience are more likely to be employed in both periods than younger, single, and less experienced respondents with larger families. Similarly, older, educated women, with smaller families and more years of experienced are more likely to be at work in 1987 and 1992 than their younger, less educated and less experienced counterparts with larger families.

Did men and women in the LPS sample enjoy a greater wage growth than their comparison counterparts post legalization? According to the estimates in the upper panel of Table 5, wages grew 9.3 percent more for the LPS male respondents than for their male counterparts in the NLSY79 between 1987 and 1992. This figure implies an annualized growth rate of approximately 2 percent. Among women, this growth rate averaged 21 percent or about 4 percent per year. Consequently, the figures from Table 5 substantiate the transition depicted in

Figure A, suggesting that immigrants employed both pre and post legalization improved their well-being by reaching higher indifference curves.

What factors may lay behind the greater relative wage growth experienced by the LPS men and women? To address this question, Table 6 presents the coefficients on the skill variables (English proficiency, U.S. education, years of education, and years of experience) from Heckman selection type models for men and women before and after amnesty was implemented. After legalization, LPS men and women were more highly compensated for their educational attainment. However, language proficiency lost value after legalization. Since the vast majority of continuously employed immigrants in our sample entered the U.S. around the same time, English proficiency –a by-product of the duration of their migration spells– is likely to display limited variability and, consequently, play a lesser role in explaining differences in wage growth. Finally, the returns to work experience disappeared in the case of immigrant women after becoming legalized, whereas they increased among their male counterparts. In the meantime, work experience lost value among Hispanic native men between 1987 and 1992 and the returns to schooling slightly declined for both Hispanic native men and women over that time period. As such, while LPS men and women enjoyed increasing returns to their educational attainment after legalization, their Hispanic native counterparts experienced a slight decrease in their rewards to additional schooling. Likewise, while LPS men were enjoying increasing returns to their work experience after legalization, the returns to work experience vanished for their Hispanic native counterparts by 1992.

7. Summary and Conclusions

Undocumented immigration continues to be the focus of heated debate and amnesty remains as one of the policy options to reduce the large number of unauthorized immigrants in

the U.S. How would such a policy affect the labor market outcomes of undocumented immigrants? Would legalized migrants face an easier time coming 'out of the shadows', resulting in greater job mobility? Does legalization raise reservation wages (via a higher return to skill for skilled workers or via eligibility for public services for unskilled workers) and result in lower labor market participation? Which factors are more likely to be driving these trends? Finally, does legalization raise the wages earned by immigrants employed after legalization occurred?

We address these questions with an analysis of the impact that amnesty, a provision of the 1986 Immigration Reform and Control Act (IRCA), had on the labor market outcomes and wages of the legalized population. We use data from the Legalized Population Survey (LPS) and the National Longitudinal Survey of Youth (NLSY79) from 1987-1992 to develop a quasi-experimental framework to assess the differential impact of amnesty on the legalized population relative to a comparison group of U.S. natives. After taking into account any individual level heterogeneity, we find that employment rates fall and unemployment rates rose for the immigrant male population relative to the comparison group post legalization. Among women, legalization appears to have reduced employment rates and increased transitions out of the workforce as compared to similar natives. As such, legalization seems to have diminished the employment, unemployment, and out of the workforce disparities between undocumented immigrants and similar U.S. natives. Furthermore, legalization likely enhanced the wage growth of newly legalized men and women.

Our findings also suggest that legalization had a differential impact on the labor supply decisions and wages of immigrants according to their skill level and gender. Legalization seems to have raised the returns to English proficiency, which appears to have reinforced the work

attachment of English proficient women. Additionally, women in the LPS enjoyed increasing returns to their educational attainment after legalization, while their native Hispanic counterparts experienced a slight decline in the returns to additional years of schooling. Among men, we find that skill variables do not help explain the employment status of immigrant men before or after legalization. As their female counterparts, newly legalized men were better compensated for their educational attainment, while the wage returns to educational attainment among native Hispanic men declined in the post-IRCA period. Furthermore, newly legalized men enjoyed a higher return to their work experience after legalization, while the returns to work experience previously enjoyed by their Hispanic native counterparts disappeared by 1992.

In sum, although available data do not permit us to eliminate competing explanations entirely, our results suggest that the well-being of skilled immigrants may have improved via greater employment attachment among English proficient women and higher wages for employed men and women –possibly owing to a higher return to their educational attainment and, in the case of men, to their work experience.[8] For the less skilled, increased eligibility for social services may have resulted in a reduction in labor force participation. Indeed, while we are unable to assess changes in the usage of public services using the LPS, we find partial evidence of these transitions. Among men, transitions into unemployment increased post-legalization, perhaps owing to their new eligibility for UI. Likewise, transitions out of the workforce increased among female immigrants less proficient in English more likely to qualify for public services. Overall, amnesty may have improved labor market efficiency by increasing transparency, job mobility and the quality of job matches for some, while also reducing labor market participation of others.

[8] In this regard, Powers et al. (1998) document how most unauthorized immigrants found better jobs post IRCA than the ones they had secured upon arrival to the country.

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Table 1
Labor Market Outcomes for LPS and NLSY79 Samples in 1987 and 1992

MEN			
Panel A: Employed			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.960 (0.195)	0.891 (0.312)	-0.069 (0.014)***
NLSY	0.871 (0.335)	0.847 (0.361)	-0.024 (0.021)
Diff-in-diff	-	-	**-0.045 (0.025)***
Panel B: Unemployed			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.015 (0.121)	0.068 (0.252)	0.053(0.010)***
NLSY	0.056 (0.230)	0.079 (0.269)	0.022(0.015)
Diff-in-diff	-	-	**0.031 (0.018)***
Panel C: Not in the Labor Force			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.024 (0.155)	0.041 (0.203)	0.016 (0.009)*
NLSY	0.073 (0.260)	0.075 (0.263)	0.002 (0.016)
Diff-in-diff	-	-	**0.014 (0.018)**
WOMEN			
Panel D: Employed			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.729 (0.445)	0.664 (0.473)	-0.065 (0.029)**
NLSY	0.687 (0.464)	0.693 (0.462)	0.005 (0.028)
Diff-in-diff	-	-	**-0.071 (0.040)***
Panel E: Unemployed			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.038 (0.190)	0.059 (0.236)	0.021(0.013)
NLSY	0.056 (0.231)	0.072 (0.259)	0.016(0.015)
Diff-in-diff	-	-	**0.006 (0.020)**
Panel F: Not in the Labor Force			
	1987	**1992**	**Δ (1992-1987)**
LPS	0.233 (0.423)	0.277 (0.448)	0.043 (0.027)
NLSY	0.256 (0.437)	0.235 (0.424)	-0.021 (0.026)
Diff-in-diff	-	-	**0.065 (0.037)***

Notes: Standard errors are in parentheses. *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better.

Table 2A
Random Effects Probit Estimates of the Effect of Legalization on Male Labor Market Outcomes

Dependent Variable	**Employed**			**Unemployed**			**Not in the Labor Force**		
Independent Variables	**Coeff.**	**S.E.**	**M.E.**	**Coeff.**	**S.E.**	**M.E.**	**Coeff.**	**S.E.**	**M.E.**
Age	-0.004	0.022	0.000	-0.029	0.028	-0.001	0.031	0.027	0.002
Married	0.552***	0.096	0.068	-0.439***	0.122	-0.024	-0.489***	0.116	-0.028
Family Size	-0.079***	0.021	-0.009	0.044*	0.026	0.002	0.089***	0.025	0.005
Mexican	-0.081	0.104	-0.009	0.302**	0.133	0.014	-0.161	0.124	-0.008
Education	-0.003	0.022	0.000	-0.013	0.031	-0.001	0.006	0.026	0.000
U.S. Education	0.126	0.195	0.014	-0.252	0.258	-0.012	0.044	0.229	0.002
English Proficient	0.022	0.127	0.002	-0.015	0.152	-0.001	-0.054	0.165	-0.003
Years of Experience	-0.036	0.026	-0.004	0.048	0.034	0.002	0.017	0.029	0.001
South	-0.096	0.161	-0.011	0.013	0.191	0.001	0.163	0.210	0.009
West	-0.154	0.138	-0.017	-0.014	0.164	-0.001	0.290	0.183	0.015
North East	-0.447***	0.182	-0.065	0.426*	0.223	0.029	0.385*	0.227	0.027
Post Legalization	**-1.093****	**0.459**	**-0.130**	**0.501**	**0.591**	**0.025**	**1.261****	**0.562**	**0.077**
LPS	**0.719*****	**0.219**	**0.090**	**-0.833*****	**0.308**	**-0.050**	**-0.475***	**0.250**	**-0.027**
LPS*Post Legalization	**-0.421****	**0.179**	**-0.054**	**0.642*****	**0.242**	**0.042**	**0.135**	**0.219**	**0.007**
Education*Post Legalization	0.029	0.025	0.003	0.005	0.034	0.000	-0.042	0.031	-0.002
Years of Experience*Post Legalization	0.063**	0.030	0.007	-0.033	0.039	-0.002	-0.079**	0.037	-0.004
Number of Observations		2540			2540			2540	
Number of Groups		1270			1270			1270	
Wald Chi2(16)		98.22			44.47			59.16	
Prob > Chi2		0.000			0.000			0.000	
Log Likelihood		-765.341			-483.806			-462.475	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The regressions include a constant.

Table 2B
Random Effects Probit Estimates of the Effect of Legalization on Female Labor Market Outcomes

Dependent Variable	**Employed**			**Unemployed**			**Not in the Labor Force**		
Independent Variables	**Coeff.**	**S.E.**	**M.E.**	**Coeff.**	**S.E.**	**M.E.**	**Coeff.**	**S.E.**	**M.E.**
Age	-0.035	0.022	-0.011	-0.004	0.023	-4.27E-04	0.038*	0.023	0.009
Married	-0.141	0.092	-0.042	-0.268***	0.102	-0.027	0.311***	0.097	0.074
Family Size	-0.117***	0.024	-0.036	0.035	0.026	0.003	0.121***	0.025	0.030
Mexican	-0.054	0.104	-0.016	0.209*	0.114	0.020	-0.043	0.106	-0.011
Education	0.081***	0.021	0.025	-0.050*	0.026	-0.005	-0.067***	0.021	-0.017
U.S. Education	-0.092	0.213	-0.028	-0.069	0.238	-0.007	0.160	0.215	0.039
English Proficient	0.243*	0.128	0.077	0.022	0.154	0.002	-0.260**	0.131	-0.068
Years of Experience	0.041*	0.022	0.013	0.004	0.026	3.56E-04	-0.046**	0.022	-0.011
South	0.256*	0.157	0.074	-0.172	0.171	-0.015	-0.191	0.159	-0.045
West	0.094	0.137	0.029	0.003	0.145	2.94E-04	-0.100	0.139	-0.025
North East	-0.179	0.189	-0.057	0.224	0.194	0.025	0.082	0.194	0.021
Post Legalization	**-0.049**	**0.390**	**-0.015**	**-0.418**	**0.536**	**-0.040**	**0.231**	**0.400**	**0.057**
LPS	**0.636*** **	**0.232**	**0.190**	**-0.436**	**0.282**	**-0.041**	**-0.495** **	**0.234**	**-0.121**
LPS*Post Legalization	**-0.378** **	**0.165**	**-0.123**	**0.331**	**0.232**	**0.037**	**0.288***	**0.171**	**0.077**
Education*Post Legalization	-0.031	0.023	-0.009	0.056*	0.032	0.005	0.009	0.023	0.002
Years of Experience*Post Legalization	0.039	0.024	0.012	-0.011	0.034	-0.001	-0.038	0.025	-0.009
Number of Observations		2144			2144			2144	
Number of Groups		1072			1072			1072	
Wald Chi2(16)		84.22			22.9			84.81	
Prob > Chi2		0.000			0.1164			0.000	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The regressions include a constant. The regional reference category is North Central.

Table 3A
The Role of Returns to Human Capital as Determinants of Male Employment and Unemployment Statuses

Independent Variables	LPS						NLSY79					
	1987			1992			1987			1992		
	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.
Employed												
English Proficient	-0.178	0.188	-0.014	0.185	0.131	0.033	-	-	-	-	-	-
U.S. Education	0.293	0.263	0.020	0.102	0.190	0.018	-	-	-	-	-	-
Education	-0.043	0.027	-0.004	-0.005	0.015	-0.001	**0.074***	0.041	0.014	**0.113*****	0.035	0.023
Years of Experience	-0.055	0.040	-0.005	0.028	0.030	0.005	0.003	0.030	0.001	0.013	0.030	0.003
Number of Observations		678			735			535			535	
Regression Fit Statistics												
LR Chi2(20)		16.14			13.45			33.97			53.11	
Prob > Chi2		0.096			0.265			0.000			0.000	
Unemployed												
English Proficient	0.408	0.277	0.011	-0.169	0.149	-0.021	-	-	-	-	-	-
U.S. Education	-0.168	0.387	-0.004	-0.243	0.235	-0.027	-	-	-	-	-	-
Education	0.012	0.038	0.000	-0.002	0.015	0.000	-0.067	0.040	-0.006	-0.039	0.039	-0.004
Years of Experience	**0.086***	0.048	0.002	-0.015	0.031	-0.002	0.026	0.039	0.002	0.045	0.034	0.005
Number of Observations		678			735			535			535	
Regression Fit Statistics												
LR Chi2(20)		26.91			735			535			535	
Prob > Chi2		0.003			0.524			0.001			0.001	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The regressions include a constant, information on respondents' age, marital status, family size, Mexican ethnicity and region of residence in the U.S.

Table 3B
The Role of Returns to Human Capital as Determinants of Female Employment and Unemployment Statuses

Independent Variables	LPS						NLSY79					
	1987			1992			1987			1992		
	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.	Coeff.	S.E.	M.E.
Employed												
English Proficient	0.098	0.143	0.031	**0.304****	0.128	0.108	-	-	-	-	-	-
U.S. Education	-0.130	0.194	-0.043	0.070	0.192	0.025	-	-	-	-	-	-
Education	**0.046****	0.020	0.015	0.004	0.016	0.001	**0.090*****	0.031	0.031	**0.107*****	0.029	0.037
Years of Experience	0.032	0.026	0.010	0.016	0.024	0.006	0.019	0.022	0.007	**0.092*****	0.023	0.032
Number of Observations		506			506			566			566	
Regression Fit Statistics												
LR Chi2(20)		50.57			24.94			32.20			43.19	
Prob > Chi2		0.000			0.009			0.000			0.000	
Not in the Labor Force												
English Proficient	-0.087	0.148	-0.025	**-0.366*****	0.135	-0.116	-	-	-	-	-	-
U.S. Education	0.131	0.204	0.039	0.002	0.202	0.001	-	-	-	-	-	-
Education	-0.029	0.021	-0.008	-0.008	0.017	-0.003	**-0.078****	0.031	-0.025	**-0.132*****	0.031	-0.039
Years of Experience	-0.029	0.026	-0.008	-0.018	0.025	-0.006	-0.026	0.023	-0.008	**-0.091*****	0.024	-0.027
Number of Observations		506			506			566			566	
Regression Fit Statistics												
LR Chi2(20)		47.94			32.13			26.17			49.42	
Prob > Chi2		0.000			0.001			0.002			0.000	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The regressions include a constant, information on respondents' age, marital status, family size, Mexican ethnicity and region of residence in the U.S.

Table 4
Wages (1987-1992): Legalized Population Survey (LPS) vs. National Longitudinal Survey of Youth (NLSY79)

MEN			
Panel A: Log Real Hourly Wages			
	1987	**1992**	**Δ (1992-1987)**
LPS	2.000 (0.371)	2.086 (0.377)	0.069 (0.022)***
NLSY	2.186 (0.436)	2.241 (0.430)	0.048 (0.032)
Diff-in-diff	-	-	**0.021 (0.039)**
WOMEN			
Panel A: Log Real Hourly Wages			
	1987	**1992**	**Δ (1992-1987)**
LPS	1.786 (0.364)	1.918 (0.393)	0.138 (0.034)***
NLSY	2.121 (0.409)	2.207 (0.416)	0.071 (0.034)**
Diff-in-diff	-	-	**0.067 (0.048)**

Notes: Standard errors are in parentheses. *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better.

Table 5
Wage Growth Estimates for Respondents Working in 1987 and in 1992

Group	**MEN**		**WOMEN**	
Main Equation	**Coefficient**	**S.E.**	**Coefficient**	**S.E.**
Age	-0.019**	0.008	-0.027***	0.010
Mexican	0.031	0.029	-0.024	0.040
Education	-0.002	0.004	-0.009	0.007
U.S. Education	0.027	0.052	0.093	0.084
English Proficient	0.058*	0.034	0.051	0.055
Years of Experience	-0.010	0.006	-0.031***	0.010
Agriculture & Mining	-0.114**	0.057	-0.084	0.158
Construction	0.020	0.046	-0.257	0.318
Manufacturing	0.052	0.032	-0.019	0.051
TCPU	0.070	0.051	0.129	0.109
FIRE	0.054	0.091	0.010	0.072
Business Services	0.072	0.055	-0.065	0.087
Personal Services	-0.103	0.069	0.005	0.063
Recreational Services	-0.160	0.158	-0.252**	0.109
Professional Services	0.142***	0.057	0.031	0.055
Public Administration	0.111*	0.061	0.072	0.082
South	-0.040	0.041	0.052	0.056
West	0.005	0.032	0.019	0.047
North East	0.046	0.063	0.032	0.076
LPS	**0.093***	**0.054**	**0.210****	**0.090**

Group	**MEN**			**WOMEN**		
Selection Equation	**Coefficient**	**S.E.**	**M.E.**	**Coefficient**	**S.E.**	**M.E.**
Age	0.128***	0.015	0.045	0.088***	0.015	0.031
Married	0.433***	0.077	-0.053	-0.079	0.068	-0.018
Family Size	-0.033**	0.015	0.006	-0.081***	0.022	0.020
Mexican	-0.154*	0.081	0.032	-0.052	0.078	-0.017
Education	0.019	0.012	-0.031	0.057***	0.011	-0.013
U.S. Education	0.091	0.123	0.030	-0.048	0.139	0.042
English Proficient	-0.090	0.078	-0.054	-0.036	0.097	0.055
Years of Experience	0.087***	0.017	-0.066	0.119***	0.013	0.031
South	-0.152	0.127	-0.180	0.152	0.117	-0.054
West	-0.191*	0.102	0.062	0.088	0.102	0.004
North East	-0.481***	0.148	0.154	-0.157	0.142	-0.028
LPS	0.177	0.137	-0.012	0.012	0.144	-0.029
Lambda	-0.190***	0.076	-	-0.335***	0.080	-
Number of Observations		1366			1485	
Censored Observations		444			964	
Wald Test of Independence of Equations: (Rho=0)		Chi2(1) = 5.72 Prob>Chi2 = 0.017			Chi2(1) = 16.90 Prob>Chi2 = 0.000	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The regressions include a constant. North Central and Wholesale and Retail Trade are used as reference.

Table 6
The Role of Returns to Human Capital as Determinants of Male and Female Log Hourly Wages

Independent Variables	LPS				NLSY79			
	1987		1992		1987		1992	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
MEN								
English Proficient	0.111***	0.034	-0.010	0.030	-	-	-	-
U.S. Education	0.000	0.046	0.042	0.047	-	-	-	-
Education	0.016***	0.004	0.019***	0.004	0.051***	0.012	0.039***	0.011
Years of Experience	0.011	0.008	0.026***	0.007	0.031***	0.009	0.010	0.009
Lambda	-0.270***	0.061	-0.308***	0.031	-0.344***	0.060	-0.423***	0.041
Number of Observations	709		686		507		494	
Censored Observations	100		100		122		122	
Wald Test of Independence of Equations: (Rho=0)	Chi2(1) = 12.01 Prob>Chi2 = 0.001		Chi2(1) = 42.01 Prob>Chi2 = 0.000		Chi2(1) = 17.02 Prob>Chi2 = 0.001		Chi2(1) = 36.88 Prob>Chi2 = 0.001	
WOMEN								
English Proficient	0.113**	0.049	-0.028	0.049	-	-	-	-
U.S. Education	-0.027	0.067	0.038	0.075	-	-	-	-
Education	0.024***	0.008	0.032***	0.007	0.052***	0.015	0.050***	0.016
Years of Experience	0.018*	0.011	0.004	0.008	-0.018	0.012	-0.019	0.013
Lambda	0.289***	0.105	0.135	0.172	-0.389***	0.079	-0.388***	0.071
Number of Observations	487		483		550		546	
Censored Observations	230		230		252		252	
Wald Test of Independence of Equations: (Rho=0)	Chi2(1) = 6.06 Prob>Chi2 = 0.0134		Chi2(1) = 0.59 Prob>Chi2 = 0.444		Chi2(1) = 14.02 Prob>Chi2 = 0.000		Chi2(1) = 20.12 Prob>Chi2 = 0.000	

Notes: *** Signifies statistically different from zero at the 1 percent level or better, **signifies statistically different from zero at the 5 percent level or better and *signifies statistically different from zero at the 10 percent level or better. The employment and wage equations include a constant, information on respondents' age, Mexican ethnicity and region of residence in the U.S. The main equation also includes information on the industry of employment. For identification purposes, only the employment selection equation includes information on marital status and family size.

Appendix Tables

Table A
Definitions of Variables in Our Samples

Variables	LPS	NLSY79
Age	Respondent's age	Respondent's age
Married	Currently married	Currently married
Family Size	Number of people in the family	Number of people in the family
Mexican	Mexican dummy	Mexican dummy
Education	Years of Schooling	Years of Schooling
U.S. Education	Equals 1 if they have taken English classes, excluding the 40 hours of English courses you may have taken to qualify for permanent residence.	Equals 1 for NLSY79 respondents
English Proficient	Can do all the following tasks: read newspapers, magazines, or recipes written in English and to speak English with sales clerks, doctors, nurses, teachers as well as on the telephone.	Equals 1 for NLSY79 respondents.
Years of Experience	Years of U.S. work experience	Years of U.S. work experience
Agriculture & Mining	Agriculture, Forestry, Fisheries and Mining	Agriculture, Forestry, Fisheries and Mining
Construction	Construction	Construction
Manufacturing	Manufacturing	Manufacturing
TCPU	Transportation, Communication, Public Utilities	Transportation, Communication, Public Utilities
FIRE	Finance, insurance and real estate	Finance, insurance and real estate
Business Services	Business and repair services	Business and repair services
Personal Services	Personal services	Personal services
Recreational Services	Entertainment and recreation services	Entertainment and recreation services
Professional Services	Professional and related services	Professional and related services
Public Administration	Public Administration	Public Administration
Trade	Wholesale and retail trade	Wholesale and retail trade
South	Job located in Texas	Census Region (including TX)
West	Job located in California	Census Region (including CA)
North East	Job located in New York	Census Region (including NY)
North Central	Job located in Illinois	Census Region (including IL)
Log Hourly Wage	Weekly (pay/hours worked) in 1992 dollars	Hourly rate of pay in 1992 dollars
Employed	Employed during the previous week	Employed during the survey week
Unemployed	Unemployed during the previous week	Unemployed during the previous week
Not in the Labor Force	Not in the labor force during the previous week	Not in the labor force during the previous week

Table B
Male Means and Standard Deviations

Sample	**LPS**				**NLSY79**			
Time Periods	**Pre-Legalization**		**Post-Legalization**		**Pre-Legalization**		**Post-Legalization**	
Descriptive Statistic	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
For All Respondents:								
Age	26.648	2.265	31.648	2.265	26.815	2.192	30.753	2.187
Married	0.629	0.483	0.790	0.408	0.449	0.498	0.535	0.499
Family Size	3.601	2.079	4.486	2.344	3.252	1.924	3.308	1.720
Mexican	0.641	0.480	0.641	0.480	0.572	0.495	0.572	0.495
Education	8.411	3.591	8.830	4.039	12.093	2.188	12.265	2.339
U.S. Education	0.107	0.309	0.107	0.309	1.000	0.000	1.000	0.000
English Proficient	0.509	0.500	0.541	0.499	1.000	0.000	1.000	0.000
Years of Experience	7.334	2.220	12.334	2.220	7.467	2.766	11.467	2.766
South	0.142	0.349	0.139	0.346	0.316	0.465	0.320	0.467
West	0.596	0.491	0.589	0.492	0.458	0.499	0.456	0.499
North East	0.060	0.238	0.055	0.228	0.163	0.369	0.164	0.371
North Central	0.082	0.274	0.085	0.279	0.064	0.244	0.060	0.237
Employed	0.965	0.184	0.888	0.315	0.871	0.335	0.847	0.361
Unemployed	0.015	0.122	0.070	0.256	0.056	0.230	0.079	0.269
Not in the Labor Force	0.020	0.140	0.042	0.200	0.073	0.260	0.075	0.263
For Working Respondents:								
Log Hourly Wage	2.000	0.370	2.082	0.379	2.187	0.440	2.242	0.430
Agriculture & Mining	0.061	0.239	0.059	0.236	0.053	0.224	0.042	0.200
Construction	0.127	0.333	0.124	0.329	0.072	0.260	0.086	0.281
Manufacturing	0.296	0.457	0.252	0.435	0.234	0.424	0.220	0.415
TCPU	0.032	0.177	0.052	0.223	0.106	0.308	0.095	0.293
FIRE	0.020	0.141	0.017	0.129	0.028	0.165	0.033	0.180
Business Services	0.088	0.284	0.088	0.284	0.092	0.289	0.103	0.304
Personal Services	0.042	0.201	0.069	0.254	0.025	0.157	0.022	0.148
Recreational Services	0.014	0.116	0.012	0.108	0.014	0.117	0.014	0.117
Professional Services	0.022	0.147	0.029	0.167	0.078	0.269	0.095	0.293
Public Administration	0.002	0.041	0.007	0.082	0.092	0.289	0.075	0.264
Trade	0.296	0.457	0.291	0.455	0.206	0.405	0.214	0.411

Table C
Female Means and Standard Deviations

Sample	**LPS**				**NLSY79**			
Time Periods	**Pre-Legalization**		**Post-Legalization**		**Pre-Legalization**		**Post-Legalization**	
Descriptive Statistic	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
For All Respondents:								
Age	27.069	2.159	32.069	2.159	26.809	2.267	30.754	2.278
Married	0.694	0.461	0.775	0.418	0.527	0.500	0.558	0.497
Family Size	4.050	1.898	4.694	1.983	3.511	1.769	3.615	1.657
Mexican	0.581	0.494	0.581	0.494	0.569	0.496	0.569	0.496
Education	8.085	3.633	8.507	3.868	12.429	2.031	12.627	2.142
U.S. Education	0.085	0.280	0.085	0.280	1.000	0.000	1.000	0.000
English Proficient	0.400	0.491	0.445	0.498	1.000	0.000	1.000	0.000
Years of Experience	6.938	2.497	11.938	2.497	7.263	2.907	11.263	2.907
South	0.137	0.345	0.130	0.337	0.316	0.465	0.334	0.472
West	0.626	0.485	0.626	0.485	0.426	0.495	0.419	0.494
North East	0.047	0.213	0.047	0.213	0.166	0.372	0.157	0.364
North Central	0.088	0.283	0.085	0.280	0.092	0.289	0.090	0.287
Employed	0.709	0.455	0.652	0.477	0.687	0.464	0.693	0.462
Unemployed	0.040	0.197	0.062	0.241	0.057	0.231	0.072	0.259
Not in the Labor Force	0.251	0.434	0.287	0.453	0.256	0.437	0.235	0.424
For Working Respondents:								
Log Hourly Wage	1.774	0.368	1.916	0.394	2.124	0.408	2.206	0.417
Agriculture & Mining	0.008	0.090	0.012	0.110	0.021	0.144	0.021	0.144
Construction	0.000	0.000	0.000	0.000	0.004	0.059	0.007	0.084
Manufacturing	0.316	0.466	0.263	0.441	0.102	0.303	0.112	0.316
TCPU	0.016	0.126	0.016	0.126	0.053	0.224	0.063	0.244
FIRE	0.020	0.141	0.036	0.188	0.151	0.359	0.158	0.365
Business Services	0.061	0.239	0.032	0.177	0.053	0.224	0.028	0.165
Personal Services	0.255	0.437	0.219	0.414	0.032	0.175	0.032	0.175
Recreational Services	0.016	0.126	0.012	0.110	0.018	0.132	0.007	0.084
Professional Services	0.097	0.297	0.142	0.349	0.291	0.455	0.281	0.450
Public Administration	0.000	0.000	0.008	0.090	0.077	0.267	0.095	0.293
Trade	0.211	0.409	0.259	0.439	0.200	0.401	0.196	0.398

Illustration of the Impact of Legalization on Employment

Figure A: Remaining Employed

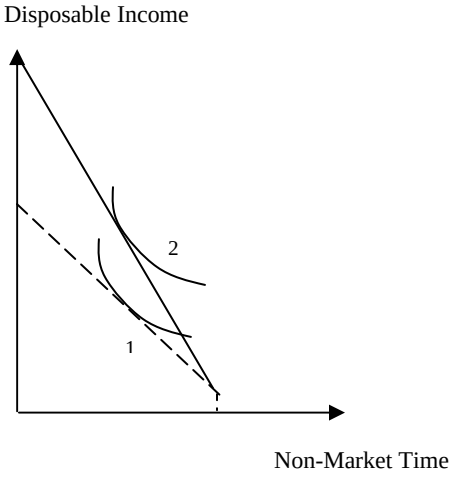


Figure B: Unemployment – UI

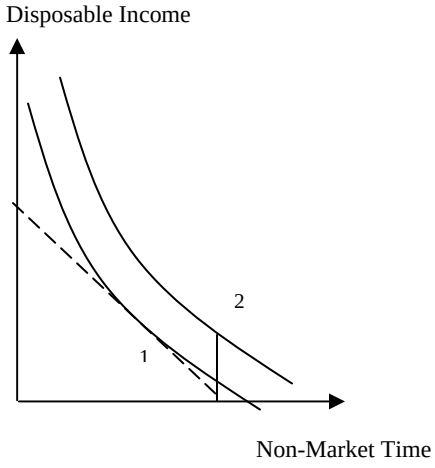
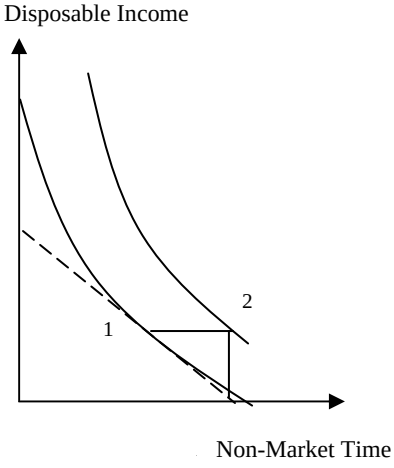
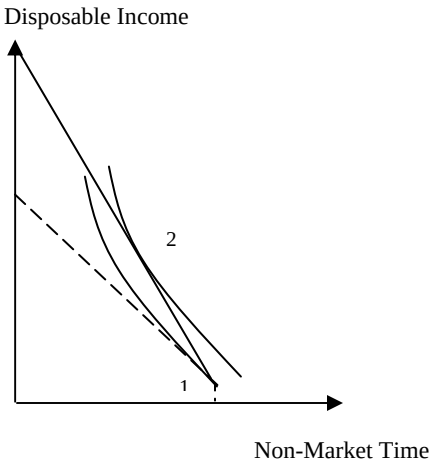


Figure B: Unemployment -- AFDC



Note: Dotted lines represent the budget constraint prior to Legalization. Solid lines represent the budget constraint post Legalization.

Figure C: Becoming Employed



Note: Dotted lines represent the budget constraint prior to Legalization. Solid lines represent the budget constraint post Legalization.