Gender Differences in the Labor Market: Impact of IRCA's Amnesty Provisions

By CATALINA AMUEDO-DORANTES, CYNTHIA BANSAK, AND STEVEN RAPHAEL*

How to address the current record-high number of unauthorized workers within our borders has been a hotly debated topic. Although a number of studies have examined the effect of employer sanctions (Bansak and Raphael 2001; Deborah A. Cobb-Clark, Clinton R. Shields, and B. Lindsey Lowell 1995) and border enforcement (Pia Orrenius and Madeline Zavodny 2003), only a handful have examined the impact of amnesty on newly legalized immigrants (Sherrie A. Kossoudji and Deborah A. Cobb-Clark 2002; Neeraj Kaushal 2006). While amnesty is being considered a current solution to immigration concerns, the impact of past amnesty programs on the labor market outcomes and economic well-being of immigrants has not been documented widely, and the analysis has been limited largely 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. The analysis is carried out by gender to address male and female differences in labor supply and earnings. Legalization was intended to bring undocumented workers "out of the shadows," which may have affected their well-being by reducing workplace vulnerabilities, increasing job mobility, and improving working conditions (Sherrie A. Kossoudji and Cobb-Clark 2002). Using data from the Legalized Population Survey (LPS) and a comparison sample from the 1979 National Longitudinal Survey of Youth (NLYS79), we develop a quasi-experimental framework to assess the impact of IRCA's amnesty provisions on the legalized population.

* Amuedo-Dorantes: Department of Economics, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182 (e-mail: camuedod@mail.sdsu.edu); Bansak: Department of Economics, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182 (e-mail: cbansak@mail.sdsu.edu); Raphael: Goldman School of Public Policy, University of California, Berkeley, 2607 Hearst Ave., Berkeley, CA 94720 (e-mail: raphael@socrates.berkeley.edu).

I. Theoretical Predictions Regarding the Labor Market Impact of Amnesty

According to the neoclassical model of labor-leisure choice (Mark R. Killingsworth 1983), legalization can affect the labor supply decisions of immigrants differently depending on their skill level. We distinguish three scenarios.

• *Staying Employed, but Earning Higher Wages.* Legalization may increase immigrants' reservation wage through the introduction of new work opportunities. This is likely to raise market wages, particularly among skilled immigrants, who may negotiate higher pay or move to a better paying job.

• *Exiting Employment.* Higher returns to skill and eligibility for unemployment insurance following legalization may raise the reservation wage of skilled workers, who may choose to search longer for a good job match. Likewise, new eligibility for social services may reduce the employment likelihood of legalized unskilled immigrants with lower earnings.

• *Entering Employment.* Higher returns to skill after legalization may induce some previously nonworking immigrants to become employed.

The theory would predict that wages would rise for women and men employed before and after legalization. Because immigrant men are comparatively more skilled than women,[1] men may be more likely to exit employment in search of better jobs, whereas women may be more likely to exit the workforce, particularly if they are secondary household earners and their spouses' earnings have increased after

[1] Men in the LPS have 8.4 years of education and 7.3 years of work experience. Fifty-one percent of them are proficient in English. In contrast, their female counterparts have 8.1 years of education and 6.9 years of work experience, and only 40 percent of them can read and speak English fluently.

legalization, and qualify for public assistance.[2] Lastly, the entry into employment should be small for both men and women.

II. Data

We use data from two longitudinal surveys to examine the impact of legalization under IRCA's main amnesty program on the labor market outcomes of newly legalized immigrants, while controlling for macroeconomic conditions in a quasi-experimental design that largely follows that of Kossoudji and Cobb-Clark (2002). Authorized by Congress, the LPS is the only nationally representative dataset designed to analyze the impact of IRCA's main amnesty program on the legalized population. A total of 6,193 individuals were selected randomly and interviewed in 1989 about their labor force status when they were applying for legalization in 1987. Two-thirds of these respondents were granted lawful permanent residence and reinterviewed in 1992. These two surveys form the longitudinal LPS panel, which we utilize for this study.

For our analysis, we need a comparison group that allows us to separate the impact of business and life-cycle effects from that of IRCA's amnesty program.[3] Ideally, we would like to use a randomly selected group of undocumented immigrants similar to the target group, but ineligible for, and unaffected by, the generalized amnesty. This is not possible since IRCA affected undocumented immigrants who obtained legal status as well as those who did not (Bansak and Raphael 2001; Kaushal 2006). Therefore, following Kossoudji and Cobb-Clark (2002), we select a sample of 1,200 Hispanic natives in the same age range from the 1987 and 1992 rounds of the NLSY79. This group has similar family size, work experience, gender composition, and geographic composition to the LPS sample.[4]

[2] A higher percentage of LPS women receive school lunches, food donations, Aid for Families with Dependent Children, child support, and food stamps. In contrast, a higher fraction of LPS men receive unemployment insurance and workers compensation.

[3] Notably, the economy experienced a recession between July 1990 and March 1991.

[4] The NLSY79 is a nationally representative sample of 12,686 civilian men and women age 14 to 21 as of December 31, 1978. Because of sample restrictions, respondents in the LPS and NLSY79 are also similar in ethnicity (more than half in both samples are of Mexican origin) and US region of residence (both samples are concentrated in the West and South).

III. Methodology

Assuming that unmeasured factors contemporaneous to IRCA have the same impact on the labor market outcomes of the legalized population and Hispanic native population, an unadjusted difference-in-difference estimate of the labor market impact of IRCA is given by

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

where L^i_j is the labor market outcome by group j in time period i (A = post-legalization or 1992, and B = prelegalization or 1987). An adjusted difference-in-difference estimate that accounts for differences in observable and unobservable individual characteristics can be derived from

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

where Φ stands for the normal cumulative density function, i indexes individuals, and t indexes time. Equation (2) can be estimated as a random-effects probit, where L represents the labor market outcome in question, and LPS and $Post87$ are dummy variables signaling LPS and post-legalization observations, respectively. The marginal effect of the interaction term measures the extent to which the change in labor market outcomes experienced by the legalized population differs from the change experienced by Hispanic natives between 1987 and 1992. Finally, in addition to personal characteristics and regional controls, the vector X includes interaction terms between the $Post87$ dummy and years of schooling and US work experience to allow for changes over time in the returns to education and experience.

Because most immigrants work (George Borjas and Marta Tienda 1993), some newly legalized immigrants may not have experienced a change in labor market status, yet their wages may have changed. Kossoudji and Cobb-Clark (2002) examine the impact of legalization on the wages earned by immigrants in the LPS, concluding the determinants of wage changes after legalization. Their analysis is restricted to men, however. In this paper, we compute an unadjusted

TABLE 1—UNADJUSTED ESTIMATES OF IRCA'S AMNESTY PROVISIONS ON LABOR MARKET OUTCOMES

	Men			Women		
	1987	1992	Δ (1992–1987)	1987	1992	Δ (1992–1987)
Panel A: Employed				*Panel E: Employed*		
LPS	0.960	0.891	−0.069***	0.729	0.664	−0.065**
	(0.195)	(0.312)	(0.014)	(0.445)	(0.473)	(0.029)
NLSY	0.871	0.847	−0.024	0.687	0.693	0.005
	(0.335)	(0.361)	(0.021)	(0.464)	(0.462)	(0.028)
Diff-in-diff	—	—	**−0.045***	Diff-in-diff	—	—	**−0.071***
			(0.025)				**(0.040)**
Panel B: Unemployed				*Panel F: Unemployed*		
LPS	0.015	0.068	0.053***	LPS	0.038	0.059	0.021
	(0.121)	(0.252)	(0.010)		(0.190)	(0.236)	(0.013)
NLSY	0.056	0.079	0.022	NLSY	0.056	0.072	0.016
	(0.230)	(0.269)	(0.015)		(0.231)	(0.259)	(0.015)
Diff-in-diff	—	—	**0.031***	Diff-in-diff	—	—	**0.006**
			(0.018)				**(0.020)**
Panel C: Not in the labor force				*Panel G: Not in the labor force*		
LPS	0.024	0.041	0.016*	LPS	0.233	0.277	0.043
	(0.155)	(0.203)	(0.009)		(0.423)	(0.448)	(0.027)
NLSY	0.073	0.075	0.002	NLSY	0.256	0.235	−0.021
	(0.260)	(0.263)	(0.016)		(0.437)	(0.424)	(0.026)
Diff-in-diff	—	—	**0.014**	Diff-in-diff	—	—	**0.065***
			(0.018)				**(0.037)**
Panel D: Log real hourly wages				*Panel H: Log real hourly wages*		
LPS	2.000	2.086	0.069***	LPS	1.786	1.918	0.138***
	(0.371)	(0.377)	(0.022)		(0.364)	(0.393)	(0.034)
NLSY	2.186	2.241	0.048	NLSY	2.121	2.207	0.071**
	(0.436)	(0.430)	(0.032)		(0.409)	(0.416)	(0.034)
Diff-in-diff	—	—	**0.021**	Diff-in-diff	—	—	**0.067**
			(0.039)				**(0.048)**

Note: Standard errors are in parentheses and wages are in 1992 constant dollars.
*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

difference-in-difference estimate of the amnesty impact on log real hourly wages of men and women. Subsequently, we examine the wage growth experienced by the legalized population relative to their legal counterparts using a (James J.) Heckman (1979) selection type model that accounts for the inherent sample selection when focusing on working respondents.[5]

IV. Results

Table 1 presents unadjusted estimates of the amnesty effect on the legalized population in the period surrounding the implementation of IRCA by gender. According to the figures in panel A of Table 1, employment rates among the legalized male population dropped by 4.5 percentage points more than among their already legal counterparts. Meanwhile, panel B shows that unemployment rates increased 3 percentage points more for the male LPS sample following legalization relative to the male NLSY79 sample. After accounting for respondents' observable and unobservable characteristics in the random-effects probit models, our results in Table 2, panel A, suggest that IRCA's amnesty provisions reduced the employment likelihood of legalized male immigrants by 5.4 percentage points while also raising their unemployment likelihood by 4.2 percentage points.

For the LPS women, employment rates decreased by 7.1 percentage points and the share

[5] Identification is achieved by including marital status and family size in the employment selection equation and excluding them from the main wage equation.

TABLE 2—ADJUSTED ESTIMATES OF IRCA'S AMNESTY PROVISIONS ON LABOR MARKET OUTCOMES

	Men					
Panel A: Estimates from random effects probit model						
	Employed		Unemployed		Not in the labor force	
Independent Variables	**Coeff. (S.E.)**	**M.E.**	**Coeff. (S.E.)**	**M.E.**	**Coeff. (S.E.)**	**M.E.**
Post legalization	−1.093**	−0.130	0.501	0.025	1.261**	0.077
	(0.459)		(0.591)		(0.562)	
LPS	0.719***	0.090	−0.833***	−0.050	−0.475*	−0.027
	(0.219)		(0.308)		(0.250)	
LPS*Post legalization	−0.421**	−0.054	0.642***	0.042	0.135	0.007
	(0.179)		(0.242)		(0.219)	
Observations (groups)	2540 (1270)					
Panel B: Wage growth estimates from Heckman selection model						
Independent variables	**Coefficient**				**Standard error**	
LPS	0.093*				0.054	
λ	−0.190***				0.076	
Wald test of $\rho = 0$			Chi2(1) 5.72			
Observations (censored)			1366 (444)			
	Women					
Panel C: Estimates from random effects probit model						
Independent variables	**Employed**		**Unemployed**		**Not in the labor force**	
	Coeff. (S.E.)	**M.E.**	**Coeff. (S.E.)**	**M.E.**	**Coeff. (S.E.)**	**M.E.**
Post legalization	−0.049	−0.015	−0.418	−0.040	0.231	0.057
	(0.390)		(0.536)		(0.400)	
LPS	0.636***	0.190	−0.436	−0.041	−0.495**	−0.121
	(0.232)		(0.282)		(0.234)	
LPS*Post legalization	−0.378**	−0.123	0.331	0.037	0.288*	0.077
	(0.165)		(0.232)		(0.171)	
Observations (groups)	2144 (1072)					
Panel D: Wage growth estimates from Heckman selection model						
Independent variables	**Coefficient**				**Standard error**	
LPS	0.210**				0.090	
λ	−0.335***				0.080	
Wald test of $\rho = 0$			Chi2(1) = 16.90			
Observations (censored)			1485 (964)			

Notes: Probit regressions include a constant, information on respondents' age, marital status, family size, Mexican ethnicity, years of schooling, any US education, English proficiency, years of US work experience, region of residence in the US, and interaction terms of the post-legalization dummy with schooling and experience. For the Heckman model, identification is achieved by including marital status and family size in the selection equation and excluding them from the main equation. In addition, the main equation also includes information on the industry of employment.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

"not in the labor force" grew by 6.5 percentage points more than for the NLSY women (see panels E and F in Table 1). Once we account for individual-level characteristics in the random-effects probit models, the amnesty program appears to have reduced the employment likelihood of the newly legalized women by 12.3 percentage points and raised their likelihood of stepping out of the workforce by 7.7 percentage points, as shown in panel C of Table 2. As such, the results for men are suggestive of increased job mobility. In the case of women, however, eligibility for social services may have reduced the employment likelihood of newly legalized immigrants.

What impact did amnesty have on immigrant men and women employed before and after legal-

ization? According to the unadjusted difference-in-difference estimates in panels D and H of Table 1, the relative growth rate of hourly wages was positive but not statistically significant for both men and women. To account for the sample selection inherent when focusing on men and women working before and after legalization, we estimate a Heckman selection-type model to analyze wage growth of men and women in the LPS and NLSY79 samples employed in 1987 and in 1992 (see panels B and D in Table 2). The Wald test for the independence of the earnings and employment equations ($\rho=0$) recommends the joint estimation of the two-equation model. Additionally, the sample selection correction term (i.e., λ) is negative and statistically significant for both men and women, signaling that unobservables that increase wage growth are negatively correlated with unobservables that increase the likelihood of being employed in both periods. Most important, wages grew 9.3 percent more for the LPS male respondents than for their male counterparts in the NLSY79 between 1987 and 1992, which implies an annualized growth rate of about 2 percent. Among women, this growth rate was 21 percent or about 4 percent per year. Thus, male and female immigrants employed pre- and post-legalization earned higher wages.

V. Conclusions

Using data from the 1987 and 1992 waves of the LPS and NLSY79 surveys, we develop a quasi-experimental framework to assess the differential impact of IRCA's amnesty provisions on the labor market outcomes and wages of the newly legalized population relative to a comparison group of Hispanic natives. Although available data do not permit us to eliminate competing explanations entirely, our findings indicate that employment rates fell and unemployment rates rose for the newly legalized male population relative to their comparison group following legalization. Among immigrant women, employment rates fell and transitions out of the workforce increased relative to Hispanic natives. These findings are indicative of increased job mobility for men and reduced labor market attachment for women, confirming the theoretical prediction that legalization may induce immigrants to exit employment owing to higher reservation wages. Furthermore, legalization likely enhanced the wage growth of newly legalized men and women. Therefore, amnesty may have improved labor market efficiency by increasing transparency, job mobility, and the quality of job matches for some, while also increasing eligibility for social services and reducing labor market participation for others. As a result, it appears that legalization may have improved the economic well-being of immigrant men and women.

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