

Does Past Unauthorized Immigrant Status Result in a Wage Penalty for Legalized Immigrants?

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Abstract

Unauthorized immigrants are an important concern in the current immigration policy agenda. The most recent policy on unauthorized immigrants is the Deferred Deportation Action for Childhood Arrivals (DDA), which protects certain unauthorized immigrants who were brought to the US at a young age, from removal/deportation action, and provides them with authorization for employment for two years and a potential path to citizenship. It is estimated that about 1.7 million unauthorized immigrants will benefit from this initiative. But will these immigrants have to endure lower wages after legalization than a similar immigrant with no history of unauthorized immigrant activity? This question is important to understand the labor market assimilation implications of this new policy directive. In this context, this study investigates if past unauthorized immigrant status results in a wage penalty for legal permanent residents in the US? The analysis is based on longitudinal data from the New Immigrant Survey (NIS), which contains rare information about prior unauthorized immigrant statuses held by current legal immigrants. The methodology is a Hausman Taylor model and the identification of the model is based on the indicator variable for past unauthorized immigrant status.

This paper contributes to existing literature by focusing on the wage penalty due to past unauthorized immigrants status using recent data that is more applicable in the current context and overcomes the limitations of previous literature by using longitudinal data consisting of both authorized and unauthorized immigrants instead of using two disparate data sources.

Author Keywords: Legalization, Undocumented immigrants, wage penalty

JEL classification codes: J3, J6

1. Motivation

The status and disposition of unauthorized immigrants is currently a central issue on the U.S. immigration policy agenda. The most recent policy enacted with respect to unauthorized immigrants in the United States is the program for Deferred Deportation Action for Childhood Arrivals (DACA). It was established by executive order of President Barack Obama and seeks to protect unauthorized immigrants who were brought into the United States at young ages by granting them relief from removal and deportation, providing them with authorization for two years of U.S. employment, and potentially opening up a pathway to legal permanent residence.

It is estimated that some 1.7 million unauthorized immigrants may qualify for this program [Passel and Lopez, 2012]. Although those approved under DACA may gain legal access to U.S. labor markets, however, as former unauthorized immigrants they may not be able to compete effectively with other similarly qualified workers. Unauthorized status may have prevented them from realizing full the benefits of prior work experience and schooling, and a prior “illegal” status may carry a

stigma in the eyes of employers, who might also be unwilling to invest in workers whose legal status is tenuous and unsettled.

In this analysis, we seek to assess whether newly legalized immigrants indeed pay a wage penalty for prior unauthorized status. This issue is important for understanding how DACA will affect the economic prospects of its beneficiaries, and possibly future recipients of a broader legalization initiative should proposals for comprehensive immigration reform be enacted. Although the effect of current legal status on wages has been examined in prior work, to date no study has considered whether newly legalized immigrants experience a penalty for having prior unauthorized status.

Using data from the New Immigrant Survey (NIS) we compare newly arrived legal immigrants with and without prior unauthorized experience and employ Pooled Ordinary Least Squares (POLS) and Hausman-Taylor (HT) methodologies to determine whether an earlier lack of documents confers a wage penalty on otherwise equivalent legal workers.

The remainder of the paper is structured as follows. Section 2 explains the DACA program; Section 3 reviews the existing literature on wages of unauthorized immigrants; Section 4 describes the NIS data and methodologies we use to estimate our models and then goes on to interpret results; and Section 5 concludes with a discussion of the implications of our findings.

2. Deferred Deportation Action for Childhood Arrivals (DACA)

DACA stipulates that people brought to the United States as young children who do not present a risk to national security or public safety may be considered for relief from removal from the U.S. or from entering removal proceedings. To be eligible, DACA applicants must fulfill the following criteria: be under the age of 31 as of June 15, 2012; have arrived in the U.S. before their 16th birthday; have continuously resided in the U.S. since June 15, 2007; be physically present in the US on June 15, 2012 and at the time of application; have entered without inspection (EWI) before June 15, 2012 or have a lawful immigration status that had expired as of June 15, 2012; to be currently in school, graduated from high school, hold a general education development (GED) certificate, or be honorably discharged from the Coast Guard or U.S. Armed Forces; have not been convicted of a felony, significant misdemeanor, three or more other misdemeanors; and who otherwise pose no threat to national security or public safety.

As of November 15, 2012 US Citizenship and Immigration Services (USCIS) had received 308,935 applications for DACA and 53,273 applicants had been approved. Successful applicants receive an Employment Authorization Document (EAD) valid for two years subject to renewal at the end that period. The possession of an EAD allows formerly unauthorized immigrants to be lawfully employed in the United States. The critical question is whether legalization will enable them to compete with other workers on a level playing field. Prior research suggests that a lack of legal status alters immigrants' labor market behaviors in ways likely to affect later earning capacities—e.g. by lowering wage expectations, inhibiting the assertion of rights in the face of employer exploitation; emphasizing the minimization of the risk of apprehension over the maximization of wages; and deterring movement between jobs and across labor markets to maximize returns to human capital [Kossoudji and Cobb-Clark, 2002, Bailey, 1985, Amuedo-Dorantes et al., 2007, Rivera-Batiz, 1999].

Although the receipt of DACA and EAD potentially offer previously unauthorized immigrants the possibility of reversing some or all of these adverse labor market disadvantages, such reversals do not occur overnight nor is it clear that all disadvantages are equally reversible. As such, a clear understanding of what happens to former unauthorized migrants in the wake of legalization will yield valuable insights to the future employment and wage trajectories not only of current beneficiaries of DACA but also future beneficiaries of the broader legalization programs envisioned by supporters of comprehensive immigration reform.

3. Literature Review

Previous studies on topics relevant to the wages of legalized immigrants can be grouped into three distinct strands of research. The first deals with the wage gap between documented and undocumented immigrants. For instance, Borjas and Tienda [1993] used data from the Legalization Applications Processing Systems (LAPS) and the Current Population Survey (CPS) to compare unauthorized and all immigrants, respectively, in a multivariate analysis. They found that national origin accounted for about half of the wage gap between documented and undocumented immigrants and that the wage penalty for unauthorized status increased with age. Tienda and Singer [1995] similarly used the LPS and the CPS to carry out a multivariate analysis of wage mobility and found positive returns to US experience among both undocumented and all immigrant males, though the size of the return depended on region of origin. Unfortunately both studies assume that the CPS excludes undocumented immigrants, a very questionable assumption that represents a notable limitation of these analyses.

The second strand of research focuses on the wages and labor market experiences of unauthorized immigrants who become legalized. Powers et al. [1998], for example, used longitudinal data from the two waves of the Legalized Population Survey (LPS1 and LPS2) to show that migrants experienced upward mobility into better occupations as they shifted from (a) unauthorized status to (b) applying for legalization, to (c) being legalized. In addition, on average, men reported higher status jobs than women, though women experienced more mobility after legalization. Amuedo-Dorantes et al. [2007] examined whether the Immigration Reform and Control Act of 1986 (IRCA) affected labor market outcomes and wages among legalized immigrants relative to a comparison group of Hispanic natives. Using longitudinal data from the LPS1 and LPS2 and the 1979 National Longitudinal Survey of Youth (NLSY) in a quasi-experimental framework, they showed that legalization improved labor market efficiency by increasing transparency, job mobility, and the quality of job matches for some former unauthorized migrants, but also increased eligibility for social services to reduce labor market participation among others.

The third strand of literature compares the long term experiences of newly legalized immigrants with immigrants who had always been legal. Rivera-Batiz [1999], for instance, combined data from the LPS1, LPS2, with data from the 1990 Census to perform a cross-sectional analysis of wage differences between documented and undocumented workers, as well as a longitudinal analysis examining the effect of legalization on the earnings of previously-undocumented workers. He found that hourly wages earned by Mexican legal workers was more than 40 percent higher than those earned by undocumented immigrants prior to legalization and that observable characteristics explained less than half of the wage gap. However, legalized immigrants experienced significant wage growth in the four years after legalization, mostly owing to the change in legal status itself and not due to change in characteristics of immigrants. Kossoudji and Cobb-Clark [2002] likewise used longitudinal data from LPS1 and LPS2 to explore whether legalization changed the determinants of wages before and after legalization relative to a comparison group of legal immigrants identified in the NLSY who were never unauthorized. Using random effects models, they showed that the wage penalty for unauthorized status was 14 -24 percent and that the wage benefit of legalization under IRCA was approximately 6 percent.

As is evident, none of the foregoing studies directly examined whether former unauthorized immigrants experienced a wage penalty after legalization and the first contribution of our current research is to address this specific issue. The greatest limitation of prior work stems from the lack of access to data on both types of legal immigrants-i.e. those with and without prior unauthorized experience. Previous authors were therefore compelled to resort disparate data sources, leading to differences in the definition of key variables and differences in the timing of surveys that undermined the validity of findings. For instance, LPS1 was conducted in 1987-1988 and LPS2 in 1992 but Rivera-Batiz [1999] compared longitudinal data from LPS1 and 2 with cross-sectional data from the 1990 Census, which does not overlap with either year and does not contain longitudinal information.

Similarly, the LPS respondents studied by Kossoudji and Cobb-Clark [2002] could have entered the labor market as much as 3 years before the observations they culled from the NLSY.

We make a second contribution to prior work by using a more appropriate data source for comparative analysis - a single survey that includes immigrants with and without prior histories of unauthorized status. Third, prior studies are based on data collected from immigrants who legalized in the late 1980s under IRCA, more than 25 years ago, whereas our use of the NIS enables us to update findings to a more recent period. Finally, existing work suffers from methodological limitations. Specifically, Rivera-Batiz [1999] uses a POLS methodology in the longitudinal analysis. A POLS methodology assumes no correlation between the explanatory variables and time invariant unobserved characteristics. Rivera-Batiz [1999]’s analysis does not confirm that assumption in the context of his data, which leaves doubt about whether the appropriate model was used. Similarly, Kossoudji and Cobb-Clark [2002] use random effects models when their data dictates that such a model is inappropriate. Here we use a more appropriate statistical methodology - HT methodology – as explained in the next section.

4. Empirical Analysis

The current analysis relies on data from the New Immigrant Survey (NIS) [Jasso et al., 2006], a panel study of new legal immigrants to the United States. The first wave was conducted in 2003 to 2004 and the follow up wave was conducted from 2007 to 2009. The first wave contains information on up to 40 previous visits to the U.S., including whether the respondent held a valid visa or entry document on each visit. This information enables us to identify respondents who were unauthorized immigrants at some point in time prior to their entry as legal permanent residents. As indicated by Jasso et al. [2008], the NIS also enables to identify previously unauthorized immigrants who were legalized under registry provisions, suspension-of-deportation, cancellation of removal, and special legalization programs.

In this analysis the dependent variable is the log of hourly wages ($\ln w_{i,j,t}$) of new legal immigrants. Subscripts i , j , and t represent i^{th} individual, j^{th} group (those with or without a history of unauthorized immigration) and the t^{th} time period, respectively. The identification of this model is based on the indicator variable for prior unauthorized status = j , where $j = 1$ for immigrants who were previously unauthorized and $j = 0$ for immigrants who were never unauthorized. Initially we consider those with a history of EWI as $j = 1$ and others $j = 0$. In the robustness test, we consider those legalized under the IRCA as $j = 1$ and other $j = 0$. Those legalized under the IRCA includes both EWI and visa over stayers. Consistent with existing literature on both standard wage determination and wage determinants of immigrants, we include the vector X_{ijt} to control for demographic, human capital, and employment-related characteristics [Kossoudji and Cobb-Clark, 2002, Amuedo-Dorantes et al., 2007, Rivera-Batiz, 1999, Ashenfelter and Krueger, 1994, Mincer, 1974]. The vector of demographic variables include age; age squared; gender ($female = 1$ for females and 0 otherwise); marital status ($married = 1$ for married and 0 otherwise); state of residency; and country/region of birth.¹

The vector of human capital variables consists of the number of years completed in school; and an indicator if any degrees/diplomas/certificates were received from schooling. The vector of employment related characteristics include years of experience in the labor market²; its quadratic

¹The categories for state residency are *California*; *EastSouthCentral*; and *OtherState*. The indicator *California* = 1 for those living in California and 0 otherwise; *EastSouthCentral* = 1 for those living in Alabama, Kentucky, Tennessee, or Minnesota and 0 otherwise; and *OtherState* = 1 for those living in states other than those listed above and 0 otherwise. The ten country/region of birth categories are *China*, *ElSalvador*, *Guatemala*; *India*; *Mexico*; *Russia*; *UK*; *EuropeandCentralAsia*; *E.Asia*, *S.AsiaPacific*; *Sub – SaharanAfrican*. The eleventh category is *OtherCountry* = 1 for those born in countries/regions not listed above and 0 otherwise.

²Experience is calculated as age - 6 - years of schooling, consistent with ‘potential experience’ calculated by Mincer

term; usual number of hours worked per week; indicator variable for union membership ($union = 1$ if member and 0 otherwise); indicator variable if English is spoken at work ($English = 1$ if English is spoken at work and 0 otherwise); and indicators for five groups of industry.³ Additionally, we also include the variables years spent in the US and its quadratic term to control for assimilation effects and a time trend, where $Time = 1$ for NIS Round 2 data and 0 for Round 1 data.

Table 1 presents summary statistics for the two groups to reveal prominent differences between the two groups on certain variables. On average, previously unauthorized immigrants have lived in the US for approximately five years more, have about five more years of labor market experience, and have about 6 years less schooling than immigrants who lack an unauthorized background. A greater proportion of previously unauthorized immigrants originated from Mexico and El Salvador and a larger share reside in California, compared to immigrants lacking prior unauthorized experience.

We begin by performing a POLS regression of log of hourly wages $\ln w_{it}$, on the vector of regressors X_{it} including the indicator variable for past unauthorized immigrant status, as seen in Equation 1:

$$\ln w_{it} = \hat{X}_{it}\beta + \epsilon_{it} \quad (1)$$

As seen in column 1 of Table 2 the indicator variable for prior unauthorized immigrant status does not have a statistically significant relationship with the log of wages. Specifically, when all else is held constant, the wages earned by legal immigrants with a history of past unauthorized migration are no different statistically from the wages earned by a similar immigrant with no history of undocumented migration.

The POLS methodology assumes there is no correlation between regressors and the error term. In the POLS model, however, characteristics such as ability and honesty are uncontrolled and are therefore included in the error term. If these traits are correlated with wages, as seems likely, it will produce a correlation between regressors and the error term to produce inconsistency in POLS estimates. The absence of correction for unobserved heterogeneity also prevents the POLS estimates from supporting a causal interpretation.

To overcome these limitations of the POLS estimates and to detect any evidence of a causal relationship between past unauthorized status and post-legalization wages, next we perform the analysis using a methodology developed by Hausman and Taylor [1981]. The HT methodology represents a compromise between a Fixed Effects (FE) and a Random Effects (RE) model. On the one hand, the FE model assumes that all predictors are correlated with individual, time invariant fixed effects and the procedure to purge the estimates of time invariant unobserved heterogeneity unfortunately also removes all time invariant regressors (including the variable we are interested in this study). On the other hand, the RE model assumes that no predictor is correlated with unobserved individual-specific effects, which is unrealistic in our setting.

Building on the desirable properties of both methodologies the HT methodology assumes that only a subset of predictors is correlated with the unobserved individual specific effects. Specifically, as depicted in Eq. 2 the vectors X_{1it} and Z_{1i} consist of exogenous regressors, while the Z_{1i} consists of only time invariant exogenous variables. On the other hand, vectors X_{2it} and Z_{2i} are endogenous regressors, where the Z_{2i} consists of only time invariant endogenous variables.

$$\ln w_{it} = \hat{X}_{1it}\beta_1 + \hat{X}_{2it}\beta_2 + \hat{Z}_{1i}\gamma_1 + \hat{Z}_{2i}\gamma_2 + \mu_i + \epsilon_{it} \quad (2)$$

The Hausman-Taylor methodology assumes that X_{2it} and Z_{2i} may be correlated with μ_i -the unobserved individual specific effect and that X_{1it} and Z_{1i} are uncorrelated with both μ_i and ϵ_{it} . In this equation, μ_i is the unobserved individual specific effect that is assumed to have a zero mean and

[1974].

³Industry group *Agriculture* = 1 for industry codes 170-290 and 0 otherwise; *Construction* = 1 for industry code is 770 and 0 otherwise; *Professional* = 1 for industry codes 7270 to 7790 and 0 otherwise; *Ed.Med.SocialServices.* = 1 for industry codes 7860 to 8470 and 0 otherwise; and *OtherIndustry* = 1 for all the remaining industry codes and 0 otherwise.

a finite variance σ_μ^2 and is independently and identically distributed (i.i.d.) over the panels, while ϵ_{it} is the idiosyncratic error that is assumed to have a zero mean and finite variance of σ_ϵ^2 and is i.i.d. over all observations in the data. In this way, the Hausman-Taylor methodology estimates coefficients for time invariant regressors by using X_{1it} and Z_{1i} as instruments for endogenous regressors, which allows for a causal interpretation of past unauthorized (a time-invariant indicator) on wages. The order condition for identification in the Hausman-Taylor methodology is that the number of variables in the vector of time variant exogenous variables must be at least as large as the number of elements in the vector of time invariant endogenous variables, and that there is sufficient correlation between the instruments (vector of exogenous variables) and the vector of time invariant endogenous variables (see Table 3 for correlations between instruments and time invariant endogenous variables). As seen in column 4 of Table 2 the Hausman-Taylor methodology estimates a coefficient of 0.216 on past unauthorized immigrant status. However, this coefficient is not statistically significant at any conventional level of significance, implying that the coefficient is not statistically different from zero. In keeping with our findings of the POLS model, therefore, we find that no statistically significant relationship between past unauthorized immigrant status and wages earned after adjustment to legal status. As indicated by ρ , 98.8 % of the total error variance is attributed to unobserved individual specific effect (μ_i). Given that the Hausman-Taylor methodology addressed the effect of time invariant unobserved heterogeneity, we also conclude that there is *no causal effect* of past unauthorized immigrant status wages earned after legalization.

As a robustness test, we estimate the same model under the HT methodology using same data and an alternative indicator for identification. Instead of recognizing those with a history of EWI as $j = 1$, now we consider those who obtained legal status under one of IRCA's legalization programs for unauthorized immigrants. As depicted in column 5 in Table 2, even under this alternative definition we find no significant causal relationship between past unauthorized status and post legalization wages, thus confirming our previous findings based on the HT methodology. Hence, we conclude that there is no causal relationship for past unauthorized immigrant status on post legalized wages. The implications of this finding are discussed next.

5. Discussion

Our finding of the absence of a causal relationship between pre legalized unauthorized immigrant status and post legalized wages underscores why immigrants take a risk to enter the US unlawfully and remain while enduring many risks to achieve LPR status. Prior work suggests that unauthorized immigrants earn 14-24 percent lower wages than otherwise similar legal immigrants and that the wage gain after legalization was in the neighborhood of 6 percent [Kossoudji and Cobb-Clark, 2002]. Our findings complement these findings by showing when unobserved characteristics are controlled there is no wage penalty attributable to past unlawful employment. Our findings also support the well-documented fact that the IRCA did not change long-term patterns of undocumented immigration [Orrenius and Zavodny, 2003]. Our robustness check shows that in terms of wages, obtaining LPR status by way of an amnesty wipes the slate clean and so that the amnesty is true to its word. The absence of a difference in wages between those who have and do not have a history of past unauthorized immigrant status is encouraging for those contemplating to overstay or to enter without inspection and to endure the hardship as an unauthorized immigrant till an amnesty is granted.

As stipulated by the requirements for DACA, a segment of beneficiaries of the DACA are those who have entered without inspection. The other segment is those who overstayed their visa. Our findings, robust to both these groups of unauthorized immigrants, confirm that once granted LPR status DACA beneficiaries are unlikely to endure a wage penalty due to their past unauthorized status. As such, we can expect that once legalized, the wage trajectories of DACA beneficiaries would be similar to other LPR status holders and that there would not be significant issues for them in assimilating to the labor market in their post legalized life.

In conclusion, this study makes four important contributions to existing literature. First, this is the first study that examines the impact of past unauthorized immigrant status on post legalized wages. Similarly, this study is the first to use the longitudinal data from the NIS. The use of NIS data leads to three other important contributions. The NIS is the latest and perhaps the only dataset that enables to clearly identify legal immigrants who have a history of past unauthorized immigrant status. As such, (i) this study improves on the existing literature on unauthorized immigrants by using a single data source instead of using two disparate datasets. (ii) This use of a single panel dataset enables us to use a more appropriate methodology -the HT methodology, than those used in existing literature, and we are able to provide a causal interpretation to the relationship between past unauthorized immigrant status and post legalized wages. Finally, (iii) the second wave data of the NIS reflects the situation of immigrants in 2009. As such, compared to existing literature, our findings are more applicable to the current policy debates on unauthorized immigrants.

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Table 1: Summary statistics for analysis of unauthorized experience on U.S. wages.

Variable	Previously Unauthorized		Never Unauthorized	
	Mean	Std.Dev.	Mean	Std.Dev.
Wages (ln)	9.9441	0.9793	10.4781	1.2292
Time	0.2873	0.4531	0.4025	0.4907
Female	0.3496	0.4775	0.3481	0.4767
Married	0.5799	0.4942	0.6949	0.4607
Years in US	15.0463	5.3186	9.5440	4.9339
Age	37.7968	8.9500	38.8519	9.5894
School years	11.8347	5.2240	17.7468	4.3807
English	0.5014	0.5007	0.5076	0.5003
Degree Received	0.6260	0.4845	0.4013	0.4905
Hours Worked per Week	40.6721	10.3982	41.6722	9.8228
Labor Force Experience	19.9621	10.7685	15.1051	10.8002
Union	0.1057	0.3079	0.0684	0.2525
Region or Country of Birth				
China	0.0136	0.1158	0.0684	0.2525
El Salvador	0.2954	0.4568	0.0190	0.1366
Guatemala	0.1274	0.3338	0.0063	0.0794
India	0.0108	0.1037	0.1709	0.3766
Mexico	0.3523	0.4783	0.0759	0.2651
Russia	0.0000	0.0000	0.0392	0.1943
UK	0.0000	0.0000	0.0430	0.2031
Europe and Central Asia	0.0081	0.0899	0.1253	0.3313
E.Asia, S.Asia / Pacific	0.0000	0.0000	0.0709	0.2568
Sub Saharan Africa	0.0271	0.1626	0.0595	0.2367
Industry				
Agriculture	0.0244	0.1545	0.0025	0.0503
Construction	0.1030	0.3043	0.0304	0.1717
Professional	0.1003	0.3008	0.2316	0.4222
Edu.- Medi.- Social Services	0.1057	0.3079	0.1785	0.3832
State				
California	0.5014	0.5007	0.1633	0.3699
East South Central	0.0298	0.1703	0.0873	0.2825
Observations	369		790	

Table 2: Estimation of effect of prior undocumented experience on immigrant wages.

	POLS		Hausman-Taylor Method ^a			
	(1) B	(2) SE	(3) B	(4) SE ^b	(5) B	(6) SE ^b
Time	0.603 *	0.136	0.633 *	0.205	0.486 *	0.200
Past Unauthorized	-0.040	0.115	0.216	3.130	-	
Past IRCA	-		-		-2.853	3.167
Female	-0.406 *	0.070	-0.476	0.309	-0.553 *	0.221
Married	0.128 *	0.071	-0.032	0.092	-0.026	0.093
Years in US	0.129 *	0.028	0.138 *	0.060	0.174 *	0.049
Age	^c		0.335 *	0.152	0.333 *	0.109
Age Squared	-0.001 *	0.000	-0.003 *	0.001	-0.003 *	0.001
Years in US Squared	-0.004 *	0.001	-0.004 *	0.001	-0.004 *	0.001
School Years	0.165 *	0.035	^c		^c	
English	0.324 *	0.132	0.340 *	0.095	0.332 *	0.098
Degree Received	0.031	0.115	0.146	0.392	0.126	0.247
Hours Worked per Week	0.018 *	0.004	0.011 *	0.003	0.011 *	0.003
Labor Force Experience	0.109 *	0.028	-0.175	0.129	-0.169 *	0.081
Experience Squared	0.0003	0.0003	0.002 *	0.001	0.002 *	0.001
Union	-0.166	0.136	0.189	0.129	0.188	0.130
Region or Country of Birth^d						
- China	0.323 *	0.126	0.209	0.620	0.073	0.524
- El Salvador	-0.104	0.145	0.014	1.453	2.201	2.363
- Guatemala	-0.083	0.143	0.087	1.550	1.840	1.932
- India	0.613 *	0.091	0.558	0.576	0.409	0.389
- Mexico	-0.039	0.115	0.122	1.021	0.105	0.417
- Russia	0.424 *	0.123	0.547	0.819	0.476	0.585
- UK	0.757	0.179	0.850	0.850	0.699	0.588
- Europe/Central Asia	0.284 *	0.116	0.249	0.621	0.139	0.370
- E. Asia/S. Asia/Pacific	0.230	0.140	0.184	0.815	-0.076	0.557
- Sub-Saharan Africa	0.098	0.204	0.016	0.543	0.140	0.466
INDUSTRY^e						
- Agriculture	-0.052	0.135	-0.029	0.359	-0.058	0.374
- Construction	0.181 *	0.092	-0.339	0.207	-0.287	0.207
- Professional	0.217 *	0.068	-0.107	0.076	-0.101	0.078
- Ed.-Med.-Soc. Services	0.002	0.091	-0.168	0.104	-0.179	0.107
STATE^f						
- California	0.063	0.077	-0.210	0.174	-0.126	0.157
- E. South Central	0.113	0.104	0.258	0.193	0.249	0.191
Constant	5.810	0.496	2.134	3.805	2.159	2.379
Observations	1159		1159		1159	
Sigma u			6.495		5.135	
Sigma e			0.717		0.717	
Rho			0.988		0.981	
Wald Chi-Squared			279.4		275.8	
F[30,910]	29.93					
R-Squared	0.377					

Notes:

a. X_{2it} : Endogenous regressors = Experience, Experience squared, English, Degree received, Number of years completed at school, and Number of hours worked in week. Z_{2i} : Past unauthorized (Past IRCA in robustness test).

b. Adjusted for individual clusters.

c. Omitted due to collinearity.

d. Omitted category *OtherCountry*.

e. Omitted category *OtherIndustry*.

f. Omitted category *OtherState*.

Table 3: Correlation between exogenous variables (X_{1it} and Z_{1i}) and time invariant endogenous variable (Z_{2i}).

X_{1it} and Z_{1i}	Previously Unauthorizes Z_{2i}	Legalized Under IRCA Z_{2i}
Female	0.0015	-0.0222
Married	-0.1129	-0.0834
Years in US	0.4522	0.4587
Years in US Squared	0.4243	0.4412
Age	-0.0523	0.0302
Age Squared	-0.0549	0.0191
School Years	-0.5087	-0.3611
English	-0.0058	0.0202
Degree Received	0.2097	0.1724
Hours Worked per Week	-0.0465	-0.0234
Labor Force Experience	0.2054	0.2033
Experience Squared	0.1657	0.1693
Union	0.064	0.623
Region or Country of Birth		
– China	-0.1161	-0.1009
– El Salvador	0.4166	0.6799
– Guatemala	0.2724	0.3266
– India	-0.2295	-0.1609
– Mexico	0.3477	-0.0721
– Russia	-0.1134	-0.0722
– UK	-0.1188	-0.0758
– Europe/Central Asia	-0.1927	-0.1271
– E. Asia/S. Asia/Pacific	-0.154	-0.0982
– Sub-Saharan Africa	-0.0698	-0.0446
INDUSTRY		
– Agriculture	0.105	-0.0184
– Construction	0.1503	0.0953
– Professional	-0.1561	-0.1148
– Ed.-Med.-Soc. Services	-0.0936	-0.0698
STATE		
– California	0.3543	0.2803
– E. South Central	-0.1057	-0.0536