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# Employer Sanctions and the Wages of Mexican Immigrants



PETER BROWNELL

*Wage differences between authorized and unauthorized Mexican immigrants can be explained by human capital factors prior to the 1986 passage of employer sanctions, which prohibited knowingly hiring unauthorized aliens. However, a significant post-1986 wage differential has been interpreted as employers “passing along” expected costs of sanctions through lower wages for unauthorized immigrants. I test this explanation using administrative data on employer sanctions enforcement, finding employer sanctions enforcement levels are related to Mexican immigrants’ wages but have no statistically significant differential effect based on legal status. Estimated savings to employers due to the pay gap are orders of magnitude larger than actual fines.*

**Keywords:** unauthorized immigrants, wages, employer sanctions

Historically, immigrants’ low pay relative to the native-born has been popularly understood to stem from their “docility” and “desperation” (Higham 1955; Saxton 1971). In 1916, the economist Frank Julian Warne wrote that the immigrant “combines bodily vigor with a docility and meager physical demands that make it practicable to obtain his labor at the low cost of the coarsest subsistence” (175). Such formulations tend to portray the docility that causes low wages as an almost innate characteristic of immigrants, resulting from the poor conditions in the countries of their birth.<sup>1</sup>

In 1959, the sociologists Seymour Martin Lipset and Reinhard Bendix suggested “that foreign-born workers are less oriented toward

occupational achievement than their native-born colleagues” (49), but the discussion of nativity was both overshadowed and confounded by discussions of the relationship between occupational mobility and religious affiliation. It seems that the low levels of immigration at mid-century made immigration a less salient topic for the social sciences.

However, as immigration increased in the wake of the 1965 Immigration Act, social scientists turned their gaze once again to its causes and effects. By the early 1970s, sociologists began rejecting the notion that immigrants’ lower pay was due to docile dispositions, attributing it instead to immigrants’ vulnerable position vis-à-vis the state (Castells

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1. Similarly, when immigrants proved not to be docile, the cause was also to be found abroad in the form of foreign tendencies toward communism or anarchism (Higham 1955).

1975; Portes 1978, 1977; Bach 1978; Jenkins 1978; Sassen-Koob 1978). That is, immigrants, as foreigners, lack political membership and rights, and are therefore more vulnerable to labor exploitation than the native born. Following this logic, “illegal” immigrants occupy an even more vulnerable position and are subject to more extreme “superexploitation” (Jenkins 1978; Portes 1977, 1978; Bach 1978). This literature focused on the higher profits that employers of undocumented immigrants earned by paying lower wages for labor that was assumed to be equally productive (see also Wilson 1993).

However, many economists took the opposite view, disputing that differences in average wages between legal and “illegal” immigrants were due to a pay penalty imposed on workers of comparable productive capacities. Instead, they argued, the differences in pay stemmed from differences in human capital, particularly education, English ability, and U.S. job experience (Borjas 1990; Chiswick 1978, 1984, 1988; Bailey 1985; see also Cornelius 1978). In other words, unauthorized and legal immigrants were not experiencing different treatment. Authorized and unauthorized immigrant workers with the same human capital should earn the same wage; in fact, they should be interchangeable substitutes in the eyes of employers. In this view, the difference in average wages is due to average differences in human capital. That is, unauthorized immigrants have, on average, less education, less U.S. work experience, and worse English abilities than legal immigrants, making them on average less productive and therefore on average less well paid. A number of empirical studies found that measured human capital variables explained much, but not necessarily all, of the wage differential between authorized and unauthorized immigrants (Bailey 1985; Heer and Falasco 1984 [cited in Heer 1990]; Kossoudji and Ranney 1986; Morales 1983). However, in 1987, the sociologist Douglas Massey, analyzing data from Mexican immigrant sending communities, found that controls for human capital explained the wages differences between legal and unauthorized Mexican immigrant workers. The economists George Borjas (1990) and Barry Chiswick (1988),

relying heavily on Massey’s results, argued forcefully against any effect of vulnerability or exploitation. With leading migration scholars in economics, sociology, as well as political scientist Wayne Cornelius (1978) supporting this view, there seemed, for a time, to be consensus across the social sciences for the human capital explanation.

However, as Douglas Massey and his Mexican Migration Project (MMP) collaborators continued collecting data, they began to find that, for more recent observations, human capital could not completely explain the difference in wages between authorized and unauthorized Mexican immigrants (Phillips and Massey 1999; Donato and Massey 1993; see also Massey and Gentsch 2014). However, these new findings did not contradict Massey’s earlier findings (1987), but instead indicated that something had changed. Newer retrospective observations relating to the period prior to 1986 still indicated that human capital sufficed to explain differences in wages across legal status. However, post-1986 observations showed significant and large effects of immigration status that could not be explained by human capital or any other measured variable.<sup>2</sup>

A plausible explanation for this change was readily available. In 1986, Congress passed the Immigration Reform and Control Act (IRCA), which made it illegal, for the first time, for employers in the United States to knowingly hire aliens who did not have valid work authorization. Soon after its passage, and before any sanctions were implemented, Michael Todaro and Lydia Maruszko hypothesized that “any expected fines for hiring illegal migrants will be passed on to illegal workers as a further reduction in their wages relative to those of legal workers” (1987, 108). Since that time, a number of other economists have theorized that employers pass along the expected costs of employer sanctions fines to unauthorized workers (Crane et al. 1990; Taylor 1992; Cobb-Clark, Shiells, and Lowell 1995; Ise and Perloff 1995; Davila and Pagan 1997) and “potentially unauthorized workers” (Bansak 2005). Katharine Donato and Douglas Massey argue that after the passage of IRCA’s employer sanctions provisions,

2. The later studies also found reduced returns to education in the post-IRCA period.

“employers responded to the added costs and risks of hiring undocumented workers by lowering their wages” (1993, 539). Similarly, Julie Phillips and Douglas Massey maintain that “employers continue to hire undocumented migrants, but transfer the costs and risks of doing so to workers in the form of lower pay” (1999, 234; see also Massey, Durand, and Malone 2002, 120).

Although it certainly is plausible that the significant post-IRCA wage penalty for unauthorized immigrants could be explained by employers passing along the expected costs of IRCA’s employer sanctions provisions, the low level of employer sanctions enforcement calls this hypothesis into question (Bruno 2015; Brownell 2005; Pritchard 2003).

#### THE RISK OF FINES UNDER IRCA’S EMPLOYER SANCTIONS PROVISIONS

Employers’ risk of fines for violations of IRCA’s employer sanctions provisions is low for two reasons. The first is that safe harbor provisions in IRCA and subsequent amendments protect employers from fines if they make good faith efforts to comply. The second is the relatively low levels of enforcement effort devoted to sanctions.

Under IRCA, employers are legally required to request and examine documents establishing the identity and work authorization of new hires and document this on an I-9 form. If they do not complete a form for each new employee hired or if it is filled out incorrectly, employers are liable for “paperwork” fines (8 USC 1324a(e) (5)). However, employers who comply with the verification procedures by examining a document that “reasonably appears on its face to be genuine” (8 USC 1324a(b)(1)(A)), gain a defense from prosecution under IRCA’s “knowing hire” provision (8 USC 1324a(a)(3)) which the government can overcome only with proof that the employer knew or should have known that the worker was unauthorized (*Collins Foods International, Inc. v. INS*, 948 F.2d 549 [9th Cir. 1991]).

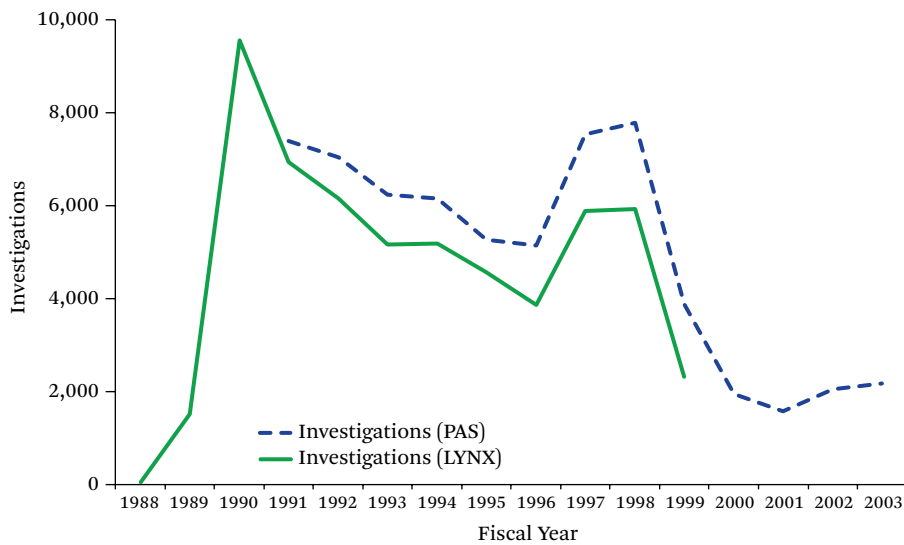
Kitty Calavita argues that the legislative pro-

cess redefined employers who do, in fact, knowingly hire unauthorized immigrants as *compliers* because they have met the paperwork requirements (1990). This makes compliance more likely, but works at counter purposes with the goal of reducing the employment of unauthorized immigrants.

Calavita’s post-IRCA interviews with both employers and employees in southern California demonstrate this.<sup>3</sup> About 48 percent of the employers surveyed *thought* some of their employees were undocumented. Another 11 percent volunteered that they *knew* they had hired undocumented workers after IRCA had gone into effect. Of the workers interviewed (from the same firms), 30 percent acknowledged being undocumented at the time they were hired. Of these, 35 percent reported having used fraudulent documents. Slightly more than 4 percent of the undocumented workers reported being *told by their employer* to obtain false documents (Calavita 1990). Robert Bach and Howard Brill report that “the majority of employers accept documents even though they suspect and even know that the applicant is unauthorized” (Bach and Brill 1991, 62). As one employer told researchers, “the compliance procedures are not that difficult. You don’t have to verify the person’s documents are *valid*, so there’s no hazard in hiring someone with fraudulent documents” (Cornelius 1989, 44 [emphasis added]). Thus the standard for “knowingly hire” (or “substantive”) violations of IRCA’s employer sanctions provisions creates a high bar that makes prosecution of employers who do, in fact, knowingly hire unauthorized aliens difficult, provided they have met their obligations to examine prospective employees’ documents and correctly completed the I-9 form.

Moreover, the Illegal Immigration Reform and Immigrant Responsibility Act (IIRAIRA) of 1996 amended IRCA’s sanctions provisions regarding paperwork violations. Under the original IRCA regulations, inspectors were required to give at least three days notice prior to inspecting an employer’s I-9 forms

3. The interviews were conducted in 1987 and 1988, after IRCA’s employer sanctions provisions had gone into effect. This survey was a collaboration between Cornelius, Calavita, and other researchers (see also Cornelius 1989).

**Figure 1.** Worksite Immigration Investigations

Source: INS 1997 and OIS 2003 (PAS) and author's calculations (LYNX).

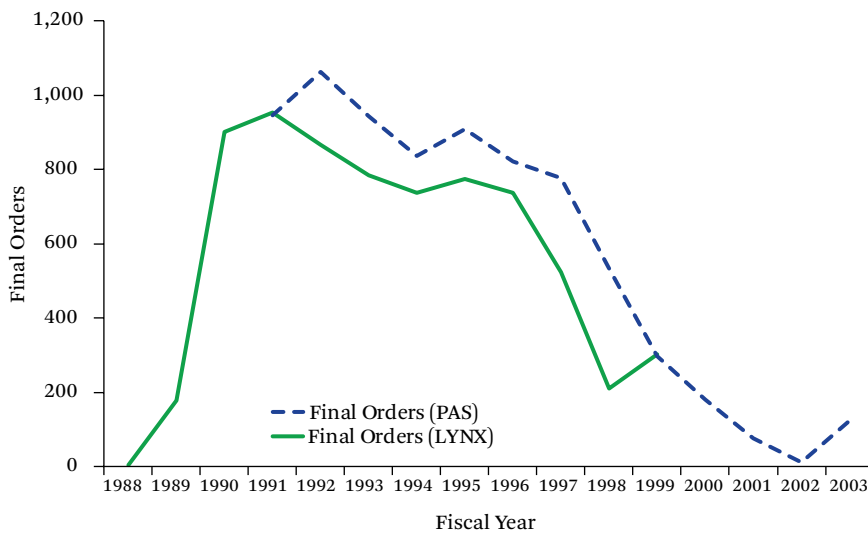
(8 CFR 274a.2(b)(2)(ii); see also Fix 1991). Under the IIRAIRA amendments, so long as employers have made a “good faith effort” to properly complete the I-9 forms, they have ten additional days after an inspection to correct any “technical or procedural” errors before being considered out of compliance and liable for fines for paperwork violations (8 USC 1324a(b)(6)).

In addition to (or perhaps in part because of) the high bar that IRCA created for prosecuting employers for knowingly hiring unauthorized immigrants, the former Immigration and Naturalization Service (INS) and current Immigration and Customs Enforcement (ICE) have focused a relatively small share of their enforcement resources on employer sanctions (Siskin et al. 2006; GAO 1999). The General Accounting Office reported that in 1998, worksite investigations accounted for 2 percent of INS's enforcement work-years for overall (interior and border) enforcement activities (1999). The Congressional Research Service reported that investigations targeting employers accounted for about 15 percent of interior enforcement work-years between fiscal years 1992 and 1998 (Siskin et al. 2006). However, during fiscal years 2000 through 2003, employer investigations had declined to the point that they accounted

for 5 percent or less of interior enforcement work-years (Siskin et al. 2006).

Figure 1 presents the number of completed worksite investigations by fiscal year from two data sources. The Worksite Enforcement Activity Record and Index (LYNX) data is publicly available for fiscal years (FY) 1988 to 1999, but is less complete than the Performance Analysis System (PAS) data published in the Department of Homeland Security's *Yearbook of Immigration Statistics* and the *INS Statistical Yearbook* (OIS 2002, 2003; INS 1997). The PAS data is available starting only in FY 1992, but continues through FY 2003. Comparable data for the period since INS investigations were reorganized into ICE is not available. At the peak level of audits, INS audited (or “investigated”) approximately ten thousand employers in FY 1990, about 0.2 percent of the more than five million employers in the United States at that time (Small Business Administration, n.d.). The number of worksite investigations completed declined to a low of 5,149 in FY 1996, increasing again in FY 1997 and FY 1998 to a high of 7,788. Completed investigations declined again in FY 1999 to 3,868, hitting a low of 1,595 in FY 2001 before rebounding to 2,194 in FY 2003.

The number of employers to whom INS is-

**Figure 2.** Worksite Immigration Final Orders Imposing Fines

Source: INS 1997 and OIS 2003 (PAS) and author's calculations (LYNX).

sued final orders imposing fines for employer sanctions violations also began relatively low and declined through most of the period for which data are available. Figure 2 shows this downward trend, dropping 82 percent from a peak of nearly one thousand in FY 1991 to 124 in FY 2003. Although the data may not be directly comparable, the Congressional Research Service reports fewer than twenty per year between FY 2004 and FY 2008 (Bruno 2015).

The available data for FY 1990 to FY 1996 shows that the aggregate dollar value of employer sanctions fines imposed on final orders peaked in FY 1990 at \$8.1 million, but that only \$5.8 million in fines were actually collected that year (DOJ 1995; Jenks 1997). Fines imposed in one fiscal year may have been collected in later years, and in fact, fines collected peaked at \$6.2 million in FY 1992, even though only \$6.0 million in fines were ordered that year (DOJ 1995; Jenks 1997). The peak of collected fines at \$6.2 million averages less than \$0.07 per employee in the United States for 1992.<sup>4</sup>

To put these enforcement levels into broader perspective, in FY 2001 the Department of Labor Wage and Hour Division concluded 38,051 cases, assessing \$10.5 million in civil monetary

penalties and collecting \$132 million in back wages (DOL 2002). The same year, \$153 million in penalties were assessed for violations of the Occupational Safety and Health Act (DOL 2004). Similarly, over the period from 1989 to 1999, total back-pay awards ordered by the National Labor Relations Board ranged from \$44.4 million to \$89.9 million per year (NLRB 2001).

Given the low levels of employer sanctions enforcement, can employers' expected costs due to fines really explain the 18 to 22 percent wage penalty that MMP researchers find for unauthorized Mexican workers after 1986 (Phillips and Massey 1999; Donato and Massey 1993)? It is possible to test this hypothesis using INS administrative data on employer sanctions fines and survey data on the wages of individual Mexican immigrants. As figures 1 and 2 show, variation in the level of employer sanctions enforcement over time has been considerable. Because the INS had a decentralized structure that granted district offices and border patrol sectors a great deal of autonomy in determining enforcement priorities and practices, employer sanctions enforcement levels and strategies also varied considerably across space (Fix and Hill 1990; Fix 1991). Moreover, at both the

4. The Small Business Administration reports an employment figure of 92,825,797 for 1992, based on data from the U.S. Census Bureau, Statistics of U.S. Business and Nonemployer Statistics.



national and district levels, INS targeted particular industries for greater scrutiny in employer sanctions enforcement (GAO 1999). All in all, variation is considerable in the employer sanctions enforcement effort across years, states, and industries. Although previous research has identified that undocumented immigrants' pay declined relative to legal immigrants at about the same time that IRCA went into effect, researchers have thus far not managed "to isolate the *reasons* for this change" (Phillips and Massey 1999, 233). No direct test has been made of the relationship between levels of employer sanctions fines and the difference in wages between authorized and unauthorized Mexican immigrant workers. If the hypothesis that employers are merely passing along the expected costs of fines is correct, we should expect the post-IRCA wage gap to covary over time, place, and industry with the level of sanctions enforcement. If it does not, this would suggest that the post-IRCA difference in pay is not due directly to fines, and we should explore other changes that occurred during this period, which may or may not relate directly to the passage of IRCA. The regression methods described will allow us to determine the extent to which the wage gap can be explained by the level of employer sanctions fines.

## DATA

The analysis requires survey data that include data on Mexican immigrants' U.S. wages, as well as key wage determinants such as age, education, duration in the United States, and English ability. An additional requirement is that the survey data include information on respondents' immigration status or work authorization. This requirement rules out the use of many U.S. sources of data on wages, such as the Current Population Survey (CPS) and Decennial Census Public Use Microdata Samples (PUMS). Instead, I turn to data from the Mexican Migration Project.

## Mexican Migration Project Data

Data from the MMP has been used by Douglas Massey and his co-authors in analyses that have found a significant wage gap between authorized male Mexican immigrant workers and their unauthorized counterparts (Massey 1987; Phillips and Massey 1999; Donato and Massey 1993).

The MMP collects data primarily in Mexico, randomly sampling households within purposively selected migrant-sending communities. The survey also includes a small nonrandom sample of Mexican immigrants settled in the United States. The survey is administered to Mexican communities from December through January, when many U.S. migrants return to Mexico. Household heads are asked to give a retrospective migration history as well as detailed information about their last trip to the United States. Based on referrals in each sending community, six to twenty households of settled migrants in the United States are also surveyed during July and August (Phillips and Massey 1999).

Given both the selective nature of the migration process and the difficulties in sampling both sending communities and migrants in the United States, it is important that sampling weights be applied to the data to derive the best estimates of population parameters (Phillips and Massey 1999).<sup>5</sup> Except when stated otherwise, all analyses reported were carried out using the weights, both to make estimates closely representative of the population of Mexican immigrants to the United States, and to maintain comparability to the weighted analyses of Julie Phillips and Douglas Massey (1999).

This project picks up where Phillips and Massey left off, looking for the cause of the post-IRCA wage gap between authorized and unauthorized Mexican male immigrant workers. I begin my investigations by attempting to replicate the key finding that wage differences between legal and unauthorized immigrants

5. For the Mexican community samples, the sampling weights are the inverse of the proportion of households sampled in the community. For the out-migrants surveyed in the United States, weights are the inverse of estimated sampling fractions derived by dividing the actual sample size by estimates of the number of U.S. households based on information gathered from informants within the sending community (for more detail on the sampling procedure, see Massey and Espinosa 1997; for detail on the sample weights for the U.S. sample, see Massey and Parrado 1994).

can be explained by human capital factors in the pre-IRCA period, but not after IRCA's passage. Following Phillips and Massey, I limited the analysis to male household heads (due to small female household head sample size), who worked in the United States since 1970. The logged hourly wages used as the dependent variable in this ordinary least squares (OLS) regression analysis are adjusted to constant 1982 to 1984 dollars based on the Bureau of Labor Statistics' Consumer Price Index (CPI) for all urban consumers at the Metropolitan Statistical Area (MSA) level, where such a series exists, otherwise to the regional urban CPI.<sup>6</sup>

Because some models involve matching respondents' occupations (coded using the Mexican Classification of Occupations—CMO) to industries, respondents in occupations common to multiple industries were dropped from the analysis. A total of 149 cases (4.5 percent) that would otherwise have been included were dropped for this reason. Of these, about 27 percent were clerical workers, about 29 percent were professionals, technicians, business owners, or supervisors; about 19 percent were drivers or vehicle operators; about 13 percent reported nonworking classifications (student, homemaker, tourist, and the like) despite reporting a wage; about 3 percent were in the armed forces; and the remaining approximately 9 percent were ambulatory workers such as street vendors. Thus the sample used is not necessarily representative of all Mexican immigrant workers, but is generally representative of Mexican men in most blue-collar occupations in the United States.

Additionally, the MMP contains a small number of cases that appear to have coding errors in the hourly wage (HRWAGE) variable, resulting in unreasonably high (and perhaps unreasonably low) hourly wages. To address this, I have dropped from the analysis all "severe outliers," that is, all values of logged hourly real wages greater than or equal to 3.5 interquartile ranges (IQRs) from the median.

Thus, thirty cases with hourly wages (in 1982 to 1984 dollars) lower than \$0.60 or greater than \$30.08 per hour are excluded. Although doing so improves the fit of the models and the significance of many control variables, it does not significantly change the sign, magnitude, or significance level of the variables of interest (immigration status or enforcement measures).

Phillips and Massey (1999) include in their models the correction for selectivity bias that James Heckman proposes (1976, 1979). Katharine Donato and Massey test such a correction and find that it makes no significant difference in the wage equations based on the MMP data then available (1993). Ross Stolzenberg and Daniel Relles argue that the Heckman "correction" sometimes produces "corrected" parameter estimates that are further from the true population parameter than the uncorrected OLS estimate, even when the assumptions of the Heckman procedure are not violated (1997). Furthermore, it is not clear that a correction for selection is necessary or desirable unless one is substantively interested in the wages *potential* Mexican immigrants would have received *if they had migrated* to the United States. For these reasons, no term attempting to correct for any selectivity bias is included in the models presented here.

My initial models also included many fewer variables than Phillips and Massey, in part because many variables were not relevant to this project, in part because of methodological and causation issues, especially with social capital variables (see Livingston 2005), and finally because the prior study (Phillips and Massey 1999) found many of them not to have statistically significant relationships with wages. Among these were local unemployment rates and the rate of change in proportion of the local Mexican population with legal status (legalization rate), suggesting that post-IRCA wage differences were not driven by changes in the labor supply.<sup>7</sup>

6. For the CPI adjustments and all other measurements relating to the year in which the wage was earned, I assume that migrants interviewed in Mexico reported the wage earned at the end, rather than beginning of a U.S. trip. Wages reported by migrants interviewed in the United States are attributed to the year of the interview.

7. As of this writing, the MSAYEAR file on the MMP website that includes MSA level legalization rates and unemployment rates is dated March 1999 and includes data through 1996. Although the effort to update these



**Table 1.** Variable Descriptions

Variable	Description
Real wage	Hourly wage adjusted to constant 1982–1984 dollars for year last U.S. trip ended
Logged wage	Natural logarithm of hourly real wages in constant 1982–1984 dollars
Age	Age in years at end of last U.S. trip
Prior U.S. experience	U.S. experience in months prior to beginning of last U.S. trip
U.S. trip duration	Duration of last U.S. trip in months
Number of U.S. trips	Number of U.S. trips (including current trip)
Education	Years of schooling in four categories (1–3, 4–5, 5–11, 12+) with none as reference
English ability	Three categories: “Understands Some,” “Speaks Some,” “Speaks Well,” with none as reference
<b>Immigration status</b>	
Authorized	Legal permanent residents, U.S. citizens, other visas or statuses allowing work
Guestworker	H-2(A), cases coded “Temporary work,” and immigrants who entered as Braceros
Unauthorized	No valid entry documents or documents not permitting work (such as a student visa)
Pre-IRCA	Unauthorized, last U.S. trip ended prior to 1986
Trip spans IRCA	Unauthorized, last U.S. trip began during or before 1986 and ended during or after 1986
Post-IRCA	Unauthorized, last U.S. trip began after 1986
<b>Enforcement measures</b>	
Expected fine	Average employer sanction fine in industry and state during twelve months beginning two months prior to calendar year (see equation [1])
Probability of audit	Probability of audit in industry and state during twelve months beginning two months prior to calendar year (see equation [2])

Source: Author’s compilation.

Nonetheless, using models with variables for age, U.S. experience, education and English ability (see table 1), I was able to replicate the finding that the wages of unauthorized Mexican immigrant workers are significantly lower than the wages of comparable authorized workers only during the post-IRCA period. The results of regressions on a sample limited to cases from communities included in the MMP at the time of Phillips and Massey’s analysis (not reported here), imply that the hourly wages of unauthorized immigrants were about 16 percent lower than legal immigrants ( $p < .01$ ).

The question remains as to the causes of the post-IRCA wage penalty for unauthorized immigrants. Can it be explained by employers passing along the costs of expected fines? Or has some other factor tilted the playing field such that unauthorized immigrants earn less regardless of the level of employer sanctions enforcement directed at workplaces in their industry and area?

#### **CASE-BASED FINES DATA TO MEASURE EXPECTED FINES**

To answer this question, I constructed measures of actual levels of fines based on INS ad-

variables to include more recent data seems of limited value, the appendix includes results that use these measures on a limited sample.

ministrative data on employer sanctions enforcement activities. I use the Employer Sanctions Database obtained by the Center for Immigration Studies (CIS) through the Freedom of Information Act (FOIA). This database contains records from the INS/ICE database known as LYNX from the beginning of sanctions implementation through early 2000 (for more information on the LYNX database, see GAO 1999). The data are case level; that is, each observation corresponds to one “case” in which an employer was investigated (audited). The dataset contains the results of cases in which the employer was found to be in compliance as well as cases resulting in warnings or fines. However, relative to the aggregate counts of enforcement activities reported through the INS-DHS (Department of Homeland Security) Performance Analysis System, the CIS database suffers from considerable incompleteness (see figures 1 and 2). Moreover, relative to aggregate information publicly available from the LYNX system (DOJ 1996; GAO 1999), the CIS database also seems to be missing data that are included in LYNX. If the data are not missing at random, results could be biased. The incompleteness of the LYNX system relative to the PAS system should be worst for years prior to FY 1996, when LYNX was designated the primary system for recording sanctions enforcement activities (GAO 1999). The process leading to incompleteness in the CIS database relative to LYNX is unknown. Nonetheless, relative to PAS data on enforcement actions at the level of the INS District Office, the correlation between the number of final orders per fiscal year as recorded in the CIS data and the number of final orders reported in PAS is 0.61.<sup>8</sup> Although less than ideal, the CIS data capture a considerable share of the variation in employer sanctions enforcement. Moreover, it is the best publicly available

dataset exported from the LYNX system. Unfortunately, although the PAS system reports aggregate national numbers of enforcement activities, for example, in the *Yearbook of Immigration Statistics*, the PAS data do not allow detailed analysis of enforcement by industry (OIS 2003, 2004).

Without going into great detail in describing the enforcement process, I describe the measure of expected fines and how it is calculated. The expected fines measure is an estimate of the mean fine paid (by employers) for violations of IRCA's employer sanctions provisions averaged across all workers employed in the same industry, state and year.<sup>9</sup> The measure used here combines both fines for “knowingly” hiring or employing unauthorized immigrants, as well as violations for failure to properly complete I-9 paperwork. Good arguments can be made for and against including “paperwork only” fines in the measure of average fines.<sup>10</sup> On the one hand, all employers are theoretically subject to fines for failing to properly fill out I-9 forms, even if all of their employees are in fact authorized to work. Because employers are subject to paperwork fines regardless of the status of their employees, we might not expect fines to cause the differences in wages based on legal status we seek to explain. Relatedly, one study found that paperwork and knowing hire fines had effects in the opposite directions on aggregate metropolitan wages, expected paperwork fines reducing wages and expected knowing hiring fines increasing wages (Fry, Lowell, and Haghighat 1995).

On the other hand, evidence suggests that INS reserved paperwork fines for cases that investigators believed but could not prove knowing employment (INS 1987, Section III-E-2; Fix and Hill 1990, 113). Moreover, after the 1996 amendments mentioned earlier, employers

8. Data from the PAS Investigations G-23.19 through G-23.20 at the INS district or Border Patrol Sector level were provided to the author for fiscal years 1994 to 2003 by the Office of Immigration Statistics and are available from the author on request.

9. To be clear, fines are levied against employers based only on the number of employees for whom the employer has either failed to properly complete a form I-9 or knowingly employed. Employees found to be out of status are not subject to fines, but rather to arrest and removal (deportation).

10. An anonymous referee for an earlier version of this article strongly suggested using only knowing hire fines, and a referee for a later version advocated using all employer sanctions fines. Although the main paper follows the latter suggestion, the appendix shows similar results using only knowing hire fines.

who made a “good faith effort” to comply were given ten days to correct any violations that were purely “technical or procedural,” which is to say, “paperwork only” violations (8 USC 1324a(b)(6)). So it seems likely that many paperwork only fines were issued in cases that involved the employment of unauthorized aliens, but the burden of proving that the employer had knowingly hired such workers was not met. If this is the case, then both paperwork and knowing hire fines might be expected to affect differences in wages between authorized and unauthorized workers.

One reason to combine paperwork and knowing hire fines is practical: in a few investigations resulting in fines (forty-six), the type of violation is not recorded in the administrative data. The analysis that follows uses a measure of all employer sanctions fines (combining paperwork and knowing violations). Ultimately, however, using only knowing hire fines or all fines does not affect the direction or significance of the effects (for results of analysis based only on fines for knowing violations for comparison, see table A2).

The expected fines measure is based on a denominator of employees (of any status) for three main reasons. First, it estimates the cost (in employer sanctions fines) that an informed, employer in a given industry and state would anticipate upon considering hiring a new employee. Second, firms with more employees may face larger fines, as employers are liable for \$100 to \$10,000 in fines for *each* employee hired or employed in violation of IRCA.<sup>11</sup> Third, the regression models that follow take employees as the unit of analysis. All of these facts make it most appropriate to have a measure

that estimates fines per employee rather than per firm.

The expected fines measure is the average employer sanctions fine per worker for a given industry, year, and state. More formally, it is calculated as

$$E(F_{ijk}) = \frac{(\sum F_{ijk})}{(N_{ijk})} \quad (1)$$

where  $E(F_{ijk})$  is the expected fine in industry  $i$ , for year  $j$ , and state  $k$ . Similarly,  $\sum F_{ijk}$  is the sum of all fines and  $N_{ijk}$  is an estimate, based on the Current Population Survey, of the overall size of the workforce, both for industry  $i$ , year  $j$ , and state  $k$ .

A second measure of enforcement is used in the analysis to examine the causal direction between enforcement effort and wages. This measure is the probability of audit,  $P(A)$ . More precisely, it is the probability that a worker works at an audited firm. It is calculated by summing the total number of workers at audited firms (from the CIS data) for each industry, year, and state cell and dividing by the CPS-based estimate of the overall size of the workforce for that cell:

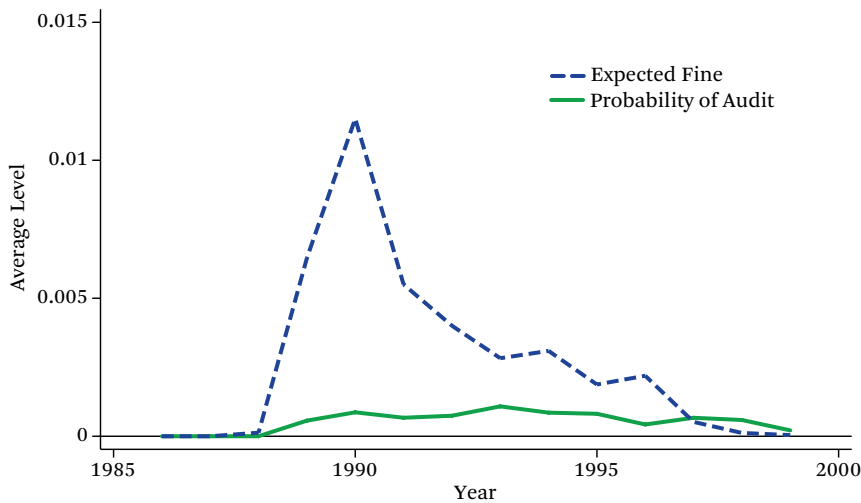
$$P(A_{ijk}) = (a_{ijk})/(N_{ijk}) \quad (2)$$

where  $a_{ijk}$  is the sum of workers at audited firms in industry  $i$ , for year  $j$ , and state  $k$  and where  $N_{ijk}$  is the CPS-based estimate of the overall workforce as defined in equation (1).

These enforcement measures are then attributed to respondents from the MMP who worked in occupations matched to these industries, in the corresponding year and state.<sup>12</sup>

11. Paperwork violations can result in fines from \$100 to \$1,000 for each employee with a missing or incorrect I-9 form (8 USC 1324a(e)). For substantive violations, fines are \$250 to \$2,000 for each unauthorized alien knowingly hired, for a first offender. For the second offense, the range increases to \$2,000 to \$5,000 per alien, and for the third or greater offense fines are \$3,000 to \$5,000 per unauthorized alien.

12. The Mexican Migration Project classifies occupations using the Clasificación Mexicana de Ocupaciones (Mexican Occupation Classification), which has the benefit, for the present purposes, of dividing production occupations by industry. The fifteen industry groups used here are agriculture, retail, domestic services, services (nondomestic), transportation, and industrial production in the following categories: food-beverage-tobacco, mines-quarries-wells, textile-leather, wood-paper, electrical-metal-automobile, ceramic-glass-tile, construction, electrical utilities-installation-repair, chemical-oil-plastics, and other production. Respondents with CMO occupational codes that could not be matched uniquely to an industry (such as clerical occupations) were excluded from the study.

**Figure 3.** Means of Enforcement Measures for MMP Sample

Source: Author's calculations.

These enforcement measures are equal for workers within a given state, year, and industry cell. This clustering could produce estimates of regression standard errors that are too low if not corrected.

Table 2 shows that, within the MMP sample, the average levels of expected fines were about \$0.003 per employee during the years since the passage of IRCA, but vary considerably ( $SD = 0.0085$ ). Figure 3 shows the average levels of  $E(F_{ijk})$  and  $P(A_{ijk})$  experienced by immigrants in the MMP sample used here.<sup>13</sup> Expected fines peaked in 1990 (at \$0.012), declining to less than 5 percent of this level (\$0.0005) by 1997. Figure 3 shows some correlation ( $r = 0.69$ ) between expected fines and probability of audit, although the former exhibits much more variation due to differences over time in the certainty and size of fines experienced by non-compliant employers. However both measures reach all-time lows in 1999, the last full year in the series.

Although we see considerable variation over time in sanctions enforcement, I have no strong a priori assumptions about how long it might take for information regarding enforcement actions to diffuse to other employ-

ers. To find the empirically best-fitting time lag, I tested the effects of expected fines for one-year periods beginning zero to twelve months prior to the beginning of the year in which a migrant reported earnings (results not reported here). I found the best fit to the data with a two month lag, that is, the effect of enforcement for which a Notice of Intent to Fine was issued between November 1 of year  $t-1$  and October 31 of year  $t$  on wages reported for calendar year  $t$ .

## RESULTS

Table 3 shows the results of ordinary least squares regression models taking logged hourly wages adjusted to 1982 to 1984 dollars as the dependent variable. Model I replicates past findings regarding a post-IRCA wage gap using a sample that includes nearly two thousand additional (newer) observations, for a total sample size of 3,249 (Phillips and Massey 1999; Donato and Massey 1993). Including these newer observations, the results imply a post-IRCA wage penalty of about 11.5 percent for unauthorized immigrants, controlling for age, and human capital factors (education, English ability, and measures of U.S. experience). This

13. Note that because the male Mexican immigrant workers in the MMP are not a random sample of all U.S. employees, they are likely to experience levels of employer sanction enforcement that differ from the average levels for all U.S. employees discussed earlier.

**Table 2.** Summary Statistics

Variable	Unauthorized		Authorized		Overall			
	Mean/ Percentage	SD	Mean/ Percentage	SD	Mean/ Percentage	SD	Min	Max
Real wage	4.95	2.83	6.04	3.25	5.33	3.07	0.61	29.48
Age	34.40	11.10	40.81	11.20	36.64	11.62	14.17	86.00
Prior U.S. experience (months)	18.89	36.59	95.18	78.59	45.55	68.20	0.00	431.00
U.S. trip duration (months)	55.13	86.28	88.70	108.57	66.86	97.97	1.00	612.00
Number of U.S. trips	2.56	3.00	6.04	5.76	3.78	4.68	1.00	44.00
Guestworker			3.08%		1.08%			
Education								
None	9.67%		6.90%		8.70%			
One to three years	20.57		18.74		19.93			
Four to five years	11.56		9.86		10.97			
Six to eleven years	46.00		49.69		47.29			
Twelve or more years	12.20		14.81		13.11			
English ability								
None	37.17%		9.50%		27.51%			
Understands some	34.44		23.43		30.59			
Speaks some	19.17		38.60		25.96			
Speaks well	9.22		28.47		15.94			
Trip timing								
Pre-IRCA	33.99%		4.56%		23.71%			
Trip spans IRCA	22.40		29.90		25.02			
Post-IRCA	43.60		65.54		51.27			
Enforcement measures								
Expected fine (1987–1999)	0.0027	0.0085	0.0056	0.0117	0.0040	0.0104	0.0000	0.1574
Audit probability (1987–1999)	0.0006	0.0011	0.0007	0.0009	0.0006	0.0010	0.0000	0.0091
Observations	2,291		958		3,249			

Source: Author’s calculations.

Note: Table based on weighted data.

wage penalty is not due to changes in the distribution of immigrants across industries or states after IRCA. Holding state and industry constant results a small and statistically insignificant *increase* in the estimate of the post-IRCA wage gap (see table A1).<sup>14</sup>

Neither is the growing divergence in wages the result of increasing wages for legal Mexican immigrants. As model I indicates, the post-IRCA real wages of authorized immigrants (the reference group and period) were lower than their real wages prior to IRCA, net of all the other factors in the model. Comparing across legal statuses during the pre-IRCA period, the wages of unauthorized immigrants are statistically indistinguishable from the wages of legal immigrants ( $p = .20$ ). The wages of those unauthorized immigrants whose last U.S. trip began before, but ended after, IRCA are also not significantly different from the post-IRCA wages of authorized immigrants. These immigrants were subject to a grandfather clause that made it legal for employers to continue to employ them, provided they had been hired prior to IRCA's passage.

Model II in table 3 shows the addition of the expected fines measure to model I. The fines measure does have a statistically significant negative effect on wages, implying a decrease in wages of about 1.4 percent at the mean (post-IRCA) level of enforcement, relative to no enforcement.<sup>15</sup> Each standard deviation increase

in expected fines implies an average decrease in wages of 4.3 percent.<sup>16</sup> Although expected fines have a large and statistically significant coefficient, the low level of observed fines (averaging \$0.003 per employee annually) means that the substantive effect on Mexican immigrants' wages is small.

With regard to the role of expected fines in explaining the post-IRCA wage gap between authorized and unauthorized Mexican immigrants, once expected fines are added to the model the magnitude of the coefficient representing the wage gap increases slightly and statistically significantly. Had employer sanctions enforcement caused the wage differential, we would have expected a large decrease in the magnitude of this coefficient. Thus, this model implies that the level of fines cannot explain the wage gap.

This conclusion is further supported by model III, which includes an interaction term allowing the effect of fines to vary between legal and unauthorized workers. The results show no statistically significant difference in the effects of expected fines on the wages of authorized and unauthorized Mexican immigrants. So, although fines do seem to affect wages, they are not a valid explanation of the post-IRCA difference in wages based on legal status. Instead, they seem to affect all Mexican male immigrants equally, a result consistent with IRCA-induced national-origin discrimina-

14. Because of a lack of agreement on the best formula for estimating the standard deviation of the difference in coefficients across nested models (Clogg et al. 1995; Allison 1995), I used bootstrap estimation or Stata's "seemingly unrelated estimation" (-suest-) procedure to test the significance of such changes (Weesie 1999).

15. It is possible that a statistically significant effect in these models is related to the expected fines measure being calculated, and thus clustered, at the year-state-industry level. That expected fines are not independent within year-state-industry cells should lead to an estimate of the standard error that is too small. Table A1 shows results from models similar to model II with the addition of fixed effects for state and the fourteen industry categories used in calculating the expected fines and with robust standard errors corrected for clustering on years. These models should correct for the clustering of expected fines by industry, state, and year, but the fixed effects should now capture the average effect of enforcement in each state and industry category, reducing the effect of expected fines. In model IIa, we see that under such a specification the expected fines measure calculated using all employer sanctions fines is not statistically significant. However, the expected fines measure calculated using only knowing hire fines remains significant. Unweighted mixed models with crossed random effects for year, state, and industry category (not reported here) also show statistically significant effects for both expected fine measures.

16. The predicted change in hourly wage as expected fines go from zero to the mean post-IRCA value of 0.0027 is  $e^{(-5.139 \times 0.0027)} - 1 = -0.0138$ . Similarly, the predicted change in hourly wage as expected fines increase from zero to the post-IRCA standard deviation of 0.0085 is  $e^{(-5.139 \times 0.0085)} - 1 = -0.0427$ .



**Table 3.** Regression of Logged Hourly Wages on Selected Predictors

Variable	Model I	Model II	Model III	Model IV
Age	0.010 (0.006)	0.010 (0.006)	0.009 (0.006)	0.010 (0.006)
Age squared	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)
U.S. experience	0.001* (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
U.S. duration	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Number of U.S. trips	0.002 (0.003)	0.004 (0.003)	0.003 (0.003)	0.004 (0.003)
<b>Education (reference = none)</b>				
One to three years	0.065 (0.057)	0.072 (0.056)	0.070 (0.057)	0.072 (0.056)
Four to five years	0.094 (0.066)	0.101 (0.066)	0.101 (0.066)	0.102 (0.066)
Six to eleven years	0.094 (0.056)	0.096 (0.057)	0.095 (0.057)	0.097 (0.057)
Twelve or more years	0.204** (0.064)	0.206** (0.064)	0.205** (0.064)	0.206** (0.064)
<b>English (reference = none)</b>				
Understands some	0.093** (0.032)	0.088** (0.032)	0.088** (0.032)	0.088** (0.032)
Speaks some	0.148*** (0.039)	0.146*** (0.039)	0.147*** (0.039)	0.146*** (0.039)
Speaks well	0.252*** (0.063)	0.242*** (0.063)	0.244*** (0.063)	0.242*** (0.063)
<b>Immigration status (reference = authorized post-IRCA)</b>				
Authorized pre-IRCA	0.152 (0.104)	0.106 (0.106)	0.113 (0.107)	0.105 (0.106)
Guestworker	-0.460 (0.345)	-0.463 (0.345)	-0.461 (0.344)	-0.465 (0.344)
Unauthorized Pre-IRCA	0.023 (0.064)	-0.022 (0.067)	-0.015 (0.068)	-0.023 (0.067)
Post-IRCA	-0.122** (0.042)	-0.132** (0.042)	-0.118** (0.044)	-0.132** (0.042)
Grandfathered	-0.058 (0.060)	-0.073 (0.062)	-0.063 (0.062)	-0.073 (0.062)
<b>Enforcement measures</b>				
Expected fine		-5.139*** (1.544)	-3.612 (1.906)	-4.670** (1.798)
Expected fine*unauthorized			-4.161 (3.188)	
Probability of audit				-9.355 (15.147)
Time trend	-0.003 (0.004)	-0.005 (0.004)	-0.005 (0.004)	-0.004 (0.004)
Constant	1.236*** (0.138)	1.290*** (0.139)	1.285*** (0.139)	1.285*** (0.139)
N	3,249	3,249	3,249	3,249
R <sup>2</sup>	0.1914	0.1964	0.1971	0.1965

Source: Author's calculations.

Note: Robust standard errors in parentheses.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

tion (see also Bansak 2005; Bansak and Raphael 2001; GAO 1990).

One other possibility is that the relationship between fines and wages might be due to INS enforcement efforts targeted at industries with low wages. Thus, low wages could lead to increased fines, rather than causation running in the opposite direction. Alternatively, some third factor could cause both low wages and higher fines, resulting in a spurious relationship between fines and wages. However, if enforcement were focused on sectors with low wages, then the probability of audit would be negatively related with wages. Model IV shows that when both expected fines ( $E(F)$ ) and probability of audit ( $P(A)$ ) are included, there is a negative relationship between  $P(A)$  and wages that is not statistically significant. However, the change in the  $E(F)$  coefficient due to the addition of  $P(A)$  is neither large nor statistically significant. This suggests that the expected fines effect on wages is driven primarily by variation in the certainty and size of fines, rather than a spurious relationship stemming from INS efforts targeted at low wage industries.

Regardless of the relationship between probability of audit and expected fines, the post-IRCA wage gap for unauthorized workers does not change significantly when controlling for both enforcement factors. In fact, none of the models including any variation of enforcement measures yield any statistically significant decreases in the magnitude of the coefficient for the post-IRCA wage gap for unauthorized Mexican immigrants. Put somewhat differently, none of the enforcement measures explains the significant post-IRCA wage penalty for unauthorized Mexican immigrants, contradicting the commonly offered explanation that this wage penalty results from employers passing along the expected costs of fines to their unauthorized employees.

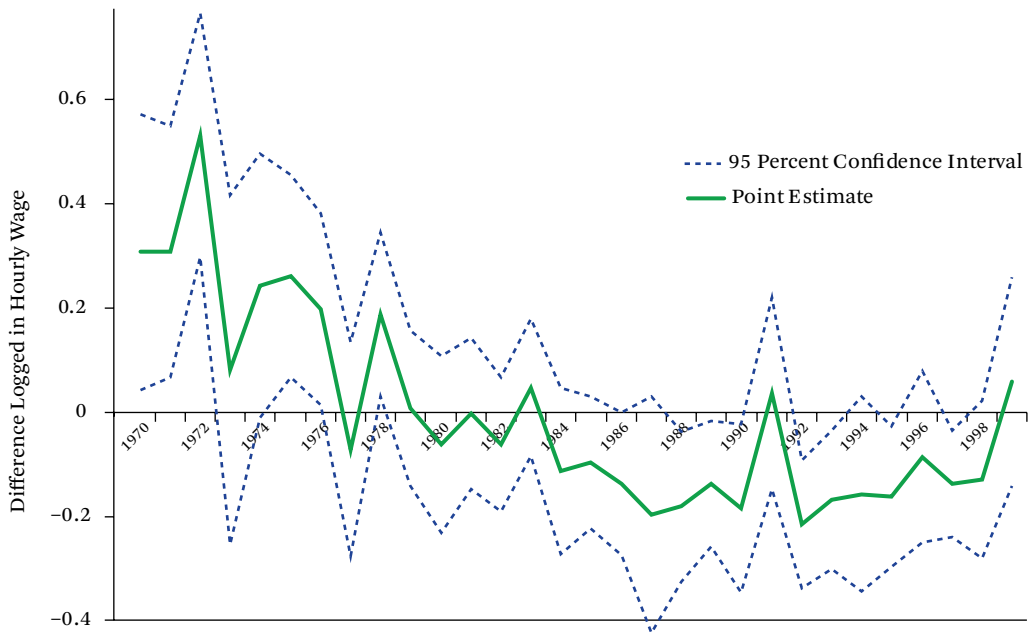
These results give us one other way to test the hypothesis; we can compare the aggregate wage loss by unauthorized immigrants to total fines paid by employers. The most recent estimate places the size of the unauthorized labor force at about eight million (Passel and Cohn 2015). If we assume each unauthorized employee to work an average of thirty-five hours per week and forty-four weeks of the year at the

current federal minimum wage of \$7.25 per hour, then an 11.5 percent wage penalty implies an aggregate loss of more than \$10 billion in wages per year. Compare this with less than \$52 million in combined administrative and criminal fines and asset forfeitures in FY 2014 (Bruno 2015; see also Jenks 1997; DOJ 1995). Clearly, the wage savings to employers is orders of magnitude larger than the fines paid. In other words, employers of unauthorized immigrants seem to be profiting handsomely.

## DISCUSSION

Analysis of MMP survey data on Mexican male immigrants' wages, combined with administrative data on employer sanctions enforcement, contradicts the broadly held hypothesis that the post-IRCA wage gap between authorized and unauthorized Mexican immigrants is due to employers passing along expected enforcement costs to their unauthorized workers. Although employer sanctions enforcement does have a statistically significant negative relationship with all Mexican immigrant men's wages, the difference in the magnitude of this relationship based on legal status is not statistically significant. In other words, sanctions enforcement seems to drive down all Mexican immigrants' wages, but does not explain why the wages of unauthorized immigrants are lower than that of their authorized counterparts in the post-IRCA period.

One alternative explanation is that changes in the relative supply of authorized and unauthorized Mexican labor may have caused differences in wages. As Elaine Sorensen and Frank Bean note, "the effect of IRCA's legalization programs has been to increase the supply of legal immigrant labor" (1994, 3). Specifically, the share of unauthorized Mexican immigrants dropped from 57 percent immediately before IRCA to 27 percent immediately after as 2.3 million Mexicans legalized (Woodrow and Passel 1990; see also Massey and Bartley 2005). By 2000, the share of unauthorized was about 53 percent, still slightly below the pre-IRCA figure (INS 2003). This relative increase in the supply of authorized Mexican labor would lead us to predict a decrease in the relative returns to legal status as millions of previously unauthorized Mexicans were legalized. However, we ob-

**Figure 4.** Estimates of Pay Penalty for Unauthorized Immigrants

Source: Author's calculations.

Notes: Calculated with year\*unauthorized interaction terms net of all factors in model I, table 3 except immigration status.

serve (and are attempting to explain) an increase in wages received by authorized Mexican immigrants relative to compatriots who remained unauthorized. Also, recall that Phillips and Massey (1999) find small and nonsignificant effects of both the local legalization rate and metro-area level unemployment on wages (see appendix). A more recent study finds a negative association between the share of the Mexican immigrant population that was undocumented and all Mexican immigrants' wages (Massey and Gentsch 2014). However, in their study, the share undocumented failed to explain the decline in Mexican immigrants' wages in the decade immediately following the passage of IRCA in 1986. Instead, period dummies representing this decade reflect significant wage losses that are not explained by any variable in the model (Massey and Gentsch 2014, table 2 and figure II). The particular timing at which the wage penalty for unauthorized Mexican immigrant workers arose cannot be explained by changes in the relative labor supply or share of the Mexican immigrant population that was undocumented.

Given that neither human capital factors nor sanctions enforcement nor local labor market conditions explain the difference in wages by legal status, we must conclude that some other change that roughly coincided with the Immigration Reform and Control Act of 1986 reduced the wages of unauthorized immigrants relative to their authorized counterparts. Two related developments are worthy of future investigation.

One event that may explain the wage differences took place slightly before the passage of IRCA. Although research has focused on IRCA as the most likely source of significant changes in Mexican immigrants' labor market outcomes, research has not established that the changes coincided exactly with IRCA's passage or implementation. Figure 4 shows year-by-year estimates of the effect on wages of unauthorized status (net of other factors in model I). This analysis suggests that the changes may have begun in 1984 or earlier, but the estimates are not precise enough to identify exactly which year undocumented immigrants began experiencing a wage penalty.

It was in 1984 that the U.S. Supreme Court decided *Sure-Tan v. NLRB* (467 U.S. 883), a case regarding a small employer who reported his undocumented Mexican employees to the INS after losing a union recognition election. The Court reaffirmed that undocumented workers were covered under the National Labor Relations Act (NLRA) and that the employer's letter to the INS was illegal retaliation that effectively fired the workers for their union support. However, the Court also ruled that the workers, who had been taken by the INS to Mexico because of the employer's action, were ineligible for any backpay award unless they reentered the country legally. Because the NLRA authorizes monetary remedies, but no penalties or fines, the employer effectively escaped paying any economic cost for his illegal action. The *Sure-Tan* decision brought confusion as to how it might apply to different circumstances. In particular, it was unclear whether remedies were available under the NLRA to undocumented immigrants who remained in the country and whether *Sure-Tan* also limited remedies available under other labor laws, such as for violations of the Fair Labor Standards Act (Blum 1988). It is possible that, in light of *Sure-Tan*, unauthorized employees were less likely to join unions, but also less likely to demand legally mandated minimum wages or overtime or even to ask for higher wages, for fear that they would be summarily fired or reported to INS and would have no legal recourse.

Second, the enactment of IRCA may have further eroded the ability of undocumented immigrants to assert their workplace rights. IRCA's sanctions provisions created a process in which employers are supposed to request documentation to complete the I-9 form and to use the information they gain to discriminate in hiring against the unauthorized. However, to avoid the appearance of (and potential liability for) using the I-9 process to discriminate against authorized immigrants or U.S. citizens, most employers only request documents to complete the I-9 form after an offer of employment has been made and accepted. Thus, employers typically complete the I-9 form only after they have concluded an applicant is likely to be a productive and profitable employee. At this point, employers have little incentive not

to hire unauthorized immigrants, provided the applicant can provide sufficient documentation to allow the employer to rely on the good faith defense described earlier.

In other words, employers have an incentive to accept questionable or even false documents. As Kitty Calavita's interviews suggest, a small minority of employers explicitly told applicants to get false documents (1990). Employers are occasionally directly involved in procuring the fraudulent documents necessary to allow them to hire or continue to employ unauthorized workers while maintaining what Calavita calls "paperwork compliance" (ICE 2008).

However, after the initial hire, the common interest in the employment relationship may dissolve if an employee or group of employees makes demands, such as improvements in wages or working conditions or union representation, which reduce employers' profits. Under such circumstances, an employer may wish to fire employees making such demands, but employees' actions may be protected under the NLRA, Fair Labor Standard Act (FLSA), the Occupational Safety and Health Act (OSHA) or other federal, state, or local labor laws. In some such cases, employers may use information about workers' immigration status to do what the employer in *Sure-Tan* did: make threats or actual reports to the immigration authorities to intimidate or retaliate against unauthorized employees asserting legally protected workplace rights. Such actions may have chilling effects on similarly situated undocumented workers who do not directly experience threats (Gleeson 2010).

### Evidence of Threats and Retaliation

A 2005 report by Human Rights Watch offers insight into the environment of implicit and explicit threats experienced by unauthorized workers. One Nebraska Beef worker interviewed explained: "[The top personnel manager] knows who is undocumented and who isn't, and he holds that over us" (Human Rights Watch 2005, 111). Similarly, a poultry plant worker told Human Rights Watch, "They have us under threat all the time. They know most of us are undocumented—probably two-thirds. All they care about is getting bodies into the plant. My supervisor said they say they'll

call the INS if we make trouble" (Human Rights Watch 2005, 111).

When unauthorized workers make demands for improvements in wages or working conditions, union representation or compliance with legal labor standards, employers may threaten to report workers to the Immigration authorities. Kate Bronfenbrenner studied employer threats using a random sample of union organizing campaigns at firms with fifty employees of more during the two-year period from 1998 to 1999 (2000). Although the report focuses on threats to move production abroad, it finds that employers threatened to report workers to the INS in 7 percent of all campaigns and in 52 percent of campaigns where the union's lead organizer reported that the bargaining unit included undocumented workers. So, not only were such threats common in campaigns involving undocumented workers, they were about 8.5 times more likely in these campaigns than in those that organizers did not report included undocumented workers.<sup>17</sup>

For example, in a Teamster/UFW campaign to organize apple packers employed by Stemilt in Washington state, the employer required workers to attend anti-union presentations (captive audience meetings). Separate meetings were held for Latino workers, at which the company's consultant told Latino workers "there hasn't been a union here yet, and the INS hasn't done any raids. But with a union, the INS is going to be around" (NNIRR 1998; Human Rights Watch 2000). Employers make similar threats with regard to other efforts to improve wages and working conditions. For example, after workers at a New York delivery company filed claims for unpaid wages and overtime, five workers were fired and the employer required the remaining employees to submit proof of immigration status and threatened to report undocumented workers to the INS (NILC 2001).

Although it is perhaps not surprising that employers frequently make intimidating threats to immigrant workers attempting to assert their workplace rights, the frequency with which employers are able to make good on threats to have workers detained and removed from the country is surprising. As one particularly frank onion grower confidently told the *Chicago Tribune*, "If a bad one slipped in, we'd just call the INS to take them away" (Thompson 1998). Certainly employers can call in their tips or leads to the immigration authorities, but doing so does not guarantee any enforcement action. Employers reporting their own workers are by no means the sole source of leads for worksite immigration enforcement. Some calls come from members of the public who are genuinely concerned about illegal immigration and have no ulterior motive. Others come from parties with an ax to grind, either with the employer, who may be subject to fines, or with one or more unauthorized employee who may be arrested and removed from the country. Aside from employer retaliation, examples include divorcing spouses, business competitors, feuding neighbors, and disgruntled former employees (on the long history of tips to immigration authorities based on spite or personal conflicts, see Clark 1931, 324; Van Vleck 1932, 124). The INS received tens of thousands more leads each year than it had the resources to investigate (DOJ 1996, 1995). Yet employers seem to have been particularly successful in getting their complaints about their own employees acted upon. In fact, in 2000 then INS Associate Commissioner Robert Bach told the *New York Times* that undocumented immigrants are at little risk of workplace raids, "unless the employer turns a worker in, and employers usually do that only to break a union or prevent a strike or that kind of stuff" (Uchitelle 2000, A1).

A study by law professor Michael Wishnie

17. Threats were made in 7 percent of cases overall, but in just over 6 percent not reported to involve undocumented workers. This figure is derived from calculating conditional probabilities of threat given the lead organizer's report of whether the unit included undocumented workers. The result relies on the Bronfenbrenner's report that 2 percent of campaigns were reported to involve undocumented workers. The probability of threat and undocumented is  $(0.02 \times 0.52) = 0.0104$ . Because the reported overall probability of threat is 0.07, the probability of threat and not undocumented is  $0.07 - 0.0104 = 0.0596$ . Because the not undocumented cases account for 98 percent of the total, the probability of threat given not undocumented is  $0.0596 \div 0.98 = 0.0608$ .



provides empirical evidence that such calls to INS frequently resulted in arrests and deportations (2004).<sup>18</sup> He requested records relating to labor standards complaints and union organizing campaigns for each of the 184 businesses raided by INS in the New York City area during a thirty-month period between 1997 and 1999. He found that 55 percent of raided businesses were subject to at least one other labor proceeding or investigation at the time. Wishnie argues that these raids are “likely prompted by a labor dispute”—that is, are retaliatory.

Even absent widespread threats, we might hypothesize that after the implementation of IRCA’s sanctions provisions, once unauthorized immigrants had secured a job, they were less likely than legal immigrants to respond to poor wages by looking for a new job (which would require going through the I-9 process and potentially exposing them as lacking valid documents). After IRCA, perhaps unauthorized immigrants have been willing to stick with their current employer despite low pay, and similarly situated legal immigrants might seek a new employer willing to pay more for the experience and skills they had built up on the job. These labor market frictions could give employers what economists would call monopsony power over unauthorized employees.<sup>19</sup>

The statistical analysis presented earlier does not provide any way to directly test the relationship between employers’ implicit or explicit threats of immigration raids and the post-IRCA differential in pay between unauthorized male Mexican immigrant workers and their legal counterparts. Nor does it provide a way to adjudicate between such threats and monopsony power due to a reduced willingness to change jobs. However, the analysis does show that this pay penalty for unauthor-

ized immigrants is not due to employers simply passing along the expected costs of employer sanctions fines. Given the evidence that employers often meet demands for improvements in wages and working conditions or other legally protected workplace rights with threats of immigration raids, further research into the relationship of such threats and raids to the post-IRCA pay penalty for unauthorized workers is warranted. Whatever the cause may be, the lower pay received by unauthorized workers in the post-IRCA period amounts to billions of dollars in annual savings to the firms that employ unauthorized immigrants. The low wages accepted by unauthorized immigrants in the post-IRCA period strongly suggest that IRCA’s employer sanctions provisions have failed to create disincentives to the hiring and employment of unauthorized immigrants.

#### APPENDIX: ALTERNATIVE MODEL SPECIFICATIONS

Table A1 shows models I and II from table 3, as well as these same models with the addition of fixed effects for state and each of fifteen categories of industry and occupations. These models (Ia and IIa) also have standard errors corrected for clustering on year. This table is included in the appendix for two reasons. The first is to show that the post-IRCA wage gap does not result from some change in the geographic or industry-occupation distribution that coincides with the timing of IRCA. The second is to examine the effect of including fixed effects for industry-occupation and state on the coefficient of the expected fines measure or measures. The models with fixed effects and standard errors adjusted for clustering on years should address the deflation of standard

18. Technically, few apprehended unauthorized immigrants go through formal deportation or removal proceedings. Most waive their right to such a proceeding in return for a speedy repatriation to their country of origin.

19. I hesitate to hypothesize that a set of employers unwilling to hire unauthorized immigrants created a restricted labor market for them which gave employers monopsony power. Even if this was the case immediately following the passage of IRCA, when employers might have expected significant enforcement, the reality is that strong employer demand for undocumented immigrant workers was the key factor that attracted millions of Mexican immigrants to cross the border to the United States without valid documents throughout the 1990s (Lowell, Pederzini, and Passel 2008). It seems unlikely that limited employment opportunities reduced wages in the same period that huge expansions of employment opportunities drew millions to work in the United States.



errors due to clustering of expected fine measures on industry-occupation, state, and year. However, the fixed effects also capture both time-constant effects of employer sanctions enforcement and other fixed characteristics of each industry-occupation category and state. Including the fixed effects (and adjusting standard errors for clustering of observations by year) does decrease the magnitude of the expected fine measure calculated using all (knowing and paperwork) fines and renders it statistically insignificant. However, this is one instance in which the choice of expected fines measures does lead to different conclusions. Model IIB shows that an expected fines measure calculated only on knowing hire fines remains statistically significant with state and industry-occupation fixed effects.

Table A2 reports results from models that use such a knowing hire only expected fine measure which are otherwise the same as those reported in table 3. This table shows that the paper's primary conclusions are not dependent on the choice of expected fines measures. The coefficients for the (knowing) expected fine measure in models IIC-IVc are larger than in models II-IV, largely because the expected fine measure here, calculated using only knowing fines, is generally smaller than that in table 3. Unlike the expected fines measure in table 3, the knowing fines measure main effect remains significant in model IIIC. Neither the measures used in table 3 nor those in table A2 suggest a statistically significant differential relationship between either expected fine measure and unauthorized status; nor does any evidence indicate that either measure explains the post-IRCA wage penalty for unauthorized Mexican immigrant men.

Table A3 addresses the role of local labor market conditions, specifically, the unemployment rate and the legalization rate. As noted earlier, Phillips and Massey (1999) find that neither of these factors was statistically significant. Given this, effort spent updating these series seems unlikely to yield much payoff. To complicate matters somewhat, MSAYEAR, the

MMP file containing data on these variables through 1995, is currently available with only geographic codes for Metropolitan Statistical Areas from older versions of the MMP. The currently available MMP uses Census Bureau codes for MSAs. The MMP staff is in the process of updating this file.

In the meantime, I have made a match of MSAs to the older MMP geographic codes, which, though imperfect, is hopefully sufficient to briefly revisit the effects of local labor market on Mexican immigrants' wages. Some cases from areas with small populations of Mexican immigrants were not matched, but the majority of immigrants are included.

All three models in table A3 are limited to cases for which both unemployment rates and legalization rates are available in the MSAYEAR file, thus they span the years from 1970 to 1995.

Column I shows results similar to table 3, model II, but limited to this smaller sample of 1969 cases. Column II includes the unemployment rate and the legalization rate, which is basically the number of Mexicans granted permanent legal status (green cards) from INS data divided by the size of the Mexican foreign-born population within the MSA (for more detail, see Phillips and Massey 1999). Here, however, unlike Phillips and Massey's results, some statistically significant relationship between legalization rate and wages is indicated. However, including these variables does not significantly decrease the magnitude of the post-IRCA legal status wage gap. Along these same lines, column III includes interactions with legalization rate and unauthorized status and unemployment rate and unauthorized status. These interactions terms are small, positive, and statistically insignificant, which suggests that these factors do not differentially affect unauthorized Mexican immigrants and therefore do not explain the differences in wages. Based on the data available, there is no basis for revising Phillips and Massey's 1999 conclusion that the post-IRCA wage gap cannot be attributed to local unemployment or legalization rates.

**Table A1.** Regressions of Logged Hourly Wages with and Without Fixed Effects for State and Industry/Occupation Categories

Variable	Model I	Model Ia	Model II	Model IIa	Model IIb
Age	0.010 (0.006)	0.009 (0.005)	0.010 (0.006)	0.009 (0.005)	0.010 (0.005)
Age squared	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)
U.S. experience	0.001* (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
U.S. duration	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Number of U.S. trips	0.002 (0.003)	0.005 (0.003)	0.004 (0.003)	0.006* (0.003)	0.006* (0.003)
<b>Education (reference = none)</b>					
One to three years	0.065 (0.057)	0.072 (0.061)	0.072 (0.056)	0.076 (0.059)	0.080 (0.059)
Four to five years	0.094 (0.066)	0.104 (0.058)	0.101 (0.066)	0.108 (0.058)	0.106 (0.059)
Six to eleven years	0.094 (0.056)	0.092 (0.052)	0.096 (0.057)	0.094 (0.052)	0.094 (0.052)
Twelve or more years	0.204** (0.064)	0.191** (0.063)	0.206** (0.064)	0.195** (0.062)	0.196** (0.062)
<b>English (reference = none)</b>					
Understands some	0.093** (0.032)	0.075** (0.023)	0.088** (0.032)	0.074** (0.023)	0.076** (0.023)
Speaks some	0.148*** (0.039)	0.140** (0.046)	0.146*** (0.039)	0.142** (0.045)	0.140** (0.044)
Speaks well	0.252*** (0.063)	0.225** (0.076)	0.242*** (0.063)	0.223** (0.076)	0.226** (0.076)
<b>Immigration status (reference = authorized post-IRCA)</b>					
Authorized pre-IRCA	0.152 (0.104)	0.126 (0.113)	0.106 (0.106)	0.097 (0.123)	0.097 (0.118)
Guestworker	-0.460 (0.345)	-0.488 (0.253)	-0.463 (0.345)	-0.489 (0.252)	-0.495 (0.252)
Unauthorized Pre-IRCA	0.023 (0.064)	-0.021 (0.080)	-0.022 (0.067)	-0.049 (0.091)	-0.048 (0.084)
Post-IRCA	-0.122** (0.042)	-0.139*** (0.030)	-0.132** (0.042)	-0.146*** (0.032)	-0.139*** (0.031)
Grandfathered	-0.058 (0.060)	-0.076 (0.083)	-0.073 (0.062)	-0.085 (0.087)	-0.081 (0.085)
Time trend	-0.003 (0.004)	-0.008 (0.005)	-0.005 (0.004)	-0.009 (0.005)	-0.009 (0.005)
Expected fine (all)			-5.139*** (1.544)	-2.925 (1.664)	
Expected fine (knowing only)					-21.018*** (4.066)
Constant	1.236*** (0.138)	2.023*** (0.300)	1.290*** (0.139)	2.039*** (0.302)	2.036*** (0.300)
State fixed effects	No	Yes	No	Yes	Yes
Industry fixed effects	No	Yes	No	Yes	Yes
N	3,249	3,249	3,249	3,249	3,249
R <sup>2</sup>	0.1914	0.2430	0.1964	0.2444	0.2499

Source: Author's calculations.

Note: Robust standard errors corrected for clustering on year in parentheses.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

**Table A2.** Regressions of Logged Hourly Wages with Expected Fines Measures Based on Knowing Hire Fines Only

Variable	Model IIc	Model IIIc	Model IVc
Age	0.010 (0.006)	0.010 (0.006)	0.010 (0.006)
Age squared	-0.0002** (0.0001)	-0.0002** (0.0001)	-0.0002** (0.0001)
U.S. experience	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
U.S. duration	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Number of U.S. trips	0.003 (0.004)	0.003 (0.003)	0.004 (0.004)
<b>Education (reference = none)</b>			
One to three years	0.074 (0.056)	0.073 (0.056)	0.076 (0.056)
Four to five years	0.096 (0.066)	0.097 (0.066)	0.100 (0.066)
Six to eleven years	0.094 (0.056)	0.093 (0.057)	0.097 (0.056)
Twelve-plus years	0.204** (0.064)	0.203** (0.064)	0.205** (0.064)
<b>English (reference = none)</b>			
Understands some	0.091** (0.031)	0.091** (0.031)	0.090** (0.031)
Speaks some	0.145*** (0.039)	0.146*** (0.039)	0.146*** (0.039)
Speaks well	0.247*** (0.063)	0.248*** (0.063)	0.244*** (0.063)
<b>Immigration status (reference = authorized post-IRCA)</b>			
Authorized pre-IRCA	0.123 (0.104)	0.125 (0.104)	0.112 (0.104)
Guestworker	-0.460 (0.344)	-0.459 (0.344)	-0.464 (0.342)
Unauthorized Pre-IRCA	-0.003 (0.064)	-0.002 (0.064)	-0.014 (0.065)
Post-IRCA	-0.122** (0.041)	-0.117** (0.042)	-0.123** (0.041)
Grandfathered	-0.065 (0.060)	-0.062 (0.060)	-0.070 (0.061)
<b>Enforcement measures</b>			
Knowing fines	-25.48*** (4.774)	-21.67*** (5.913)	-24.87*** (4.795)
Knowing fines*unauthorized		-9.214 (9.328)	
Probability of audit			-22.80 (13.149)
Time trend	-0.004 (0.004)	-0.004 (0.004)	-0.004 (0.004)
Constant	1.261*** (0.137)	1.262*** (0.137)	1.261*** (0.137)
N	3,249	3,249	3,249
R <sup>2</sup>	0.2023	0.2027	0.2036

Source: Author's calculations.

Note: Robust standard errors corrected for clustering on year in parentheses.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

**Table A3.** Regressions of Logged Hourly Wages with Local Labor Market Variables

Variable	Model I	Model II	Model III
Age	0.017* (0.008)	0.016* (0.008)	0.016* (0.008)
Age squared	-0.0003** (0.0001)	-0.0003** (0.0001)	-0.0003** (0.0001)
U.S. experience	0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
U.S. duration	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Number of U.S. trips	0.009* (0.004)	0.009* (0.004)	0.009* (0.004)
<b>Education (reference = none)</b>			
One to three years	0.162** (0.062)	0.162** (0.062)	0.162** (0.062)
Four to five years	0.201* (0.080)	0.206* (0.080)	0.212** (0.081)
Six to eleven years	0.198** (0.065)	0.202** (0.064)	0.201** (0.065)
Twelve-plus years	0.277*** (0.075)	0.276*** (0.074)	0.278*** (0.074)
<b>English (reference = none)</b>			
Understands some	0.068 (0.035)	0.064 (0.035)	0.063 (0.035)
Speaks some	0.163** (0.051)	0.151** (0.050)	0.147** (0.050)
Speaks well	0.202* (0.087)	0.192* (0.087)	0.185* (0.087)
<b>Immigration status (reference = authorized post-IRCA)</b>			
Authorized pre-IRCA	-0.051 (0.125)	-0.068 (0.129)	-0.081 (0.131)
Guestworker	-0.174 (0.160)	-0.169 (0.159)	-0.168 (0.159)
Unauthorized Pre-IRCA	-0.106 (0.080)	-0.131 (0.088)	-0.186 (0.140)
Post-IRCA	-0.180** (0.055)	-0.171** (0.055)	-0.231* (0.112)
Grandfathered	-0.027 (0.084)	-0.027 (0.085)	-0.084 (0.132)
Expected fine	-4.475* (1.956)	-5.084* (1.981)	-5.255** (1.984)
Unemployment rate		-0.009 (0.007)	-0.012 (0.013)
Unemployment*unauthorized			0.004 (0.016)
Legalization rate		-0.003* (0.001)	-0.007* (0.003)
Legalization rate*unauthorized			0.006 (0.003)
Time trend	-0.017** (0.005)	-0.017** (0.006)	-0.018** (0.006)
Constant	1.261*** (0.179)	1.363*** (0.177)	1.423*** (0.202)
N	1,979	1,979	1,979
R <sup>2</sup>	0.2235	0.2279	0.2301

Source: Author's calculations.

Note: Robust standard errors in parentheses.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

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