Immigration, Employment Opportunities, and Criminal Behavior

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We take advantage of provisions of the Immigration Reform and Control Act of 1986 (IRCA), which granted legal resident status to long-time unauthorized residents but created new obstacles to employment for more recent immigrants, to explore how employment opportunities affect criminal behavior. Exploiting administrative data on the criminal justice involvement of individuals in San Antonio, Texas and using a triple-differences strategy, we find evidence of an increase in felony charges filed against residents most likely to be negatively affected by IRCA's employment regulations. Our results suggest a strong relationship between access to legal jobs and criminal behavior. (JEL F22, J15, J18, J61, K42, R23)

Immigration policy is one of the most hotly debated issues in the United States today. Public opinion polls suggest that 89 percent of Americans believe that immigrants are hard workers and that 60 percent believe that immigrants enhance American culture. At the same time, 40 percent view immigrants as a drain on social services and large shares believe that immigrants in general (32 percent), and

immigrants who entered the country illegally in particular (58 percent), increase local crime (Bell and Machin 2013). These public divisions over immigration are played out on the political stage, where there are sharply contrasting views on the extent to which people living in the U.S. illegally should have access to employment opportunities. However, despite strong feelings on the subject, there is little empirical research on the social implications of limiting immigrants' access to the formal labor market.

In the late 1980s, close to three million people in the U.S. were granted legal resident status through the Immigration Reform and Control Act of 1986 (IRCA). Under the provisions of IRCA, any non-citizen who could document living in the U.S. since before January 1, 1982 could apply to be a permanent legal resident of the U.S. until May 4, 1988. Agricultural workers who were not citizens could apply for amnesty through November 30, 1988.

At the same time that IRCA created a pathway to legal status for previously undocumented immigrants, it shut off access to legal employment for people who arrived in the U.S. after the window to apply for amnesty closed. Specifically, IRCA required that employers attest to their employees' immigration status and made it illegal for firms to knowingly hire those not authorized to work in the country. Consequently, as of May 5, 1988 (December 1, 1988 for agricultural workers), individuals living in the U.S. without proper documentation were barred from the formal labor market.

The passage and implementation of IRCA provides an opportunity to explore how variation in policies toward immigrants, and specifically policies that affect immigrants' ability to find gainful employment, influence their propensities to engage in criminal behavior. Differences in immigration policies could help to explain the often conflicting findings on the effects of immigration on crime across countries and over time (e.g., Butcher and Piehl 1998; Moehling and Piehl 2009; Bianchi, Buonanno, and Pinotti 2012; Bell, Machin, and Fasani 2013). While

several studies examine the impact of IRCA's provisions on aggregate crime rates, no study has been able to distinguish between crimes committed by groups whose labor market opportunities were directly affected by the reform from the responses of natives, in large part because the immigration status of people who violate state laws is generally not collected by local authorities.

In this paper, we shed new light on the relationship between immigration, employment regulations, and crime by examining the criminal justice involvement of individuals in Bexar County, Texas. Bexar County is a roughly two-hour drive from Mexico and is home to a large Hispanic population. The largest city in Bexar County, San Antonio, has been a "minor-continuous" immigrant gateway since 1900 (Hall et al. 2011). During the 1980s, an estimated 2,500 to 5,000 generally low-skilled immigrants arrived in the city each year, driven primarily by economic conditions in Mexico (Donato, Durand, and Massey 1992b). Between 1987 and 1988, close to 29,000 people filed amnesty applications at INS offices in the San Antonio metropolitan area, which as a share of the total population, put the city in the same league as Houston, Chicago, San Jose, and Miami (Baker 1990).[1] Unlike many other cities, though, San Antonio's amnesty-seeking immigrant population was highly homogenous; according to INS records, 95 percent of those who applied for amnesty in Bexar County listed Mexico as their place of birth.

To explore IRCA's potentially varied impacts on criminal behavior, we use administrative records detailing every felony charge filed in Bexar County between 1985 and 1989. These data allow us to classify individuals not only by ethnicity, but also by place of residence. We take advantage of information on the latter to determine the probability that Hispanic individuals accused of crimes were recent immigrants who faced increased barriers to employment. To do so, we draw on the literature on immigrant location decisions and combine our administrative data on

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[1] See Appendix Table A1.

crimes with finely detailed information on characteristics of the neighborhoods in which people were living when they committed their alleged offenses. We use these neighborhood characteristics to identify residents more or less likely to have been negatively impacted by IRCA, and thus those whose legal status and employment opportunities changed differentially as the law's provisions went into effect.

We find that following the expiration of amnesty, there was a clear increase in alleged felonies by Hispanic residents relative to non-Hispanic residents, with the largest effects in those neighborhoods in which, based on demographic research and Census data, Mexican immigrants were most likely to initially locate. Moreover, the effects were concentrated in crimes that have a clear economic motive, and specifically felony drug offenses – income generating crimes that are a close substitute for formal work (Reuter, MacCoun, and Murphy 1990; Levitt and Venkatesh 2000). Although our primary, research-driven definition of immigrant destinations incorporates measures of neighborhood poverty, the estimated effects are larger with a definition that places relatively more weight on the fraction of local households who are foreign born, speak Spanish, and are of Mexican descent. Our results are also robust to different assumptions about the time pattern of IRCA's effects, alternative functional forms, and extreme assumptions about the growth of the (authorized and unauthorized) immigrant population.

The empirical results are consistent with a simple economic model of rational criminal behavior and also have strong implications for the relationship between immigration and crime. In particular, policies governing access to formal employment for immigrants may have adverse effects on their subsequent criminal activity. However, another possible mechanism linking immigration reform to our measure of crime is a change in the propensity of Hispanics to have felony charges filed against them. For example, if the police's treatment of Hispanics (and in particular Hispanics in immigrant neighborhoods) changed following IRCA or if newly legalized immigrants were more likely to report neighborhood crime by

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Hispanics to the police, we could observe more charges even in the absence of any increase in underlying criminal behavior. This is of particular concern for drug offenses, as new anti-drug policies enacted during the 1980s are widely thought to have contributed to heightened racial disparities in incarceration (U.S. Sentencing Commission 2009; Kennedy 2011; Neal and Rick 2014).

We differentiate the impact of immigration reform on the behavior of recent immigrants from its impact on the behavior of law enforcement in two ways. First, we verify that our findings are driven by Hispanics as opposed to other minority groups, and in particular other minority groups also differentially affected by stricter drug policy enforcement. Second, we test more rigorously for a change in the relationship between Hispanics and the criminal justice system by examining patterns of conviction rates across ethnic groups over the same time period. We find little evidence that, after IRCA, felony charges filed against Hispanic residents in general, and those living in immigrant enclaves in particular, were more or less likely to result in conviction. Overall, the results are consistent with existing research on police behavior during IRCA (Bohn, Freedman, and Owens 2015) as well as anecdotal evidence from local news articles from the period, which highlight the difficulties faced by new immigrants lacking legal documentation, but limited effects of immigration legislation on other populations or on police behavior.[2] Instead, the results imply that limiting immigrants' access to legal employment increases crime, and in particular crime that is a close substitute for formal work. Our findings suggest caution in pursuing policies that restrict the

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[2] As part of our analysis, we identified all articles published in the *San Antonio Express-News*, the major local newspaper, between January of 1986 and December of 1988 that referenced criminal justice policy, immigration, and local public finance. The results of this search corroborate our empirical results and help us to rule out otherwise plausible alternative explanations for our findings, such as changes in the criminal behavior of black residents, changes in policing or the criminal justice system, or spillovers from the Mexican drug war.

ability of immigrants to participate fully in the formal labor market, as such policies may have unintended, adverse effects on criminal activity.

The paper proceeds as follows. In Section I, we describe the key institutional changes put in place by IRCA and summarize existing research on the law's economic impacts. We discuss the theoretical framework that guides our empirical analysis in Section II. In Section III, we describe our dataset and discuss our empirical approach to identifying the effects of immigration reform on criminal activity. We present our results in Section IV. Section V concludes.

I. The Immigration Reform and Control Act of 1986 (IRCA)

A. *Background*

Confronted with a large and growing unauthorized population, Congress passed a comprehensive set of immigration reforms in 1986. Enacted on November 6, IRCA aimed to reduce the unauthorized population by granting amnesty to resident non-citizens and to stem the future flow of unauthorized immigrants through enforcement policy at the border and in the interior.

Amnesty under IRCA conferred temporary, then permanent, legal status (if applied for) for immigrants under two primary programs: a general legalization program and a program specific to seasonal agricultural workers. Nationwide, these two programs provided work documents to 1.7 and 1.3 million immigrants, respectively (Phillips and Massey 1999). The Legally Authorized Workers legalization program (LAW) required continuous residence in the U.S. from January 1, 1982. The Seasonal Agricultural Workers legalization program (SAW) allowed flexibility on year of arrival (which could be after 1982) and length of stay (which need not be continuous) for agricultural workers meeting certain work requirements. As San Antonio is an urban area, the vast majority of applicants in Bexar County (82 percent) applied for amnesty under LAW according to INS records.

A companion section of the IRCA legislation augmented border and interior enforcement measures. Funds were directed to increasing infrastructure at the border in order to deter illegal crossing.[3] Additionally, a set of interior measures were aimed at discouraging illegal immigration by diminishing employment opportunities for unauthorized individuals. These measures were targeted at employers. Specifically, IRCA required employers to verify the legal status of workers (by completing I-9 forms for all employees) and set forth civil and criminal penalties for knowingly hiring or recruiting unauthorized immigrants. Implementation of employer sanctions happened in three phases: an initial roughly six-month period of education, a one-year period of citations issued to first-time violators, then full enforcement of the sanctions (U.S. GAO 1990). Coincident with the expiration of the amnesties, the INS ramped up its employer audits and began issuing fines in 1988 and 1989 (Brownell 2005). A survey of a random sample of employers in 1989 revealed a compliance rate with I-9 requirements of 65 percent nationwide, and 75 percent in Texas specifically (U.S. GAO 1990).[4]

Under both LAW and SAW amnesties, an applicant who could provide prima facie evidence that he or she qualified for amnesty was issued a U.S. work authorization card when he or she left the legalization office; this authorization was immediately effective and renewable until the INS made a final determination on that individual's case (Baker 1990; Hagan and Baker 1993). Evidence on

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[3] Our data do not include those apprehended by the border patrol, who largely operate closer to the border and are agents of the federal government. Based on data from the Annual Survey of Jails, there is also little evidence that local law enforcement cooperated in any meaningful way with the INS to enforce immigration policy; in surveys conducted between 1987 and 1990, Bexar County jails reported holding at most three individuals who were scheduled to be transferred to federal detention centers for deportation proceedings at any given point in time, less than 0.1 percent of the county jail population. However, the passage of IRCA could have affected the attitudes and behavior of other agents in the local criminal justice system, a point to which we return in Section IV.D.

[4] In part due to concerns that the potential sanctions against employers violating IRCA would lead to discrimination against some groups of authorized workers, the law also prohibited employers with four or more employees from discriminating against authorized workers on the basis of citizenship or national origin (U.S. GAO 1990).

immigration patterns as well as anecdotal reports strongly suggest that the residency requirements of both LAW and SAW programs were widely flouted. Based on surveys conducted in Mexico, Donato and Carter (1999) concluded that over 70 percent of LAW applications and 40 percent of SAW applications were likely fraudulent. A black market emerged for the documents needed to "prove" the date of entry into the U.S.; as one federal employee in California recounted, "rent receipts, food receipts… anything needed was for sale on Los Angeles streets… there were document vendors all over the place and fraud was rampant" (Oltman 2011). Further, in order to reduce the administrative burden, initial amnesty applications could be submitted by mail as well as by local community groups (such as Catholic Charities and public notaries); the latter were paid $15 per application forwarded to the legalization office and, as Baker (1990) noted, would generally accept "anything with '1981' in the file" as sufficient evidence of LAW amnesty eligibility, particularly as the deadlines neared. Despite the ease with which ineligible immigrants could collect documentation to demonstrate long-term residency and submit amnesty applications, almost all applicants were granted legal status. As of 1992, only 4.5 percent of amnesty applications filed in Bexar County had been denied by the INS.

A comparison of Census and INS data highlights the degree of systematic misrepresentation of immigrants' date of entry into the U.S on their amnesty applications. Figure 1 uses the 1990 Decennial Census to estimate the size of immigrant cohorts, legal and illegal, by year of entry. The Census data suggest that roughly 2,000 people per year moved to Bexar County permanently from outside the country in the second half of the 1960s. That number increased to about 2,700 per year in the 1970s. Annual immigration rates rose to about 5,000 in the first two years of the 1980s before falling back to roughly 2,700 between 1982 and 1984. Immigration rates rose slightly in 1985 and 1986 before declining again later in the decade.

[FIGURE 1 APPROXIMATELY HERE]

Meanwhile, Panel A of Figure 2 shows the year of entry stated on applications for amnesty under IRCA based on the 1992 INS Legalization Summary File Public Use Tape. In contrast to the Census data, which suggest that annual immigration increased by 85 percent in the first two years of the 1980s, the INS data point to a 300 percent increase during that period. Further, instead of falling by half after 1981, the INS records suggest that immigration fell by 70 percent.

[FIGURE 2 APPROXIMATELY HERE]

Not only is there significant bunching in self-reported, retrospective year of entry in the INS records, but almost 40 percent of Bexar County amnesty applicants who told the INS that they arrived in 1981 reported arriving in the last three months of the year. As Panel B of Figure 2 shows, fewer than 25 percent reported arriving in the fourth quarter of any other year between 1972 and 1988.

The large amount of manipulation of entry dates by amnesty applicants that these figures imply, together with the low cost of obtaining false documentation of residency and lax standards for approving applications, suggest that in addition to those eligible, many technically ineligible immigrants in Bexar County (i.e., those who had only recently arrived in the country) were likely granted work authorization.[5] Despite this, Woodrow and Passel (1990) estimated that nationwide, one-third of undocumented Mexican residents did not apply for amnesty, and that those that did not apply generally arrived in the country after 1982. After the INS offices closed, these immigrants as well as new arrivals to the U.S. faced more limited economic opportunities.[6]

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[5] On the morning of the last day of LAW amnesty, over 500 people were lined up outside of the San Antonio INS office (Ramirez and Crouse 1988).

[6] A U.S. federal appeals court ruled that immigrants who were eligible for amnesty and intended to apply were protected by federal laws prohibiting discrimination related to national origin and citizenship status.

In spite of the diminished employment prospects, accounts of immigration into the U.S. during this time period suggest little reduction in the arrival rate of immigrants from Mexico in the months after the expiration of amnesty (Associated Press 1988a, 1988b; Vernez and Ronfeldt 1991). Indeed, surveys of migrants between 1987 and 1989 point to little change after IRCA in the likelihood of immigrating without documents, making repeat illegal trips, or being apprehended by the border patrol (Donato, Durand, and Massey 1992b). Consistent with there being little change in border crossings at the time, Bustamante (1990) presents monthly survey data from immigrants entering the U.S. at Nuevo Laredo, the closest major border town to San Antonio, between November of 1987 and November of 1988, and finds that the average cost of entering the country each month over this time period was quite stable at roughly $80,000. Though IRCA was in part aimed at curbing the future flow of unauthorized immigrants, there is also little evidence that the law significantly affected long-term patterns of undocumented immigration (Massey and Espinosa 1997; Orrenius and Zavodny 2003).

B. *Labor Market Impacts of IRCA*

In the short run, legalization may have primarily served to allow many previously unauthorized immigrants to keep their current jobs (Hagan and Baker 1993). There is, however, broad agreement that in the long run amnesty conferred economic gains to those who were legalized. Kossoudji and Cobb-Clark (2002) find a wage benefit of legalization under LAW of approximately 6 percent by 1992. Rivera-Batiz (1999) and Lozano and Sorensen (2011) also document positive impacts of legal status on immigrants' earnings in the years after IRCA. Amuedo-Dorantes, Bansak, and Raphael (2007) find evidence of increased wage growth and job mobility among newly legalized immigrants between 1987 and 1992.

Meanwhile, IRCA's effects on unauthorized immigrants who failed to obtain amnesty were generally negative and more immediate. Those without work

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authorization after amnesty expired faced more limited labor market opportunities, a reflection of employer costs associated with sanctions or sanction avoidance (Phillips and Massey 1999; Kossoudji and Cobb-Clark 2002). A number of studies suggest that soon after IRCA's passage, unauthorized immigrants experienced a substantial reduction in wages, on the order of 14-24 percent, as well as poorer working conditions (Donato, Durand, and Massey 1992a, Donato and Massey 1993; Sorensen and Bean 1994; Bansak and Raphael 2001; Kossoudji and Cobb-Clark 2002). Job search durations among unauthorized workers also increased after IRCA (Bach and Brill 1991). Taken together, these studies suggest that IRCA's employment measures led to a discrete and, particularly relative to the modest improvements experienced by those who were legalized, a sharp deterioration in labor market opportunities and outcomes among unauthorized immigrants. [7] However, to the extent that enforcement of employer sanctions waned in the 1990s (U.S. GAO 1994, Brownell 2005), some of the negative effects of IRCA on the economic opportunities, and thus criminal activity, among unauthorized immigrants may have dissipated over time.

II. Legal Status and Criminal Activity

To help motivate the empirical analysis that follows, we outline in this section a theoretical framework relating work, crime, and legal status. We relegate the formal model to the appendix, but discuss the intuition and several key implications here.

There are three primary channels through which legal residency status could affect decisions to engage in crime. First, legal residency status could affect the amount one can earn in the formal labor market; higher wages will tend to reduce time devoted to criminal activity. Second, legal status could affect the probability

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[7] Some studies have found that Hispanic legal workers may have faced discrimination and wage declines as a result of IRCA's employer sanctions (Bansak and Raphael 2001). However, the extent of such discrimination resulting from IRCA seems to be small (Lowell, Teachman, and Jing 1995).

of being caught committing crime; if the propensity to report crimes differs across groups or police treat groups differently (potentially due to changes in immigration policy), crime rates (or at least observed crime rates) may vary across groups.[8] Third, legal residency status could affect punishment if caught engaging in criminal activity. For example, immigrants in the country illegally may be deported for committing a felony; if deportation is perceived as harsher than imprisonment, it might differentially deter crime among illegal immigrants.[9]

Applied to our empirical setting, to the extent that amnesty under IRCA conferred wage benefits to those newly authorized to work in the formal market, the law should have lowered the incentive for this group to engage in illegal behavior, and in particular income generating illegal behavior such as car theft, burglary, larceny, prostitution, and drug sales. While these wage benefits accrued only gradually, and therefore might be expected to affect rates of criminal activity only in the longer run, the possibility that legal status would be revoked among newly legalized immigrants for committing a felony or three misdemeanors during an 18-month probationary period would have tended to further dampen incentives to engage in crime through the punishment channel in the short run. After the probationary period, though, perceived punishments could have been lower since deportation was no longer a threat once citizenship was conferred.

Meanwhile, more recent immigrants who did not obtain amnesty faced barriers to work that their predecessors did not, increasing their relative return to crime. It is less clear that actual or perceived punishments immediately changed for those who did and did not obtain amnesty, since as described above, a felony or three

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[8] Skogan (1984) hypothesizes that lower observed crime rates among immigrants could be partly attributable to lower reporting, although more recent work suggests that such differences in reporting patterns in the U.S. are not large (Davis and Henderson 2003).

[9] Greater expected punishments are one plausible explanation for the fact that Hispanic immigrants tend to commit fewer crimes on average than other groups in the U.S. with similar economic circumstances. Another explanation for the relatively low crime rates of immigrants is selection in who immigrates to the U.S. (Butcher and Piehl 2007).

misdemeanor convictions voided the amnesty process. Changes in the treatment of newly legalized and illegal immigrants by the criminal justice system could also influence criminal activity, although the observed effect on the crime rate for each group will depend on the elasticity of criminal activity with respect to the probability of arrest as well as law enforcement's ability to determine a suspect's legal status. Finally, changes in the composition of immigrants after IRCA could affect crime rates. However, there is little evidence of a discrete change in the number or composition of immigrants to Bexar County around the reform, as most who were leaving Mexico were motivated by economic factors at home (Donato, Durand, and Massey 1992b). Additionally, from a policy perspective, what is important is the total effect of immigration policy on crime, which reflects both the policy's impact on the composition of immigrants and its impact on the behavior of individual immigrants.

While the relationship between immigration and crime has been the topic of a number of studies (e.g., Butcher and Piehl 1998; Moehling and Piehl 2009; Bianchi, Buonanno, and Pinotti 2012), researchers have only recently begun to explore the link between legal status and criminal activity. As highlighted in a recent review by Bell and Machin (2013), the little work that exists points to an important role for changes in economic opportunities. For example, Bell, Machin, and Fasani (2013) identify substantial increases in aggregate property crime in British neighborhoods with large influxes of immigrants, but only if those immigrants were refugees legally prohibited from working. Taking advantage of exogenous variation in immigrants' legal status after a round of European Union enlargement, Mastrobuoni and Pinotti (2015) find that obtaining legal status lowered recidivism among Italian immigrants. The reductions were relatively large among legalized immigrants in Italian regions where the informal economy was small, suggesting that access to legal jobs drove the observed decline in immigrant recidivism rates. Meanwhile, Pinotti (2017) finds that immigrants awarded residence permits and a

right to work in Italy by electronically submitting their applications just before a quota was reached relative to those who submitted right after had lower rates of crime, and in particular economically motivated crime, in the short run.

In another study on IRCA's effects, Baker (2015) finds that U.S. counties with more legalized immigrants had lower aggregate crime rates in the 1990s. Unlike Baker (2015), our individual-level data identifying both crime type and residence of the alleged offender allow us to isolate the specific effects of restrictions on labor market opportunities, which in the case of IRCA were immediately binding for those who had not submitted required paperwork by the amnesty deadlines. We can also better disentangle alternative mechanisms for the observed changes in criminal activity by exploiting detailed information on neighborhood characteristics and on the subsequent treatment of charged individuals by the criminal justice system.

III. Data, Measurement, and Empirical Strategy

A. *Data*

The data we use in this study come from several sources. First, we obtained historical data on felony charges filed in Bexar County District Court.[10] Using information on initially filed charges, we identified individuals who were accused of committing a crime that occurred between April 1, 1985 and December 31, 1989.[11]

We divided Texas statutes into two categories based on the strength of the financial incentive to commit the crime. Income generating offenses include

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[10] The court records also include information on actual convictions, which we discuss further in Section IV.D.

[11] Our motivation for starting the sample in April 1985 is that the killing of a DEA agent in Mexico in the first quarter of that year brought the drug trafficking problem to national attention and intensified drug policy enforcement efforts, particularly along the U.S.-Mexico border. For details, see https://www.dea.gov/about/history/1985-1990.pdf. Starting the sample before 1985 yields qualitatively similar difference-in-difference and triple-difference estimates, but they tend to be larger in magnitude.

robbery, burglary, car theft, larceny, fraud, forgery, gambling, prostitution, and any felony drug charge.[12] Crimes that we classified as non-income generating are murder, manslaughter, assault, arson, offenses against children, kidnapping, destruction of property, sexual assault, weapons violations, trespassing, evasion of arrest, corruption, conspiracy, and public order offenses.[13] We excluded all DUI charges (765 cases), as repeat DUIs were officially classified as felonies for the first time in the late 1980s.

We next classified each defendant as either Hispanic or non-Hispanic. The court data contain a race variable that identifies defendants as Latino/Latina, White, Black, Asian, or of unknown race. However, because reported race may be endogenous, particularly when the policy we are evaluating directly affects the standing of many Hispanics in the community, we devised our own objective, time-invariant measure of Hispanic origin based on last name. We first identified defendants as Hispanic if their last name was one of the 639 most frequently occurring heavily Hispanic surnames listed in Word and Perkins (1996). The origins of all surnames in the court data that were not on the Word and Perkins (1996) list were verified using Ancestry.com, and we classified anyone with a last name originating in Central or South America, Spain, or Portugal as Hispanic. Our measure of Hispanic origin lines up closely, but not exactly, with one derived directly from the court records.[14] Overall, of the 24,951 felony charges filed against Bexar County residents between 1985 and 1990, we classified 54 percent of the accused criminals as Hispanic. Men make up 85 percent of our alleged felons, and

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[12] The felony drug charges in our data are for drug possession, which could be possession with intent to sell or consume. However, to receive a felony charge, the type and quantity of drugs in possession are such that it is more likely that the owner had an intent to sell.

[13] Descriptive statistics for each type of crime, broken out by ethnicity and time period, appear in Appendix Table A2.

[14] We identified as Hispanic 85 percent of people identified in the court data as Latino/Latina, 20 percent of people identified as White, 2 percent of people identified as Black, 5 percent of people identified as Asian, and 10 percent of people as of unknown race.

73 percent of charges are filed against someone between the ages of 18 and 35.

We then used mapping software to determine the 1990 census block groups in Bexar County where individuals in the data lived at the time that charges were filed against them. Census block groups are the second smallest geographic unit identified by the Census Bureau and represent the smallest areas for which they publish sample data (i.e., data collected in the long-form Decennial Census). We excluded 13 Bexar County block groups with missing demographic information, leaving us with 1,000 block groups in the sample.[15]

Table 1 presents descriptive statistics for our sample. The main dataset is at the block group-month-ethnicity (Hispanic/non-Hispanic) level, yielding $1,000 \times 57 \times 2 = 114,000$ observations. Across block groups and ethnicities in Bexar County during our sample period, there was on average one resident charged with a felony every five months, and roughly three times as many income generating offenses as non-income generating offenses.[16] The low incidence of offenses will be important to keep in mind in interpreting our results. Turning to the demographic characteristics of Bexar County neighborhoods, the mean population of block groups in the sample was 1,185 in 1990. On average, 16 percent of block group residents lived at or below the poverty line in 1990, and there were about 2.7 people per housing unit. Not surprisingly given its proximity to the U.S.-Mexico border, there is a large Hispanic population in Bexar County; in 1990, just under half of neighborhood residents identified themselves as being of Mexican descent, and 39 percent of people said that they spoke Spanish at home. At the same time, however, in 1990 only 9 percent of block group residents reported being born outside the U.S

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[15] One block group was dropped as a result of having zero Hispanic residents, which led our measure of ethnicity-specific charges per capita to be undefined. Results including this block group for non-Hispanic charges (but not Hispanic charges) are nearly identical.

[16] By comparison, based on State Court Processing Statistics and Decennial Census data, there were 0.74 felony cases filed per block group in May 1990 in the 75 most populous counties in the U.S.

on average.

[TABLE 1 APPROXIMATELY HERE]

Notably, the majority (76 percent) of the foreign born population of San Antonio in 1990 reported being from Latin America in the Decennial Census.[17] This link between ethnicity and immigrant status is a relatively distinctive feature of southern Texas, and is also evident in the applications for amnesty submitted to the INS from the region; 99 percent of all amnesty applicants in Bexar County listed a country in Latin America as their place of birth.

B. *Measurement*

To the extent that the work restrictions put in place under IRCA limited employment opportunities for unauthorized workers, we would expect that its effects on crime after the expiration of amnesty would be most pronounced in neighborhoods with the greatest concentrations of recent immigrants, and in particular among the Hispanic residents of those neighborhoods, since non-Hispanic residents of Bexar County during the 1980s were unlikely to be immigrants.[18] To identify neighborhoods with greater concentrations of recent immigrants, we construct an "immigrant destination index" based on five characteristics measured in the 1990 Decennial Census: the poverty rate, the number of residents per housing unit, the fraction of people of Mexican descent, the fraction of adults who speak Spanish at home, and the fraction of foreign born residents. Each of these demographic variables has a well-established correlation with new-immigrant destinations in the U.S. generally, and in San Antonio specifically. There is strong evidence in demography and population research that

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[17] By comparison, 72 percent of the foreign born population of Texas and 44 percent of the U.S. foreign born population in 1990 was from Latin America.

[18] Unlike in many other countries, offenders' nativity is not formally collected by most criminal justice agencies in the U.S., as immigration violations are federal offenses, and most crimes are state offenses. This difference in jurisdiction complicates any effort to differentiate local crime by immigration status.

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immigrants tend to live in poorer neighborhoods before moving to "higher quality" neighborhoods, a process commonly referred to as spatial assimilation (Massey 1985). Immigrants also tend to live in more crowded housing than natives (Krivo 1995). For example, in 2005, roughly 15 percent of foreign born, non-U.S. citizens lived in housing with more than one person per room, compared with 1 percent of people born in the U.S. (Blake, Kellerson, and Simic 2007). Mexican immigrants in San Antonio in particular tend to live in denser urban areas (Telles and Ortiz 2008).

In addition to living in poorer neighborhoods, immigrants who enter the U.S. illegally are more likely to settle in ethnic enclaves (Bartel 1989).[19] Therefore, we also identify areas where more people are likely affected by IRCA by using residents' self-reported national origin, and specifically the percent who report being from Mexico. According to INS records, only 5 percent of those who applied for amnesty in Bexar County listed a country other than Mexico as being their place of birth. Notably, though, Bexar County residents of Mexican descent include both immigrants and U.S. citizens, and high socio-economic status San Antonians of Mexican descent may be unlikely to live near recent illegal immigrants.[20] Therefore, as an indicator of a neighborhood's appeal to new immigrants, we also use the fraction of people who speak Spanish; to the extent that recent immigrants have poorer English language skills, these neighborhoods are likely to be more attractive. Finally, recent immigrants may be more likely to settle in neighborhoods where more people were born outside the country. Indeed, at the state level, the size of the foreign born population is one of the strongest predictors of settlement

[19] As Bell and Machin (2013) note, the historical concentration of co-ethnics and immigrants are frequently used as instruments for the location decisions of new immigrants in quasi-experimental research.
[20] At the same time, Duncan and Trejo (2011) present evidence that more educated citizens of Mexican descent are less likely to identify their Mexican origin on Census forms than less educated citizens of Mexican descent.

patterns (Dunlevy 1991; Zavodny 1999). Therefore, we use the fraction of residents that are foreign born as a final measure of the location of recent immigrants.

To construct the immigrant destination index, we standardize each of the five variables to have a mean of zero and a standard deviation of one, then sum the standardized values. For our main analysis, we place equal weight on each of the five variables in constructing the index; as noted in Table 1, this version of the index has a mean of zero and a standard deviation of 3.94. In supplementary analyses, we investigate the distribution of effect sizes across a range of alternative weighting schemes for the index. While we selected the five variables used to construct the index based on their relationship with the location patterns of recent immigrants who were likely to be negatively impacted by IRCA, some of the variables could plausibly be correlated with the location patterns of long-time resident immigrants who would benefit from IRCA. Notably, though, such correlations would tend to bias us toward finding no differentially large crime effects among Hispanics in the neighborhoods with higher index values.

As a first descriptive step, we present differences in criminal incidence by ethnicity and crime type across neighborhoods more and less likely to be new immigrant destinations based on our index. Notably, if police merely began targeting Hispanics more after IRCA, we would not expect to see differential trends in offenses across neighborhoods that likely had more or fewer new immigrants, nor would we necessarily expect to see large differences across income and non-income generating crimes among Hispanics. Further, if police merely increased their presence in immigrant neighborhoods around the time of IRCA, we would not expect to see differential trends in offenses across Hispanics and non-Hispanics in each type of neighborhood, nor would we expect to see marked differences across income and non-income generating offenses in each type of neighborhood. Similarly, if there were changes in criminal opportunities generated by the increased earning power of IRCA beneficiaries after the reform, we would expect

property crime to increase, and increase by potentially more in immigrant enclaves, but this increase should be driven by all neighborhood residents, not just Hispanic residents. Finally, if police merely began targeting income generating offenses more around this time period (possibly because of changes in drug policy), we would not expect to see differential trends in these income generating offenses among Hispanics and non-Hispanics, nor would we expect to see differences in trends in income generating offenses across neighborhoods with more or fewer immigrants. Changes in employment opportunities due to IRCA would be expected to generate a relative increase specifically in income generating offenses among Hispanics as compared to non-Hispanics that is concentrated in neighborhoods that are likely destinations for new immigrants and that occurs after the expiration of amnesty.

In Figure 3, we plot the average block group-level value of the natural log of felony charges per resident of a given ethnicity by month across the top quartile, middle 50 percent, and bottom quartile of Bexar County neighborhoods according to the immigrant destination index, both for income and non-income generating crimes among Hispanic residents of those neighborhoods (Panel A) and for non-Hispanic residents of those neighborhoods (Panel B). The rates are calculated as the number of charges against individuals of each ethnicity in each block group for each month divided by an estimate of the ethnicity-specific population for that block group and month based on an interpolation between the 1980 and 1990 censuses. The lines represent quadratic fits through the monthly rates that are separately estimated before and after the expiration of the LAW, for which 82 percent of amnesty seekers in Bexar County applied.

[FIGURE 3 APPROXIMATELY HERE]

There are several important patterns that appear in Figure 3. First, among Hispanic residents, crime rates tend to be higher in immigrant destinations; the rate

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of criminal activity among non-Hispanic residents of neighborhoods more and less likely to be immigrant destinations is very similar. More importantly, the rate of criminal activity among Hispanic residents of immigrant destination neighborhoods rose sharply at the time of LAW expiration, and remained persistently higher in the months that followed, but only for income generating crimes. There was essentially no change in income or non-income generating criminal activity among Hispanic residents of neighborhoods in which fewer people were likely to be recent immigrants (i.e., among individuals that were more likely to reside legally in the U.S.). Meanwhile, there was a gradual rise in criminality in general among non-Hispanic individuals during this time period, consistent with broader national trends in crime during the 1980s and early 1990s. The fact that we observe no change in the incidence of crimes committed by likely long-time Hispanic residents during a period in which crime rates were rising more generally is in line with other work highlighting the wage and employment benefits that legalization conferred, as well as with the possibility that the risk of forfeiting the opportunity to gain legal residency depressed crime rates among amnesty applicants during the 18-month probationary period. The patterns of crime observed among non-Hispanic residents after IRCA and its amnesties also suggest that any improvement in the labor market prospects of non-Hispanic workers, owing to the more limited employment opportunities for recent immigrants, did not translate into a reduction in criminal activity for that group.

C. *Empirical Strategy*

We formalize the graphical analysis with a triple-differences framework in which we compare changes in criminal behavior before and after IRCA among Hispanic and non-Hispanic individuals more and less likely to be recent immigrants based on their neighborhood of residence. Specifically, we estimate a regression of the following form:

$$\ln\left(\frac{Crime_{bgt}}{Pop_{bgt}}\right) = \alpha + Hisp_g\theta + Imm_b\gamma + Enact_t\eta_1 + LAW_t\eta_2 + SAW_t\eta_3$$

$$+ (Hisp_g \times Enact_t)\delta_1 + (Hisp_g \times LAW_t)\delta_2 + (Hisp_g \times SAW_t)\delta_3$$

$$+ (Imm_b \times Enact_t)\phi_1 + (Imm_b \times LAW_t)\phi_2 + (Imm_b \times SAW_t)\phi_3$$

$$+ (Hisp_g \times Imm_b)\beta_0 + (Hisp_g \times Imm_b \times Enact_t)\beta_1$$

$$+ (Hisp_g \times Imm_b \times LAW_t)\beta_2 + (Hisp_g \times Imm_b \times SAWt_t)\beta_3 + \varepsilon_{bgt}$$

(1)

In equation (1), $Crime_{bgt}/Pop_{bgt}$ is the number of criminal charges filed per thousand residents of census block group b, who are of ethnic group g, based on alleged crimes committed in month t. We add 0.01 to this ratio so that its log defined for all neighborhoods.[21] We allow for time invariant differences in criminal behavior across ethnic groups ($Hisp_g$) as well as across block groups with varying immigrant destination index (Imm_b) values. The dummy variables for IRCA enactment ($Enact_t$) and the expiration of the two amnesty programs (LAW_t and SAW_t) are equal to one in every month beginning in November 1986, May 1988, and December 1988, respectively.[22] Once each of these dummies switches from zero to one, it remains one thereafter, meaning that the coefficient on each captures the incremental effect of that phase of the policy compared to the previous phase. These IRCA phase dummies are fully interacted with the ethnicity dummy and the immigrant destination index.

The main coefficients of interest in this triple-difference framework are β_1, β_2, and β_3, which represent the differential change in criminal behavior at each stage of IRCA among Hispanic people who, based on their neighborhood of residence in Bexar County, were most likely to be affected by the policy. To the extent that the expiration of LAW represented the most consequential negative shock to employment opportunities for new immigrants in Bexar County, and that this shock

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[21] As discussed in Section IV.C, alternative specifications yield similar results.
[22] Recall that IRCA was enacted on November 6, 1986, the LAW amnesty expired on May 4, 1988, and the SAW amnesty expired on November 30, 1988.

led more to substitute toward crime, it will show up as a larger estimated β_2.

Notably, in our framework, one obtains identical coefficient estimates for the interaction terms of interest by including in equation (1) only the three IRCA phase dummies ($Enact_t$, LAW_t, and SAW_t) as one obtains with a complete set of month-by-year dummies; in either case, the coefficients on the interaction terms reflect differences in average outcomes in each of the IRCA phases across ethnic groups and neighborhoods. Additionally, inclusion of the mean-zero immigrant destination index is mathematically equivalent to inclusion of a full set of block group fixed effects; the two approaches yield identical coefficient estimates for the interaction terms.[23] Our approach is more concise and also permits us to identify the first-order relationship between the index and criminal activity.

While the proxies entering into the immigrant destination index could have direct effects on crime levels in a given neighborhood, in this triple-differences framework, our identifying assumption is that any correlation between the index and the change in the criminal behavior of Hispanic residents relative to non-Hispanic residents around the IRCA dates operates only through the index capturing new immigrant location choice. We assume that any variation in new immigrant location choice and the change in the criminal behavior that is not correlated with these proxies is uncorrelated with any of our other control variables.[24]

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[23] The different approaches do have implications for the estimated standard errors, but the differences are small and for no estimated coefficient in the tables do they affect the reported statistical significance. The different approaches also have implications for R-squared values, which are much larger with the inclusion of time and block group fixed effects.

[24] We have also estimated equation (1) at the census tract level, incorporating measures of change in neighborhood characteristics (from the 1980 to 1990 Census) as well as the level values. This tract-level analysis compromises our ability to cleanly delineate immigrant destinations and has the drawback of lower precision because of fewer geographic observations. Nonetheless, the tract-level results are qualitatively similar to the block group-level results. We have also replicated our analysis using 1980 census block group characteristics, with felony defendants assigned to 1980 block groups. Results using 1980 measures are also qualitatively similar to those presented here.

Estimating the size of the population at risk of engaging in crime is complicated by the absence of high-frequency data on Hispanic and non-Hispanic populations at fine levels of geographic resolution. In our baseline specification, we construct an estimate of the Hispanic and non-Hispanic populations of census block groups each year by linearly interpolating the ethnicity-specific population between the 1980 and 1990 censuses.[25] However, while existing evidence suggests that the flow of people into the U.S. changed little in response to IRCA, Durand, Massey, and Parrado (1999) contend that the stock of new immigrants in the country increased in a discrete way due to a reduction in return migration to Mexico among Mexicans living in the U.S. Consistent with this, data on the number of children born to a Hispanic parent from the National Center for Health Statistics' National Vital Statistics System (NVSS) suggest that Hispanic population growth in Bexar County was relatively fast as IRCA rolled out compared to the early or late 1980s. Failure to account for these nonlinear changes in the Hispanic population over time could bias our crime rate estimates.

Therefore, we construct a second measure of neighborhood population change during our sample period. For this alternative measure, we assume that the entire change in each block group's population between 1980 and 1990 occurred in May 1988, which corresponds to the expiration of the first major amnesty program and is when in Figure 3 we observe the largest increase in crime among Hispanic

Consistent with that, in our tract-level analysis, we find that 1990 levels of the neighborhood characteristics, rather than percentage changes in those characteristics between 1980 and 1990, are driving the observed differences in criminal behavior.

[25] Census geographies are inconsistent over time. Constructing estimates of the 1980 populations of 1990 block groups involved a number of steps. First, we mapped the 1990 block groups (our geographic unit of analysis) onto 1980 census tracts (for which we have population data). This gives us the ethnicity-specific counts of people in the 1990 block group-grouping in 1980. We then allocated the 1980 tract populations across 1990 block groups in proportion to 1990 population shares. We are forced to exclude 1.4 percent of our total ethnicity-block group observations because there are no people of that specific ethnicity in that 1990 block group-grouping. In later robustness tests, we compare Hispanic residents to non-Hispanic non-white residents, in which case we are forced to exclude 3 percent of our ethnicity-block group observations.

residents of immigrant destinations. Obviously, this population growth path is also incorrect; county-level NVSS data on Hispanic births suggest that the biggest population increase occurred between the enactment of IRCA in 1986 and the expiration of amnesty. However, by forcing all the population change to occur at the start of the post-amnesty period, we can place an upper bound on unobserved population growth that would lead to higher felony charge counts.

Another potential concern is that any observed change in crimes in Hispanic neighborhoods is driven not by a change in actual criminal activity, but instead by a change in the behavior of the criminal justice system in response to IRCA (Bohn, Freedman, and Owens 2015). Recent reviews of the literature emphasize the role of the criminal justice system, and sentencing policy in particular, in driving the growth in incarceration in the 1980s and 1990s (Neal and Rick 2014). Police and initial prosecutors may not have information about someone's legal status, but can plausibly observe whether or not someone is Hispanic and may have responded to immigration reform by changing their propensity to arrest and file charges against Hispanic residents.

In our empirical analysis, we address this concern in two ways. First, we explore whether the change in felony charging is due to a change in individual behavior or a change in the criminal justice system by estimating equation (1) for income generating and non-income generating crimes separately. If police responded to IRCA by patrolling Hispanic neighborhoods more heavily, or if newly legalized immigrants were more likely to contact the police, we would expect to see increases in all types of crime. Alternatively, if police simply became more aggressive in their monitoring of certain types of crimes, we would expect Hispanic and non-Hispanic crimes in neighborhoods to increase in proportion to the fraction of people in that neighborhood who were Hispanic or non-Hispanic. Additionally, as described further in Section IV.D, we more explicitly test for changes in the behavior of the criminal justice system by examining conviction rates using the

same analytic framework described above.

IV. Results

A. *Main Results*

To the extent that IRCA increased wages for amnesty applicants, we would expect crime rates for Hispanic residents to fall relative to non-Hispanics after 1986. However, the second critical effect of IRCA was to limit labor market opportunities for new immigrants, particularly after the expiration of LAW in May 1988 and, to a lesser extent, the expiration of SAW in November 1988. If the observed change in crime is driven by changing economic opportunities for new arrivals, we would expect that any increase in criminal behavior among Hispanics would be greater in neighborhoods with larger populations of more recent immigrants. Further, among Hispanic residents, we would expect to see a relative increase in offenses that are substitutes for formal work after the amnesty offices closed.

Our main results appear in Table 2. In the first two columns, we estimate for Hispanic and non-Hispanic subsamples a simplified version of equation (1) that excludes *Hisp$_g$* and its interactions, which yields difference-in-differences estimates of the incremental impacts of the different phases of IRCA on felony charges filed against individuals of each ethnicity across block groups more and less likely to be new immigrant destinations. For the different categories of crime shown in each of the panels of the table, the results build on Figure 3 to establish the magnitude and significance of differential changes in the criminal behavior of Hispanic and non-Hispanic residents in neighborhoods with different immigrant destination index values at each stage of IRCA. The final column shows estimates of the third difference: that between Hispanic and non-Hispanic residents of neighborhoods with varying immigrant destination index values. This third difference can be obtained by differencing coefficients across the first two columns

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of the table, or equivalently by estimating β_1, β_2, and β_3 in equation (1) on a stacked sample including observations for both Hispanic and non-Hispanic residents across all block groups and months. The full set of triple-difference regression coefficients for income generating crimes appear in the first column of Table 3, whereas those for all crimes, non-income generating crimes, and drug crimes appear in Appendix Tables A3-A5. In Table 2 and in all subsequent tables, the standard errors (in brackets) are clustered by block group, which allows for arbitrary correlation in errors over time within block groups but assumes independence across block groups.[26]

[TABLE 2 APPROXIMATELY HERE]

As shown in Panel A in Table 2, the enactment of IRCA in November 1986 was associated with essentially no change in the number of felony charges filed against Hispanic or non-Hispanic residents for income generating crimes across different communities. Consistent with that, the triple-difference estimate of IRCA's enactment on the differential in income generating crime across neighborhoods more and less likely to be affected by the reform is a highly imprecise and economically small 0.003.

In contrast, the expiration of the first IRCA amnesty (LAW) in May 1988 had a large impact on income generating criminal activity, but only among Hispanic residents of immigrant destinations. In a neighborhood with an immigrant destination index one standard deviation above the mean, LAW's expiration was associated with an approximately 14 percent increase in the incidence of felony charges for income generating crimes among Hispanic residents. The impact of LAW's expiration in the same neighborhood on felony charges for income

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[26] This approach tends to yield more conservative estimates of the standard errors than other approaches, such as clustering on both block group and month.

generating offenses among non-Hispanic residents was a much smaller and statistically insignificant 1 percent decrease.[27] The difference in results for the two groups highlights that the economically and statistically significant triple-difference estimate in the final column is driven by a sharp increase in charges among Hispanic residents as opposed to a decline in charges among non-Hispanic residents.

Meanwhile, the expiration of the second IRCA amnesty (SAW) in December 1988 was associated with no incremental change in income-generating felony charges among either Hispanic or non-Hispanic residents of different neighborhoods. This is not surprising given the relatively small share of workers in agriculture in Bexar County (less than 1 percent) and that only 18 percent of those who applied for amnesty in the county did so under SAW.

In Panel B of Table 2, we show results for non-income generating crimes, which are less likely to have been affected by immigration reform if the policy's main effects operated through the labor market. There is a negative and statistically significant drop in non-income generating felony charges against Hispanic residents immediately after IRCA's passage, potentially reflecting efforts to avoid committing crimes that would disqualify individuals for amnesty. However, in line with the hypothesis that IRCA's primary impacts operated through the labor market, we find no evidence that the expiration of the amnesties had any meaningful impact on felony charges against Hispanic or non-Hispanic residents of different communities for crimes with no clear economic motive. The difference in coefficient estimates on the triple-interaction term for LAW's amnesty for income and non-income generating crimes is also statistically significant at the 5 percent level. This result is inconsistent with broad changes in police behavior or crime reporting patterns around the time of immigration reform, which we would expect

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[27] A neighborhood one standard deviation above the mean has an immigrant destination index of 3.94; $\exp(3.94 \times 0.034) - 1 = 0.14$ and $\exp(3.94 \times -0.003) - 1 = 0.012$.

to lead to similar movements in these different types of crime.

Taken together, the results thus far indicate that the expiration of LAW, the dominant amnesty program in Bexar County, was associated with a disproportionate increase in the rate of felony charges being filed against people of Hispanic descent, with the effect concentrated in income generating crimes. This is consistent with employer sanctions for hiring illegal immigrants put in place under IRCA limiting employment opportunities and thereby increasing the relative return to crime for later immigrants. Other potential channels through which IRCA would affect crime, such as increased policing in immigrant neighborhoods, a greater willingness among legal immigrants to contact the police, or more attractive criminal opportunities, would also increase reported criminal activity, but would not predict the differentially large effects for income generating crime committed by Hispanic residents.[28] Meanwhile, the harsher penalties for amnesty applicants during probation and any effects of IRCA on family reunification would predict not only declines in crime among Hispanic residents, but declines that predate the expiration of amnesty.

It is important to emphasize that these results do not simply reflect changes in the poverty-crime gradient over time, as the observed increases in offending are occurring specifically among Hispanic (but not non-Hispanic) residents of these neighborhoods. To explain the results, there must have been a shock that not only differentially affected criminal activity in neighborhoods where, according to our proxies, new immigrants were more likely to have settled, but that also increased the propensity of Hispanics to commit crimes relative to non-Hispanics. IRCA is the most plausible candidate given its timing and the particular populations it

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[28] There is very little convincing evidence on the extent to which crime reporting rates among immigrants differ from other groups, much less whether there are differences across authorized and unauthorized immigrants or across different types of crimes (Bell and Machin 2013). This problem affects all studies on the relationship between immigration and crime.

affected.

In addition, the individual point estimates are of plausible size if immigrants arriving after May 1988 faced a wage penalty of slightly over 20 percent relative to earlier cohorts (Rivera-Batiz 1999; Kossoudji and Cobb-Clark 2002) and the wage elasticity of crime is close to -1 (Grogger 1998). For example, in a neighborhood with an immigrant destination index one and a half standard deviations above the mean (at approximately the 91st percentile of the immigrant destination index), the data imply that crime by Hispanic residents increased by 24 percent relative to non-Hispanic residents.[29]

The key source of variation we leverage within ethnicity and crime types is cross-sectional differences across neighborhoods in their likely concentrations of recent immigrants. To further establish that this cross-sectional variation is meaningful and not generating spurious relationships, we conducted a permutation-style test in which we randomly shuffled immigration index values across block groups and then re-estimated each of the regression models. Doing this 1,000 times generated a distribution of "false" triple-difference coefficient estimates for the different phases of IRCA for each crime type. We plot the full distributions of false estimates in Appendix Figures A1-A4, and present the fraction of these false estimates that are larger in magnitude than our actual estimates in parentheses in final column of Table 2. These results re-confirm that the large positive effect of LAW expiration on income generating crime among Hispanics residing in immigrant destinations is highly unlikely to be an artifact of the data and empirical specification; in fact, for LAW expiration, whereas in 22 percent of cases did we obtain a larger triple-difference estimate in absolute value with a random assignment of immigrant index values to block groups than the actual estimate for non-income generating offenses, in zero cases did we obtain a larger triple

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[29] A neighborhood 1.5 standard deviations above the mean has an immigrant destination index of 5.91, and $\exp(5.91 \times 0.037) - 1 = 0.24$.

difference estimate with the random assignment than the actual estimate for income generating offenses.

B. *Drug Offenses*

Roughly one third of our income generating offenses are drug felonies. These income generating crimes are of particular interest for a number of reasons. First, while not directly on the Mexican border, Bexar County is generally considered to be a hub for cross-border drug activity, and has been designated a High Intensity Drug Trafficking Area since the U.S. Office of National Drug Control Policy was created in 1990. Notably, however, while precise information on the origin and evolution of Mexican drug cartels is scarce, major events in Mexican drug policy bracket, rather than coincide with, the rollout of IRCA.[30]

Second, while burglary, robbery, and theft generate income, selling drugs has more of the characteristics of a typical legal job; individuals typically sell drugs explicitly to earn money, rather than to seek some sort of thrill (Reuter, MacCoun, and Murphy 1990; Levitt and Venkatesh 2000). In that sense, it is conceptually closer to a substitute for legal work.

Third, immigrants, and in particular recent immigrants with strong social ties in other countries, face lower transportation costs in illegal international trade. This may give them a comparative advantage in selling drugs relative to, for example, stealing cars and selling them for scrap (Reuter 2004).

Finally, to the extent that immigrants who obtained work authorization through amnesty were able to earn higher wages, and those immigrants also lived in new immigrant destinations, some of our results could be explained by an increase in criminal opportunities rather than reduced wages (Freedman and Owens 2016). As

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[30] Mexican government expenditure on crop eradication increased dramatically in 1985, in part in response to the murder of undercover DEA agent Enrique Camarena by the Gulf Cartel (Astorga 1999). In 1989, the Mexican police arrested the head of the head of the Sinaloa Cartel, increasing the market share of the Gulf Cartel, to which Mexican President Carlos Salinas was later allegedly connected (Grillo 2011).

previously mentioned, it is not obvious that an increase in criminal opportunities would have differentially affected Hispanic people in new immigrant destinations. However, differentiating between property crimes, for which opportunities may have increased, and people charged with trying to earn money through drug sales provides additional evidence on this issue.[31]

In the third panel of Table 2, we focus only on the incidence of alleged drug felonies, which are clearly driving the relationship between income generating crimes and immigration policy. The immigrant destination index is positively related to Hispanic offending compared to non-Hispanic offending after the enactment of IRCA. There is an even larger increase in drug offending after new immigrants were no longer able to apply for amnesty under LAW.

One important caveat in interpreting the increase in alleged drug felonies as an increase in income generating crime is the well-established fact that the wave of drug laws passed in the 1980s and early 1990s had a disproportionate impact on the incarceration rates of black men (Neal and Rick 2014).[32] It is possible that our estimates are picking up a change in the policing and prosecution of non-white people more broadly. In the final panel of Table 2, we eliminate all drug felonies allegedly committed by non-Hispanic white residents from our sample (about 43 percent of the non-Hispanic drug charges in our sample).[33] While this exclusion

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[31] Another plausible channel is that higher incomes among legalized immigrants in communities we identify as new immigrant destinations led to greater drug consumption in those communities. However, as discussion in Section I, increases in wages as a result of legalization only materialized gradually, so it is unlikely that there were large increases in drug consumption due to income effects among amnesty beneficiaries in the months immediately following IRCA. Additionally, to be charged with a felony, the type and quantity of drugs in possession are such that the owner likely had an intent to sell.

[32] At the federal level, the Anti-Drug Abuse Act of 1986, which established mandatory minimum sentences for federal drug offenses, was enacted on October 27, 1986 and led to a sharp increase in all felony drug charges in 1986 and 1987. Texas revamped its drug policy on September 1, 1989 with the passage of the Texas Controlled Substances Act.

[33] The average felony drug charge rate against non-Hispanic San Antonians in this sample is high because of a few block groups with very small black populations.

reduces our point estimates slightly, it remains clear that Hispanic people became disproportionately more likely to be accused of felony drug offenses relative to black people after IRCA closed off access to legal work, first by introducing I-9 forms and then by cutting off the means by which to obtain documentation necessary to complete these forms, and that this effect was concentrated in immigrant destinations.[34] The fact that the estimates do not get larger with the exclusion of non-Hispanic whites also suggests that the results are unlikely to be driven by substitution between black and Hispanic workers in the labor market, which could lead to less criminal activity in the former group (as in Borjas, Grogger, and Hanson (2010)).

C. *Robustness*

In Table 3, we present results just for income generating crimes for alternative specifications and samples.[35] In the first column, we show the complete triple-difference results from our baseline specification for comparison purposes. In the second column, we address the concern that unobserved, discrete increases in the Hispanic population in Bexar County could be generating the increase in felony charges. We do so by assuming that the entirety of the increase in population in each neighborhood between 1980 and 1990 occurred in May of 1988 (instead of assuming linear population growth). Notably, this increases crime rates on average, as population is held at 1980 levels for most of the sample period. With this extreme assumption about population changes at the moment that access to legal employment is cut off, we no longer estimate a statistically significant first order impact of LAW on alleged felonies committed by Hispanic residents, but our

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[34] This also helps to address concerns that the effects are driven by changes in gang-related activity, which was documented among Hispanics as well as other minority groups. Gangs were also not as prevalent around the time of IRCA as in subsequent years; the San Antonio Police Department formed its gang unit in 1991 (Duff 1994).

[35] Analogous results for all crimes, non-income generating crimes, and drug crimes appear in Appendix Tables A3-A5.

individual estimates of the geographic pattern of crime increases after LAW are similar, if not slightly larger, than those from regressions in which we assumed linear population growth.

<center>[TABLE 3 APPROXIMATELY HERE]</center>

In the third column of Table 3, we show results from a linear probability model for any criminal activity of a block group resident; here we see that the expiration of LAW was associated with a statistically significant 1.6 percentage point increase in the probability that any charges for income generating crime were made against Hispanic residents relative to non-Hispanic residents. This probability was an additional 3.5 percentage points greater among Hispanic residents in a neighborhood with an immigrant destination index one standard deviation above the mean.[36] As shown in the last column of Table 3, we also find similar results using the natural log of charges, not scaled by population (we add 0.01 to charges before taking the log so that the dependent variable in this specification is defined for all block groups). The consistency of the results across alternative measures of criminal activity mitigates concerns about our measures of population failing to capture patterns of immigration over the 1980s accurately, as well as concerns about systematic undercounting of immigrant populations in the Decennial Censuses (Costanzo et al. 2001).

While we find significant impacts of the expiration of LAW on income generating crime among Hispanics likely to be recent immigrants, it is not obvious that the effect should be concentrated in the months immediately following the expiration. Therefore, in Table 4, we present results from regressions in which we fully interact the Hispanic indicator and immigrant destination index with both a linear and quadratic in the number of quarters since LAW's expiration. Because the

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[36] A neighborhood one standard deviation above the mean has an immigrant destination index of 3.94, and $3.94 \times 0.009 = 0.035$.

<center>34</center>

SAW amnesty expiration is only seven months removed from the LAW amnesty expiration, and because the previous results suggested little effect of the agricultural amnesty program's expiration on felony charges in Bexar County, we exclude the SAW expiration dummy and its interactions in these regressions.

[TABLE 4 APPROXIMATELY HERE]

For comparison, we show in the first column of Table 4 results in which we exclude the SAW dummy and its interactions, but without including any additional variables to capture any lagged impacts of LAW. These results are very similar to the baseline estimates, indicating an increase in income generating crime among Hispanic residents after LAW's expiration that was particularly pronounced in immigrant destinations. The results in the second column of Table 4, which add interactions with a linear and quadratic in the number of months since LAW's expiration, point to an immediate, relatively large effect of the expiration of LAW on felony charges for income generating crimes among Hispanics in immigrant-dense neighborhoods that diminishes slightly over the subsequent 15 months. These results echo the patterns observed in Figure 3 for income generating crimes.[37]

In a final robustness exercise, we consider the sensitivity of our results to the construction of our immigrant destination index. Specifically, rather than equally weight each of the five components of the index (i.e., assign each 20 percent weight), we varied the weight assigned to each variable in intervals of five percentage points, with the constraint that the weights sum to one. We then used each of the resulting indices in 10,626 separate regressions akin to (1). The coefficient estimates on the triple-interactions for each IRCA event with the Hispanic indicator and the index for income-generating crimes are summarized in Figure 4. The figure shows the full distribution of estimates of the triple-interactions

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[37] As shown in Appendix Table A6, results are also similar when we aggregate the data to the quarterly as opposed to monthly level.

with enactment, LAW expiration, and SAW expiration, with the dashed vertical lines marking the mean estimates from all 10,626 regressions and the solid vertical lines marking the baseline estimates using the equal weighting of variables for the index. Most notably, the estimated impact of LAW's expiration on Hispanic crime in immigrant neighborhoods is positive for all possible weighting schemes, and the mean estimate (0.033) is very close to that from simply weighting each of the five component variables equally (0.037). Meanwhile, the estimated impacts of IRCA's enactment and SAW's expiration are close to zero for all possible weighting schemes, and in each case the mean estimate across all weighting schemes (0.003 and -0.004, respectively) is nearly identical to that from weighting each of the five component variables equally (0.003 and -0.003, respectively). This suggests that the results are robust to alternative ways of measuring immigrant destinations.

[FIGURE 4 APPROXIMATELY HERE]

Interestingly, the largest coefficient estimate on the triple interaction with LAW's expiration for income generating crimes is associated with an index that puts zero percent weight on poverty, 35 percent weight on housing density, 15 percent weight on percent Mexican, 30 percent weight on Spanish speaking, and 20 percent weight on foreign born.[38] The fact that the largest effect sizes are associated with indices that place more weight on the fraction of the population that speaks Spanish or is foreign born as opposed to the poverty rate suggests again that the results are not merely capturing changes in criminal activity over time in poorer neighborhoods. Rather, the effects appear to be driven primarily by greater income-generating criminal activity among those most likely to be directly impacted by the more restrictive employment requirements put in place by IRCA.

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[38] Similarly, the largest coefficient on the triple interaction with LAW's expiration for felony drug charges comes from zero percent weight on poverty, 35 percent weight on housing density, 10 percent weight on percent Mexican, 25 percent on Spanish speaking, and 30 percent on foreign born.

D. *Criminal Justice System Response*

It is plausible that the treatment of certain groups by the criminal justice system changed in response to immigration reform in 1986. Our estimates of the impact of IRCA on crime could be biased upward if, in response to the passage of the law or the expiration of amnesty, police focused more of their attention on Hispanic people living in immigrant communities or prosecutors became more likely to file charges against immigrants. To fully explain our results, such efforts on the part of criminal justice agents would not only need to be directed disproportionately at Hispanic residents of immigrant destinations, but specifically at income generating offenses among that subpopulation. Although this seems unlikely, in order to shed light on the potential importance of changes in the criminal justice system coincident with IRCA, we examine how conviction rates vary around the time of immigration reform.

To the extent that criminal justice system behavior is one of the mechanisms driving the observed increase in felonies among Hispanic people, the marginal Hispanic resident accused of a felony (and particularly an income generating felony) after IRCA should, all else being equal, be less criminal and thus less likely to be convicted than the marginal resident charged prior to IRCA. The intuition behind this idea is that if police and prosecutors "cast a wider net" in the immigrant community after IRCA, we would observe more Hispanic people charged with felonies, but in the absence of an increase in the underlying criminality of Hispanic residents, fewer of these accused felons should be convicted.[39]

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[39] Using variation in conviction rates to test for variation in charging practices is an extension of the hit rate test for racial profiling proposed in Knowles, Persico, and Todd (2001). Suppose that police and prosecutors maximize the number of successful felony prosecutions, subject to the cost of obtaining evidence, negotiating a plea agreement, and prosecuting a case at trial. Even if there is variation in the actual underlying criminal culpability of defendants across ethnic groups, as long as it is equally costly to bring charges against all Bexar County residents, court agents will file felony charges against Hispanic and non-Hispanic residents in such a way that the fraction of cases resulting in conviction are equal across ethnic groups. However, if police or prosecutors gained

We implement this by estimating a modified version of (1) in which we replace the dependent variable with the fraction of charges brought against residents living in block group b of ethnicity g for crimes committed in month t that result in conviction. Note that the number of observations will vary across crime type, as the conviction rate is undefined in block groups and time periods in which no alleged crimes occurred. Because of the unbalanced nature of the sample, in contrast to the previous results, the point estimates in these regressions vary slightly with month-by-year and block group fixed effects relative to just including IRCA phase dummies and the immigrant destination index alone; therefore, in the results shown, we include the richer set of fixed effects, which subsume the first-order effects of each IRCA phase and the immigrant destination index. Estimates using the more parsimonious set of controls appear in Appendix Table A7.

We present our estimates of the change in conviction rates for Hispanic people living in immigrant destinations in Table 5. Notably, because many of the estimated coefficients are very small, we multiply the dependent variable by 100. Based on the results in the first column of Table 3, relative to the post-IRCA, pre-LAW expiration period, the observed increase in income generating felony charges against Hispanic people living in a neighborhood with an immigrant destination index one standard deviation above the mean was 17.0 percentage points larger than the change for Hispanic people living in an average neighborhood after the expiration of LAW amnesty.[40] As the results in Table 5 show, at the same time that charges filed against Hispanic people living in immigrant destinations increased,

some additional utility from arresting and prosecuting immigrants after immigration reform, then we would see the fraction of charges that result in convictions among probable new immigrants fall over time, as criminal justice agents gave up some of the gain from conviction in exchange for this discrimination-based utility gain.

[40] The first-order impact of LAW expiration on crimes allegedly committed by Hispanic residents is an $\exp(0.078) - 1 = 8.1$ percent increase. The estimated increase in a neighborhood with an immigrant destination index of 3.94 is $\exp(0.078 + 3.94 \times 0.037) - 1 = 25.1$ percent increase.

there was a simultaneous, very imprecisely estimated 2.3 percentage point decrease in the probability that those charges resulted in conviction.[41]

[TABLE 5 APPROXIMATELY HERE]

While we could easily reject the null hypothesis that residing in an immigrant community was unrelated to the incidence of alleged income generating felonies by Hispanics after amnesty in Table 2, here we cannot reject the null that conviction rates were unrelated. Although we do observe a reduction in Hispanic conviction rates in these areas, under the assumption that all convictions are "true" crimes, 24 percent of the geographic variation in our observed changes in alleged income generating felonies can be explained by changes in law enforcement.[42] This suggests that variation in criminal activity as measured by charges filed is not attributable to changes in the treatment of Hispanic residents, and in particular Hispanic residents in immigrant communities, following IRCA.[43] Given this, we conclude that the reduced employment opportunities for immigrants without legal status were an important driver of the observed increase in felonies after IRCA's

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[41] The first-order impact of LAW expiration on conviction rates for Hispanic residents is -1.717 percentage points, and the estimated change in neighborhoods with an immigration index of 3.94 is $-1.717 + 3.94 \times -0.587 = -4.030$.

[42] This estimate comes from replacing income generating charges per capita with income generating convictions per capita, which yields estimated coefficients (standard errors) on Hispanic × IRCA, Hispanic × LAW, Hispanic × Immigrant Destination Index × IRCA, and Hispanic × Immigrant Destination Index × LAW of -0.044 (0.023), 0.044 (0.036), 0.008 (0.007), and 0.028 (0.010), respectively. The relative differences are calculated as follows: Hispanic × IRCA: ((-0.05) – (-0.044)) / (-0.05) = 0.06, Hispanic × LAW: (0.078 – 0.044) / 0.078 = 0.43, Hispanic × Immigrant Destination Index × IRCA: (0.003 – 0.008) / 0.003 = -1.67 , and Hispanic × Immigrant Destination Index × LAW: 0.037 – 0.028 / 0.037 = 0.243.

[43] Consistent with this interpretation, using entirely different data (from police as opposed to court records) on all adult arrests made in Bexar County from June 1986 to December 1992, Bohn, Freedman, and Owens (2015) also find that policing did not change systematically across ethnicities or neighborhoods in the wake of immigration reform in the 1980s. When we include their ethnicity-specific arrest rates by neighborhood as additional controls in our preferred specification for felony charge rates, our main results are essentially unchanged, consistent with police activity not varying in a way that would induce differential observed criminal activity across ethnic groups in a particular neighborhood.

amnesties expired.

V. Conclusion

Despite public perceptions to the contrary, there is very little consistent evidence that the arrival of new immigrants, legal or illegal, is associated with an increase in crime. The empirical evidence that does exist points to important differences in the effects of immigration on crime across countries and over time. One potential explanation for the mixed results is that there is heterogeneity in policies that might mediate any relationship between immigration and crime.

In the U.S., the most significant recent change in immigration policy took place in 1986, when the Immigration Reform and Control Act (IRCA) mandated that employers verify the legal status of their employees. IRCA also provided some undocumented immigrants with work authorization through the LAW and SAW amnesty programs, but in May and November of 1988, these programs expired. The enactment of IRCA, along with the subsequent expiration of LAW and SAW amnesties, constituted large and discrete shocks to the employment opportunities for new immigrants to the U.S.

In this paper, we provide new evidence on the importance of immigration policy in influencing the criminal behavior of immigrants by exploiting the structure of IRCA together with unique data on felony charges filed against residents of Texas' Bexar County, which is two hours from Mexico and receives regular and steady flows of Hispanic immigrants. Using a triple-differences framework, we find that federal policies limiting employment opportunities for undocumented immigrants are associated with a robust increase in the incidence of alleged felonies committed by Hispanic people living in neighborhoods we identify as being new immigrant destinations, based on their demographic characteristics.

While we find that the employment restrictions put in place by IRCA had a non-trivial impact on criminal activity, our results do not imply changes in criminality

that are out of line with other high-risk groups, even if we assume that IRCA legalized every immigrant who arrived in Bexar County before 1988. Our point estimates suggest that, after the LAW amnesty expired, an additional 142 felony charges for income generating crimes were filed in Bexar County each year.[44] Based on the low end of the estimated annual immigrant arrival rate in Hall et al. (2011), this implies that between three and six additional income generating crimes were allegedly committed for every 100 immigrants who arrived in Bexar County after IRCA limited employment opportunities for unauthorized workers. Of course, the actual flow of unauthorized immigrants into Bexar County during the IRCA period is unknown. However, immigration rates immediately after IRCA could have fallen by two-thirds relative to the low end of typical flows estimated by Hall et al. (2011) – more than twice the largest estimated reductions and almost five times the most commonly cited estimates of the impact of IRCA on immigration flows – and the implied criminal behavior of new immigrants would still be lower than that of other high-risk groups in the U.S.[45] In other words, even if all immigrants living in Bexar County in May of 1988 received temporary visitor status, based on conventional estimates of the arrival rate of immigrants to San Antonio after IRCA, our results imply that employer sanctions put into place by IRCA changed newly arrived undocumented immigrants from a relatively low-risk group to a moderate-risk one.

Immigration policy remains a pressing issue in many countries, and numerous

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[44] These numbers are based on multiplying the coefficient on Hispanic defendant × LAW expiration in the first column of Table 3 by the average number of felony charges filed against Hispanic people in each block group in each month between April 1985 and April 1988. This corresponds to an estimated 0.012 charges per block group per month, or roughly 142 charges per year. By comparison, the annual arrest rate for Chicago Public School students living in high-crime neighborhoods is 20 per 100 people (Heller et al. 2013).

[45] Orrenius and Zavodny (2003) estimate that immigration across the Mexican border fell by 13 percent in the months between the enactment of IRCA and the opening of the LAW program. After amnesty expiration, they estimate that monthly immigration was between 0.7 percent higher and 1 percent lower than it had been in the 1977-1985 period.

measures have been proposed to address perceived problems arising from the flow of undocumented individuals across borders. Recent surveys from the U.S. suggest that employer sanctions are the most popular policy for controlling unauthorized immigration, and are considered by the public to be more effective than making it easier for immigrants to obtain legal status or stepping up border controls (Transatlantic Trends 2011). The current administration has proposed to expand the use of E-verify, the online system that allows employers to confirm an individual's work eligibility, which in addition to other measures to shut off pathways to gaining legal status, could have important implications for immigrants' access to formal employment opportunities in the U.S. Our results, however, suggest that limiting such access for immigrants could have the perverse consequence of increasing crime, and in particular crime that is a close substitute for formal work. Notwithstanding the general empirical fact that, on average, immigrants commit crime at lower rates than U.S. citizens (Butcher and Piehl 2007), to the extent that the perceived criminality of immigrants represents the basis for restricting work opportunities, such a policy could in fact exacerbate the very problem it set out to address.

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TABLE 1–SUMMARY STATISTICS

	Observations	Mean	Standard Deviation
Felony Charges per Block Group-Month (April 1985–December 1989)			
Charges	114,000	0.219	0.582
Income Generating Charges	114,000	0.165	0.492
Drug Charges	114,000	0.064	0.303
Non-Income Generating Charges	114,000	0.054	0.272
Block Group Characteristics (1990)			
Population	1000	1184.89	711.89
Hispanic Population	1000	586.03	443.90
Non-Hispanic Population	1000	598.86	628.05
Poverty Rate	1000	15.64	16.72
People per Housing Unit	1000	2.72	0.88
Percent Mexican Descent	1000	48.01	30.50
Percent Speaking Spanish at Home	1000	38.94	25.98
Percent Immigrant	1000	9.04	6.76
Immigrant Destination Index	1000	0.00	3.94

Notes: Figures derived from Bexar County District Court felony charge records and 1990 Decennial Census data.

TABLE 2–IRCA AND FELONY CHARGES, DIFFERENCE-IN-DIFFERENCE AND TRIPLE-DIFFERENCE ESTIMATES

	Hispanic	Non-Hispanic	Triple-Difference
	A. Income Generating Crimes		
Immigrant Destination Index × IRCA	0.004	0.001	0.003
	[0.005]	[0.006]	[0.007], (0.677)
Immigrant Destination Index × LAW Expiration	0.034***	-0.003	0.037***
	[0.008]	[0.007]	[0.011], (0.000)
Immigrant Destination Index × SAW Expiration	-0.004	-0.001	-0.004
	[0.008]	[0.008]	[0.011], (0.729)
R^2	0.057	0.003	0.029
Mean of Dependent Variable	-3.910	-3.937	-3.924
Mean Charges / 1000 people	4.745	10.328	7.537
	B. Non-Income Generating Crimes		
Immigrant Destination Index × IRCA	-0.009***	0.003	-0.012**
	[0.003]	[0.003]	[0.005], (0.002)
Immigrant Destination Index × LAW Expiration	0.003	-0.004	0.007
	[0.005]	[0.004]	[0.007], (0.218)
Immigrant Destination Index × SAW Expiration	0.002	0.001	0.001
	[0.005]	[0.004]	[0.006], (0.912)
R^2	0.017	0.0001	0.009
Mean of Dependent Variable	-4.342	-4.393	-4.367
Mean Charges / 1000 people	2.246	4.088	3.167
	C. Drug Crimes		
Immigrant Destination Index × IRCA	0.009***	0.001	0.008*
	[0.003]	[0.003]	[0.005], (0.057)
Immigrant Destination Index × LAW Expiration	0.036***	-0.012**	0.047***
	[0.006]	[0.005]	[0.007], (0.000)
Immigrant Destination Index × SAW Expiration	-0.001	0.007	-0.008
	[0.006]	[0.005]	[0.008], (0.323)
R^2	0.038	0.007	0.023
Mean of Dependent Variable	-4.321	-4.341	-4.331
Mean Charges / 1000 people	2.064	4.841	3.453
	D. Drug Crimes, Excluding Non-Hispanic Whites		
Immigrant Destination Index × IRCA	0.010***	-0.003	0.013***
	[0.003]	[0.004]	[0.005], (0.005)
Immigrant Destination Index × LAW Expiration	0.032***	-0.006	0.038***
	[0.006]	[0.006]	[0.008], (0.000)
Immigrant Destination Index × SAW Expiration	-0.002	0.007	-0.009
	[0.007]	[0.007]	[0.009], (0.268)
R^2	0.036	0.006	0.020
Mean of Dependent Variable	-4.345	-4.401	-4.373
Mean Charges / 1000 People	2.179	45.986	24.082

Notes: The unit of observation is census block group by month (first two columns) and census block group by month by ethnicity (final column) in Bexar County for April 1985-December 1989. In Panels A-C, there are 57,000 observations in the first two columns and 114,000 observations in the final column. In Panel D, there are 53,580 observations in the first two columns and 107,160 observations in the final column. The dependent variables are the natural log of felony charges for various crimes (see text) divided by the estimated ethnicity-specific population at the block group-month level. The immigrant destination index is the sum of the standardized values of the poverty rate, percent Mexican, percent foreign born, people per housing unit, and percent speaking Spanish at home for each block group. All regressions include IRCA phase dummies and the immigrant destination index alone. Standard errors in brackets allow for arbitrary correlation in crime measure within block group; significant at the * 10 percent level, ** 5 percent level, and *** 1 percent level. Numbers in parentheses refer to permutation-based p-values for the triple-difference estimates (see text).

TABLE 3–IRCA AND FELONY CHARGES FOR INCOME GENERATING CRIMES, ALTERNATIVE SPECIFICATIONS

	Baseline	Extreme Population	Linear Probability	Ln Charges
Hispanic Defendant	0.038*	0.054**	0.015***	0.069***
	[0.021]	[0.021]	[0.004]	[0.020]
Immigrant Destination Index	0.0005	0.0005	-0.003***	-0.017***
	[0.005]	[0.005]	[0.001]	[0.004]
IRCA Enacted	0.082***	0.082***	0.015***	0.070***
	[0.020]	[0.020]	[0.003]	[0.016]
LAW Expiration	0.141***	0.141***	0.024***	0.125***
	[0.028]	[0.028]	[0.005]	[0.023]
SAW Expiration	0.015	0.015	0.002	0.006
	[0.029]	[0.029]	[0.005]	[0.024]
Hispanic × IRCA	-0.050*	-0.045*	-0.009*	-0.039*
	[0.026]	[0.026]	[0.005]	[0.022]
Hispanic × LAW Expiration	0.078**	0.051	0.016**	0.076**
	[0.040]	[0.040]	[0.007]	[0.034]
Hispanic × SAW Expiration	-0.023	-0.02	-0.003	-0.012
	[0.041]	[0.041]	[0.007]	[0.035]
Immigrant Destination Index × IRCA	0.001	0.001	0.0005	-0.002
	[0.006]	[0.006]	[0.001]	[0.004]
Immigrant Destination Index × LAW Expiration	-0.003	-0.003	-0.001	-0.007
	[0.007]	[0.007]	[0.001]	[0.005]
Immigrant Destination Index × SAW Expiration	-0.001	-0.001	-0.0003	-0.002
	[0.008]	[0.008]	[0.001]	[0.005]
Hispanic × Immigrant Destination Index	0.090***	0.088***	0.024***	0.114***
	[0.006]	[0.006]	[0.001]	[0.005]
Hispanic × Immigrant Destination Index × IRCA	0.003	0.002	0.001	0.005
	[0.007]	[0.007]	[0.001]	[0.006]
Hispanic × Immigrant Destination Index × LAW Exp.	0.037***	0.041***	0.009***	0.045***
	[0.011]	[0.011]	[0.002]	[0.009]
Hispanic × Immigrant Destination Index × SAW Exp.	-0.004	-0.004	-0.001	-0.004
	[0.011]	[0.011]	[0.002]	[0.009]
R^2	0.029	0.028	0.042	0.044
Mean of Dependent Variable	-3.924	-3.918	0.127	-3.996
Mean of Non-Logged Outcome	7.537	7.586	0.127	0.165

Notes: The unit of observation is census block group by month by ethnicity in Bexar County for April 1985-December 1989. There are 114,000 observations in each column. The dependent variables are different measures of felony charges for income generating crimes at the block group-month level (see text). The immigrant destination index is the sum of the standardized values of the poverty rate, percent Mexican, percent foreign born, people per housing unit, and percent speaking Spanish at home for each block group. Standard errors in brackets allow for arbitrary correlation in crime measure within block group; significant at the * 10 percent level, ** 5 percent level, and *** 1 percent level.

	Without Lagged LAW Effects	With Lagged LAW Effects
Hispanic Defendant	0.038*	0.038*
	[0.021]	[0.021]
Immigrant Destination Index	0.0005	0.0005
	[0.005]	[0.005]
IRCA Enacted	0.082***	0.082***
	[0.020]	[0.020]
LAW Expiration	0.150***	0.150***
	[0.021]	[0.021]
Hispanic × IRCA	-0.050*	-0.050*
	[0.026]	[0.026]
Hispanic × LAW Expiration	0.063**	0.080*
	[0.028]	[0.044]
Hispanic × Time Since LAW Expiration		-0.016*
		[0.009]
Hispanic × Time Since LAW Expiration^2		0.001**
		[0.000]
Immigrant Destination Index × IRCA	0.001	0.001
	[0.006]	[0.006]
Immigrant Destination Index × LAW Expiration	-0.004	-0.004
	[0.006]	[0.011]
Immigrant Destination Index × Time Since LAW Expiration		-0.0004
		[0.002]
Immigrant Destination Index × Time Since LAW Expiration^2		0.00003
		[0.0001]
Hispanic × Immigrant Destination Index	0.090***	0.090***
	[0.006]	[0.006]
Hispanic × Immigrant Destination Index × IRCA	0.003	0.003
	[0.007]	[0.007]
Hispanic × Immigrant Destination Index × LAW Exp.	0.035***	0.043***
	[0.008]	[0.016]
Hispanic × Imm. Dest. Index × Time Since LAW Exp.		-0.003
		[0.003]
Hispanic × Imm. Dest. Index × Time Since LAW Exp.^{2}		0.0002
		[0.0002]
R^2	0.029	0.029
Mean of Dependent Variable	-3.924	-3.924
Mean of Charges / 1000 People	7.537	7.537

Notes: The unit of observation is census block group by month by ethnicity in Bexar County for April 1985-December 1989. There are 114,000 observations in each column. The dependent variable is the natural log of felony charges for income generating crimes divided by the estimated ethnicity-specific population at the block group-month level (see text). The immigrant destination index is the sum of the standardized values of the poverty rate, percent Mexican, percent foreign born, people per housing unit, and percent speaking Spanish at home for each block group. Standard errors in brackets allow for arbitrary correlation in crime measure within block group; significant at the * 10 percent level, ** 5 percent level, and *** 1 percent level.

TABLE 5–IRCA AND FELONY CONVICTION RATES, TRIPLE-DIFFERENCES ESTIMATES

	Income Generating Crimes	Non-Income Generating Crimes	Drug Crimes	Drug Crimes, Excl. Non-Hispanic Whites
Hispanic Defendant	3.799**	0.226	7.935**	6.000
	[1.714]	[3.208]	[3.444]	[5.070]
Hispanic × IRCA	-0.702	2.101	-5.572	-5.363
	[2.241]	[4.611]	[4.343]	[5.712]
Hispanic × LAW Expiration	-1.717	6.090	-1.240	0.584
	[2.734]	[5.642]	[4.534]	[5.436]
Hispanic × SAW Expiration	0.944	-0.401	2.269	-0.175
	[2.827]	[5.724]	[4.656]	[5.550]
Immigrant Destination Index × IRCA	-0.495	0.183	0.352	-1.288
	[0.382]	[0.785]	[0.833]	[1.157]
Immigrant Destination Index × LAW Expiration	0.556	0.900	0.347	0.634
	[0.450]	[1.104]	[0.741]	[0.955]
Immigrant Destination Index × SAW Expiration	-0.286	0.572	-0.991	-1.100
	[0.455]	[1.147]	[0.781]	[0.968]
Hispanic × Immigrant Destination Index	-0.289	0.665	-0.566	-1.728
	[0.401]	[0.769]	[0.821]	[1.089]
Hispanic × Immigrant Destination Index × IRCA	0.27	0.373	0.212	1.964
	[0.514]	[1.053]	[1.028]	[1.271]
Hispanic × Immigrant Destination Index × LAW Exp.	-0.587	-2.362*	-0.623	-1.390
	[0.620]	[1.430]	[1.011]	[1.267]
Hispanic × Immigrant Destination Index × SAW Exp.	0.984	-0.323	1.193	1.515
	[0.629]	[1.492]	[1.064]	[1.317]
R²	0.117	0.215	0.216	0.232
Mean of Dependent Variable	71.096	62.519	74.942	78.312
Observations	14,487	5,130	5,906	4,145

Notes: The unit of observation is census block group by month by ethnicity in Bexar County for April 1985-December 1989. The dependent variable is the number of convictions divided by the number of felony charges for various crimes multiplied by 100 at the block group-month level (see text). The immigrant destination index is the sum of the standardized values of the poverty rate, percent Mexican, percent foreign born, people per housing unit, and percent speaking Spanish at home for each block group. All regressions include month-by-year and block group fixed effects. Standard errors in brackets allow for arbitrary correlation in crime measure within block group; significant at the * 10 percent level, ** 5 percent level, and *** 1 percent level.

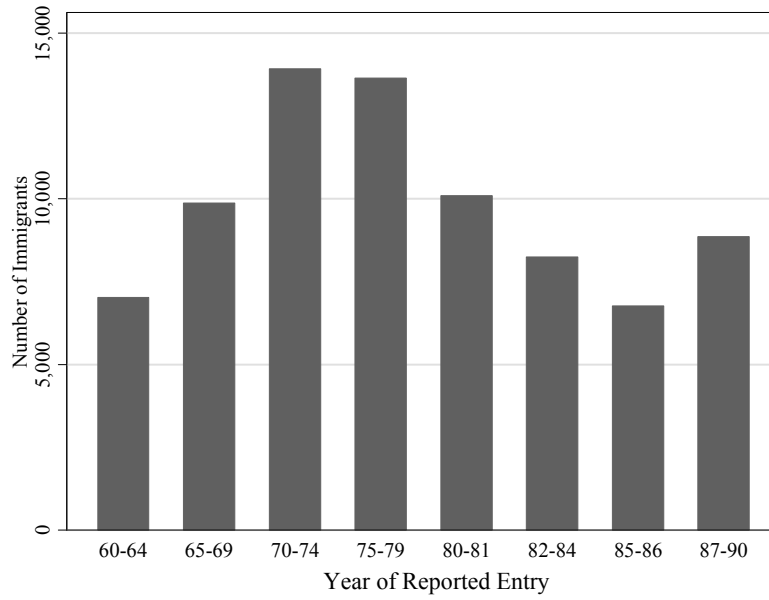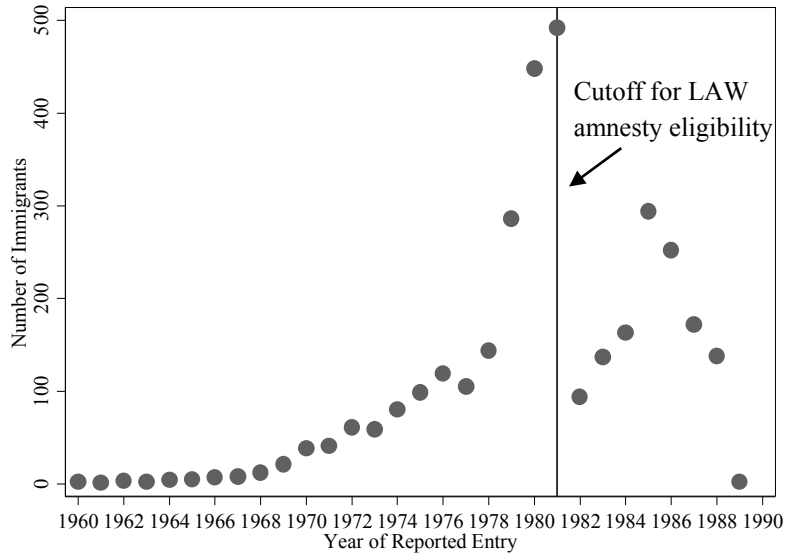FIGURE 1. IMMIGRATION TO BEXAR COUNTY BY DATE OF ENTRY, 1990 CENSUS DATA

FIGURE 2. IMMIGRATION TO BEXAR COUNTY, 1992 INS LEGALIZATION SUMMARY TAPE

A. Immigration by Date of Entry

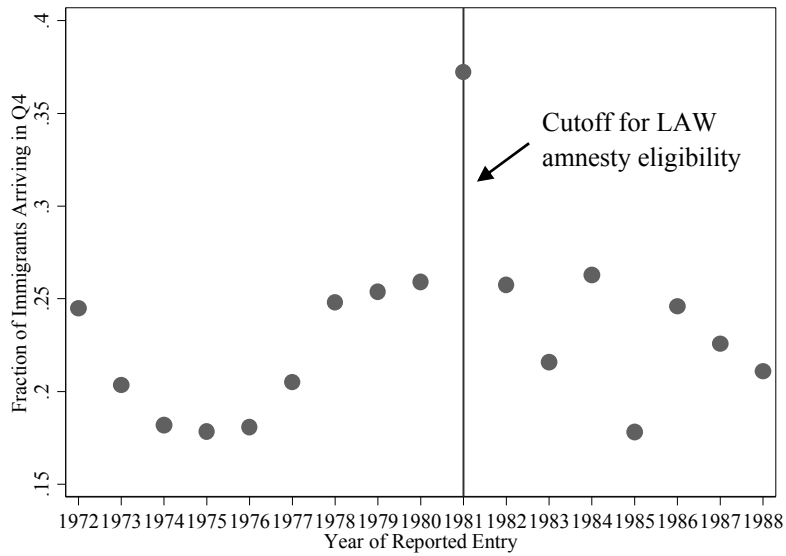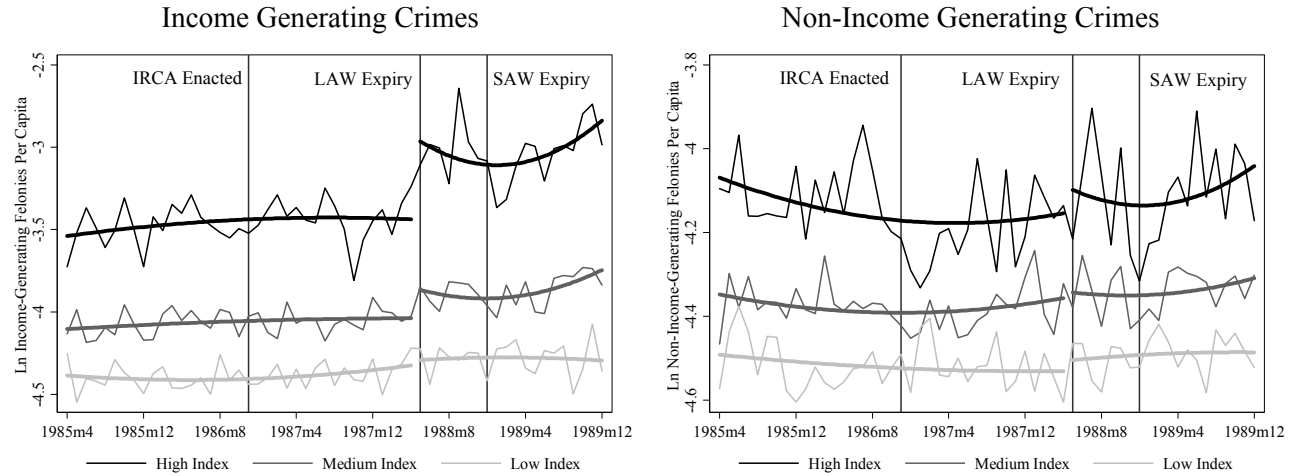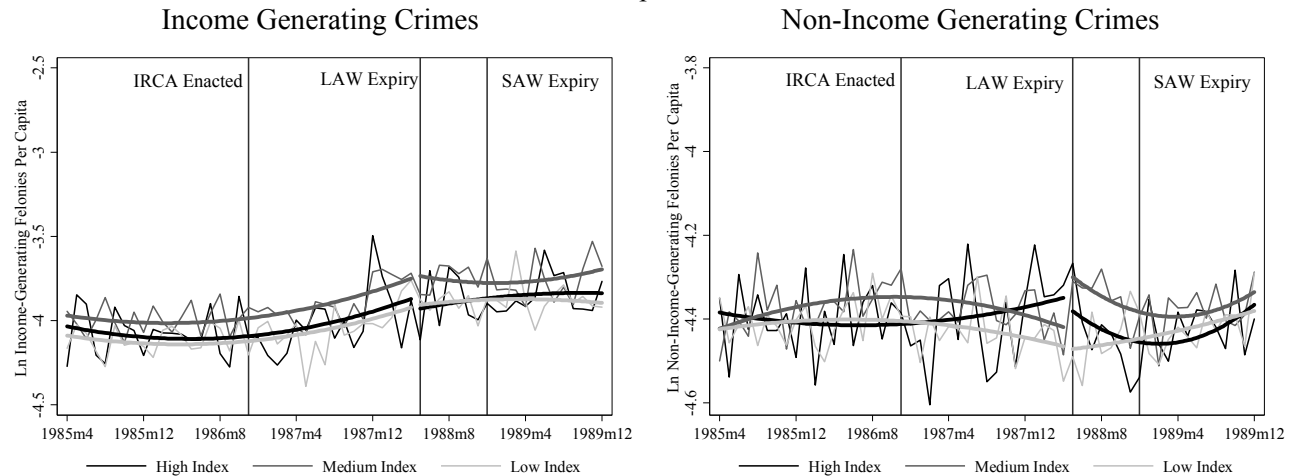B. Share of Immigrants Arriving in the Fourth Quarter by Year of Entry

FIGURE 3. AVERAGE MONTHLY CRIMINAL INCIDENCE ACROSS NEIGHBORHOODS, BY ETHNICITY AND CRIME TYPE

A. Hispanic Residents

B. Non-Hispanic Residents

Notes: High, medium and low index neighborhoods are block groups in the top quartile, middle 50 percent, and bottom quartile of the immigrant destination index, which is the sum of the standardized values of the poverty rate, percent Mexican, percent foreign born, people per housing unit, and percent speaking Spanish at home for each block group. Vertical lines represent the months of IRCA enactment (November 1986), LAW amnesty expiration (May 1988), and SAW amnesty expiration (December 1988).
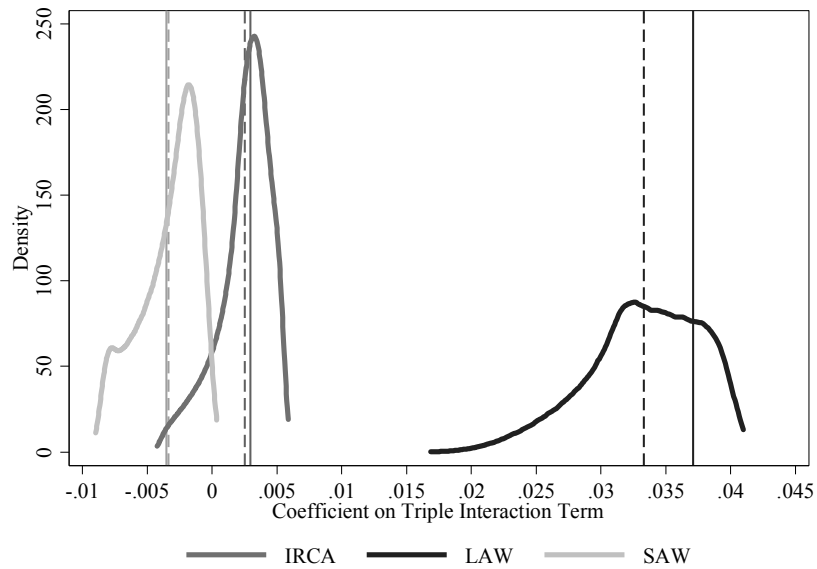
Notes: Figure shows the distribution of coefficients on the triple interaction term between Hispanic, the relevant IRCA date, and the immigrant destination index from 10,626 permutations of the immigrant destination index. The dashed vertical lines mark the mean estimates from all 10,626 regressions and the solid vertical lines mark the baseline estimates using the equal weighting of variables for the index.