Urban crime rates and the changing face of immigration: Evidence across four decades

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ABSTRACT

Research has shown little support for the enduring proposition that increases in immigration are associated with increases in crime. Although classical criminological and neoclassical economic theories would predict immigration to increase crime, most empirical research shows quite the opposite. We investigate the immigration-crime relationship among metropolitan areas over a 40 year period from 1970 to 2010. Our goal is to describe the ongoing and changing association between immigration and a broad range of violent and property crimes. Our results indicate that immigration is consistently linked to decreases in violent (e.g., murder) and property (e.g., burglary) crime throughout the time period.

Introduction

> When Mexico sends its people, they're not sending their best. They're not sending you. They're not sending you. They're sending people that have lots of problems, and they're bringing those problems with us. They're bringing drugs. They're bringing crime. They're rapists. And some, I assume, are good people.
>
> —Donald Trump, June 16, 2015

From the beginning of the 20th century to today in the 21st, immigrants' alleged propensity for crime has been a common theme in the political discourse surrounding state and federal immigration law (Carter & Steinberg, 2006; Higgins, Gabbidon, & Martin, 2009; Moehling & Piehl, 2009; Sampson, 2008). This theme, as expressed in Donald Trump's statement above, however, stands in sharp contrast to the findings of existing research on the topic. Immigration–crime research over the past 20 years has widely corroborated the conclusions of a number of early twentieth century presidential commissions (Wickersham, 1931)

that found no support for the immigration–crime connection. Although there are always individual exceptions to aggregate patterns and trends, immigrants commit fewer crimes, on average, than native-born Americans (Bersani, 2014; Butcher & Piehl, 1998; Feldmeyer, 2009; Hagan & Palloni, 1998; Morenoff & Astor, 2006; Olson, Laurikkala, Huff-Corzine, & Corzine, 2009).

Immigration does not occur at a stable and consistent pace. Rates of immigration in the United States have fluctuated dramatically over time and across geographic spaces (Portes & Rumbaut, 2014). For example, in each decade from 1880 to 1930, well over five million immigrants entered the United States, and the foreign-born comprised over 12% of the total population. But from 1930 to 1960, due to restrictive immigration laws, the Great Depression, and World War II, immigration dropped to an average of 1.3 million per decade and the foreign-born declined from 12% to 5% of the total population (Portes & Rumbaut, 2014). Currently, the percentage of the total U.S. population that is foreign-born is 13% and the immigrant population itself is 47% Latino, 26% Asian, 18% white, and 8% black (Cohn, 2015). However, annually since 2009, the percentage of Asian immigrants (36%) has surpassed that of Latino immigrants (31%), leading researchers to project that by 2065 the U.S. immigrant population will be 38% Asian and 31% Latino with the proportion of whites and blacks unchanged (Taylor et al., 2013). Moreover, immigrants are settling in a wider range of states than in the past, with many going to parts of the United States that previously did not have large immigrant communities (e.g., Georgia, Nevada), and many immigrants now directly settle in suburban areas such as Prince William County, VA, and Montgomery County, MD (Baird, Adelman, Reid, & Jaret, 2008; Wilson & Singer, 2011). Since immigrants are less likely to be criminal offenders than the native-born, it is possible that immigration, as an aggregate-level phenomenon, can affect the overall rate of crime in different places and at different times. In this study, we explore these possible geo-temporal effects of immigration on crime at the macro-level.

There are a variety of macro-level explanations about the relationship between immigration and crime. Some scholars contend that immigration indirectly increases aggregate levels of crime by reducing the economic opportunities of native-born Americans (Beck, 1996; Borjas, 1987; Catanzarite, 2003; Johannson & Shulman, 2003; Shihadeh & Barranco, 2010; Stewart & Hyclak, 1986; Waldinger, 1996, 1997). Immigrants might, for example, displace native-born workers from jobs, forcing the latter to participate in illegal labor markets (Grogger, 1998). In this scenario, immigrants themselves do not commit crimes but instead change the opportunity structure of non-immigrant workers, which drives them to offend. Other scholars contend that immigrants improve local labor markets by creating jobs and revitalizing inner-city neighborhoods in ways that improve conditions for both immigrants and native-born workers (Adelman & Jaret, 1999; Grant & Parcel, 1990; Light & Gold, 2000; Lyons, Vélez, & Sontoro, 2013; Stansfield, 2013). As a consequence, immigration reduces aggregate levels of crime as increasing labor market opportunities improve native-born Americans' ability to earn an income in

legal labor markets (Feldmeyer & Steffensmeier, 2009; Lee & Martinez, 2009; Lee, Martinez, & Rosenfeld, 2001; Reid, Weiss, Adelman, & Jaret, 2005).

Aside from these possible economic-based links between immigration and crime rates, researchers have debated whether immigration creates changes in urban social organization that affects the crime rate. Work examining pre-1900 immigration and crime has focused on impoverished Irish Catholics in American cities. Researchers describe criminally violent Irish street gangs in New York and Philadelphia, mention increased crime rates in the Irish immigrant neighborhood of South Boston, and contend that Irish immigration contributed to higher homicide rates between 1850 and 1875 (Asbury, 1927; Fallows, 1979; Monkkonen, 1989). Wirth (1938) contended that as cities increased in size, density, and heterogeneity (much of it due to immigration) a weakening of traditional and informal means of social control occurred and an anomic, competitive, even exploitative way of life arose in which crime was more frequent. Other classic Chicago School urban sociologists found high rates of juvenile delinquency and criminal behavior in poor immigrant neighborhoods. They contended this was produced by poverty, lack of opportunities, and social disorganization manifested in so-called broken families, neighborhood instability, and lack of common community standards or morals (Burgess & Bogue, 1964). This view of disorganized, crime-ridden immigrant neighborhoods was challenged and amended by subsequent research showing them to be highly organized and relatively safe places (Suttles, 1968; Sanchez-Jankowski, 2008). More recently, the debate on immigrants and crime was reopened with Putnam's (2007) assertion that increases in metropolitan areas' social diversity (e.g., more and a wider variety of immigrants) causes a decline in social solidarity, social capital, and interpersonal trust, which leads to higher crime.

We evaluate the relationship between the size of the foreign-born population in U.S. metropolitan areas and crime rates in those areas between 1970 and 2010. Examining these longitudinal data allows us to assess whether the relationship between immigration and crime has changed over time and geographic space in the context of changes in the broader U.S. economy and changes in the size and origination of immigrant flows. As the relationships between other socioeconomic factors and crime are historically and geographically contingent, so too may be the relationship between immigration and crime.

Studying the immigration–crime relationship

Some of the most influential and enduring theories within sociology and criminology developed when the founders of the Chicago School observed the social consequences of rapid immigration during the first half of the twentieth century (Park & Burgess, 1924; Shaw & McKay, 1942; Shaw, Zorbaugh, McKay, & Cottrell, 1929). Even during this period of rapid immigration and pervasive anti-immigrant sentiment, data did not indicate a positive relationship between immigration and crime (Hart, 1896; Hourwich, 1912). During the 1930s, researchers' concern about

immigrants as a cause of crime waned, largely due to the precipitous drop in immigration resulting from the restrictive immigration laws passed the previous decade. This concern reappeared after Congress passed the Hart-Celler Immigration Reform Act of 1965. Commonly referred to as the Hart-Celler Act, the Immigration and Nationality Act of 1965, amended previous U.S. immigration policy by abolishing the national origins quota system, in place since 1921, and replacing it with a preference system focusing on relatives of U.S. citizens and permanent residents, professional and highly skilled workers or unskilled workers in needed occupations, and those seeking refuge from violence, persecution, or national calamities (Bureau of Security and Consular Affairs, 1968; Immigration and Nationality Act of 1965; Keely, 1971). By abolishing the quota system and prioritizing family reunification, the common perception was that this law would increase immigration from Latin American countries (Rumbaut, 1994). Although the direct effects of the Hart-Celler Act have been overstated (Massey, 1996; Rumbaut, 1994), overall increases in immigration, not only from nations similar to the United States but also from Asian and Latin American countries, have greatly increased the diversity of U.S. immigrants (Zhou, 2001) and rekindled public concern about its consequences.

Likewise, recent immigration has renewed researchers' interest in the potential connection between immigration and crime. Over the past 15 years, research has attempted to answer two general questions. The first, posed at the individual, or micro level, asks whether immigrants have a higher propensity to commit crime than the native-born. The second question, posed at the aggregate, or macro level, asks whether immigrants affect the crime rate by any means, either directly or indirectly.

The immigration–crime relationship among individuals

Sociological theories predicting immigrants to be more criminal are frequently based on the assumption that new arrivals are poor (Clark, 1998; DeJong & Madamba, 2001). Basing their arguments on the characteristics of immigrants in the early twentieth century, researchers often followed Merton's (1938) premise, suggesting that immigrants enter the United States poor and experience discrimination in labor markets and blocked pathways to social and economic mobility (Lee et al., 2001; Waldinger, 1997). They consequently use crime in order to improve their economic standing. Moreover, blocked economic opportunities may engender frustration that could lead to violence (Agnew, 1992; Blau & Blau, 1982; Tonry, 1997). Furthermore, systematic discrimination and barriers to social and economic mobility could also lead to the formation of criminal immigrant subcultures that develop into gangs, especially among the children of immigrants (Bankston, 1998; Short, 1997).

These arguments are clearly countered, however, by empirical results showing that immigrants offend less than the native-born U.S. population (Bersani, 2014;

Harris, 1999; Sampson, Morenoff, & Rudenbush, 2005; Sampson, 2008). Extant empirical evidence finds that immigrants are less criminal than the native-born population, although there are exceptions for specific immigrant groups. Investigating the relationship between immigration and different types of crime in San Diego and El Paso, Hagan and Palloni (1999) found that immigrants and the native-born have similar rates of arrest for drug, property, and violent crimes. Martinez and Lee (2000) observed that in Miami rates of criminal offending among Haitian, Jamaican, and Mariel Cuban immigrants were less than those of the native-born. Examining homicide among Mariel Cubans, non-Mariel Latinos, whites, Afro-Caribbeans (Haitians and Jamaicans), and native-born blacks, Martinez, Nielsen, and Lee (2003) showed virtually no effect of immigrant-status. The only exception was that Afro-Caribbeans were more likely than native-born blacks to commit drug-related homicides. Olson et al. (2009) found that native-born citizens had the highest rate of arrest for homicide, attempted homicide, robbery, and aggravated assault compared to foreign-born citizens, naturalized citizens, and noncitizens in Orange County, FL (Orlando), but noncitizens had the highest rate of arrest for sexual assault. Nielsen and Martinez (2011) examined arrests for robbery and aggravated assault among specific immigrant groups in Miami and noted that immigrants from Cuba, Haiti, Honduras, Nicaragua, Dominican Republic, and other countries were less likely to be arrested for robbery than for aggravated assault compared to the native born.

Although immigrants have offending levels lower than those of the native-born, this does not necessarily hold true for their children. Research indicates the likelihood of committing violence increases with successive generations of immigrants (Bersani, 2014; Morenoff & Astor, 2006; Sampson et al., 2005). In Chicago, the odds of committing violence for children of immigrants were 1.33 times that of immigrants themselves, and the odds of violence for grandchildren of immigrants were twice that of immigrants themselves (Sampson et al., 2005). However, it is important to note that, in spite of these generational increases in offending, children and grandchildren of immigrants approach, but do not exceed, the level of offending of the native-born population. Moreover, evidence suggests that the children of more recent immigrants are less delinquent than children whose parents immigrated in the middle part of the twentieth century (Dinovitzer, Hagan, & Levi, 2009).

If immigrant offending is lower than that of the native-born, then all else being equal, having a large immigrant population in a city or metropolitan area should have the effect of lowering that area's crime rate (since the immigrant population adds disproportionately more to the denominator than to the numerator in computing the community's crime rate) and percentage immigrant (i.e., percentage foreign born) in the population should be negatively correlated with that area's crime rate. However, as we discuss in the next section, some researchers suggest that "all else is not equal" and therefore the percentage of immigrants in a community might indirectly be associated with a rise in aggregate crime rates.

The immigration–crime relationship at the macro level

A number of studies have found that immigrants challenge the wage and job opportunities of the native-born, especially African Americans (e.g., Aydemir & Borjas, 2007; Borjas, 2003). Rosenfeld and Tienda (1999) contend that blacks and some immigrants (e.g., foreign-born Latino) compete in the secondary labor market where jobs require less human capital, and offer low wages and harsh working conditions (see also Catanzarite, 2003; Johannsson & Shulman, 2003). Consequently, many non-white immigrants and blacks compete for the same jobs within a metropolitan area (see also Browne, Tigges, & Press, 2001; Moss & Tilly, 2001; Ong & Valenzuela, 1996; Rosenfeld & Tienda, 1999).

Beck (1996) is particularly concerned because immigrants have lower expectations in terms of wages, and he argues that blacks are moved down the job queue by the existence of immigrants in labor markets. Further, Borjas (2003) argued that when examining matched pairs of immigrant and native-born workers based on education, experience, and skill levels, immigrants challenge native-born wages and job security. And ethnographic research suggests that many employers prefer hiring immigrant workers over African Americans (Beck, 1996; Waldinger, 1996, 1997; Wilson, 1987). They perceive the former as reliable while stereotyping native-born blacks as lazy and unreliable (Neckerman & Kirschenman, 1991). Even if immigrants are not themselves involved in crime, their influx into local labor markets could displace native-born workers who must shift their employment to a legitimate/illegitimate work mix in order to survive (Freeman, 1996).

In contradiction to this argument, Zhou (2001) contended that "[t]he image of the poor, uneducated, and unskilled 'huddled masses,' used to depict the turn-of-the-century European immigrants, does not apply to today's newcomers" (p. 206). Since the passage of the Hart Celler Act, immigrants in the United States have become increasingly diverse with regard to their countries of origin, their racial, ethnic, and religious backgrounds, and their levels of education. Although some groups of immigrants enter the United States with, on average, very low levels of education (e.g., Mexicans), others arrive with college degrees from their home country with which they are able to successfully compete for highly-skilled jobs (Zhou, 2001). Consequently, arguments about displacement may overestimate the danger immigrants pose to the occupational opportunities of U.S. low-skilled workers.

Additionally, recent immigrants may not compete directly with native-born workers because they are often employed in ethnically-owned niche businesses (Zhou, 1992). If this is the case, then they do not compete with native-born workers and do not reduce the labor market opportunities of the native-born. Moreover, immigrant businesses may provide native-owned businesses with work. Even if an ethnically-owned business fills a niche and does not directly compete in the native-born economy, services and materials they require (e.g., transportation, raw materials, and warehousing) likely still improve labor market opportunities for native-

born workers (Kotkin, 2000). Furthermore, as consumers of goods and services, immigrants may increase the customer-base for native-owned businesses (Kotkin, 2000).

In fact, a body of research suggests that immigrant settlement in inner-city areas, many of which still suffer from the population declines and economic disinvestment of the 1970s (Bluestone & Harrison, 1982), has revitalized some of these places (Alba, Denton, Shu-yin, & Logan, 1995; Winnick, 1990). Consequently, it is possible that immigration reduces aggregate levels of crime by actually increasing the labor market opportunities of native-born workers *and* revitalizing urban neighborhoods (Graif & Sampson, 2009; Lee & Martinez, 2009; Lee et al., 2001; Lyons et al., 2013; Reid et al., 2005; Stansfield, 2013). Lyons et al. (2013) argued that immigrants' potential for neighborhood revitalization lies not only in their positive effect on local economies, but in their tendencies toward two-parent families and strong community relationships that enhance social organization.

Thus, according to the literature, as immigrants move into metropolitan areas and their neighborhoods there may be displacement or revitalization, depending on economic circumstances in each time period. In order to study these outcomes, scholars often examine relationships between immigration and crime in a single city or among two or three cities with high populations of immigrants. In Austin, TX, for example, a metropolitan area which has experienced an increase of 580% in its immigrant population for the period 1980–2000, researchers indicated no relationship between immigration and homicide (Akins, Rumbaut, & Stansfield, 2009) or burglary, larceny, and motor vehicle theft (Stansfield, Akins, Rumbaut, & Hammer, 2013). Researchers showed no relationship between immigration and homicide (Stowell, 2007; Stowell & Martinez, 2007) in Houston, San Antonio (Martinez & Stowell, 2012; Martinez, Stowell, & Cancino, 2008), and Alexandria, VA (Stowell, 2007). Martinez et al. (2008) found a negative relationship between immigration and homicide in San Diego. Analyzing black and Latino homicides in El Paso, Miami, and San Diego, Lee's (2003) results suggested that the effect of immigration on homicide was negative, except for a positive effect on black homicides in San Diego.

In Chicago, examining the relationship between recent immigrants and homicide Vélez (2009) pointed to elevated levels of homicide in advantaged areas but lower levels of homicide in disadvantaged areas, leading her to conclude that recent immigrants revitalize disadvantaged neighborhoods. Also in Chicago, Kubrin and Ishizawa (2012) observed that neighborhoods with high concentrations of immigrants which were spatially embedded within larger immigrant communities had lower rates of homicide and robbery compared to other immigrant neighborhoods, but in Los Angeles these embedded immigrant neighborhoods had higher rates of homicide and robbery, although MacDonald, Hipp, and Gill (2013) found that an increase in recent immigrants was associated with decreased levels of violent and total crime, especially in areas of concentrated poverty in Los Angeles. Studying

New York City, Davies and Fagan (2012) determined there was an association between immigration and reduced rates of violent crime, drug crime, and property crime. In Miami, researchers identified a negative relationship between immigration and homicide (Martinez & Stowell, 2012; Stowell & Martinez, 2007). Comparing racial and ethnic groups in Miami, Nielsen and Martinez (2009) showed a negative relationship between immigration and Latino and black homicide, while Stowell and Martinez (2009) showed how the negative relationship between immigration and homicide was stronger for Latino immigrants than for other immigrant groups.

Studies using samples of cities or metropolitan areas yield similar results. Martinez and Lee's (2000) analysis of 111 cities revealed a negative or null effect on most types of Latino homicides, but a positive effect for felony homicides which occur during the commission of another crime. Ousey and Kubrin (2009) found that, in their sample of 159 cities, immigration was tied to decreases in violent crime, and attributed this relationship to the revitalization of traditional family structure brought on by immigration. Shihadeh and Barranco (2010) attributed a positive relationship between Latino immigration and black crime in 117 cities to higher levels of black unemployment resulting from increased levels of Latino participation in low-skill labor markets. Reid et al. (2005) found a negative relationship between immigration and homicide over a sample of 150 metropolitan areas, and no relationship between immigration and robbery or burglary. In general, the authors also noted no relationship between immigration and theft with one exception: As the relative size of the Asian foreign-born population increased, levels of theft decreased. Schnapp (2015) examined 146 cities weighted by population size and identified no relationship between immigration and homicide. And Stanfield's (2013) analysis of 131 cities indicated no relationship between immigration and violent crime and a negative relationship between immigration and property crime.

Scholars also examine the relationship between immigration and crime at the census tract, or neighborhood level. Feldmeyer and Steffensmeier (2009) examined 328 census places in California and found that immigration had no effect on total homicide offending and a small negative effect on black and white homicide offending. Harris, Gruenewald, and Painter-Davis (2015) showed that Latino immigration was associated with increased black-on-black and black-on-white homicide, and black-on-black, black-on-white, and black-on-Latino robbery in a sample of 363 census places. In a sample of 8931 census tracts nested within 87 large cities, Lyons et al. (2013) found inverse relationships between immigration and homicide and robbery, especially in areas in which immigrants had access to political opportunities. Martinez, Stowell, and Lee (2010) found that the growth of the foreign-born population was associated with a decline in lethal violence in San Diego neighborhoods during the period 1980–2000. And Chavez and Griffiths (2009) examined homicide rates in Chicago neighborhoods from 1980 to 1995 and revealed a negative relationship between immigration and crime.

Studying individuals nested within neighborhoods also shows consistent results. In their study of Chicago adolescents, Morenoff and Astor (2006) find that first generation immigrant youth are less involved in violent crime than their native-born counterparts independent of the immigrant composition of the neighborhoods in which they live. However, second generation immigrant youth exhibit less violence if they live in neighborhoods with larger immigrant concentrations. Nationwide, using Add Health data, Desmond and Kubrin (2009) find that neighborhood immigrant concentration lessens levels of youth violence overall, but that the effect is strongest for Asian youth, both foreign- and native-born. Similar research suggests that immigrant concentration at the neighborhood-level is a protective factor for overall juvenile recidivism (Wolff, Baglivio, Intravia, & Piquero, 2015).

Several recent studies have compared traditional immigrant destination cities to non-traditional, or new, destination cities. Shihadeh and Winters' (2010) analysis of rates of Latino immigration and homicide victimization in 755 U.S. counties indicated significantly higher rates of Latino homicide in new immigrant destinations than in traditional destinations. Similarly, Barranco (2013) showed increased Latino homicide victimization in new destinations. Comparing traditional and new destinations in California, New York, and Texas, Harris and Feldmeyer (2013) found a negative relationship between Latino immigration and Latino violence, and no relationship between Latino immigration and white and black violence in traditional destinations, and higher levels of Latino and Black violence in new destinations. Comparing neighborhoods, Ramey (2013) illustrated how violence was much higher in integrated neighborhoods in new destinations compared to traditional destinations.

Contrasting crime across eras with higher rates of immigration to those with lower rates of immigration may also shed light on the question of whether immigration affects crime through indirect means. Longitudinal analysis on immigration and crime is, however, limited. Butcher and Piehl (1998) analyzed the impact changes in immigrant flows had on crime for a small sample of metropolitan areas for the period 1980 through 1990. Their results indicated changes in levels of immigration had no effect on changes in crime measured either year-to-year or across the decade. Stowell, Messne, McGeever, and Raffalovich (2009) examined crime rates from 1994 to 2004 across 103 metropolitan areas and concluded that increases in immigration contributed to declines, not increases, in violent crimes. Ousey and Kubrin (2009) examined violent crime rates for 159 metropolitan areas for the years 1980, 1990, and 2000, and found a negative relationship between immigration and crime which they attributed to lower rates of divorce and single-parent families in the immigrant population. Wadsworth (2010) investigated the relationship between immigration, homicide, and robbery in a sample of American cities between 1990 and 2000 and showed that increasing immigration contributed considerably to decreases in property and violent crime during this decade. More recently, Ousey and Kubrin (2014) investigated subtypes of homicide in large cities

during 1980–2010, and concluded that changes in immigration were not associated with argument, felony, or gang-related homicides, but were negatively associated with drug-related homicides. They also contend that city context was important; the negative relationship between immigration and homicide was greater in cities with larger pre-existing immigrant bases.

Extending immigration–crime research

Our study adds to these bodies of research by carefully considering the geographically and temporally contingent nature of the immigration–crime relationship at the macro level. Our study contributes to the current literature in at least two important ways. First, we investigate the possibility that the immigration–crime relationship is temporally and spatially contingent by examining it across metropolitan areas and over a period during which patterns of immigration in the United States varied greatly. Since most contemporary immigration–crime research has been conducted with data from 1990 or later, when the U.S. economy has been relatively prosperous until very recent years, current results might be missing the potential impact of large economic changes. Moreover, the post-1990s were years of high immigration, prohibiting comparisons with earlier eras of lower immigration. Together, these trends make it necessary to reach further back into the history of the United States to investigate the immigration–crime relationship. Therefore, we investigate the relationship between immigration and crime at four points in time over a 40 year period between 1970 and 2010. Second, we consider a much broader range of criminal offenses. Prior research has focused almost entirely on violent crime, specifically homicide, because it is more accurately measured and more troubling to the population (Mosher, Miethe, & Hart 2010); however, since homicide is statistically rare, we study a broader range of violent crime as well as property crime. In summary, our goal is to describe the ongoing and changing association between immigration and a broad range of violent and property crimes.

Data and methods

For this study, we drew a stratified sample of 200 Metropolitan Statistical Areas (MSAs) as defined in the 2010 census. We stratified the sample based on region and population size, and thus the sample is representative of the regional distribution of U.S. metropolitan areas. In our sample, all metropolitan areas with a population of one million or more are included, and we chose smaller ones (population 75,000 to one million) with an equal probability of selection method. We matched MSAs over time, merging or separating county-level data as necessary and where possible to account for changes in MSA geographies over time. Without missing data our sample would consist of 1,000 observations (200 for each year under observation). However, due to missing values on both independent and dependent variables, the number of observations for specific years changes.

Variables

Violent and property crimes

The dependent variables for this study represent rates (per 100,000 people) of murder and non-negligent manslaughter, aggravated assault, robbery, burglary, and larceny that were known to police at five points in time (1970, 1980, 1990, 2000, and 2010). We obtained the data from the uniform crime reporting (UCR) program of the FBI (U.S. Department of Justice, 2002, 2012), although missing data also made it necessary to construct some crime rates for specific MSAs using county-level FBI data (U.S. Department of Justice, 2002, 2012) and files from a UCR data utility created by Maltz and Weiss (2006). In those cases where the latter data had to be used to construct MSA-level crime rates, we added the reported number of offenses for the individual counties composing the MSA (based on FIPS codes) updated through 2010 and transformed them into rates using the reported population of the counties. In addition to rates for individual crimes, we also developed indices for both violent and property crime. The first index sums the rates of murder and non-negligent manslaughter, aggravated assault, and robbery, while the second index sums the rates of burglary and larceny. The two indices will be referred to as the violent crime index and the property crime index, respectively. UCR data follow the hierarchy rule, which means that, in multiple-offense incidents, only the most serious offense is recorded. While National Incident Based Reporting System (NIBRS) data corrects for this shortcoming, only about one-third of agencies participate in NIBRS today and NIBRS data are not publically available prior to 2011. The impact of the hierarchy rule on underestimating UCR crime rates is modest, however. Comparisons of UCR and NIBRS data report that the difference in crime estimates tends to be small, with NIBRS violent crime rates being about 1% higher than the UCR and NIBRS property crime rates being 2–3% higher than the UCR (Rantala, 2000; U.S. Department of Justice, 2015).

Immigration

The percentage of the MSA population that was born abroad, our main variable of interest, was obtained from the decennial censuses of 1970, 1980, 1990, 2000, and 2010. For this and other variables, 1990–2010 data come directly from the Census summary files for the respective years. Data for 1970 and 1980 come from Census of Population and Housing, 1970: Extract Data (Adams, 1970) and Census of Population and Housing, 1980: Extract Data (Adams, 1980). Since we are interested in how the immigration–crime relationship has changed over the past 40 years, we use 1970 as the reference year. 1970 serves as a useful baseline start date because it is five years after the passage of the Hart–Celler Act and represents a time when unemployment, immigration, and crime were relatively low.

Economic variables

The effect of immigration on crime may be contingent on the economic situation of a given metropolitan area. In order to test this, we include a number of variables

that operationalize the labor market structures and economic well-being of residents in our sample of MSAs. We include a variable that represents the level of unemployment in MSAs in 1970, 1980, 1990, 2000, and 2010. This variable is operationalized as the percentage of the civilian population aged 16 and over that was unemployed at the time of the census data collection in the respective year. Temporally disaggregated descriptive statistics (for space reasons not provided in this article) show that, compared to 1970 (mean = 4.36, std. dev. = 1.4), unemployment in our sample was more prevalent and demonstrated a greater range in 1980 (mean = 6.38, std. dev. = 1.99) and 1990 (mean = 11.07, std. dev. = 3.19), before showing improvement in 2000 (mean = 5.63, std. dev. = 1.73) but then increases sharply in 2010 (mean = 10.65, std. dev. = 2.54). Our sample is, therefore, adequate in determining potential effects of this variable on the immigration–crime relationship as it represents both increases and decreases in unemployment throughout the past four decades, as well as large regional differences in unemployment across the country.

Manufacturing jobs, such as those of metal workers, woodworkers, fabricators, or assemblers, are usually considered relatively good jobs for less-educated workers. They pay comparatively well, provide chances for advancement and training, and tend to be relatively stable. However, since the late 1960s and early 1970s such jobs have increasingly given way to low-skill service sector jobs, jobs that pay little, are unstable, and provide little chance for advancement (Doeringer & Piore, 1971; Gordon, 1972; Osterman, 1975). This has led to fundamental changes in the structure of labor markets in U.S. metropolitan areas, with low-skill jobs becoming far more prevalent and manufacturing declining rapidly. Since immigrants may reduce native-born Americans' chances of employment it is important that our analyses contain a measure of the relative sizes of the low-skill service and manufacturing sectors. The two variables measuring labor market structure were obtained from the census of the respective years and represent the percentage of the civilian workforce that is employed in these jobs. Specific occupational categories were combined to create a low-skill service sector employment variable based on prior research on segmented labor markets and categorization schemes within this research (Boston, 1990). Similar categorizations have been used previously within criminology (Crutchfield, 1989; Haynie, Weiss, & Piquero, 2008; Weiss & Reid, 2005).

Finally, we account for the economic distress experienced by residents of the MSAs by creating an economic deprivation index. The scale we created incorporates standardized values of the following variables: The natural log of the median family income, the percentage of families living below poverty, the percentage of African American residents, and the percentage of all households in an MSA that is headed by a female householder with no husband present (Reid et al., 2005).

Control variable

It is a well-established finding that criminal offending is more prevalent among youth and young adults, and is related to the age structure more generally (Moffitt,

1993; Sampson & Laub, 1993; Sampson & Laub, 2001; Farrell, Laycock, & Tilley, 2015). In order to control for the age structure of the population within our MSAs, we include a variable representing the percentage of the population that is below the age of 25.

Analytic strategy

To begin, we examine the effect of percentage foreign-born on the dependent variables; we also compare the coefficients using 1970 data to those of subsequent years. We employ fixed effects models in this analysis because, compared to random effects models, the technique makes fewer assumptions about the independence of time-varying independent variables (Ousey & Kubrin, 2009).

We also rely on fixed effects models in order to counteract potential autocorrelation. Although there is a relatively long time (10 years) between our data points, autocorrelation remains a threat to the accuracy of our results. Ordinary least squares regression and other types of analyses require that errors between cases be uncorrelated. This is not the case in time series data, where errors are often correlated between time points and within cases. There are a number of ways in which time series data can be analyzed while still minimizing the influence of autocorrelation. However, most of these strategies (e.g., lagging data) would reduce the already small number of time points in our data making them difficult to apply to our analyses. Fixed effects models include dummy variables for each case (i.e., MSA). This essentially holds constant any unmeasured MSA characteristics that change little over time, such as regional or cultural effects (Jacobs & Tope, 2008). Using fixed effects models we minimize the effects of autocorrelation because the analysis controls for known and unknown factors that do not show change over the observed time period (Fitzgerald, 2005; Kail, Quadagno, & Dixon, 2009). Likewise, fixed effects analyses control for unobserved factors that take the same value for all of the cases (i.e., MSAs). Although our analyses contain both demographic and economic variables that should control for many temporal effects, there are likely macro-level changes our variables do not capture (e.g., a sudden economic shock like the 1973 oil embargo). The use of fixed effects models allows us to control for such changes in this study (Allison, 2009).

Our approach in the following analyses is to investigate the effect of the foreign-born population on rates of violent and property crime indices as well as rates of specific crimes. We suspect that the relationship between immigration and crime is not static; rather, it changes over decades as demographic and economic characteristics of U.S. metropolitan areas change.

Results

Trends in immigration, violent crime, and property crime between 1970 and 2010

Figures 1 and 2 show mean rates of violent and property crime per 100,000 residents for our sample of MSAs. In Fig. 1, violent crime rates increased after 1970,

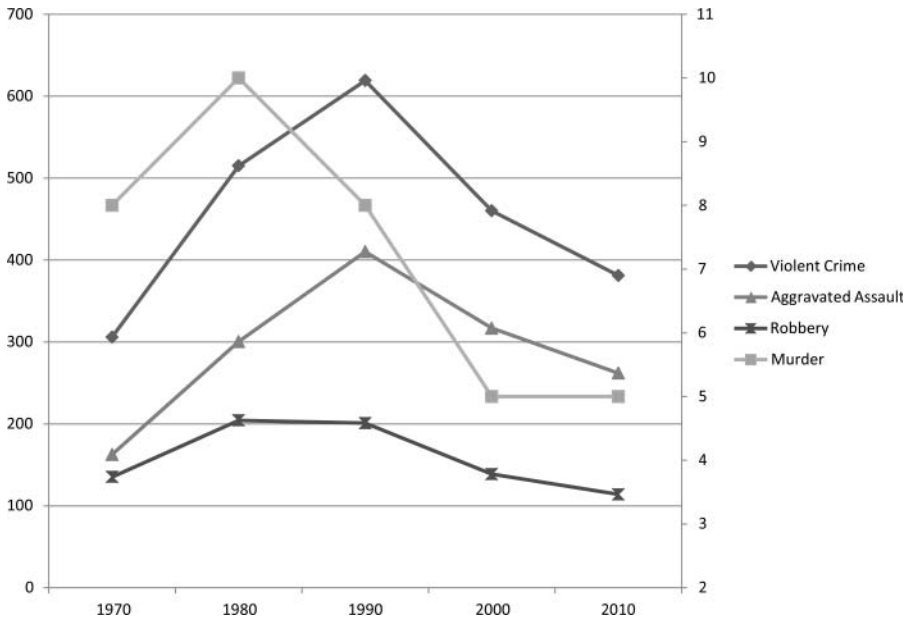**Figure 1.** Average rates of the violent crime index, murder, aggravated assault, and robbery across U.S. metropolitan areas, 1970-2010. For scaling reasons the right axis represents the rate of murder while the left axis represents rates of violent crime, aggravated assault, and robbery.
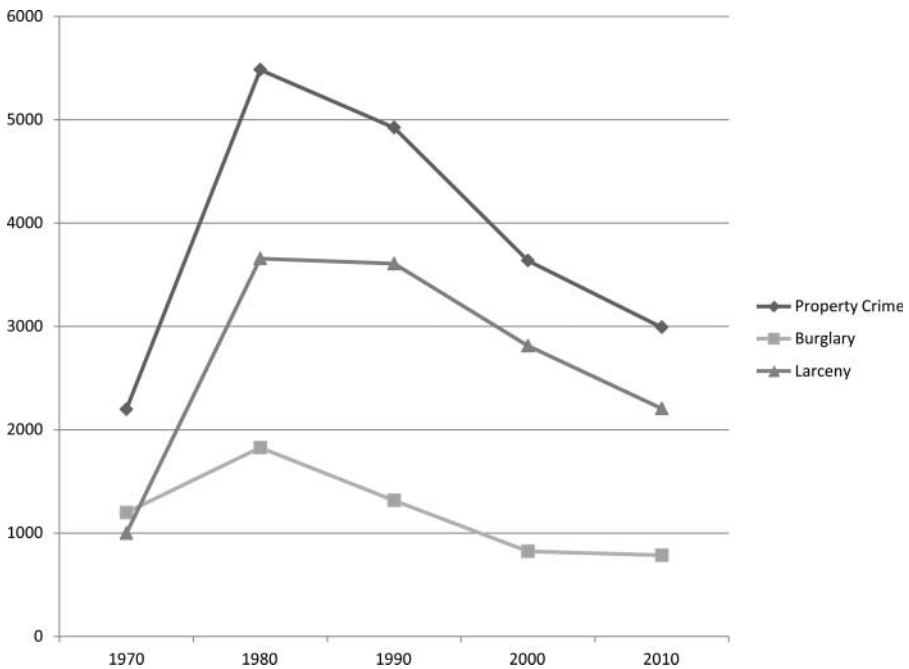

Figure 2. Average rates of the property crime index, burglary, and larceny across U.S. metropolitan areas, 1970-2010.

peaked around 1990, and then continued to decrease through 2010. Compared to 1970, the violent crime index rate for 1980 showed an increase of 213 crimes per 100,000 persons in the population. In 1990, the rate of violent crime was, on average, 316 incidences above the rate of 1970 before falling to a rate of 157 above the 1970 levels in 2000 and 74 in 2010.

The results for the violent crime index mask some differences observable when we disaggregate it into individual crime categories. Within the 1970–2010 period under study, and with 1970 serving as the reference point, murder appears to have peaked around 1980, with a rate that was, on average, about 2 offenses higher than in 1970. By 1990, murder rates in U.S. metropolitan areas had decreased again and were no longer different from those in 1970. By 2000 and 2010, rates of murder in U.S. metropolitan areas had further decreased to levels that were significantly lower than they were in 1970 (around 5 murders per 100,000).

Robbery follows a similar trend. It appears to have peaked around 1980 (around 69 robberies per 100,000 more than in 1970) and then began to drop. With reference to the 1980 data, the rate of robbery in 1990 had decreased by 3 robberies per 100,000 people. However, even in this year robbery remained 66 crimes per 100,000 people higher than it had been in 1970. By 2000, the rates of robbery had dropped to about the same rate of robbery as in 1970, and in 2010, rates of robbery had decreased again to about 114 robberies per 100,000 people, the lowest level in the robbery data.

The trend for assault is somewhat different from both robbery and murder and is likely the reason for the overall temporal trend in the violence index. Rather than peaking in 1980, as was the case with murder and robbery, rates of aggravated assault increased throughout the 1980s, peaked around 1990, with a rate of aggravated assault that was 247 crimes per 100,000 people higher than in 1970, and declined after that. In 2000, the rate was 154 aggravated assaults higher than in 1970, and even through 2010 the rate was 99 assaults higher. Thus, while murder and robbery occurred most around 1980 and then declined to below 1970 levels in 2010, aggravated assault peaked ten years later in 1990 and, while it declined somewhat, remained high even by the year 2010 in these metropolitan areas.

Property crime also peaked in 1980 (see Fig. 2), and then began to decline. However, as with the case for the violent crime index, the property crime index also masks differences for the two different types of property crime we investigate. Compared to 1970, larcenies increased and peaked around 1980 (3,656 larcenies per 100,000). They then decreased throughout the 1990s and 2000s, when the larceny rate of 2,205 larcenies per 100,000 people for 2010 remained higher than 1970 but was lower than in the three decades before.

The pattern for burglaries is very different. The rates for this crime peaked around 1980 and then began to fall precipitously so that by 1990 the rate was similar to the 1970 rate (about 1,200 versus 1,300 per 100,000 people). By 2000, the rate of burglary had declined to a new low that was 376 burglaries per 100,000 people lower than in 1970, and by 2010 it had dropped even

Table 1. Average crime rates for the 25 MSAs with the largest foreign-born population and the smallest foreign-born population.

		2010	2000	1990	1980	1970
Violent crime	Large % foreign born	451.0	557.4	868.3	699.4	360.6
	Small % foreign born	391.5	454.3	551.2	479.0	318.8
Homicide	Large % foreign born	5.2	4.8	10.3	12.0	7.4
	Small % foreign born	6.2	7.3	9.8	10.1	11.3
Aggravated assault	Large % foreign born	291.3	378.0	506.3	363.8	159.6
	Small % foreign born	270.7	308.8	387.0	299.2	196.3
Robbery	Large % foreign born	154.6	174.6	351.7	323.6	193.6
	Small % foreign born	114.5	138.3	154.3	169.7	111.3
Property crime	Large % foreign born	2659.0	3117.8	5139.5	5902.3	2461.8
	Small % foreign born	3370.9	4071.4	4797.5	5176.4	2117.0
Burglary	Large % foreign born	656.6	699.0	1489.8	2121.6	1385.9
	Small % foreign born	963.9	1006.3	1380.2	1725.3	1176.7
Larceny	Large % foreign born	2002.4	2418.9	3649.8	3780.7	1075.9
	Small % foreign born	2407.0	3065.1	3417.3	3451.1	940.3
% foreign born	Large % foreign born	27.3	26.9	21.1	14.1	9.9
	Small % foreign born	2.6	1.9	1.2	1.6	1.0

further to 413 burglaries lower, on average, per 100,000 people (at a rate of 786 burglaries per 100,000 people).

Table 1 displays the average crime rates for the 25 MSAs with the largest percentage of foreign-born residents and the 25 MSAs with the smallest percentage of foreign-born residents for each decade between 1970 and 2010. This table shows a linear trend across both sets of MSAs over time. Those MSAs with large foreign-born populations had an average percentage foreign-born of 9.9% in 1970 that grew to 27.3% by 2010. MSAs with small foreign-born populations experienced a similar pattern of growth, beginning with an average percent foreign-born of 1.0% in 1970 and increasing to 2.6% in 2010. These results support the general trend of increasing immigration in the United States as a whole discussed earlier.

Violent crime rates overall began to decline after 1990 in both MSAs with high percentages of foreign-born residents and low percentages of foreign-born residents, following steady increases since 1970. This is consistent with broader trends in violent crime (Parker, 2006). The violent crime rate is driven primarily by trends in aggravated assault and robbery; looking specifically at homicide reveals some deviations from this overall trend. Homicide rates in MSAs with small foreign-born populations declined across the entire 1970–2010 time period. However, in MSAs with large foreign-born populations, homicide rates peaked in 1980 and then declined through 2010. This decline in homicide rates in MSAs with large foreign-born populations was greater than in MSAs with small foreign-born populations. The result is that, as of 2010, homicide rates are highest in MSAs with small foreign-born populations. By contrast, rates of aggravated assaults and robbery are lowest in those MSAs.

Property crime rates in MSAs with large and small foreign-born populations parallel national trends in property crime (Parker, 2006). Overall property crime rates, as well as rates of burglary and larceny specifically, increased between 1970 and 1980. After 1980, property crime rates began to decline, with the rate of

decline increasing after 1990. Moreover, the rate of decline over this time period was more rapid in those MSAs with large foreign-born populations than in those MSAs with small foreign-born populations. Although all property crime rates were higher in MSAs with large foreign-born populations in 1970, by 2010 this pattern had reversed, and MSAs with large foreign-born populations had lower property crime rates than MSAs with small foreign-born populations.

Foreign-born group size as a predictor of violent and property crime

Most important for the purpose of our research are the postulated relationships between the size of the foreign-born population in U.S. metropolitan areas and rates of crime. In Table 2, we examine a series of models predicting murder, aggravated assault, and robbery in addition to a summary index of the three variables, the violent crime index. In three of the four models, the coefficient for percentage foreign-born is significant and negative indicating that, as the relative size of the foreign-born population increases, rates of violent crime, murder, and robbery decrease. More specifically, every 1% increase in the foreign-born population decreases the overall violent crime rate by 4.9 crimes. For murder, the decrease is 0.11 crimes (a small but significant effect especially given the relatively low numbers of murders per 100,000 people) and for robbery, 4.3 crimes per 100,000 population. Percentage foreign-born is not significantly associated with aggravated assault, but we think it is important to note that the direction of the effect is negative.

As a consequence of these results, our findings mirror the larger literature showing either a negative effect of immigration on crime or no significant effect. Following 40 years of increases in immigration in American metropolitan areas, we find no evidence of displacement related to measures of violent crime.

Table 2. Fixed effects regression results for rates of violent crime, murder, aggravated assault, and robbery on foreign born population.

	Violent crime		Murder		Aggravated assault		Robbery	
Foreign born(%)	−4.90*	(2.34)	−0.11**	(0.04)	−0.66	(1.71)	−4.27***	(1.00)
Unemployment rate (%)	2.89	(3.63)	0.05	(0.07)	0.24	(2.64)	2.76	(1.70)
Manufacturing (%)	−0.48	(1.56)	−0.08***	(0.03)	−0.52	(1.12)	0.03	(0.72)
Low service sector (%)	−0.42	(2.04)	0.01	(0.04)	−0.79	(1.48)	0.32	(0.96)
Deprivation	−2.04	(4.04)	0.01	(0.07)	−3.15	(2.94)	1.05	(1.90)
Young population (%)	3.72	(4.03)	−0.10	(0.07)	2.08	(2.91)	1.37	(1.89)
Year 1980[†]	218.86***±	(20.29)	1.98***±	(0.38)	140.02***±	(14.70)	74.54***±	(9.48)
Year 1990[†]	357.40***±	(34.62)	1.22±	(0.63)	276.12***±	(25.04)	79.95***±	(16.14)
Year 2000[†]	215.50***	(31.63)	−2.77***±	(0.60)	172.36***±	(22.88)	43.94***	(14.75)
Year 2010[†]	54.08	(78.51)	−1.04±	(3.68)	76.57***	(56.69)	−15.86	(36.55)
N_{obs}	855		857		864		866	
N_{groups}	200		200		200		200	
$R^2_{overall}$	0.081		0.134		0.144		0.001	

*$p \leq 0.05$ **$p \leq 0.01$ ***$p \leq 0.001$ (two-tailed).
[†]Coefficients for years represent the average differences in crime compared to 1970 while independent variables are controlled. ±Multiplicative term between percentage foreign-born and dichotomous designator for that year is statistically significant.
Standard errors are in parentheses.

Table 3. Fixed effects regression results for rates of property crime, burglary, and larceny on foreign born population.

	Property cirme		Burglary		Larceny	
Foreign born (%)	−98.96***	(11.44)	−44.62***	(4.13)	−54.28***	(8.65)
Unemployment rate (%)	43.16*	(17.67)	19.37**	(6.38)	23.64	(13.37)
Manufacturing (%)	6.61	(7.54)	−1.24	(2.72)	7.68	(5.70)
Low service sector (%)	11.54	(9.96)	3.01	(3.60)	8.54	(7.53)
Deprivation	12.59	(19.74)	6.83	(7.13)	5.62	(14.94)
Young population (%)	13.08	(19.53)	1.33	(7.05)	11.92	(14.78)
Year 1980[†]	3,332.46***	(98.59)	646.34***±	(35.61)	2,685.62***	(74.60)
Year 1990[†]	2,765.56***	(167.94)	127.92*	(60.63)	2,639.82***	(127.08)
Year 2000[†]	2,083.14***	(153.37)	−165.78	(55.39)	2,247.57***	(116.06)
Year 2010[†]	1,063.32**	(380.36)	−270.43*	(137.25)	1,327.10***	(287.82)
N_{obs}	865		866		865	
N_{groups}	200		200		200	
R^2overall	0.395		0.277		0.499	

*$p \leq 0.05$ **$p \leq 0.01$ ***$p \leq 0.001$ (two-tailed).
[†]Coefficients for years represent the average differences in crime compared to 1970 while independent variables are controlled. ±Multiplicative term between percentage foreign-born and dichotomous designator for that year is statistically significant.
Standard errors in parentheses.

An even stronger examination of the relationship between immigration and crime is to study the effect of immigration on property crime because people often commit crimes to acquire economic goods. Our results for property crime in Table 3 show that the size of the foreign-born population is significantly and negatively related to the property crime index, rates of burglary, and rates of larceny. Every 1% increase in the foreign-born population decreases overall property crime by about 99 offenses; it decreases the rate of burglary by 45 crimes and the rate of larceny by around 54 crimes per 100,000 people. This finding is consistent with results of previous research that shows immigrants bring economic improvement by revitalizing formerly deteriorated areas (Reid et al., 2005).

It appears, then, that for the latter part of the 20th century and early part of the 21st, the presence of immigrants consistently helped to decrease violent and property crime in U.S. metropolitan areas. Few other coefficients were significant in the models presented in Tables 2 and 3. The negative effect of manufacturing for murder rates in Table 2 and the positive effect of unemployment on the property crime index and burglary in Table 3 are in directions predicted by the literature. Most of the indicators for year are significant, which means that in these years crime rates are actually higher or lower (depending on the sign) than they were in 1970, controlling for the independent variables included in the models.

As expected, the explanatory power of our models varies by the crimes under observation. Our economic and demographic variables account for more variation in property crimes than violent offense rates. We explain 40% of the variation in property crime in our data compared to 8% of the variation in violent crime. This is not surprising, since violent crimes are usually based on affect, or emotional processes such as anger. By contrast, property crimes are instrumental in nature and closely tied to economic conditions in both geographic areas and time periods.

Discussion and conclusion

Despite continuing nativist arguments alleging a causal relationship between immigration and crime, individual-level research based on arrest and offense data of the foreign-born shows that they are overall less likely to offend than native-born Americans. Some argue, however, that regardless of immigrants' relatively low involvement in crime at the individual level, immigration might nevertheless be tied to increases in crime through structural and macro-level mechanisms. In this study, we investigated arguments that suggest immigration displaces native-born residents to such an extent that crime would increase or that immigration in a metropolitan area could help revitalize that area. Thus, we examine how the relationship between immigration and crime varies across four decades during which the United States underwent considerable economic and demographic change, working from the premise that understanding the aggregate-level relationship between immigration and crime requires a longitudinal investigation that includes times of economic stress, as well as times of relative economic well-being.

Our results indicate that, for property crimes, immigration has a consistently negative effect. For violent crimes, immigration has no effect on assault and a negative effect on robbery and murder. This is strong and stable evidence that, at the macro-level, immigration does not cause crime to increase in U.S. metropolitan areas, and may even help reduce it. The interpretation of our results gives us pause when considering the current cultural ethos in the United States. The variety of legislation at the state level aimed at immigrants, legal or not, is underscored by popular sentiments about how current immigration is detrimental to the U.S. economically and socially. But at least when it comes to crime—and in fact, on many other counts addressed in the literature—there is no evidence at a metropolitan level of these severe impacts. Our results are clear and overarching that immigration does *not* lead to increases in crime in American metropolitan areas.

What does lead to increases, or decreases, in crime over time in the United States? One weakness of our article is that we could not include the breadth of variables that have been proposed as possible answers to this question in recent years beyond immigration. We partially capture some, like changes in the size of the youth population that affect the initiation of adolescent offending (Farrell, Laycock, & Tilley 2015) and shifts in the composition of urban labor markets due to industrial restructuring (Parker, 2008). However, our use of nationally representative longitudinal data at the level of metropolitan areas makes the inclusion of other proposed explanatory factors impossible. Explanatory factors proposed in recent research cover a wide range of phenomena that include such things as changes in gang activity and the militaristic policing of gangs, especially in minority neighborhoods (Costanza & Helms, 2012); increases in cell phone use generating more effective crime prevention through guardianship and increased efficiency in reporting crimes (Orrick & Piquero, 2015); and declines in the uses of cash for financial transactions, including welfare benefits (Wright et al., 2014). It

is likely that many factors drove the persistent decline in crime after the early 1990s. Immigration is just one of these.

Clearly, the relationship between immigration and crime is complex and future research needs to work toward a better understanding of that complexity, including the role of other factors in shaping trends over time. However, the relationship between immigration and our crime measures is robust and consistently negative throughout the four data points we compared to 1970. Since the Hart–Celler Act went into effect only a few years before 1970, this year represents a time period when relatively few new immigrants had entered the country. And, in spite of the varying social conditions in 1970, 1980, 1990, 2000, and 2010, the immigration–property crime relationship remains consistently negative throughout the entire period. Metropolises with higher percentages of foreign-born populations had consistently lower rates of murder, robbery, burglary, and larceny. Thus, our research leads us to conclude that revitalization is most likely the dominant mechanism linking immigration to crime in U.S. metropolitan areas over the past four decades, further solidifying scholarly support for the idea that immigrants, on the whole, have positive impacts on American social and economic life.

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