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Why Border Enforcement Backfired

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Abstract

In this article we undertake a systematic analysis of why border enforcement backfired as a strategy of immigration control in the United States. We argue theoretically that border enforcement emerged as a policy response to a moral panic about the perceived threat of Latino immigration to the United States propounded by self-interested bureaucrats, politicians, and pundits who sought to mobilize political and material resources for their own benefit. The end result was a self-perpetuating cycle of rising enforcement and increased apprehensions that resulted in the militarization of the border in a way that was disconnected from the actual size of the undocumented flow. Using an instrumental variable approach, we show how border militarization affected the behavior of unauthorized migrants and border outcomes to transform undocumented Mexican migration from a circular flow of male workers going to three states into an eleven-million person population of settled families living in 50 states.

From 1986 to 2008 the undocumented population of the United States grew from three million to 12 million persons, despite a five-fold increase in Border Patrol officers, a four-fold increase in hours spent patrolling the border, and a 20-fold increase in nominal funding. Whether measured in terms personnel, patrol hours, or budget, studies indicate that the surge in border enforcement had little effect in reducing unauthorized migration to the United States (Hanson and Spilimbergo 1999; Hanson, Robertson, and Spilmbergo 2002; Davila, Pagan, and Soydemir 2002; Hanson and McIntosh 2009, 2010; Massey and Riosmena 2010; Angelucci 2012; Massey, Durand, and Pren 2014). The strategy of enhanced border enforcement was not without consequences, however, for research also suggests that it reduced the rate of return migration and redirected migrant flows to new sectors along the border with Arizona and then toward new destinations throughout the United States (Massey, Durand, and Malone 2002; Massey and Capoferro 2004; Carrión-Flores and Sorensen 2006; Gathmann 2008; Kaufman 2008; Bohn and Pubatch 2013; Rocha et al. 2014; Massey, Durand, and Pren 2014).

In this article, we explain how and why the unprecedented militarization of the Mexico-U.S. border not only failed in its attempt to reduce undocumented migration, but backfired by increasing the rate of undocumented population growth and turning what had been a circular flow of male workers going to three states into a settled population of families living in 50

states. The logic of using enhanced border enforcement as a strategy for immigration control was laid out by Todaro and Maruszko (1987), who drew upon neoclassical economics to conceptualize migration as a cost-benefit decision taken to maximize lifetime earnings. According to their model, potential migrants consider expected earnings in places of origin and destination and compute the difference to derive the expected gain from migration, which is then projected into the future subject to temporal discounting. Then they estimate the cost of migration and subtract it from the expected increase in lifetime earnings to determine the expected net gain from migration. The greater the expected gain the higher the probability of migration to a particular location. In theory, then, enhanced border enforcement works by raising the costs of migration enough to offset an expected earnings gain, thus reducing the likelihood of undocumented migration,

It is rather doubtful, of course, that the choice of border enforcement as a policy instrument was predicated on a careful application of neoclassical theory. Indeed, here we argue that the strategy of enhanced border enforcement emerged as a result of actions undertaken by self-interested politicians, bureaucrats, and pundits who framed undocumented migration as crisis without regard to its underlying realities. In order to explain observed patterns and trends in unauthorized migration, therefore, the behavior of these actors must be theorized and the consequences of their actions specified, moving explanation beyond the usual social and economic determinants.

Having developed our theoretical argument for the emergence of border enforcement as a strategy for immigration control, we undertake a comprehensive empirical analysis not only of migratory decisions, but also the behavior of undocumented migrants at the border and the outcomes they achieve when trying to cross. Unlike most prior analyses, we draw on instrumental variable methods to identify the causal effects of border enforcement, focusing on key junctures in the social process of undocumented migration: the decision to depart for the United States without legal authorization, the choice of place of crossing, whether or not to use a crossing guide, the cost of crossing with a guide, the likely risk of death during crossing, the likelihood of apprehension at the border, the probability of ultimately achieving a successful entry, and the likelihood of returning home once entry has been achieved (Singer and Massey 1998). We conclude with a summary of results and a discussion of their implications for understanding international migration and thinking about immigration policy today.

ILLEGAL MIGRATION, THE LATINO THREAT, AND THE BORDER

The rise of illegal migration goes back 1965, when Congress passed amendments to the Immigration and Nationality Act that placed the first-ever numerical limits on immigration from the Western Hemisphere, while at the same time cancelling a longstanding guest worker agreement with Mexico (Massey and Pren 2012a). Subsequent amendments to the Act further tightened numerical limits until by the late 1970s Mexico was placed under a quota of just 20,000 legal resident visas per year and no temporary work visas at all, as compared with 50,000 permanent resident entries and 450,000 temporary work entries in the late 1950s (Massey, Durand, and Malone 2002).

The conditions of labor supply and demand had not changed, however, and network connections between Mexican workers and U.S. employers were well established by the mid-1960s. As a result, once opportunities for legal entry constricted, migration did not stop but simply continued under undocumented auspices (Massey and Pren 2012a). By 1979 the annual inflow of Mexican workers had returned back to levels that prevailed in the late 1950s. As during the Bracero Era, migration during the Undocumented Era was overwhelmingly circular (Massey and Singer 1995), causing the undocumented population grow slowly, reaching two million by 1980 (Warren and Passel 1987). Even legal "permanent residents" at this time tended to circulate back and forth. According to Warren and Kraly (1985), annual out-migration by legal Mexican immigrants averaged about 20% of annual in-migration during the 1970s; and Jasso and Rosenzweig (1982) estimate that 56 percent of legal Mexican immigrants who arrived in 1970 had returned home by 1979.

In practical terms, then, little had changed between the late 1950s and the late 1970s: similarly sized flows of migrants were circulating across the border and going to the same destinations in the same U.S. states. In symbolic terms, however, the situation had changed dramatically for now the vast majority of the migrants were "illegal" and thus by definition "criminals" and "lawbreakers." The rise of illegal migration created an opening for political entrepreneurs of various stripes to cultivate a new politics of fear, framing Latino immigration as a grave threat to the nation (Santa Anna 2002; Abrajano and Hajnal 2015). Chavez (2001, 2008) has documented the steady rise of what he calls the "Latino Threat Narrative" in the U.S. media from the 1970s through the 1990s, and Massey and Pren (2012a) likewise found that newspaper mentions of Mexican immigration as a crisis, flood, or invasion rose in tandem with border apprehensions from 1965 to 1979, pushing public opinion in a more conservative, anti-immigrant direction (Massey and Pren 2012b; Valentino, Brader, and Jardina 2012).

Human social cognition characteristically operates to classify people and groups on the basis of their perceived warmth and competence (Fiske et al. 2002; Fiske 2003). Ingroup members and others like them are viewed as both warm (approachable and well-intended) and competent (capable and effective), triggering positive emotions such as pride and esteem. Outgroups fall into three categories associated with different combinations of warmth and competence. Envied outgroups are perceived as competent but not warm (e.g. the rich and certain middleman minorities); pitied outgroups are seen as warm but incompetent (e.g. the elderly, the disabled); and despised outgroups are viewed as neither warm nor competent and are viewed with disdain and disgust (e.g. drug dealers, the homeless).

The location of any particular group in the social space defined by warmth and competence is not given but manufactured through psychological and social mechanisms. Psychologically, a group's location is determined through cognitive processes of framing (Kahneman and Tversky 2000) and socially through mechanisms of boundary definition and reification (Lamont and Molnar 2002; Wimmer 2008). The rise of illegal migration created a golden opportunity for self-interested actors to engage in the systematic framing of illegal migrants as criminals, portraying them as neither warm nor competent and thus distinguished from mainstream Americans by a well-defined social boundary. The success of their efforts is indicated by research showing that illegal migrants, Mexicans, and Latinos

general have now come to occupy the low-warmth/low-competence quadrant of disgust in American social cognition (Lee and Fiske 2006). Groups in this location are subject to systematic dehumanization and viewed with contempt and fear (Harris and Fiske 2006).

Fear, of course, is a well-established tool for political mobilization and resource acquisition (Robin 2006; Gardner 2008). The possibility of using mechanisms of framing and boundary definition to exploit the psychological proclivities of human social cognition and create a fearful outgroup always exists. As a result, across history it has proved difficult for humans to resist the temptation to cultivate fear and loathing of outsiders in order to achieve self-serving goals. In response to the advent of illegal migration after 1965, three prominent categories of social actors succumbed to this temptation: bureaucrats, politicians, and pundits.

The bureaucratic charge was led in 1976 by the Commissioner of the U.S. Immigration and Naturalization Service, Leonard F. Chapman, who published an article in *Reader's Digest* entitled "Illegal Aliens: Time to Call a Halt!", warning Americans that a new "silent invasion" was threatening the nation:

> When I became commissioner of the Immigration and Naturalization Service (INS) in 1973, we were out-manned, under-budgeted, and confronted by a growing, silent invasion of illegal aliens. Despite our best efforts, the problem---critical then---now threatens to become a national disaster. Last year, an independent study commissioned by the INS estimated that there are 8 million illegal aliens in the United States. At least 250,000 to 500,000 more arrive each year. Together they are milking the U.S. taxpayer of $13 billion annually by taking away jobs from legal residents and forcing them into unemployment; by illegally acquiring welfare benefits and public services; by avoiding taxes (Chapman 1976: 188–189).

Chapman went on to argue for the passage of restrictive immigration legislation then pending in Congress, contending that it was "desperately needed to help us bring the illegal alien threat under control" because "the understaffed [Immigration] Service vitally needs some budget increases." The numbers Chapman cited were entirely made up and no "independent study" was ever released. The figures were, however, useful in defining illegal migrants as both a realistic threat ("taking away jobs and milking the taxpayer") and a symbolic threat (morally suspect welfare deadbeats and tax cheats), following the classic logic of intergroup threat theory elaborated by Stephan and colleagues (Stephan and Renfro 2002; Stephan, Ybarra, and Morrison 2015). Demographic estimates later put the actual number of unauthorized immigrants present in 1976 at around 1.3 million rather than the eight million he claimed (Warren and Passel 1987); but the latter number was, of course, more impressive in trying to goad Congress and the public into providing additional funding to his agency.

The most prominent politician contributing to the Latino Threat Narrative was President Ronald Reagan, who in 1985 declared undocumented migration to be "a threat to national security" and warned that "terrorists and subversives [are] just two days driving time from [the border crossing at] Harlingen, Texas" and that Communist agents were ready "to feed on the anger and frustration of recent Central and South American immigrants who will not

realize their own version of the American dream" (Massey, Durand, and Malone 2002:87). More recently, Sheriff Joe Arpaio of Maricopa County, Arizona mobilized citizens and accumulated substantial financial resources to become the most popular politician in the state making mass arrests of Latino "illegals," symbolically assuring non-Hispanic whites that he was taking action "on illegal immigration, drugs and everything else that threatens America" (Arpaio and Sherman 2008).

Pundits made their contributions to the Latino Threat Narrative in order to sell books and boost media ratings. TV personality Lou Dobbs (2006) told Americans that the "invasion of illegal aliens" was part of a broader "war on the middle class." Political commentator and author Patrick Buchanan (2006) alleged that illegal migration was part of an "Aztlan Plot" hatched by Mexican elites to recapture lands lost in 1848, stating that "if we do not get control of our borders and stop this greatest invasion in history, I see the dissolution of the U.S. and the loss of the American southwest" (*Time*, 28 August, p. 6). Academic pundit and policy advisor Samuel Huntington (2004), meanwhile, portrayed Latino immigrants as a threat to America's national identity, warning that "the persistent inflow of Hispanic immigrants threatens to divide the United States into two peoples, two cultures, and two languages…. The United States ignores this challenge at its peril."

Of course, none of the foregoing pronouncements was based on any substantive understanding of the realities of undocumented migration, much less any real evidence. At best they were distortions designed to cultivate fear and disgust among native born white Americans for self-interested purposes. Despite ample research and findings challenging the portrayal of illegal migration as an out-of-control invasion threatening U.S. society, the Latino Threat Narrative kept being repeated and proved remarkably resilient and durable over time. As Upton Sinclair pointed out, "it is difficult to get a man to understand something when his salary depends upon his not understanding it;" and so it was with the politicians, pundits, and bureaucrats who framed Latino immigration as a crisis and illegal aliens as a threatening outgroup.

As a result, even though the actual inflow of undocumented migrants had stabilized by the late 1970s and was no longer rising, the Latino Threat Narrative kept gaining traction to generate a rising moral panic about illegal aliens that produced a self-perpetuating increase in resources dedicated to border enforcement (Flores-Yeffal, Vidales, and Plemons 2011; Massey and Pren 2012a). Over time, as more Border Patrol Officers were hired and given more equipment and materiel, they apprehended more migrants. The rising number of border apprehensions was then taken as self-evident proof of the ongoing "alien invasion," justifying agency requests for still more enforcement resources and ultimately yielding a self-feeding cycle of enforcement, apprehensions, more enforcement, more apprehensions, and still more enforcement that lasted through 2008 (Massey and Pren 2012a).

To this day, politicians, pundits, and bureaucrats continue to call for more border enforcement, despite the fact that net undocumented migration has been zero or negative since 2008, with unauthorized entries and exits in rough balance (Passel Cohn, and Gonzalez-Barrera. 2013). Apprehensions are at record low levels and in 2014 for the first time most of those caught at the border were not Mexicans but Central Americans.

Nonetheless, calls for more border enforcement continue because the Mexico-U.S. border has become the preeminent symbolic line separating Americans from any and all external threats. Whether the threat is Al-Qaeda, ISIS, or Ebola the reflexive policy response offered by politicians to reassure citizens is more border enforcement. As Representative Beto O'Rourke (D-TX) put it, "there's a longstanding history in this country of projecting whatever fears we have onto the border. In the absence of understanding the border, they insert their fears. Before it was Iran and Al Queda. Now it's ISIS. They just reach the conclusion that invasion is imminent, and it never is" (quoted in Schmidt 2015).

HYPOTHESIZED CONSEQUENCES OF BORDER ENFORCEMENT

By any standard, the surge in border enforcement after 1986 constituted a massive policy intervention into the workings of a vast and complex social and economic system that had evolved since the 1940s in response to changing social and economic circumstances on both sides of the border (Massey, Durand, and Malone 2002). Critically, this massive intervention was undertaken for domestic political purposes and not based on a rational assessment of the forces actually driving undocumented migration or a reasoned consideration of how one might manage it. Whenever a policy is derived in a climate of fear without any real understanding of the actual workings of the social or economic system it aspires to influence, the stage is set for unintended consequences.

The neoclassical model of Todaro and Maruszko (1987) viewed undocumented migration as permanent rather than temporary, with workers moving to maximize lifetime earnings abroad; but as already noted, Mexican migration prior to 1986 was heavily circular, a pattern that is consistent with other, alternative theoretical models. The New Economics of Labor Migration argues that households use international migration as a means of managing risk and overcoming a lack of access to capital and credit at home; so instead of moving abroad permanently they send out migrants temporarily to generate an income stream that enables them to self-insure against local economic dislocations and to accumulate savings for investment and consumption at home in the absence of accessible markets for capital and credit (Stark and Bloom 1985; Taylor 1986; Stark 1991).

In addition, Dustmann and Görlach (2015) have recently shown that the neoclassical model of Todaro and Maruszko (1987) is but a special case of a more general theory of migrant decision-making and that wage differentials constitute the primary determinant of migration only under certain restrictive conditions, such as when preferences for consumption in both countries are identical; when national currencies do not differ in purchasing power; and when there is no skill accumulation abroad. They demonstrate that departures from these conditions lead to a variety of theoretically expected rationales for workers to prefer temporary over permanent international migration even under neoclassical assumptions.

Social capital theory, meanwhile, holds that within any migration system networks develop and extend over time to provide a social infrastructure capable of supporting and sustaining international migration in the face of obstacles and barriers (Massey et al. 1998). Through network connections migrants gain access to information and assistance for unauthorized border crossing. Aspiring migrants arrive at the border and through their social networks

locate a border smuggler, or coyote, who is then contracted to lead the way across the frontier for a price, with higher prices generally increasing the odds of a successful entry (Singer and Massey 1998; Spener 2009).

Border enforcement, of course, does nothing to address the economic drivers of migration—persistent labor demand and high wages in the United States and an abundant labor supply and low wages in Mexico—nor does it take into account the existence of well-developed networks able to support and sustain undocumented border crossing and thus circumvent enforcement effots. Under these circumstances, we argue that the militarization of the border cannot be expected to deter undocumented migrants from coming, but will simply induce them to adjust their border-crossing strategies while continuing to migrate to readily available jobs in the United States. An important constraint from the U.S. side is that the border is long and enforcement resources necessarily must be targeted to specific sectors. As a result, the hardening of the border at one location will lead migrants to shift to new, less patrolled, likely more remote and riskier crossing sites, and to make more frequent use of coyotes and to pay them more for higher quality, and more effective services. We hypothesize that these costs will not be sufficient to offset expected gains of unauthorized labor in the United States.

We thus argue that strategic adjustments made by migrants will substantially offset the Border Patrol's enforcement efforts to create a high likelihood of successful entry and thus enable continued access to the U.S. labor market. Rather than discouraging departure, therefore, the rising costs and risks associated with the new crossing strategies will create a disincentive for return migration. Specifically, we predict that migrants will extend the duration of their stays north of the border, both to cover the increased costs of border crossing and also to put off the physical risks of clandestine crossings in the future. The longer migrants remain in the United States, of course, the more likely they are to settle (Massey 1986) and, in the end, enhanced border enforcement will backfire by pairing continued in-migration with falling out-migration and thus increasing in the net undocumented inflow.

DATA AND METHODS

In order to assess the actual consequences of border enforcement on migrant behaviors and border outcomes we draw upon detailed histories of border crossing compiled by the Mexican Migration Project (Durand and Massey 2004), supplementing this information with administrative data on social and economic conditions prevailing on each side of the border. Since 1982 the MMP has conducted random household surveys in selected communities throughout Mexico while compiling respondent-driven samples of households from those same communities that have settled in the United States. Data are collected using combination of ethnographic and survey methods to compile detailed household data and gather full life histories from all household heads.

The accuracy and general representativeness of the MMP data have been validated by systematic comparisons with data from nationally representative samples (Massey and Zenteno 2000; Massey and Capoferro 2004) and are publicly available from the project

website at http://mmp.opr.princeton.edu/, which contains complete documentation on sample design, questionnaires, and data files. Here we make use of the MMP143 database, which includes surveys of undocumented migrants originating in 143 Mexican communities. Although the MMP originally focused on five states in west-central Mexico which historically accounted for at least half the total outflow(Guanajuato, Jalisco, Michoacán, San Luís Potosí, and Zacatecas), as new origin areas emerged MMP investigators expanded data collection efforts geographically, ultimately compiling samples from 24 of Mexico's 32 states. The states included in the MMP143 database together account for 90% of all undocumented migrants who registered to obtain a Mexican consular identification card (Massey, Rugh, and Pren 2010).

In total, the database contains information on 151,785 persons surveyed in 23,851 households plus life histories covering 1,151489 person years lived by household heads. To these data we add yearly information on social and socioeconomic conditions in Mexico and the United States. Independent variables used in the analysis are listed and defined in Table 1. The principal variable of interest is the Border Patrol budget in $2013 constant collars, compiled from records of the U.S. Immigration and Naturalization Service and the U.S. Department of Homeland Security and shown in Figure 1, which we take as our indicator of the intensity of border enforcement.

We prefer this measure to linewatch hours (the total time spent by agents patrolling the border in a given year) or the number Border Patrol agents (which is highly correlated with the former) because border enforcement has come to involve much more than personnel actions and now relies heavily on drones, sensors, helicopters, planes, satellites, and other materiel such as walls and fences, in addition to just person power. The budget captures these capital investments in enforcement in ways that personnel counts and linewatch hours do not, though we obtained the same results in earlier work using a factor scale that combined linewatch hours, Border Patrol Officers, Border Patrol budget, and deportations (Massey, Durand, and Pren 2014). The foregoing analysis, however, did not use instrumental variables and did not examine behavior and outcomes at the border, just departure and return decisions.

The use of the Border Patrol Budget to measure the U.S. enforcement effort presents two methodological problems, however. The first and more fundamental problem concerns endogeneity---the possibility that both border enforcement and undocumented migration may simultaneously be caused by a common underlying but unmeasured factor, or perhaps more likely, that the intensity of enforcement is itself determined by the volume of undocumented migration. Following Angelucci (2012) we used the budget of the Drug Enforcement Administration (DEA) as an instrument to predict the Border Patrol Budget and using the Wu-Hausman test with several specifications of the instrumental variable (Greene 2012) we indeed found statistical evidence of endogeneity with respect to the outcomes considered here ($p<0.05$), especially the likelihood of departing on first and later undocumented trips, the probability of returning from later undocumented trips, the place of border crossing, and the use of a paid guide.

According to Angrist and Krueger (2001:73), " a good instrument is correlated with the endogenous regressor for reasons the researcher can verify and explain, but uncorrelated with the outcome variable for reasons beyond its effect on the endogenous regressor." The DEA and Border Patrol budgets both rise over time in similar fashion, but for very different reasons. The growth of the DEA is rooted in the politics of the war on crime and drugs (see Tonry 1995; Western 2006; Alexander 2010); but as noted above the growth of the Border Patrol's budget is grounded in manufactured hysteria over the "alien invasion" and the ensuring “war on immigrants” (Dunn 1996; Rotella 1998; Andreas 2000; Nevins 2010). The independence of the two "wars" is indicated by their separate legislative histories.

The war on crime was declared in 1970 by Richard Nixon in his State of the Union Speech and enacted by his signing of the Comprehensive Drug Abuse Prevention and Control Act, which led to the creation of the DEA in 1972. In 1981 Congress passed the Law Enforcement Act, which funded a new Narcotics Task Force in the DEA to provide state and local police access to military resources. In 1982, Ronald Reagan supplemented the war on crime by declaring a war on drugs and followed up in 1984 by launching Operation Pipeline, which funded the training of state and local police to use traffic stops as a pretext for drug searches. Legislation enacted in 1984 authorized the DEA and other law enforcement agencies to seize property suspected of being used in drug trafficking and to retain the proceeds from asset forfeiture. In 1986 Reagan issued a national security directive designating drugs as a threat to national security and signed the Anti-Drug Abuse Act, which allocated $100 million for prison construction. In 1988 the Reagan Administraton established the Local Law Enforcement Assistance Program, which authorized large cash grants to agencies as an inducement to make drug enforcement a priority and funded the DEA to provide free training and support to state and local authorities willing to commit to drug interdiction (the foregoing legislative history comes from Alexander 2010).

In contrast, the militarization of the border began later, in 1986 with the passage of the Immigration Reform and Control Act, which authorized a 50% increase in the INS enforcement budget (Bean et al. 1988). In 1990, Congress passed additional amendments to the Immigration and National Act which authorized the hiring of 1,000 more Border Patrol Officers. The 1996 Illegal Immigration Reform and Immigrant Responsibility Act provided still more funding to the Border Patrol to purchase military equipment and hire 1,000 officers per year until it reached 10,000 total officers. The 2001 USA PATRIOT Act created the Department of Homeland Security and increased the size of the Border Patrol’s budget by another $300 million while the 2004 National Intelligence Reform and Terrorism Protection Act provided more funds to the Border Patrol for equipment, aircraft, agents, immigration investigators, and detention centers. The 2006 Secure Fence Act authorized the Border Patrol to erect new fences, vehicle barriers, checkpoints, lighting and to purchase new cameras, satellites, and unmanned drones for use border enforcement. Finally, the 2010 Border Security Act funded the hiring 3,000 more Border Patrol agents and increased the agency’s budget by $244 million (Massey and Pren 2012a).

A second methodological issue is heteroscedasticity in the causal variable. As noted earlier, the Border Patrol Budget has increased exponentially after 1986 and is therefore characterized by nonlinearity and a highly skewed distribution. Taking the natural log of the

Border Patrol budget produces a linear trend across time, normalizes the distribution, and improves the fit in six of the eight models we estimated while leaving the fit roughly the same in the remaining two models. After testing a variety of model specifications, we therefore chose the logged Border Patrol budget in constant dollars as our preferred measure of the enforcement effort.

When we regressed the log of the Border Patrol budget on the DEA budget we obtained an R^2 of 0.97 with the following equation estimate: ln(BP Budget) = 5.435 + 0.001037*(DEA Budget). We used this equation to generate an instrumental version of the logged Border Patrol budget variable that we employed in all analyses to estimate the causal effect of U.S. border enforcement on migratory outcomes. Although we often use our models to generate predicted values for migratory outcomes from 1970 to 2010, the models themselves are estimated for years 1972 or later, owing to the constraint that the DEA budget only becomes available in that year. In order to check the validity of the IV estimation we examined residuals from equations predicting the likelihood of departing and returning from a first and later undocumented trip and found them to be uncorrelated with the Border Patrol budget instrument (with the correlation coefficients of 0.0015 and 0.0206 for first and later undocumented departures and 0.0024 and 0.0023 for first and later return trips).

In assessing the influence of border enforcement on undocumented migration, we included contextual controls for social and economic conditions on both sides of the border. On the U.S. side, we assess employment demand by computing the yearly percent change in employment using data from the U.S. Current Population Survey demand (obtained from the U.S. Department of Labor 2014). Access to legal visas is measured by the number of legal entries from Mexico using visas that permit work or residence in the United States (compiled from various Statistical Yearbooks obtained from the U.S. Office of Immigration Statistics 2014). Finally, U.S. wages are assessed by computing the amount of money in constant $2013 that would be earned for working an eight hour day at the national minimum wage (U.S. Department of Labor 2014).

On the Mexican side, we obtained information on the minimum daily wage from Mexico's Instituto Nacional de Estadistíca y Geografía Informática (2014) converted into dollars adjusted for purchasing power parity. Economic opportunity is assessed using the annual percent change in Mexican GDP computed using data from Heston et al. (2014). Demographic pressures are assessed by including Mexico's crude birth rate 15 years before the year in question (a proxy for labor force growth) using data obtained from Mitchell (2007). Finally, the rise of narco-violence in recent years is captured by the homicide rate per 100,000 persons obtained from Aguirre Botello (2011) who culled the data from a variety of official sources.

In order to guard against multicolinearity in our contextual variables we examined correlations between changes in the log of the border patrol budget and changes in our leading economic indicators and found small values. The correlations between changes in enforcement effort and changes in U.S. employment, U.S. wages, Mexican GDP per capita, and Mexican wages were −0.13, 0.28, −0.24, and −0.17, respectively. Changes in access to

legal visas and Mexican population growth were also uncorrelated with changes in the enforcement effort, with respective values of 0.28 and −0.27.

While examining the influence of contextual variables on migrant outcomes and behavior, we draw on MMP data to control for the individual and household circumstances of decision makers. Demographic background is measured by age, gender, marital status, and household composition. Human capital is assessed by labor force experience, education, U.S. experience, number of prior U.S. trips, and occupational skill. Access to social capital is captured by dummy variables indicating whether the respondent's parent and spouse had migrated before the person year in question, and by counts of the number of siblings and children who had migrated prior to the person year in question as well as the number of children born in the U.S. prior to that year. Access to social capital outside of kinship networks is assessed using the migration prevalence ratio, which is the number of people aged 15 and over who had ever been to the United States by the person year in question divided by the total population 15 and over. Physical capital is measured by dummy variables indicating household ownership of land, a home, and a business in each person year. Geography is controlled by including a dummy variable indicating residence in historical core states for U.S. migration and by dummy variables indicating community size.

In our assessment of the effect of border enforcement on undocumented migration we focus on eight outcomes. At the border we examine the mode of crossing, place of crossing, cost of crossing, and whether or not an apprehension occurred. Following our assessment of outcomes at the border we examine four key migratory decisions: whether to take a first undocumented trip, whether to take an additional undocumented trip; and whether to return from first undocumented trip; and whether to return from an additional undocumented trip. Our basic methodological approach is to regress each outcome on the set of variables listed in Table 1. Border outcomes are observed during the person-year in which a trip occurred and the unit of analysis is the trip, which is defined as a journey to the border that lasted either to the point of successful entry (possibly after multiple attempts) or return to the community of origin (after giving up).

The influence of independent variables on departure decisions are analyzed using discrete time event history models. For the initial departure, we follow household heads from the date of their entry into the labor force up to the point at which they make their first undocumented trip using logistic regression to predict whether or not a first trip occurred in year t+1 from variables defined in year t. For later trips we follow each migrant from the point of return from each trip up to the point at which they make the next undocumented trip, predicting whether or not an additional trip occurred in year t+1 from variables defined in year t. In contrast, return migration decisions are modeled cross-sectionally by using a simple logistic regression model to predict whether or not the migrant returned within 12 months of entering on the trip in question. Thus the units of analysis for departure decisions are thus person-years whereas the unit for the return decisions is the person year in which the trip is observed.

MIGRANT ACTIONS AND OUTCOMES AT THE BORDER

The militarization of the border was rolled out in stages and enacted in different sectors at different times. Encountering a sudden deployment of personnel and materiel in El Paso in 1993 and San Diego in 1994, migrants quickly shifted their crossing efforts to other less militarized segments of the border (see Massey, Durand, and Malone 2002). Figure 2 draws upon MMP data to plot trends in the place of unauthorized border crossing between 1970 and 2010. The solid line indicates the relative share of undocumented migrants crossing at traditional locations in California (San Diego and Calexico) and Texas (El Paso and adjacent territory in New Mexico). From 1970 through 1988 70% to 80% of all undocumented migrants crossed at these locations, with no real trend upward or downward. During this time, undocumented border crossing became a routine, ritualized encounter between migrants and Border Patrol Officers that unfolded mainly within two urbanized segments of the border (Massey et al. 1987; Heyman 1995; Singer and Massey 1998).

Although full-scale militarization did not occur in El Paso until 1993 and San Diego until 1994, the enforcement resources authorized by IRCA in 1986 were initially targeted to these two busiest border sectors. As a result, the share of crossings at traditional sites began to decline as early as 1988, falling from 70% in that year to 59% in 1995. In the wake of the two border blockade operations, however, the decline accelerated perceptibly and continued to fall sharply over the next several years, reaching a low of 30% in 2003 before rebounding somewhat to 44% in 2008 before falling again to reach an all-time low of 25% in 2010. Rather than crossing into California, El Paso, or adjacent portions of New Mexico, between 1988 and 2003 migrants increasingly moved through the Sonoran Desert toward new crossing points along the border with Arizona, which had not been a significant corridor for Mexican migrants since the 1920s (Massey, Durand, and Capoferro 2005; Massey and Capoferro 2008).

In order to test the extent to which this marked shift in the geography of border crossing stemmed from the rise in border enforcement, we used a logistic model to regress whether undocumented migrants crossed at a traditional location (1 if yes, 0 otherwise) on our Border Patrol budget instrument while controlling for the other variables listed in Table 1. The resulting equation estimates are presented in the first set of columns in Table 2. In assessing border outcomes, as opposed to decision-making about departures and returns (to which we turn in the next section), we focus interpretation on the estimated effects of the Border Patrol budget instrument (in the interests of saving time and space) with little or no comment on other estimated coefficients, which readers of course are free to inspect.

As hypothesized, border enforcement has a strong and significant negative effect on the likelihood of a crossing at a traditional location, despite the many other significant effects in the model. In order to illustrate more concretely the effect of enforcement on the geography of unauthorized border crossing, we inserted logged values of the Border Patrol budget into the equation of Table 2 while holding all other variables constant at their means, thereby generating predicted values that are plotted as a dashed line in Figure 2. Although there are many departures from the predicted trend owing to variation in other independent variables, the predicted values very clearly trace the downward trajectory of traditional border

crossings over time, indicating analytically that the militarization of the border was the principal cause underlying the pronounced decline observed after the mid-1980s.

As migrants were diverted away from relatively safe and well-trod pathways in urban areas into more remote, isolated, and environmentally hostile sectors of the border, crossings grew increasingly difficult and hazardous and the share relying on the services of a paid guide, which had always been high, steadily rose. The solid line in Figure 3 shows the trend in the percentage of undocumented migrants who used a paid guide, or coyote, to cross the border from 1970 to 2010. Starting from usage levels around 70% in the early 1970s the utilization of coyotes increased steadily increased over time to reach 100% by 2010. As before, to assess the degree to which this trend stemmed from rising border enforcement, we used a logistic model to regress use of a coyote (1 if yes, 0 otherwise) on the Border Patrol budget instrument controlling for other variables in Table 1.

The results of this estimation are presented in the second two columns of Table 2 and reveal border enforcement to have had a very powerful positive influence on the likelihood of crossing with a coyote. In order to observe the trend in coyote usage predicted by the rising enforcement budget we used the same procedure as before, inserting logged values of the Border Patrol budget into the equation holding other factors constant at their mean values to generate predictions, which are again plotted as a dashed line in Figure 3. Once more it is very clear that rising border enforcement is the underlying cause of the temporal shift toward a higher likelihood of crossing with paid guides. In essence, the militarization of the border transformed coyote usage from a common practice that was followed by most migrants into a universal practice adopted by all migrants.

As border crossing increasingly moved into remote locations that were far from ultimate points of employment and settlement, the services provided by coyotes became increasingly complicated, involved, and costly. Figure 4 documents the resultant effect on crossing costs by showing the trend in the cost of a coyote in constant dollars from 1970 through 2010. Crossing costs generally trended slowly downward in real terms during the 1970s and early 1980s as networks expanded and border crossing became institutionalized, going from $700 in 1970 to around $550 in 1982 where it basically remained through 1989. Thereafter coyote costs begin a rapid rise to reach $1,900 in 2000 and $2,700 in 2010.

In a sense, then, the neoclassical strategy of enhanced border enforcement worked in the sense that it increased the costs of unauthorized border crossing, which authorities hoped would reduce the expected net benefits to undocumented migration. To establish the connection between border enforcement and the costs of migration analytically we estimated a Tobit model to predict coyote costs as a function of the Border Patrol budget instrument and control variables, adding in place of crossing as an additional independent variable (see the third set of columns in Table 2). According to our estimates, the effect of border enforcement had a significant and positive effect on crossing costs, raising them by $732 for each point increase in the log of the Border Patrol budget. Moreover, like Gathmann (2008) we found that crossing through the remote Sonoran desert into Arizona was associated with higher crossing costs, raising them by about $166 per trip.

Following our by now familiar procedure, we inserted the log of the Border Patrol budget into the estimated equation along with observed proportions crossing in non-traditional sectors and mean values of other controls to generate predicted crossing costs, which are plotted as the dashed line in Figure 4. In this case, the observed rise in crossing costs corresponds very closely to the trend predicted from the enforcement budget, clearly pointing to the militarization of the border as the primary cause for the rise in coyote prices.

The ultimate border outcome of interest to policy makers is not where or how migrants attempt to cross into the United States, but whether they are apprehended and ever manage to gain entry. The solid line in Figure 5 shows the observed probability of apprehension during a migrant's first attempt at border crossing, computed from MMP border crossing histories. Obviously the exponential increase in border enforcement did not proportionately translate into higher apprehension probabilities. For most of the 1970s the probability of apprehension during crossing varied narrowly between 0.37 and 0.42. After 1978 it began to trend downward to reach a nadir of 0.21 in 1989. Thereafter the probability rose back upward to peak at a value of 0.44 in 2009. The curve of apprehensive probabilities clearly does not show any response to the exponential increase in the enforcement effort.

The final columns in Table 2 confirm this impression by presenting estimates for an equation examining the effect of the Border Patrol budget instrument on the likelihood of apprehension (1 if yes, 0 otherwise), but also inserting observed values for the place of crossing, use of a coyote, and cost of crossing in addition the variables shown in Table 1. As expected, and consistent with prior work, a rising enforcement effort significantly increased the likelihood of apprehension. Although coyote usage itself has no significant statistical effect on the probability of apprehension, the quality of the smuggling services provided by coyotes do have a strong effect, assuming that quality is reflected in cost. According to the equation, for every 100 dollars more paid in crossing costs, the odds of apprehension fell by 1.1%.

When we inserted the log of the Border Patrol budget into the equation to generate predicted probabilities, however, we found that the resulting estimates increasingly over-stated observed apprehension probabilities as the years progressed; but when we inserted the observed trend in the cost of the coyote into the equation instead of the average cost, this over-prediction disappeared and these are the values plotted as a dashed line in Figure 5. In other words, rising enforcement did increase the probability of apprehension, but this effect was offset by the rising quality and elaborateness of the services provided by coyotes and in the end the massive increase in border enforcement had a rather modest effect on likelihood of apprehension, with the predicted probability from 0.24 to 0.44 over a period of four decades.

Whatever the probability of apprehension might be on any given attempted crossing, apprehended migrants are free to try again once they are returned to Mexico, and historically this is what virtually all migrants have done (Singer and Massey 1998; Massey, Durand, and Malone 2002). Until recently, Mexicans caught at the border did not undergo formal deportation proceedings, but simply signed a "voluntary departure order" that waived their right to a hearing and authorized the Border Patrol escort them "voluntarily" back across the

border (Heyman 1995). Once in Mexico, they simply tried again until success was achieved, a practice that Espenshade (1990) called a "repeated trials model" of undocumented entry.

The degree to which repeated trials were successful in achieving entry is indicated by the dotted line shown at the top of Figure 5, which shows annual probabilities of ultimately gaining entry to the United States over multiple attempts on a single trip, where a trip constitutes one episode at the border no matter how many attempts were made and no matter what the outcome. Entry probabilities were virtually constant through 1998, running at or just below 1.0, indicating that eventual entry during this time was a near certainty. Between 1999 and 2008, the probability of entry varied between 0.95 and 0.98 but obviously remained quite high.

Although the entry probability dropped to a low of 0.75 in 2010, by then almost no Mexicans were attempting to cross in the first place, rendering the entry probability moot in determining the volume of undocumented migration. In the end, from 1970 to the year 2008, when net aggregate undocumented migration from Mexico went negative and stabilized at zero, the likelihood of ultimate entry into the United States never fell below 0.95, despite the massive increase in the budget and personnel of the Border Patrol. Indeed, when we tried to assess the effect of enforcement on the probability of entry into the United States with our usual logistic regression model, there was so little variation in the dependent variable that the model failed to converge.

As already noted, however, these successful crossings came at an increasing financial cost, and statistics on deaths among undocumented migrants along the border also suggest that it came at increasing physical cost as well. Figure 6 plots the number of border deaths as a solid line from 1985 to 2010, with data for 1985–1998 coming from Eschbach, Hagan, and Rodriguez (2001) and tallies for 1998–2012 coming from Anderson (2013). As can be seen, the number of border deaths actually *fell* from 1985 to 1993, going from 147 to 67 despite the rising number of attempts. Operation Blockade was unleashed in 1993, however, and was quickly followed by Operation Gatekeeper in 1994, which as we have already seen diverted undocumented flows into the dangerous territory of Sonoran desert. From 72 border deaths in 1994, the figure rose to peak at 482 deaths in 2005 before falling back to 365 in 2010. However, very few Mexicans were attempting an unauthorized border crossing in the 2010 and the number of dead was still five times that observed in the early 1990s when many hundreds of thousands of attempts were undertaken each year, implying a much higher death rate.

The MMP does not keep track of deaths among migrants crossing into the United States, so we cannot estimate our usual model to assess the effect of rising enforcement on border mortality. Migrants who themselves died during an attempted crossing are not around to be included in the MMP, of course, and family members of those who perished at the border are likely reluctant to report events triggering painful memories. We can, however, regress the total number of border deaths shown in Figure 6 directly on the logged Border Patrol budget instrument, and when this is done we obtain an r^2 of 0.64 with the following equation: Border Deaths = 116.261 + 86.032*(BP Instrument). Plugging annual values of the Border Patrol budget into this equation produces the dashed trend line shown in Figure 6, again

pointing to rising enforcement as the principal cause of the growing toll of death along the Mexico-U.S. border. Using the model, we estimate that if the Border Patrol budget had remained at its 1986 value through 2010 there would have been a total of 5,119 fewer deaths along the border.

MIGRANT DEPARTURE AND RETURN DECISIONS

Considering the trends in apprehension and entry probabilities just described, it is evident that U.S. authorities have little to show for the billions spent on border enforcement between 1986 and 2010. The massive increase in enforcement spending had only a modest effect on the probability of apprehension and virtually no effect on the ultimate likelihood of entry. Although border enforcement may have failed to prevent the successful entry of undocumented migrants, however, it did have pronounced effects on migrants' behavior as they took evasive action to avoid capture, shifting away from traditional crossing locations to new staging areas in the Sonoran Desert and upping their already high reliance smugglers and paying them more money to help them get across. These changes, in turn, neutralized the modest effect on apprehension probabilities but led to a substantial increase in the financial costs and physical risks of undocumented border crossing.

Thus the context of migrant decision-making was clearly altered by U.S. border policies during the late 1980s and 1990s. Whereas during the 1970s and early1980s migrants knew they could come and go across the border at relatively low cost and risk and easily sustain a circular pattern of migration, by the mid-1990s and early 2000s the likelihood of getting into the United States remained high but the costs and risks of border crossing were dramatically higher, rendering a strategy of circular migration increasingly unattractive.

In addition to the rising costs of migration, post-IRCA research on the earnings of undocumented migrants also suggests that the "tax" or wage penalty paid by undocumented migrants increased after IRCA and thus likely reduced expected earnings in the United States (Cobb-Clark, Shiells, and Lowell 1995; Bansak and Raphael 1989). Phillips and Massey (1999), for example, found that whereas undocumented status had no effect on the wages earned by Mexican migrants before 1986, afterward it carried a 25% wage penalty. Likewise, Massey and Gentsch (2011) found that the earnings returns to U.S. experience in undocumented status dropped from five percent per year to zero under the new enforcement regime. In addition, after IRCA employers shifted increasingly to the indirect hiring of migrants through labor contractors, who pocketed a share of the wages that used to go to the migrants themselves (Taylor 1996; Martin 1996; Taylor, Martin, and Fix 1997; Massey, Durand, and Malone 2002).

Although U.S. policies may have decreased expected net earnings gain from undocumented migration by lowering wages and increasing crossing costs, the net differential in expected earnings between Mexico and the United States never came close to being eliminated. Under these circumstances, the changes induced by U.S. policies functioned less to deter undocumented migration than to compel migrants to work longer to earn back the costs of crossing and make the trip profitable. Moreover, having experienced the risks of a desert border crossing migrants would logically be loath to relive the experience. Finally, given

longer stays north of the border and more attachments formed to people and places in the United States, permanent settlement is expected to become more likely. Given these changed circumstances at the border and within U.S. labor markets, we hypothesize little effect on the decision to depart for the United States without documents, but strong effects on the decision of undocumented migrants to return to Mexico.

Undocumented migration begins when an aspiring migrant decides to head northward without documents to attempt a first entry into the United States. In Figure 7 we draw on the migration histories compiled by the MMP to compute the probability of departing on a first trip to the United States, shown by the solid line. To generate these figures we followed household heads from the point of entry into the labor force up to the date of the first U.S. trip and predicted departure in year t+1 from variables defined in year t. The solid line in the figure was generated by using a logistic model to regress dummy variables for year t on whether the respondent departed in year t+1 (1 if yes, 0 otherwise) and the resulting coefficients were then used to generate departure probabilities.

As might be expected given the volatility of political and economic conditions in the U.S. and Mexico from 1970 to 2010, there is considerable year-to-year fluctuation in the probability of taking a first undocumented trip. From 1971 to 1999 the probability of first departure fluctuated between 0.005 and 0.011 with no clear trend, but afterward probabilities of leaving without documents went into a steady, though jagged decline to levels near zero in 2009 and 2010, a pattern consistent with results from aggregate estimates, which indicate the end of undocumented migration after 2008 (Hoefer, Rytina, and Baker 2013; Passel, Cohn, and Gonzalez-Barrera 2013; Villareal 2014).

In order to assess the effect of different factors in promoting initial undocumented migration to the United States, we used a logistic model to regress first departure dummy variables on the independent variables shown in Table 1. All variables except obviously constant factors such as gender and region of origin are time-varying, thus yielding a discrete time event history analysis of first undocumented departure (Massey and Espinosa 1997). As can be seen in the first columns of Table 3, we find no evidence that the initiation of undocumented is reduced by greater border enforcement. Indeed, the coefficient for the Border Patrol budget instrument is *positive*, though statistically insignificant.

Among contextual factors on the U.S. side, the likelihood of taking a first undocumented trip is most strongly and positively predicted by U.S. employment growth and U.S. wage rates, while being negatively related to the relative availability of legal U.S. visas. On the Mexican side, undocumented departure is positively predicted by GDP growth and negatively predicted by Mexican wage rates. Moreover, as in prior studies using MMP data, the effects of social capital are strong and positive, with having a migrant parent, migrant siblings, migrant children, and coming from a community with a high migratory prevalence all significantly predicting the likelihood of a first undocumented departure. Only the presence of a spouse with prior U.S. experience and having U.S. born children negatively predict first departure.

In sum, undocumented Mexicans are most likely to depart on a first trip to the United States during periods when U.S. labor demand is high, when U.S. wages are elevated, when legal entry visas are scarce, when the Mexican economy is growing but Mexican wages are low and when potential migrants have abundant social connections to people with prior U.S. experience. With respect to demographic background, age displays the classic curvilinear pattern and the likelihood of taking a first unauthorized trip is significantly lower for women, those who are married, and those with minors present in the household. In terms of human capital, undocumented migration is negatively selected with respect to skill, with the likelihood of departure falling with rising years of education and increasing occupational skill. The ownership of land, homes, and businesses all reduce the odds of striking out on a first undocumented drip (financing the acquisition of such assets is a major motivation for migration). Finally, the likelihood of taking a first undocumented tip is greater among residents of the historical source region for U.S. migration and departure is more likely from towns and cities than from small rural villages once other factors are taken into account.

Given the insignificant positive sign on the coefficient for the Border Patrol budget instrument, we already know that border enforcement does not account for the secular decline in the odds of taking a first undocumented trip after 1999, and this surmise is confirmed by the flat dashed line plotted in Figure 7, derived again by inserting the log of the Border Patrol budget into the prediction equation along with mean values of other variables. In order to discover which factor best explains the drop in first migration probabilities we successively inserted observed values of U.S. and Mexican contextual factors to observe their effects on predicted values. We discovered that whereas shifting economic circumstances on both sides of the border accounted for the jagged ups and downs in departure probabilities from year to year, they did not predict the progressive downturn over time (results not shown).

Instead, the declining probability of undocumented departure during the 2000s was accounted for by the rising age of people at risk of taking a first trip, an effect indicated by the dotted line in Figure 7, which we generated by inserting the average age for each person year into the equation while holding other variables constant at their means. The average age of those in the labor force but lacking prior migratory experience steadily rose steadily from 23.4 in 1972 to 45.9 in 2010, a sharp increase that stems from two complementary dynamics: the sharp drop in Mexican childbearing from a Total Fertility Rate of 7.2 children per woman in 1965 to a value of 2.3 today and the steady selection of young men out of the population at risk of taking a first trip through migration itself.

Thus, as Hanson and McIntosh (2009) noted, the seeds for today's diminished rates of undocumented migration were sowed by changes in fertility that began four decades ago. As cohorts entering the labor force ages shrank after the mid-1990s and younger men who did arrive at labor force ages were steadily selected out to the United States (increasingly to stay, as we shall see), the average age of the pool of eligible first time migrants remaining in Mexico steadily and rapidly rose. Consistent with Hansen and McIntosh's results, our analysis suggests that the decline in new undocumented migration to the United States observed over the past decade or so had little or nothing to do with border enforcement and everything to do with Mexico's changing demography.

We know turn to an analysis of the decision to return from an initial undocumented trip north of the border. The solid line in Figure 8 shows the trend in the probability of returning to Mexico within a year of entry on a first U.S. trip. These figures were generated by estimating a logistic model to predict whether a return occurred during the 12 months subsequent to a first entry (1 if yes, 0 otherwise) using dummy variables for years and using the resulting coefficients to derive probabilities. As with departures, the likelihood of return varies jaggedly from year to year but generally ranges from 0.30 to 0.45 through 1999 when the probability declines sharply to reach zero by 2010, albeit with wide oscillations in the late 2000s owing to smaller numbers of first-time migrants in the United States.

In order to assess the degree to which rising border enforcement accounts for this downward trend, we used a logistic model to regress returning within 12 months (1 if yes, 0 otherwise) on the variables in Table 1 defined for the year in which the trip was initiated. The results of this operation are presented in the second set of columns in Table 3. The coefficient on the instrumental variable for the log of the border budget is negative and significant, confirming that rising enforcement did indeed cause a drop in the likelihood of return migration back to Mexico. Each point increase in the log of the Border Patrol budget lowered the likelihood of return by 41%.

Among contextual factors, on the U.S. side the likelihood of return migration is lowered by employment growth and rising wages (enabling migrants to achieve target incomes sooner rather than later). On the Mexican side, somewhat contrary to expectations, return migration is positively predicted by a rising homicide rate and negatively predicted by higher wages; but having a migrant parent, a migrant spouse, and migrant siblings are all associated with lower likelihoods of returning, as one would expect. Other things equal, then, return migration from a first undocumented trip tends to occur during periods of slack labor demand and low wages in the United States and higher violence and lower wages in Mexico but is especially likely among those who lack immediate family ties to U.S. migrants.

The primary force driving return probabilities down over time, however, is rising border enforcement, as confirmed by the dashed in in Figure 8 which shows predicted probabilities generated by inserting the logged Border Patrol budget into the equation while holding other variables constant at their means. Whereas the predicted probability fluctuated around 0.45 through 1984, after that date the likelihood of return migration moved steadily downward to reach a value of 0.17 in 2010, a decline of 62%.

Inserting U.S. and Mexican contextual factors into the equation while holding the Border Patrol budget constant at its mean replicates the zigzag configuration observed in the solid line but does not yield the observed post-2000 decline. Indeed, structural economic conditions on both sides of the border predict continued high rates of return migration (results not shown). If U.S. contextual factors were the only variables operating, the likelihood of return migration would have been 0.42 in 2010. Likewise, if Mexican factors were the only ones operating the probability of returning from a first trip would have been 0.56 in 2010. In essence, the border buildup prevented a continued high rate of return migration that otherwise would have occurred in its absence.

The foregoing analyses reveal that the exponential rise in border enforcement after 1986 had no effect on the likelihood of taking a first undocumented trip northward or the odds of gaining entry to the United States on such a trip, but that it did have a strong effect in decreasing the likelihood of returning to Mexico once an entry had been achieved. As a result, even though undocumented migrants continued to head northward, fewer come back and the circular migration of undocumented migrants wound down and eventually ceased as return probabilities approached zero. In our analysis, we also examined trends in the likelihood of taking an additional undocumented trip, given at least one prior trip and found that the probability of additional migration before 1986 was quite high, ranging from 0.14 to 0.18, with a sharp drop between 1986 and 1988 when many undocumented migrants who formerly had circulated remained north of the border to claim amnesty and legalize under IRCA. After 1989, however, we observe a steady decline in return probabilities toward zero by 2010.

In the interest of space we do not plot trends in the likelihood of repeat migration; but the third set of columns in Table 3 do present a discrete time event history model estimated to predict whether or not a migrant departed for the United States on an additional undocumented trip from the variables listed in Table 1. Here the estimated coefficient for the log of the Border Patrol budget instrument is −1.562, indicating that border enforcement had a very strong and highly significant effect in deterring additional undocumented migration to the United States. Over time fewer and fewer migrants were returning from their first trip, of course, and were no longer at risk of migrating again; and IRCA's legalization of some two million Mexicans permanent likewise removed a large number from the ranks of those eligible for recurrent undocumented migration. Increasingly after 1986 many fewer people were subject to the risk of taking an additional U.S. trip.

In addition the U.S. enforcement effort, the likelihood of taking another trip was reduced by a greater availability of legal U.S. visas and increased by higher wages in both Mexico and the United States. Rising human capital generally reduced the likelihood of taking an additional undocumented trip, with the odds of departure declining with rising labor force experience, age, cumulative U.S. experience, and occupational skill. Only prior U.S. trips positively predicted additional undocumented migration, which is not surprising given that a high number of prior trips itself indicates an established commitment to a strategy of recurrent migration (see Massey et al. 1987).

To round out our analyses, we also examined the decision to return to Mexico from an additional undocumented trip. To conserve space we again do not show these plots, which generally reveal a much lower likelihood of returning to Mexico than on first than later trips. From 1970 to 1985 the likelihood of return migration varied from 0.15 to 0.25, then fell to around 0.10 in 1988 before rising to peak at 0.30 in 2002 and then fell back again to around 0.15 in 2010. In the last two columns of Table 3 we present a model estimated to predict the likelihood of returning from an additional undocumented trip from the independent variables in Table 1. As on first trips, the effect of rising enforcement on the likelihood of return migration from an additional trip is negative, although the coefficient is smaller carries a lower significance.

As on first trips, the odds of return are decreased by employment growth in the United States and increased by high wages (again enabling the faster accumulation of target incomes). In addition, the likelihood of return migration is reduced by greater access to legal U.S. visas. Among Mexican factors, the odds of returning from an additional trip are reduced by high wages; and as other studies have shown, the likelihood of returning from an additional trip falls sharply as the number of prior trips and cumulative U.S. experience increase. With respect to social capital, the odds of returning from a later trip are also negatively predicted by education and having a migrant spouse, parents, siblings, and U.S.-born children.

CONCLUSION AND DISCUSSION

The principal substantive finding of our analysis is that border enforcement was not an efficacious strategy for controlling Mexican immigration to the United States, to say the least. Indeed, it backfired by cutting off a long-standing tradition of migratory circulation and promoting the large-scale settlement of undocumented migrants who otherwise would have continued moving back and forth across the border. This outcome occurred because the strategy of border enforcement was not grounded in any realistic appraisal of undocumented migration itself, but in the social construction of a border crisis for purposes of resource acquisition and political mobilization. Although these arguments have been made before, never before have instrumental variable methods been applied to such a wide range of border outcomes and migrant behaviors to assess the causal effect of U.S. border enforcement.

How Border Enforcement Failed

Our estimates reveal that the rapid escalation of border enforcement beginning in 1986 had no effect on the likelihood of initiating undocumented migration to the United States but did have powerful unintended consequences, pushing migrants away from relatively benign crossing locations in El Paso and San Diego into hostile territory in the Sonoran desert and through Arizona, increasing the need to rely on paid smugglers, and substantially increasing the costs and risks of undocumented migration. The increase in border enforcement, meanwhile, had only a modest effect on the likelihood that an undocumented migrant would be apprehended during a crossing attempt, one substantially mitigated by the greater use of coyotes and higher quality of services they offered, and no effect at all on the likelihood of gaining entry over a series of attempts.

The combination of increasingly costly and risky trips and the near certainty of getting into the United States created a decision-making context in which it still made economic sense to migrate but not to return home to face the high costs and risks of subsequent entry attempts. In response to the changed incentives, the probability of returning from a first trip fell sharply after the 1980s, going from a high of 0.48 in 1980 to zero in 2010, though with significant year-to-year variation connected to fluctuating social and economic conditions in Mexico and the United States. According to our instrumental variable estimates, if U.S. border enforcement were the only causal factor affecting the likelihood of return from a first trip, it would have fallen from a peak of 0.47 in 1981 to a low of 0.17 in 2010, a drop of roughly two-thirds in a little less than three decades.

In addition to curtailing return migration from first trips, rising border enforcement also reduced the likelihood of both taking and returning from additional undocumented trips, but these effects are substantively less important to understanding what happened after 1986 because IRCA's legalization removed so many people from the population eligible to take an additional undocumented trip, and because the sharp drop in return migration probabilities meant that fewer and fewer migrants were returning from the first trip to put themselves at risk of going again. The shift from sojourning to settling as a prevailing migration strategy is thus most evident in decisions to undertake and return from first trips.

Theoretical Implications

Our analysis has important theoretical implications, given that the transformation of Mexican migration from a regionally-limited circulation of male workers into a nationwide population of settled families occurred not because of changes in well-known social or economic determinants of international migration, but from policy decisions adopted for domestic political purposes. As we have argued, the adoption of heightened border enforcement as policy instrument arose not from a careful assessment of the social and economic forces driving undocumented migration, or even a theoretically informed interpretation of these forces, but from the actions of self-interested bureaucrats, politicians, and pundits who seized on the rise of illegal migration to frame Latino immigrants as “criminals” and “lawbreakers” who constituted a threat to the nation, thus setting in motion a moral panic that contributed to a self-perpetuating cycle of rising enforcement and increasing apprehensions that was disconnected to the underlying volume of undocumented migration.

We traced the origins of border enforcement as a policy strategy back to the rise of undocumented migration in response to the restriction of legal opportunities for entry from Mexico and elsewhere in Latin America after 1965. The rise of a migrant stream that was “illegal” proved irresistible to social entrepreneurs in politics, government bureaucracies, and the media, who deployed psychological framing devices and social mechanisms of boundary reification to exploit characteristic tendencies in human social cognition and turn Latino immigrants into a despised outgroup, one that inspired fear and loathing and merited harsh exclusionary treatment. As a result of these actions, entrepreneurial actors benefitted, with increased funding for the immigration bureaucrats, mobilized constituencies for politicians, and increased media ratings and book sales for pundits. Although they may even have believed their own assertions, one must be skeptical of arguments that carry a clear benefit for the people that make them.

The combined actions of the foregoing entrepreneurs drove forward a politics of immigrant exclusion that settled on border enforcement as the favored policy tool, and it was the widespread and intensive application of this tool that generated a rising tide of apprehensions that itself served to justify ever greater enforcement efforts and bring about the full-scale militarization of the Mexico-U.S. border. Ultimately this militarization failed to reduce undocumented entry but paradoxically did reduce the rate of return migration to increase the net rate of unauthorized migration and increase undocumented population growth, while also altering the geography of border crossing and destination selection. In the

end, a circular flow of male workers going to a handful of states was transformed into a settled population of families dispersed throughout the nation.

Our theoretical conclusion is that that, in the end the observed trajectory of Mexico-U.S. migration since 1965 cannot be explained by the usual set of social and economic determinants alone, for its path was powerfully determined by the by the consequences of choosing border enforcement as a strategy for immigration control, a choice that we theorized as a product of self-interested actions by politicians, bureaucrats, and pundits who deliberately manufactured a moral panic to mobilize constituencies and acquire resources with little regard for the actual consequences.

Policy Implications

In order to quantify the effect of American reliance on border enforcement as a strategy for immigration control, we undertook a simple simulation. Beginning with a Mexican population of 50.7 million in 1970 (Mexico's actual population size) and assuming no undocumented migrants residing in the United States on that date (likely close to true) and rate of natural increase of 2% over the next 40 years (the actual Mexican growth rate) we projected the population ahead under two scenarios. In the first scenario we use the observed budget of the Border Patrol to predict probabilities of departure and return from a first U.S. trip using the models in Table 3, converting them to rates and then applying them to a Mexican population growing at 2% per year. In the second scenario we use the observed Border Patrol budget through 1985 but then freeze the budget at its 1986 level thereafter and use this series to predict probabilities of first departure and return that are converted to rates and applied to Mexico's growing population.

For simplicity we assume that migrants either depart the United States during the first 12 months after entry or never leave and that under both scenarios migrants experience no mortality (the actual survival rate for U.S. Hispanics from age 20 to 60 is 0.91 according the U.S. National Center for Health Statistics 2010). Figure 9 shows what would happen to the undocumented population of the United States under these two admittedly stylized scenarios. As can be seen, based on the observed budget of the Border Patrol the undocumented population is projected to expand from 3.1 million in 1986 to 14 million in 2010, whereas if the real value of the Border Patrol budget had remained at its 1986 level instead of accelerating exponentially the population would only have reached 9.7 million persons, some 31% lower. Taking the difference between actual Border Patrol budget and that assumed to be fixed at the 1986 level, we estimate that $53.3 million extra dollars were spent to create an undocumented population about a third greater than it would have been with no increase in spending.

Although the foregoing exercise is only a stylized simulation, it nonetheless suggests that if policy makers had done nothing---never increased the Border Patrol's funding beyond keeping pace with inflation---the undocumented population would likely have grown substantially less. The waste of this money is underscored by the fact that it was used in a futile effort to curtail a flow of undocumented migrants that was already destined to wind down after 2000 because of the demographic transition in Mexico. The decline of Mexican fertility down to levels roughly comparable to those in United States reduced the rate of

labor force growth, increased the average age of those at risk of departure, transformed Mexico into an aging society, and ultimately brought an end to undocumented migration.

Aside from doing nothing, however, there were other policy options available to officials beyond attempting to suppress migration through police actions at the border. One such option would be to accept Mexican migration as natural component of ongoing economic integration under the North American Free Trade Agreement. Between NAFTA's implementation in 1994 and 2010, for example, total trade between Mexico and the United States rose 5.3 times while according to data from the Office of Immigration Statistics (2014) entries by business visitors increased 3.6 times, exchange visitors 6.2 times, tourists 12.1 times, intra-company transferees 17.4 times, and treaty investors more than a thousand times. Within an integrated economy, people inevitably will be moving.

As the experience of recent decades has shown, however, in practical terms it appears to be difficult if not impossible to integrate markets for goods, commodities, capital, services, and information while keeping labor markets separate (Massey, Durand, and Malone 2002). A more realistic option would have been to manage migration in ways that benefit both nations while protecting to the degree possible the rights and interests of both migrants and natives, much as the European Union did with the creation of its internal labor market (Fernandez-Kelly and Massey, 2008; Massey 2008, 2009). Ironically a more open border would likely have produced less permanent immigration and slower Mexican population growth in the United States by facilitating cross-border circulation. Indeed, the recent analysis of Massey, Durand, and Pren (2015) shows that documented migrants are now the ones circulating back and forth between the two nations, even as undocumented migrants remain trapped or "caged in" north of the border.

Rather than blocking the revealed preference of the typical Mexican to move back and forth temporarily for work in the United States, policies could have been implemented to encourage return migration, such as lowering the cost and risk of remitting U.S. earnings, paying tax refunds to returned migrants, making legal immigrants eligible for U.S. entitlements even if they return to Mexico, and cooperating with Mexican authorities to create attractive options for savings and investment south of the border. The billions of dollars wasted on counterproductive border enforcement would have been better spent on structural adjustment funds channeled to Mexico to improve its infrastructure for public health, education, transportation, communication, banking, and insurance to build a stronger, more productive, and more prosperous North America and eliminate the motivations for migration currently lying in ineffective markets for insurance, capital, and credit (Massey 2008).

Now is an opportune time to shift from a policy of immigration suppression to one of immigration management. Net undocumented migration has been at or below zero since 2008 and research Hanson and McIntosh (2009) suggests the demographic push from population growth that did so much to promote undocumented migration in the past will continue to diminish and likely won’t return. As just noted, migrants leaving Mexico today are increasingly circulating in legal status and undocumented migration has dropped toward zero. Official statistics reveal that border apprehensions fell by 61% between 2005 and 2010

and the undocumented population has not grown since 2008 while legal permanent immigration averaged 163,000 entries per year and temporary worker entries averaged 312,000 per year (U.S. Office of Immigration Statistics 2014).

Legal permanent immigration substantially exceeds quota limitations because of the massive shift of Mexican legal permanent residents toward U.S. citizenship in response to harsh legislation passed in 1996 and thereafter, which applied to all foreign nationals, not just those without documents (Massey and Pren 2012a). Whereas Mexican naturalizations averaged just 29,000 per year between 1985 and 1995, since 1996 the average has been 123,000, producing 1.7 million more citizens than would otherwise have been created, all of whom acquired the right to sponsor the immediate entry of spouses, minor children, and parents without numerical limitation (U.S. Office of Immigration Statistics 2014). Over the same period, Congress quietly and with little notice increased the number of temporary work visas to levels not seen since the 1950s, causing the number of temporary worker entries to rise from 27,000 in 1995 to 361,000 in 2008. With the border presently "under control" and legal entries running at high levels, the only real element of immigration reform left is the legalization of the 11 million undocumented residents of the United States, who constitute 60% of all Mexican immigrants currently present in the United States (Castañeda and Massey 2102).

The principal reason offered to oppose such a legalization is that it would encourage additional undocumented migration, but work by Orrenius and Zavody (2003) found no significant influence of IRCA's legalization on subsequent flows, which simply returned to trend in a few years; and now, of course, the trend is zero net migration. Indeed, a close inspection of the coefficients in Table 3 suggests that the boom in Mexican migration is likely over. In the United States, the principal structural driver of both new and repeat migration---employment growth in the United States---remains modest, whereas in Mexico population growth has slowed dramatically, the economy is growing, the population is aging, education levels have risen, a sizeable middle class has emerged, and people are increasingly living in large metropolitan areas. All of these trends predict much lower levels of migration in the future, and if our analysis here is correct, granting legal status to undocumented migrants already present in the United States would probably increase their rate of return migration. More border enforcement and a denial of social and economic rights to those currently out of status, makes absolutely no sense in practical or moral terms.

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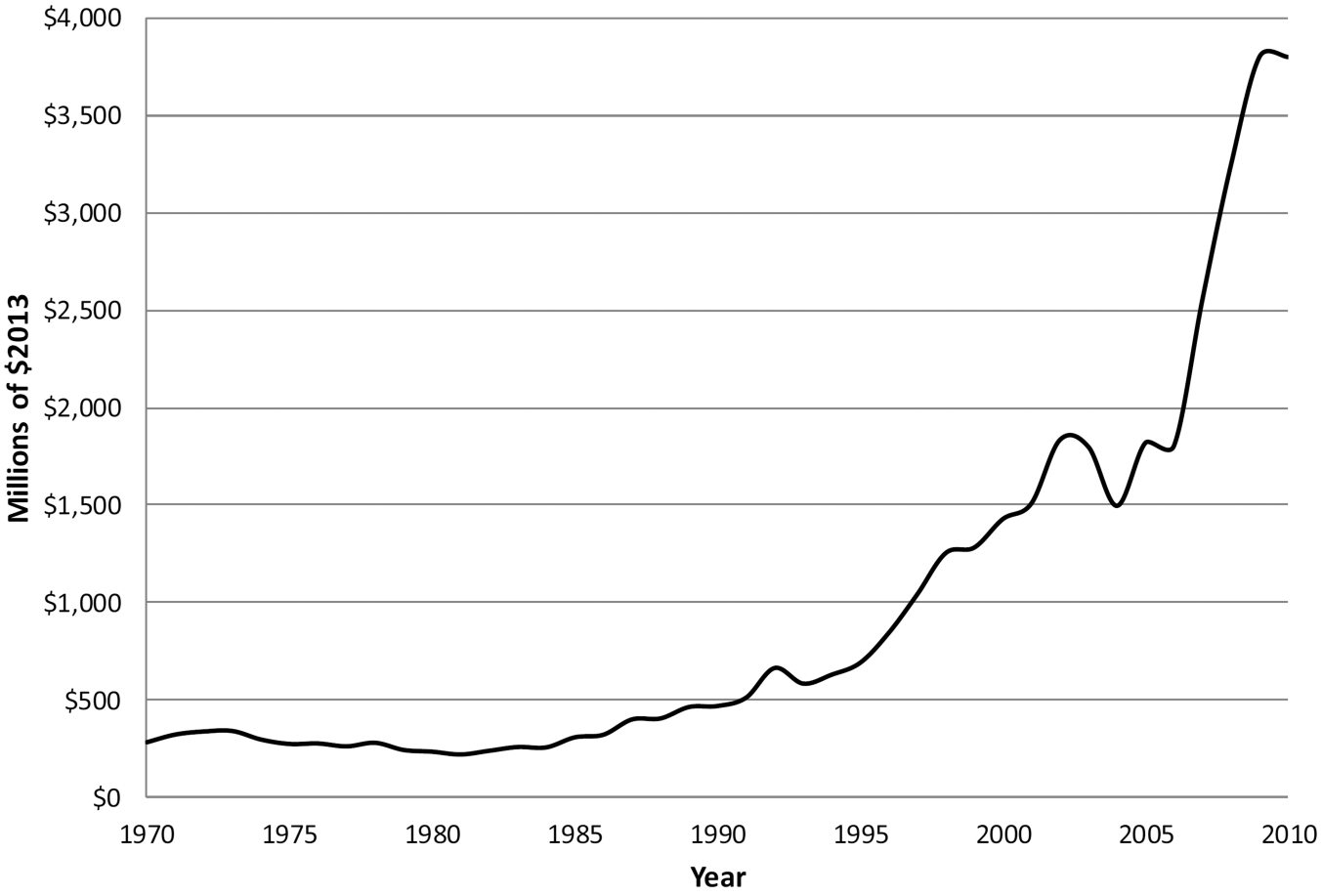

Figure 1.
Border Patrol budget in millions of 2013 dollars

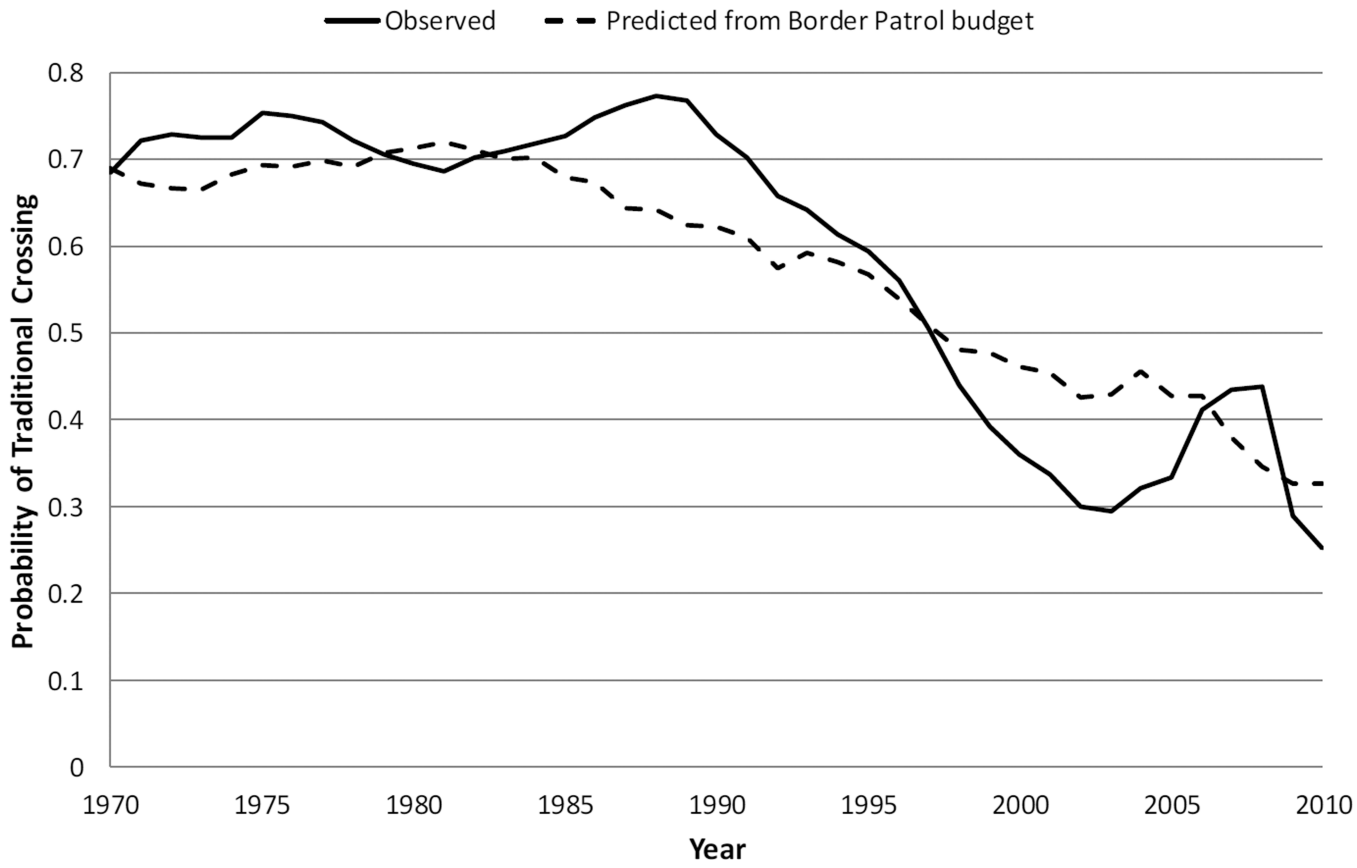

Figure 2.
Observed probability of crossing at a traditional location and probability predicted from Border Patrol budget

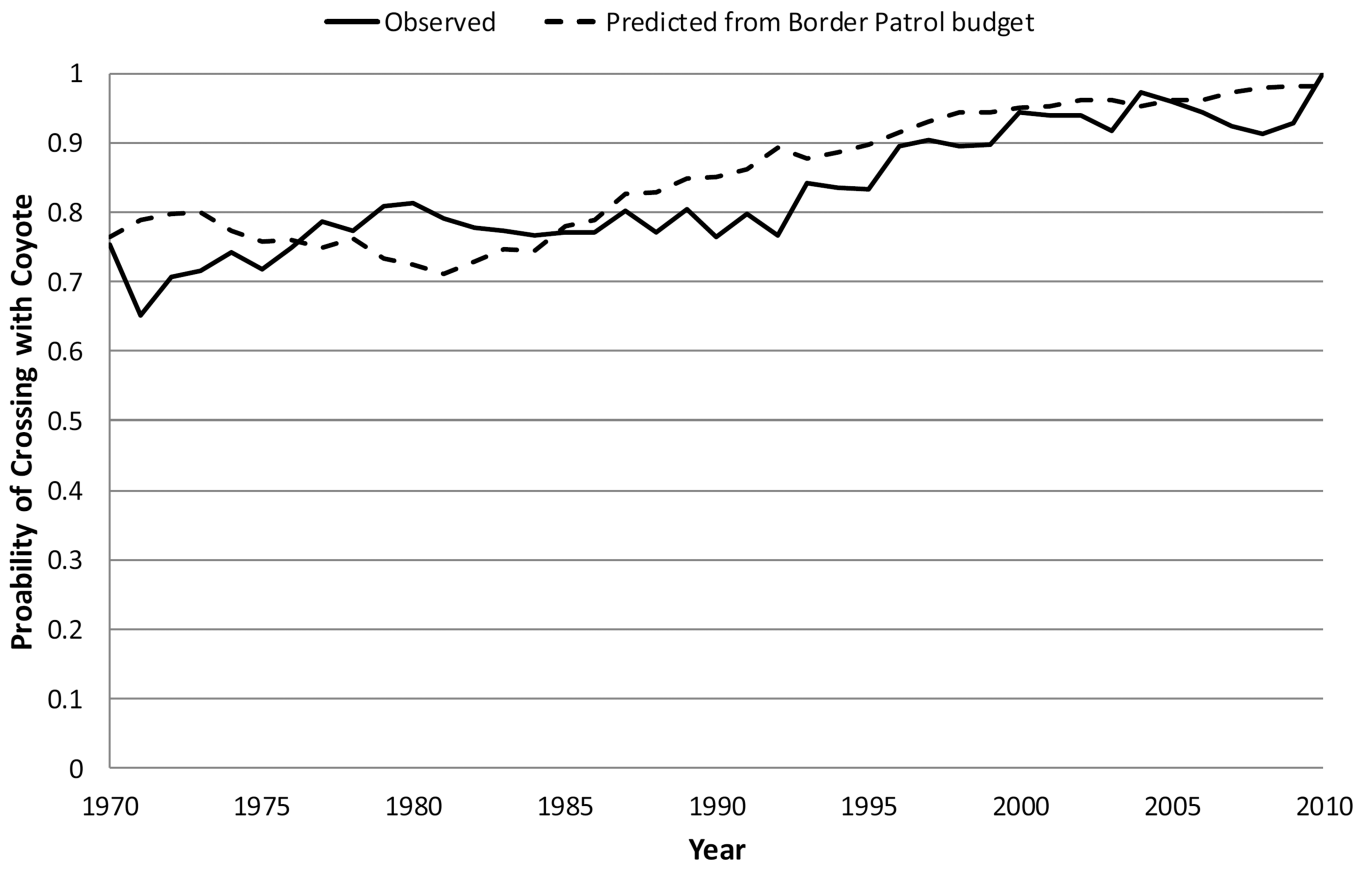

Figure 3.
Observed probability of crossing with a coyote and probability predicted from Border Patrol budget

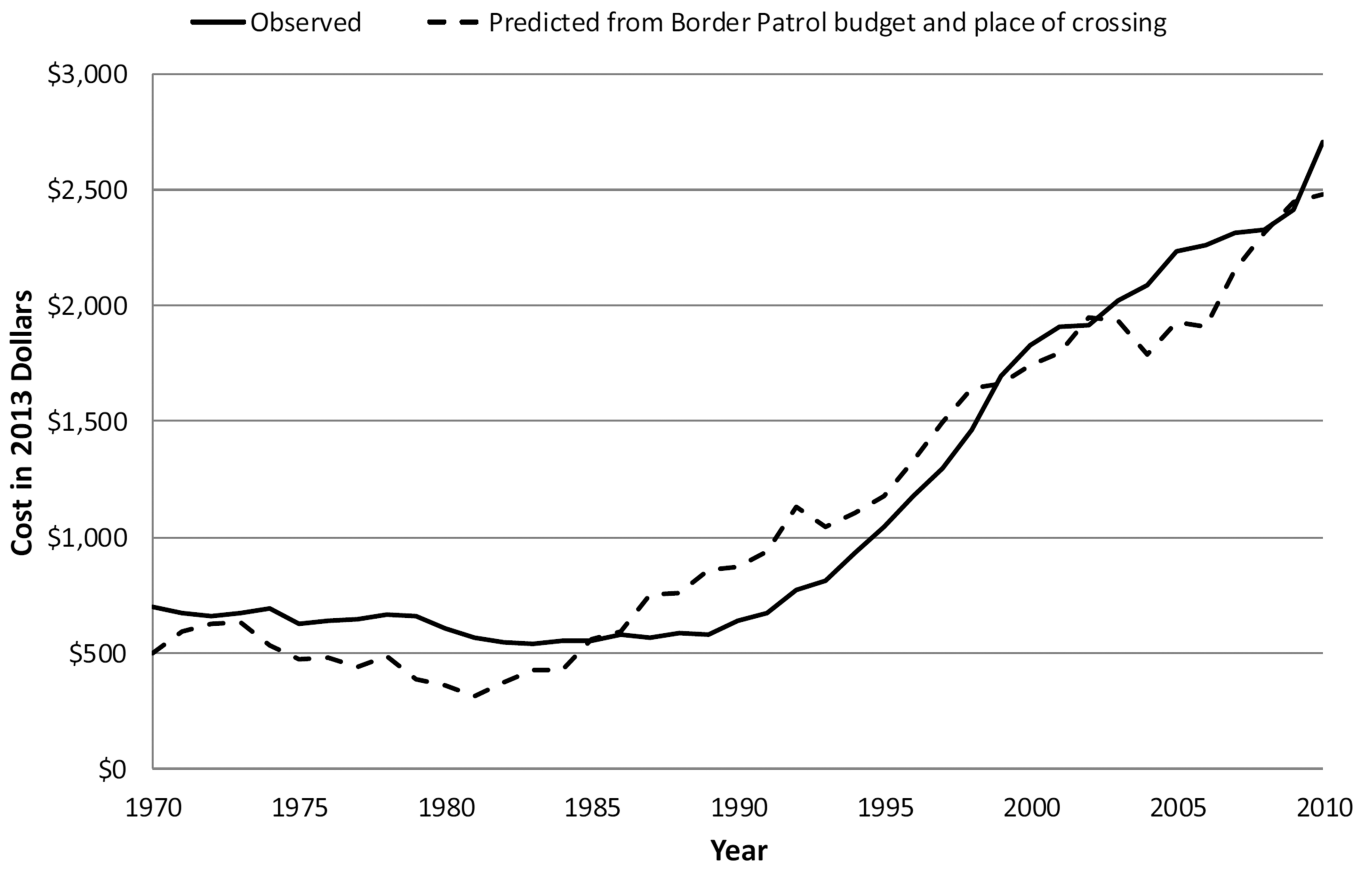

Figure 4.
Observed trend in coyote costs and costs predicted from Border Patrol budget and place of crossing

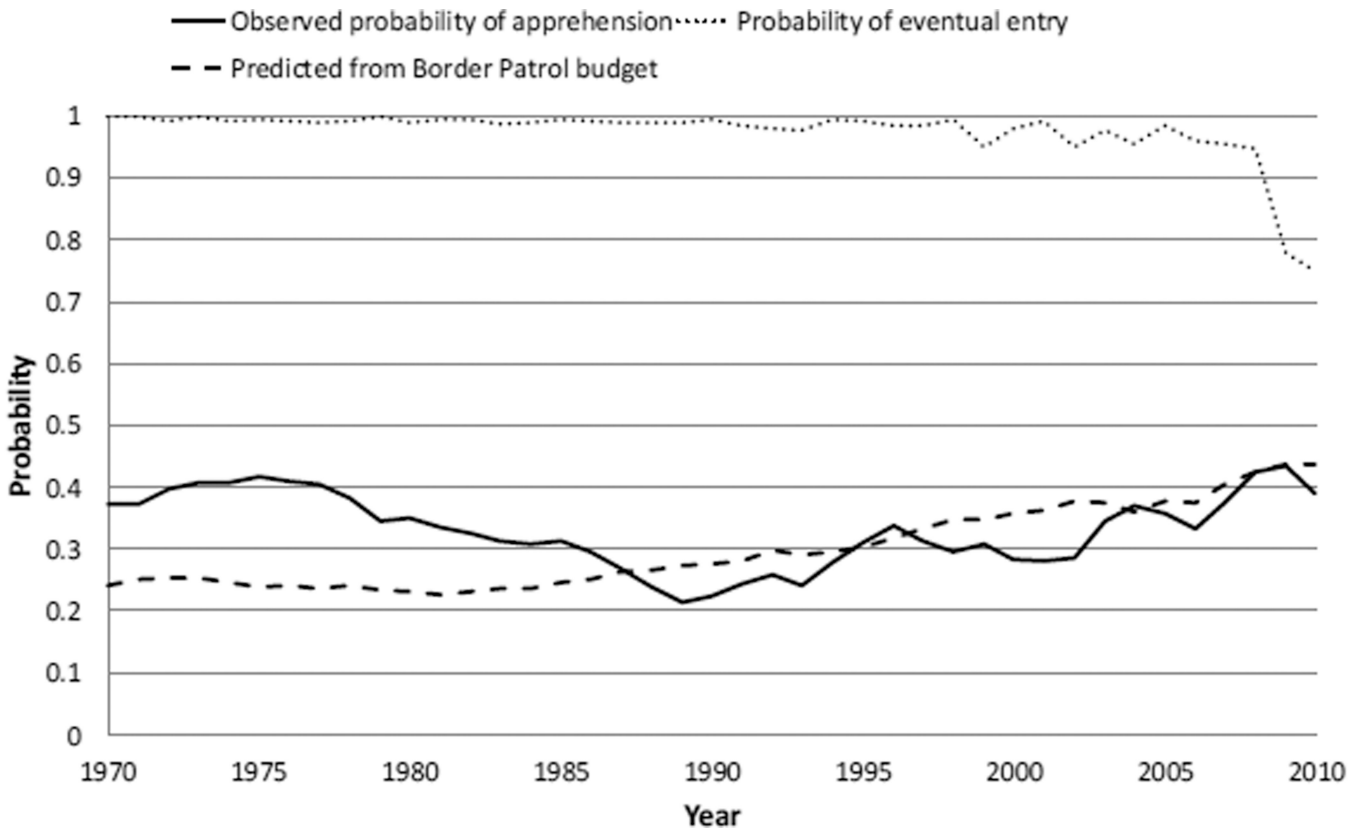

Figure 5.

Observed probabilities of apprehension on first attempt and eventual entry and apprehension probability predicted from trend in Border Patrol budget

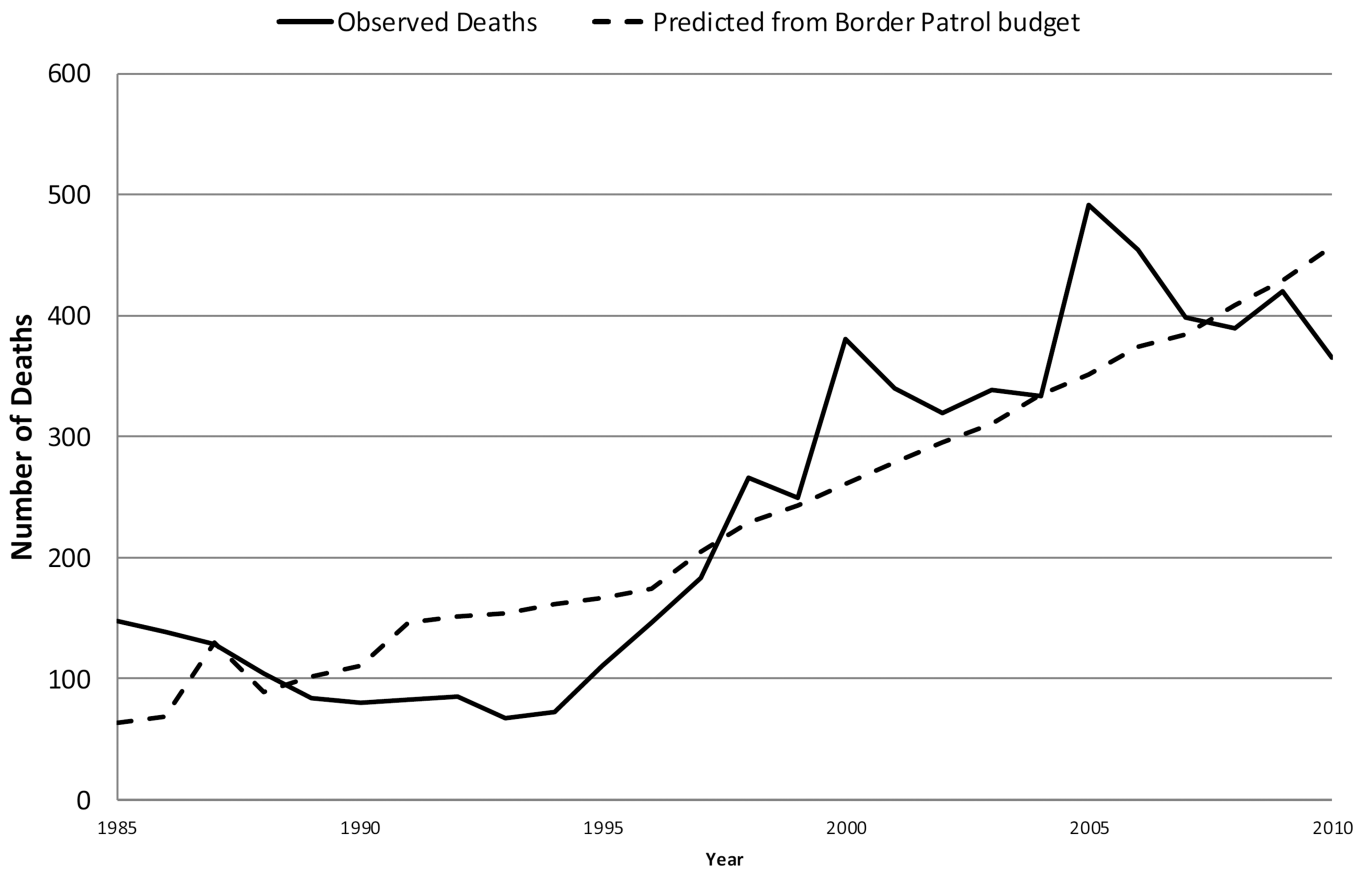

Figure 6.
Observed deaths at the border and deaths predicted by trend in Border Patrol budget

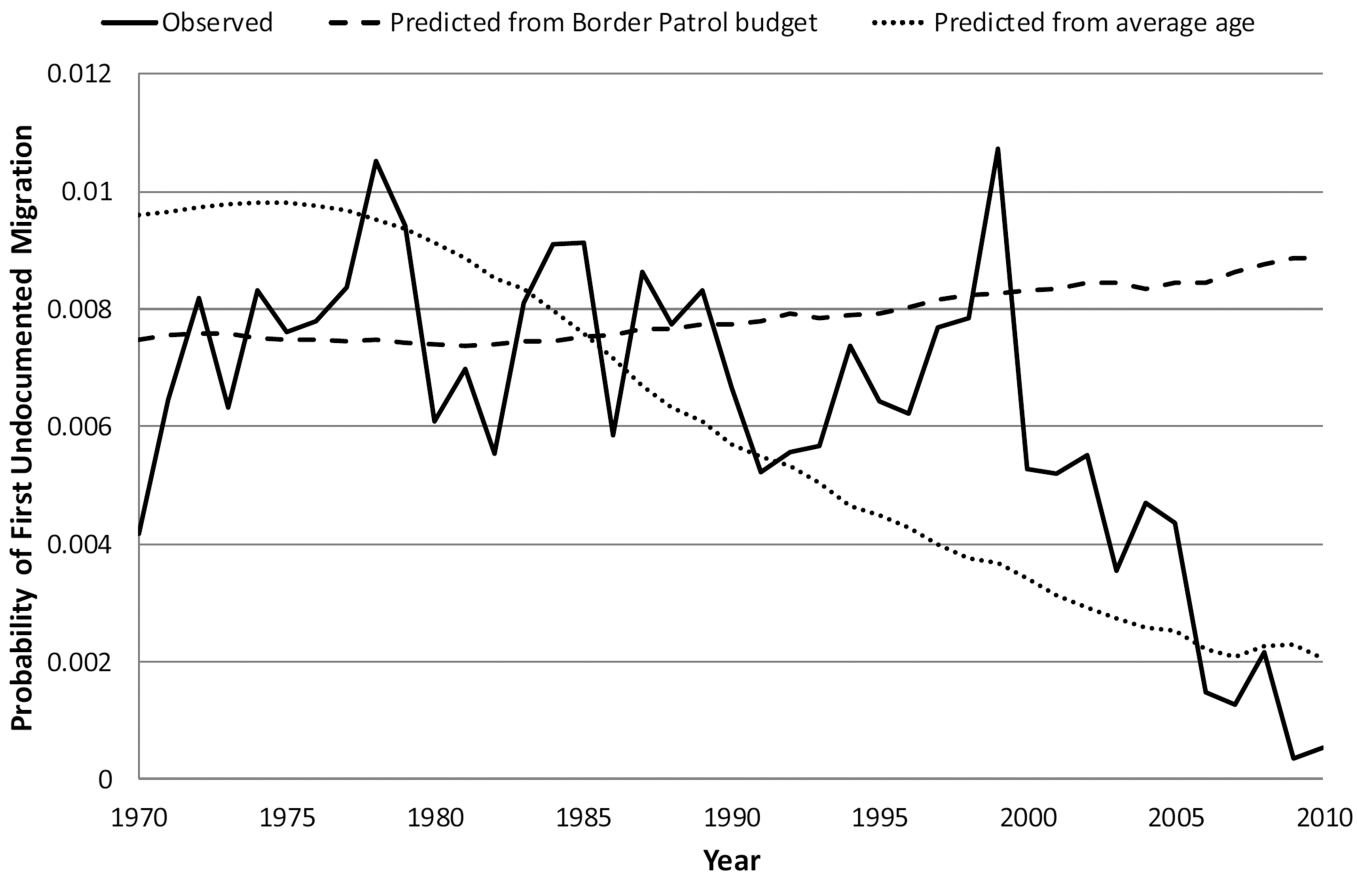

Figure 7.
Observed probability of first undocumented migration and probabilities predicted from trends in Border Patrol budget and average age

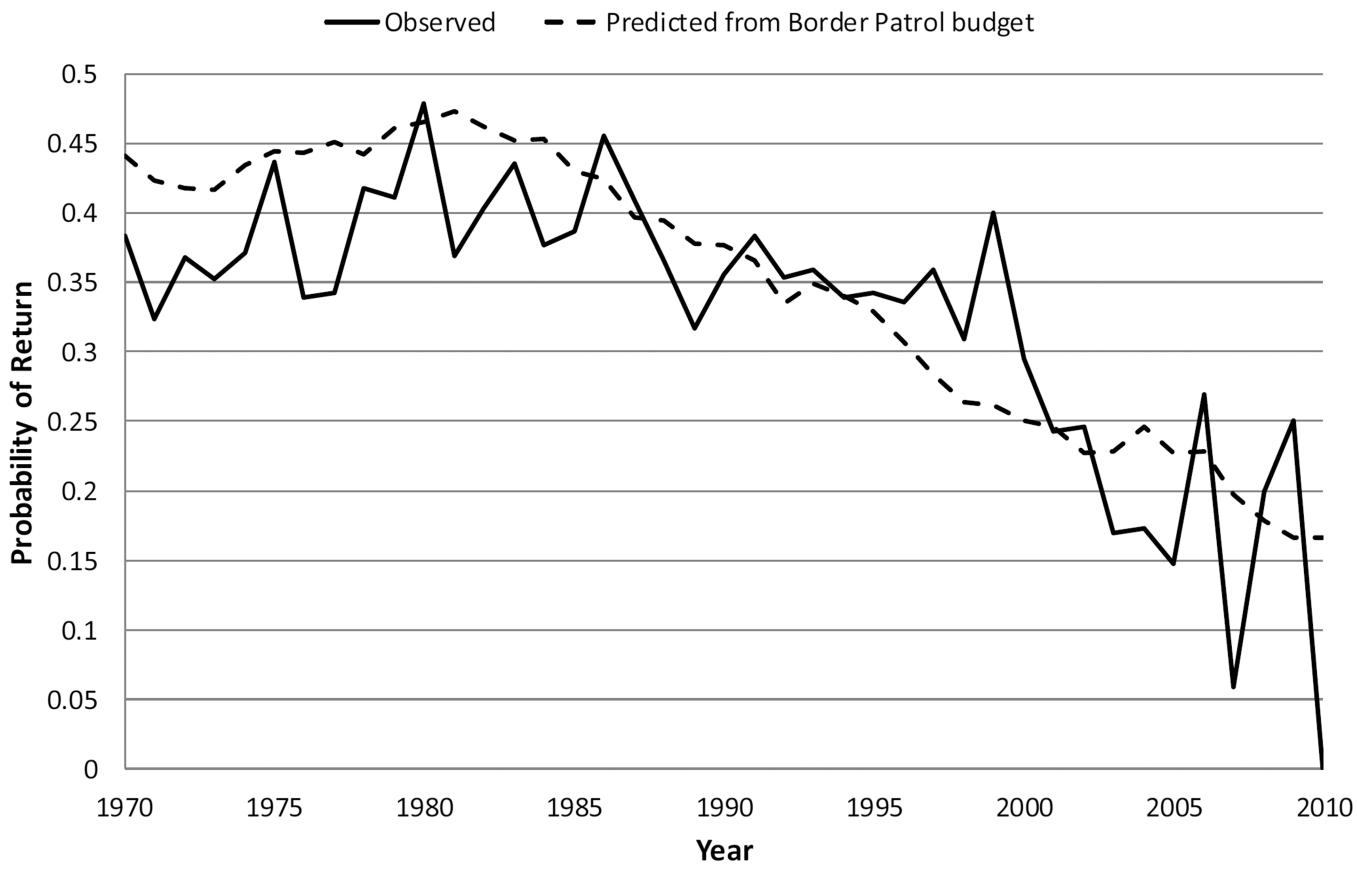

Figure 8.
Observed probability of return within 12 months of first undocumented trip and probability predicted from Border Patrol budget

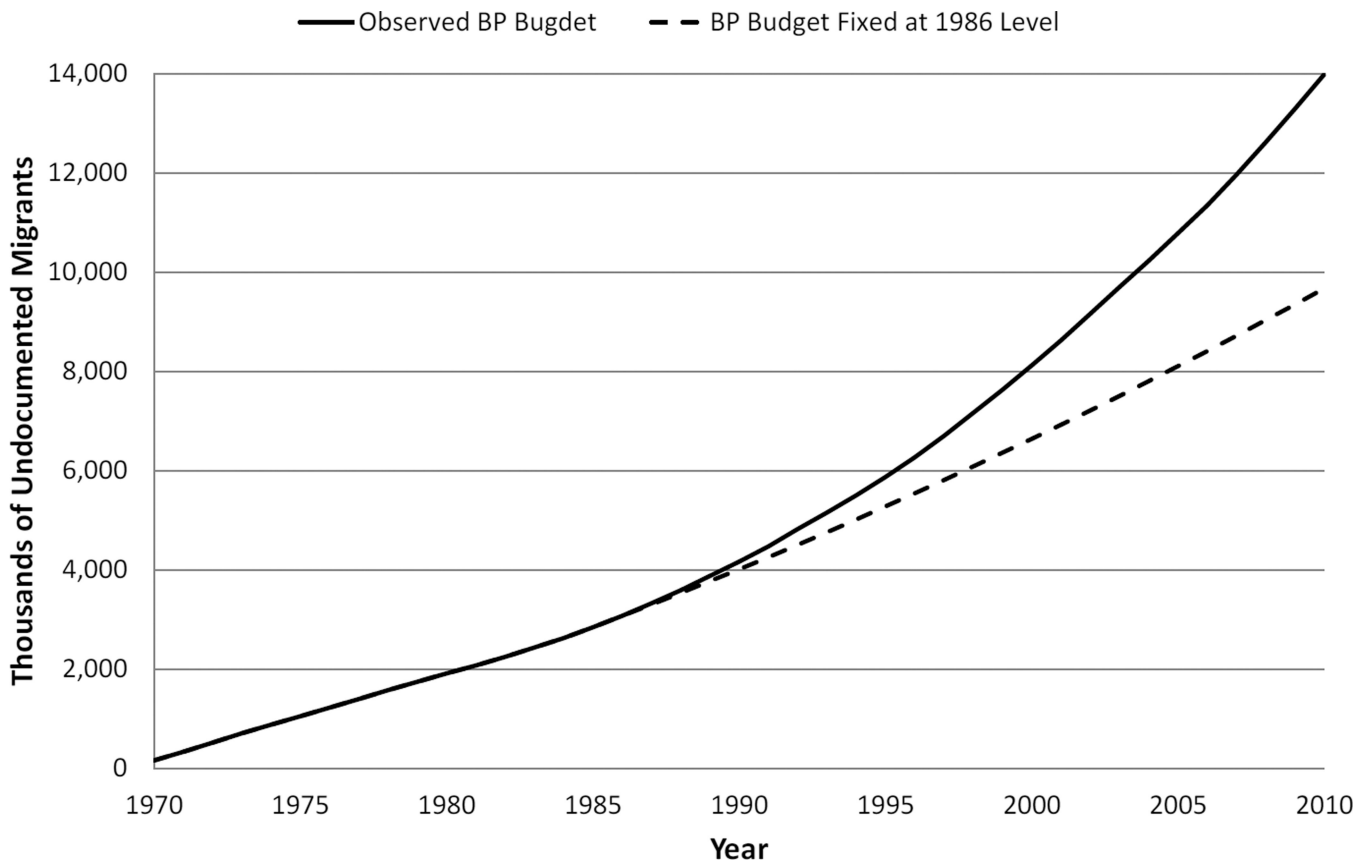

Figure 9.
Simulated size of undocumented population under two scenarios

Table 1

Variables used in analysis of undocumented Mexcican migration to the United States 1970–2010.

Independent Variables	Definition
U.S. Context	
Border Patrol Budget	Border Patrol Budget (MMP/U.S. Department of Homeland Security)
Rate of Employment Growth	Percent Change in Employment over Prior Year (U.S. Current Population Survey 2014)
Residence / Work Visas (000)	No. Legal Entries with Residence or Work Visas (U.S. Office of Immigration Statistics 2014)
US Minimum Daily Wage	Earnings in $2013 for Eight Hours of Work at Minimum Wage (U.S. Department of Labor 2014)
Mexican Context	
Crude Birth Rate	Crude Birth Rate 15 Years Earlier (Mitchell 2007)
Rate of GDP Growth	Percent Change in Mexican GDP Over Prior Year (Heston et al. 2014)
Homicide Rate	Homicides per 100,000 Persons (Aguirre 2011)
Mexican Minimum Daily Wage	Mexico's Minimum Daily Wage in $2013 (Instituto Nacional de Estadistica e Informatica 2014)
Demographic Background	
Age	Age in Years (MMP)
Female	(1=Female, 0 Otherwise (MMP)
Married	1 if Married, 0 Otherwsie (MMP)
No. of Minors in Household	Number of Children <18 (MMP)
Human Capital	
Labor Force Experience	Years of Labor Force Experience (MMP)
Education	Years of Schooling (MMP)
Cumulative U.S. Experience	Months of Prior U.S. Experience (MMP)
Previous U.S. Trips	Number of Priro Trips to U.S. (MMP)
Agricultural Occupation	Reference Category
Unskilled Occupation	Unskilled Manual Occupation (MMP)
Skilled Occupation	Skilled Manual/Professional/Managerial Occupation (MMP)
Social Capital	
Parent a U.S. Migrant	1 if Parent Ever Migrated to U.S. prior to person year, 0 Otherwise (MMP)
No of U.S. migrant siblings	Number of Siblings Ever Migrated to U.S. prior to person year (MMP)
Spouse a U.S. migrant	1 if Spouse Ever Migrated to U.S. prior to person year, 0 Otherwise (MMP)

Independent Variables	Definition
No. of U.S. migrant children	Number of Chldren Ever Migrated to U.S. prior to person year, 0 Otherwise (MMP)
No. of U.S. born children	Number of Children Born in U.S. prior to person year, 0 Otherwise (MMP)
Prop U.S. Migrants in Community	Proportion of Persons in Community Aged 15^{+} Ever Migrated to U.S. in person year(MMP)
Physical Capital	
Land	1 if Land Owned, 0 Otherwise (MMP)
Home	1 if Home Owned, 0 Otherwise (MMP)
Business	1 if Business Owned,) Otherwise (MMP)
Region of Origin	
Historical	1 if Guanajuato, Jalisco, Michoacan, San Luis Potosi, Zacatecas, 0 Otherwise (MMP)
Community size	
Large Urban Areas	Reference Category
Small Cities (10,000–99,999)	1 if 10,000–99,999 Inhabitants, 0 Otherwise (MMP)
Town (2,501–9,999)	1 if 2,501–9,999 Inhabitants, 0 Otherwise (MMP)
Rural Villages (<=2500)	1 if <−2500, 0 Otherwise (MMP)

Table 2

Equations estimated to predict border crossing outcomes.

		Traditional Crossing			Used a Coyote			Crossing Cost ($2013)			Apprehended		
		β		SE	β		SE	β		SE (β)	β		SE
U.S. Context													
	Log of Border Patrol Instrument	−0.5856	***	0.1203	1.0995	***	0.1657	731.5404	***	53.0269	0.3421	**	0.1477
	Rate of Employment Growth	0.0470	**	0.0174	−0.0141		0.0215	0.7381		8.0977	0.0488	**	0.0223
	Residence / Work Visas (000)	0.0007	***	0.0002	−0.0003	*	0.0002	−0.1638	**	0.0671	−0.0003	*	0.0002
	US Minimum Daily Wage	−0.0184	**	0.0075	0.0216	**	0.0095	12.4058	***	3.3790	0.0009		0.0093
Mexican Context													
	Crude Birth Rate	0.0400	**	0.0129	0.0178		0.0168	4.1956		5.7246	−0.0285	*	0.0161
	Rate of GDP Growth	−0.0134	*	0.0076	0.0065		0.0097	−5.6365	+	3.4396	−0.0127		0.0095
	Homicide Rate	0.0505	***	0.0108	−0.0014		0.0141	−37.8405	***	4.9340	−0.0184		0.0135
	Mexican Minimum Daily Wage	0.0122		0.0126	−0.0183		0.0163	3.1607		5.8510	0.0434	**	0.0159
Demographic Background													
	Age	−0.0044		0.0139	−0.0013		0.0169	−18.2633	**	6.3064	−0.0102		0.0180
	Age-Squared	−0.0003	*	0.0002	−0.0005	**	0.0002	0.0008		0.0806	0.0002		0.0002
	Female	0.3232	**	0.1455	0.0694		0.1739	−28.2804		60.5291	−0.5195	**	0.1830
	Married	−0.0540		0.0601	0.0799		0.0748	14.2328		26.8362	−0.0038		0.0748
	No. of Minors in Household	−0.0066		0.0119	0.0294	**	0.0149	9.5699	*	5.5308	0.0293	*	0.0156
Human Capital													
	Labor Force Experience	0.0222	***	0.0052	0.0274	***	0.0063	11.2063	***	2.3323	−0.0151	**	0.0067
	Education	0.0164	**	0.0073	−0.0124		0.0090	−8.3237	**	3.1679	−0.0342	***	0.0090
	Cumulative U.S. Experience	−0.0013	*	0.0007	−0.0037	***	0.0008	−0.0788		0.3040	−0.0005		0.0009
	No of Previous U.S. trips	−0.0124	+	0.0076	−0.0643	***	0.0088	−9.7190	**	3.4346	−0.0403	***	0.0106
	Unskilled Occupation	−0.1377	**	0.0503	−0.1141	*	0.0641	−24.1586		22.5814	0.0555		0.0619
	Skilled Occupation	0.1340		0.0999	0.0128		0.1272	87.0414	**	42.696	−0.0709		0.1212
Social Capital													
	Parent a U.S. Migrant	−0.0165		0.0514	−0.0335		0.0624	14.1541		22.4436	0.0612		0.0630
	No of U.S. Migrant Siblings	0.0971	***	0.0142	0.0408	**	0.0175	−3.6075		6.0948	0.0180		0.0171

		Traditional Crossing			Used a Coyote			Crossing Cost ($2013)			Apprehended		
		β		SE	β		SE	β		SE (β)	β		SE
	Spouse a U.S. Migrant	0.1363	*	0.0825	−0.0438		0.0975	18.2704		35.3384	−0.1945		0.1025
	No. of U.S. Migrant Children	0.1281	***	0.0308	0.1110	**	0.0369	31.3316	**	13.1311	0.0529		0.0384
	No. of U.S. Born Children	0.0639		0.0923	−0.1489		0.1000	−33.1629		36.8351	0.1612		0.1031
	Prop U.S. Migrants in Community	0.0188	***	0.0019	0.0129	***	0.0024	−3.4656	***	0.8667	0.0022		0.0024
Physical Capital													
	Land	−0.0895		0.0624	−0.2549	***	0.0775	−44.5051		28.6708	−0.0700		0.0823
	Home	−0.0504		0.0474	−0.1388	**	0.0595	−33.4457		21.4790	−0.0993	+	0.0605
	Business	−0.1753	**	0.0737	−0.1214		0.0904	−55.3218	*	33.3310	0.1950	**	0.0916
Region of Origin													
	Historical	−0.3624	***	0.0619	−0.0974		0.0771	−110.7168	***	27.9809	−0.3363	***	0.0772
Community size													
	Small Cities (10,000–99,999)	−0.7327	***	0.0908	0.5608	***	0.0967	276.2265	***	37.8890	0.0772		0.1064
	Town (2,501–9,999)	−0.5917	***	0.0912	0.7275	***	0.0982	170.3774	***	37.8614	0.0973		0.1059
	Rural Villages (<=2500)	−0.9532	***	0.0959	0.8363	***	0.1058	301.3021	***	40.3001	−0.0397		0.1134
Place of Crossing													
	Sonora to Arizona	----			----			165.7796	***	29.9496	−0.1137		0.0842
	Southern Rio Grande to Texas	----			----			−59.9921	**	24.5556	0.1252	*	0.0680
Crossing Context													
	Used Coyote During Crossing	----			----			----			0.0471		0.0716
	Cost of Coyote (Hundreds of $2013)	----			----			----			−0.0113	**	0.0039
Intercept		2.8630	**	1.4151	−7.2975	***	1.881	−3511.0026	***	631.9581	−1.2035		1.7434
Likelihood Ratio		991.6182	***		751.1488	***					194.3928	***	
Log Likelihood								−65796					
Wald		872.6142	***		646.9794	***					185.2150	***	
Sigma								810.7620	***	6.3676			
Number of Trips		11,558			10,737			8,106			8,097		

+ p=.10;

* p<.05;

** p<.01;

*** p<.001

Table 3

Equations estimated to predict departure and return on first and later undocumented trips to the U.S.

		Depart on First Trip			Return from First Trip			Depart on Later Trip			Return from Later Trip		
		β		SE	β		SE	β		SE	β		SE
U.S. Context													
	Log of Border Patrol Instrument	0.0651		0.0806	−0.5269	**	0.1796	−1.5624	***	0.1388	−0.2554	*	0.1382
	Rate of Employment Growth	0.0367	**	0.0134	−0.0634	**	0.0266	−0.0155		0.0150	−0.0601	**	0.0228
	Residence / Work Visas (000)	−0.0003	**	0.0001	−0.0002		0.0002	−0.0012	***	0.0002	−0.0008	***	0.0002
	US Minimum Daily Wage	0.0115	**	0.0053	0.0220	**	0.0112	0.0282	***	0.0069	0.0219	**	0.0092
Mexican Context													
	Crude Birth Rate	0.0081		0.0092	−0.0066		0.0191	−0.0515	***	0.0127	−0.0239		0.0153
	Rate of GDP Growth	0.0214	***	0.0058	0.0145		0.0113	−0.0092		0.0071	0.0085		0.0096
	Homicide Rate	−0.0114		0.0071	0.0458	**	0.0164	0.0179	*	0.0103	0.0063		0.0129
	Mexican Minimum Daily Wage	−0.0447	***	0.0092	−0.0470	**	0.0193	0.0179	***	0.0117	−0.0288	*	0.0162
Demographic Background													
	Age	0.1929	***	0.0079	0.0809	***	0.0196	0.0733	***	0.0122	0.0814	***	0.0177
	Age-squared	−0.0038	***	0.0001	−0.0010	***	0.0003	−0.0012	***	0.0002	−0.0010	***	0.0002
	Female	−0.8404	***	0.0728	−0.2311		0.1535	−0.3768	**	0.1302	−0.5200	**	0.1813
	Married	−0.1888	***	0.0435	0.5255	***	0.0839	0.1474	**	0.0547	0.3608	***	0.0818
	No. of minors in household	−0.0448	***	0.0109	−0.0272		0.0208	0.0384	***	0.0105	−0.0055		0.0143
Human Capital													
	Labor force experience	0.0010		0.0039	−0.0059		0.0068	−0.0104	**	0.0047	0.0174	**	0.0064
	Education	−0.0086	*	0.0046	−0.0305	**	0.0096	−0.0353	***	0.0065	−0.0340	***	0.0090
	Cumulative U.S. experience (months)	---			---			−0.0155	***	0.0006	−0.0135	***	0.0010
	No of previous U.S. trips	---			---			0.1719	***	0.0057	−0.1159	***	0.0113
	Unskilled job	0.0505		0.0349	−0.2079	**	0.0659	−0.2095	***	0.0395	0.2742	***	0.0545
	Skilled job	−0.3865	***	0.0584	−0.5452	**	0.2200	−0.7995	***	0.1588	−0.3393		0.2126
Social Capital													
	Parent a U.S. Migrant	0.3719	***	0.0452	−0.1590	*	0.0857	−0.0021		0.0430	−0.2302	***	0.0642
	No of U.S. migrant siblings	0.0440	***	0.0128	−0.0760	**	0.0252	−0.0185		0.0113	−0.0503	**	0.0169

		Depart on First Trip			Return from First Trip			Depart on Later Trip			Return from Later Trip		
		β		SE	β		SE	β		SE	β		SE
	Spouse a U.S. migrant	−0.4020	**	0.1138	−1.1078	***	0.1521	−0.8617	***	0.0707	−0.9305	***	0.1196
	No. of U.S. migrant children	0.1808	***	0.0372	−0.0505		0.0574	−0.2285	***	0.0247	−0.0019		0.0303
	No. of U.S. born children	−2.0543	***	0.2747	---			−0.4409	***	0.0649	−0.4820	***	0.1292
	Prop U.S. Migrants in Community	0.0185	***	0.0013	0.0000		0.0029	0.0086	***	0.0016	−0.0069	**	0.0024
Physical Capital													
	Land	−0.1527	**	0.0593	−0.2020	*	0.1130	−0.0709		0.0559	−0.0754		0.0707
	Home	−0.3204	***	0.0399	0.1962	**	0.0760	−0.0897	**	0.0433	−0.0965	*	0.0583
	Business	−0.4244	***	0.0643	0.1802		0.1147	0.1013		0.0693	0.0835		0.0863
Region of Origin													
	Historical	0.3342	***	0.0389	0.1096		0.0804	0.3744	***	0.0664	−0.1666	**	0.0795
Community size													
	Small Cities (10,000–99,999)	0.5753	***	0.0534	0.2194	**	0.1063	0.6155	***	0.0929	0.0231		0.1186
	Town (2,501–9,999)	0.4963	***	0.0518	0.0109		0.1047	0.6000	***	0.0942	0.1011		0.1200
	Rural Villages (<=2500)	0.6976	***	0.0568	0.1259		0.1133	0.5896	***	0.0982	−0.1460		0.1269
Intercept		−8.1173	***	0.9630	0.1529		2.1027	6.6082	***	1.4562	0.0879		1.6683
Likelihood Ratio		5037.2761	***		389.7462	***		6996.4476	***		2197.9696	***	
Wald		3361.1407	***		344.3728	***		3649.3926	***		1286.2492	***	
Total number of person-years		641,587			5,159			43,103			12,402		

+ p=.10;

* p<.05;

** p<.01;

*** p<.001