

**The Effectiveness of Border Enforcement in Deterring and Postponing
Repetitive Illegal Crossings Attempts**

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April 17, 2007

Keywords: Illegal immigration, border enforcement, Mexico, U.S.

JEL codes: J61

I. Introduction

Over the past several decades a variety of policies have been implemented with the intent to reduce the level of unauthorized immigration, particularly from Mexico, into the United States. For instance, through increased border enforcement, the imposition of sanctions on employers who knowingly hire unauthorized workers and two amnesty programs, the Immigration Reform and Control Act (IRCA) of 1986 aimed to stem the flow of increased undocumented immigration into the U.S. More recently, Operation Gatekeeper in California (1994), Operation Hold-the-Line in Texas (1993), and Operation Safeguard in Arizona (1999) have intensified border patrol policies in an effort to deter Mexicans from illegally crossing the border. Yet, the literature has been unable to identify a significantly large impact of these policies in reducing unauthorized immigration. As such, we are left to question about the effectiveness of border enforcement.

In this paper, we examine this issue from a different perspective. Instead of focusing on the hard to measure volume of unauthorized immigration or on the aggregate and event-based measure of apprehensions, we look at the potential for border enforcement to reduce repetitive illegal border crossing attempts on the part of undocumented Mexican migrants. While long-term illegal immigration appears to be increasingly common (e.g. Warren and Passel 1987, Cornelius 1992), it is also true that a significant fraction of undocumented immigrants come to the U.S. temporarily and repetitively (Cornelius 1976, 1978; Massey 1985; Massey et al. 1987; Ranney and Kossoudji 1983, Kossoudji 1992) and gaining a better understanding of the impact of border enforcement on repetitive illegal border crossings is an important endeavor.

Specifically, we ask ourselves two sets of questions. First, has increased border enforcement – as captured by linewatch hours – helped lower the likelihood of repetitive illegal

border crossing attempts on the part of undocumented migrants? What factors are driving the persistent illegal border crossing behavior of undocumented migrants? Secondly, if border enforcement does not help deter undocumented migrants from repeatedly attempting to cross the border, do they, at least, delay future crossings? In other words, does border enforcement result in the postponement of future illegal crossing attempts by lengthening the period of time spent by Mexican migrants in the border region in preparation for the next chance to cross into the U.S.?

Similar questions were examined by Kossoudji (1992) in a study of the effectiveness of border enforcement along the U.S.-Mexican border. However, her analysis focused on the role played by previous border apprehensions on the migrating behavior of a small sample of Mexican undocumented men for whom she had information on their trips between Mexico and the U.S. over the second half of the 1970s. In our study, we revisit these questions using a larger sample of undocumented Mexican men interviewed between 1993 and 2003 and whose last migration experiences cover approximately four decades – from the first half of the 1960s until the end of the survey. Given our interest in the role of border enforcement in either deterring or postponing repetitive border crossing attempts by undocumented migrants –a big component of overall crossings (Espenshade 1995), we focus on a group of return migrants for whom we have representative data. It is for this sample of return undocumented migrants for whom the questions regarding the determinants of repetitive illegal border crossing attempts and of the time spent between attempts is relevant. We believe the analysis of returnees, whether they are coming back to Mexico temporarily to visit family or permanently, is of particular interest for a couple of reasons. First, despite the fact that long-term illegal immigration appears to be increasingly common (e.g. Warren and Passel 1987, Cornelius 1992), return migrants constitute

the vast majority of Mexican immigrants to the U.S., possibly owing to the proximity of the two countries (e.g. Lowell 1992, Lindstrom 1996, Bean 2001). Second, a large fraction of overall apprehensions by border patrol officers are of undocumented migrants attempting to repetitively cross into the U.S. (Espenshade 1995). Therefore, it is of utmost importance to gain a better understanding of the effectiveness of border enforcement and, in general, of other factors driving the repetitive and persistent nature of illegal border crossings on the part of undocumented migrants. This information should prove useful in making policy recommendations.

II. Literature Review

Most immigration scholars have arrived at the conclusion that border enforcement does not have a significant impact on illegal immigration after conducting analyses that rely on aggregate data, often apprehension statistics, and looking at the change in the series before and after an increase in border enforcement. Examples of these analyses are the works by Bean et al. (1990), Espenshade (1990), White et al. (1990), Bean, Edmonston, and Passel (1990), Singer and Massey (1992), Espenshade (1994), Cornelius (1998), Hanson and Spilimbergo (1999), Davila et al. (2002), and Orrenius and Zavodny (2003). However, as noted by many others in the literature, apprehension statistics present important limitations in the analysis of the impacts of border enforcement for various reasons. First, apprehension data represent events rather than persons when, in fact, there is some evidence that apprehended migrants trying to cross repeatedly until successfully entering into the U.S. during the second half of the 1970s (e.g. Kossoudji 1992).¹ Secondly, apprehension data do not incorporate any information on any other illegal immigrants who manage to enter into the U.S. without detection. As such, analyses based

¹ In fact, Kossoudji (1992) has data on 1230 spells in the U.S. and 1860 spells in Mexico from just a small sample of 631 undocumented male migrants, signaling the repetitive nature of undocumented Mexican migrants' crossings, at least at that time.

on apprehended migrants in order to make inferences regarding the behavior of all undocumented migrants are bounded to provide biased results.² Finally, apprehension data provide an aggregate measure of migration and, as such, fail to distinguish between the differential impact of border enforcement on migrants depending on their personal characteristics. For instance, as noted by Donato et al. (1992), border enforcement may have a stronger impact on first time migrants than on their more experienced counterparts –who may be able to rely on built networks from previous migration spells to lower their migration costs and, overall, increase their likelihood of successfully entering the U.S.

Another strand of literature has examined the effectiveness of border enforcement using individual level data. Within this category of studies, we distinguish two groups. One group consists of studies that rely on small or local samples from specific Mexican communities at certain periods of time (e.g. Cornelius 1989, 1990; Gonzalez and Escobar 1990; Massey et al. 1990; Chavez et al. 1990; Bustamante 1990; Kossoudji 1992). While informative, these studies fail to provide a representative picture of the effects of border enforcement along the Mexican-U.S. border and/or, by focusing on specific periods of time, they fail to capture their long-run impacts on migration behavior.

Yet, a second group of studies within this category of analyses relying on micro-level data use individual level data collected from a large number of Mexican communities over an extended period of time (e.g. Donato et al. 1992; Orrenius 2001; Angelucci 2005; Ritcher et al. 2005). For instance, Donato et al. (1992) and Orrenius (2001) rely on data from the Mexican Migration Project (MMP) to examine changes in the likelihood of a variety of events –such as taking a first illegal trip, repeat migration, being apprehended, using a border smuggler or *coyote*,

² Indeed, the relationship between apprehension statistics and the number of illegal entries is unknown (White et al. 1990).

and changes in smuggling costs or border-crossing sites— before and after IRCA (i.e. Donato et al. 1992) as well as over time (Orrenius 2001). Angelucci (2005) also relies on MMP data to assess the impact of border enforcement on net flows (i.e. coming into and exiting the U.S.) of illegal Mexicans. Ritcher et al. (2005), on the other hand, use data from the Encuesta Nacional a Hogares Rurales de Mexico (ENHRUM) to examine the impact of three policies: IRCA, NAFTA, and increased border enforcement expenditures on migration. Unfortunately, these studies run into various limitations. First, most of these studies rely on time breaks (e.g. before and after IRCA) or the usage of dummies indicative of the passage of a particular policy to assess its impact on illegal immigration. Yet, it is well known that a time dummy may be capturing other confounding changes in the economy and, as such, one runs into the possibility of making erroneous inferences. Other times, they rely on data from returnees to assess the impact of border enforcement on the flows of Mexicans going into the U.S. as well as returning from the U.S. when, in fact, it is well known that a growing fraction of undocumented migrants never comes back. Lastly, other studies aggregate the individual level data to examine migration flows at the village level, running into similar limitations to the ones noted earlier for studies using aggregate data, e.g. the inability to account for migrant heterogeneity.

In this study, we attempt to add to our knowledge of the impact of border enforcement on the repetitive illegal migrating behavior of undocumented migrants by examining two sets of questions: (1) Is border enforcement effective at deterring undocumented migrants from repetitively attempting to cross the border? What factors are driving these migrants' persistent behavior in more recent years? (2) If border enforcement does not deter undocumented migrants from repetitively trying to illegally cross the border, does it at least help postpone future border crossing attempts? To address the aforementioned questions and avoid some of the

shortcomings from the earlier literature, we rely on a large database with individual level data on undocumented migrants interviewed along the entire Mexican-U.S. border between 1993 and 2003. In this manner, we are able to observe individual migrating behavior (versus overall crossing events) and account for personal characteristics crucially shaping their migrating behavior over an extended, yet recent, period of time. Additionally, we focus our attention on a group of migrants for whom we have representative data and for whom the question of repetitive and persistent illegal border crossing behavior makes sense, i.e. undocumented migrants returning, either temporarily or permanently, to Mexico.

III. Data

We rely on the information collected by the *Encuesta sobre Migración en la Frontera Norte de México* (EMIF). This survey is administered by the Colegio de la Frontera Norte (COLEF)³ in eight different cities along the United States-Mexico border: Tijuana, Mexicali, Nogales, Ciudad Juárez, Piedras Negras, Nuevo Laredo, Reynosa, and Matamoros. These cities account for more than 90 percent of the migration flux from Mexico to the United States and vice versa (Secretaría del Trabajo y Previsión Social, 1998). Additionally, the survey methodology is designed to constantly update the data flow to obtain a sample that properly represents where and when migrants cross the border into Mexico. Individuals are surveyed who cross on foot, by train, car, bus and plane. During each survey shift, an interviewer applies a screening form that permits differentiating migrants from tourists and individuals born in the United States. Once a person is considered eligible (i.e. a migrant), the EMIF questionnaire is administered anonymously by a trained interviewer.

³ COLEF carried out the survey for the Secretaría del Trabajo y Previsión Social and the Consejo Nacional de Población.

We use data from eight consecutive waves of the EMIF: 1993-1994, 1994-1995, 1996-1997, 1998-1999, 1999-2000, 2000-2001, 2001-2002, and 2002-2003. Each wave includes four quarterly surveys administered separately to four groups of migrants in the border regions: 1) migrants coming from South to the Northern Mexican border region, 2) migrants in Northern border cities originating from another Northern border community, 3) migrants returning from the United States to/through the Mexican Northern border region, and 4) Mexican migrants deported from the United States. Due to our interest on the effectiveness of border enforcement in deterring or postponing repetitive illegal crossings, our sample consists of all undocumented Mexicans with previous U.S. migration experience in groups 1, 3, and 4. We do not work with the sample of migrants in Northern border cities originating from another Northern border community because, owing to the limited number of individuals with previous U.S. experience, the survey does not carefully inquire about their past trips or their future willingness to cross to the U.S. Overall, our sample includes individuals who are 12 years old or older, not born in the United States, and who migrated to the U.S. with the purpose to visit family or friends, to complete some business, or to work for more than one month. Additionally, because the overwhelming majority of migrants in the sample are male, we focus the analysis on men.⁴

At this juncture in the paper it is worth emphasizing that because a fraction of undocumented migrants entering the U.S. may never attempt to go back to Mexico, our sample of undocumented returnees is not representative of the entire universe of undocumented Mexican migrants but, rather, of Mexican migrants going back to Mexico at some point in their lives, either permanently or temporarily (e.g. to visit family, for vacation, etceteras).⁵ Therefore, our

⁴ A separate analysis for women is not feasible owing to the small number of observations.

⁵ When asked about the reason for returning to Mexico, fourteen percent of migrants declared they were returning because they couldn't find work in the United States, their job in the U.S. had finished, or because they were going to take a job in Mexico. One may presume that these respondents may be planning to remain in Mexico, if not

results cannot be used to make inferences regarding the effectiveness of border enforcement in deterring and postponing all illegal border crossing attempts but, rather, repetitive illegal border crossing attempts. While long-term illegal immigration appears to be increasingly common (e.g. Warren and Passel 1987, Cornelius 1992), it is also true that a significant fraction of undocumented immigrants come to the U.S. temporarily and repetitively (Cornelius 1976, 1978; Massey 1985; Massey et al. 1987; Ranney and Kossoudji 1983, Kossoudji 1992). Because returnees constitute the vast majority of Mexican immigrants, possibly owing to the proximity of the two countries (e.g. Lowell 1992, Lindstrom 1996, Bean 2001), and because a large fraction of overall apprehensions by border patrol officers are of undocumented migrants attempting to repetitively cross into the U.S. (Espenshade 1995), the analysis of this group of migrants remains of interest.

Figure 1 depicts the timeline of events recorder in the EMIF survey. Of special interest to us are two variables: (1) whether the migrant intends to cross again to the U.S. in the near future, and (2) the time spent at the Mexican border in preparation for the last crossing. Appendix A contains a description of the variables included in our analysis. Because of differences in the questionnaires applied to the various groups of Mexican migrants being interviewed, the likelihood of a new crossing is defined slightly differently for each migrant group. But, in all instances, their answers show a clear intent to cross to the U.S. in the near future.⁶ However, the time spent at the border in preparation for their last crossing is recorded in

permanently, for an extended period of time. The remaining migrants claimed to be returning for vacation or for personal reasons.

⁶ Deported migrants are asked about their intent to cross again to the U.S. in the upcoming week. Migrants coming from the South of Mexico to the Northern border region are questioned about their intent to cross in the following month. Finally, Mexican migrants returning from the U.S. are asked where they live. If they report living in the U.S., they are assumed to be willing to cross again in the near future. For those who report living in Mexico, we exploit information regarding the reason for their return. If they indicate returning simply for a vacation or to visit family and friends, they are assumed to be willing to cross back to the U.S. in the near future. Otherwise, that is, if

days for all groups. Also worth discussing is our key independent variable, i.e. linewatch hours, which serves as a measure of resources devoted to border enforcement. Each linewatch hour stands for one hour of patrolling duty along the southwestern U.S. border.

IV. Conceptual Framework and Methodology

A) Effectiveness of Border Enforcement in Deterring Future Crossings

Migrants can be described as income maximizers whose migration decision is guided by the comparison of the utility derived from a job in the U.S. versus the utility derived from a job in Mexico over a lifetime net of migration costs. If utilities are dependent on the present value of lifetime earnings in each location, an individual i chooses to migrate at each point in time if the following index function is positive:

$$(1) \quad I_i^* = E(u_i^{US}) - E(u_i^{MEX}) - migration\ costs = PV_i^{US} - PV_i^{MEX} - migration\ costs > 0.$$

where $E(u)$ stands for expected utility and PV is the present value of lifetime earnings. If we assume individuals are income maximizers, we can rewrite equation (1) as a function of individual personal and migratory characteristics, as well as location and time attributes, capturing the benefits and costs to migration as follows:

$$(2) \quad \begin{aligned} I_i^* &= f(\text{benefits}_{i,t-1}, \text{costs}_{i,t-1}; X_i, Y_t, \text{year dummies}) = \\ &= (\alpha LW_t + W'_{i,t-1 \text{ to } t} \beta + \varepsilon_{i,t-1 \text{ to } t} > 0) \end{aligned}$$

Among the benefits, we include wages earned in the U.S. in the past relative to the wages last earned in Mexico.⁷ To proxy for migration costs, we include information on the crossing location as well as on whether the migrant crossed alone or was accompanied by others, as these

they report living in Mexico and indicate they are coming back to work, establish a business, cultivate the land, or because work in the U.S. ended, we assume they may not be willing to cross back to the U.S. in the near future.

⁷ Most immigrants worked in the U.S.; however, a large number of immigrants have missing information regarding the wages they last earned in Mexico. In those instances, we use the average wage reported by other migrants of the same age and with the same educational attainment.

characteristics may affect the degree of difficulty involved in the crossing. Additionally, we incorporate individualized information on explicit and implicit costs to migrating. Explicit costs are captured by the smuggling fees migrants paid in their last crossing. Implicit costs are captured by the border wait in preparation for their last crossing.

The vectors X and Y include individual and country level characteristics acting as pull and push factors in the migration decision. Some crucial individual characteristics in X include age, marital status, family size, household head status, educational attainment, time spent in the U.S. in their last migration spell (a proxy for their assimilation to the U.S.) and information on whether the individual remits money back home –often a key motive for migrating. Among the country-specific variables in Y , we include information on per capita GDP in the U.S. and Mexico, both measures of the health of the U.S. and Mexican economies possibly influencing the migration decision. More importantly to this study, the vector Y includes information on border enforcement, which is captured by millions of linewatch hours (LW). Finally, we use a time trend to evaluate any significant overtime changes in the willingness to re-migrate.

Note that the index in equation (2) is not observable. Instead, we observe: $I_i = 1$ if $I_i^* > 0$ and $I_i = 0$ otherwise. Therefore, assuming the error term is normally distributed, equation (2) can be estimated as a probit model. Our interest rests on the coefficients of all regressors reflecting the costs and benefits to attempting a new border crossing and, specifically, on α , which measures the impact of border enforcement on undocumented migrants' willingness to repetitively cross the border.

Finally, it is worth mentioning that border enforcement may be endogenous to the willingness to cross in the near future if it is correlated to unobservable variables likely to impact both linewatch hours and the individual decision to re-migrate. For instance, an economic

slowdown in Mexico, as the one taking place during the peso devaluation of the early 1980s, may induce a larger number of Mexicans to migrate to the U.S. The U.S. government may, in turn, enhance border controls in response to the expected increase in migration. Therefore, we also estimate equation (2) as a probit model with endogenous regressors via maximum likelihood as described in Wooldridge (2002, p. 477). Following Hanson et al. (2002), we instrument linewatch hours using the value of the U.S. Customs user fee (at a monthly frequency) and the estimated value of illegal drug seizures by the U.S. Border Patrol in the given fiscal year. What is the rationale behind these two IVs? The customs user fee is an ad valorem duty on the value of imports. The higher the duty is, the greater the likelihood of smuggling on the part of individuals wanting to avoid the import tax and, therefore, the greater resources that the Border Patrol may have to shift towards catching smugglers and away from apprehending illegal migrants. Likewise, more illegal drug seizures by Border Patrol agents imply a greater shifting of their resources away from apprehending illegal migrants towards investigating drug shipments.

We inspect our instrumental variables to ascertain their validity as instruments from an econometric standpoint. Specifically, we first check whether they are significantly correlated with linewatch hours –the endogenous regressor to be instrumented. The problem of “weak instruments” arises when either the instruments are weakly correlated with the endogeneous regressor or the number of IVs is too large (Angrist and Krueger 2001). We use a joint significance F-test where the null hypothesis is that our instruments do not explain linewatch hours (Bound et al. 1995). When the F-statistic is larger than 10, the IVs are not considered weak (Staiger and Stock 1997, Stock, Wright and Yogo 2002). In our case the F-statistic is $F(2, 49928)=2518.22$ and is statistically significant at the 1 percent level, which allows us to reject

the null hypothesis and confirm the strong correlation between our two instruments and linewatch hours. Since linewatch hours are being instrumented by two variables, we use over-identification tests to examine the exogeneity of the instruments. Because of existing concerns regarding the low power of these tests in case of general misspecifications (e.g. Newey 1985), we use Sargan's (1958) as well as a recommended variation of the Basman (1960) test – the Basman-LIML form of the test (see Staiger and Stock 1997). Both tests examine the exogeneity of each one of our instruments conditional on the other one being valid. That is, in both tests, the null hypothesis is that the excluded instruments are uncorrelated with the error term and correctly excluded from the estimated equation. As such, a rejection of the null hypothesis casts doubt on the validity of the instruments (Baum *et al.* 2002, Woodridge 2002). As shown in Table 4 and Table 5, we are unable to reject the null hypothesis, which suggests that our instruments are valid from an econometric perspective. As such, while we experiment with other IVs, we proceed to using information on the customs user fee and on drug seizures by the Border Patrol as our instrumental variables in the IV regressions.

B) Effectiveness of Border Enforcement in Postponing Future Crossings

While enhanced border enforcement may not inhibit migrants from crossing again, it may, however, affect their future migrating patterns. For instance, increased border enforcement may shorten the stay of migrants at the Mexican border in preparation for their next crossing attempt if migrants borrowed money against future earnings in their last crossing (e.g. Kossoudji 1992). In that event, DHS border enforcement policy may backfire in the sense that a shortening of their border stays in between crossing attempts may lead to more illegal crossings.

Alternatively, if migrants did not borrow money against future earnings but, rather, paid with their own savings, increased border enforcement may simply lengthen their in-between crossings

stays in Mexico as they accumulate enough funds for a future attempt. In that event, border enforcement may lead to a smaller number of border crossing attempts as possibly intended by DHS. To empirically assess which of these two aforementioned hypotheses are confirmed by the data, we examine how border enforcement may have affected undocumented migrants' waiting time at the border before their last crossing attempt.

Note that the fraction of time spent by the migrant at the border the last time he crossed into the U.S. is a variable referred to time period ($t-1$). As noted by Figure 1, the time spent at the border before the last crossing will be a function of characteristics surrounding that crossing in ($t-1$). Specifically, how long migrants took to cross the last time will depend on the costs encountered, as well as on various personal, country level, and enforcement characteristics affecting the likelihood of successfully entering the U.S. Because data on migrants' waiting time at the border are continuous, we could model the waiting time at the border before their last crossing as:

$$(3) \quad \begin{aligned} \text{Border Wait}_{i,t-1} &= g(\text{costs}_{i,t-1}; X_i^{BW}, Y_{t-1}, \text{year dummies}) = \\ &= \chi_1 LW_{t-1} + \chi_2 mc_{i,t-1} + \chi_3 LW_{t-1} * mc_{i,t-1} + Z'_{i,t-1} \delta + u_{i,t-1} \end{aligned}$$

where: $u_{i,t-1} \sim N(0, \sigma)$, $\text{Border Wait}_{i,t-1}$ refers to the number of days spent at the border region before their last crossing attempt and the vector X_i^{BW} has the same information included in equation (2) in vector X_i , except for information on the time spent in the U.S. after their last crossing or their remittances during that period –as they are both referred to the time period following their crossing to the U.S. Equation (3) is estimated using OLS as well as using an IV two-step methodology. In the first step, border enforcement is regressed on the DEA budget given its strong correlation to linewatch hours and its expected non-correlation to the bulk of illegal immigration from Mexico. In the second step, the predicted border enforcement is then

used in the estimation of equation (3) and standard errors bootstrapped (Davidson and Hinkley 1997, Poi 2004).

Because for some returnees their last crossing may have been their first one, we also interact a dummy indicative of whether the migrant had crossed earlier (i.e. $mc_{i,t-1}$) with the border enforcement variable. The coefficients on the interaction term allow us to learn about the impact of border enforcement on the waiting time in-between crossings. If, as noted by the earlier literature, increased border enforcement shortens the waiting time between border crossing attempts, χ_3 will have a negative sign. That is, migrants may attempt to cross and work in the U.S. as a way to quickly recoup any previously borrowed funds they may be forced to repay. However, if migrants did not borrow the money or borrowed a small amount, it is possible that the intensified border enforcement and detentions by the border patrol lengthen their between-crossing stays as they accumulate the needed funds and prepare for their future crossing. In that event, the coefficient χ_3 will have a positive sign.

V. Descriptive Evidence

A) Who Are the Undocumented? Deported and Non-Deported Returnees

To better understand the role of border enforcement on the migrating patterns of undocumented migrants, it is first important to learn about the characteristics of these men. Given the composition of our sample, we distinguish between undocumented immigrants who were deported on their last border crossing –to whom we refer to as “deported migrants”– and undocumented immigrants who crossed the border successfully and were able to return voluntarily –labeled as “non-deported returnees”. We refer to the former group as “deported migrants” and label the latter group “voluntary returnees”. Table 1 displays a summary of their migration patterns, personal and employment characteristics.

We are interested in the migration patterns of undocumented migrants. We find that our deported sample has less migration experience than voluntary returnees. For instance, deported migrants are less likely to be multiple-time crossers than voluntary returnees, e.g. over 60 percent of the deported returnees had no previous crossings. Furthermore, the deported group's first and last years of entry were more recent than those of the voluntary returnee group. Deported migrants also appear less likely to cross the border through Baja California, and more likely through Sonora and Tamaulipas –areas where they may be less likely to be detected. Furthermore, deported migrants are less likely to have hired a coyote on their last trip and are also more likely to have paid less for these services than voluntary returnees. As such, we are reminded of the possibility that undocumented migrants may be “getting what they paid for” when it comes to coyote services.

Of particular interest to us is the waiting time spent by undocumented migrants at the border in preparation for their next crossing attempt. In this regard, deported migrants had spent about a 1.5 days (a day and a half) longer in Mexico before their last crossing than the voluntary returnees. While the voluntary returnees spent about 6 days in Mexico before crossing into the United States, the deported group spent about 7.5 days on average. Once in the U.S., deported migrants spend considerably less time in the U.S., e.g. voluntary returnees spent over a year on average (428 days) while the deported group returns within three months. In sum, deported migrants appeared to have less border crossing experience, they are less likely to have used a coyote on their last trip, and spent less time in the U.S. than their voluntary returnee counterparts.

The figures in Table 1 also reveal some differences between deported and non-deported returnees with regards to their employment histories. Specifically, voluntary returnees are more likely to have worked in U.S., but also seem to have earned a bit less than the deported sample

while doing so. Yet, the hourly wage last earned in Mexico is slightly higher for the voluntary returnees. Finally, voluntary returnees are also more likely to have remitted money home during their last trip, which is not surprising given the longer duration of their trips.

How do the two groups of return migrants compare in terms of their personal characteristics? Among their similarities, we find that both groups have comparable educational attainment, with about half completing only a primary education or having no formal schooling. Additionally, the majority of respondents in both groups have families of four or larger and, among those migrants reporting living in Mexico, a large share reports living in Michoacán, Jalisco, Guanajuato, Chihuahua, and Guerrero. Yet, the two migrant groups differ with respect to age, marital and household head status. Specifically, voluntary returnees are more likely to be 35 years of age and older, making them also more likely to be married and household heads than deported migrants.

B) Is Border Enforcement a Deterrent of Future Border Crossing Attempts?

The main purpose of our analysis is to examine the effects of border enforcement on the border crossing decisions of illegal immigrants. Specifically, we are foremost interested in examining the effectiveness of border enforcement in deterring undocumented migrants from repeatedly attempting to cross the border. The earlier literature reported that border enforcement did not significantly deter apprehended migrants from trying to cross again during the second half of the seventies (Kossoudji 1992). In this paper, we examine this likelihood for a more recent period of time spanning from 1993 through 2003. According to the figures in Table 2, the fraction of migrants reporting to be planning to cross again into the U.S. in the near future remained fairly stable over all this period for both the deported and voluntary returnee groups. A look at Figure 2 reveals that while there is no clear time trend in the fraction of undocumented

migrants willing to attempt a new crossing, the share varies considerably by group. For example, the percent willing to cross again in the near future hovers around 63 percent for the deported and only around 38 percent for the voluntary returnees.

Does border enforcement deter undocumented migrants from repetitively trying to cross the border? Figures 3 and 4 provide a descriptive picture of the link between undocumented migrants' willingness to attempt a new crossing and border enforcement. According to those figures, border enforcement helps deter repetitive crossing attempts by deported migrants, although to a very limited extent. For example, the proposed increase of 3,000 full-time full-year border patrol agents in President Bush's 2008 FY budget (i.e. 6.24 more million linewatch hours) would imply a reduction of just 0.6 percentage points in the fraction of deported migrants willing to cross again. Similarly, Figure 4 indicates that such an increase for voluntary returnees would lower the fraction of undocumented migrants willing to repeatedly cross the border by 1.9 percentage points. Therefore, although deportation seems to deter future border crossing attempts among undocumented migrants, it does not seem to be an effective means of doing so.

C) Waiting Times at the Border, Increased Border Enforcement and Deportation

As noted earlier, border enforcement may not solely affect the likelihood of trying to illegally cross the border again, but also the time spent by undocumented migrants in preparation for their new crossing attempt. Of particular interest to us is whether border enforcement has lengthened this fraction of time, thus helping lower the number of illegal crossings as a whole. Alternatively, border enforcement may be backfiring and the timing in between crossings may have decreased if migrants borrow funds to cross and need to quickly cross back to the U.S. to try to repay any borrowed money. Table 3 provides a preliminary assessment of trends in the in-between border crossings' time spent by undocumented migrants at the Mexican border before

their last crossing attempt. Waiting times at the border appear to have progressively decreased among undocumented migrants regardless of their deportation status, except during the early 1980s –a period of economic crisis in Mexico– and during IRCA.

Does an increase in linewatch hours help lengthen the border wait? According to Figures 6 and 7, it does not. Despite an outlier year (i.e. 1983) for the deported sample, it is evident that stricter border enforcement translates into shorter border waits, particularly during recent years. An increase in linewatch hours of approximately 6 million as proposed by President Bush’s in his 2008 FY budget would have lowered the border wait by approximately 5.5 days for the deported sample. For the voluntary returnees, shown in Figure 7, this effect is smaller and indicates that 6 million additional linewatch hours translates into about 3 fewer days at the border.

In sum, preliminary descriptive statistics suggest that, contrary to what was found for immigrants in the second half of the 1970s, border enforcement seems to deter undocumented migrants from repetitively attempting to cross the border. Nonetheless, like Kossoudji (1992) found for the second half of the 1970s, increased border enforcement does seem to shorten undocumented migrants’ in-between border crossings wait contrary to the intent of DHS.

VI. Results

A) Does Border Enforcement Serve as an Effective Deterrent to Re-Migration?

Table 4 displays the results from estimating probit models of the likelihood of re-migration. We carry the analysis separately for deported and non-deported migrants based on their distinct personal characteristics, employment and migratory experiences and on supporting evidence from Chow tests (Chow 1960) that these two groups of undocumented migrants should be examined independently. Indeed, according to the Chow test at the bottom of Table 4, it is

advisable to examine the re-migration behavior of each of these groups separately. Additionally, Table 4 reports the results from estimating the likelihood of re-migration with and without instrumenting for border enforcement. We first test for the exogeneity of linewatch hours in each of the models using the Durbin-Hu-Hausman test. The results from such a test –displayed at the bottom of Table 4, indicate that linewatch hours seem to be endogenous to the likelihood of re-migration for all returnees. Therefore, we estimate the models with and without instrumenting as a robustness check with regards to instrumented and, mostly, the non-instrumented coefficients. The coefficient estimates from the probit models instrumenting for border enforcement should be consistent, although the standard errors are likely to be larger than those from the regular probit. Finally, because we instrument linewatch hours with two variables, we make use the Basmann’s and Sangran’s over-identification tests to examine if the excluded instrument is uncorrelated with the error term and correctly excluded from the estimated equation. As shown by the tests at the bottom of Table 4, we are unable to reject the null hypothesis, which suggests that our instruments are valid from an econometric perspective.

Is border enforcement an effective deterrent to re-migration? According to the figures in Table 4, it is. When we do not instrument for border enforcement, we find that an additional 1 million linewatch hours (e.g. the hiring of an additional 481 border patrol officers working full-time and year-round) would reduce migrants’ willingness to attempt to cross the border again by 1.8 percentage points among deported migrants and by 3.3 percentage points among their non-deported counterparts. The estimated impact of an additional 1 million linewatch hours on the re-migration likelihood among deported migrants increases to 8.5 percentage points and among their non-deported counterparts to 5.6 percentage points when we instrument for linewatch

hours. In sum, increased border enforcement does seem to help deter the re-migration behavior of return migrants.

What other factors are likely to be driving the likelihood of a new border crossing attempt? The figures in Table 4 reveal some common determinants of the likelihood of re-migration among the deported and non-deported sample. For instance, an increase in smuggling costs of \$1000 reduces the likelihood of re-migration by about 5 percentage points among deported migrants and by 4 percentage points among their non-deported counterparts. Additionally, migrants who last crossed by Coahuila or Tamaulipas are significantly more likely to attempt a new border crossing than their counterparts who attempted to cross by Baja California. For both groups of migrants, we also find that traveling with other people or having a longer U.S. stay during their last trip is associated with a higher likelihood of re-migration – perhaps signaling that they crossed with family and friends who stayed in the U.S. and their greater assimilation to the U.S., respectively. In any event, it is worth noting that the likelihood of re-migration has increased over time among both groups of migrants: by 12 percentage points among deported migrant and by 2.2 percentage points among their non-deported counterparts.

There are, however, some important differences in the determinants of a future border crossing attempt between deported and non-deported migrants. In particular, an increase in the ratio of Mexican to U.S. wages of .10 (i.e. a 10 percent increase in the Mexican to U.S. relative wages) lowers the likelihood of re-migration among deported migrants by 4.5 percentage points. However, relative wages do not seem to a primary factor shaping non-deported migrants' re-migration behavior. To the extent that this group of migrants returned to Mexico voluntarily, this finding is not that surprising and, instead, signals the existence of other motives for re-migrating, such as, possibly, the presence of family members in the U.S. Also, while deported

migrants who last crossed by Sonora or Chihuahua –both states with more desert areas than Baja California– are more likely to attempt a new border crossing attempt in the near future than their counterparts who crossed by Baja California, the opposite appears to be the case among non-deported migrants. This difference may reflect the fact that non-deported migrants voluntarily returned to Mexico and, after such an arduous border crossing experience, they may not be as willing to cross again as their counterparts who crossed by Baja California. However, deported migrants did not complete their last U.S. migration experience. Therefore, they may still be willing to attempt a new crossing –even more so after having already endured such a difficult trip the last time around. Finally, both deported and non-deported migrant seem to differ in the role that their past remitting behavior may play in their future willingness to re-migrate to the U.S. – possibly hinting to their different motivations for remitting. In sum, the figures in Table 4 seem to point to the fact that border enforcement does deter repetitive border crossing attempts.

B) Does Border Enforcement Help Postpone Re-Migration?

As noted by Kossoudji (1992), while the main purpose of increased border enforcement was to avoid future crossings, another expectation was that it would delay future crossings by lengthening the time spent by migrants in preparation for their next border crossing. Table 5 displays the results from estimating OLS and IV models of the time spent at the Mexican border by deported and non-deported migrants in preparation for their last crossing. As in Table 4, we carry the analysis separately for deported and non-deported migrants based on their distinct characteristics –an empirical strategy also supported by the results from the Chow test at the bottom of Table 5. Subsequently, we test for the endogeneity of linewatch hours and, based on the results from the Durbin-Wu-Hausman tests, we opt to estimate the models both with and without IVs for border enforcement. The Basman’s and Sangran’s over-identification tests

once more indicate that each excluded instrument is uncorrelated with the error term and, therefore, correctly excluded from the estimated equation; thus, suggesting the validity of the instruments from an econometric perspective.

Looking at the results for deported migrants, we find that linewatch hours do lengthen border waits. When linewatch hours are not instrumented, an additional one million linewatch hours increases the border wait by approximately 3 days. This figure rises to 8 days when linewatch hours are instrumented. Additionally, the figures in Table 5 indicate that in-between crossings' waiting times increase by about 5 days among deported migrants, whereas traveling with other people shortens the border wait by about 3 days, regardless of whether we instrument for linewatch hours or not.

Does increased border enforcement help postpone a future border crossing wait among non-deported migrants? According to the figures in the last four columns of Table 5, it only does so at the margin –after linewatch hours are instrumented– and by only one day with each additional one million linewatch hours. As for deported migrants, the in-between border wait rises by about 2 days among non-deported migrants; however, increased linewatch hours only help reduce it by a third of a day. Also worth noting is the fact that the location of migrants' crossing seems to have a significant impact on their wait at the Mexican border, regardless of whether we instrument or not for border enforcement. Specifically, border waits appear to be shorter in Sonora, Coahuila, and Tamaulipas when compared to border waits for non-deported migrants crossing through Baja California. Finally, among non-deported migrants, the border wait seems to have lengthened overtime.

In sum, increased border enforcement seems to help deter repetitive illegal border crossing attempts and lengthen border waits, particularly among deported migrants.

VII. Summary and Conclusions

In this paper, we aim to address two policy-relevant questions: 1) Has increased border enforcement helped lower the likelihood of repetitive illegal border crossing attempts on the part of undocumented migrants? 2) Does border enforcement delay future crossings? To identify such an effect, we use linewatch hours to capture the intensity of border enforcement while also considering the possibility that linewatch hours may be endogenous.

Our analysis is unique in that we are able to combine micro-level border crossing data with macro-level enforcement data to assess the behavior of undocumented immigrants who have returned to Mexico either voluntarily or involuntarily. Given that this dataset has not been used to study the effects of enforcement, we first document differences between individuals who have been previously deported from those who returned voluntarily from the United States and look for time trends in their behavior. These descriptive statistics add to the literature characterizing the nature of illegal immigration and helped frame our empirical work. Summary descriptive statistics suggest that those who have been deported differ significantly from those who return to Mexico voluntarily. In particular, deportees have less border crossing experience, are less likely to use a coyote on their last crossing attempt, pay less for a coyote, are more likely to cross in the desert, and spend more time at the Mexican border. Further more, those who have involuntarily returned to Mexico spend less time in the US, are younger, are less likely to be the household head, are less likely to have worked in US, and are less likely to remit money to Mexico than voluntary returnees. Given these differences, we conduct our analysis for these two groups separately.

Have increased linewatch hours deterred individuals from future crossings or resulted in delays or increased time between trips? In a simple regression of linewatch hours on the

propensity to cross again, we find a significant negative relationship among increased border enforcement and the likelihood of crossing again. Once we control for relevant individual and macro-level variables, we find that an additional 1 million linewatch hours would reduce migrants' willingness to attempt to cross the border again by 1.8 percentage points among deported returnees and by 3.3 percentage points among their non-deported counterparts. These estimates, despite rising to 8.5 percentage points among deported migrants and to 5.6 percentage points among non-deported migrants, continue to be statistically significant and negative when we instrument for linewatch hours. Therefore, increased border enforcement appears to help deter the re-migration behavior of return migrants.

In terms of border wait times, our results suggest that increasing border enforcement lengthens the amount of time that undocumented immigrants remain at the border before trying to cross again. This effect appears to be particularly noticeable for deported migrants, whose border waits lengthen by 8 days when linewatch hours increase by 1 million. In contrast, a similar increase in border enforcement would only increase the border wait of non-deported migrants marginally by 1 day. Yet, non-deported migrants appear to be taking longer to cross in recent decades.

In sum, preliminary findings suggest that increasing border enforcement may deter repetitive illegal border crossings—a big component of overall apprehensions. This may, in part, help explain the recent declines in border apprehension rates noted by government officials and the media (GAO 2001, INS 2001, Rico 2004, Clark 2006), and certainly encourages putting aside funds for border enforcement purposes. However, border enforcement only seems to effectively postpone repetitive crossing attempts on the part of deported migrants, but not among their non-deported counterparts.

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Figure 1
Survey Layout

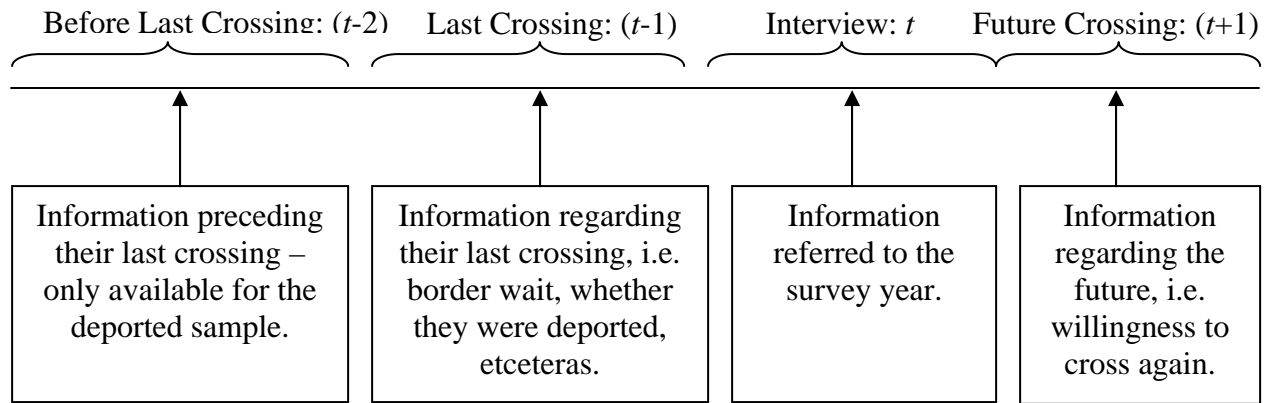


Table 1: Descriptive Characteristics of Voluntary Returnees and Deported Migrants

Variables	Non-deported Returnees (app. 11,000)	Deported Migrants (app. 46,500)
Migratory Experience		
First year of entry	1988	1995
First-time crosser	46.13	62.13
Last year of entry	1997	1998
State of crossing last trip		
Baja California	37.73	25.45
Sonora	19.46	25.96
Chihuahua	0.92	2.74
Coahuila	19.29	11.81
Tamaulipas	12.07	26.03
Other	10.52	8.00
Traveled with two or more people	0.19	0.41
Use of a coyote last trip	0.33	0.15
Average cost of coyote (in 2000 U.S. dollars in 100s)	6.55	5.32
Days in Mexico before last trip	6.17	7.42
Days in U.S. last trip	428.15	77.32
Migrant Personal Characteristics		
Age: Less than 19 years old	0.08	0.19
Age: 20 to 24 years old	0.24	0.29
Age: 25 to 34 years old	0.39	0.36
Age: 35 years old plus	0.30	0.16
Married	0.59	0.46
Family size: One	0.03	0.03
Family size: Two to three	0.21	0.17
Family size: Four plus	0.76	0.80
Household head	0.66	0.52
Educational Attainment		
No education	6.53	5.56
Primary education	48.77	48.30
Secondary education	27.92	35.04
Preparatory education	11.09	9.07
Higher education	5.70	2.03
State where they live		
Aguascalientes	0.94	0.99
BC	0.48	3.11
BC Sur	0.16	0.09
Campeche	0.15	0.13
Coahuila	3.67	3.19
Colima	0.85	0.45
Chiapas	1.13	3.84
Chihuahua	5.40	7.54
DF	2.24	2.30
Durango	3.01	2.47
Guanajuato	9.99	7.53
Guerrero	3.09	3.85
Hidalgo	1.77	2.40
Jalisco	5.77	4.84

Table 1 – Continued

Variables	Non-deported Returnees (app. 11,000)	Deported Migrants (app. 46,500)
State where they live		
Estado de Mexico	2.53	3.83
Michoacán	7.90	7.53
Morelos	1.06	1.28
Nayarit	1.79	1.50
Nuevo León	1.71	2.66
Oaxaca	3.49	4.89
Puebla	1.79	3.13
Queretaro	1.83	1.46
Quintana Roo	0.06	0.12
San Luis de Potosí	3.66	3.72
Sinaloa	3.82	3.64
Sonora	3.98	3.91
Tabasco	0.17	0.31
Tamaulipas	2.23	6.42
Tlaxcala	0.16	0.46
Veracruz	2.58	4.69
Yucatan	0.16	0.15
Zacatecas	3.95	3.02
U.S.A.	18.46	4.55
Employment Characteristics		
Worked during last U.S. trip	0.84	0.51
Real hourly wage in the U.S. last trip	7.02	7.14
Real hourly wage in Mexico before last trip (in 2000 U.S. dollars)	1.21	1.01
Wage gap (Mexican wage/U.S. wage)	0.19	0.14
Remitted money back home last trip	0.57	0.47

Table 2
Has the Willingness to Cross Again Changed Over Time?

Variable	1993-1997 (app. 17,410)	1998-2003 (app. 28,830)
Willingness to cross again, if deported	0.642	0.626
Willingness to cross again, if voluntary	0.390	0.381

Figure 2
Percent Declaring their Intent to Try Again in the Near Future



Figure 3
Percent of Deported Migrants Declaring their Intent to Cross Again in the Near Future
by Millions of Linewatch Hours

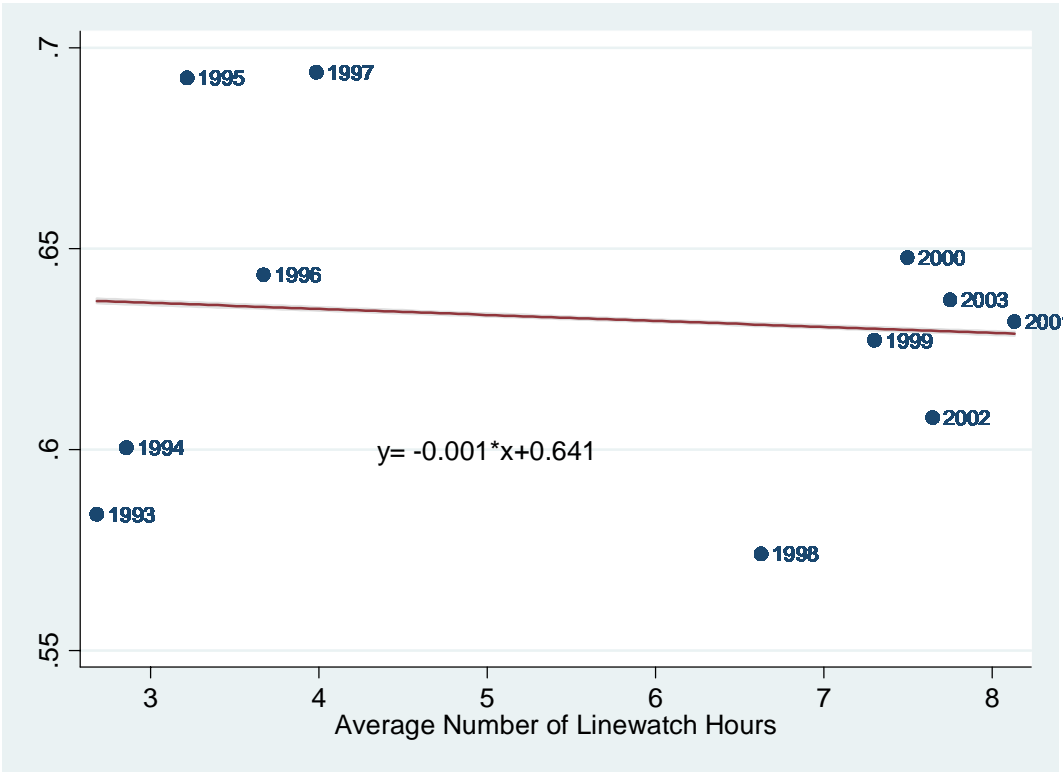


Figure 4
Percent of Non-Deported Migrants Declaring their Intent to Cross Again in the Near Future
by Millions of Linewatch Hours

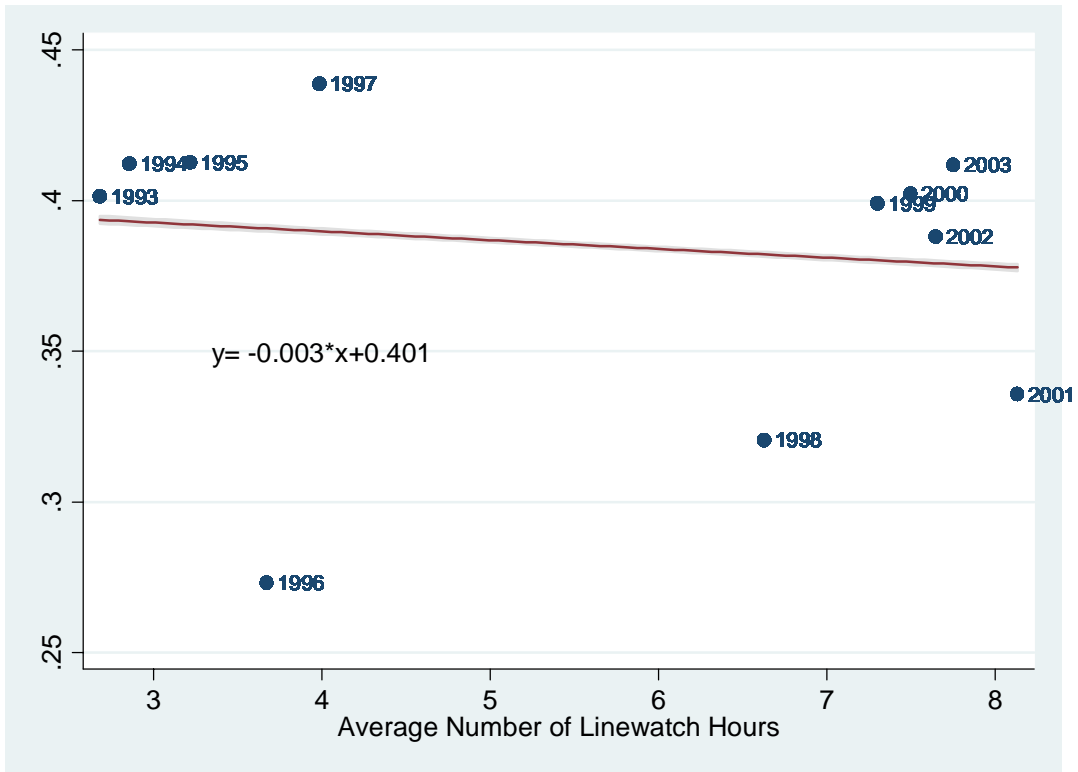


Table 3
Has Border Wait in Between Crossings Changed Over Time?

Variables	Up to 1989	1990-1996	1997-2003
Border Wait in ($t-1$), if deported	27.76 (186)	12.50 (5658)	8.38 (8602)
Border Wait in ($t-1$), if voluntary	8.74 (67)	7.54 (3217)	5.37 (2665)

Note: Number of observations in parentheses.

Figure 5
Average Time Spent in Between Trips at Border City Last Migration Spell

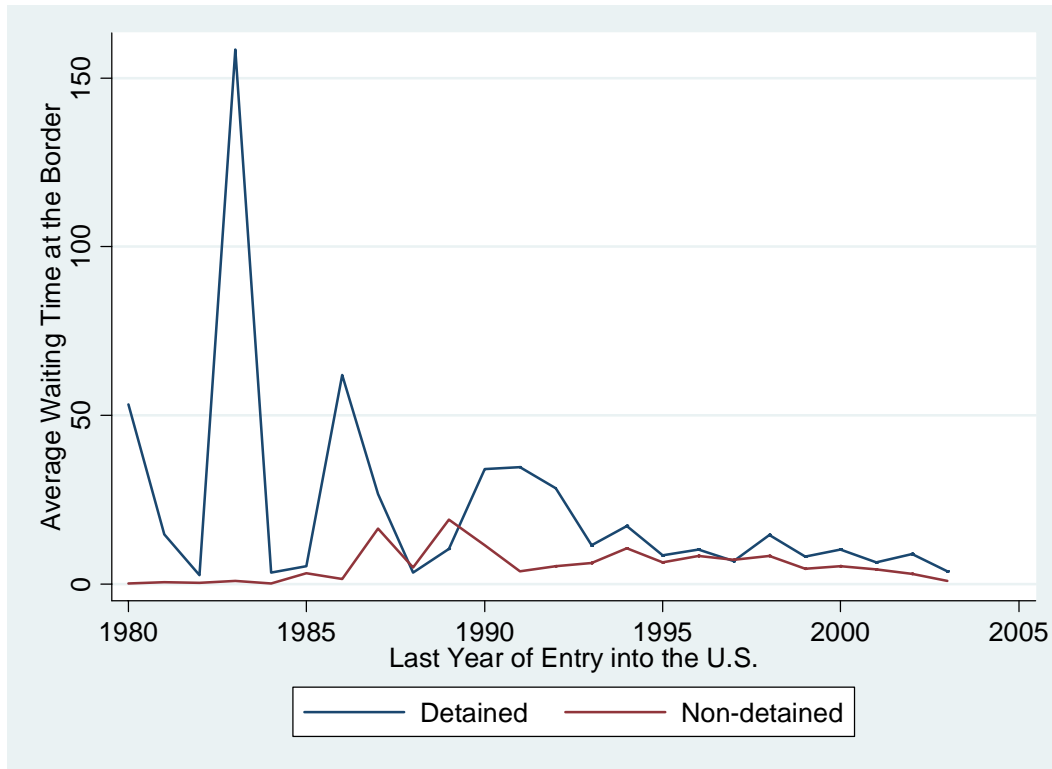


Figure 6
Average Time Spent by Deported Migrants at Border City during Last U.S. Trip
by Millions of Linewatch Hours (excludes 1983)

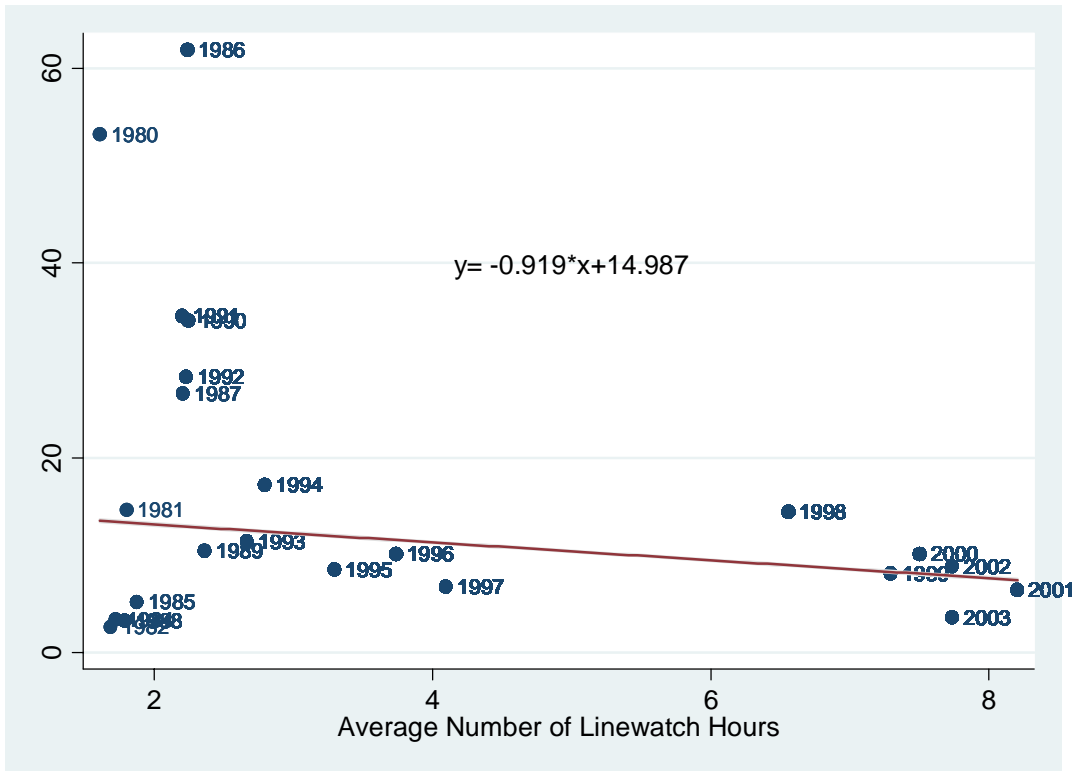


Figure 7
Average Time Spent by Non-Deported Migrants at Border City during Last U.S. Trip
by Millions of Linewatch Hours

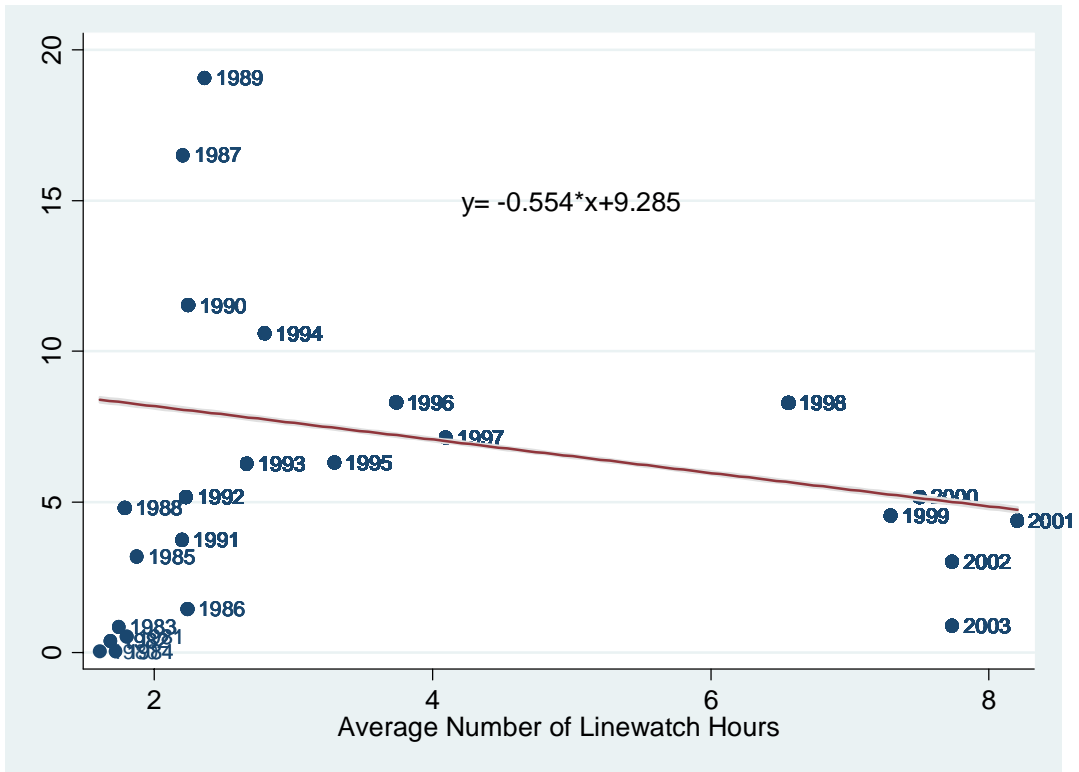


Table 4
Likelihood of a Repetitive Border Crossing Attempt

Variables	Deported Migrants						Non-deported Migrants					
	Probit w/out IVs			IV-Probit			Probit w/out IV			IV-Probit		
	Coefficient	S.E.	M.E.	Coefficient	S.E.	M.E.	Coefficient	S.E.	M.E.	Coefficient	S.E.	M.E.
Linewatch hours (mill)	-0.048***	0.014	-0.018	-0.230***	0.034	-0.085	-0.086***	0.029	-0.033	-0.147***	0.084	-0.056
Wage gap (MX/U.S.)	-1.260***	0.131	-0.466	-1.217***	0.129	-0.451	0.071	0.153	0.027	0.064	0.152	0.024
Coyote cost (in \$100)	-0.016***	0.003	-0.006	-0.015***	0.003	-0.005	-0.011***	0.004	-0.004	-0.011***	0.003	-0.004
Border wait (days)	-1.6E-04	1.0E-04	-5.9E-05	-1.5E-04	1.0E-04	-5.7E-05	-4.8E-04	0.001	-1.8E-04	-4.9E-04	0.001	-1.9E-04
Sonora	0.553***	0.068	0.190	0.540***	0.068	0.186	-0.223***	0.038	-0.083	-0.222***	0.038	-0.082
Chihuahua	0.576***	0.068	0.202	0.557***	0.069	0.196	-0.484***	0.055	-0.170	-0.482***	0.056	-0.169
Coahuila	0.184***	0.065	0.066	0.179***	0.065	0.064	0.205***	0.045	0.079	0.206***	0.046	0.080
Tamaulipas	0.364***	0.066	0.128	0.355***	0.066	0.126	0.120***	0.042	0.046	0.123***	0.043	0.047
Other	0.205***	0.070	0.073	0.219***	0.070	0.078	-0.179***	0.046	-0.067	-0.176***	0.046	-0.065
Traveled accompanied	0.291***	0.016	0.107	0.290***	0.015	0.106	0.378***	0.033	0.147	0.377***	0.033	0.147
Days in U.S. last trip	0.001***	3.8E-05	3.3E-04	0.001***	3.8E-05	3.3E-04	0.001***	6.2E-05	2.8E-04	0.001***	4.0E-05	2.8E-04
Remitted money home	-0.320***	0.032	-0.123	-0.321***	0.032	-0.124	0.190***	0.027	0.073	0.189***	0.027	0.072
Time trend	0.323***	0.011	0.120	0.315***	0.012	0.117	0.057***	0.018	0.022	0.057***	0.012	0.022
Regression Fit Statistics												
Observations			38856						10472			
Wald Chi-square	Chi2(26)= 2518.75	Prob>Chi2= 0.000	Chi2(26)= 2412.99	Prob>Chi2= 0.000	Chi2(26)= 861.75	Prob>Chi2= 0.000	Chi2(26)= 1104.77	Prob>Chi2= 0.000	Chi2(26)= 1104.77	Prob>Chi2= 0.000	Chi2(26)= 1104.77	Prob>Chi2= 0.000
Specification Tests												
Chow Test			F(27, 49298)=173.54						Prob>F=0.000			
Durbin-Wu-Hausman Test			Chi2 (1)=9.11						Prob>Chi2=0.003			
Basmann/Sargan Tests			Chi2 (1)=0.180						Prob>Chi2=0.671			

Notes: The regressions include a constant term as well as a set of migrant personal characteristics (e.g. age, marital status, household head status, educational attainment) and country level characteristics (e.g. per capita GDP in U.S. and Mexico) possibly acting as pull and push factors influencing the likelihood of re-migration. *** Signifies statistically different from zero at the 1 percent level or better, ** at the 5 percent level or better and * at the 10 percent level or better.

Table 5
Border Wait during their Last Crossing

Variables	Deported Migrants				Non-deported Migrants			
	OLS Coefficient	S.E.	IV Coefficient	S.E.	OLS Coefficient	S.E.	IV Coefficient	S.E.
Multiple times crosser (MTC)	4.986**	2.477	4.648*	2.637	2.081*	1.117	2.069**	1.042
Linewatch hours (mill) (LW)	2.813**	1.318	8.283**	3.801	0.520	0.395	1.014*	0.561
MTC*LW	-0.262	0.320	-0.204	0.338	-0.349**	0.155	-0.339***	0.131
Coyote cost (in \$100)	-0.126	0.134	-0.145	0.126	0.029	0.043	0.024	0.047
Sonora	5.435	5.865	5.481	6.220	-4.338***	0.592	-4.340***	0.606
Chihuahua	9.638*	5.745	9.874*	5.988	1.823**	0.849	1.814**	0.891
Coahuila	5.294	5.231	5.447	5.381	-4.914***	0.768	-4.903***	0.757
Tamaulipas	4.626	5.428	4.897	5.787	-4.515***	0.773	-4.518***	0.812
Other	3.700	6.334	3.112	6.723	-4.852***	0.676	-4.838***	0.718
Traveled accompanied	-2.809***	0.732	-3.038***	0.722	0.118	0.678	0.096	0.702
Time trend	-0.497	0.675	0.440	0.806	3.033***	0.379	3.145***	0.432
Regression Fit Statistics								
Observations			39680				10551	
Wald Chi-square	F(24, 39655)= 9.58	Prob>F= 0.000	Wald Chi2 (24)= 228.47	Prob>F= 0.000	F(24, 10526)= 6.11	Prob>F= 0.000	Wald Chi2 (24)= 155.44	Prob>F= 0.000
Specification Tests								
Chow Test			F(25, 50201)=7.38				Prob>F=0.000	
Durbin-Wu-Hausman Test			Chi2 (1)=44.69				Prob>Chi2=0.000	
Basmann/Sargan Tests			Chi2 (1)=0.781				Prob>Chi2=0.3768	

Notes: The regressions include a constant term as well as a set of migrant personal characteristics (e.g. age, marital status, household head status, educational attainment), country level characteristics (e.g. per capita GDP in U.S. and Mexico), and dummies indicative of the decade of respondent's last crossing attempt. *** Signifies statistically different from zero at the 1 percent level or better, ** at the 5 percent level or better and * at the 10 percent level or better.

Appendix Tables

Table A
Description of Variables Used in the Analysis

Variables	Definition
Dependent variables:	
Likelihood of a Repetitive Border Crossing	Equals 1 if a return migrant indicated that he plans to cross the U.S. border again in the near future. Specifically: <ol style="list-style-type: none"> 1. Deported migrants are asked about their intent to cross again to the U.S. in the upcoming week. 2. Migrants coming from the South of Mexico to the border are questioned about their intent to cross in the next month. 3. Mexican migrants returning from the U.S. are asked where they live. If they report living in the U.S., they are assumed to be willing to cross again in the near future. If they report living in Mexico, they are assumed to be willing to cross back to the U.S. if they indicate returning for a vacation or to visit family and friends. Otherwise, if they live in Mexico and indicate coming back to work, establish a business, cultivate the land, or because work in the U.S. ended, we assume they may not be willing to cross back to the U.S. in the near future.
Border Wait during their Last Crossing	Days spent at the Mexican border before crossing into the U.S. on their most recent crossing attempt.
Independent variables:	
Linewatch hours (in millions)	Hours of patrolling duty along the southwestern U.S. border.
Multiple-times crosser	Dummy equal to 1 if the respondent crossed multiple times to the U.S.
<i>State of crossing last trip</i>	
Baja California	Border crossing location dummy
Sonora	Border crossing location dummy
Chihuahua	Border crossing location dummy
Coahuila	Border crossing location dummy
Tamaulipas	Border crossing location dummy
Other	Border crossing location dummy
Traveled with two or more people	Equals 1 if traveled with 2 or more people last trip
Use of a coyote last trip	Equals 1 if hired a coyote (smuggler) last trip
Cost of coyote	Real coyote cost (in 2000 U.S. dollars in 100s)
Days in Mexico before last trip	Days at the Mexican border before last trip
Days in U.S. last trip	Days spent in U.S. during last visit
Worked during last U.S. trip	Equals 1 if worked in the U.S. during last trip
Real hourly wage in the U.S. last trip	Real hourly wage in the U.S. last trip (in 2000 U.S. dollars)
Real hourly wage in Mexico before last trip	Real hourly wage in Mexico before last trip (in 2000 U.S. dollars)
Wage gap	(Real hourly Mexican wage in U.S. dollars/Real hourly U.S. wage)
Remitted money back home last trip	Equals 1 if remitted earnings home last trip
Age: Less than 19 years old	Age dummy
Age: 20 to 24 years old	Age dummy
Age: 25 to 34 years old	Age dummy
Age: 35 years old plus	Age dummy
Married	Dummy equal to 1 if married

Table A – Continued

Variables	Definition
Independent variables:	
Family size: One	Family size dummy
Family size: Two to three	Family size dummy
Family size: Four plus	Family size dummy
Household head	Dummy variable equal to 1 if household head
<i>Educational Attainment</i>	
No education	Educational attainment dummy
Primary education	Educational attainment dummy
Secondary education	Educational attainment dummy
Preparatory education	Educational attainment dummy
Higher education	Educational attainment dummy
<i>State where they live</i>	
Mexican state name	Dummies for each one of the 31 Mexican states and the federal district
U.S.A.	US residency dummy
Per Capita MEX GDP	Per capita GDP in Mexico in 2000 pesos
Per Capita U.S. GDP	Per capita GDP in the U.S. in 2000 dollars
Instrument:	
Customs user fee	Ad valorem import duty (in percent)
Drug seizures by Border Patrol	Drug seizures (in millions of 2000 U.S. dollars) by the Border Patrol