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# Does The Legalization of Undocumented Immigrants in the US Encourage Unauthorized Immigration from Mexico? An Empirical Analysis of the Moral Hazard of Legalization

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## ABSTRACT

Does the prospect of a legalization programme in the US increase unauthorized immigration from Mexico? The logic of the moral hazard of legalization suggests that providing lawful status to undocumented immigrants has the unintended effect of incentivizing further unauthorized immigration. However, we argue and show that concerns about the moral hazard of legalization may be overstated. We conceptualize our argument using two distinct temporal dimensions: a concurrent dimension and a prospective one. Our analysis of the 2007 Mexican Migration Field Research Program (MMFRP) survey provides evidence supporting our arguments. The data show that knowledge regarding a prospective legalization programme in the US does not increase the intent to migrate among prospective migrants. Our results hold when accounting for a range of potential confounding factors, across several multivariate model specifications, and also when analysing comparable respondents who are matched using propensity score matching (PSM) techniques.

## INTRODUCTION

Does the prospect of a legalization programme in the US lead to more unauthorized immigration from Mexico? This study empirically analyses this question using survey evidence to examine whether knowledge regarding a prospective legalization program in the US increases the intent to migrate among prospective Mexican migrants. This question is an important one to answer, not only because of its relevance to the broader immigration reform debate, but also because the depth of our understanding of the moral hazard of legalization has thus far relied mostly on anecdote and has lacked a firm empirical basis. For example, in 2013, the US Senate passed a comprehensive immigration reform (CIR) bill, S.744, which included a path to citizenship for undocumented immigrants currently living in the US. However, the optimism surrounding the prospects for CIR was quickly tempered, as the debate over immigration reform legislation turned to the House of Representatives. In May 2013, the House Judiciary Committee (HJC) held a hearing in which the legalization of undocumented immigrants and an eventual path to citizenship were questioned. These questions renewed debate over whether legalization (or even just talk of legalization) leads to more

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unauthorized immigration – a phenomenon referred to as the moral hazard of legalization. To illustrate, in response to Republican Representative Louie Gohmert's (TX-1) statement during the HJC hearing that talk of legalization leads to a “dramatic uptick in people coming across the border illegally,” an expert witness stated, “every time that we talk about some sort of immigration reform, especially when there are still questions out there, there is some kind of increase [in unauthorized immigration].” This witness, however, concluded his answer by stating “can't give you what that increase is, I don't know.”<sup>1</sup>

We argue that concerns over the moral hazard of legalization may be overstated. We conceptualize our argument using two distinct temporal lenses: a *concurrent* one and a *prospective* one. Regarding the *concurrent* moral hazard of legalization, we argue that unauthorized immigration is unlikely to increase due to just “talk about some sort of immigration reform” – even if the likelihood of reform is high. This is because of the “strategic firewalls” that legislators build into immigration reform legislation in the form of eligibility requirements that make clear who is eligible for legalization, as well as who is to be excluded. So-called physical presence and continuous residency requirements have been central to past legalization programmes. For example, only those who entered the US before January 1, 1982 and had resided in the country continuously since then were eligible for legalization under the 1986 Immigration Reform and Control Act (IRCA). Also, the programme of Deferred Action for Childhood Arrivals (DACA), which was announced on June 15, 2012, gives undocumented young people temporary relief from deportation provided that they have lived in the US continuously since June 15, 2007, among other requirements. Regarding the *prospective* moral hazard of legalization, we argue that concerns that legalization today will increase unauthorized immigration tomorrow tend to ignore the well-documented complexities of unauthorized migration flows, as well as the more general knowledge that has accumulated regarding the determinants of international migration. Put simply, the possibility that one may benefit from a legalization program in the future leaves unaddressed the economic, structural, and physical barriers to mobility that prospective (undocumented) migrants face.

We begin by discussing the concept of moral hazard as it relates to the legalization of undocumented immigrants. We then examine the few existing studies that empirically examine the moral hazard of legalization. This leads to our analysis of the 2007 Mexican Migration Field Research Program (MMFRP) survey conducted in Tlacuitapa, Jalisco.

## THE MORAL HAZARD OF LEGALIZATION?

The legalization or “regularization” of undocumented immigrants as a policy response to the dilemmas posed by unauthorized immigration has by no means been confined to public policy discussions in the US. In fact, since the 1980s the majority of immigrant-receiving countries have enacted policies or programmes aimed at legalizing various portions of their respective undocumented populations (for example, see Rosenblum, 2010; Baldwin-Edwards & Kraler, 2009). Despite the benefits of such policies (for example, see Sunderhaus, 2007; Baldwin-Edwards & Kraler, 2009; for alternative, see Levinson, 2005), the most immediate of which being the reduction of the stock of the undocumented population, debate over the legalization of undocumented immigrants invariably leads to questions and concerns about the moral hazard of legalization. Although consistently voiced in immigration reform and related policy debates (Levinson, 2005), as the vignette in the introduction illustrates, there is a dearth of empirical research on the question of whether the legalization of undocumented immigrants (or even just talk of it) leads to more unauthorized immigration.

The concept of moral hazard has a long history in the field of economics.<sup>2</sup> Moral hazard emphasizes the role that incentives play in determining individual behaviour. As Rowell and Connelly

(2012) describe, moral hazard is a “loss-increasing behaviour that arises under insurance” (p. 1051). In other words, moral hazard refers to the likelihood that an individual engages in risk-acceptant behaviour because the individual does not believe that he or she will have to face the consequences of the risk undertaken. We argue that the legalization of undocumented immigrants can and should be discussed along with the range of public policy issues from which moral hazard concerns emerge, wherein the possibility of legalization serves as a form of implicit insurance and the risk undertaken is unauthorized entry.<sup>3</sup>

In immigration policy debates, the moral hazard of legalization refers to the idea that prospective migrants are more likely to attempt to immigrate without authorization when there is an expectation that the consequences of unauthorized immigration (the risk undertaken) will be met with legalization rather than deportation. We conceptualize and disaggregate the moral hazard of legalization into two distinct temporal dimensions: *concurrent* and *prospective*. The *concurrent* moral hazard of legalization refers to the idea that a prospective migrant will be more likely to immigrate without authorization at time  $t$  in order to benefit from a proposed or recently implemented legalization programme, also at time  $t$ . The *prospective* moral hazard of legalization refers to the idea that a prospective migrant will be more likely to immigrate without authorization at time  $t$  when he or she believes that a legalization programme will be enacted at time  $t+1$ . Whether *concurrently* or *prospectively*, what underlies the moral hazard of legalization is the belief that the legalization of undocumented immigrants incentivizes unauthorized immigration by reducing the risks of being undocumented. It is this notion that forms the cornerstone of the public debate over the moral hazard of legalization. To illustrate, as Republican Representative Lamar Smith (TX-21) stated in reference to the legalization component of S.744, “By granting amnesty, the Senate proposal actually compounds the problem by encouraging more illegal immigration” (Barrett, Bash, & Walsh, 2013). More recently, Republican Representative Paul Ryan (WI-1) actually used the term moral hazard in reference to immigration reform, stating, “We have to do [immigration reform] in a smart way, we have to do it in a way that does not create an amnesty or a moral hazard so that we have the same problem 15 years down the road.” We reiterate here that such assertions are based mostly on anecdote, rather than on empirical evidence. Previous research examining legalization programmes has noted this tendency as well, emphasizing the need to focus on the available evidence (Baldwin-Edwards & Kraller, 2009).

One of the most straightforward arguments against the *concurrent* moral hazard of legalization is that legislators build “strategic firewalls” into immigration legislation, which are designed to exclude newly arrived undocumented immigrants from benefiting from a legalization programme. These firewalls come mostly in the form of eligibility requirements that specify who may, and who may not, benefit from a legalization programme. For example, under S.744, which includes a large-scale legalization programme, an undocumented immigrant seeking to adjust his or her legal status would have to meet certain requirements, including paying back taxes and passing a criminal background check. Similar firewalls have excluded recently arrived immigrants from accessing welfare benefits (Hero & Preuhs, 2007; see also Crepaz & Damron, 2009). More importantly, as it relates to the *concurrent* moral hazard of legalization, undocumented immigrants would also have to meet strict residency and continuous presence requirements. Under the bill, only those who were present in the US on or before December 31, 2011, and who have maintained continuous physical presence since then (i.e., have not left the US), are eligible to apply for an adjustment of status. Put simply, a prospective migrant who comes to the US without authorization with the expectation of adjusting his or her immigration status would not qualify for the legalization. As mentioned above, similar residency and continuous presence requirements apply to DACA, wherein individuals not only must have been present in the US on June 15, 2012, but must also have lived in the US continuously since June 15, 2007, among other requirements. Altogether, strict residency and continuous presence requirements serve as a firewall against the *concurrent* moral hazard of legalization.

It is important to note that these “strategic firewalls” are not infallible. Drawing from the experience of IRCA, some point to the potential for fraud as an argument against the effectiveness of these safeguards. Indeed, IRCA provides an important comparative case from which to learn. IRCA included two main legalization programs: a general legalization program for undocumented immigrants living in the US and a program to provide for the adjustment of the legal status for agricultural workers. Whereas those applying for the general legalization program had to prove residency and continuous presence, those applying for the agricultural worker program had less onerous requirements. As mentioned above, to be eligible for the general legalization programme, individuals must have been present in the US on or before January 1, 1982 (nearly four years prior to the passage of the bill) and must have maintained continuous physical presence since that date, among other requirements. Individuals applying for the Seasonal Agricultural Worker (SAW) programme, on the other hand, had to prove that they worked in an agricultural setting for 90 days in the US over a 12-month period. As González-Baker (1990) notes, fraudulent applications for the SAW programme were made possible in part by labour contractors and growers signing affidavits for former employees, as well as signing affidavits for others for a fee (p. 96). Accordingly, fraud was not a pervasive issue with respect to the general legalization programme and was limited to certain aspects of the agricultural worker programme (Chishti & Kamasaki, 2014; see also, Cornelius, 1990; González-Baker, 1990). As Chishti and Kamasaki (2014) write, legislators have been able to draw upon the experience of IRCA in order to avoid its missteps, specifically with respect to residency and continuous presence requirements, which can be seen in the implementation of DACA and the language of S.744.

Much of the literature examining the impact of legalization programmes focuses on questions related to *prospective* moral hazard. For example, Levinson (2005) notes that “Almost all [studies on IRCA] show that the large-scale amnesty implemented in 1986 has not reduced, and has in fact increased, undocumented migration to the US, since it established new migration flows due to networks and family ties” (p.9). Others, however, have critiqued such general conclusions, especially given the difficulty of separating the effects of a legalization program from the other established determinants of international migration. For example, Baldwin-Edwards and Kraler (2009) note that Levinson fails to provide convincing evidence to support a causal link between the “pull” of IRCA and increased undocumented immigration, as “she does not discuss whether the growth of irregular migration to the US has been coincidental or whether it can be attributed to the pull effects of the 1986 regularisation” (p. 24).<sup>4</sup> Moreover, after analysing year-to-year changes in various population components, Woodrow and Passel (1990) find that there are no significant differences attributable to unauthorized immigration when comparing the pre- (1979-1986) and post-IRCA (1986-1988) periods (p. 66). In a more recent study, Orrenius and Zavodny (2003) analyse and compare unauthorized immigration flows immediately after the passage of IRCA, during the application period, and after its expiration (when undocumented immigrants could no longer apply for the legalization). Utilizing official apprehension data and using the number of individuals apprehended at the border upon attempting to enter the US without authorization as a proxy for unauthorized immigration (see also Espenshade, 1995), they find a decline in apprehension rates in the six months after the passage of IRCA. After this period they find an increase in apprehension rates, which brought unauthorized immigration flows back to pre-IRCA levels. Altogether, the authors conclude, “Our findings suggest that the amnesty program did not change long-term patterns of undocumented immigration from Mexico” (p. 437).

Related research has warned against ignoring the well-documented determinants of international migration (for example, see Ravenstein 1885, 1889; Lee, 1966; Massey et al., 1993) when evaluating the moral hazard of legalization. For example, Bean et al. (1990) offer this caution when interpreting changes in patterns of post-IRCA unauthorized immigration flows: “Even a straightforward examination of seemingly relevant statistics must be undertaken with caution, because the values of such statistics may fluctuate over time as a result of both IRCA-related and non-IRCA-related

factors” (p.113). Accordingly, and in line with established theories of the determinants of international migration, research on post-IRCA unauthorized immigration flows has highlighted the influence and the enduring role that economic factors play in determining unauthorized immigration (Bean et al., 1990; Orrenius & Zavodny, 2003; Massey, Donato, & Liang, 1990; see also Castles & Miller, 2009). To illustrate, Orrenius and Zavodny (2003) find a significant relationship between the decline in border apprehensions post-IRCA and an increase in the real average of the manufacturing wage in Mexico, which suggests that certain economic “push” factors may be more influential than the potential “pull” of legalization (p. 446). Additionally, Bean et al. (1990) find evidence of declining unauthorized immigration from Mexico during the late 1970s and early 1980s, a period of growth for the Mexican economy, whereas border apprehensions increased during the mid-1980s, a period of economic downturn in Mexico.

In addition to neo-classical economic theories which focus on individual incentives, structural economic conditions add further nuance in our attempts to explain patterns in unauthorized immigration flows.<sup>5</sup> For example, an Organization for Economic Cooperation and Development (OECD) study (2000) notes that, despite several legalization programs, Italy’s undocumented immigrant population has grown. Rather than attributing this to a *prospective* moral hazard, wherein undocumented immigrants have been “pulled” to Italy in hopes of a future legalization, the OECD Secretariat describes unauthorized immigration in Italy as an “endogenous phenomenon” that owes significantly to the persistence and growth of the country’s informal and underground economies (p. 64-5). Indeed, unauthorized immigration and the informal economy have long been intricately linked (Castles & Miller, 2009; Piore, 1979; Kloosterman, Van der Leun, & Rath, 1998; Cornelius & Rosenblum, 2005; Massey et al. 1993). As Castles and Miller (2009) write, “[unauthorized] migration is not always as ‘unwanted’ as is made out: employers often benefit from cheap workers who lack rights” (p. 306). Thus, addressing immigrant illegality via legalization programmes without addressing the structural demand for cheap labour that exists across most advanced industrialized democracies (Piore, 1979) is unlikely to solve the policy dilemmas posed by unauthorized immigration. To further concretize this point, Joppke (1998) notes that IRCA was ultimately unable to deter future unauthorized immigration flows because the employer sanctions that were part of the political compromise that led to the legalization were simply not enforced. In other words, immigrants continued to come to the US without authorization because there were jobs available to them – not necessarily because of their hopes for a future legalization (see also Bustamante, 1990; Cornelius, 1983, 1990; more recently, Leerkes, Bachmeier, & Leach, 2013). In fact, in his study of three traditional immigrant-sending communities in Mexico, Cornelius (1990) found that despite the new employer sanctions that came with IRCA, undocumented immigrants who immigrated post-IRCA (1987-1989) were more optimistic about getting a job in the US than those who immigrated before IRCA (1982-1986).

Altogether, for a legalization programme to be effective it must also address the actual determinants of unauthorized immigration in the first place (Baldwin-Edwards & Kraler, 2009). At the same time, evaluating legalization programmes, including questions related to moral hazard, hinges on the availability of valid and reliable data, which Baldwin-Edwards & Kraler (2009) describe “an appalling lack of” (p. 44).

While concerns about the moral hazard of legalization are routinely voiced in immigration policy debates, empirical evidence on this issue is lacking. Given the strategic “firewalls” that legislators build into legalization programmes, as well as the broader complexities described above that help explain patterns in unauthorized immigration flows, we argue that concerns over the moral hazard of legalization – either *concurrent* or *prospective* – are overstated. Whereas previous empirical research has relied on analysis of population trends or border apprehension data, we analyse the moral hazard of legalization from a different perspective. Utilizing survey evidence from the Mexican Migration Field Research Program, we analyse whether knowledge about a prospective legalization programme in the US increases the likelihood that a respondent expresses an intent to

migrate. This, to the best of our knowledge, is the only such study that empirically analyses the moral hazard of legalization using survey data on prospective migrants.

## DATA AND METHOD

The MMFRP is housed at the Centre for Comparative Immigration Studies (CCIS) at the University of California, San Diego. Since 2005, a bi-national team of researchers has conducted annual fieldwork in one of three immigrant-sending communities in Mexico: Tlacuitapa, Jalisco, Tunkás, Yucatán and San Miguel de Tlacotepec, Oaxaca. The MMFRP employs a mixed-methods research approach with fieldwork consisting of standardized survey research and qualitative semi-structured interviews. For the purposes of our study, we utilized data from the 2007 MMFRP conducted in Tlacuitapa, Jalisco. While we do not claim data from this specific community is generalizable to all of Mexican migration, we contend that Tlacuitapa is representative of other rural, high-emigration Mexican towns. Cornelius, FitzGerald, and Borger (2009) described the region in which Tlacuitapa is located as “the historic cradle of Mexican migration” to the United States (p. vii). This is largely due to the fact that Jalisco has been one of the Mexican states with the highest rates of out-migration to the United States (Cornelius, 2007). Moreover, scholars utilize Tlacuitapa as a “microcosm” of Mexican migration because the realities of rural Tlacuitapa mirror the factors that the literature has found to encourage and perpetuate broader unauthorized migratory flows, such as limited agricultural opportunity due to an arid climate, a sluggish economy, substantial migration as part of the Bracero Programme toward the middle of the 20<sup>th</sup> century and continued dependence on unauthorized trips north after its termination, participation in the legalization provisions of IRCA, and a subsequent growing network of social ties due to multiple generations of migration (Alarcón, FitzGerald, & Muse-Orlinoff, 2011, p. 9; Cornelius, 2007).

Utilizing data from the 2007 MMFRP, we model the likelihood that a respondent expresses an intent to migrate to the US as follows:

$$Pr(Intent_i = 1|X_i) = \beta_0 + \beta_1(Knowledge\ of\ Proposal) + \beta'_2(Network) + \beta'_3(SES) + \epsilon$$

where *Intent* represents “yes” to the question, “have you thought about going to the United States in the upcoming year?”<sup>6</sup> *i* refers to each respondent in our sample. With respect to *Knowledge of Proposal*, respondents in the 2007 MMFRP were asked if they knew or had heard about then-President Bush’s immigration proposal. If yes, respondents were then asked a follow-up question about the specific components of the proposed legislation, including the legalization aspect. *Knowledge of Proposal* is thus a dichotomous variable that takes on a value of 1 if the respondent knows about the legalization aspect of the immigration proposal.  $\beta'_2$  is a vector of network-related variables that pull or push individuals to migrate, including a *prior history* of migrating to the US (a pull factor) and whether the respondent feels that people *must migrate* to the US for a better life (a push factor). *Prior history* of migrating to the US serves as a “pull” not only because of reduced costs and risks (Massey et al., 1993), but also because of the informational advantages that come with each migratory experience (Pérez-Armendáriz & Crow, 2011), as well as the increased potential to send remittances back to Mexico (Adida & Girod, 2011; Constant & Zimmermann, 2012).  $\beta'_3$  is a vector of socio-economic status variables that previous literature has identified as being important for individual decisions to migrate. These include *gender*, *age*, whether an individual has *children*, *education*, and whether an individual is *married* (see, e.g. Constant & Zimmerman, 2012; Kim & Cohen, 2010; Lee, 1966; Massey et al., 1993; Ravenstein, 1885, 1889). We complement the logistic regression analysis with propensity score matching (PSM).

2007 is a particularly salient period in US immigration politics (for example, see Wong, 2016). In 2006, an estimated 5 million people marched in over 300 coordinated demonstrations across the country in response to the passage of H.R. 4437, which sought to criminalize unlawful presence in the US, which is currently a civil offence (see Title II, “Combating Alien Smuggling and Illegal Entry and Presence”). Section 202 of the bill also criminalized association with undocumented immigrants, as it subjected to criminal penalties anyone who “assists, encourages, directs, or induces a person to reside in or remain in the United States.” Because H.R. 4437 was viewed as an attack on immigrant communities, millions marched under the banner, “Today we march, tomorrow we vote.” Against this backdrop, the Senate debated and passed a comprehensive immigration reform bill (S. 2611) that, unlike the “enforcement first” approach of H.R. 4437, included a path to citizenship for undocumented immigrants. However, by the end of 2006, neither H.R. 4437 nor S. 2611 would become law, as the Senate did not vote on the House bill and the House did not vote on the Senate bill. These events – the passage of H.R. 4437, the nationwide mobilization of immigrant communities in response to it, and then the passage of S. 2611 – created much anticipation about what a new Congress (the 110<sup>th</sup> Congress) would do about comprehensive immigration reform in 2007.

In 2007, the Senate debated the Comprehensive Immigration Reform Act of 2007. Title I of the bill focused on border security. Title II focused on interior immigration enforcement. Title III focused on E-Verify and the employment of undocumented workers. Titles IV and V focused on legal admissions reform. Importantly, the bill included a path to legal status for undocumented immigrants. As the Senate introduced and debated 351 amendments to the bill and took thirty-two roll-call votes, the MMFRP was interviewing prospective migrants in Mexico.

We use the 2007 MMFRP, which included 861 respondents in both Mexico and the US. We exclude all US respondents. We further exclude individuals who were born in the US, are naturalized citizens, or are legal permanent residents. We refer to the resulting sample of 542 people as prospective (undocumented) migrants. Table 1 reports the differences-in-means by knowledge of legalization for the sample.

Before moving forward, it is important to acknowledge the limitations of using the MMFRP data. As the recruitment of survey respondents is not random great care should be taken when making any generalizations. Still, given a paucity of existing research on the moral hazard of legalization, as well as a paucity of data sources, we see the analysis of the MMFRP data as an important advance in this area of empirical inquiry. Moreover, as the MMFRP is not longitudinal, it is not possible to map migration intent (*Intent*) onto actual immigration. It should further be noted that although we describe our sample as prospective (undocumented) migrants, it is possible that some of these individuals can legally immigrate to the US. However, on this point, family- and

TABLE 1  
DIFFERENCE-IN-MEANS

	Intent = 1	Intent = 0	Diff	p-value
Knowledge of Proposal	.492	.506	-.014	.783
Prior Migration History	.371	.282	.089	<b>.059</b>
Must Migrate	.632	.552	.080	.130
Gender (Male = 1)	.445	.353	.092	<b>.066</b>
Age	34.0	36.2	-2.2	.154
Children (Yes = 1)	.541	.614	-.073	.152
Years of Education	5.9	5.9	0.0	.993
Married	.607	.647	-.040	.413

employment-based immigration policies in the US are such that although it is possible for a person from Tlacuitapa to legally immigrate to the US, this is highly improbable.

### Should I Stay? Or Should I Go?

Of our 542 prospective (undocumented) migrants, 418 or 77.1 per cent indicated no intent to migrate. This means that only 124 people or 22.9 per cent of our sample expressed an intent to migrate. Among those who expressed an intent to migrate, just under half knew of the prospective legalization (61 out of 124 or 49.2%). Accordingly there is no significant bivariate relationship between knowing about the legalization and intent to migrate to the US ( $p = .783$ ). Moreover, as Table 1 shows, while those who have been to the US before ( $p = .059$ ) and men ( $p = .066$ ) are more likely to express an intent to migrate, there are no other significant patterns that emerge when evaluating the bivariate relationships between our variables.

### Multivariate Analysis

The multivariate analysis confirms our main expectation. Table 2 reports the results of the multivariate analyses. Model 1 looks only at the relationship between knowing about legalization and the likelihood of expressing an intent to migrate. Model 2 accounts for network and socio-economic status factors. Models 3 to 5 estimate the effects of *age*, *children*, *education*, and being *married* separately to avoid multicollinearity.

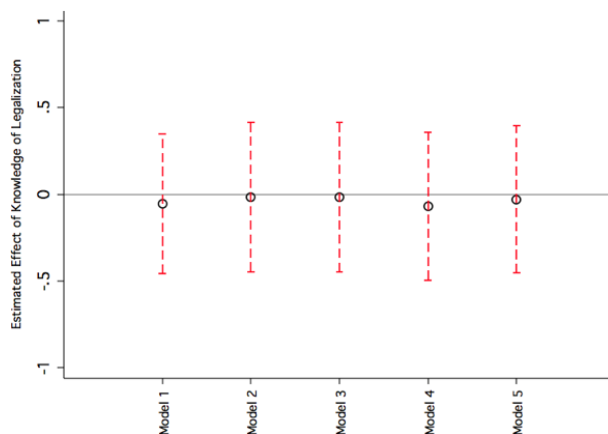
As Table 2 shows, knowing about legalization is not significantly related to a prospective migrant's intent to migrate. This result holds across each of our model specifications, which we

TABLE 2  
MULTIVARIATE ANALYSIS

	Model 1	Model 2	Model 3	Model 4	Model 5
Knowledge of Proposal	-.057 (.205)	-.015 (.219)	-.016 (.220)	-.068 (.217)	-.029 (.217)
<b>Network</b>					
Prior Migration History	—	.386 (.304)	.354 (.293)	.213 (.277)	.343 (.298)
Must Migrate	—	<b>.387*</b> (.224)	<b>.385*</b> (.226)	.341 (.223)	.353 (.222)
<b>SES</b>					
Gender (Male = 1)	—	.244 (.263)	.194 (.270)	.281 (.258)	.225 (.267)
Age	—	<b>-.019**</b> (.009)	—	—	—
Children (Yes = 1)	—	—	<b>-.506**</b> (.232)	—	—
Years of Education	—	—	—	.016 (.031)	—
Married	—	—	—	—	-.383 (.243)
Constant	<b>-1.170***</b> (.144)	<b>-1.037***</b> (.344)	<b>-1.383***</b> (.260)	<b>-1.687***</b> (.315)	<b>-1.406***</b> (.263)
N	535	509	506	510	511

Multivariate logistic regression with robust standard errors. \*\*\* significant at the .01 level. \*\* significant at the .05 level. \* significant at the .10 level.

FIGURE 1  
EFFECT OF KNOWLEDGE OF PROPOSED LEGALIZATION ON INTENT TO MIGRATE TO U.S.



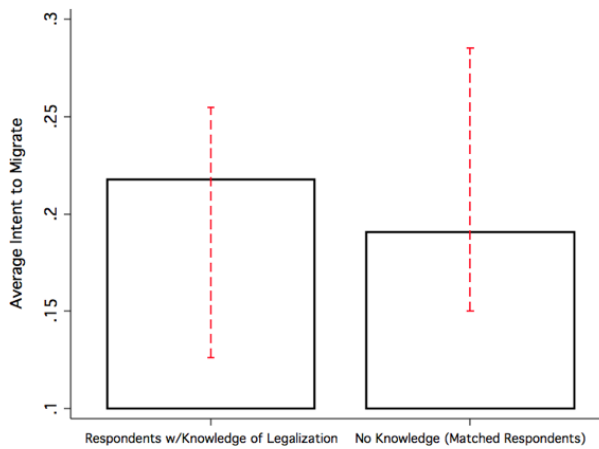
depict in Figure 1. Moreover, the direction of the relationship between knowing about a prospective legalization and intent to migrate is consistently negative (a result foreshadowed in the bivariate analysis). As Models 2 and 3 in Table 2 show, feeling that one must migrate to the US for a better life (the push factor) is consistently positively and weakly significantly related to an intent to migrate. At the same time, the results also show that there are compelling reasons for respondents to not express an intent to migrate. As Model 2 shows, as age increases, the likelihood of expressing an intent to migrate significantly decreases. Moreover, as Model 3 shows, having children also significantly decreases the likelihood of expressing an intent to migrate.

Surprisingly, the significance of the effect of having been to the US before (the pull factor) disappears in the multivariate analysis, but having the opinion that one must migrate to the US in order to have a better life (the push factor) becomes weakly significant in some models. A check on the correlation between these two network variables shows that multicollinearity is not an issue ( $r = .035$ ). Moreover, while age and having children are significantly related to the intent to migrate, education and being married are not.

In order to deepen our analysis, we use propensity score matching to compare individuals who indicate knowledge about the prospective legalization with other individuals with similar network and socio-economic status characteristics. The advantage of this method, particularly with respect to nonrandomized observational studies, is that it collapses each of the variables in the multivariate analysis into a single dimension in the form of the propensity score, which can then be used to match comparable individuals in the analysis (see Guo and Fraser, 2010; Becker and Ichino, 2002). In other words, is the likelihood of expressing an intent to migrate systematically higher or lower among individuals who know about the prospective legalization compared with individuals who do not, *and* who have similar propensity scores (i.e. that are comparable with respect to the factors included in the multivariate analysis)?

The first step in the PSM analysis is the estimation of the propensity score, which is the likelihood of knowing about the prospective legalization conditional on the covariates included in the multivariate analysis. Propensity scores are then used to match respondents who knew about the legalization with respondents who did not know about the legalization. We use nearest neighbour and radius (caliper = .001) matching algorithms. Before analysing matched observations, additional steps are needed to ensure common support, meaning “treated” observations have matched “untreated” observations to compare against, and balancing, meaning that the distribution of the

FIGURE 2  
PROPENSITY SCORE MATCHING ANALYSIS RESULTS



covariates across the matched observations are not biased (see Appendix for histogram showing common support, as well as for balancing results; for detailed discussion, see Caliendo & Kopeinig, 2005). Figure 2 shows the results of the propensity score matching analysis. The figure shows the percentage of those who expressed an intent to migrate among respondents who knew about the legalization and the commensurate percentage for matched respondents who did not know about the legalization. As the error bars around the means for both groups indicates, the difference is not statistically significant ( $p = .564$ ). In other words, the PSM analysis confirms the insignificant effect of knowing about the prospective legalization on the intent to migrate.

## DISCUSSION AND CONCLUSION

Our analysis of over 500 prospective (undocumented) Mexican migrants who were surveyed during the 2007 MMFRP shows that knowledge regarding a proposed legalization programme in the US does not affect whether an individual expresses an intent to migrate. The logic of the moral hazard of legalization suggests that the legalization of undocumented immigrants incentivizes further unauthorized immigration, which creates the expectation that those with knowledge of the proposed legalization program in the US (at least per this logic) should have been more likely to express an intent to migrate. However, not only is there no significant difference in the intent to migrate between those with (49.2%) and without (50.8%) knowledge of the proposed legalization ( $p = .783$ ), but this result also holds when accounting for a range of potential confounding factors, across several multivariate model specifications, and for comparable respondents matched using PSM analysis.

One important issue to consider when interpreting these results is the potential social desirability bias in the survey data we analyse. It may be the case, particularly given the highly politicized nature of unauthorized immigration from Mexico to the US, that respondents in Mexico are less likely to express their “true” intent to migrate to the US when US-based researchers are the ones who are asking the questions. Moreover, respondents may be even less likely to connect their intent to migrate to a proposed legalization program. This may very well be the case. However, we note here that the question regarding the intent to migrate is positioned in a different part of the MMFRP survey from the question about knowledge of the proposed legalization programme. Although this does not entirely eliminate social desirability bias, it does minimize it slightly.

It is also important to consider how well the MMFRP survey questions and answers map onto the reality of the actual phenomenon under study. In terms of the *concurrent* moral hazard of legalization, the 2007 MMFRP was conducted during a time that immigration was a salient political issue (Hopkins, 2010) and when a path to citizenship for undocumented immigrants living in the US was being hotly debated in Congress (for example, see Comprehensive Immigration Reform Act of 2006 and Comprehensive Immigration Reform Act of 2007). However, how a *proposed* legalization and an *enacted* one affects an individual's or a family's intent to migrate is likely to differ significantly. Per the logic of the moral hazard of legalization, the potential "pull" of legalization is more powerful in the latter scenario, which means that our results may be an understatement of the actual moral hazard effect. In terms of the *prospective* moral hazard of legalization, the *intent* to migrate is not the same as the *act* of immigration. Indeed, individuals who express an intent to migrate may never leave their homes and, conversely, those who do not express an intent to migrate may one day find themselves immigrating to the US. Altogether, surveying the attitudes of prospective (undocumented) Mexican migrants immediately after an enacted legalization programme in the US, and then following respondents longitudinally to see who in fact immigrates, would provide a richer pool of data in which to analyse the moral hazard of legalization. Such data, however, currently do not exist.

In our analysis of the available data, we see no difference in the intent to migrate among respondents who knew, and did not know about the proposed legalization program in 2007. While more research is needed, this suggests that concerns about the moral hazard of legalization are overstated.

Does the prospect of legalization in the US lead to more unauthorized immigration from Mexico? In other words, is there a moral hazard effect that comes with the legalization of undocumented immigrants? We conceptualize and distinguish between two distinct temporal aspects when it comes to the moral hazard of legalization. Regarding the *concurrent* moral hazard of legalization, we argue that unauthorized immigration is unlikely to increase as the result of a legalization programme because of the "strategic firewalls" that legislators build into immigration reform legislation in the form of residency and continuous presence requirements. Regarding the *prospective* moral hazard of legalization, we argue that concerns that legalization today will increase unauthorized immigration tomorrow ignore the complexities of unauthorized migration flows, as well as the broader range of factors that explain international migration.

Our analysis of the 2007 Mexican Migration Field Research Program survey, which included over 500 prospective (undocumented) migrants, demonstrates that knowledge of a proposed legalization program in the US does not affect an individual's intent to migrate. There is no significant difference in the intent to migrate between those with and without knowledge of the proposed legalization and this result holds when accounting for a range of potential confounding factors, across several multivariate model specifications, and for comparable respondents matched using PSM analysis.

Given a paucity of existing research and data sources, we regard this analysis as an important step in the development of a more expansive literature on the relationship between legalization and migration. Future research can benefit from longitudinal studies of prospective migrants that include political knowledge questions related to the immigration policies of immigrant-receiving countries. To the extent that such studies followed prospective migrants through the entire migratory process, this would mark a significant advance in the literature. Moreover, an important complement to this form of survey-based research is the analysis of actual migratory patterns. Here, regression discontinuity designs centred on migratory patterns before and after major immigration policy shifts can also add greatly to our understanding.

As the legalization of undocumented immigrants remains a core aspect of the comprehensive immigration reform debate in the US, and as undocumented populations grow across many immigrant-receiving countries, such studies can play an important role in bringing empirical evidence to bear on this highly contentious policy issue.

## NOTES

1. *S.744 and the Immigration Reform and Control Act*, 2013, p. 113
2. According to Hale (2009), the concept of moral hazard dates back to at least the emergence of the modern insurance industry. For an historical review, see Rowell and Connelly (2012).
3. We are not the first to relate the concern of moral hazard to a legalization program of undocumented immigrants. For example, Rosenblum (2010) explains how an argument against legalization is that it “may create a type of moral hazard problem by encouraging ‘speculative’ illegal immigration in the future” (p. 2).
4. Cornelius (1990) also attributes an apparent increase in immigration to the IRCA legalization (p. 237). However, like Baldwin-Edwards and Kraler (2009), he too cautions that many of these individuals would likely have immigrated anyway without the “pull” of a legalization programme.
5. Although we focus on structural barriers related to the economy, structural barriers that stem from political roots – regime type, for example – can also impede international migration (Breunig, Cao & Luedtke, 2012; Mirilovic, 2010; see also, Hollifield and Wong, *forthcoming*; Hooghe et al., 2008).
6. ¿Para este nuevo año, ha pensado en irse a los EEUU?

## REFERENCES

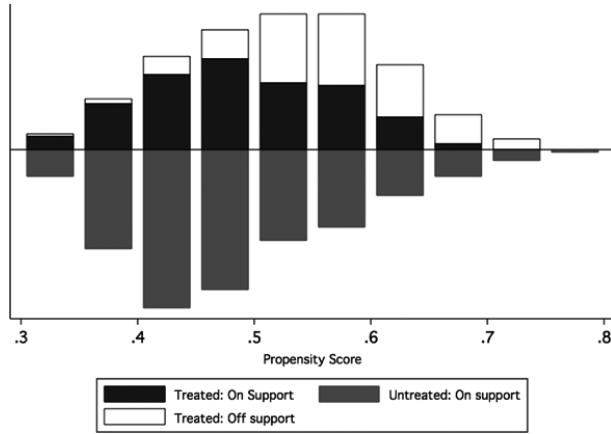
- Adida, C., and D. Girod  
2011 “Do migrants improve their hometowns? Remittances and access to public services in Mexico, 1995-2000”, *Comparative Political Studies*, 44(1): 3–27.
- Alarcón, R., D.S. FitzGerald, and L. Muse-Orlinoff (Eds)  
2011 *Recession without borders: Mexican migrants confront the economic downturn*, Center for Comparative Immigration Studies, La Jolla, CA.
- Baldwin-Edwards, M., and A. Kraler (Eds)  
2009 *Regularisations in Europe: Study on practices in the area of regularization of illegally staying third-country nationals in the member states of the EU*, International Center for Migration Policy Development (ICMPD), Vienna, Austria.
- Barrett, T., D. Bash, and D. Walsh  
2013 Immigration Q&A: Amnesty or path to citizenship? *CNN*. Retrieved from <http://www.cnn.com/2013/01/28/politics/immigration-qa/index.html>
- Bean, F., et al.  
1990 “Post-IRCA changes in the volume and composition of undocumented migration to the United States: An assessment based on apprehensions data”, in F. Bean, B. Edmonston, and J. Passel (Eds), *Undocumented migration to the United States: IRCA and the experience of the 1980s*, The Urban Institute, Washington DC: 111–158.
- Becker, S., and A. Ichino  
2002 “Estimation of average treatment effects based on propensity scores”, *Stata Journal*, 2(4): 358–377.
- Breunig, C., X. Cao, and A. Luedtke  
2012 “Global migration and political regime type: A democratic disadvantage”, *British Journal of Political Science*, 42(4): 825–854.
- Bustamante, J.A.  
1990 “Undocumented migration from Mexico to the United States: Findings of the Zapata Canyon Project”, in F. Bean, B. Edmonston, and J. Passel (Eds), *Undocumented migration to the United States: IRCA and the experience of the 1980s*, The Urban Institute, Washington DC: 211–226.
- Castles, S., and M. Miller  
2009 *The age of migration: International population movements in the modern world* (4th edn.), Palgrave Macmillan, New York, NY.
- Chishti, M., and C. Kamasaki  
2014 *IRCA in retrospect: Guideposts for today’s immigration reform*, Migration Policy Institute, Washington, DC.

- Constant, A.F., and K.F. Zimmermann  
 2012 “The dynamics of repeat migration: A Markov Chain analysis”, *International Migration Review*, 46 (2): 362–388.
- Cornelius, W.A.  
 1983 “Simpson-Mazzoli vs. the realities of Mexican immigration”, in W.A. Cornelius, and R. A. Montoya (Eds), *America’s new immigration law: Origins, rationales, and potential consequences*, Center for U.S.-Mexican Studies, La Jolla, CA: 139–149  
 1990 “Impacts of the 1986 U.S. immigration law on emigration from rural Mexican sending communities”, in F. Bean, B. Edmonston, and J. Passel (Eds), *Undocumented migration to the United States: IRCA and the experience of the 1980s*, The Urban Institute, Washington, DC: 227–250.  
 2007 “Introduction: Does border enforcement deter unauthorized immigration?”, in W.A. Cornelius, and J.M. Lewis (Eds), *Impacts of border enforcement on Mexican migration: The view from sending communities*, Center for Comparative Immigration Studies, La Jolla, CA: 1–15  
 2012 “Mexican Americans”, in B. Portnov, and C. Riggs (Eds), *Immigrant struggles, immigrant gifts*, George Mason University Press, Fairfax, VA: 195–210.
- Cornelius, W.A., D. Fitzgerald, and S. Borger (Eds)  
 2009 *Four generations of nortēños: New research from the cradle of Mexican migration*, Center for Comparative Immigration Studies, La Jolla, CA.
- Cornelius, W.A., and M.R. Rosenblum  
 2005 “Immigration and politics”, *Annual Review of Political Science*, 8(1): 99–119.
- Crepaz, M., and R. Damron  
 2009 “Constructing tolerance: How the welfare state shapes attitudes about immigrants”, *Comparative Political Studies*, 42(3): 437–463.
- Espenshade, T.J.  
 1995 “Using INS border apprehension data to measure the flow of undocumented migrants crossing the U.S.-Mexico frontier”, *International Migration Review*, 29(2): 545–565.
- González Baker, S.  
 1990 *The cautious welcome: The legalization programs of the Immigration Reform and Control Act*, The Urban Institute, Washington, DC.
- Guo, S., and M. Fraser  
 2010 *Propensity Score Analysis: Statistical Methods and Applications*, Sage, Los Angeles, CA.
- Hero, R., and R. Preuhs  
 2007 “Immigration and the evolving American welfare state: Examining policies in the US states”, *American Journal of Political Science*, 51(3): 498–517.
- Hooghe, M., et al.  
 2008 “Migration to European countries: A structural explanation of patterns, 1980–2004”, *International Migration Review*, 42(2): 476–504.
- Hopkins, D.  
 2010 “Politicized places: Explaining where and when immigrants provoke local opposition”, *American Political Science Review*, 104(1): 40–60.
- Joppke, C.  
 1998 “Why liberal states accept unwanted immigration”, *World Politics*, 50(2): 266–293.
- Kim, K., and J. Cohen  
 2010 “Determinants of international migration flows to and from industrialized countries: A panel data approach beyond gravity”, *International Migration Review*, 44(4): 899–932.
- Kraler, A.  
 2009 Regularisation: A misguided option or part and parcel of a comprehensive policy response to irregular migration? (IMISCOE Working Paper No. 24). Retrieved March 22, 2014, <http://dare.uva.nl/document/138178>
- Kloosterman, R., J. der Leun, and J. Rath  
 1998 “Across the border: Immigrants’ economic opportunities, social capital and informal business activities”, *Journal of Ethnic and Migration Studies*, 24(2): 249–268.
- Lee, E.S.  
 1966 “A theory of migration”, *Demography*, 3(1): 47–57.

- Leerkes, A., J. Bachmeier, and M. Leach  
2013 "When the border is 'Everywhere': State-level variation in migration control and changing settlement patterns of the unauthorized immigrant population in the United States", *International Migration Review*, 47(4): 910–943.
- Levinson, A.  
2005 *The regularisation of unauthorized migrants: Literature survey and country case studies*, Centre on Migration, Policy, and Society, Oxford.
- Massey, D.S., Donato K.M., and Liang Z.  
1990 "Effects of the Immigration Reform and Control Act of 1986: Preliminary data from Mexico", in F. Bean, B. Edmonston, and J. Passel (Eds), *Undocumented migration to the United States: IRCA and the experience of the 1980s*, The Urban Institute, Washington, D.C.: 183–210.
- Massey, D.S., et al.  
1993 "Theories of international migration: A review and appraisal", *Population and Development Review*, 19(3): 431–466.
- Massey, D.S., and K. Pren  
2012 "Unintended consequences of US immigration policy: Explaining the post-1965 surge from Latin America", *Population and Development Review*, 38(1): 1–29.
- Mirilovic, N.  
2010 "The politics of immigration: Dictatorship, development, and defense", *Comparative Politics*, 42(3): 273–292.
- OECD  
2000 *Combating the illegal employment of foreign workers*, Organization for Economic Cooperation and Development, Paris.
- Orrenius, P.M., and M. Zavodny  
2003 "Do amnesty programs reduce undocumented immigration? Evidence from IRCA", *Demography*, 40(3): 437–450.
- Pérez-Armendáriz, C., and D. Crow  
2010 "Do migrants remit democracy? International migration, political beliefs, and behavior in Mexico", *Comparative Political Studies*, 43(1): 119–148.
- Piore, M.  
1979 *Birds of passage: Migrant labor and industrial societies*, Cambridge University Press, New York, NY.
- Ravenstein, E.G.  
1885 "The Laws of Migration", *Journal of the Statistical Society of London*, 48(2): 167–235.  
1889 "The Laws of Migration", *Journal of the Royal Statistical Society*, 52(2): 241–305.
- Rosenblum, M.R.  
2010 *Immigration legalization in the United States and European Union: Policy goals and program design*, Migration Policy Institute, Washington, DC.
- Rowell, D., and L.B. Connelly  
2012 "A history of the term 'moral hazard'", *Journal of Risk and Insurance*, 79(4): 1051–1075.
- S.744 and the Immigration Reform and Control Act of 1986: Lessons learned or mistakes repeated?: Hearing before the Committee on the Judiciary, *House of Representatives*, 113<sup>th</sup> Cong. 1  
2013 Retrieved March 22, 2014, [http://judiciary.house.gov/\\_cache/files/3498f4a0-82f4-4902-a73b-da2d54055f44/113-30-81174.pdf](http://judiciary.house.gov/_cache/files/3498f4a0-82f4-4902-a73b-da2d54055f44/113-30-81174.pdf)
- Woodrow, K.A., and J. Passel  
1990 "Post-IRCA undocumented immigration to the United States: An assessment based on the June 1988 CPS" in F. Bean, B. Edmonston, and J. Passel (Eds), *Undocumented migration to the United States: IRCA and the experience of the 1980s*, The Urban Institute, Washington, DC: 33–72.

APPENDIX

APPENDIX FIGURE A1  
COMMON SUPPORT HISTOGRAM FOR PROPENSITY SCORE MATCHING ANALYSIS



APPENDIX FIGURE A2  
ESTIMATED TREATMENT EFFECT ACROSS THE RANGE OF PROPENSITY SCORES [COLOUR FIGURE CAN BE VIEWED AT WILEYONLINELIBRARY.COM]

