The Substitutability of Internal and International Migration at the End of the Era of Mass Mexican Emigration

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INTRODUCTION

Mexican migration to the United States—a well-chronicled phenomenon that dates back more than a Century (Durand, Massey, and Parrado 1999)—was, until recently, the largest cross-border flow of people in the world (Abel and Sander 2014). As Mexican migration streams grew in magnitude, triggered by U.S. labor demand, but facilitated by the proliferation of family and community social connections to prior migrants (Massey et al. 1999), the transnational linkages created by migration altered local social and economic structures in sending areas (Massey, Goldring, and Durand 1994). In many sending communities—perhaps particularly so in places with larger reliance on remittance flows these transformations made international mobility a more viable strategy to cope with economic uncertainty than other types of household and community responses, including internal movement. As a result, despite the greater relevance of internal migration as a demographic response to social and economic trends in Mexico (Sobrino 2010), international migrant networks became strong enough that many communities "specialized" in international over internal movement (Lindstrom and Lauster 2001).

Notwithstanding its demographic, social, economic (and cultural) relevance, Mexico-U.S. migration has experienced a deep transformations in recent times that run contrary to broader historical patterns. The most recent Era of larger net migrant flows from Mexico to the United States ended over a decade ago, leading to a regime—still in place today—of net-zero flows between the two countries, produced by much smaller outmigration and much larger return migration than in the prior two decades (Gonzalez-Barrera 2015).[1]

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[1] Since a little over a decade ago, outmigration from Mexico to the United States has fallen by half, from 2.9 million in 1995–1999 to 1.4 million in 2005–2009 (Passel, Cohn and Gonzalez-Barrera 2012). Between the same two periods, the number of people moving from the U.S. to Mexico more than doubled, growing from 670,000 to

These transformations resulted from both secular and more sudden and disruptive changes in the Mexican and U.S. political economies (Hanson, Liu, and McIntosh 2017; Villarreal 2014).[2] Despite important on-going shifts in the fabric of Mexican communities (Burkham 2014; Hanson et al. 2017), the sudden extent and large magnitude of the shifts—especially the spike in return migration—may have important consequences for sending communities. Lower U.S. labor demand and higher costs of migration have dissuaded many working-age Mexican adults from attempting the trek to *El Norte* (Hanson et al. 2017; Villarreal 2014)—an important avenue for economic and social advancement. These would-be U.S.-migrants must now resort to alternative or substitutable mobility strategies.

The implications of changing patterns of Mexico-U.S. migration extend beyond the migrants themselves. In particular, the considerable increase in return migration from the United States was disproportionately directed to some of the most attractive destinations for internal Mexican migrants, namely the largest metropolitan areas as well as border cities (Masferrer and Roberts 2012; Villarreal and Hamilton 2012). Assuming return migrants from the United States compete in and crowd labor markets/occupations traditionally sought after by internal migrants, these inflows could affect the calculations of other Mexicans in ways that increase (decrease) internal mobility out of (into) them.

To examine the relationship between recent changes in Mexico-U.S. migration and internal Mexican migration, we combine the strengths of two nationally-representative data

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roughly 1.4 million and thus leading to a net zero balance in population exchanges between both countries (Passel et al. 2012), which has persisted ever since (PRC 2015, 2017).

[2] A growing body of evidence suggests that—triggered by the U.S. Housing Bust and ensuing Global Financial Crisis (Villarreal 2014)—U.S.-immigration enforcement has become increasingly effective in deterring undocumented Mexican migration due to rising smuggling fees and harsher detention policies (Angelucci 2012; Martínez, Slack, and Martinez-Schuldt 2018; Massey, Durand, and Pren 2015; Villarreal 2014). At the same time, economic growth and rising wages in Mexico between 2008-2015 have reduced Mexicans' economic incentive to travel north (Hanson, Liu, and McIntosh 2017).

sources. First, we use short-panel prospective data at the individual level from the 2005-2017 Mexican National Survey of Employment and Occupations (ENOE). The ENOE tracks households for five consecutive quarters. Thus, internal emigration can be observed prospectively according to reports from left-behind household members. Due to its prospective nature, the ENOE allows for controlling for important pre-migration characteristics and thus a more complete assessment of the way in which the differential selectivity of international and internal migrants may affect the dynamics of substitution. The rewards of Mexico's economic growth have been uneven (Marteleto et al. 2012; Parrado 2005). Economic restructuring and the expansion of lower-secondary education (grades 7-9) caused wages and occupational mobility to stagnate among Mexicans with less than a high school degree (Passell, Cohn, and Gonzalez-Barrera 2012; Torche 2014). As a result, not all Mexicans can expect the same reward for internal relocation. In our analysis, we investigate whether the substitution of internal migration for international movement is conditional on completion of high school.

Second, we use aggregate-level intermunicipal flows from the 2000 and 2010 Mexican Census 10% long-form samples to estimate changes in flows between 2005-2009 and 1995-1999. The combined use of two aggregated Censuses allow us to assess the (difference-in-difference) "effect" of a change in the intensity of international out- and in-migration on changes in the intensity of internal migration. In addition, the sampling frame and size of the Census surveys allow for the assessment of how characteristics in virtually all potential destinations are associated with internal mobility. Ostensibly, this includes the examination on how the growth in international return migration in particular places is associated with changes in internal mobility (from and) towards these areas.

DATA AND METHODS

We assess internal migration patterns at the municipal and individual levels using aggregated data from the 2000 and 2010 Mexican censuses and individual-level panel data from ENOE for the years 2005-2017. At the municipal level, we estimate difference-in-difference gravity models that predict changes in internal migration flows in response to prior changes in U.S.-migration flows. At the individual-level, we estimate the effect of recent changes in municipal U.S.-migration patterns on the risk of a subsequent internal migration controlling for important pre-migration characteristics to further address that internal and international migration are less perfect substitutes of each other at different levels of the "skill" distribution. The ENOE also provides the advantage that it distinguishes between work-related and non-work-related migrations. Consistent with our economic substitution hypothesis, we expect the strongest effects for work-related internal migration. Our key predictor variables are changes in the municipal rates of return U.S.-migration and U.S.-emigration. A positive association between change in origin community return migration and the subsequent rate (municipal level) or odds (individual level) of internal migration would suggest that residents in migrant-sending communities substitute internal migration when U.S.-migration becomes infeasible. By contrast, a negative relationship between destination community return migration and the rate of municipal level internal migration would suggest that increased return migration from the United States can saturate desirable labor markets, dissuading potential internal movers.

PRELIMINARY RESULTS

Our results support the substitution hypothesis for return but less for out-migration. At the municipal level (Table 1), difference-in-difference gravity models show that an aggregate

increase in the rate of origin-community return migration from the United States predicts a

subsequent increase in internal migration – the small risk ratio can be attributed to the fact that

overall Mexico-U.S. migration is only about one tenth of internal Mexican migration. The

destination risk ratio is consistent with the expectation that elevated U.S. return migration

saturates labor markets dissuading prospective internal movers. At the individual level (Table 2),

multinomial logit models show an increase in the risk of work-related internal migration in

response to rising municipal-level return migration. Municipal-level return migration does not

affect the odds of non-work internal migration. A recent return from the United States also

increases the risk of subsequent work-related internal migration (p<0.065). The significant

interaction in Model 2 supports our moderation hypothesis. Although Mexicans with little

schooling were most affected by U.S. enforcement (Villarreal 2014), their more advantaged

peers are paradoxically more likely to substitute internal migration, reflecting differential returns

to education at home versus abroad.

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Table 1. Results from gravity models predicting change in intermunicipal migration flows in 2005-2009 as function of changes in international out- and in-migration in 2005-2009 vs. 1995-1999, people ages 15-54.

Response variable: change in inter-municipal flowsΦ in 2005-1999 (via OLS).	Origin Risk ratio	Sig.	Destination Risk ratio	Sig.
Pct. HHs with 1+ int'l outmigrant (t-5,t)	1.001	N.S.	1.002	N.S.
Pct. HHs with 1+ int'l return migrant (t-5,t)	1.005	*	0.982	***

Notes: model also controls for municipal: population ages 5+ in municipality in t-5, distance and squared distance between origin and destination centroids, marginalization, economic diversity; region & Census year.

Φ Excludes all moves bet. municipalities located within the same metropolitan area.

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ N.S. $p > 0.05$.

Table 2. Odds ratios from multinomial logit models predicting work and non-work internal migration (inter-municipal & inter-state) among working-age Mexicans 2005-2017

	Model 1		Model 2	
	work-related	non-work	work-related	non-work
Completed high school	1.383***	1.039***	1.276***	0.965**
	(17.540)	(3.820)	(9.960)	-(2.660)
Returned from United States within last year	1.238+	1.003	1.247+	1.008
	(1.840)	(0.030)	(1.900)	(0.090)
Pct. HHs with 1+ int'l outmigrant (t-5,t)	1.017***	0.998	1.019***	0.998
	(8.430)	-(1.620)	(8.050)	-(1.480)
Pct. HHs with 1+ int'l return migrant (t-5,t)	1.048***	0.998	1.035***	0.984***
	(10.680)	-(0.750)	(6.610)	-(4.840)
HS*Pct. HHs with 1+ int'l outmigrant (t-5,t)			0.994	1.001
			-(1.370)	(0.200)
HS*Pct. HHs with 1+ int'l return migrant (t-5,t)			1.043***	1.051***
			(4.640)	(8.360)
Constant	0.011***	0.007***	0.011***	0.008***
	-(31.180)	-(45.990)	-(30.950)	-(45.680)
Observations	2,137,453		2,137,453	
Pseudo-R2	0.095		0.095	

+ p<0.1, * p<0.05, ** p<0.01, *** p<0.001

T-statistics in parentheses

HS = Completed high school

Notes: Standard errors were clustered at the municipal level. Models control for: age, age-squared, sex, born out of state, job status, marital status, household composition, household income, community wages, rurality, historic sending state, and border state.