Revisiting Mexican migration in the Age of Mass Migration: New evidence from individual border crossings

David Escamilla-Guerrero

david.escamilla-guerrero@pmb.ox.ac.uk

Pembroke College, University of Oxford

Abstract

I introduce and analyze the Mexican Border Crossing Records (MBCRs), an unexplored data source that records aliens crossing the Mexico-US land border at diverse locations from 1903 to 1955. The MBCRs identify immigrants and report rich demographic, geographic and socioeconomic information at the individual level. These micro data have the potential to support cliometric research, which is scarce for the Mexico-US migration, especially for the beginnings of the flow (1884-1910). My analysis of the MBCRs suggests that previous literature may have inaccurately described the origin of the first Mexican immigrants. My findings diverge from historical scholarship because the micro data capture the geographic composition of the flow at the local level and across nine entrance ports, allowing me to characterize with precision the migration patterns during the 1900s. Overall, the micro data reported in the MBCRs offer the opportunity to address topics that concern the economics of migration in the past and present.

Keywords: migration, micro data, Mexico
JEL Classification Numbers: N01, N36

Acknowledgments: This paper was developed with the financial support of: the Mexican National Council for Science and Technology (2015–18) - Scholarship No. 409165; the Mexican Ministry of Education Scholarship (2015–16); the Radwan Travel and Discovery Fund (2016) - London School of Economics; the Pre-Dissertation Exploratory Grant (2017) - Economic History Association (US); the Research Fund for Graduate Students (2017) - Economic History Society (UK); and the PhD Final Year Scholarship (2018–19) - London School of Economics. All errors are mine.

1. Introduction

There is extensive literature addressing the characteristics of the Mexico-US migration. Angelucci (2015, 2012); Chort & De La Rupelle (2016); Donato (1993); Hanson & Spilimbergo (1999); Massey (1987); Massey & Espinosa (1997); Massey et al. (2016); and Takenaka & Pren (2010) analyze the forces driving fluctuations in legal and illegal migration flows from Mexico. They evaluate factors relaxing financial constraints to migration (cash transfers and household resources), structural conditions (US-Mexico wage gap, border enforcement and violence), random shocks (droughts), and factors derived from the historical persistence of migration (immigrant networks and reunification processes). Ambrosini & Peri (2012); Caponi (2011); Chiquiar & Hanson (2005); Ibarraran & Lubotsky (2007); Kaestner & Malamud (2014); McKenzie & Rapoport (2010); Fernandez-Huertas Moranga (2011); and Orrenius & Zavodny (2005) examine the selection of Mexican immigrants using diverse earnings, educational and skill measures. In addition, Caponi (2011); Garcia & Schmalzbauer (2017); Lozano & Sorensen (2015); Munshi (2003); Perlmann (2005); and Vargas (2016) assess the performance of Mexican immigrants and their descendants in the US labor market over time.[1] Most of this research covers the period from 1980 onwards, although Mexican migration to the United States has existed since the end of the nineteenth century (Durand, 2016; Cardoso, 1980; Gamio, 1930).

In contrast, there is little cliometric literature on the Mexico-US migration. Kosack & Ward (2014) estimate the selection pattern of Mexican immigrants and return immigrants in the 1920s. Feliciano (2001) examines the performance of Mexican immigrants in the US labor market from 1910 to 1990. Lee et al. (2017) analyze the impact of Mexican repatriations on labor market outcomes of US natives during the period 1930–40. Also, Clemens et al. (2018) evaluate the exclusion of Mexican farm workers—the Bracero Program (1942–64) abrogation—from the United States; and Kosack (2019) estimates the impact of this program on human capital investment in Mexico.[2]

Furthermore, our knowledge about Mexican migration from 1884 to 1910 relies on the historical research of Cardoso (1980); Chacón (2009); Clark (1908); Durand (2016);

[1] See Borjas (2007) for additional literature on the selection and assimilation of Mexican migration to the United States.

[2] Although Gamio (1930) does not develop a strictly cliometric research, he presents a study—based on quantitative evidence—of money sent back to Mexico by immigrants from 1919 to 1926.

Fogel (1978); González (2010); and Verduzco (1995). This literature describes the initial migration patterns using ethnographic methods, newspapers, reports, personal experiences, and historical documents. Therefore, the arguments and theoretical propositions used are not tested or supported with representative quantitative evidence of the period.

The lack of cliometric literature for the beginnings of the migration flow (1884–1910) is due to the fact that available micro data for the period has not been exploited. In this paper, I introduce an unexplored data source that records individual border crossings: the Mexican Border Crossing Records (MBCRs). I also analyze the MBCRs data available for the beginnings of the Mexico-US migration and contrast my results against previous literature. Specifically, I exploit the publication No. A3365 that consists of manifests listing aliens arriving at nine entrance ports in Arizona and Texas from 1903 to 1910.[3] To my knowledge, the MBCRs have been used only by Kosack & Ward (2014). However, following the classification of Durand (2016, p. 7), the period covered in their research does not belong to the beginnings of the flow, but to the *Deportations and Mass Migration Era (1921–41)*. Therefore, their findings do not capture the initial patterns of the flow, and their estimates may be influenced by the Mexican Revolution (1910–20).

In the remainder of the paper, I describe the characteristics of the MBCRs and publication No. A3365 in Section 2. I also provide evidence suggesting that the MBCRs are representative for the period under analysis. In Section 3, I present for the first time the initial spatial distribution of the migration flow at the local level. My analysis of the micro data offers an alternative narrative to historical literature regarding the immigrants' locations of last residence at the time. My findings diverge importantly from previous scholarship because the MBCRs identify migration flows across a broad array of entrance locations over long periods of time. This allows me to characterize the migration patterns with precision. I offer concluding thoughts in Section 4.

[3]Publication Title: Lists of Aliens Arriving at Brownsville, Del Rio, Eagle Pass, El Paso, Laredo, Presidio, Rio Grande City, and Roma (Texas) from May 1903 to June 1909; and at Aros Ranch, Douglas, Lochiel, Naco, and Nogales (Arizona) from July 1906–December 1910.

2. The Mexican Border Crossing Records

The reporting of alien arrivals at the Mexico-US border started in few locations ca. 1903.[4] It was implemented systematically across entrance ports (border towns) in 1906 and fully established later under the Immigration Act of 1907 (US Congress, 1907, p. 908). From 1906 arriving aliens were classified into immigrants (those who intended to settle in the United States) and non-immigrants (those in transit, tourists and aliens returning to resume domiciles in the United States). The different forms used to register arriving aliens are known as Mexican Border Crossing Records (MBCRs), and they are cataloged by the National Archives and Records Administration (NARA) in publications covering the period ca. 1903 – ca. 1955.[5]

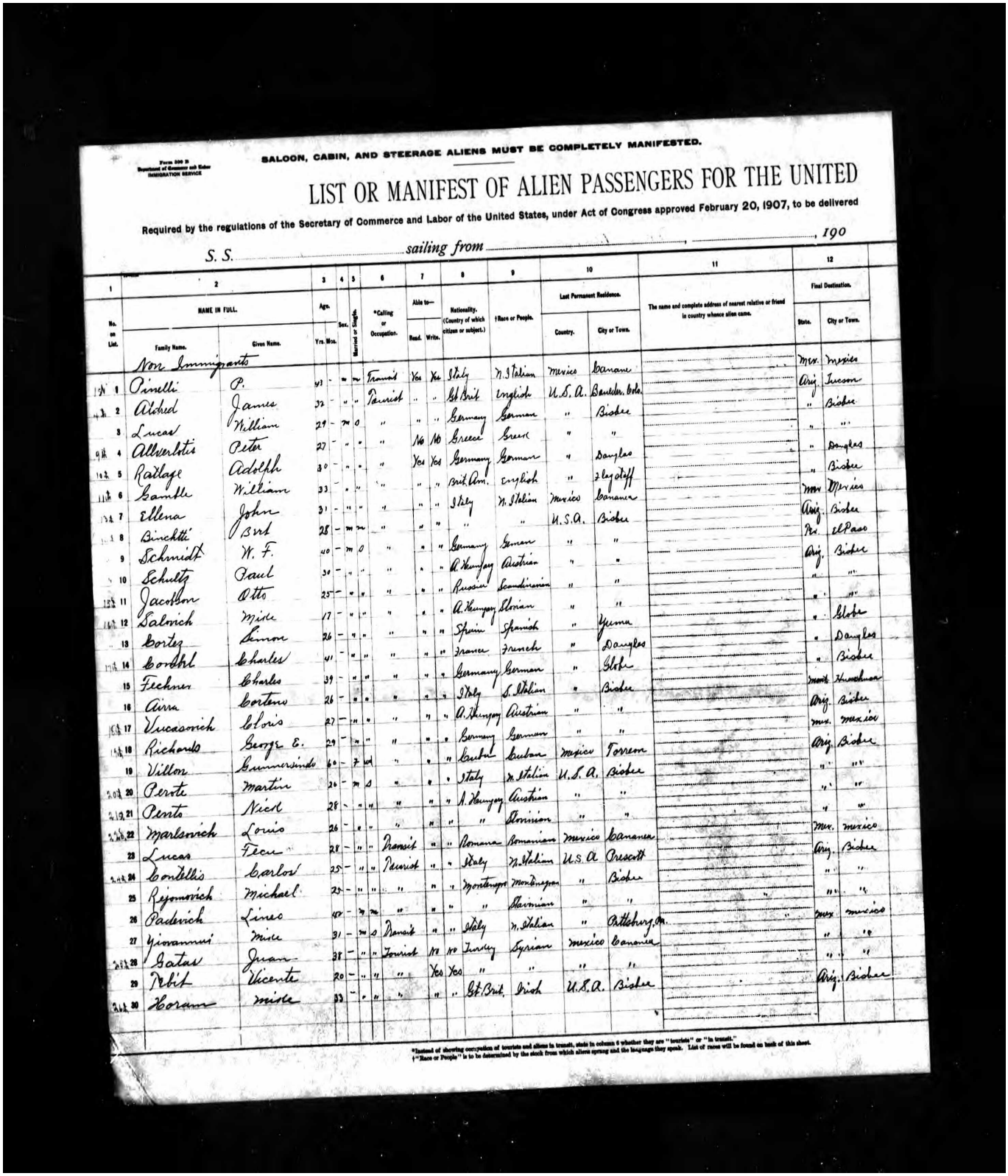
In this paper, I present evidence from the MBCRs publication No. A3365. It contains 5 rolls of microfilms arranged chronologically by month-year covering the period from ca. 1903 to December 1910. The microfilms reproduce two-sheet manifests (Form 500-B) listing on average 30 aliens (see Figure 1 and Figure 2). These documents were filled at diverse entrance ports by registry clerks and supervised by immigration officials. Medical officers also examined the physical and mental health of all arriving aliens (US Congress, 1907, p. 903).[6] The manifests have 29 numbered columns that report information about the alien's profile and migratory experience. They report demographic (age, sex, marital status, occupation, ability to read and write, citizenship, and race) and anthropometric (height, complexion, and color of eyes and hair) data. They also record geographic information for each individual: birthplace, last permanent residence and final destination. In addition, they report whether the immigrant had a ticket to the final destination; if he/she had ever been in the United States (dates and places); and a contact (name and address) at the final destination. The back of the manifests contains detailed instructions to fill each column and definitions for the clerk to determine the alien's race, nationality, status (immigrant or non-immigrant), etc. See Figure A.1 in Annex A.

[4]The Immigration Act of 1903 instructed the inspection of aliens along the borders of Canada and Mexico (US Congress, 1903, p. 1221).

[5]See the National Archives and Records Administration (NARA) website for a full description of the publications and forms.

[6]The medical officers should have at least two years of professional experience.

Figure 1: INS Form 500-B. Two-sheet manifest – Part A



SALOON, CABIN, AND STEERAGE ALIENS MUST BE COMPLETELY MANIFESTED.

LIST OR MANIFEST OF ALIEN PASSENGERS FOR THE UNITED

Required by the regulations of the Secretary of Commerce and Labor of the United States, under Act of Congress approved February 20, 1907, to be delivered

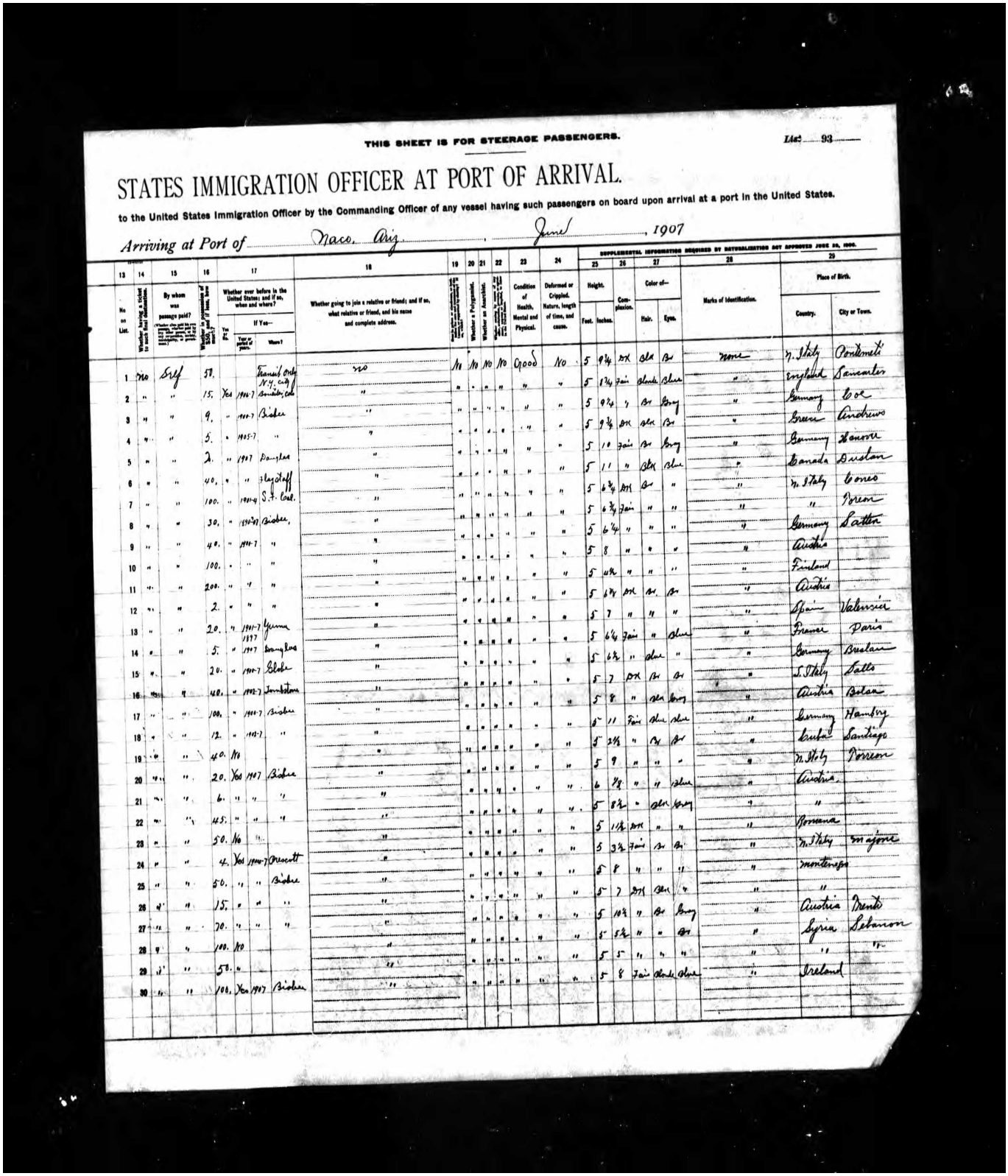
S. S. ..... sailing from ....., 190

1	2		3	4	5	6	7	8	9	10		11	12	
No. on List.	NAME IN FULL.		Age.	Sex.	Married or Single.	*Calling or Occupation.	Able to—	Nationality. (Country of which citizen or subject.)	†Race or People.	Last Permanent Residence.		The name and complete address of nearest relative or friend in country whence alien came.	Final Destination.	
	Family Name.	Given Name.	Yrs. Mos.				Read. Write.			Country.	City or Town.		State.	City or Town.
	Non Immigrants													
1	Pinelli	P.	43	M	M	Farmer	Yes Yes	N. Italy	N. Italian	Mexico	Canane		Mex.	Mexico
2	Aldred	James	32	"	"	Tourist	" "	Gt Brit	English	U.S.A.	Bowden, Okla.		Ariz.	Tucson
3	Lucas	William	29	M	O	"	" "	Germany	German	"	Bisbee		"	Bisbee
4	Allverbits	Peter	27	"	"	"	No No	Greece	Greek	"	"		"	"
5	Rattage	Adolph	30	"	"	"	Yes Yes	Germany	German	"	Douglas		"	Douglas
6	Gamble	William	33	"	"	"	" "	Brit Am.	English	"	Flagstaff		"	Bisbee
7	Ellena	John	31	"	"	"	" "	Italy	N. Italian	Mexico	Canane		Mex	Mexico
8	Binchetti	Bird	28	M	M	"	" "	"	"	U.S.A.	Bisbee		Ariz.	Bisbee
9	Schmidt	W. F.	40	M	O	"	" "	Germany	German	"	"		Tex.	El Paso
10	Schultz	Paul	30	"	"	"	" "	A. Hungary	Austrian	"	"		Ariz.	Bisbee
11	Jacobson	Otto	25	"	W	"	" "	Russia	Scandinavian	"	"		"	"
12	Salovich	Mike	17	"	"	"	" "	A. Hungary	Slovian	"	"		"	"
13	Cortez	Lenor	26	"	"	"	" "	Spain	Spanish	"	Yuma		"	Globe
14	Corbbl	Charles	41	"	"	"	" "	France	French	"	Douglas		"	Douglas
15	Fechner	Charles	39	"	"	"	" "	Germany	German	"	Globe		"	Bisbee
16	Aiva	Cortero	26	"	"	"	" "	Italy	S. Italian	"	Bisbee		Mont.	Thompson
17	Vucasovich	Louis	27	"	"	"	" "	A. Hungary	Austrian	"	"		Ariz.	Bisbee
18	Richards	George E.	29	"	"	"	" "	Germany	German	"	"		Mex.	Mexico
19	Villon	Gumersindo	60	"	M	"	" "	Cuba	Cuban	Mexico	Torreon		Ariz.	Bisbee
20	Perote	Martin	26	"	S	"	" "	Italy	N. Italian	U.S.A.	Bisbee		"	"
21	Perito	Nick	28	"	"	"	" "	A. Hungary	Austrian	"	"		"	"
22	Marlovich	Louis	26	"	"	"	" "	"	Slavonian	"	"		"	"
23	Lucas	Fico	28	"	"	Tourist	" "	Roman	Romanian	Mexico	Canane		Mex.	Mexico
24	Contellis	Carlos	25	"	"	Tourist	" "	Italy	N. Italian	U.S.A.	Prescott		Ariz.	Bisbee
25	Rejonovich	Michael	23	"	"	"	" "	Montenegro	Montenegrin	"	Bisbee		"	"
26	Paderich	Lineo	40	M	M	"	" "	"	Slavonian	"	"		"	"
27	Giovanni	Mike	31	"	O	Tourist	" "	Italy	N. Italian	"	Cattlesburg, Pa.		Mex	Mexico
28	Gatas	Juan	38	"	"	Tourist	No No	Turkey	Syrian	Mexico	Canane		"	"
29	Pebit	Vicente	20	"	"	"	Yes Yes	"	"	"	"		"	"
30	Horan	Mike	33	"	"	"	" "	Gt Brit	Irish	U.S.A.	Bisbee		Ariz.	Bisbee

*Instead of showing occupation of tourists and aliens in transit, state in column 6 whether they are "tourists" or "in transit."
†"Race or People" is to be determined by the stock from which aliens sprung and the language they speak. List of races will be found on back of this sheet.

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Immigration and Naturalization Service (INS) Form 500–B. *List or Manifest of Alien Passengers for the US Immigration Officer at Port of Arrival*. This form was traditionally used by vessel masters to record information about ship passengers in advance of arrival at US ports (NARA, 2000).

Figure 2: INS Form 500-B. Two-sheet manifest – Part B



THIS SHEET IS FOR STEERAGE PASSENGERS. List 93

STATES IMMIGRATION OFFICER AT PORT OF ARRIVAL.

to the United States Immigration Officer by the Commanding Officer of any vessel having such passengers on board upon arrival at a port in the United States.

Arriving at Port of Naco, Ariz. June 1907

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Immigration and Naturalization Service (INS) Form 500–B. *List or Manifest of Alien Passengers for the US Immigration Officer at Port of Arrival*. This form was traditionally used by vessel masters to record information about ship passengers in advance of arrival at US ports (NARA, 2000).

To study the initial migration patterns, it would be ideal to transcribe all data about Mexican aliens contained in the publication. However, the manifests were filled with handwriting, preventing me from implementing an automated transcription process. Considering the large amount of data that had to be transcribed manually, I implement the following sampling plan.

2.1 Sampling plan

I start by reviewing all manifests by year and entrance port to quantify the number of aliens listed as Mexican nationals: the population of interest (N). The year-entrance-port combinations or strata (s) intend to capture heterogeneity in migration patterns over time and across space. As a result of this revision, I identify that the first 115 manifests in roll 1 cover the period 1903–05 but regard to aliens others than Mexicans and do not report the entrance port consistently. Thus, I exclude them because they are not relevant for the research and cannot be classified accurately. In addition, roll 5 contains data from 1909 to 1910, which I also exclude to avoid capturing any effects from the Mexican Revolution (1910–20). The objective of the paper is to study labor migration, and the presence of an armed conflict complicates the distinction between labor immigrants and refugees.[7] Table 1 summarizes the data contained in the publication's remainder. A total of 18,751 Mexican aliens crossed the border at nine entrance ports in Arizona and Texas from July 1906 to December 1908. The publication does not contain manifests for the first six months of 1906 or entrance ports in California.

Table 1 shows substantial variation in Mexican crossings between strata. As mentioned previously, the systemic registration of aliens at the Mexico-US border began in 1906 but fully enforced until later. This may explain the low number of crossings reported at Laredo and Brownsville in 1906 relative to following years. Also, in 1907 the American economy experienced one of the most severe financial crises before the Great Depression (Frydman et al., 2015, p .928; Moen & Tallman, 1992, p.611; Odell & Weidenmier, 2004, p. 1003). Banks and financial institutions of many cities limited or suspended their cash payments (Andrew, 1908, p. 497), and around two thousand firms and over one hundred state banks failed (Markham, 2002, p. 32). This event may have affected the number of border crossings in 1907. Furthermore, El Paso, Eagle Pass and Laredo were terminus stations of railways connecting central Mexico with

[7] According to Dell (2012) insurgency events related to the Mexican Revolution started in 1909.

the border (see Figure A.2 in Annex A; Woodruff & Zenteno, 2007), which may explain the relatively high number of crossings at these entrance ports.

Table 1: Mexican and Non-Mexican crossings (July 1906 – December 1908)

	Jul – Dec 1906			Jan – Dec 1907			Jan – Dec 1908		
	Total	*Mexicans*	*Share (%)*	*Total*	*Mexicans*	*Share (%)*	*Total*	*Mexicans*	*Share (%)*
Arizona									
Nogales	283	182	64	779	447	57	174	39	22
Naco	522	432	83	3,091	2,647	86	159	105	66
Douglas	202	172	85	627	405	65	197	153	78
Texas									
El Paso	3,722	2,815	76	4,678	974	21	3,293	2,361	72
Del Rio	8	8	100	81	74	91	201	200	99
Eagle Pass	180	180	100	1,679	138	8	1,073	697	65
Laredo	363	43	12	2,076	536	26	6,205	5,258	85
Roma				12	12	100	1	1	100
Brownsville	83	68	82	410	360	88	469	444	95
Total	**5,363**	**3,900**	**73**	**13,433**	**5,593**	**42**	**11,772**	**9,258**	**79**

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: The table summarizes the data contained in rolls 1 to 4. Data contained in roll 5 record crossings in 1909 and 1910, which I did not considered to avoid capturing effects of the Mexican Revolution (1910–20). I identify Mexican aliens based on the reported nationality and country of birth. Non-Mexican crossings regard mainly to European and Asian aliens. After reviewing the microfilms, I did not find data for entrance ports in California.

To select the data to be transcribed, I follow a criteria that considers the crisis of 1907 and the heterogeneous distribution of data between strata. First, since 1907 was an unusual year, potentially characterized by return migration and changes in the composition of migrants, I transcribe all data for this year regardless the entrance port. I also transcribe all data in strata that on average report 100 or less Mexican crossings per month. This allows me to capture with precision patterns that may be underrepresented in the overall migration flow and that may have followed local dynamics. In these strata, differences between the number of transcribed and total Mexican crossings are due to the poor quality (unreadable or damaged) of some microfilms.

Second, in strata reporting on average more than 100 Mexican crossings per month (El-Paso-1906, El-Paso-1908 and Laredo-1908), I implement an equal probability systemic sampling. These strata capture 72% and 82% of all Mexican crossings in 1906 and 1908, respectively. For El-Paso-1906 stratum, I aim to transcribe 50% of the crossings, implying a fixed sampling interval of two observations—that is, I transcribe every 2nd crossing if it is legible. For El-Paso-1908 and Laredo-1908 strata, I aim to transcribe 30% of the crossings. In these cases, the fixed sampling interval was three observations. The starting point for transcribing was determined by the random-number generator

function of Stata.[8] Table 2 presents the transcribed sample: 10,895 Mexicans who crossed the border during the period July 1906 – December 1908.

Table 2: Transcribed Mexican crossings (July 1906 – December 1908)

	Jul – Dec 1906			Jan – Dec 1907			Jan – Dec 1908		
	Total	*Transcribed*	*Share (%)*	*Total*	*Transcribed*	*Share (%)*	*Total*	*Transcribed*	*Share (%)*
Arizona									
Nogales	182	154	85	447	447	100	39	39	100
Naco	432	372	86	2,647	2,163	82	105	105	100
Douglas	172	172	100	405	405	100	153	152	99
Texas									
El Paso	2,815	1,304	46	974	963	99	2,361	723	31
Del Rio	8	8	100	74	74	100	200	200	100
Eagle Pass	180	150	83	138	138	100	697	421	60
Laredo	43	43	100	536	506	94	5,258	1,513	29
Roma				12	12	100	1	1	100
Brownsville	68	68	100	360	360	100	444	402	91
Total	**3,900**	**2,271**	**58**	**5,593**	**5,068**	**91**	**9,258**	**3,556**	**38**

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: The table summarizes the Mexican crossings contained in the rolls 1 to 4 and the sample transcribed by year and entrance port.

Finally, I estimate the weight of all units in each strata as:

$$w_s = \frac{N_s}{n_s}. \tag{1}$$

The application of weights (w_s) makes the transcribed sample match the population of interest in each strata (N_s). In the following sections, I use these weighting factors to estimate and analyze diverse aspects of the Mexican migration flow registered in the publication No. A3365.

2.2 *Refinement of the data*

The transcribed data in Table 2 constitute a gross flow of Mexican aliens that were not necessarily immigrants. Therefore, I apply a series of refinements to estimate accurately the flow of Mexican immigrants. First, I drop from the sample individuals whose final destination was in Mexico (return immigrants); and individuals whose last residence and final destination was in the United States (tourists or non-immigrants). Return migration represented 6.6% of the flow and the share of non-immigrants was 9.6%. Second, I drop immigrants with unreported or insufficient geographic data (last residence and final destination), which is necessary to estimate the migration flows. Finally, I classify the reported locations of last residence and final destination as Mexican municipalities and American counties, respectively; and I drop the obser-

[8]This function generates random integers from an specified interval.

vations with unclassified locations. The final sample consists of 8,420 immigrants with full classified geographic information, representing 77.3% of the transcribed Mexican crossings (see Table 3). I obtain a flow of 15,215 immigrants by applying weighting factors to the refined sample. Table 4 presents its distribution by year and entrance port.

Table 3: Sample refinements

	Obs.	*Share (%)*
Transcribed crossings	10,895	100
Return immigrants	718	6.6
Non-immigrants	1,045	9.6
Immigrants	9,083	83.4
Last residence in Mexico		
Unreported	405	3.7
Not classified	10	0.1
A. Classified as Mexican municipalities	**8,668**	**79.6**
Final destination in the United States		
Unreported	203	1.9
Not classified	82	0.8
B. Classified as American counties	**8,798**	**80.8**
C. Final sample (A ∩ B)	**8,420**	**77.3**

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: *Return immigrants* refer to Mexican individuals whose final destination was in Mexico. *Non-immigrants* refer to Mexican individuals whose final destination and last permanent residence was in the United States. *Immigrants* refer to Mexican individuals whose last permanent residence was in Mexico and final destination was in the United States. C = Mexican immigrants whose last permanent residence and final destination was reported and classified in Mexican municipalities and US counties, respectively.

Table 4: Refined sample. Weighted flow (1906–08)

	Jul - Dec 1906		**Jan - Dec 1907**		**Jan - Dec 1908**		**Jul 1906 - Dec 1908**	
	Crossings	*Share (%)*	*Crossings*	*Share (%)*	*Crossings*	*Share (%)*	*Crossings*	*Share (%)*
Arizona								
Nogales	124	3.6	309	8.1	36	0.5	469	3.1
Naco	254	7.3	1,573	41.2	96	1.2	1,923	12.6
Douglas	101	2.9	194	5.1	125	1.6	420	2.8
Texas								0.0
El Paso	2,774	79.7	905	23.7	1,920	24.3	5,600	36.8
Del Rio	3	0.1	51	1.3	155	2.0	209	1.4
Eagle Pass	144	4.1	88	2.3	482	6.1	714	4.7
Laredo	28	0.8	382	10.0	4,698	59.3	5,108	33.6
Roma			12	0.3			12	0.1
Brownsville	54	1.6	302	7.9	404	5.1	760	5.0
Total	**3,483**	**100**	**3,816**	**100**	**7,916**	**100**	**15,215**	**100.0**

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.

2.3 Representativeness of the sample

To assess the representativeness of the sample, it is necessary to consider that neither Mexico nor the United States kept systematically statistics of Mexican labor migration before 1910, making the MBCRs the only data capturing flows of immigrants. The

open border policy of both governments and the uncontrolled 3,200 km long border made it difficult to record accurately the number of Mexican immigrants entering into or leaving the United States (Cardoso, 1980, p. 28 & 34). Thus, the few statistics available correspond to estimates from particular areas and specific periods of time.

Previous scholarship has accepted that, on average, 50 thousand Mexican immigrants crossed the US border every year during the first decade of the twentieth century.[9] This number—first proposed by Clark (1908, p. 520)—is a calculation from an official of the Mexican Central Railway. This figure consists of third class passengers who crossed the border at El Paso and Eagle Pass from August 1906 to August 1907. Taking this figure as true, the average crossings per month were 4,166. In the same period and entrance ports, my final weighted sample records 309 crossings per month, about 7% of Clark's monthly estimates. However, Clark (1908, p. 474) also argues that from January to September 1907, 26 thousand Mexican laborers entered to the United States through El Paso (2,888 laborers per month). My sample records 509 immigrants in July 1907, approximately 18% of the monthly flow estimated by Clark. Similarly, Cardoso (1980, p. 35) documents that from July 1908 to February 1909, 16,471 workers were recruited in El Paso. Assuming all laborers were Mexican, on average 2,058 immigrants were recruited per month. My sample records at this entrance port 215 crossings per month from July to December 1908, accounting for 10% of Cardoso's figure.

None of this research provides disaggregated statistics capturing the composition of the migration flow. Hence, I use other sources to assess if the composition of my sample is representative. One of them is El Economista Mexicano (1907), a Mexican newspaper reporting that 1,215 Mexicans migrated via El Paso in September 1907. Although my sample does not provide information for this month, the average monthly crossings during July and August 1907 accounts for 33% of this figure. More importantly, the newspaper presents statistics broken-down by the immigrants' state of origin.[10] Table 5 compares the statistics of El Economista Mexicano (1907) against my sample. Despite the differences in size, both samples present similar compositions: Bajio immigrants constitute more than 86%, which in fact matches the migration pattern described by previous historical scholarship.

[9] This number is commonly extrapolated to estimate a flow of 500 thousand immigrants during the 1900–10 period (Cardoso, 1980, p. 34).

[10] The newspaper does not clarify if the statistics refer to the place of last residence or place of birth.

Table 5: Composition of the migration flow at El Paso, Texas (1907)

	El Economista Mexicano *September*		Border Crossing Records[a] *July*		Border Crossing Records[a] *August*	
	Immigrants	Share (%)	Immigrants	Share (%)	Immigrants	Share (%)
Panel A. States						
Guanajuato*	593	48.8	229	45.0	138	45.4
Michoacan*	279	23.0	72	14.1	64	21.1
Jalisco*	179	14.7	39	7.7	16	5.3
Zacatecas*	137	11.3	52	10.2	39	12.8
Durango*	14	1.2	17	3.3	12	3.9
Chihuahua	6	0.5	40	7.9	19	6.3
Mexico City	4	0.3	1	0.2	1	0.3
Aguascalientes*	3	0.2	32	6.3	3	1.0
Panel B. Regions						
Bajio	1,205	99.2	441	86.6	272	89.5
Border	10	0.8	41	9.3	20	6.6
Total	**1,215**	**100**	**509**	**100**	**304**	**100**

Source: El Economista Mexicano (1907) and Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: [a] Weighted flow. *Bajio states.

The second source are the Abstracts of Reports of the Immigration Commission. The Immigration Act of 1907 established the creation of a commission to make a full investigation into the subject of immigration (US Immigration Commission, 1911, p. 9). The Commission compiled existing data, and it secured original information from field investigations that were implemented across the United States from December 1908 to July 1909 (US Immigration Commission, 1911, p. 15–20). In particular, I use the statistics on Mexican immigration for the fiscal years 1899 to 1910. Panel A of Table 6 shows that according to the Commission's calculations about 70% of the immigrants were laborers and 17% skilled workers. Farm laborers and professionals represented less than 5%. Also, 57% of the immigrants could not read or write, and 66% were males (see Panel B and C, respectively). Following the criteria and categories of the Immigration Commission, I estimate the composition of my sample based on the immigrants' occupation, sex and literacy. Table 6 shows that both compositions are very similar, suggesting that the manifests do not capture disproportionately a specific immigrant profile.

Considering that most figures presented in historical literature are back-of-the-envelope calculations, it is difficult to assess the real share of the migration flow registered in the publication No. A3365. However, the Immigration Commission provides annual estimations based on diverse sources including statistical surveys. The Commission estimates a gross flow of 6,067 Mexican immigrants in 1908 (US

Immigration Commission, 1911, p. 95). My sample records 4,931 immigrants in the same year, 81% of the Commission's figure.

Table 6: Composition of Mexican immigration to the United States (1899–1910)

	Immigration Commission (1899–1910)		Border Crossing Records[a] (1906–08)	
	Immigrants	Share (%)	Immigrants	Share (%)
Panel A. Occupations				
Laborers	15,763	69.3	7,144	72.1
Farm laborers	541	2.4	397	4.0
Skilled workers	3,918	17.2	1,036	10.5
Professionals	440	1.9	37	0.4
Other	2,095	9.2	1,292	13.0
Total[b]	**22,757**	**100**	**9,906**	**100**
Panel B. Literacy				
Illiterate	18,717	57.2	8,272	64.6
Total[c]	**32,721**	**100**	**12,810**	**100**
Panel C. Sex				
Males	27,676	66.0	10,992	72.2
Total	**41,914**	**100**	**15,215**	**100**

Source: US Immigration Commission (1911, p. 97-101) and Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: [a] Weighted flow. [b] Immigrants without occupation were not considered. [c] Immigrants 14 years of age or over.

In sum, I believe that the publication No. A3365 constitute a sample of the Mexican migration flow at the time, and it may record an important share of the total border crossings. My sample presents a composition similar to the only statistics reporting the immigrants' location of origin at the state level during the period under analysis (1906–08). This allows me to argue that it is representative for the migration flow entering via El Paso, which according to Clark (1908, p. 475) was the only real labor depot in the border. It also matches the composition described by studies addressing the characteristics of Mexican immigrants from 1899 to 1910. Together these comparisons provide strong evidence suggesting that the publication No. A3365 can be representative for the Mexico-US migration during the 1900s.

2.4 Limitations of the data

An important limitation of the sample is that it records crossings only at official entrance ports: documented immigration. However, estimations of undocumented immigration are scarce and imprecise for the period, because Mexicans had an undefined immigration status in the United States. Before 1910, Mexicans were not considered immigrants who sought to settle permanently, but temporary immigrants who moved back and forth supplying labor without major restrictions (Fogel, 1978, p. 10; Samora,

1982, p. 35).[11] Hence, the first Mexican immigrants did not have a clear incentive to avoid official entrance ports as it is nowadays, suggesting that MBCRs could be a reliable data source for the period. The desert in Arizona and New Mexico also complicates immigration through places other than the entrance ports in these states (see Figure A.2 in Annex A).

A second limitation is that the geographic information was self-reported, leading to potential inaccuracies in the identification of birth, last residence and destination locations. For example, the manifests report the immigrant's "final destination", but it is likely that the records show intended destinations rather than the actual or final destinations of the immigrants. This could lead to a disproportionate representation of counties that were considered distributing points of Mexican labor (Clark, 1908, p. 475).

Potential problems of selection and under-enumeration could be a third limitation. Figure A.2 in Annex A shows that all entrance ports had direct access to railways (except Del Rio, Texas). Therefore, it could be that immigrants with access to railways or with resources to afford a train ticket are disproportionately recorded in the manifests. The data could also present different levels of under-enumeration between entrance ports. For example, entrance ports processing large amounts of immigrants could be more susceptible to under-enumeration than less dynamic ports.

Despite these issues, the MBCRs represent a unique source of data. To my knowledge, they are the only immigration data at the individual level, with which we can identify the characteristics of the Mexico-United States migration in its beginnings (1884–1910).

3. Initial patterns of Mexican migration

In this section, I address the Mexico-US migration patterns in the early twentieth century considering the immigrants' locations of last residence. My analysis exploits immigrant crossings registered at the main entrance ports during a time-span of 30 consecutive months. I also present, for the first time, the initial spatial distribution of the migration flow at the local level.

[11] The Immigration Acts of 1903 and 1907 exempted incoming Mexicans from the head tax of $2.00 and $4.00, respectively (Cardoso, 1980, p. 34).

Figure 3: Migration regions and entrance ports (1906–08)

Source: Based on Durand (2016, p. 28) and Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Before 1917, the state of Nayarit was called Tepic.

3.1 Municipalities of last residence

To study the characteristics of Mexican migration, previous literature has defined migration regions based on historical and geographic criteria. These regions (Bajio, Border, Center and South) capture different migration patterns across Mexico that persist to this day (Durand, 2016, p. 27). I use these categories to contrast my results against previous scholarship. Figure 3 depicts the migration regions and the location of the entrance ports in Arizona (Nogales, Naco and Douglas) and Texas (El Paso, Del Rio, Eagle Pass, Laredo, Roma and Brownsville).

The Bajio region comprises the states lying just north of the Valley of Mexico and chiefly on the western slope of the central plateau (Clark, 1908, p. 468). These states were among the most populated in the beginning of the twentieth century, and they were characterized by their large agricultural and mining centers (see Figure A.3 in Annex A).[12] The Border region covers the northern Mexican territory that was poorly populated until the 1950s. However, throughout the border states were consolidated

[12]The Bajio states are: Durango, Zacatecas, San Luis Potosi, Nayarit, Aguascalientes, Guanajuato, Jalisco, Colima and Michoacan. Before 1917, the state of Nayarit was called Tepic. See Figure 3 for guidance.

economic centers connected to the United States and central Mexico by the railways of the time. The Center region covers the Valley of Mexico, which economic and political dynamism gravitated towards Mexico City, the capital of the country. The South region comprises the farthest states from the US border, which were relatively isolated from the rest of the country, except for the state of Veracruz where the most important seaport of Mexico was located.

Previous literature has agreed that in the beginnings of the flow most Mexican immigrants came from the Bajio, also known as the traditional or historical immigrant-sending region (Cardoso, 1980, p. 26; Clark, 1908, pp. 467–468; Durand, 2016; Gratton & Merchant, 2015, p. 528; p. 27–29 & 59–60; Henderson, 2011, p. 14; Ríos-Bustamante, 1981, p. 21; among others). However, the micro data suggest a different pattern. Table 7 shows that most immigrants actually came from the Border region. Immigrants from the Bajio represent only one third of the sample, and migration flows from the Center and South of the country were almost nonexistent.

Furthermore, immigrants might have come disproportionately from specific states or municipalities within regions. To identify migration patterns at the local level, I estimate the outflow of immigrants from each municipality that was reported as last permanent residence. Table 8 shows the top twenty municipalities that make up 60% of the total outflow. Four of these locations belong to the state of Guanajuato in the Bajio, and they account for 7.3% of the total outflow. From a local perspective, they make up 54.4% of the outflow from Guanajuato, implying that migration was highly clustered in few municipalities within the state. Considering that in 1910 the state had 45 municipalities, we can argue that migration was not a generalized experience, but a local phenomenon. Similarly, the state of Michoacan has an important participation in the total outflow (5.6%), but three municipalities (Morelia, La Piedad and Pururandiro) make up most migration (57.7%) from this state. The same pattern holds considering the state of Zacatecas. Jointly, Zacatecas City and the municipalities of Jerez and Nochistlan concentrate three fourths of the state's outflow. In other words, migration from the Bajio followed local dynamics before 1910.

Table 7: Region of last residence. Weighted flow (1906–08)

	Crossings	*Share (%)*
Border	9,783	64.3
Bajio	5,178	34.0
Center	244	1.6
South	11	0.1
Total	**15,215**	**100**

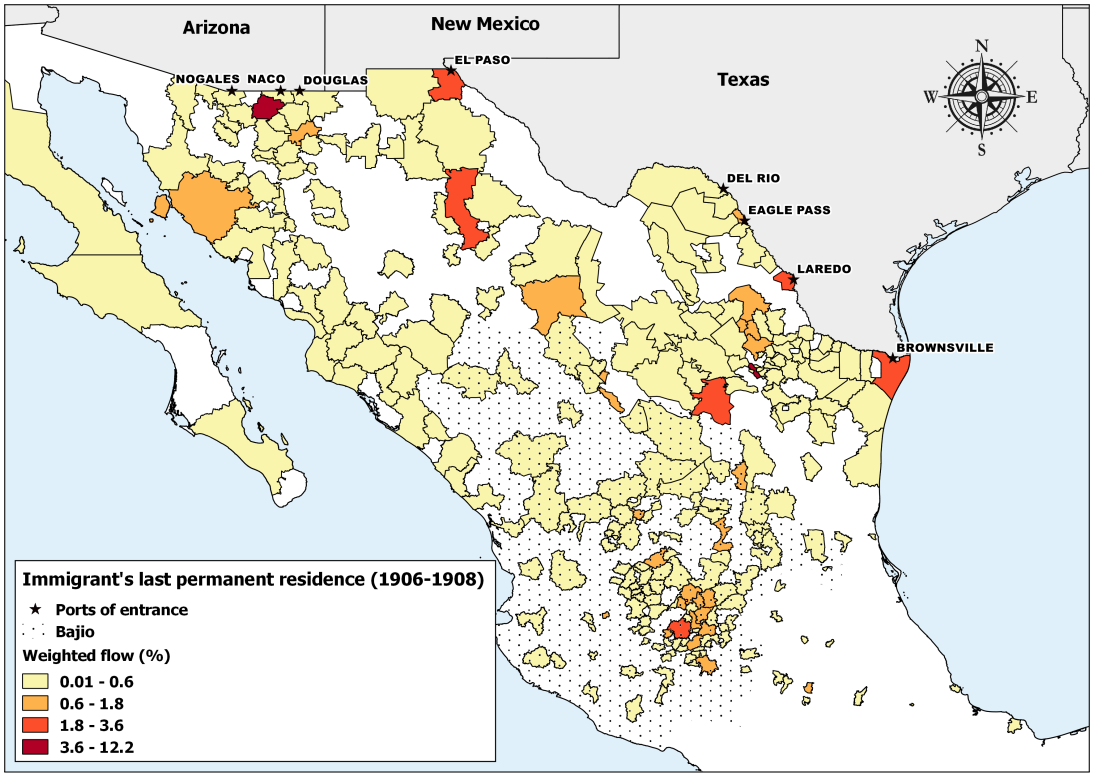
Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Figure 3 depicts the migration regions in Mexico.

Table 8: Twenty most important immigrant-sending municipalities (1906–08)

Municipality	*State*	*Weighted Flow*	*Share (%)*	*Migration rate*
Monterrey	Nuevo Leon	1,862	12.2	21.6
Cananea	Sonora	1,649	10.8	111.1
Chihuahua City	Chihuahua	550	3.6	10.2
Matamoros	Tamaulipas	521	3.4	32.5
Nuevo Laredo	Tamaulipas	489	3.2	54.9
Penjamo	Guanajuato*	439	2.9	7.9
Juárez City	Chihuahua	398	2.6	33.8
Saltillo	Coahuila	349	2.3	6.5
San Luis Potosi	San Luis Potosi*	275	1.8	3.3
Leon	Guanajuato*	259	1.7	2.9
Piedras Negras	Coahuila	259	1.7	21.5
Guadalajara	Jalisco*	254	1.7	2.1
Morelia	Michoacan*	234	1.5	2.9
Zacatecas	Zacatecas*	231	1.5	8.0
Villaldama	Nuevo Leon	223	1.5	33.5
Silao	Guanajuato*	211	1.4	5.9
Hermosillo	Sonora	206	1.4	9.1
Bustamante	Nuevo Leon	199	1.3	56.9
Irapuato	Guanajuato*	195	1.3	3.7
Mexico City	Mexico City	193	1.3	0.3

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: * Bajio states. See Figure 3 for the states location. I estimate migration rates (per 1,000 people) based on population levels from the 1910 Population Census. Mexico City's town halls were considered as a whole.

Figure 4: Immigrant's last permanent residence (1906–08)

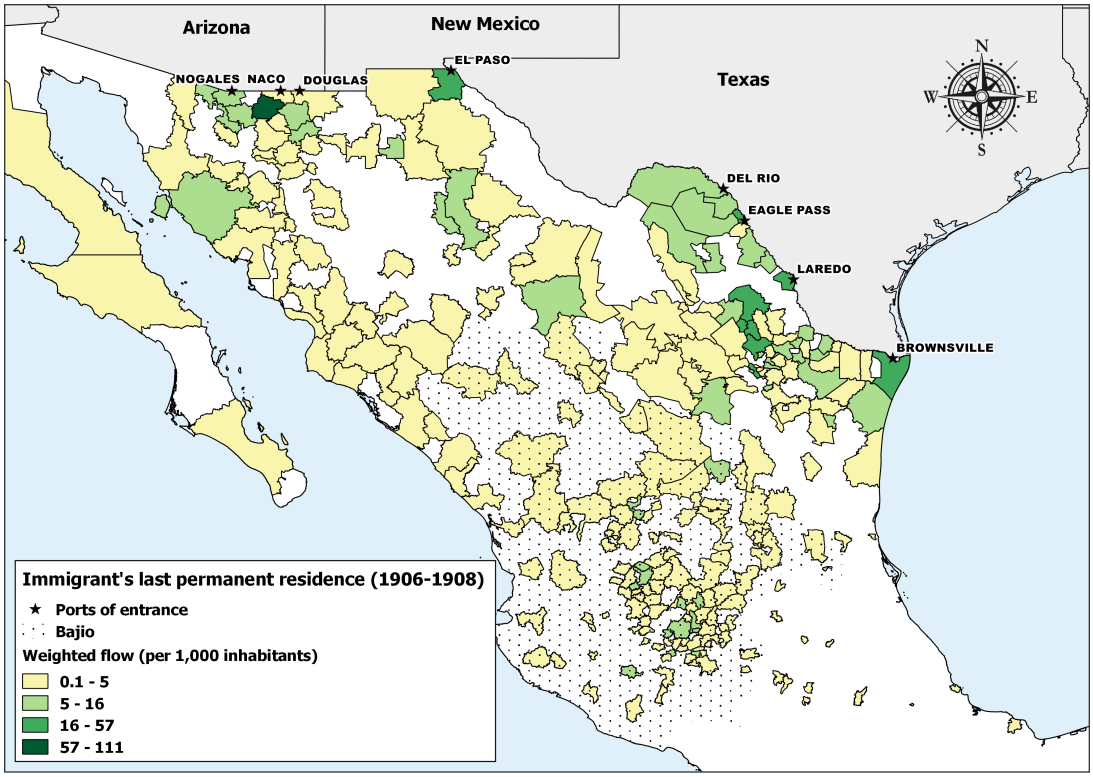


Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Spatial distribution of the Mexican-American migration flow from July 1906 to December 1908. The polygons display the immigrant's last permanent residence (municipalities) and their shares in the overall weighted flow (quartiles calculated with Jenks natural breaks classification method). The shaded area covers the states of the Bajio region.

Figure 4 presents the initial spatial distribution of the Mexico-US migration. Most immigrants from the Bajio actually came from a small group of adjoining municipalities in the states of Guanajuato, Jalisco and Michoacan. These locations were characterized for their intensive economic activity. By 1890, there were 31 haciendas in Guanajuato, which provided commodities to the region and 46 local mining centers (De Cardona, 1892). Although the importance and productivity of these centers varied, all of them extracted silver and gold. This attracted workers from all over the country, keeping labor supply high and consequently low salaries in the region. Migration from other Bajio municipalities was scarce and had low shares in the total outflow. Table 8 and Figure 5 confirm that migration rates in the region were relatively low: on average, two immigrants per 1,000 people.[13]

[13]The states of Guanajuato, Jalisco and Michoacan were among the most populated in the country (see Figure A.3 in Annex A). Hence, the low share of Bajio immigrants in the sample also reflects low migration rates.

Figure 5: Migration rates – last permanent residence (1906–08)



Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Spatial distribution of the Mexican-American migration flow from July 1906 to December 1908. The polygons display the immigrant's last permanent residence (municipalities) and their migration rate per 1,000 people (quartiles calculated with Jenks natural breaks classification method). The shaded area covers the states of the Bajio region.

In the Border region, Nuevo Leon, Sonora, and Chihuahua were the main immigrant-sending states, which were poorly populated until the second half of the twentieth century. Thus, its geographic location might have driven their migratory importance. Similar to the Bajio, migration in the Border region was concentrated in few municipalities, but these locations were distributed across the region. Monterrey and Cananea present the highest shares in the total outflow (12.2 and 10.8 percent, respectively). The former was a dynamic smelter city and the latter emerged in the mid-nineteenth century as an important mining center (Cardoso, 1980, p. 17). The average migration rate in the Border region was six immigrants per 1,000 people, but in the top ten municipalities, it was about 41 immigrants per 1,000 people. This corroborates that migration was intense in several municipalities of the Border region (see Figure 5). These results line up with recent findings suggesting that from 1900 until 1920, Mexican migration to the United States was characterized by a high level of circular cross-border mobility of young men (Gratton & Merchant, 2015, p. 532).

3.2 *Explaining the divergence of patterns*

Why does the previous migration patterns diverge importantly from the previous historical literature? The answer to this question is because the influential work of Clark (1908), which is the most cited reference for the period, might be biased to a large extent. When one analyzes his paper, it is clear that entrance ports others than El Paso are not analyzed in detail or even mentioned. Although he addresses the labor conditions and available wages for several places along the border, his seminal work describes the composition of the migration flow via el El Paso and Eagle Pass only. Figure 6 depicts the intensity of the migration flows at the time. It shows that most immigrants registered at El Paso came from Bajio states. For this reason, Clark (1908, p. 468) concludes that in 1908 most of the migration flow occurred between the Bajio and El Paso.

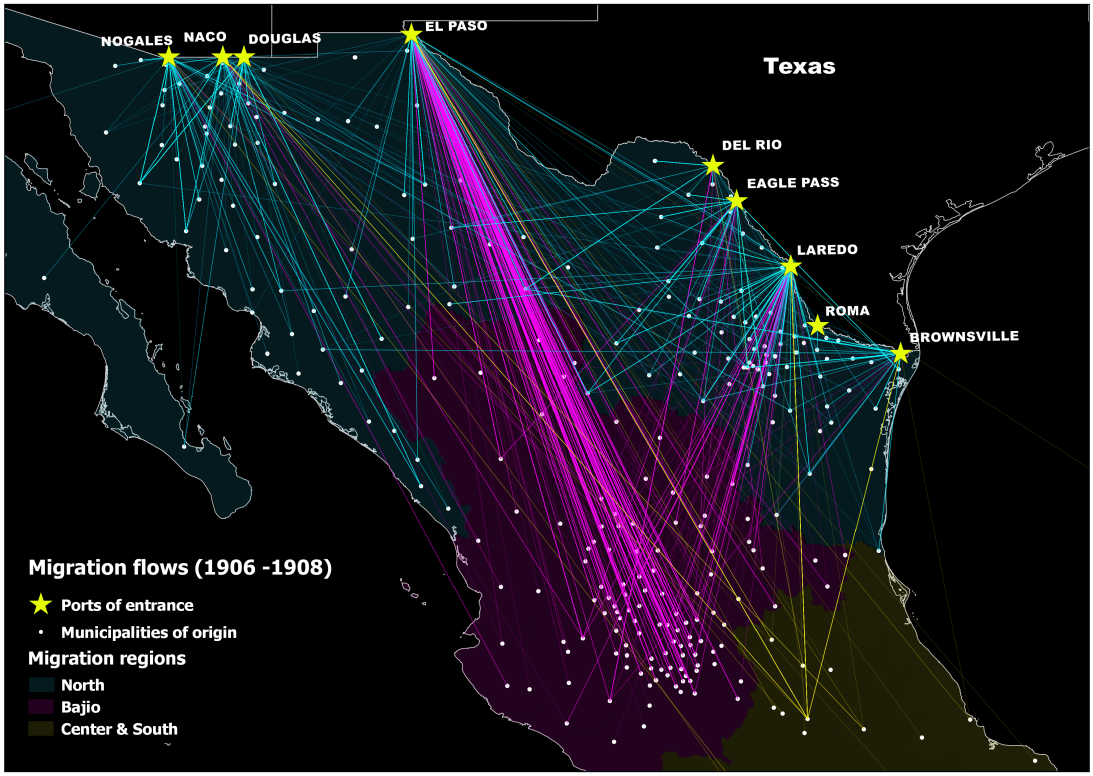
However, this is not precise. My sample reveals that migration via Arizona is not insignificant as Clark (1908) suggests. On the contrary, the flow of Mexican immigrants registered at Naco was greater than in Eagle Pass in 1906 and 1907 (see Table 4). Also, migration via Laredo was more intense than the registered at El Paso or Eagle Pass in 1908. In this sense, my results diverge from Clark's because my sample captures immigration across a broader array of entrance locations and over a longer period of time.

On the other hand, the micro data support findings from literature studying immigration at locations other than El Paso. For example, Gamio (2002, p. 182) documents that Mexicans working in the south of Texas came mostly from Nuevo Leon and Tamaulipas. In my sample, 68% of the immigrants registered at Laredo came from those states. The same pattern is observed when analyzing the flow registered at Brownsville: 92% of the immigrants came from Nuevo Leon and Tamaulipas. Immigrants from the Bajio represented less than 17% and 2% of the crossings registered at Laredo and Brownsville, respectively.

Another example is González (2010, p. 12 & 18), who documents that in 1888 there was a constant flow of families migrating from Sonora to Arizona; and that there was a notorious flow of Mexicans migrating from Sonora and Sinaloa to Kansas by 1907. In my sample, 90% of the Mexicans crossing the border via Nogales, Naco and Douglas came from Sonora and Sinaloa. Registers of Bajio immigrants at these ports were almost nonexistent (see Figure 6). In sum, the micro data from the MBCRs

capture the geographic composition of the flow at the local level, allowing me to characterize the initial migration patterns with precision. In Annex B, I analyze the immigrants' locations of birth and confirm that the previous results hold if the records were classified by place of birth rather than place of last residence.

Figure 6: Intensity of migration flows by entrance ports (1906–08)



Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Each line represents an individual. Overlapping lines capture the intensity of a migration corridor by adding pixel values of individual lines. Hence, brighter lines represent more intensive migration corridors.

4. Conclusion

I have presented evidence suggesting that historical scholarship may have described inaccurately the initial patterns of the Mexico-US migration. Based on the immigrants' last residence, my findings confirm that there was a geographic selection of Mexican immigrants at the beginning of the flow. However, most immigrants came from the Border region and not from the Bajio as suggested by Clark (1908); Cardoso (1980); Durand (2016); among others. Moreover, Bajio immigrants actually came from a small group of adjoining municipalities. This suggests that the Bajio was still not consolidated as the principal immigrant-sending region and probably its migration culture was in the process of gaining strength.

In addition, my local-level analysis reveals two additional characteristics of the migration flow: immigrants came from specific municipalities, and migration rates were heterogeneous within and across states. The immigrant-sending municipalities were economically dynamic and populated locations. By themselves, these municipalities attracted laborers from all over Mexico, but labor market pressures jointly with the higher wages offered in the American Southwest might have motivated immigrants to continue moving north (Clark, 1908, p. 470; Durand, 2016, p. 61). In other words, migration at the time did not follow regional but local dynamics. My findings do not necessarily contradict migration patterns described by previous literature, yet they expand and complement our knowledge about Mexican migration using quantitative evidence not analyzed previously.

The individual-level data reported in the MBCRs offer the opportunity to address diverse topics in migration economics. New statistical methods developed by Abramitzky et al. (2019) and Abramitzky et al. (2019) can be implemented to link immigrants recorded in the MBCRs with other historical sources. This could allow the development of research similar to Abramitzky et al. (2014); Inwood et al. (2019) and Ward (2019), who study the assimilation and performance of immigrants during the early twentieth century. Since the MBCRs capture return migration, it is also possible to examine the selection pattern into migration and into return migration like Abramitzky et al. (2019) and Kosack & Ward (2014). Furthermore, I have presented migration rates at the local level that can be used in approaches similar to Sequeira et al. (2019) for evaluating the long-run effects of Mexican migration on economic and development outcomes in both Mexico and the United States. Also, migration models à la Hatton & Williamson (1993, 1994); Hatton (1995b); and Hatton (1995a) can be tested to study the determinants of Mexican migration in the Age of Mass Migration.

Overall, I believe that the MBCRs represent a unique source of micro data to develop cliometric research addressing the initial mechanics of the most intense and persistent migration of the twentieth century.

References

Abramitzky, R., Boustan, L., , & Eriksson, K. (2019). To the new world and back again: Return migrants in the Age of Mass Migration. *ILR Review*, *72*(2), 300–322.

Abramitzky, R., Boustan, L. P., & Eriksson, K. (2014). A nation of immigrants: Assimilation and economic outcomes in the Age of Mass Migration. *Journal of Political Economy*, *122*(3), 467–506.

Abramitzky, R., Boustan, L. P., Eriksson, K., Feigenbaum, J. J., & Pérez, S. (2019). Automated linking of historical data. *National Bureau of Economic Research Working Paper 25825*.

Abramitzky, R., Mill, R., & Pérez, S. (2019). Linking individuals across historical sources: A fully automated approach. *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 1–18.

Ambrosini, J. W. & Peri, G. (2012). The determinants and the selection of Mexico–US migrants. *The World Economy*, *35*(2), 111–151.

Andrew, A. P. (1908). Substitutes for Cash in The Panic of 1907. *The Quarterly Journal of Economics*, *22*(4), 497–516.

Angelucci, M. (2012). Conditional Cash Transfer Programs, Credit Constraints, and Migration. *Labour*, *26*(1), 124–136.

Angelucci, M. (2015). Migration and financial constraints: Evidence from Mexico. *Review of Economics and Statistics*, *97*(1), 224–228.

Borjas, G. J. (2007). *Mexican immigration to the United States*. University of Chicago Press.

Caponi, V. (2011). Intergenerational transmission of abilities and self-selection of Mexican immigrants. *International Economic Review*, *52*(2), 523–547.

Cardoso, L. A. (1980). *Mexican emigration to the United States, 1897-1931*. Tucson: University of Arizona Press.

Chacón, S. (2009). Política migratoria: proceso negociador 1947-1954. *Foro Internacional*, 518–558.

Chiquiar, D. & Hanson, G. H. (2005). International migration, self-selection, and the distribution of wages: Evidence from Mexico and the United States. *Journal of Political Economy*, *113*(2), 239–281.

Chort, I. & De La Rupelle, M. (2016). Determinants of Mexico-US outward and return migration flows: A state-level panel data analysis. *Demography*, *53*(5), 1453–1476.

Clark, V. (1908). Mexican Labor in the US. *Bulletin of the United States Bureau of Labor*, (78), 466–522.

Clemens, M. A., Lewis, E. G., & Postel, H. M. (2018). Immigration restrictions as active labor market policy: Evidence from the mexican bracero exclusion. *American Economic Review*, *108*(6), 1468–87.

De Cardona, S. A. (1892). *De México a Chicago y Nueva York: guía para el viajero en la que se describen las principales ciudades y ferrocarriles*. New York: Moss Engraving Co.

Dell, M. (2012). Path dependence in development: Evidence from the Mexican Revolution. *Unpublished manuscript*.

Donato, K. M. (1993). Current trends and patterns of female migration: Evidence from Mexico. *International Migration Review*, 748–771.

Durand, J. (2016). *Historia Mínima de la Migración México-Estados Unidos*. Mexico City: El Colégio de México.

El Economista Mexicano (1907). Emigración de Braceros Mexicanos, 6–6.

Feliciano, Z. M. (2001). The skill and economic performance of Mexican immigrants from 1910 to 1990. *Explorations in Economic History*, *38*(3), 386–409.

Fernandez-Huertas Moranga, J. (2011). New Evidence on Emigrant Selection. *The Review of Economics and Statistics*, *93*(1), 72–96.

Fogel, W. (1978). Mexican illegal alien workers in the United States. *Monograph Series*, (20).

Frydman, C., Hilt, E., & Zhou, L. Y. (2015). Economic effects of runs on early "shadow banks": Trust companies and the impact of the panic of 1907. *Journal of Political Economy*, *123*(4), 902–940.

Gamio, M. (1930). *Mexican immigration to the United States*. Chicago: University of Chicago Press.

Gamio, M. (2002). *El inmigrante mexicano. La historia de su vida. Entrevistas completas, 1926-1927*. The Regents of The University of California and Centro de Investigaciones y Estudios Superiores de Antropología Social.

Garcia, A. S. & Schmalzbauer, L. (2017). Placing assimilation theory: Mexican immigrants in urban and rural America. *The ANNALS of the American Academy of Political and Social Science*, *672*(1), 64–82.

González, M. (2010). Los braceros en el Porfiriato. *Estudios Agrarios*, (44), 9–26.

Gratton, B. & Merchant, E. (2015). An Immigrant's Tale: The Mexican American Southwest 1850 to 1950. *Social Sciences History*, (39), 521–50.

Hanson, G. H. & Spilimbergo, A. (1999). Illegal immigration, border enforcement, and relative wages: Evidence from apprehensions at the US-Mexico border. *American Economic Review*, *89*(5), 1337–1357.

Hatton, T. J. (1995a). A model of UK emigration, 1870-1913. *The Review of Economics and Statistics*, 407–415.

Hatton, T. J. (1995b). A model of scandinavian emigration, 1870–1913. *European Economic Review*, *39*(3-4), 557–564.

Hatton, T. J. & Williamson, J. G. (1993). After the Famine: Emigration from Ireland, 1850–1913. *The Journal of Economic History*, *53*(3), 575–600.

Hatton, T. J. & Williamson, J. G. (1994). What Drove the Mass Migrations from Europe in the Late Nineteenth Century? *Population and Development Review*, *20*(3), 533–559.

Henderson, T. J. (2011). *Beyond borders: A history of Mexican migration to the United States*. John Wiley & Sons.

Ibarraran, P. & Lubotsky, D. (2007). Mexican immigration and self-selection: New evidence from the 2000 Mexican census. In *Mexican immigration to the United States*, (pp. 159–192). University of Chicago Press.

Inwood, K., Minns, C., & Summerfield, F. (2019). Occupational income scores and immigrant assimilation. Evidence from the Canadian census. *Explorations in Economic History*, *72*, 114–122.

Kaestner, R. & Malamud, O. (2014). Self-selection and international migration: New evidence from Mexico. *Review of Economics and Statistics*, *96*(1), 78–91.

Kosack, E. (2019). Guest Worker Programs and Human Capital Investment: The Bracero Program in Mexico, 1942-1964. *Journal of Human Resources. Forthcoming*.

Kosack, E. & Ward, Z. (2014). Who crossed the border? Self-selection of Mexican migrants in the early twentieth century. *The Journal of Economic History*, *74*(4), 1015–1044.

Lee, J., Peri, G., & Yasenov, V. (2017). The Employment Effects of Mexican Repatriations: Evidence from the 1930's. *National Bureau of Economic Research Working Paper 23885*.

Lozano, F. A. & Sorensen, T. (2015). Mexican Immigrants, Labour Market Assimilation and the Current Population: The Sensitivity of Results Across Seemingly Equivalent Surveys. *International Migration*, *53*(2), 250–262.

Markham, J. W. (2002). The Panic of 1907. In *A financial history of the United States*, volume Volume 2: From JP Morgan to the Institutional Investor: 1900-1970 (pp. 118–133). Sharpe.

Massey, D. S. (1987). Understanding mexican migration to the United States. *American Journal of Sociology*, *92*(6), 1372–1403.

Massey, D. S. & Espinosa, K. E. (1997). What's driving Mexico-US migration? A theoretical, empirical, and policy analysis. *American Journal of Sociology*, *102*(4), 939–999.

Massey, D. S., Pren, K. A., & Durand, J. (2016). Why Border Enforcement Backfired. *American Journal of Sociology*, *121*(5), 1557–1600.

McKenzie, D. & Rapoport, H. (2010). Self-selection patterns in Mexico-US migration: the role of migration networks. *The Review of Economics and Statistics*, *92*(4), 811–821.

Moen, J. & Tallman, E. W. (1992). The bank panic of 1907: the role of trust companies. *The Journal of Economic History*, *52*(3), 611–630.

Munshi, K. (2003). Networks in the modern economy: Mexican migrants in the US labor market. *The Quarterly Journal of Economics*, *118*(2), 549–599.

NARA (2000). *Publication A3365: Lists of Aliens Arriving at Brownsville, Del Rio, Eagle Pass, El Paso, Laredo, Presidio, Rio Grande City and Roma, Texas, May 1903-June 1909,*

and at Aros Ranch, Douglas, Lochiel, Naco and Nogales, Arizona, July 1906-December 1910. Washington DC: National Archives and Records Administration (NARA).

Odell, K. A. & Weidenmier, M. D. (2004). Real shock, monetary aftershock: The 1906 San Francisco earthquake and the panic of 1907. *The Journal of Economic History*, *64*(4), 1002–1027.

Orrenius, P. M. & Zavodny, M. (2005). Self-selection among undocumented immigrants from Mexico. *Journal of Development Economics*, *78*(1), 215–240.

Perlmann, J. (2005). *Italians Then, Mexicans Now: Immigrant Origins and the Second-Generation Progress, 1890-2000*. Russell Sage Foundation.

Ríos-Bustamante, A. (1981). *Mexican Immigrant Workers in the US*. Los Angeles, California: University of California.

Samora, J. (1982). *Los mojados: The wetback story*. Notre Dame: University of Notre Dame Press.

Secretaría de Comunicaciones y Obras Públicas (1906). *Carta de Ferrocarriles de los Estados Unidos Mexicanos*. Mexico City.

Secretaría de Economía (1956). *Estadísticas Sociales del Porfiriato 1877-1911*. Mexico City.

Sequeira, S., Nunn, N., & Qian, N. (2019). Immigrants and the Making of America. *Review of Economic Studies. Forthcomig*.

Takenaka, A. & Pren, K. A. (2010). Determinants of emigration: Comparing migrants' selectivity from Peru and Mexico. *The Annals of the American Academy of Political and Social Science*, *630*(1), 178–193.

US Congress (1903). Immigration Act, 32 Stat. 1213, 57th Congress.

US Congress (1907). Immigration Act, 34 Stat. 898, 59th Congress.

US Immigration Commission (1911). *Abstracts of Reports of the Immigration Commission: With Conclusions and Recommendations and Views of the Minority (In Two Volumes)*, volume 2. US Government Printing Office.

Vargas, A. J. (2016). Assimilation effects beyond the labor market: time allocations of Mexican immigrants to the US. *Review of Economics of the Household*, *14*(3), 625–668.

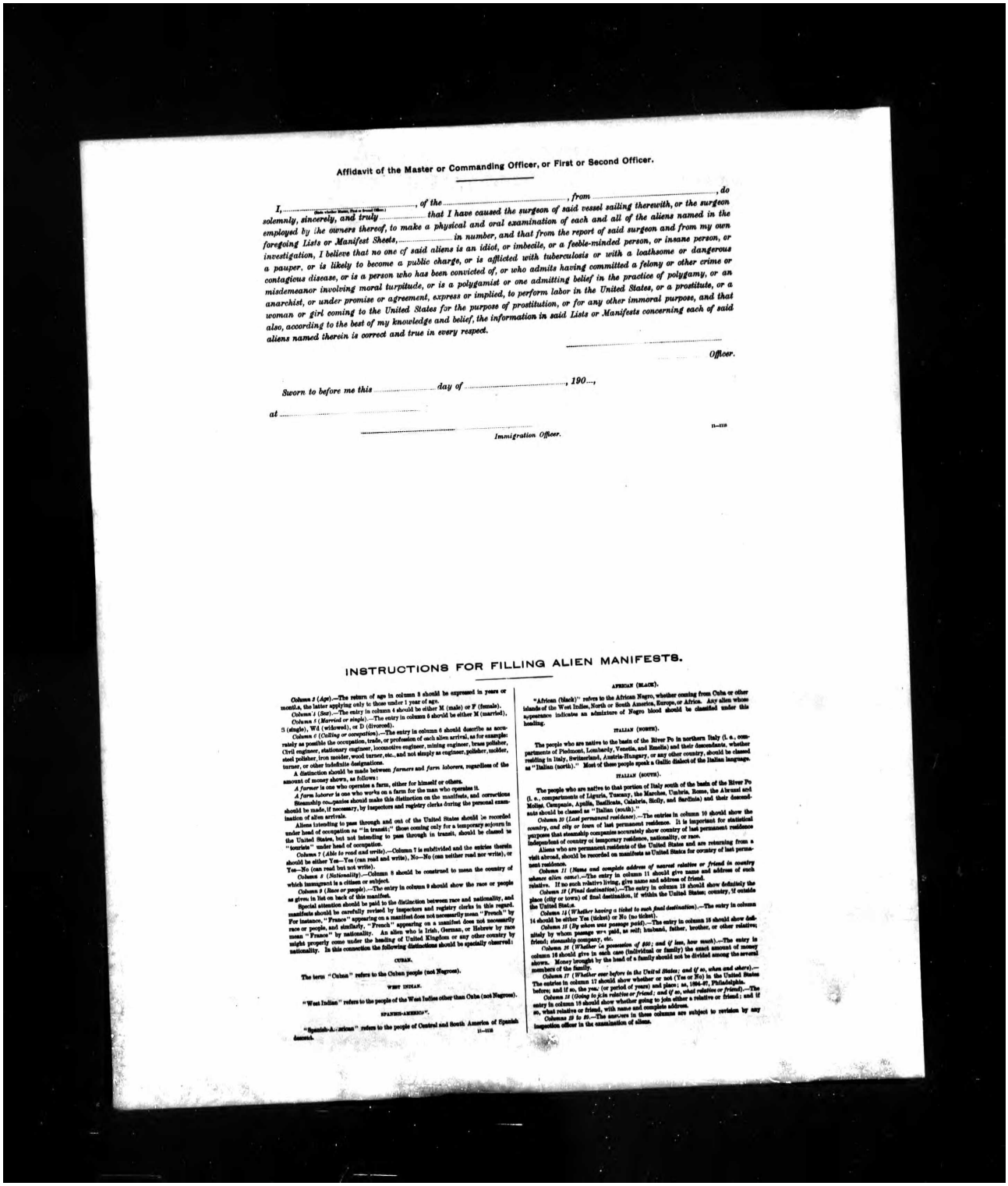
Verduzco, G. (1995). La migración mexicana a Estados Unidos: recuento de un proceso histórico. *Estudios Sociológicos*, 573–94.

Ward, Z. (2019). The low return to English fluency during the Age of Mass Migration. *European Review of Economic History. Forthcoming*.

Woodruff, C. & Zenteno, R. (2007). Migration networks and microenterprises in Mexico. *Journal of Development Economics*, *82*(2), 509–528.

Annex A

Figure A.1: INS Form 500-B. Instructions for filling alien manifests



Affidavit of the Master or Commanding Officer, or First or Second Officer.

I, ... (State whether Master, First or Second Officer.) of the ....., from ....., do solemnly, sincerely, and truly ..... that I have caused the surgeon of said vessel sailing therewith, or the surgeon employed by the owners thereof, to make a physical and oral examination of each and all of the aliens named in the foregoing Lists or Manifest Sheets, ... in number, and that from the report of said surgeon and from my own investigation, I believe that no one of said aliens is an idiot, or imbecile, or a feeble-minded person, or insane person, or a pauper, or is likely to become a public charge, or is afflicted with tuberculosis or with a loathsome or dangerous contagious disease, or is a person who has been convicted of, or who admits having committed a felony or other crime or misdemeanor involving moral turpitude, or is a polygamist or one admitting belief in the practice of polygamy, or an anarchist, or under promise or agreement, express or implied, to perform labor in the United States, or a prostitute, or a woman or girl coming to the United States for the purpose of prostitution, or for any other immoral purpose, and that also, according to the best of my knowledge and belief, the information in said Lists or Manifests concerning each of said aliens named therein is correct and true in every respect.

..... Officer.

Sworn to before me this ..... day of ....., 190—,

at .....

..... Immigration Officer.

11—1119

INSTRUCTIONS FOR FILLING ALIEN MANIFESTS.

Column 3 (*Age*).—The return of age in column 3 should be expressed in years or months, the latter applying only to those under 1 year of age.

Column 4 (*Sex*).—The entry in column 4 should be either M (male) or F (female).

Column 5 (*Married or single*).—The entry in column 5 should be either M (married), S (single), Wd (widowed), or D (divorced).

Column 6 (*Calling or occupation*).—The entry in column 6 should describe as accurately as possible the occupation, trade, or profession of each alien arrival, as for example: Civil engineer, stationary engineer, locomotive engineer, mining engineer, brass polisher, steel polisher, iron molder, wood turner, etc., and not simply as engineer, polisher, molder, turner, or other indefinite designations.

A distinction should be made between *farmers* and *farm laborers*, regardless of the amount of money shown, as follows:

A farmer is one who operates a farm, either for himself or others.

A farm laborer is one who works on a farm for the man who operates it.

Steamship companies should make this distinction on the manifests, and corrections should be made, if necessary, by inspectors and registry clerks during the personal examination of alien arrivals.

Aliens intending to pass through and out of the United States should be recorded under head of occupation as "in transit;" those coming only for a temporary sojourn in the United States, but not intending to pass through in transit, should be classed as "tourists" under head of occupation.

Column 7 (*Able to read and write*).—Column 7 is subdivided and the entries therein should be either Yes—Yes (can read and write), No—No (can neither read nor write), or Yes—No (can read but not write).

Column 8 (*Nationality*).—Column 8 should be construed to mean the country of which immigrant is a citizen or subject.

Column 9 (*Race or people*).—The entry in column 9 should show the race or people as given; in list on back of this manifest.

Special attention should be paid to the distinction between race and nationality, and manifests should be carefully revised by inspectors and registry clerks in this regard. For instance, "France" appearing on a manifest does not necessarily mean "French" by race or people, and similarly, "French" appearing on a manifest does not necessarily mean "France" by nationality. An alien who is Irish, German, or Hebrew by race might properly come under the heading of United Kingdom or any other country by nationality. In this connection the following distinctions should be specially observed:

CUBAN.

The term "Cuban" refers to the Cuban people (not Negroes).

WEST INDIAN.

"West Indian" refers to the people of the West Indies other than Cuba (not Negroes).

SPANISH-AMERICAN.

"Spanish-American" refers to the people of Central and South America of Spanish descent.

11—1119

AFRICAN (BLACK).

"African (black)" refers to the African Negro, whether coming from Cuba or other islands of the West Indies, North or South America, Europe, or Africa. Any alien whose appearance indicates an admixture of Negro blood should be classified under this heading.

ITALIAN (NORTH).

The people who are native to the basin of the River Po in northern Italy (i. e., compartments of Piedmont, Lombardy, Venetia, and Emilia) and their descendants, whether residing in Italy, Switzerland, Austria-Hungary, or any other country, should be classed as "Italian (north)." Most of these people speak a Gallic dialect of the Italian language.

ITALIAN (SOUTH).

The people who are native to that portion of Italy south of the basin of the River Po (i. e., compartments of Liguria, Tuscany, the Marches, Umbria, Rome, the Abruzzi and Molise, Campania, Apulia, Basilicata, Calabria, Sicily, and Sardinia) and their descendants should be classed as "Italian (south)."

Column 10 (*Last permanent residence*).—The entries in column 10 should show the country, *and city or town* of last permanent residence. It is important for statistical purposes that steamship companies accurately show country of last permanent residence independent of country or temporary residence, nationality, or race.

Aliens who are permanent residents of the United States and are returning from a visit abroad, should be recorded on manifests as United States for country of last permanent residence.

Column 11 (*Name and complete address of nearest relative or friend in country whence alien came*).—The entry in column 11 should give name and address of such relative. If no such relative living, give name and address of friend.

Column 12 (*Final destination*).—The entry in column 12 should show definitely the place (city or town) of final destination, if within the United States; country, if outside the United States.

Column 13 (*Whether having a ticket to such final destination*).—The entry in column 13 should be either Yes (ticket) or No (no ticket).

Column 14 (*By whom was passage paid*).—The entry in column 14 should show definitely by whom passage was paid, as self, husband, father, brother, or other relative; friend; steamship company, etc.

Column 15 (*Whether in possession of $50; and if less, how much*).—The entry in column 15 should give in each case (individual or family) the exact amount of money shown. Money brought by the head of a family should not be divided among the several members of the family.

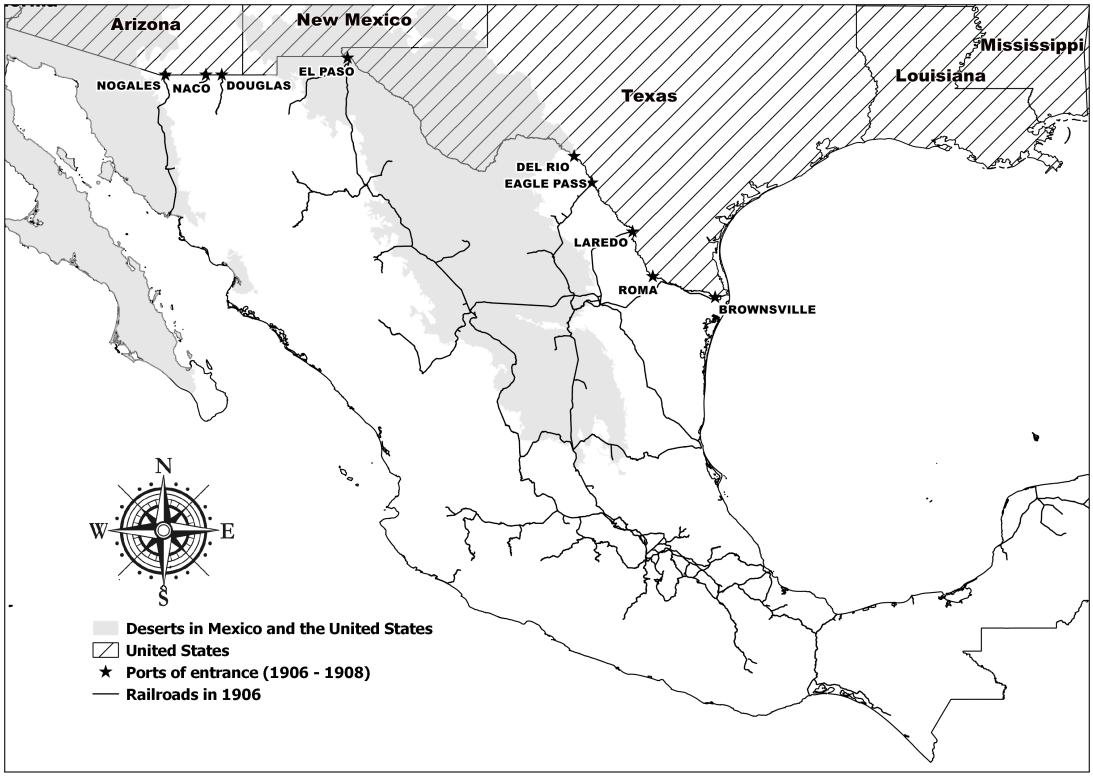
Column 16 (*Whether ever before in the United States; and if so, when and where*).—The entries in column 16 should show whether or not (Yes or No) in the United States before; and if so, the year (or period of years) and place; as, 1904-07, Philadelphia.

Column 17 (*Going to join relative or friend; and if so, what relative or friend*).—The entry in column 17 should show whether going to join either a relative or friend; and if so, what relative or friend, with name and complete address.

Columns 18 to 31.—The answers in these columns are subject to revision by any inspection officer in the examination of aliens.

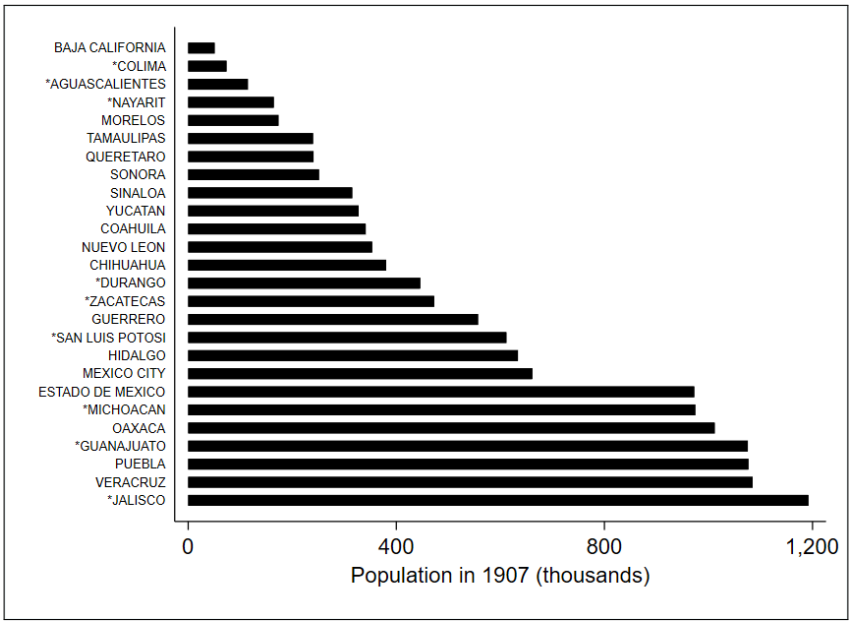
Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: Immigration and Naturalization Service (INS) Form 500–B. *List or Manifest of Alien Passengers for the US Immigration Officer at Port of Arrival*. The back of the manifests contains detailed instructions to fill each of the 29 columns. Also, they contain definitions for the clerk to determine the alien's race, nationality, occupation/status, etc.

Figure A.2: Entrance ports (1906 – 1908), railroads in Mexico ca. 1906 and deserts



Source: Secretaría de Comunicaciones y Obras Públicas (1906), United States Environmental Protection Agency and Mexican Border Crossing Records. Microfilm publication No. A3365.

Figure A.3: Mexican population by state in 1907



Source: Secretaría de Economía (1956).
Note: *Bajio states. Considering the population levels in 1907, the Bajio states were among the most populated. The states of Guanajuato, Jalisco and Michoacan were more populated than Mexico City at the time. This could explain the low migration rates observed in Bajio municipalities and the high migration rates in the Border region locations before 1910. Before 1917, the state of Nayarit was called Tepic.

Annex B

Analysis of the immigrant's locations of birth

Would the findings of the paper be different if the records were classified by place of birth rather than place of last residence? To rule out that the main findings of the paper are not influenced by sequential migration within Mexico, I classify the reported locations of birth as Mexican municipalities. Table B.1 shows that 67% of the transcribed crossings (7,313 observations) count with full classified geographic information. As can be noticed, underreporting of locations of birth is relatively high (9.9%), which could be a source of bias for the analysis.

Table B.1: Sample with full geographic information

	Obs.	*Share (%)*
Transcribed crossings	10,895	100
Return immigrants	718	6.6
Non-immigrants	1,045	9.6
Immigrants	9,083	83.4
Last residence in Mexico		
Unreported	405	3.7
Not classified	10	0.1
A. Classified as Mexican municipalities	**8,668**	**79.6**
Final destination in the United States		
Unreported	203	1.9
Not classified	82	0.8
B. Classified as American counties	**8,798**	**80.8**
C. A ∩ B	**8,420**	**77.3**
Place of birth in Mexico		
Unreported	1,087	9.9
Not classified	20	0.2
D. Full classified geographic information	**7,313**	**67.1**

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: *Return immigrants* refer to Mexican individuals whose final destination was in Mexico. *Non-immigrants* refer to Mexican individuals whose final destination and last permanent residence was in the United States. *Immigrants* refers to Mexican individuals whose last permanent residence was in Mexico and final destination was in the United States. C = Mexican immigrants whose last permanent residence and final destination was reported and classified in Mexican municipalities and US counties, respectively. D = immigrants with full classified geographic information (birthplace, last residence and destination).

I obtain a flow of 13,455 immigrants by applying weighting factors to the sample with full classified geographic information. Table B.2 presents the composition of the weighted flow and confirms the presence of sequential migration: 40% of the immigrants moved within Mexico before migrating to the United States. However, most sequential migration took place within regions, suggesting that the presence of sequential migration does not change the main finds of the paper. The micro data reveals that only 14% of the immigrants moved between regions before migrating to

the United States. Most of the interregional migration (82%) did occur between the Bajio and the Border region.

Table B.2: Decomposition of the sample with full geographic information
Weighted flow (1906–08)

	Weighted Flow	*Share (%)*
Panel A. Migration flow		
Total (A+B)	**13,455**	**100**
A. Direct migration	**8,122**	**60.4**
B. Sequential migration	**5,333**	**39.6**
C. Within regions	3,485	25.9
D. Between regions	1,848	13.7
Panel B. Sequential migration		
C. Within regions	**3,485**	**100**
Border	2,953	84.7
Bajio	523	15.0
Center	4	0.1
Southt	5	0.2
D. Between regions	**1,848**	**100**
Bajio – Border	1,516	82.0
Center – Border	88	4.8
South – Border	27	1.5
Other	217	11.7

Source: Mexican Border Crossing Records. Microfilm publication No. A3365.
Note: A = immigrants that were born in the municipality reported as last permanent residence. C = immigrants that were born in the region reported as last permanent residence, but in a municipality or state different from the reported as last permanent residence. D = immigrants that were born in a region different from the reported as last permanent residence.