Online Appendix

A Brief Diplomatic and Legislative History of the Bracero Program (1942-1964)

The first major agreement was reached on July 23, 1942 by representatives of both the United States and Mexican governments, and put into effect by an exchange of diplomatic notes on August 4, 1942 (EAS 278, p.1069). This agreement established a number of terms and conditions under which the program was to operate and continued in force until December 31, 1947. The agreement was relatively unchanged over this period, although there was a revision entered into force by an exchange of diplomatic notes on April 26, 1943 (EAS 351, p.1129). After negotiations between delegates from both countries, a temporary agreement was reached on February 17, 1948 and signed into force by an exchange of diplomatic notes on February 21, 1948 that allowed for the continuation of the program. This agreement, however, was terminated by the Mexican government, pursuant to notice given on October 18, 1948 (TIAS 1968, p.1232). After further negotiation, a new agreement was established on July 29, 1949 and entered into force by an exchange of diplomatic notes on August 1, 1949, which continued until it was terminated by Mexico on June 15, 1951 (TIAS 2260, p.1258). After the passage of Public Law 78 by Congress on July 12, 1951 which institutionalized the Bracero Program, transferred control to the Secretary of Labor, and provided the legislative foundation for the United States to keep negotiating bilateral labor agreements with Mexico, talks between Mexico and the United States continued (Craig, 1971). On August 11, 1951, a new agreement was entered into force by an exchange of diplomatic notes (TIAS 2331, p.1940). Despite several amendments, this agreement remained in force until December 31, 1964, a date agreed upon for termination by an exchange of diplomatic notes (TIAS 5492, p.1804). Alston and Ferrie (1993) argue that the program ended in 1964 with agricultural advancements (the mechanization of cotton) and a withdrawal of political support by Southern politicians.

Figure A1

Recruitment Centers 1942-1943

Figure A2

Recruitment Centers 1944-1946

Figure A3

Recruitment Centers 1947-July 31, 1949

Figure A4

Recruitment Centers August 1, 1949-August 10, 1951

Figure A5

Recruitment Centers August 11, 1951-May 18, 1952

Figure A6

Recruitment Centers May 19, 1952-March 9, 1954

Figure A7

Recruitment Centers March 10, 1954-April 13, 1955

Figure A8

Recruitment Centers April 14, 1955-January 31, 1962

Figure A9

Recruitment Centers February 1, 1962-December 31, 1964

Sources for Recruitment Center Maps: INEGI GIS files; City map coordinates found using Wikipedia.org and GeoHack; Recruitment Center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160; Recruitment Center locations taken from Galarza (1964)

Table A1 – Alternative Distance Measures (First Stage)

	(1) ln(braceros)	(2) ln(braceros)	(3) ln(braceros)
distance (centroid-partial)	-0.00230*** (0.000380)		
distance (point-majority)		-0.00213*** (0.000347)	
distance (point-partial)			-0.00244*** (0.000399)
constant	6.686	4.146 (75,858)	5.419 (24,672)
Observations	620	620	620
R-squared	0.853	0.851	0.853

Notes: Robust standard errors in parentheses such that *** p<0.01, ** p<0.05, and * p<0.10. Distance using the centroid-partial method is the distance in kilometers between a state's centroid and the closest recruitment center for any part of a given year. Distance using the point-majority method is the distance in kilometers between a state and the closest recruitment center (calculated by measuring distance between 200 random points within a state and the recruitment centers and taking the average) for the majority of the year (i.e., greater than six months). Distance using the point-partial method is the distance in kilometers between a state and the closest recruitment center (calculated by measuring distance between 200 random points within a state and the recruitment centers and taking the average) for any part of the given year. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends.

Source: Bracero data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A2 – IV Results using Centroid-Partial Distance Measure

	(1) ln(urbanprimaryenrolled)	(2) ln(ruralprimaryenrolled)	(3) ln(primaryenrolled)	(4) ln(primaryschools)	(5) ln(stateeducationspending)	(6) ln(postprimaryenrolled)	(7) ln(postprimaryenrolledmale)	(8) ln(postprimaryenrolledfemale)
ln(braceros)	0.0343**	0.0465**	0.0266***			0.0708	-0.0199	0.131
	(0.0145)	(0.0202)	(0.00976)			(0.0732)	(0.0643)	(0.102)
ln(braceros)$_{t-1}$				0.0221***	0.0465			
				(0.00790)	(0.0514)			
constant	14.72	9.996	2.667	8.589	-109.3***	88.97***	47.00	108.6***
	(18.98)	(15.47)	(6.352)	(8.298)	(29.03)	(31.60)	(52.44)	(21.19)
Observations	589	580	589	589	529	374	374	374
R-squared	0.989	0.958	0.994	0.994	0.925	0.976	0.974	0.961
KP F-Stat	32.29	30.25	32.29	33.31	30.08	7.916	7.916	7.916

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. See the Online Data Appendix for a complete discussion of sample size differences.

Source: Bracero and education data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A3 – IV Results using Point-Majority Distance Measure

	(1) ln(urbanprimaryenrolled)	(2) ln(ruralprimaryenrolled)	(3) ln(primaryenrolled)	(4) ln(primaryschools)	(5) ln(stateeducationspending)	(6) ln(postprimaryenrolled)	(7) ln(postprimaryenrolledmale)	(8) ln(postprimaryenrolledfemale)
ln(braceros)	0.0330**	0.0542***	0.0300***			0.138	0.00271	0.229*
	(0.0150)	(0.0210)	(0.0103)			(0.0924)	(0.0645)	(0.138)
ln(braceros)$_{t-1}$				0.0212**	0.122*			
				(0.00825)	(0.0661)			
constant	14.64	10.42	2.851	8.545	-106.6***	94.48***	48.87	116.6***
	(19.96)	(15.68)	(6.253)	(8.306)	(33.56)	(35.72)	(61.13)	(23.25)
Observations	589	580	589	589	529	374	374	374
R-squared	0.990	0.957	0.994	0.994	0.918	0.972	0.973	0.952
KP F-Stat	31.10	28.80	31.10	34.51	26.46	5.040	5.040	5.040

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. See the Online Data Appendix for a complete discussion of sample size differences.

Source: Bracero and education data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A4 – IV Results using Point-Partial Distance Measure

	(1) ln(urbanprimaryenrolled)	(2) ln(ruralprimaryenrolled)	(3) ln(primaryenrolled)	(4) ln(primaryschools)	(5) ln(stateeducationspending)	(6) ln(postprimaryenrolled)	(7) ln(postprimaryenrolledmale)	(8) ln(postprimaryenrolledfemale)
ln(braceros)	0.0354**	0.0480**	0.0269***			0.0975	0.00114	0.159
	(0.0149)	(0.0212)	(0.00980)			(0.0827)	(0.0671)	(0.116)
ln(braceros)$_{t-1}$				0.0225***	0.0905			
				(0.00794)	(0.0558)			
constant	14.78	10.08	2.683	8.610	-107.7***	91.17***	48.74	110.9***
	(18.91)	(15.55)	(6.362)	(8.309)	(29.40)	(30.74)	(51.69)	(20.87)
Observations	589	580	589	589	529	374	374	374
R-squared	0.989	0.958	0.994	0.994	0.922	0.975	0.973	0.959
KP F-Stat	32.38	30.27	32.38	34.17	23.01	6.738	6.738	6.738

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. See the Online Data Appendix for a complete discussion of sample size differences.

Source: Bracero and education data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A5 – Placebo Experiments First Stage

	(1) ln(braceros)	(2) ln(braceros)	(3) ln(braceros)
placebo distance one	-0.000215 (0.000255)		
placebo distance two		0.000130 (0.000129)	
placebo distance three			0.000219 (0.000286)
constant	0.604	2.698	3.312 (32,295)
Observations	620	620	620
R-squared	0.839	0.839	0.839

Notes: Robust standard errors in parentheses such that *** p<0.01, ** p<0.05, and * p<0.10. See the Online Data Appendix or the main text for a complete description of the how placebo distances are calculated. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends.

Source: Bracero data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A6 – Placebo Experiments IV Results

	(1) ln(urbanprimaryenrolled)	(2) ln(ruralprimaryenrolled)	(3) ln(primaryenrolled)	(4) ln(primaryschools)	(5) ln(stateeducationspending)	(6) ln(postprimaryenrolled)	(7) ln(postprimaryenrolledmale)	(8) ln(postprimaryenrolledfemale)
Placebo Distance One								
ln(braceros)	0.0775	0.156	0.0608			0.0101	-0.706	0.754
	(0.112)	(0.262)	(0.0830)			(0.680)	(2.153)	(2.749)
ln(braceros)$_{t-1}$				0.0684	3.093			
				(0.107)	(40.96)			
constant	17.08	16.01	4.539	10.92	-0.0671	83.96	-9.521	159.9
	(18.50)	(27.01)	(9.271)	(12.75)	(1,486)	(68.37)	(206.0)	(231.9)
Observations	589	580	589	589	529	374	374	374
R-squared	0.985	0.928	0.991	0.987	-4.247	0.978	0.846	0.812
KP F-Stat	0.749	0.412	0.749	0.480	0.00490	0.0769	0.0769	0.0769
Placebo Distance Two								
ln(braceros)	0.0871	-0.162	0.0477			-0.465	-0.306	-0.705
	(0.108)	(0.180)	(0.0638)			(0.333)	(0.247)	(0.527)
ln(braceros)$_{t-1}$				0.109	0.610			
				(0.155)	(1.481)			
constant	17.61	-1.430	3.822	12.96	-89.11	44.81	23.38	39.64
	(17.17)	(14.82)	(8.272)	(17.25)	(85.29)	(86.70)	(87.05)	(103.9)
Observations	589	580	589	589	529	374	374	374
R-squared	0.983	0.914	0.992	0.974	0.726	0.919	0.951	0.831
KP F-Stat	1.190	1.491	1.190	0.438	0.194	2.765	2.765	2.765
Placebo Distance Three								
ln(braceros)	0.182	0.169	0.0421			-0.882	-0.369	-1.307
	(0.286)	(0.267)	(0.117)			(2.138)	(0.958)	(3.164)
ln(braceros)$_{t-1}$				0.00189	1.001			
				(0.104)	(2.015)			
constant	22.82	16.73	3.519	7.576	-75.08	10.39	18.22	-10.04
	(20.79)	(28.67)	(8.836)	(8.739)	(125.1)	(207.5)	(112.9)	(296.3)
Observations	589	580	589	589	529	374	374	374
R-squared	0.958	0.922	0.993	0.995	0.385	0.763	0.940	0.502
KP F-Stat	0.398	0.378	0.398	0.331	0.217	0.145	0.145	0.145

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. See the Online Data Appendix for a complete discussion of sample size differences.

Source: Bracero and education data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A7 – Reduced Form Results with Lag Effects

	(1) ln(urbanprimaryenrolled)	(2) ln(ruralprimaryenrolled)	(3) ln(primaryenrolled)	(4) ln(primaryschools)	(5) ln(stateeducationspending)	(6) ln(postprimaryenrolled)	(7) ln(postprimaryenrolledmale)	(8) ln(postprimaryenrolledfemale)
No Lag								
distance	-0.0000749***	-0.000109**	-0.0000649***	-0.0000612***	-0.000153	-0.000168	-0.0000342	-0.000253*
	(0.0000288)	(0.0000435)	(0.0000202)	(0.0000218)	(0.000170)	(0.000111)	(0.0000976)	(0.000150)
constant	16.25	-13.21	16.47	-48.68***	-325.6	-170.8***	-221.8***	-130.0***
		(16,312)		(4.693)	(56,862)	(30.44)	(46.80)	(24.59)
Observations	704	695	704	736	656	479	479	479
R-squared	0.992	0.968	0.995	0.994	0.908	0.977	0.974	0.965
One Year Lag								
distance	-0.0000494	-0.0000884*	-0.0000555**	-0.0000486*	-0.0000408	-0.0000987	-0.0000472	-0.0000680
	(0.0000364)	(0.0000468)	(0.0000245)	(0.0000268)	(0.000203)	(0.000114)	(0.000108)	(0.000152)
distance$_{t-1}$	-0.00000548	-0.0000545	-0.0000131	-0.0000142	-0.000176	-0.000152	0.0000284	-0.000406***
	(0.0000241)	(0.0000467)	(0.0000162)	(0.0000178)	(0.000171)	(0.000111)	(0.000104)	(0.000149)
constant	-101.3***	-74.03***	-89.04***	-45.43***	-135.1	-177.2***	-220.6***	-147.1***
	(8.678)	(7.406)	(4.181)	(2.898)	(33,500)	(30.63)	(47.06)	(25.67)
Observations	672	664	672	704	626	479	479	479
R-squared	0.995	0.969	0.997	0.995	0.906	0.977	0.974	0.966
Three Year Lag								
distance	-0.0000466	-0.0000917*	-0.0000515**	-0.0000363	-0.000109	-0.000143	-0.0000975	-0.000106
	(0.0000344)	(0.0000528)	(0.0000229)	(0.0000277)	(0.000232)	(0.000128)	(0.000118)	(0.000172)
distance$_{t-1}$	0.0000396	-0.0000263	0.0000305*	0.0000250	-0.0000213	-0.000188	0.00000496	-0.000443**
	(0.0000253)	(0.0000807)	(0.0000185)	(0.0000244)	(0.000193)	(0.000148)	(0.000131)	(0.000192)
distance$_{t-2}$	-0.0000250	-0.0000171	-0.0000286	-0.0000347	-0.0000841	-0.00000224	-0.0000233	0.00000489
	(0.0000370)	(0.0000549)	(0.0000248)	(0.0000222)	(0.000156)	(0.000157)	(0.000155)	(0.000183)
distance$_{t-3}$	-0.0000286	-0.0000533	-0.0000412**	-0.0000181	-0.0000877	-0.000373***	-0.000364***	-0.000341**
	(0.0000269)	(0.0000387)	(0.0000194)	(0.0000190)	(0.000160)	(0.000126)	(0.000131)	(0.000165)
constant	-107.0***	-78.15***	-93.52***	-46.98***	-330.0***	-186.5***	-230.3***	-155.4***
	(8.484)	(9.262)	(2.268)	(1.851)	(47.94)	(29.84)	(45.53)	(26.11)
Observations	608	602	608	640	566	479	479	479
R-squared	0.995	0.966	0.997	0.995	0.899	0.978	0.974	0.967

Notes: Standard errors are clustered at the state x regime level such that *** p<0.01, ** p<0.05, and * p<0.10. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. Distance is measured using the Centroid-Majority method explained in the text and the Online Data Appendix. See the Online Data Appendix for a complete discussion of sample size differences. *Source:* Bracero and education data from *Anuarios*. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A8 – IV Results by Age for Males (IPUMS Data)

	(1) age six	(2) age seven	(3) age eight	(4) age nine	(5) age ten	(6) age eleven	(7) age twelve	(8) age thirteen	(9) age fourteen	(10) age fifteen	(11) age sixteen	(12) age seventeen	(13) age eighteen
ln(braceros)	0.00697	0.00557	0.00867	0.00351	-0.0173	-0.00857	0.00224	0.0106	0.000675	-0.0171**	-0.0219***	-0.00802	-0.0106**
	(0.00761)	(0.00820)	(0.00932)	(0.00980)	(0.0134)	(0.00867)	(0.00884)	(0.00740)	(0.00721)	(0.00706)	(0.00722)	(0.00586)	(0.00490)
constant	-4.323*	1.262	-0.0883	-2.468	-16.08***	-11.48***	-5.704**	-7.678***	-9.200***	-6.825**	-5.378	-1.432	-1.979
	(2.330)	(4.467)	(3.577)	(4.958)	(5.208)	(4.323)	(2.337)	(2.623)	(2.703)	(3.287)	(3.821)	(3.118)	(3.825)
Observations	620	620	620	620	620	620	620	620	620	620	620	620	620
R-squared	0.725	0.749	0.801	0.820	0.789	0.801	0.649	0.713	0.650	0.478	0.391	0.406	0.405
KP F-Stat	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. The dependent variable for each column is the estimated proportion of children of the corresponding age in school. See the Online Data Appendix for a complete discussion of sample size differences and construction of the age-specific enrollment estimates from IPUMS.

Source: Bracero data from *Anuarios*. Enrollment data constructed from the one percent IPUMS sample of the 1970 Mexican Census. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).

Table A9 – IV Results by Age for Females (IPUMS Data)

	(1) age six	(2) age seven	(3) age eight	(4) age nine	(5) age ten	(6) age eleven	(7) age twelve	(8) age thirteen	(9) age fourteen	(10) age fifteen	(11) age sixteen	(12) age seventeen	(13) age eighteen
ln(braceros)	0.0215**	0.0322***	0.0165	-0.0254**	-0.0100	0.00237	0.00416	-0.00338	-0.00206	-0.0149***	0.000967	-0.00230	0.00170
	(0.00946)	(0.0108)	(0.0108)	(0.0116)	(0.00911)	(0.00796)	(0.00622)	(0.00379)	(0.00452)	(0.00553)	(0.00346)	(0.00383)	(0.00313)
constant	5.142	8.224***	6.420	3.733	-5.332	-2.661	-4.340**	-6.302***	-6.175***	-4.936	-2.449	-4.133	-0.0956
	(3.388)	(2.480)	(4.878)	(5.488)	(4.417)	(4.792)	(2.175)	(1.591)	(1.848)	(3.431)	(1.775)	(2.528)	(1.655)
Observations	620	620	620	620	620	620	620	620	620	620	620	620	620
R-squared	0.739	0.747	0.844	0.820	0.841	0.820	0.676	0.654	0.559	0.489	0.491	0.405	0.342
KP F-Stat	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56	30.56

Notes: Standard errors are clustered at the state x regime level such that *** $p<0.01$, ** $p<0.05$, and * $p<0.10$. All regressions include state fixed effects, year fixed effects, and state-specific linear time trends. The dependent variable for each column is the estimated proportion of children of the corresponding age in school. See the Online Data Appendix for a complete discussion of sample size differences and construction of the age-specific enrollment estimates from IPUMS.

Source: Bracero data from *Anuarios*. Enrollment data constructed from the one percent IPUMS sample of the 1970 Mexican Census. Recruitment center locations from international agreements TIAS 1968, TIAS 2260, TIAS 2328, TIAS 2331, TIAS 2586, TIAS 2932, TIAS 3242, and TIAS 5160. Recruitment center locations taken from Galarza (1964).