

# The Effect of Disasters on Migration Destinations: Evidence from Hurricane Katrina\*

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## Abstract

While post-disaster migration can move vulnerable populations from dangerous regions to relatively safe ones, little is known about the processes by which migrants select new homes. We utilize an econometric model of migrant flows to examine the characteristics of the destinations that attracted migrants leaving the New Orleans area following Hurricane Katrina in 2005 relative to migration behaviors in other years. We find an increase flow of migrants to large, nearby counties with a mixed effect of economic variables on migration. We find that counties that had experienced fewer disasters received a greater proportion of total migrants in 2005, but there was an overall increase in migration flow to disaster-exposed regions as well.

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## Tables and Figures

Table 1: Most Common State Destination for Migrants in 2005

State	Migrants in 2005	Percentage of Total in 2005	Average Migrants	Percentage of Total
Texas	73,252	40.3%	5,478	23%
Louisiana	45,014	24.8%	8,604	36%
Georgia	14,480	7.96%	1,126	4.72%
Mississippi	10,327	5.68%	2,386	10%
Florida	5,951	3.27%	1,437	6.02%
Tennessee	4,896	2.69%	389	1.63%
Alabama	4,220	2.32%	587	2.46%
California	3,221	1.77%	992	4.16%
Arkansas	2,728	1.5%	95	0.396%
North Carolina	1,704	0.937%	263	1.1%

Table 2: Most Common County Destination for Migrants in 2005

FIPS	County	State	Migrants in 2005	Percentage of Total in 2005	Average Migrants	Percentage of T
48201	Harris	Texas	38,033	20.9%	2,512	10.5%
22033	East Baton Rouge	Louisiana	14,291	7.86%	2,188	9.17%
48113	Dallas	Texas	9,971	5.48%	648	2.72%
48439	Tarrant	Texas	5,575	3.07%	464	1.94%
22105	Tangipahoa	Louisiana	4,758	2.62%	1,685	7.06%
22055	Lafayette	Louisiana	3,377	1.86%	765	3.2%
48029	Bexar	Texas	3,114	1.71%	239	1%
22005	Ascension	Louisiana	2,912	1.6%	762	3.19%
13089	Dekalb	Georgia	2,783	1.53%	250	1.05%
47157	Shelby	Tennessee	2,769	1.52%	230	0.963%

Table 3: Summary Statistics

variable	mean	sd	min	max
Percentage Black	0.089	0.145	0.000	0.865
Number of Disasters	5.982	3.067	1.000	21.000
Distance (Hundreds of Miles)	13.662	7.788	0.573	69.167
Migrants from New Orleans	11.652	248.566	0.000	38033.000
Average Monthly Rent (Hundreds of USD)	5.596	1.724	3.230	19.400
In a Metro	0.348	0.476	0.000	1.000
Average Annual Pay (Thousands of USD)	29.553	7.287	0.000	101.084
Population Density (1,000 per square mile)	0.179	1.085	0.000	39.121
Population (Millions)	0.074	0.233	0.000	7.422
Unemployment Rate	6.042	2.659	1.367	28.840

Table 4: Effect of Destination Characteristics on New Orleans Outflow Migration

	<i>Dependent variable:</i>			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population Density (1,000 per square mile)	3.169*** (0.953)	0.183*** (0.042)	0.038*** (0.010)	0.015*** (0.004)
Distance (Hundreds of Kilometers)	-0.833*** (0.219)	-0.013*** (0.003)	-0.002*** (0.001)	-0.004*** (0.001)
Percentage Black	30.867*** (11.056)	0.991*** (0.153)	0.199*** (0.029)	0.137*** (0.050)
Unemployment Rate	-1.138*** (0.275)	-0.032*** (0.004)	-0.006*** (0.001)	-0.005*** (0.001)
Average Pay	1.033** (0.402)	0.023*** (0.004)	0.004*** (0.001)	0.005** (0.002)
Median Rent	0.102 (0.849)	0.030* (0.016)	0.007** (0.003)	0.001 (0.004)
Number of Disasters	2.621*** (0.768)	0.052*** (0.008)	0.009*** (0.001)	0.012*** (0.003)
Non Metro	-1.949 (2.239)	-0.153*** (0.036)	-0.034*** (0.007)	-0.008 (0.010)
Year 2005	-404.109** (194.036)	-1.600*** (0.192)	-0.265*** (0.038)	-0.124* (0.074)
Population X 2005	6.003 (12.794)	-0.051** (0.023)	-0.018*** (0.003)	-0.010** (0.004)
Distance X 2005	-8.146*** (2.606)	-0.044*** (0.004)	-0.007*** (0.001)	-0.001 (0.001)
Black X 2005	118.091 (73.913)	1.659*** (0.233)	0.273*** (0.048)	-0.055* (0.033)
Unemployment Rate X 2005	11.575** (4.653)	0.062*** (0.016)	0.011*** (0.003)	0.010*** (0.003)
Average Pay X 2005	12.059* (6.623)	0.031*** (0.005)	0.004*** (0.001)	0.003 (0.002)
Median Rent X 2005	10.404 (8.617)	0.260*** (0.030)	0.049*** (0.006)	0.005 (0.003)
Number of Disasters X 2005	15.679 (9.585)	0.028*** (0.007)	0.003* (0.002)	-0.002 (0.003)

Table 5: Effect of Destination Characteristics on New Orleans Outflow Migration - Excluding Houston

	<i>Dependent variable:</i>			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population Density (1,000 per square mile)	2.792*** (0.622)	0.181*** (0.041)	0.038*** (0.010)	0.013*** (0.003)
Distance (Hundreds of Kilometers)	-0.721*** (0.187)	-0.013*** (0.003)	-0.002*** (0.001)	-0.003*** (0.001)
Percentage Black	31.197*** (11.058)	0.992*** (0.153)	0.200*** (0.029)	0.139*** (0.050)
Unemployment Rate	-1.014*** (0.242)	-0.032*** (0.004)	-0.006*** (0.001)	-0.004*** (0.001)
Average Pay	0.670*** (0.174)	0.022*** (0.004)	0.004*** (0.001)	0.003*** (0.001)
Median Rent	0.713 (0.570)	0.031** (0.016)	0.007** (0.003)	0.004 (0.003)
Number of Disasters	2.012*** (0.475)	0.050*** (0.008)	0.009*** (0.001)	0.009*** (0.002)
Non Metro	-1.951 (2.226)	-0.153*** (0.036)	-0.033*** (0.007)	-0.008 (0.010)
Year 2005	-220.338*** (62.619)	-1.588*** (0.191)	-0.266*** (0.038)	-0.055** (0.026)
Population X 2005	1.183 (5.748)	-0.051** (0.023)	-0.018*** (0.003)	-0.011*** (0.002)
Distance X 2005	-5.837*** (1.209)	-0.044*** (0.004)	-0.007*** (0.001)	-0.0003 (0.001)
Black X 2005	161.511*** (59.754)	1.666*** (0.233)	0.273*** (0.047)	-0.033 (0.024)
Unemployment Rate X 2005	8.282** (3.217)	0.061*** (0.016)	0.011*** (0.003)	0.008*** (0.002)
Average Pay X 2005	5.654*** (1.732)	0.030*** (0.005)	0.004*** (0.001)	0.001 (0.001)
Median Rent X 2005	16.974*** (4.828)	0.259*** (0.030)	0.049*** (0.006)	0.006*** (0.002)
Number of Disasters X 2005	6.233*** (1.885)	0.028*** (0.007)	0.003** (0.002)	-0.005*** (0.001)

Table 6: Effect of Destination Characteristics on New Orleans Outflow Migration

	<i>Dependent variable:</i>			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population Density (1,000 per square mile)	3.345*** (1.014)	0.184*** (0.043)	0.038*** (0.010)	0.015*** (0.005)
Distance (Hundreds of Kilometers)	-0.775*** (0.202)	-0.012*** (0.003)	-0.002*** (0.001)	-0.004*** (0.001)
Percentage Black	31.130*** (11.539)	0.976*** (0.155)	0.196*** (0.029)	0.137*** (0.052)
Unemployment Rate	-0.362 (0.294)	-0.011*** (0.004)	-0.002*** (0.001)	-0.002 (0.001)
Average Pay	1.081*** (0.410)	0.026*** (0.004)	0.005*** (0.001)	0.005*** (0.002)
Median Rent	-0.614 (0.858)	0.017 (0.013)	0.004 (0.003)	-0.002 (0.004)
Number of Disasters	2.641*** (0.774)	0.052*** (0.008)	0.009*** (0.001)	0.012*** (0.003)
Non Metro	-3.131 (2.265)	-0.170*** (0.035)	-0.037*** (0.007)	-0.013 (0.010)
Year 2005	207.890*** (37.829)	2.073*** (0.109)	0.364*** (0.023)	0.039*** (0.012)
Population X 2005	5.828 (12.721)	-0.052** (0.022)	-0.018*** (0.003)	-0.010*** (0.004)
Distance X 2005	-8.204*** (2.618)	-0.044*** (0.004)	-0.007*** (0.001)	-0.001 (0.001)
Black X 2005	117.828 (73.495)	1.674*** (0.231)	0.276*** (0.047)	-0.056* (0.033)
Unemployment Rate X 2005	10.799** (4.483)	0.041*** (0.015)	0.007*** (0.003)	0.007*** (0.003)
Average Pay X 2005	12.012* (6.614)	0.028*** (0.005)	0.004*** (0.001)	0.002 (0.002)
Median Rent X 2005	11.120 (8.630)	0.272*** (0.031)	0.052*** (0.006)	0.007** (0.003)
Number of Disasters X 2005	15.659 (9.582)	0.028*** (0.007)	0.003* (0.002)	-0.002 (0.003)

Table 7: Effect of Destination Characteristics on New Orleans Outflow Migration - Excluding Houston

	<i>Dependent variable:</i>			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population Density (1,000 per square mile)	2.945*** (0.652)	0.183*** (0.042)	0.038*** (0.010)	0.014*** (0.003)
Distance (Hundreds of Kilometers)	-0.669*** (0.171)	-0.012*** (0.003)	-0.002*** (0.001)	-0.003*** (0.001)
Percentage Black	31.628*** (11.525)	0.978*** (0.155)	0.197*** (0.029)	0.140*** (0.052)
Unemployment Rate	-0.440 (0.279)	-0.011*** (0.004)	-0.002*** (0.001)	-0.002 (0.001)
Average Pay	0.709*** (0.174)	0.024*** (0.004)	0.005*** (0.001)	0.003*** (0.001)
Median Rent	0.087 (0.481)	0.019 (0.012)	0.004* (0.003)	0.001 (0.002)
Number of Disasters	2.031*** (0.484)	0.050*** (0.008)	0.009*** (0.001)	0.009*** (0.002)
Non Metro	-2.943 (2.247)	-0.170*** (0.035)	-0.037*** (0.007)	-0.012 (0.010)
Year 2005	199.119*** (36.928)	2.072*** (0.109)	0.364*** (0.023)	0.035*** (0.011)
Population X 2005	1.029 (5.691)	-0.052** (0.022)	-0.018*** (0.003)	-0.012*** (0.002)
Distance X 2005	-5.889*** (1.224)	-0.044*** (0.004)	-0.007*** (0.001)	-0.0005 (0.001)
Black X 2005	161.080*** (59.380)	1.680*** (0.231)	0.276*** (0.047)	-0.034 (0.026)
Unemployment Rate X 2005	7.708** (3.176)	0.041*** (0.015)	0.007*** (0.003)	0.006** (0.002)
Average Pay X 2005	5.615*** (1.727)	0.028*** (0.005)	0.004*** (0.001)	0.0004 (0.001)
Median Rent X 2005	17.599*** (4.951)	0.272*** (0.031)	0.052*** (0.006)	0.008*** (0.002)
Number of Disasters X 2005	6.214*** (1.875)	0.028*** (0.007)	0.003** (0.002)	-0.005*** (0.001)