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 (per square mile)	179.244	1085.458	0.000	39121.260
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

	Dependent variable:			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population (Millions)	98.193**	2.082***	0.382***	0.445**
	(44.971)	(0.492)	(0.100)	(0.200)
Distance (Hundreds of Kilometers)	−1.148***	−0.023***	−0.004***	−0.005***
	(0.269)	(0.003)	(0.001)	(0.001)
Unemployment Rate	−0.524***	−0.017***	−0.004***	−0.002**
	(0.177)	(0.003)	(0.001)	(0.001)
Average Pay	0.497**	0.015***	0.003***	0.002**
	(0.231)	(0.005)	(0.001)	(0.001)
Median Rent	−1.936	0.001	0.002	−0.008
	(1.669)	(0.016)	(0.003)	(0.007)
Number of Disasters	1.240***	0.023***	0.004***	0.006***
	(0.474)	(0.007)	(0.001)	(0.002)
Non Metro	3.464	−0.046	−0.014	0.016
	(3.560)	(0.046)	(0.009)	(0.016)
Year 2005	80.941	−1.302***	−0.255***	0.029
	(202.319)	(0.254)	(0.044)	(0.089)
Population X 2005	1,059.431	0.575*	−0.014	0.190
	(792.333)	(0.331)	(0.035)	(0.260)
Distance X 2005	−8.011***	−0.054***	−0.009***	0.0002
	(1.849)	(0.004)	(0.001)	(0.001)
Unemployment Rate X 2005	10.409**	0.113***	0.020***	0.007***
	(4.238)	(0.017)	(0.003)	(0.003)
Average Pay X 2005	3.279	0.027***	0.004***	−0.0001
	(3.480)	(0.006)	(0.001)	(0.001)
Median Rent X 2005	−31.708	0.227***	0.047***	−0.010
	(36.447)	(0.033)	(0.006)	(0.014)
Number of Disasters X 2005	2.654	0.024***	0.004**	−0.004***
	(2.744)	(0.007)	(0.002)	(0.001)
Non Metro X 2005	7.798	−0.430***	−0.081***	−0.010
	(30.610)	(0.063)	(0.013)	(0.008)
Constant	4.825	−0.085	−0.027	0.018
	(6.495)	(0.122)	(0.025)	(0.029)

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

	Dependent variable:			
	Flow	IHS	LP	Share
	(1)	(2)	(3)	(4)
Population (Millions)	58.106***	2.050***	0.388***	0.267***
	(11.047)	(0.505)	(0.107)	(0.049)
Distance (Hundreds of Kilometers)	−1.025***	−0.023***	−0.004***	−0.005***
	(0.241)	(0.003)	(0.001)	(0.001)
Unemployment Rate	−0.533***	−0.017***	−0.004***	−0.002***
	(0.149)	(0.003)	(0.001)	(0.001)
Average Pay	0.415**	0.015***	0.003***	0.002**
	(0.167)	(0.004)	(0.001)	(0.001)
Median Rent	−0.364	0.002	0.002	−0.001
	(0.594)	(0.016)	(0.003)	(0.003)
Number of Disasters	1.241***	0.023***	0.004***	0.006***
	(0.457)	(0.007)	(0.001)	(0.002)
Non Metro	1.064	−0.048	−0.014	0.005
	(2.304)	(0.047)	(0.009)	(0.011)
Year 2005	−78.388	−1.300***	−0.252***	−0.042**
	(51.296)	(0.259)	(0.045)	(0.021)
Population X 2005	337.835**	0.596*	−0.005	−0.050
	(157.259)	(0.357)	(0.039)	(0.048)
Distance X 2005	−6.826***	−0.054***	−0.009***	0.0004
	(1.312)	(0.004)	(0.001)	(0.001)
Unemployment Rate X 2005	11.635***	0.113***	0.020***	0.008***
	(3.776)	(0.017)	(0.003)	(0.002)
Average Pay X 2005	3.274**	0.027***	0.004***	0.0002
	(1.391)	(0.006)	(0.001)	(0.001)
Median Rent X 2005	4.312	0.227***	0.047***	0.003
	(5.559)	(0.033)	(0.006)	(0.002)
Number of Disasters X 2005	2.374	0.024***	0.004**	−0.004***
	(1.968)	(0.007)	(0.002)	(0.001)
Non Metro X 2005	−16.459	−0.428***	−0.081***	−0.014**
	(13.158)	(0.063)	(0.013)	(0.006)
Constant	0.740	−0.089	−0.027	−0.0002
	(3.304)	(0.122)	(0.026)	(0.015)