

Tallying Up the Cost of Hurricane Andrew

Morton D. Winsberg
Florida State University

Hurricane Andrew, which struck the Miami Metropolitan Area (Dade County) in August 1992, is regarded as the most costly natural disaster the nation has ever experienced. Damage has been estimated at 32 billion dollars, most of it to the county's southern half. The scale of the long-term loss of shelter to its inhabitants has sometimes been compared to that which followed the San Francisco earthquake in 1906, and certainly is the greatest loss to a United States city since that disaster. Unlike survivors of the San Francisco earthquake, who had to live in hastily erected tent cities until the damage was repaired, those of Miami had all of Florida's Gold Coast urban area to seek shelter. Most people who had to leave their homes moved elsewhere in Dade County, but others left for counties nearby, and some moved a far greater distance. An examination of the destination of Miamians who left the county before and following Andrew can shed light on the size of population movements following natural disasters, and the distance moved.

Fortunately, for many years, the Internal Revenue Service has released data on the county-to-county migration of people who file income tax forms and the number of their exemptions. Since tax filers and their exemptions together fairly approximate the total population of the nation the data have proven valuable in the study of internal migration within the United States. The period 1993 to 1994, during which Andrew struck Miami, is the most recent for which the IRS has released data. It also is the first period that the IRS has provided data on the amount of money reported on income tax forms. Now it is possible to calculate the flow of income between Dade and other counties.

For many years Dade County has been sending more people to other United States counties than it receives (Figure 1). Given that the county has approximately two million inhabitants, losses of this size are insignificant. Furthermore, for years the county's population loss to other places in the nation has been more than compensated for by immigration from abroad. Immigration from abroad,

Table 1
Net Out-Migration from Dade County
To Selected Florida Counties and
Cities in Other States

net in-migration is italicized and underlined

County	1990/1991	1991/1992	1992/1993	1993/1994	Total 1990/1994
Alachua	374	287	341	190	1192
Bay	11	24	735	<u>24</u>	736
Brevard	353	472	2015	705	3545
Broward	12332	12952	24965	17986	68217
Charlotte	124	111	138	90	463
Citrus	115	111	227	144	597
Collier	375	270	439	391	1084
Duval	134	248	491	44	917
Escambia	54	98	134	39	325
Hernando	38	36	145	11	230
Highlands	207	259	647	381	1494
Hillsborough	98	34	1108	175	1415
Indian River	164	103	234	171	672
Lake	199	197	303	243	942
Lee	223	243	619	269	1354
Leon	227	301	420	315	1263
Manatee	111	63	218	90	482
Marion	285	292	608	475	1660
Martin	167	151	384	321	1023
Monroe	<u>53</u>	144	1535	415	2041
Okaloosa	1	76	948	20	1045
Orange	949	503	1051	556	2503
Osceola	119	123	355	157	597
Palm Beach	1702	1357	3433	2943	9435
Pinellas	109	71	372	117	669
Polk	203	224	439	375	1241
St. Lucie	267	241	558	480	1546
Sarasota	149	18	181	178	526
Seminole	285	342	486	256	1369
Volusia	302	154	505	447	1408
Other Counties	55	672	1485	4253	6465
Outside Florida					
Greater Atlanta	1197	1036	1661	1400	5294
Greater Boston	<u>862</u>	<u>897</u>	<u>370</u>	<u>651</u>	<u>2780</u>
Greater Chicago	<u>480</u>	<u>370</u>	<u>587</u>	<u>584</u>	<u>2021</u>
Greater Los Angeles	<u>779</u>	<u>751</u>	<u>1677</u>	<u>2604</u>	<u>5811</u>

The Florida Geographer

Greater New York	<u>10407</u>	<u>9017</u>	<u>8095</u>	<u>9310</u>	<u>36829</u>
Other migration outside Florida	3067	3240	16078	1214	23599
Total Migration	19687	20177	45519	32185	117560

however, might not have balanced the losses the county sustained to other parts of the nation between 1992 and 1993, when Andrew struck. Between those two years 45,519 more taxpayers and their exemptions left Dade County for other counties in the nation than arrived. During the following tax period (1993-1994) net migration fell to 32,185, considerably below the previous year, but still the second highest net migration experienced during the decade.

Most of Dade's population loss during the 1990s to elsewhere in the nation has been to Broward County (58 percent), just to its north. The destruction to Dade County only increased an already large outflow. An undetermined number, but nonetheless large share, of those who leave Dade County for Broward continue to work in Dade. Several Florida counties that received unusually large net migrations of Miamians following Andrew were far beyond the commuter range of the city, and previous to Hurricane Andrew migration between them and Dade was reasonably balanced. Most absorbed military personnel who were evacuated from Homestead Air Force Base, which was almost destroyed by Andrew.

During the 1990s more people left Dade County to live in other Florida counties than left those counties to live in Dade County (Table 1). The single exception is Monroe County for 1990-91. People from several metropolitan areas elsewhere in the nation have continued to settle in Dade County in relatively large numbers. From the Greater New York metropolitan area, which includes communities in New Jersey and Connecticut, net migration to Dade County is approximately ten thousand each year. Net migration from the metropolitan areas of Los Angeles, Boston and Chicago is much smaller. It is impossible to identify the race or ethnicity of tax filers from the INS data. Nonetheless, it is likely that the movement into Dade from these cities is primarily from their Hispanic communities. Dade regularly sends more people to Greater Atlanta than it receives. Again, it is only speculation, but a significant share

probably is of Dade's African American population, leaving Miami for better employment opportunities.

People who left the county between 1992 and 1993 reported slightly over one-half billion dollars more income in 1993 than people who came to the county during that period. The loss to Dade County was 2.6 percent of the total income reported by those that remained in the county. The situation became worse between 1993 and 1994, despite a smaller net migration. In that tax period people who left the county reported almost 700 million dollars more than those who filed in Dade for the first time, or 3.3 percent of the income of those who remained in the county.

A contributing factor to this loss of income to Dade during these two years has been that those who come to Dade have reported an average income considerably less than those who leave. In the tax period between 1992 and 1993 it was 16 percent less, and between 1993 and 1994 it was 20 percent less. The loss to Dade of so many people, especially those with comparatively high income, assuredly has had an adverse effect upon Dade County's economy. Dade's loss, however, has brought economic benefits to the counties in which Dade residents have settled.