

## **Violent Crime Rates in Houston Before and After Hurricane Katrina**

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In the weeks following August 29, 2005, hundreds of thousands of Louisiana and Mississippi residents were displaced due to Hurricane Katrina. The Congressional Research Service (CRS) estimates that at least 700,000 people were substantially impacted by the hurricane. They also estimate that 20% of those displaced were likely to have been poor with 30% having incomes below 1.5 times the poverty level. (Thomas Gabe, Gene Falk, Maggie McCarty, and Virginia W. Mason, CRS Report for Congress, November 2005, <http://www.gnocdc.org/reports/crsrept.pdf>.) Similarly, a 2005 American Community Survey done by the U.S. Census Bureau indicates that those that moved out of the New Orleans area after Katrina were more likely to be younger and in poverty and less likely to be employed or in the labor force than those that did not move out of the area. (Kim Koerber, Southern Demographic Association Conference, November 2006, [http://www.census.gov/Press-Release/www/emergencies/gulf\\_migration.html](http://www.census.gov/Press-Release/www/emergencies/gulf_migration.html).) The CRS report estimates that approximately 150,000 of those that did evacuate from New Orleans ended up in Houston, Texas. Soon after this migration to Houston, the press was full of stories about the increased crimes in Houston as a result of the new residents from New Orleans.

In early 2006, the *Washington Post* reported that Hurricane Katrina migrants were involved in seventeen percent of the reported homicides in Houston (Sylvia Moreno, *Washington Post*, February 6, 2006, <http://www.washingtonpost.com/wpdyn/content/article/2006/02/05/AR2006020500884.html>.) The *Houston Chronicle* also reports higher crime after Hurricane Katrina. The article reports that Houston was on pace to reach the highest number of murders the city has seen in the past decade. Houston Police Captain Dwayne Ready is quoted as saying, "We recognize that the homicide rate is up as far as raw numbers and as well as percentages relative to the population. We also recognize that Katrina evacuees continue to have an impact on the murder rate." (Jennifer Leahy, *Houston Chronicle*, October 21, 2006, <http://www.chron.com/disp/story.mpl/hurricane/4277375.html>.)

This paper will examine the issue of whether or not the evacuees from New Orleans impacted the crime rate in Houston in the months after Hurricane Katrina. The focus is on violent crimes which include murder, forcible rape, robbery, and aggravated assault. Monthly data and regression analysis are used. The time period covered is January 2004 through September 2007, a total of 45 months.

Previous literature has found that higher unemployment rates are associated with higher rates of crime. (Joel Devine, Joseph F. Sheley, and M. Dwayne Smith, *American Sociological Review*, June 1988.) Another study finds that the relationship between unemployment and violence is ambiguous; however, the relationship between poverty and violence is more defined (Robert D. Crutchfield, *Social Forces*, December 1989.) Given that many of the

evacuees from Katrina came from poverty, the immigration of evacuees into Houston could be expected to increase violent crimes. Both the unemployment rate (UNEMP) and a dummy variable for the months after Katrina (KATRINA) are included in the regressions used here. The unemployment rate is only one aspect of the overall health of an economy. Other studies have used per capita retail sales and per capita income as variables to explain crime rates. (Marilyn A. Brown, *Economic Geography*, July 1982.) As an alternative to the unemployment rate, the regression is also run using a broader measure of the local economy, a business cycle index (BCI). The BCI is released by the Federal Reserve Bank of Dallas on a monthly basis for the major metropolitan areas of Texas and includes the unemployment rate, employment, inflation-adjusted wages and inflation-adjusted retail sales.

The dependent variable is the violent crime rate (the number of crimes per 100,000 persons.) In constructing this variable, 150,000 people were added to the 2005 annual population for the months after Katrina to represent the increased number of people based on the CRS estimate. The first regression includes the dummy variable equal to 1 for the months after Katrina and the unemployment rate as independent variables. The results of the regression indicate that the migration after Hurricane Katrina did significantly affect the violent crime rate in Texas but not in the predicted direction. KATRINA has a significant, negative coefficient indicating that the violent crime rate in Houston is lower in the months after Katrina than in the time period prior to Katrina. The coefficient on the unemployment rate is insignificant. The F-Statistics indicates an overall significant regression and the adjusted  $R^2$  is 13.6%. The results using the BCI instead of the unemployment rate are similar. These results are most likely caused by the large number of evacuees that moved to the area offsetting the increase in violence that was reported. A look at the raw data on violent crimes shows that the number of violent crimes peaks in the two months preceding Katrina so the influx of people from New Orleans actually helped lower the crime rate for the Houston area.