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U.S. Department of Labor
U.S. Bureau of Labor Statistics
Office of Employment and Unemployment Statistics

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Working Paper 415
March 2008

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March 2008

Abstract

We use data from the Current Population Survey collected both before and after Hurricane Katrina to estimate the impact of Katrina on the labor market outcomes of evacuees. Our estimates are based on a difference-in-differences strategy that compares evacuees to all residents of Katrina-affected areas prior to Katrina, with a control group consisting of individuals who originally resided outside the areas affected by the storm. We estimate that Katrina had substantial effects on the labor market outcomes of evacuees over the 13-month period immediately following Katrina. However, our estimates suggest that the effects of Katrina diminished substantially over time as evacuees recovered from the hurricane and adjusted to new economic and social conditions. Evacuees who did not return to their pre-Katrina areas have fared much worse in the labor market than have those who returned. Differences in individual and family characteristics account for some of the differences in outcomes between returnees and non-returnees. We present evidence that non-returnees have fared much worse in the labor market primarily because they came from areas that experienced greater housing damage due to the storm and thus were more likely to have had their lives severely disrupted.

* We are grateful to Alison Aughinbaugh, Keenan Dworak-Fisher, Joel Elvery, Ethan Lewis, and seminar participants at the 2008 American Economic Association meetings, the 2007 Society of Labor Economists meetings, the 2007 Southern Economic Association meetings, and the Bureau of Labor Statistics for useful comments. The views expressed in this paper are solely those of the authors and do not reflect the views of the Bureau of Labor Statistics. An abridged version of this paper will be published in the *American Economic Review* in May 2008.

1. Introduction

Hurricane Katrina, which struck the Gulf Coast in August 2005, was one of the largest and most deadly storms in U.S. history. The massive cyclone caused catastrophic flooding in the city of New Orleans and devastating damage along the Gulf coasts of Alabama, Mississippi, and Louisiana. As a result, Katrina caused a massive relocation of people and created a large amount of job displacement. The number of mass layoff events in Louisiana and Mississippi rose sharply in September 2005 following Katrina (Brown and Carey 2006). In the two months following Katrina, payroll employment declined by 35 percent in the New Orleans metropolitan area and declined by 12 percent in the entire state of Louisiana (U.S. Bureau of Labor Statistics 2006).

The literature on job displacement suggests that evacuees who were separated from their jobs would experience a period of unemployment and, even after finding a new job, long-term earnings losses (e.g., Kletzer 1998). In addition to being displaced from their jobs, many evacuees had to relocate to new areas, which disrupted their social networks and placed them in unfamiliar labor markets. Many of those who returned to their pre-Katrina areas had to deal with extensive damage to their homes and to public infrastructure (e.g., roads, transit systems, schools). As a result, evacuees may have faced higher costs of searching for a new job than is typical for displaced workers.[1] Furthermore, the hurricane and/or the evacuation may have had direct effects on the physical and emotional health and general well-being of evacuees.

In this paper, we estimate the impact of Katrina on the labor market outcomes of evacuees. We also compare the labor market outcomes of evacuees who returned to their pre-Katrina areas with those of evacuees who did not return.

[1] However, many employers in several cities where evacuees relocated made special efforts to hire evacuees (Ilan Brat and Janet Adamy, "Job Outpouring for Evacuees Sparks Backlash," *Wall Street Journal*, September 13, 2005, p. B1).

2. Data and Descriptive Statistics

Our analysis is based on data from the Current Population Survey (CPS), a nationally representative, monthly survey of approximately 60,000 occupied housing units. The CPS was modified in the wake of Hurricane Katrina to include questions that identify evacuees, the county (or parish) from which they had evacuated, and if and when these individuals returned to their pre-Katrina residences (Cahoon et al. 2006). We use the responses to these questions, which were part of the CPS from October 2005 to October 2006, in combination with demographic and labor force information collected in the CPS on a regular basis.[2]

The battery of Katrina questions opens with a question for the respondent for each household: "Is there anyone living or staying here who had to evacuate, even temporarily, where he or she was living in August because of Hurricane Katrina?" If the answer is "yes" the respondent identifies who among those listed as being at the current address is an evacuee. The respondent is then asked about the pre-Katrina location of each evacuee using the question: "In August, prior to the hurricane warning, where (was NAME/were you) living?" Pre-Katrina locations are recorded in terms of state and county, parish, or city. The current location of each household can be obtained directly from the sample frame.[3]

We define an evacuee as anyone who was identified as such in any of the months that his or her household was interviewed. In addition, to more carefully focus our analysis on those directly affected by Hurricane Katrina we require that prior to the hurricane evacuees lived in Louisiana, Mississippi, or Alabama in a county designated by the Federal Emergency Management Agency (FEMA) as eligible for both public and individual disaster assistance as a result of damages due to Hurricane Katrina. The region formed by the FEMA-designated

[2] Labor force information is collected in the CPS from persons age 16 and older; the estimates reported in this paper correspond to this age range.
[3] The complete set of Katrina questions is documented in Cahoon et al. (2006) and Groen and Polivka (2007).

counties is indicated by darker shading in Figure 1. (For details on this definition of evacuees, see Groen and Polivka 2007.)

As explained in an earlier paper (Groen and Polivka 2007), the estimates we derive from the CPS indicate that approximately 1.5 million individuals age 16 and older evacuated from their homes, even temporarily, because of Hurricane Katrina. We estimate that 75 percent of evacuees were living in Louisiana prior to the storm, 19 percent were living in Mississippi, and 6 percent were living in Alabama. The evacuation was widespread: the demographic composition of evacuees closely mirrors the composition of those residing in the Katrina-affected counties in these states prior to the storm.

On average over the entire post-Katrina period covered by our CPS data, the labor market outcomes of evacuees were substantially worse than the outcomes of individuals residing in areas of the United States that were not affected by Katrina and who are not classified as evacuees (Table 1). For example, the employment-population ratio was 11.5 percentage points lower for evacuees and the unemployment rate was 7.4 percentage points higher for evacuees. Reflecting the lower level of employment, an examination of all individuals (workers and non-workers) indicates that evacuees on average worked about 4 fewer hours per week than residents of unaffected areas and earned approximately $120 less per week. Among just those who were employed after the storm, evacuees worked slightly more hours per week on average than did residents of unaffected areas but had lower earnings.[4]

Among evacuees, we distinguish between returnees (those living in the same county after the storm as they did prior to Katrina) and non-returnees (those living in a different county). Over the 13-month period covered by the CPS data on evacuees, we estimate that 73 percent of

[4] Earnings data are collected monthly in the CPS from approximately one-fourth of the sample.

evacuees returned to their pre-Katrina counties.[5] When we compare non-returnees to returnees we observe that non-returnees were doing substantially worse than returnees in the labor market. Notably, the unemployment rate for non-returnees was 30.6 percent compared to 6.0 percent for returnees. Among those individuals who worked after the storm, however, returnees and non-returnees were similar in terms of average hours and earnings.

The adverse labor market outcomes for evacuees may partially reflect the fact that evacuees had relatively poor employment situations prior to the storm. Consequently, in the remainder of the paper we use CPS data collected prior to Katrina in combination with the data collected after Katrina. In the pre-Katrina data, which cover the period from September 2004 to August 2005, we divide the data into two groups: residents of affected areas (the FEMA-designated counties) and residents of the rest of the country.[6] Our pre-Katrina data contain 22,124 monthly observations covering 6,883 residents of affected areas and 1,255,409 monthly observations covering 393,438 residents of the rest of the country. The post-Katrina data contain 6,550 monthly observations on 2,033 evacuees and 1,350,294 monthly observations on 406,676 individuals residing in the rest of the country and who are not classified as evacuees.[7]

3. The Effect of Hurricane Katrina on Evacuees

3.1 Empirical Strategy

The challenge to estimating the effect of Katrina on the labor market outcomes of evacuees is the lack of information on what the outcomes for evacuees would have been in the

[5] By contrast, 65 percent of evacuees returned to their pre-Katrina residence. We define returning based on county in this paper because those who changed residences within county are likely to face similar labor market opportunities as if they had returned to their pre-Katrina residence.

[6] The August 2005 CPS interviews were conducted from August 14 (Sunday) through August 22 (Tuesday), which was prior to the mandatory evacuations of Gulf Coast areas that were ordered on August 27 and August 28 and prior to Katrina making landfall in New Orleans on August 29.

[7] Given the months we selected to generate pre-Katrina estimates, the time period when the Katrina questions were included in the CPS, and the interview schedule for CPS households (see footnote 8), the maximum number of monthly observations for individuals in our sample is four in the pre-Katrina period and five in the post-Katrina period. In the regression estimates, we adjust the standard errors to account for multiple observations per individual.

absence of the storm. Since the CPS sample is based on addresses and the monthly survey is designed as a short panel and collects a limited amount of longitudinal information, we do not know what most of the evacuees in our sample were doing prior to the storm.[8] However, we do know what residents of the Katrina-affected areas were doing prior to Katrina. Our strategy is to compare evacuees to all residents of Katrina-affected areas prior to Katrina. We use pre- and post-Katrina data on residents of unaffected areas to control for economy-wide changes in the labor market before and after the storm.[9]

We form "treatment" and "control" groups and compare changes over time in the treatment group (individuals affected by Katrina) to changes over time in the control group (individuals unaffected by Katrina). Prior to the storm, the treatment group consists of residents of affected areas and the control group consists of residents of the rest of the country. After the storm, the treatment group consists of evacuees (regardless of where they are living) and the control group consists of residents of the rest of the country who are not classified as evacuees. We define the control group using the entire unaffected area (rather than a particular region) in order to minimize the influence of the indirect effects of Katrina on individuals who resided at the time of the storm in unaffected areas close to the affected areas.[10]

Summary statistics on a variety of individual and family characteristics are presented in Table 2 separately for each of the four groups. Evacuees and pre-Katrina residents of affected

[8] The CPS uses a 4-8-4 sample design in which an address is scheduled to be interviewed for four consecutive months, not interviewed for the next eight consecutive months, and then interviewed again for the subsequent four months. Each calendar month a new group of residential addresses starts this rotation pattern. No attempts are made to interview individuals or households that move away from an address. Given this rotation pattern and the fact that the CPS is address-based, pre-storm labor market information that can be obtained by matching individuals before and after the storm is available for only a subset of evacuees who returned to their pre-storm addresses and is completely absent for evacuees who did not return to their pre-storm addresses (even if they returned to their pre-storm counties). The CPS collects only limited longitudinal information which does not typically include calendar dates for starting and stopping times of events.

[9] This strategy is similar to the approach taken by Vigdor (2007).

[10] Katrina might have affected such individuals through, for example, linkages to industries that were prominent in the Gulf Coast region (e.g., petroleum refining, port operations, and tourism, including casinos; see Dolfman, Wasser, and Bergman 2007) or through the migration of evacuees to particular cities (McIntosh 2007).

areas are very similar in terms of these characteristics. In addition, the composition of the control group is similar before and after Katrina.

A potential concern with our strategy is that the racial/ethnic composition of the control group is quite different from that of the treatment group. (For example, prior to the storm 32.5 percent of the treatment group were black, compared to 11.2 percent of the control group.) However, when we re-weight the control group so that its distribution by race/ethnicity matches the distribution of the treatment group (prior to the storm), the estimated effects of Katrina we obtain are very similar to the ones reported here. The results are also robust to defining the control group based on five southern states (Texas, Arkansas, Tennessee, Georgia, and Florida) instead of the entire United States outside the affected area. This definition is appealing because the racial/ethnic composition of these states is similar to that of the Katrina-affected area. However, these states may have been affected by Katrina indirectly, since most evacuees who relocated to another state moved to another state in the southeast region (Groen and Polivka 2007).

Finally, as a third robustness check we construct a synthetic control group consisting of a weighted average of states, based on the method described in Abadie, Diamond, and Hainmueller (2007). To construct this synthetic control group, we first aggregate the micro CPS data to the state level and generate one observation for each of the 50 states (and the District of Columbia), including observations for Alabama, Louisiana, and Mississippi for the balance of these states outside the hurricane-affected area. The synthetic control group is then obtained by choosing state weights so as to make the synthetic control group as comparable as possible to the treatment group prior to Katrina in terms of the distribution of employment outcomes and the individual

and family characteristics used in our model. The results obtained using the synthetic control group are similar to results generated using the entire unaffected area to define the control group.

In our definition of the treatment group we are using evacuation to identify those individuals who were directly affected by Katrina. Another potential concern about our approach is that there might be selectivity in who evacuated. For several reasons we think the potential for selectivity to bias our results is limited. First, our definition of evacuees is broad: it includes individuals who relocated temporarily or permanently and those who evacuated before or after the storm. Second, evacuees are representative of all pre-storm residents of affected areas. Third, most evacuees came from areas where most pre-storm residents evacuated. Nearly three-quarters (71 percent) of the evacuees in our sample came from a county along the Gulf Coast within 100 miles of the storm center. Within these counties we estimate that 82 percent of pre-storm residents evacuated. Furthermore, 58 percent of the evacuees in our sample came from the New Orleans MSA, for which we estimate the evacuation rate to be 92 percent.[11]

Formally, we implement our difference-in-differences strategy using regressions of the form:

$$Y_{it} = \alpha_t + \theta X_{it} + \beta_1 Treat_{it} + \beta_2 (Treat_{it} \times Post_{it}) + \varepsilon_{it}, \quad (1)$$

where Y_{it} indicates an employment outcome of individual *i* in month/year *t*.[12] The variable $Treat_{it}$ distinguishes observations in the treatment group from those in the control group. Time effects are represented by α_t, which is a month/year fixed effect, and by $Post_{it}$, which indicates

[11] To estimate evacuation rates we use pre-Katrina CPS data for June-August 2005 to construct the denominator. The New Orleans MSA consists of seven parishes: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, and St. Tammany. Counties along the Gulf Coast within 100 miles of the storm center include the New Orleans MSA, two additional parishes in Louisiana (Lafourche and Terrebonne), and four counties in Mississippi (Hancock, Harrison, Pearl River, and Stone).

[12] The basic results in this section are robust to a number of modifications of equation (1), including (a) replacing the month/year fixed effects with a constant term and an indicator for the post-Katrina period, (b) allowing θ to be different for treatment and control observations, and (c) using a logit model rather than a linear model in cases where the dependent variable is a dummy variable.

observations in the post-Katrina time period.[13] The coefficient β_2 measures the impact of Katrina on the labor market outcomes of evacuees. Individual and family characteristics are represented by the vector X_{it}.[14]

3.2 Results

Estimates of Katrina effects with and without the controls for individual and family characteristics are shown in columns (2) and (3) of Table 3. A comparison of these estimates indicates that controlling for individual and family characteristics has relatively little impact on the estimated effect of Katrina on the various labor market outcomes of evacuees. When individual and family controls are included it is estimated that Katrina lowered the labor force participation rate of evacuees by 3.5 percentage points, lowered the employment-population ratio by 7.1 percentage points, and raised the unemployment rate by 6.3 percentage points.[15]

We examine how the Katrina effect varies over the post-Katrina time period by defining a linear time trend ($Time_t$) that ranges from 0 for the first month of this period to 12 for the last month and by including among the explanatory variables an interaction between the time trend and the $Treat_{it} \times Post_{it}$ variable. The estimated coefficients on the additional interaction term, shown in column (5) of Table 3, indicate that the Katrina effect on labor market outcomes

[13] The month/year fixed effects capture the average of a given labor market outcome for the control group in the specified month/year.

[14] The characteristics are age, race, Hispanic ethnicity, gender, educational attainment, marital status, number of children, and indicators for living in an MSA, having ever served on active duty in the U.S. Armed Forces, and being born outside the United States. Each of the controls is measured as a categorical variable with two or more categories. In the regressions we use sets of dummy variables to represent the categories of the control variables. The controls with more than two categories are age (nine categories), race (four categories), educational attainment (five categories), marital status (three categories), and number of children (four categories). For a complete list of these categories, see Table 2.

[15] These estimates are for persons age 16 and older. When the sample is restricted to persons age 25 to 64, the estimated impacts of Katrina increase somewhat for most outcomes. The magnitude of these impacts as a percentage of the means is similar for the age-restricted sample and the full sample. A similar finding was observed in the comparison of returnees and non-returnees when the sample was restricted to persons age 25 to 64.

decreased over time.[16] This is consistent with some aspects of the Katrina impact being temporary. In an enriched specification with month/year dummies replacing the linear time trend, monthly estimates of the Katrina effect show a declining pattern over time and the estimates for the later months are substantially smaller than the estimates for the earlier months of the post-Katrina period (Table 4 and Figure 2). For example, over the first seven months after Katrina struck, we estimate that Katrina increased the unemployment rate of evacuees by 8.1 percentage points; over the next six months, the estimated impact is 4.6 percentage points.

An examination of the earnings and hours of all individuals (workers and non-workers) indicates that Katrina reduced hours worked by about 2 hours. Consistent with the trend observed for employment, the coefficient on the $Treat_{it} \times Post_{it} \times Time_t$ variable indicates that the effect of Katrina on hours worked decreased over time. When the analysis is restricted to just those who were employed, the coefficient estimates indicate that evacuees worked an average of 1.5 more hours per week and earned approximately $52 more per week after the storm. The larger number of hours worked and higher earnings for evacuees who were employed after the storm could reflect either a direct effect of Katrina on hours/earnings for those who were employed both before and after the storm (e.g., through an increase in demand for evacuees' services) or that the employment effects of Katrina were greater for those with lower hours/earnings prior to Katrina. Using our specification we cannot distinguish between these two possible effects.

The geographic area affected by Hurricane Katrina, as defined by FEMA designations, is quite expansive, covering southern Louisiana, central and southern Mississippi, and southwestern Alabama (see Figure 1). However, the severe damage from Katrina was

[16] The coefficient on $Treat_{it} \times Post_{it}$ for this specification is shown in column (4) of Table 3. This represents the effect of Katrina for the first month of the post-Katrina period (October 2005, which is $Time_t = 0$).

concentrated in New Orleans and along the Gulf Coast (Gabe et al. 2005). We divide the affected area into two sub-regions: the New Orleans MSA (from which 58 percent of evacuees originated) and the rest of the affected area. Consistent with the geographic pattern of damages, the estimated impacts of Katrina on the employment-population ratio and the unemployment rate are much larger for evacuees who came from the New Orleans MSA than for evacuees who came from the rest of the affected area, as shown in the top panel of Table 5.[17] Table 5 also reports estimates for an alternative division of the affected area: counties along the Gulf Coast within 100 miles of the storm center (from which 71 percent of evacuees originated and which includes the New Orleans MSA) and the rest of the affected area.

The Katrina effects we have been estimating reflect the effect of the storm on evacuees. A related parameter is the effect of the storm on all pre-storm residents of the affected area, regardless of whether they evacuated. This parameter represents a broader measure of storm impact, since pre-storm residents of the affected area may have been affected by Katrina even if they did not evacuate from their homes. We estimate this parameter by redefining our treatment group after Katrina to include two sub-groups: (1) evacuees and (2) individuals who are living in the affected area but not classified as evacuees. The second sub-group is included to represent pre-storm residents of the affected area who did not evacuate.[18] We provide these "intention to treat" estimates for the affected area as a whole and for the two divisions of the affected area.

[17] Mechanically, we allow the estimated impacts of Katrina to vary by sub-region by (a) constructing two indicator variables: one for the New Orleans MSA and one for the rest of affected area, and (b) interacting each of these indicator variables with $Treat_{it}$ and $Treat_{it} \times Post_{it}$. The estimated coefficient on $Treat_{it} \times Post_{it}$ interacted with the New Orleans indicator variable provides the effect of Katrina on evacuees from the New Orleans MSA while the estimated coefficient on $Treat_{it} \times Post_{it}$ interacted with the other indicator variable provides the effect of Katrina on evacuees from the rest of the affected area.

[18] There is not an exact correspondence due to migration into or out of the affected area after Katrina by individuals who are not classified as evacuees. However, these migration flows appear to be quite small relative to the number of such individuals who remained in the affected area throughout the period spanning Katrina (authors' analysis of data from the Annual Social and Economic Supplement, a supplement to the March 2006 CPS that collected information on migration over the previous year).

The estimated effects on all pre-storm residents are shown in the bottom panel of Table 5. For the New Orleans MSA, the estimated effects for all residents are only somewhat smaller than the estimated effects for evacuees. Similarly, the estimated effects for evacuees from counties along the Gulf Coast within 100 miles of the storm center and for all residents of this sub-region are fairly similar. The correspondence between the estimates for evacuees and for all residents of these two sub-regions is not surprising given the high evacuation rates for the New Orleans MSA (92 percent) and for counties along the Gulf Coast within 100 miles of the storm center (82 percent).

For the sub-region of counties located in the affected area but outside the New Orleans MSA, the estimated effects of Katrina on pre-storm residents as a whole are close to zero, in contrast to the generally negative effects on evacuees. The divergence between the estimates for evacuees and for all residents of affected area outside the New Orleans MSA is consistent with the low evacuation rate (16 percent) for this sub-region and suggests that the labor market outcomes of pre-storm residents (on average) in this sub-region were not negatively affected by the storm. The conclusions are similar when using the alternative division of the affected area (involving Gulf Coast counties), though the estimates are less precise due to the smaller sample.

Since almost three quarters of the evacuees in our data came from counties along the Gulf Coast within 100 miles of the storm center, the correspondence between the two sets of estimates for this sub-region provides further evidence that selectivity bias probably is not a severe problem for our estimates of the effect of Katrina on evacuees from this sub-region specifically and on evacuees in general.

4. Comparing Returnees and Non-Returnees

The estimates in Table 1 indicate considerable differences between evacuees who returned to their pre-Katrina areas and those who did not, with non-returnees faring significantly worse in the labor market. These differences raise questions about the factors that have influenced these evacuees' labor market experiences. Are non-returnees a "negatively selected" group of evacuees who had poor labor market outcomes before Katrina? Alternatively, are the differences in labor market outcomes the result of the hurricane impact being greater for non-returnees than returnees, and thus returnees were on average better able to resume work with relatively little interruption? We explore these questions in two steps. First, we examine differences between returning and non-returning evacuees using a regression framework to account for differences in individual and family characteristics between groups. Second, we relate labor market outcomes to the amount of hurricane damage individuals potentially experienced.

4.1 Differences in Individual and Family Characteristics

For the first step, we define an indicator R_{it} for whether evacuees returned to their pre-Katrina counties and estimate regressions of the form:

$$Y_{it} = \alpha_t + \theta X_{it} + \beta_r R_{it} + \varepsilon_{it}. \quad (2)$$

The coefficient β_r captures the magnitude of differences between returnees and non-returnees with similar observable characteristics. A comparison of the estimates in columns (2) and (3) of Table 6 indicates that differences in individual and family characteristics explain about 25 percent of the difference in the unemployment rate between those who returned and those who did not and about 40 percent of the difference in earnings when those who are not working are included with a report of zero earnings. Differences in characteristics explain only about 10

percent of the difference in hours worked and only about 5 percent of the difference in the employment-population ratio and cannot explain the difference in the labor force participation rate.[19] Thus, while individual and family characteristics can explain some of the differences in labor market outcomes between groups, a substantial proportion of the difference cannot be explained by these factors.

When we add to equation (2) the interaction between the linear time trend and the returning variable, the estimated coefficients on the interaction term suggest that differences between returnees and non-returnees (controlling for individual and family characteristics) did not consistently decrease or increase over time (column 5 of Table 6).[20] In an enriched specification with month/year dummies replacing the linear time trend, monthly estimates of the differences between returnees and non-returnees increased over the first half of the post-Katrina period in our data and decreased over the second half (Table 7 and Figure 3).[21] Although both groups recovered during the period, the timing of that recovery was different: returnees recovered relatively more quickly and non-returnees began to catch up approximately seven months after the storm struck (Groen and Polivka 2007). Nevertheless, at the conclusion of the period we study, non-returnees continued to lag behind returnees. For example, in October 2006 we estimate that (controlling for individual and family characteristics) non-returnees' employment-population ratio was 15.9 percentage points lower and their unemployment rate was 9.9 percentage points higher than returnees'.

[19] Among those who were employed there are no measurable differences in hours and earnings between returnees and non-returnees, both when controls are included and when controls are not included.

[20] The coefficient on the returning variable for this specification is shown in column (4) of Table 6. This represents the difference between returnees and non-returnees in the first month of the post-Katrina period (October 2005, which is $Time_t = 0$).

[21] When we use a quadratic time trend instead of a linear time trend, the estimated coefficients on the time interactions are of the expected sign; however, for the outcomes we examine the coefficients are statistically significant (at conventional levels of significance) for only the employment-population ratio.

4.2 Differences in Hurricane Impact

To further explore whether negative selectivity existed and the degree to which evacuees may have been differentially affected by the storm, we merge our CPS data with data on the extent of hurricane-related housing damage at the county level. Using data from FEMA on damages to real property and personal property not covered by insurance, we construct three variables representing the percentage of housing units in each evacuee's county of origin that experienced severe damage, major damage, or minor damage.[22] Averages of these percentages separately for returnees and non-returnees in our CPS data are shown in Table 8. Among non-returnees, the average percentage of housing units with severe damage is 29.2 percent, compared to 6.3 percent among returnees. Thus, it is likely that non-returnees experienced greater hurricane impacts, including greater job displacement.

We examine the relationship between housing damage and labor market outcomes by estimating regressions of the form:

$$Y_{it} = \alpha_t + \theta X_{it} + \beta_1 Damage_{it} + \beta_2 (Damage_{it} \times Post_{it}) + \varepsilon_{it}, \quad (3)$$

where $Damage_{it}$ is a measure of housing damage in the evacuee's county of origin. We estimate these regressions using post-Katrina data on evacuees and pre-Katrina data on all residents of Katrina-affected areas. Pre-Katrina data are included in the analysis to control for the correlation across areas between the extent of hurricane damage and less-favorable labor markets prior to the storm. The coefficient β_2 is the parameter of interest because it captures the additional

[22] U.S. Department of Housing and Urban Development (HUD), Office of Policy Development and Research, "Current Housing Unit Damage Estimates: Hurricanes Katrina, Rita, and Wilma," February 12, 2006. The estimates of housing-unit damage were based on direct inspection of housing units to determine eligibility for FEMA housing assistance. Analysts at HUD categorized the inspection results into three categories: minor damage (less than $5,200), major damage (between $5,200 and $30,000), and severe damage (greater than or equal to $30,000). We divided the number of housing units in each category by the total number of housing units in a county (according to the 2000 Census) to compute the percentage of housing units in the county that were in each damage category.

correlation between damage and labor market outcomes for evacuees relative to pre-Katrina residents of affected areas.

We consider three measures of housing damage and include these measures in separate specifications: the percentage with severe damage, the percentage with severe or major damage, and the percentage with severe, major, or minor damage. Since the mechanisms underlying a relationship between damage and labor market outcomes might be somewhat different for returnees and non-returnees, we vary the sample of evacuees used in these regressions, first using all evacuees and then using only returnees or non-returnees. Among all evacuees, housing damage has a strong negative effect on labor market outcomes (Table 9). For example, a 10 percentage-point increase in severe damage is associated with a 5.2 percentage-point increase in the unemployment rate and a 3.4 percentage-point decrease in the employment-population ratio.

We interpret these effects of housing damage as reflecting both the overall impact of Katrina and the ability of evacuees to find jobs in the Katrina-affected region during the recovery period, with the second aspect relevant primarily for returnees.[23] Regressions estimated separately for returnees and non-returnees indicate that the impact of damage on the employment-population ratio is larger among returnees, but the impact of damage on the unemployment rate is larger among non-returnees. The greater level of damage among non-returnees can account for about half of the differences in labor market outcomes between returnees and non-returnees after controlling for individual and family characteristics.[24]

[23] For evacuees who did not evacuate until after Katrina struck, these effects might also represent the direct effect of Katrina on the health and well-being of evacuees. In addition to these effects, a higher level of damage could also be associated with returnees devoting time and resources to rebuilding their homes rather than working in the labor market.

[24] Differences in damage can explain 63 percent of the difference between groups in the unemployment rate, 42 percent of the difference in the employment-population ratio, and 20 percent of the difference in the labor force participation rate. The difference between returnees and non-returnees in the average percentage of housing units with severe damage is 6.3 - 29.2 = -22.9 (Table 8). Thus, expected differences in labor market outcomes between returnees and non-returnees, based on the level of severe damage, are the product of (-22.9) and the estimated

The impact of damage on labor market outcomes among non-returnees also provides some evidence on the extent to which non-returnees are a "negatively selected" group of evacuees. If such selection were present, we expect that as the level of damage increases, the pool of non-returnees would involve less selection and average outcomes would improve. On the contrary, our estimates suggest the opposite: as damage increases, the outcomes of non-returnees worsen, mainly through higher unemployment. We interpret this as evidence that non-returnees have fared much worse in the labor market primarily because they probably experienced greater job displacement as evidenced by their origins in areas with more physical damage, rather than because of negative selection.

5. Conclusions

CPS data collected after Hurricane Katrina reveal large differences in labor market outcomes between evacuees and individuals who were not affected by Katrina. These differences reflect a combination of a causal effect of Katrina on evacuees and pre-Katrina differences between evacuees and individuals originally residing outside the areas affected by the storm. Using a difference-in-differences strategy to isolate the causal effect of Katrina, we estimate that Katrina had substantial effects on the labor market outcomes of evacuees over the 13-month period following Katrina. According to our estimates, Katrina lowered the labor force participation rate of evacuees by 3.5 percentage points, lowered the employment-population ratio by 7.1 percentage points, and raised the unemployment rate by 6.3 percentage points.

Our estimates suggest that the effects of Katrina diminished substantially over time as evacuees recovered from the hurricane and adjusted to new economic and social conditions. The estimated impacts for the final six months of the post-Katrina period in our data are about 50

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coefficients on the variable for severe damage (interacted with $Post_{it}$) for the sample of all evacuees (Table 9). These expected differences can be compared to the estimates in column (3) of Table 6.

percent of the impacts for the first seven months of this period. In addition, the estimated impacts of Katrina are much larger for evacuees who came from counties along the Gulf Coast within 100 miles of the storm center (including the New Orleans MSA) than for evacuees who came from the rest of the affected area. This pattern is consistent with the geographic pattern of physical damages brought about by the hurricane.

Among evacuees, those who did not return to their pre-Katrina areas have fared much worse in the labor market than have those who returned. Differences in individual and family characteristics account for some of the differences in outcomes between returnees and non-returnees. However, even when these differences are taken into account, non-returnees' unemployment rate was 18.8 percentage points higher and their employment-population ratio 18.6 percentage points lower than returnees' over the 13-month period following Katrina. More than one year after the storm (in October 2006), the unemployment rate of non-returnees was still 9.9 percentage points higher than that of comparable returnees.

We present evidence that non-returnees came from areas that experienced greater housing damage due to the storm and that the level of damage in an evacuee's county of origin is negatively correlated with the labor market outcomes of evacuees (even controlling for more heavily damaged areas potentially having less-favorable labor markets prior to the storm). Together these findings imply that non-returnees have fared much worse in the labor market primarily because they were more likely to have had their lives severely disrupted by the storm.

Overall our estimates suggest that Hurricane Katrina profoundly disrupted the lives of those who evacuated, both those who returned and those who did not. Our estimates also indicate that evacuees who did not return have faced and probably will continue to face large challenges in recovering from the storm's effects.

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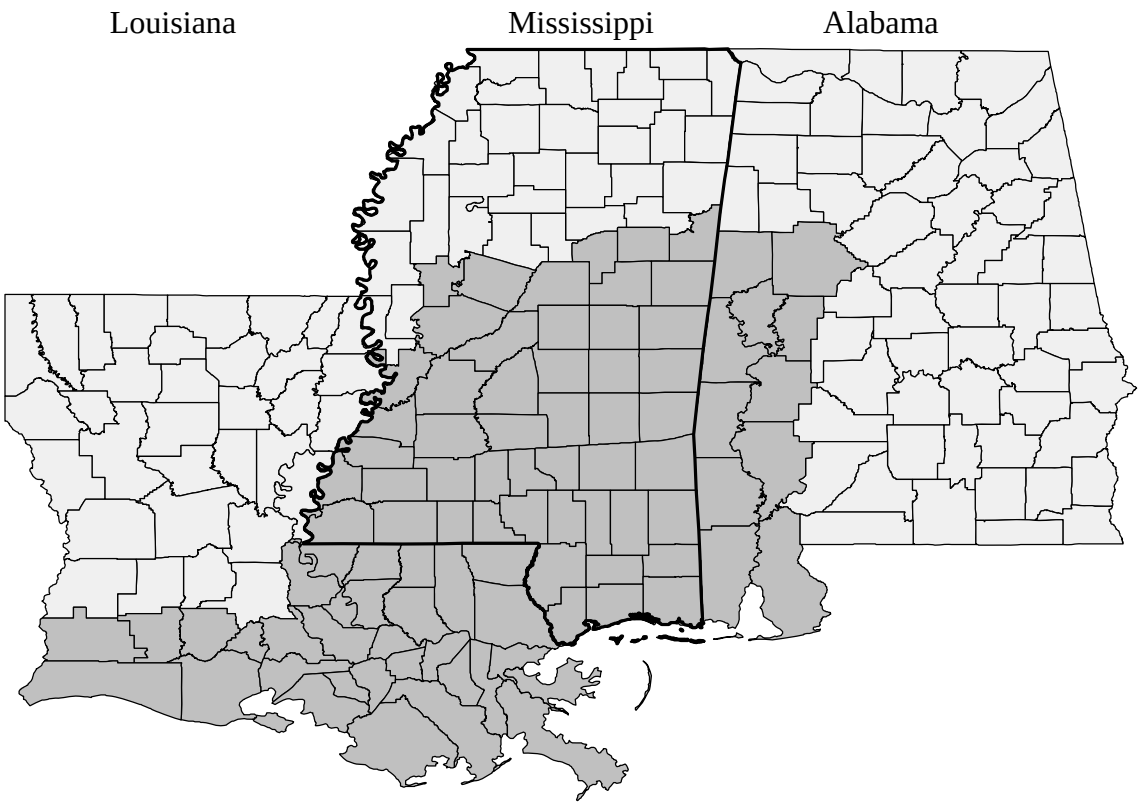
Figure 1.
Counties Eligible for Individual and Public Assistance from FEMA for Hurricane Katrina



Notes: Eligible counties are indicated by darker shading and are based on FEMA disaster declarations for Hurricane Katrina as of October 7, 2005. The set of eligible counties includes 31 parishes in Louisiana, 49 counties in Mississippi, and 11 counties in Alabama.

Figure 2.
Monthly Estimates of the Effect of Katrina on Evacuees

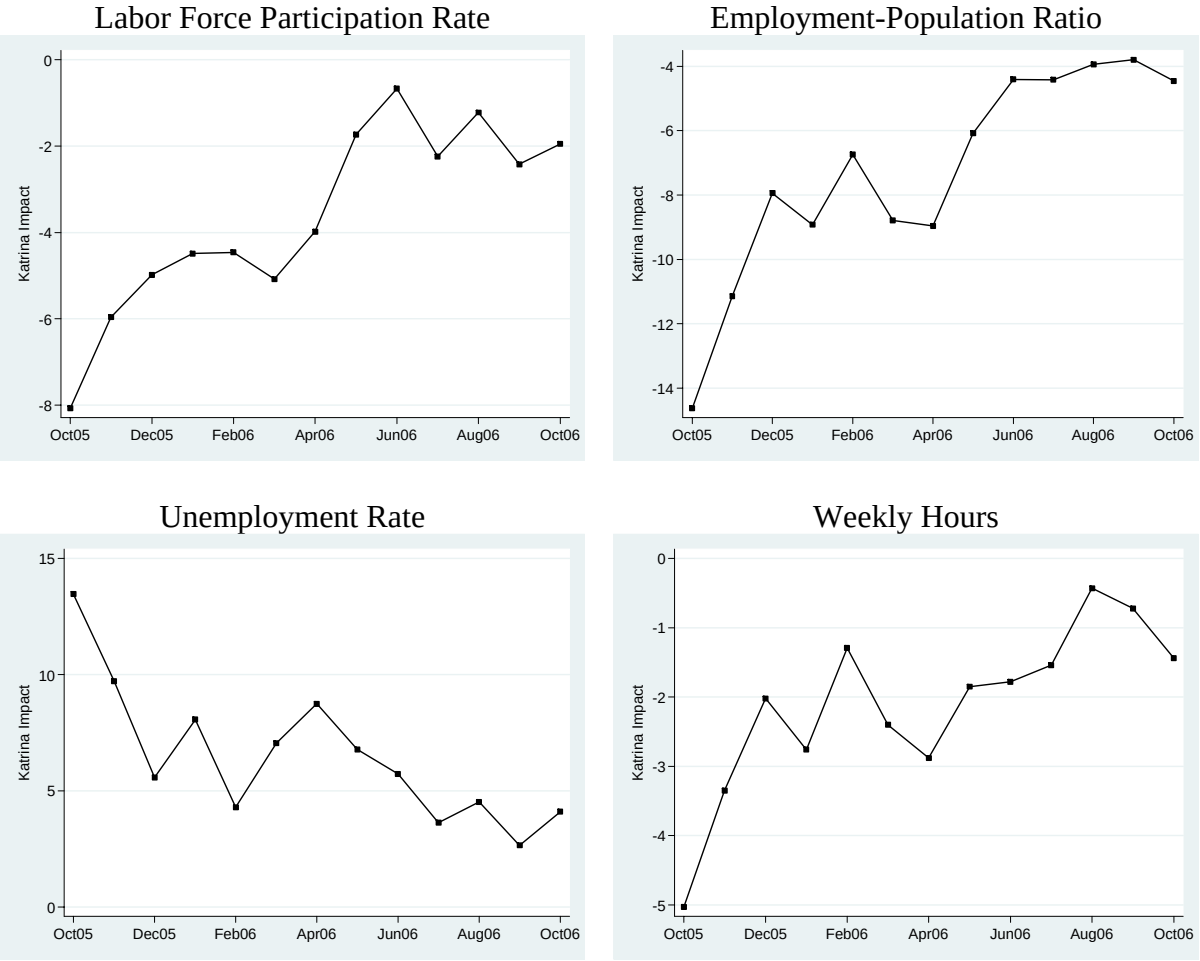


Figure 3.
Monthly Estimates of the Difference between Returnees and Non-Returnees

Table 1.
Labor Market Outcomes of Evacuees and Residents of Unaffected Areas, October 2005 – October 2006

	Residents of unaffected areas	All evacuees	Returnees	Non-Returnees
Labor force participation rate	66.2	58.8	60.9	53.4
Employment-population ratio	63.2	51.7	57.3	37.1
Unemployment rate	4.7	12.1	6.0	30.6
Average hours in prior week	23.9	19.9	22.2	13.9
Hours (workers only)	38.4	39.6	39.6	39.8
Average usual weekly earnings	$466	$342	$377	$252
Earnings (workers only)	$772	$685	$683	$695
Number of observations	1,350,294	6,550	4,769	1,753

Notes: "Residents of unaffected areas" are individuals residing in areas of the United States that were not affected by Katrina and who are not classified as evacuees. Hours and earnings are based on a person's main job. Earnings are expressed in October 2006 dollars.

Table 2.
Composition of Treatment and Control Groups Before and After Hurricane Katrina

	Treatment Pre	Treatment Post	Control Pre	Control Post
Age 16 to 19	7.5	9.2	7.2	7.3
Age 20 to 24	10.4	11.0	9.0	8.8
Age 25 to 34	17.5	17.1	17.3	17.2
Age 35 to 44	18.0	17.2	19.2	18.8
Age 45 to 54	18.2	17.7	18.6	18.7
Age 55 to 69	7.4	8.0	7.5	7.8
Age 60 to 64	6.0	5.7	5.7	5.8
Age 65 to 74	8.1	8.4	8.1	8.1
Age 75+	6.9	5.7	7.4	7.4
White	65.4	63.3	82.0	81.8
Black	32.5	32.7	11.2	11.3
Asian	1.1	2.6	4.4	4.5
Other race	1.1	1.4	2.4	2.4
Hispanic	1.7	3.6	13.0	13.3
Male	46.7	45.5	48.3	48.4
Less than high school	21.9	21.7	18.6	18.2
High school	34.1	34.1	30.7	30.5
Some college	24.4	26.6	26.2	26.4
College	13.3	12.4	16.3	16.6
Graduate degree	6.3	5.2	8.2	8.4
Married	51.7	46.2	54.7	54.3
Was married	19.2	20.8	17.9	18.0
Never married	29.0	33.0	27.3	27.6
0 children	70.7	71.8	70.8	71.1
1 child	13.4	13.5	12.0	12.0
2 children	10.5	8.6	11.2	11.0
3+ children	5.4	6.1	6.0	5.9
Live in MSA	71.6	84.1	83.6	83.9
Foreign born	3.0	4.6	14.6	14.9
Veteran of military	9.2	9.8	9.9	9.9
Number of observations	22,124	6,550	1,255,409	1,350,294

Note: Means weighted by CPS sampling weights. For all variables except hours and earnings, the means have been multiplied by 100 and thus should be interpreted as percentage points. "Was married" = widowed, divorced, or separated. Number of children refers to own children under age 18.

Table 3.
Effect of Hurricane Katrina on Labor Market Outcomes of Evacuees

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean	Treat ×Post	Treat ×Post	Treat ×Post	Treat ×Post ×Time	N
Independent variables						
Treat, Treat×Post		x	x	x	x	
Month/year fixed effects		x	x	x	x	
Individual and family characteristics			x	x	x	
Treat×Post×Time				x	x	
Dependent variable						
Labor force participation rate	66.09	-3.77	-3.51	-6.39	0.47	2,634,377
		(1.23)	(1.06)	(1.75)	(0.21)	
Employment-population ratio	62.82	-7.50	-7.06	-11.44	0.72	2,634,377
		(1.25)	(1.10)	(1.81)	(0.22)	
Unemployment rate	4.96	6.66	6.26	9.64	-0.54	1,751,687
		(0.90)	(0.86)	(1.60)	(0.20)	
Hours in prior week	23.74	-2.47	-2.04	-3.44	0.23	2,566,562
		(0.55)	(0.47)	(0.80)	(0.10)	
Hours (workers only)	38.36	1.16	1.50	2.34	-0.13	1,601,548
		(0.40)	(0.37)	(0.65)	(0.09)	
Usual weekly earnings	461.87	-26.03	-11.86	-58.81	7.43	614,087
		(16.77)	(15.05)	(26.18)	(3.94)	
Earnings (workers only)	769.63	28.45	51.73	37.34	2.19	370,148
		(26.60)	(23.63)	(39.73)	(6.22)	

Notes: The numbers reported in columns (2)-(5) are estimated coefficients associated with the variable listed in the column heading. Standard errors in parentheses account for the clustering of observations at the individual level. Regressions are estimated as linear models and weighted using CPS sampling weights. For the first three dependent variables, the means, coefficients, and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The sample for these regressions is all individuals in the treatment and control groups before and after Katrina, as defined in the text.

Table 4.
Monthly Estimates of the Effect of Hurricane Katrina on Evacuees

Month	LFPR[a]	EPR[b]	UR[c]	Weekly hours	Hours (workers)	Weekly earnings	Earnings (workers)
October 2005	-8.07	-14.62	13.47	-5.03	3.40	4.65	73.04
	(2.57)	(2.61)	(2.91)	(1.23)	(1.29)	(50.87)	(61.51)
November 2005	-5.96	-11.14	9.72	-3.35	2.16	-99.01	79.39
	(2.19)	(2.24)	(2.31)	(0.97)	(0.89)	(61.74)	(120.10)
December 2005	-4.98	-7.94	5.57	-2.02	2.27	-37.82	20.37
	(2.09)	(2.14)	(1.91)	(0.95)	(0.85)	(32.58)	(50.51)
January 2006	-4.49	-8.92	8.07	-2.76	1.23	-87.86	-37.09
	(2.06)	(2.08)	(2.14)	(0.88)	(0.77)	(37.98)	(50.20)
February 2006	-4.46	-6.74	4.29	-1.29	2.53	58.29	144.58
	(2.11)	(2.14)	(1.86)	(0.92)	(0.78)	(55.96)	(83.31)
March 2006	-5.08	-8.79	7.05	-2.40	1.53	-20.86	-6.81
	(2.13)	(2.17)	(2.19)	(0.91)	(0.68)	(38.30)	(46.37)
April 2006	-3.98	-8.96	8.75	-2.88	1.36	-79.20	18.71
	(2.17)	(2.25)	(2.35)	(0.92)	(0.73)	(37.97)	(53.75)
May 2006	-1.73	-6.08	6.78	-1.85	1.05	-75.69	-55.07
	(1.98)	(2.07)	(1.98)	(0.87)	(0.71)	(34.02)	(46.52)
June 2006	-0.67	-4.41	5.73	-1.78	-0.03	58.45	108.93
	(1.86)	(1.99)	(1.85)	(0.84)	(0.74)	(43.55)	(66.02)
July 2006	-2.24	-4.42	3.63	-1.54	0.81	-11.18	25.33
	(1.91)	(1.99)	(1.67)	(0.89)	(0.78)	(37.91)	(50.05)
August 2006	-1.22	-3.94	4.52	-0.43	2.01	76.21	196.84
	(1.86)	(1.99)	(1.74)	(0.90)	(0.80)	(76.59)	(129.03)
September 2006	-2.42	-3.80	2.65	-0.72	1.30	55.68	55.28
	(1.95)	(2.04)	(1.66)	(0.92)	(0.87)	(48.61)	(75.80)
October 2006	-1.95	-4.46	4.10	-1.44	0.96	-30.39	-17.19
	(2.15)	(2.25)	(1.92)	(1.00)	(0.91)	(48.24)	(71.35)
First 7 months (a1)	-5.29	-9.59	8.13	-2.82	2.07	-37.40	41.74
Last 6 months (a2)	-1.71	-4.52	4.57	-1.29	1.02	12.18	52.35
H_o (a1=a2): F stat.	5.15	9.43	5.97	4.32	2.92	3.51	0.07
H_o (a1=a2): p-value	0.02	0.00	0.01	0.04	0.09	0.06	0.80

Notes: The numbers reported in the table are estimated coefficients associated with the relevant month×Treat×Post variable. Standard errors in parentheses account for the clustering of observations at the individual level. Regressions are estimated as linear models and weighted using CPS sampling weights. For the first three dependent variables, the coefficients and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The sample for these regressions is all individuals in the treatment and control groups before and after Katrina, as defined in the text.

[a] Labor Force Participation Rate
[b] Employment-Population Ratio
[c] Unemployment Rate

Table 5.
Effect of Hurricane Katrina by Sub-Region within the Affected Area

		Division involving New Orleans		Division involving Gulf Coast	
	Entire affected area	New Orleans MSA	Rest of affected area	Along Gulf Coast[a]	Rest of affected area
Effect on evacuees					
Labor force participation rate	-3.51	-3.61	-3.08	-3.54	-2.85
	(1.06)	(1.62)	(1.51)	(1.41)	(1.82)
Employment-population ratio	-7.06	-9.80	-3.46	-9.04	-2.79
	(1.10)	(1.70)	(1.55)	(1.49)	(1.85)
Unemployment rate	6.26	10.74	0.67	9.57	-0.06
	(0.86)	(1.38)	(0.87)	(1.16)	(1.02)
Effect on pre-storm residents					
Labor force participation rate	-0.89	-2.76	-0.44	-2.88	-0.16
	(0.64)	(1.53)	(0.69)	(1.28)	(0.72)
Employment-population ratio	-1.52	-8.22	0.13	-7.35	0.63
	(0.66)	(1.61)	(0.72)	(1.35)	(0.75)
Unemployment rate	1.05	9.23	-0.94	7.60	-1.31
	(0.44)	(1.26)	(0.44)	(1.00)	(0.47)
Percent of all evacuees	100%	58%	42%	71%	29%
Evacuation rate	30%	92%	16%	82%	12%

Notes: The table contains estimated coefficients and associated standard errors (in parentheses) that account for the clustering of observations at the individual level. Regressions are estimated as linear models, weighted using CPS sampling weights, and include month fixed effects and controls for individual and family characteristics. The coefficients and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The New Orleans MSA consists of seven parishes: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, and St. Tammany. Counties along the Gulf Coast within 100 miles of the storm center include the New Orleans MSA, two additional parishes in Louisiana (Lafourche and Terrebonne), and four counties in Mississippi (Hancock, Harrison, Pearl River, and Stone).

[a] Counties along the Gulf Coast within 100 miles of the storm center

Table 6.
Differences in Labor Market Outcomes between Returnees and Non-Returnees

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean	Return	Return	Return	Return ×Time	N
Independent variables						
Return		x	x	x	x	
Month/year fixed effects		x	x	x	x	
Individual and family characteristics			x	x	x	
Return×Time				x	x	
Dependent variable						
Labor force participation rate	58.99	6.79	9.37	7.56	0.31	6,429
		(2.51)	(2.28)	(3.81)	(0.50)	
Employment-population ratio	51.85	19.86	18.58	17.49	0.19	6,429
		(2.48)	(2.32)	(3.77)	(0.52)	
Unemployment rate	12.10	-25.06	-18.81	-21.40	0.44	3,764
		(2.69)	(2.29)	(4.08)	(0.59)	
Hours in prior week	20.00	8.20	7.26	7.72	-0.08	6,243
		(1.09)	(1.02)	(1.66)	(0.24)	
Hours (workers only)	39.61	-0.11	0.04	0.90	-0.14	3,159
		(0.97)	(0.85)	(1.54)	(0.22)	
Usual weekly earnings	343.25	113.71	64.49	1.52	10.24	1,520
		(35.70)	(41.84)	(61.58)	(10.52)	
Earnings (workers only)	686.10	-10.02	-102.10	-55.95	-7.42	760
		(75.47)	(78.44)	(114.06)	(21.49)	

Notes: The numbers reported in columns (2)-(5) are estimated coefficients associated with the variable listed in the column heading. Standard errors in parentheses account for the clustering of observations at the individual level. Regressions are estimated as linear models and weighted using CPS sampling weights. For the first three dependent variables, the means, coefficients, and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The sample for these regressions is all evacuees (using data collected after Katrina).

Table 7.
Monthly Estimates of the Difference between Returnees and Non-Returnees

Month	LFPR[a]	EPR[b]	UR[c]	Weekly hours	Hours (workers)	Weekly earnings	Earnings (workers)
October 2005	1.15	12.03	-22.26	7.41	2.52	156.70	160.35
	(5.25)	(5.13)	(6.40)	(2.40)	(3.23)	(101.56)	(101.64)
November 2005	3.76	12.61	-18.26	4.44	-0.43	-173.30	-420.18
	(4.88)	(4.78)	(5.92)	(2.05)	(1.93)	(140.50)	(322.68)
December 2005	9.89	15.86	-13.20	6.66	-0.03	103.93	-316.07
	(4.83)	(4.76)	(5.44)	(2.13)	(2.22)	(75.28)	(186.52)
January 2006	12.26	19.74	-17.60	7.72	0.88	13.20	38.66
	(4.46)	(4.27)	(5.47)	(1.78)	(1.79)	(71.74)	(110.32)
February 2006	9.70	18.48	-18.03	7.54	0.29	25.75	-60.72
	(4.89)	(4.75)	(5.32)	(1.95)	(1.73)	(105.72)	(160.28)
March 2006	16.57	29.56	-30.76	11.17	-0.22	116.81	-17.97
	(4.97)	(4.43)	(6.12)	(1.88)	(1.90)	(98.27)	(96.24)
April 2006	10.97	22.92	-26.27	8.83	1.31	79.40	-151.64
	(5.02)	(4.79)	(6.59)	(1.97)	(2.51)	(74.68)	(158.83)
May 2006	11.62	22.43	-20.44	8.95	0.08	94.72	-90.84
	(4.84)	(4.80)	(5.79)	(1.96)	(1.70)	(75.11)	(133.79)
June 2006	8.08	20.24	-21.88	7.47	-1.02	114.35	-160.30
	(4.77)	(4.88)	(5.80)	(2.12)	(2.61)	(90.78)	(123.07)
July 2006	7.73	18.81	-19.54	6.88	-0.30	216.40	152.53
	(4.72)	(4.84)	(5.35)	(2.16)	(2.13)	(73.61)	(81.57)
August 2006	6.23	15.31	-14.92	4.99	-0.52	12.80	-510.43
	(4.30)	(4.79)	(5.31)	(2.20)	(2.01)	(237.33)	(486.39)
September 2006	10.61	15.56	-11.61	5.80	0.16	77.14	-14.44
	(4.73)	(5.02)	(5.55)	(2.23)	(1.98)	(92.47)	(140.53)
October 2006	12.10	15.92	-9.92	5.48	-1.52	126.80	-31.81
	(5.69)	(5.72)	(6.26)	(2.58)	(2.65)	(90.01)	(140.94)
First 5 months (a1)	7.35	15.74	-17.87	6.75	0.64	25.26	-119.59
March 2006 (a2)	16.57	29.56	-30.76	11.17	-0.22	116.81	-17.97
Last 7 months (a3)	9.62	18.74	-17.80	6.91	-0.26	103.09	-115.28
H_o (a1=a2): F stat.	3.39	9.16	4.04	4.86	0.17	0.67	0.64
H_o (a1=a2): p-value	0.07	0.00	0.04	0.03	0.68	0.41	0.42
H_o (a2=a3): F stat.	1.85	5.45	4.24	4.44	0.00	0.01	0.51
H_o (a2=a3): p-value	0.17	0.02	0.04	0.04	0.99	0.90	0.48

Notes: The numbers reported in the table are estimated coefficients associated with the relevant month/year×Return variable. Standard errors in parentheses account for the clustering of individual observations. Regressions are estimated as linear models and weighted using CPS sampling weights. For the first three dependent variables, the coefficients and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The sample for these regressions is all evacuees (using data collected after Katrina).

[a] Labor Force Participation Rate
[b] Employment-Population Ratio
[c] Unemployment Rate

Table 8.
Differences in Housing Damage between Returnees and Non-Returnees

	All evacuees	Returnees	Non-Returnees
Severe damage	12.4	6.3	29.2
Major damage	14.4	13.8	15.9
Minor damage	30.6	34.0	21.0
No damage	42.7	45.9	33.8
Severe or major	26.7	20.1	45.1
Severe, major, or minor	57.3	54.1	66.2
Number of observations	6,429	4,769	1,660

Note: The numbers in the table are averages of the percentage of housing units in the evacuee's county of origin that experienced a given level of damage.

Table 9.
Relationship between Housing Damage and Labor Market Outcomes

	LFPR[a]	EPR[b]	UR[c]	Weekly hours	Hours (workers)	Weekly earnings	Earnings (workers)
All evacuees							
Severe	-0.08	-0.34	0.52	-0.15	-0.03	-2.99	-1.87
	(0.04)	(0.07)	(0.11)	(0.03)	(0.02)	(0.84)	(1.21)
Severe or major	-0.06	-0.24	0.35	-0.11	-0.03	-2.01	-0.74
	(0.05)	(0.09)	(0.13)	(0.04)	(0.02)	(0.91)	(1.16)
Severe, major, or minor	-0.03	-0.16	0.23	-0.10	-0.06	-1.75	-1.20
	(0.08)	(0.12)	(0.15)	(0.05)	(0.03)	(1.29)	(1.51)
Mean	61.60	57.09	7.32	21.66	38.61	358.26	662.06
N	28,553	28,553	17,316	27,877	15,446	6,814	3,628
Returnees							
Severe	-0.11	-0.17	0.15	-0.08	-0.02	-4.38	-4.34
	(0.06)	(0.05)	(0.03)	(0.02)	(0.02)	(0.60)	(1.23)
Severe or major	-0.02	-0.07	0.09	-0.05	-0.04	-2.18	-1.49
	(0.08)	(0.08)	(0.03)	(0.03)	(0.03)	(1.15)	(1.56)
Severe, major, or minor	0.03	0.00	0.04	-0.03	-0.06	-1.60	-2.07
	(0.09)	(0.09)	(0.04)	(0.03)	(0.03)	(1.26)	(1.61)
Mean	62.12	58.42	5.95	22.16	38.57	365.85	660.32
N	26,893	26,893	16,428	26,271	14,857	6,410	3,475
Non-returnees							
Severe	0.16	-0.09	0.47	-0.06	-0.05	-1.18	-3.98
	(0.07)	(0.11)	(0.21)	(0.05)	(0.03)	(1.42)	(2.27)
Severe or major	0.09	-0.08	0.34	-0.05	-0.04	-0.78	-2.28
	(0.08)	(0.10)	(0.20)	(0.05)	(0.03)	(1.09)	(1.91)
Severe, major, or minor	0.04	-0.16	0.43	-0.10	-0.07	-0.10	-0.13
	(0.13)	(0.15)	(0.23)	(0.07)	(0.05)	(0.95)	(2.33)
Mean	61.75	57.06	7.59	21.54	38.42	354.14	657.40
N	23,784	23,784	14,440	23,240	12,876	5,698	3,021

Notes: The table contains estimated coefficients on the Damage×Post variable and associated standard errors (in parentheses) that account for the clustering of observations at the county level. Each cell is based on a separate regression involving the dependent variable listed in the column heading. Regressions are estimated as linear models and weighted using CPS sampling weights. For the first three dependent variables, the means, coefficients, and standard errors have been multiplied by 100 and thus should be interpreted as percentage points. The sample for these regressions is based on pre-Katrina data on all residents of Katrina-affected areas and post-Katrina data on evacuees; the sample of evacuees used in a particular regression is indicated in italics in the first column.

[a] Labor Force Participation Rate
[b] Employment-Population Ratio
[c] Unemployment Rate