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Understanding Government Employment Data After a Natural or Other Disaster, with Special Emphasis on Hurricane Katrina

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Summary

The federal government uses surveys of households and employers to estimate monthly employment and unemployment. A natural or other disaster may disrupt the collection of labor force data. In addition, survey estimates of *employment* and *unemployment* may not fully capture the *job loss* resulting from a disaster.

At the beginning of each month, the U.S. Bureau of Labor Statistics (BLS) releases employment and unemployment data for the previous month. The monthly national unemployment rate is based on the Current Population Survey (CPS), which is commonly called the *household survey*. Each month, the BLS also releases estimates of the number of wage and salary jobs for the previous month. These estimates come from the Current Employment Statistics (CES) survey, commonly called the payroll or *establishment survey*. The Local Area Unemployment Statistics (LAUS) program uses data from the household survey, establishment survey, Unemployment Compensation (UC) program, and other sources to produce monthly estimates of employment and unemployment for approximately 7,200 geographic areas in the United States. These data are used to administer and allocate funds under numerous federal programs.

A natural or other disaster may result in a loss of jobs due to damage to buildings and infrastructure (e.g., roads, bridges, or utilities). The job loss may extend to governments that lose tax revenue and businesses that lose customers. Because of the labor force definitions used in the household and establishment surveys, estimates of employment and unemployment may not fully capture the job loss from a disaster. Some persons who lose their jobs may be counted as employed. Other persons may be classified as having left the labor force (i.e., neither employed nor unemployed). In addition, it may be difficult to separate the employment effects of a disaster from the effects of other factors (e.g., changes in interest rates, business investment, consumer spending, and government spending). Finally, because the monthly estimates of employment and unemployment are based on samples of households and employers, any reported month-to-month changes in employment may not be statistically significant.

A natural or other disaster may result in a short-term loss of jobs. Rebuilding generally creates jobs and restores lost jobs. Rebuilding may, however, result in a temporary mismatch of skills. Therefore, some persons who lose their jobs may not return to work soon. For example, the skills needed to rebuild a bridge, levee, office building, or house may be different from the skills needed to operate a store, casino, restaurant, or other business. In the longer-term, rebuilding may raise employment above levels that existed before the disaster. The employment effects may be widespread. Some people may move away from a disaster area, affecting employment and unemployment elsewhere. On the other hand, rebuilding may attract workers to the disaster area and increase the demand for goods produced elsewhere (e.g., building materials, office equipment, and household goods). This report will be updated as issues warrant.

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Introduction

The federal government uses surveys of households and employers to estimate monthly employment and unemployment. The information is used in determining both fiscal (spending and revenues) and monetary policy (money supply and interest rates) and to administer and allocate funds under numerous federal programs. A natural or other disaster may disrupt the collection of labor force data. In addition, survey estimates of *employment* and *unemployment* may not fully capture the *job loss* resulting from a disaster.

This report describes and compares three sources of government labor force data: (1) the monthly Current Population Survey (CPS), commonly called the household survey, (2) the Current Employment Statistics (CES) survey, commonly called the payroll or establishment survey, and (3) the Local Area Unemployment Statistics (LAUS) program. The report also examines the potential effect of a natural or other disaster on government estimates of employment and unemployment and considers why these estimates may not fully reflect the job loss caused by a disaster. The report gives special emphasis to Hurricane Katrina. According to news and other accounts, the damage to homes and businesses caused by Hurricanes Rita and Wilma was less severe than the damage caused by Hurricane Katrina. Nevertheless, where Rita and Wilma caused damage similar to Katrina, the effects on labor force data may be similar. The **Appendix** provides a reference guide to the sources of data and labor force concepts discussed in the report.

How the Government Estimates Monthly Employment and Unemployment

The government's usual practice is to survey households and businesses to estimate monthly employment and unemployment. The surveys provide reliable labor force data for the nation, states, cities, counties, and other geographic areas. This section describes and compares three sources of monthly labor force data.¹

¹ For more discussion of the concepts and surveys discussed here, see CRS Report RL32642, *Employment Statistics: Differences and Similarities in Job-Based and Person-Based Employment and Unemployment Estimates*, by Julie M. Whittaker; and U.S. Department of Labor, Bureau of Labor Statistics, *Employment from the BLS Household and Payroll* (continued...)

Employment and Unemployment Estimates Based on the Household Survey

At the beginning of each month, the U.S. Bureau of Labor Statistics (BLS) releases employment and unemployment estimates for the previous month. The estimates are from the CPS, which is a household survey conducted for BLS by the U.S. Census Bureau. The CPS collects information on the size of the labor force and the number of persons who are employed or unemployed. The survey also collects a wide range of demographic, social, and economic information (e.g., age, gender, race, education, hours worked, and earnings). The survey does not include persons in institutions (e.g., nursing homes, mental institutions, and prisons), persons in hotels or motels, or individuals on active military duty. The survey provides reliable monthly estimates of national employment and unemployment and annual estimates of employment and unemployment for the 50 states and the District of Columbia. The data are based on a person's state of residence.²

In November 2005, according to the household survey, the total U.S. labor force numbered 150.2 million persons; 142.6 million were employed and 7.6 million were unemployed.³ Because the labor force data from the household survey are estimates based on a sample of households, month-to-month changes in employment or unemployment may not be statistically significant.⁴ For instance, a month-to-month change in national employment of less than 436,000 is not statistically significant.⁵

Employment Estimates Based on the Establishment Survey

Each month, the BLS also releases estimates of the number of wage and salary jobs for the previous month. These estimates are from the CES survey, which is a

¹ (...continued)

Surveys: Summary of Recent Trends, Dec. 2, 2005, available at [http://www.bls.gov/cps/ces_cps_trends.pdf], pp. 9-11. (Hereafter cited as BLS, *Employment from the BLS Household and Payroll Surveys*.)

² U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Methods*, Chapter 1, pp. 2-7, 10. [<http://stats.bls.gov/bls/descriptions.htm>]. (Hereafter cited as BLS, *Handbook of Methods*.) U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, vol. 52, Jan. 2005, pp. 269-270. (Hereafter cited as BLS, *Employment and Earnings*.)

³ U.S. Department of Labor, Bureau of Labor Statistics, *The Employment Situation: November 2005*, available at [<http://stats.bls.gov>], p. 2. (Hereafter cited as BLS *The Employment Situation: November 2005*.)

⁴ Employment estimates based on surveys have two kinds of error: nonsampling and sampling error. Examples of nonsampling error include information that is misreported and errors made in processing collected information. Sampling error occurs because a sample, and not the entire population, is surveyed. The difference between an estimate based on a sample and the actual population value is known as sampling error. When using sample data, researchers typically construct confidence intervals around population estimates. Confidence intervals provide information about the accuracy of estimated values.

⁵ BLS, *Employment from the BLS Household and Payroll Surveys*, p. 3.

survey of nonfarm establishments. The survey collects information on the number of payroll jobs, hours worked, and employee earnings. The survey does not include self-employed persons, unpaid family workers, private household workers, agricultural workers, or persons on active military duty. The survey provides reliable monthly estimates of national and state employment. The estimates are based on the place of work.⁶

According to the establishment survey, in November 2005 there were an estimated 134.3 million payroll jobs nationwide.⁷ Because the payroll survey does not collect information from all establishments, a change in month-to-month national employment of less than 103,000 is not statistically significant.⁸

Local Area Unemployment Statistics

The LAUS program is a cooperative program between BLS and state employment security agencies. The program produces monthly employment and unemployment estimates for approximately 7,200 geographic areas in the United States. These areas include states, counties, and cities of 25,000 or more.⁹ LAUS estimates are based on a person's place of residence.

Federal Programs. LAUS data are used to administer and allocate funds under numerous federal programs. For example, under the Food Stamp program a state may request a waiver of the work requirements for able-bodied adults without dependents for areas where the unemployment rate is over 10% or there are insufficient jobs.¹⁰ Under the Temporary Assistance for Needy Families (TANF) program, the period allowed for job search increases from 6 to 12 weeks if the state unemployment rate is at least 50% above the national average.¹¹ In some states, extended unemployment benefits are triggered if the state unemployment rate for the most recent three-month period is at least 6.5% and at least 10% above the state unemployment rate for the same three-month period in either of the two preceding

⁶ BLS, *Handbook of Methods*, Chapter 2, pp. 1-5, 8. BLS, *Employment and Earnings*, vol. 52, Jan. 2005, pp. 287-290.

⁷ BLS, *The Employment Situation: November 2005*, p. 2.

⁸ BLS, *Employment from the BLS Household and Payroll Surveys*, p. 3.

⁹ Employment and unemployment estimates are prepared for all cities and towns in New England, regardless of size. BLS, *BLS Handbook of Methods*, Chapter 4, p. 36.

¹⁰ U.S. Department of Agriculture, Food and Nutrition Service, *Able-Bodied Adults Without Dependents (ABAWDs)*, available at [<http://www.fns.usda.gov/fsp/rules/Memo/PRWORA/abawds/ABAWDsPage.htm>]

¹¹ The time limit for job search may also be increased if a state meets the "economic need" criteria for contingency funds that may be available under TANF during an economic downturn. See CRS Report RL32748, *The Temporary Assistance for Needy Families (TANF) Block Grant: A Primer on Financing and Requirements for State Programs*, by Gene Falk.

years.¹² LAUS data are also used in economic development programs and programs affecting dislocated workers, youth, veterans, and others.¹³

Most of the federal programs that use data from the LAUS program use data for a period covering a year or more (but, in no case, a period of less than three months). In some cases, LAUS data are used to administer programs. In other cases, federal programs use LAUS data to allocate federal funds to state and local areas or to determine whether a state or area is eligible for federal funds.¹⁴

Differences in the Three Sources of Labor Force Data

The monthly estimates of employment and unemployment from the above sources of labor force data may differ for several reasons.

- *Definition of employment.* The definition of employment differs between the household and establishment surveys. The establishment survey estimates the number of payroll jobs. The household survey estimates the number of persons employed. In the household survey, a person with more than one job is only counted once. In the establishment survey, a person with more than one job is counted more than once.
- *Definitions of unemployment and “not in the labor force.”* The establishment survey does not estimate the number of persons who are unemployed. The household survey estimates the number of persons who are unemployed as well as the number of persons who are “not in the labor force.” A person is unemployed if they do not have a job but they are available and looking for work. A person who is not employed or looking for work is not in the labor force.
- *Who is included in the surveys.* The household survey includes persons not included in the establishment survey: farm workers, the self-employed, private household workers, and unpaid family workers.¹⁵
- *The ages of persons included in the surveys.* The household survey collects labor force information on persons ages 16 and over. The

¹² Alabama, Louisiana, and Mississippi do not use this trigger for extended benefits. For a discussion of extended unemployment benefits, see CRS Report RL33084, *Unemployment and Employment Programs Available to Workers from Alabama, Louisiana, and Mississippi Affected by Hurricane Katrina*, by Julie M. Whittaker and Ann Lordeman.

¹³ For a list of federal uses of LAUS data, see U.S. Department of Labor, Bureau of Labor Statistics, *Administrative Uses of Local Area Unemployment Statistics*, available at [<http://stats.bls.gov/lau/lauadminuses.pdf>]. (Hereafter cited as BLS, *Administrative Uses of Local Area Unemployment Statistics*.)

¹⁴ In FY2003, LAUS data were used in programs that accounted for an estimated \$45 billion in federal spending. Most of this spending was under TANF and the Food Stamp program. BLS, *Administrative Uses of Local Area Unemployment Statistics*, p. 3.

¹⁵ Self-employed persons work for themselves in an unincorporated business. Unpaid family workers work 15 hours or more a week as unpaid workers in a family business.

establishment survey collects information on all nonfarm wage and salary workers, regardless of age.

- *Estimates from survey samples versus estimates from statistical models.* The labor force data from the household and establishment surveys are based on samples of households and employer establishments. The state and local estimates of employment and unemployment from the LAUS program are based on statistical models, which use data from the household and establishment surveys, as well as data from the Unemployment Compensation (UC) program and other sources.¹⁶

How Employment and Unemployment Data May be Affected by a Natural or Other Disaster, With Special Emphasis on Hurricane Katrina

A natural or other disaster may disrupt the collection of labor force data, which may affect the accuracy of employment and unemployment estimates. In addition, labor force data from the household and establishment surveys may not fully capture the number of jobs lost as a result of a disaster.

Data Collection

Estimates of employment under both the household and establishment surveys are based on samples — of households and employers, respectively. Households and businesses that are damaged or destroyed by a disaster and that are in the survey samples may not be surveyed. Therefore, at least temporarily, employment estimates under both the household and establishment surveys may be based on smaller samples, which generally reduces the statistical accuracy of labor force data.

Hurricane Katrina. Because of the damage and destruction of homes and businesses caused by Hurricane Katrina, normal data collection under both the household and establishment surveys was disrupted.¹⁷ In response, for September and October 2005, BLS modified its usual data collection and estimation procedures. In some cases, these changes were unprecedented, due to the extent of the damage and the near-evacuation of New Orleans.

Household Survey. In September 2005, census interviewers did not attempt to contact survey households located in the city of New Orleans or in Jefferson Parish. Interviewers did attempt to contact survey households in the remainder of the

¹⁶ The Unemployment Compensation program was created by the Social Security Act of 1935 (P.L. 74-271). The program is commonly called the Unemployment Insurance, or UI, program.

¹⁷ The information in this report on the impact of Hurricane Katrina on data collection under the household and establishment surveys is from: U.S. Department of Labor, Bureau of Labor Statistics, *Effects of Hurricane Katrina on BLS Employment and Unemployment Data Collection and Estimation*, Dec. 2, 2005, available at [<http://stats.bls.gov>]

Gulf Coast disaster area. Following usual procedures, persons living in temporary shelters, churches, hotels, or motels were not surveyed. In October, interviewing resumed in New Orleans and in Jefferson Parish. From September to November, fewer households — especially in Louisiana and Mississippi — were surveyed.¹⁸ Households and persons in the area who were interviewed were given larger sample weights, which may result in less accurate estimates of employment and unemployment.

Establishment Survey. Many employer establishments in the Gulf Coast were damaged or destroyed by Hurricane Katrina. According to BLS, over a third of employers in the disaster area have payroll offices outside of the area. In September, BLS received a normal response from these employers. In September and October, BLS attempted to follow up by telephone with employers in the Gulf Coast area who did not respond to the survey. Nevertheless, the response rates for both months were lower than normal in Louisiana and Mississippi.¹⁹ If BLS was not able to contact an employer, BLS assumed that the employer did not have any employees on its payroll. In Louisiana and Mississippi, for both September and October, sample weights were increased for establishments that did respond to the survey. The result, again, may be less accurate estimates of employment. In November, BLS resumed normal data collection and estimation procedures.

LAUS Program. The LAUS program produces estimates of state and local employment and unemployment. The program uses data from the household and establishment surveys, as well as administrative data from the UC program. The statistical models used to produce LAUS estimates smooth out large month-to-month changes in claims for UC and payroll employment. For September and October, however, in order to improve the employment estimates for Louisiana and Mississippi, the large changes in claims for UC and payroll employment were not smoothed out.²⁰

Employment Estimates After a Disaster

Because of labor force definitions in the household and establishment surveys, estimates of employment and unemployment may not fully capture the job loss from a disaster. Persons who have lost their jobs may be classified as employed under both the household and establishment surveys. Under the household survey, other persons who have lost their jobs may be classified as not in the labor force (i.e.,

¹⁸ Compared with August, in September about 600 fewer interviews were conducted in Alabama, Louisiana, and Mississippi. In October, about 250 fewer interviews were conducted. In November, about 100 fewer interviews were conducted.

¹⁹ In September, the nationwide response rate to the establishment survey was 67%. The response rate was 57% in Louisiana and 62% in Mississippi. The response rates for Louisiana and Mississippi for October were also below normal. For November, the gap in response rates between the Gulf Coast states and the rest of country closed considerably.

²⁰ U.S. Department of Labor, Bureau of Labor Statistics, *Regional and State Employment and Unemployment: September 2005*, available at [<http://stats.bls.gov>], pp. 1-2. U.S. Department of Labor, Bureau of Labor Statistics, *Regional and State Employment and Unemployment: October 2005*, available at [<http://stats.bls.gov>], pp. 1-2.

neither employed nor unemployed). In addition, the long-term employment effects of a disaster may differ from the short-term effects.

Household Survey. The household survey may understate the job loss from Hurricane Katrina. When the Census Bureau contacts survey households, respondents are classified as employed, unemployed, or not in the labor force based on their activities during the reference week for the survey. A person who is temporarily absent from work is counted as employed, whether or not they are being paid for the time off or whether they are looking for work. Other persons who have lost their jobs may be classified as not in the labor force. For example, a person may not be looking for work because they are busy repairing or rebuilding their home. Someone may not be looking for work because they believe there are no jobs available or there are no jobs for which they would qualify. A person may not be looking for a job because of a lack of transportation, family responsibilities, or injuries suffered during the disaster. A person may be doing volunteer work for a religious, charitable, or similar organization. Individuals who leave the labor force after a disaster may later reenter the labor force, and be counted as either employed or unemployed.

Establishment Survey. Due to offsetting factors, the establishment survey may either overstate or understate the job loss from Hurricane Katrina. On the one hand, many employers whose businesses were damaged or destroyed by the hurricane have said that they will offer their employees jobs at other locations. Some employers have said that they will continue to pay their employees, in some cases for a period of up to three months or more.²¹ The Katrina Emergency Tax Relief Act of 2005 (P.L. 109-73) includes an employee retention tax credit for small businesses that were damaged by Hurricane Katrina and that continue to pay employees who worked in the disaster area, even if the employees are not working.²² Because the establishment survey counts the number of persons on an employer's payroll — even if the employees are not working and do not have jobs to which they can return anytime soon — the survey may understate the extent of worker displacement from Hurricane Katrina. In addition, self-employed persons, private households, and unpaid family members — some of whom may have lost their jobs — are not included in the survey.

²¹ Bureau of National Affairs, "Following Katrina, Employers Look to Assist, Pay Workers; Get Operations Up and Running," *Daily Labor Report*, no. 175, Sept. 12, 2005, p. C-2. Bureau of National Affairs, "Gulf Coast Casinos Offer Employees Aid, Continued Pay, Benefits Following Katrina," *Daily Labor Report*, no. 175, Sept. 12, 2005, p. C-4.

²² The credit is available to businesses that are not operating because of damage caused by Hurricane Katrina and that had 200 or fewer employees. The credit is available if employees continue to work for the same employer, but at another location. The credit is available on wages paid through the end of 2005 or, if sooner, until the employer resumes "significant" operations at the location damaged by the hurricane. CRS Report RL30089, *The Work Opportunity Tax Credit (WOTC) and the Welfare-to-Work (WiW) Tax Credit*, by Linda Levine. P.L. 109-73, Section 202.

On November 18, 2005, the Senate approved the Tax Relief Act of 2005 (S. 2020), which would extend the employee retention tax credit to all businesses, regardless of size.

On the other hand, if an employer did not respond to the September or October surveys, BLS assumed that the employer did not have any employees on its payroll. For this reason, the survey may overstate the job loss from Hurricane Katrina — because some employers may, in fact, be operating. The net effect of these two offsetting factors on the estimates of payroll employment in the Gulf Coast area is uncertain.

Short-Term Versus Long-Term Employment Effects

The longer-term employment effects of a disaster may be different from the short-term effects. First, although a disaster may cause a short-term loss of jobs, rebuilding may create jobs and restore lost jobs. Rebuilding may raise employment above earlier levels.²³ Rebuilding may result in a temporary mismatch of skills, however. For example, the skills needed to rebuild a bridge, levee, office building, or house may be different from the skills needed to operate a store, casino, restaurant, or other business. Therefore, some persons who were not working before a disaster may find jobs, while other persons who lost their jobs may not find work soon. Hours of work may also be affected. Some workers may work longer hours; others may work fewer hours.

Second, the job loss from a disaster may continue for several weeks or months. For example, on October 4, 2005, the mayor of New Orleans announced that, because of a loss of tax revenue, the city would layoff as many as 3,000 city workers.²⁴ Other city and county governments in the affected area may do the same. Businesses that were not damaged, but lost customers because of Hurricane Katrina, may also lay off workers.

Third, the employment effects of a disaster may be widespread. A disaster may cause some people to move away from the area. On the other hand, rebuilding may attract workers to the area and increase the demand for goods produced elsewhere (e.g., building materials, office equipment, and household goods). Thus, the employment effects of Hurricane Katrina will likely extend beyond the Gulf Coast.

Finally, employment and unemployment change for many reasons. Therefore, it may be difficult to isolate the employment effects of a disaster from the effects of other factors, such as changes in interest rates, business investment, and government and consumer spending. For instance, BLS reported that nonfarm payroll employment nationwide increased by an estimated 17,000 jobs from August to September, by 44,000 jobs in October, and by 215,000 jobs in November.²⁵ The changes in September and October were not statistically significant. The relatively

²³ Kevin L. Kliesen, “The Economics of Natural Disasters,” *The Regional Economist*, Federal Reserve Bank of St. Louis, Apr. 1994, p. 7. After four large hurricanes hit the southeastern United States in August and September 2004, employment increased in construction and in building supply stores. Emily Lloyd and Charlotte Mueller, “Payroll Employment Grows in 2004,” *Monthly Labor Review*, vol. 128, Mar. 2005, p. 27.

²⁴ Peter Whoriskey, “Mayor Warns of Major Layoffs in New Orleans,” *Washington Post*, Oct. 5, 2005, p. A8.

²⁵ BLS, *The Employment Situation: November 2005*, Table B-1.

stable level of employment nationwide suggests that the job loss caused by Katrina from August to September (when most of the job losses occurred — e.g., see **Table 1**) was partially offset by job gains caused by other factors. The stable level of employment from September to October, on the other hand, suggests that job growth nationwide slowed because of factors not directly related to Katrina.

Hurricane Katrina

This section examines the employment situation in Alabama, Louisiana, and Mississippi before and immediately after Hurricane Katrina hit the Gulf Coast on August 29, 2005. The section also summarizes initial estimates of job loss caused by Katrina.

Employment Before and Immediately After Hurricane Katrina

Table 1 shows estimates of employment from the establishment survey for Alabama, Louisiana, and Mississippi for August through October 2005. The table shows that, from August to September, there was a large decline in employment in the three states. The decline occurred mainly in Louisiana and Mississippi. From September to October, there was little or no recovery in employment.

From August to September, employment in Alabama, Louisiana, and Mississippi fell by an estimated 295,900 jobs. The largest decreases were in Louisiana (-240,000) and Mississippi (-52,300). Prior to Katrina, estimates of month-to-month changes in employment from the establishment survey were significant if they were more than 7,900 in Alabama, 8,100 in Louisiana, and 5,700 in Mississippi.²⁶ Therefore, from August to September, the employment decreases in Louisiana and Mississippi were statistically significant. The decrease in Alabama (-3,600) was not.

Table 1 also shows that, from September to October, employment in the three states increased by an estimated 7,700 jobs. Thus, the decline in employment from August to October (288,200) occurred in the first month after the hurricane. From September to October, Mississippi registered a statistically significant increase in employment of 6,700 jobs.

²⁶ Calculated by CRS from U.S. Department of Labor, Bureau of Labor Statistics, *Reliability of State and Area Estimates*, Aug. 15, 2005, at [<http://www.bls.gov/sae/790stderr.htm>]. The changes are significant at the 90% confidence level. With a 90% confidence interval and repeated samples from a population, 90% of intervals will generally include the actual value of a population characteristic. BLS, *Employment from the BLS Household and Payroll Surveys*, p. 3. The size of these confidence intervals will change with the level of employment.

Table 1. Employment and Unemployment in Alabama, Louisiana, Mississippi, August to October 2005, Establishment Survey Data

State	Employment (1000s)			Change, August to September (1000s)	Change, September to October (1000s)	Change, August to October (1000s)
	August 2005	September 2005	October 2005			
Alabama	1,937	1,934	1,931	(3.6)	(2.8)	(6.4)
Louisiana	1,936	1,696	1,699	(240.0)	3.8	(236.2)
Mississippi	1,137	1,084	1,091	(52.3)	6.7	(45.6)

Sources: U.S. Department of Labor, Bureau of Labor Statistics, *Employment, Hours, and Earnings from the Current Employment Statistics Survey*, available at [<http://stats.bls.gov/sae/home.htm>].

Notes: Parentheses indicate negative numbers. The data are subject to revision. The data are seasonally adjusted.

Table 2 shows estimates of employment and unemployment from the LAUS program for residents of Alabama, Louisiana, and Mississippi and the 86 counties declared disaster areas after Hurricane Katrina hit the Gulf Coast.²⁷ The data are for August through October 2005.²⁸

Table 2 shows that, in August, an estimated 5.3 million residents of Alabama, Louisiana, and Mississippi were employed. In the 86 counties declared disaster areas after Katrina, an estimated 2.6 million people were employed in August, or half of all employment in the three states. In Louisiana and Mississippi, the two states most affected by Hurricane Katrina, roughly 7 in 10 residents lived in the disaster area. From August to September, employment in the three states fell to 5.0 million, a decline in employment of 294,300.

Prior to Katrina, LAUS estimates of month-to-month changes in employment were significant if they were more than 20,400 in Alabama and Louisiana or more than 12,300 in Mississippi.²⁹ From August to September, the employment decreases in Louisiana (-229,000) and Mississippi (-81,700) were statistically significant. The increase in employment (+16,400) in Alabama was not. In Mississippi, most of the decline in employment statewide occurred in the 47 counties declared disaster areas (-73,000).

²⁷ The 86 counties were designated by the Federal Emergency Management Agency (FEMA) as eligible for both individual and public disaster assistance after Aug. 29 and before Sept. 24 (the date Hurricane Rita hit the area).

²⁸ Because Hurricane Katrina hit the Gulf Coast states on Aug. 29, 2005, employment and unemployment estimates for August were not affected. Because Hurricane Rita hit the area on Sept. 24, 2005, the estimates for September were not affected.

²⁹ Calculated by CRS from: U.S. Department of Labor, Bureau of Labor Statistics, *Model-Based Error Measures on LAUS Estimates, August 2005*, available at [<http://www.bls.gov>]. The changes are significant at the 90% confidence level.

Table 2. Employment and Unemployment in Alabama, Louisiana, Mississippi, and the Counties Declared Disaster Areas, August to October 2005, LAUS Data

	Alabama		Louisiana		Mississippi	
	State	Disaster counties (8)	State	Disaster counties (31)	State	Disaster counties (47)
August 2005						
Employment (1000s)	2,066	364	2,006	1,431	1,253	844
Unemployment rate	4.2%	4.3%	6.0%	5.8%	7.0%	6.7%
Employment in the disaster counties as a percent of state employment		17.6%		71.3%		67.3%
September 2005						
Employment (1000s)	2,082	366	1,777	NA ^a	1,172	770
Unemployment rate	4.0%	4.6%	11.4%	NA ^a	9.8%	11.5%
October 2005						
Employment (1000s)	2,094	368	1,746	NA ^a	1,176	775
Unemployment rate	4.5%	4.6%	11.0%	NA ^a	9.6%	10.7%
Change, August to September						
Employment (1000s)	16.4	1.2	(229.0)	NA ^a	(81.7)	(73.9)
Unemployment rate	(0.2%)	0.3%	5.3%	NA ^a	2.8%	4.8%
Change, September to October						
Employment (1000s)	12.0	2.8	(31.5)	NA ^a	3.9	5.3
Unemployment rate	0.5%	0.0%	(0.4%)	NA ^a	(0.2%)	(0.8%)
Change, August to October						
Employment (1000s)	28.5	4.0	(260.5)	NA ^a	(77.7)	(68.6)
Unemployment rate	0.3%	0.4%	4.9%	NA ^a	2.6%	4.0%

Source: Calculated by CRS from: U.S. Department of Labor, Bureau of Labor Statistics, *Local Area Unemployment Statistics*, available at [<http://stats.bls.gov/lau/home.htm>].

Notes: The 86 counties were designated by the Federal Emergency Management Agency (FEMA) as eligible for both individual and public disaster assistance after August 29 and before September 24 (the date Hurricane Rita hit the area). Parentheses indicate negative numbers. The data are subject to revision. The data are not seasonally adjusted.

a. Because of problems with data collection, BLS has not published data for September or October for seven parishes in the Louisiana disaster area.

Finally, **Table 2** shows that, from September to October, estimated employment in the three states fell by 15,600. Therefore, like the establishment survey, data from the LAUS program show that the decline in employment from August to October (309,700) occurred mainly in the first month after the hurricane.

Initial Estimates of Job Loss from Hurricane Katrina

CBO. The Congressional Budget Office (CBO) has estimated that Hurricane Katrina may have resulted in a job loss of 280,000 to 400,000.³⁰ The lower bound of CBO's estimate comes from the number of claims for unemployment compensation filed during the first four weeks after Hurricane Katrina hit the Gulf Coast.³¹ The upper bound of CBO's estimate comes from an estimate of payroll employment in the areas most severely damaged by the storm.³² According to CBO, the effect of Hurricane Rita on employment appears to be considerably smaller than the effect of Hurricane Katrina.³³

Claims for Unemployment Compensation. According to the Employment and Training Administration (ETA) of the U.S. Department of Labor, through the week ending December 3, 2005, an estimated 599,700 people who lost their jobs as the result of Hurricanes Katrina, Rita, and Wilma filed claims for regular UC after Hurricane Katrina hit the coast.³⁴

The number of claims for regular UC does not include claims filed under the Disaster Unemployment Assistance (DUA) program, which provides assistance to persons who are unemployed as a result of a major disaster but are not eligible for regular UC. In September and October, 120,348 persons in Alabama, Louisiana, and Mississippi filed DUA claims related to Hurricane Katrina. Most (99,613) of the claims were filed by residents of Louisiana. Residents of Mississippi filed 18,723 claims; residents of Alabama filed 2,012 claims.³⁵

³⁰ Congressional Budget Office, *The Macroeconomic and Budgetary Effects of Hurricanes Katrina and Rita: An Update*, Sept. 29, 2005, available at [<http://www.cbo.gov>], pp. 7-8. (Hereafter cited as CBO, *The Macroeconomic and Budgetary Effects of Hurricanes Katrina and Rita*.)

³¹ According to the Employment and Training Administration (ETA) of the U.S. Department of Labor, during the first four weeks after Hurricane Katrina landed on the Gulf Coast, 279,000 initial claims for UC were filed by workers who lost their jobs as the result of the storm. Bureau of National Affairs, "279,000 Katrina-Related UI Claims Filed as of Sept. 24, With More Likely, ETA Says," *Daily Labor Report*, no. 189, Sept. 30, 2005, p. D-13.

³² CBO's upper-bound estimate is based on fourth quarter 2004 data from the BLS Quarterly Census of Employment and Wages (QCEW). QCEW data come from quarterly reports filed by employers with state employment security agencies. The data are for workers covered by unemployment compensation.

³³ CBO, *The Macroeconomic and Budgetary Effects of Hurricanes Katrina and Rita*, p. 8.

³⁴ Bureau of National Affairs, "Initial UI Claims Up 6,000, ETA Says, While Hurricane-Related Filings Taper Off," *Daily Labor Report*, no. 236, Dec. 9, 2005, p. D-15.

³⁵ U.S. Department of Labor, Employment and Training Administration, "Disaster (continued...)

Mass Layoffs. According to BLS, 924 establishments (up from 22 in August) in Alabama, Louisiana, and Mississippi had at least 50 workers who filed claims for regular UC during the five-week period ending October 1. According to BLS, 817 of the layoffs in Louisiana and Mississippi were probably due to hurricanes Katrina and Rita. A total of 133,173 workers from the 924 establishments filed claims for UC during the period. Most claims were filed by workers in Louisiana (104,388). In Mississippi, 26,817 workers filed claims; 1,968 claims were filed in Alabama.

Preliminary data indicate that the number of mass layoffs was down significantly in October. In Alabama, Louisiana, and Mississippi, 11 establishments had at least 50 workers who filed UC claims during the four-week period ending October 29, 2005. A total of 1,140 workers from these 11 establishments filed claims for UC.³⁶

Other Estimates. According to a survey of 50 economists, Katrina may have resulted in a loss of 500,000 to 750,000 nonfarm payroll jobs in September.³⁷ According to an estimate by the Conference Board, the job loss from Hurricanes Katrina and Rita may total 500,000 in the last four months of 2005.³⁸

Special Katrina-Related Questions in the Household Survey

In October and November, the household survey included additional questions to estimate how many people evacuated their homes because of Hurricane Katrina. According to the November survey, an estimated 886,000 persons ages 16 and older evacuated their homes after Katrina.³⁹ By November, half (442,000) of all evacuees had returned home. In November, 55.2% of the evacuees were in the labor force; 20.5% of those in the labor force were unemployed. The unemployment rate among

³⁵ (...continued)

Unemployment Assistance Activities,” available at [<http://www.workforcesecurity.doleta.gov/unemploy/duaactions.asp>].

³⁶ The BLS Mass Layoff Statistics (MLS) program identifies large job cutbacks. A monthly report shows the number of establishments that had 50 or more workers who filed claims for UC during a five-week period. A quarterly report shows the number of private nonfarm establishments that had at least 50 workers who filed initial claims for UC *and* had at least 50 workers who lost their jobs for 31 days or more. The quarterly report includes information on the total number of job cuts lasting 31 days or more, the reasons for the cuts, and expectations that workers will be called back to work. For more information on the MLS program, see CRS Report RL30799, *Unemployment Through Layoffs: What Are the Underlying Reasons?*, by Linda Levine; and U.S. Department of Labor, Bureau of Labor Statistics, *Mass Layoff Statistics*, available at [<http://stats.bls.gov/mls/home.htm>].

³⁷ Reuters, *GDP Seen Down After Katrina — Blue Chip*, Sept. 10, 2005, available at [<http://www.washingtonpost.com>].

³⁸ Bureau of National Affairs, “Nation’s First Net Job Losses in Two Years Forecast for September Due to Hurricanes,” *Daily Labor Report*, no. 190, Oct. 3, 2005, p. D-1.

³⁹ The estimate of the number of evacuees does not include persons under 16 or evacuees living in hotels or shelters. Thus, as the number of evacuees living in hotels and shelters decreases, the estimated number of evacuees may increase. The special Katrina-related questions will be included in the household survey until at least Jan. 2006.

evacuees who had returned home was lower (12.5%) than among evacuees who had not returned home (27.8%). By comparison, nationwide in November, 66.1% of persons ages 16 and older were in the labor force. The national unemployment rate was 5.0%.⁴⁰

⁴⁰ BLS, *The Employment Situation: November 2005*, p. 3.

Appendix

This appendix gives descriptions of the sources of labor force data discussed in this report. The appendix also gives definitions of the labor force concepts used in the report.⁴¹

Sources of Labor Force Data

Current Employment Statistics Survey (CES): The CES is an establishment survey. The survey collects information on the number of payroll jobs (for persons of all ages), hours worked, and employee earnings. Currently, about 160,000 businesses and government agencies, covering about 400,000 different establishments, are surveyed each month. Data are collected electronically (e.g., via the internet, electronic files, or touch-tone data entry), by telephone, fax, and mail.

Employment estimates are adjusted to annual counts of total payroll employment, which come mainly from administrative reports submitted by employers covered by the UC program. These annual counts are adjusted monthly to take into account projected changes in employment.

Current Population Survey (CPS): The CPS is a household survey. The survey produces estimates of the number of persons ages 16 and over who are employed, unemployed, or not in the labor force. The survey collects a wide range of demographic, social, and economic information. Currently, about 60,000 households are contacted for interviews each month. Labor force questions are asked of persons 16 years and over. About 70% of the monthly interviews are conducted by telephone. The remainder are done by personal visits.

The household survey weights each person in the sample so that the survey estimates represent the civilian noninstitutional population. The sample weights are based on the population count from the 2000 census. The weights are adjusted monthly to take into account projected changes in the population.

Local Area Unemployment Statistics (LAUS): The LAUS program provides monthly employment and unemployment estimates for approximately 7,200 geographic areas in the United States. These areas include states, counties, and cities of 25,000 or more. The estimates are produced using statistical models and data from the household survey, establishment survey, UC program, and other sources. Data from the UC program include the number of persons receiving *unemployment benefits* for the week that includes the 12th day of the month.⁴²

⁴¹ More information on the labor force concepts used in the household and establishment surveys can be found at [<http://stats.bls.gov>] or *Employment and Earnings*, a monthly BLS publication.

⁴² U.S. Department of Labor, Bureau of Labor Statistics, *Local Area Unemployment Statistics: Estimation Methodology*, available at [<http://stats.bls.gov>]. BLS, *BLS Handbook of Methods*, Chapter 4, pp. 36-39.

LAUS estimates of state employment and unemployment are generally released on the third Friday of the month. The estimates are for the previous month. Estimates for local areas (e.g., cities and counties) are generally released two to three weeks later.

Major Layoff Statistics (MLS) program: The MLS program identifies and tracks establishments that had 50 or more workers who filed initial UC claims during a five-week period.

Quarterly Census of Employment and Wages (QCEW). QCEW data come from quarterly reports filed by employers with state employment security agencies. The data are for workers covered by unemployment compensation.

Unemployment Compensation (UC) Program: The UC program provides temporary unemployment benefits to workers who are unemployed through no fault of their own. Each state administers a separate unemployment compensation program within guidelines established by federal law.

Concepts

Employment: The concepts of employment in the household and establishment surveys differ. In the establishment survey, a person is employed if they are paid for any part of the pay period that includes the 12th of the month. In the household survey, a person is employed if they are paid for any work during the week that includes the 12th of the month, if they are self-employed, if they work without pay in a family business, or if they are temporarily absent from work. Self-employed persons work for themselves in an unincorporated business. Unpaid family workers are persons who work 15 hours or more a week as unpaid workers in a family business. Persons are temporarily absent from work if they have jobs but are not working because of bad weather, illness, vacation, job training, labor-management dispute, child care problems, or other family or personal reasons. The household survey includes persons not included in the establishment survey: farm workers, the self-employed, private household workers, and unpaid family workers. In the household survey, a person with more than one job is only counted once. In the establishment survey, a person with more than one payroll job is counted more than once. The estimates from the household survey are based on a person's place of residence. The estimates from the establishment survey are based on the place of work.

Job loss: In this report, job loss refers to jobs lost because of damage to buildings or infrastructure (e.g., roads, bridges, or utilities) caused by a natural or other disaster. Additional jobs may be lost if a disaster causes state and local governments to lose tax revenue or businesses to lose customers.

Labor force: The labor force is the sum of persons who are either employed or unemployed.

Not in labor force: The concept of persons who are "not in the labor force" comes from the household survey. Persons who are not in the labor force are not working and they are not looking for work. A person is not in the labor force if they

are neither employed nor unemployed. Persons who are not in the labor force include “discouraged workers,” who are persons who would like to work and are available for work but are not looking for work because they believe there are no jobs available or there are no jobs for which they would qualify. Other persons who are not in the labor force include persons who would like to work but are not looking because of a lack of transportation, family responsibilities, or poor health. Persons are not in the labor force if their only activity is repair work around their home or if they are doing volunteer work for a religious, charitable, or similar organization.

Unemployed: The concept of unemployed comes from the household survey. A person is unemployed if they do not have a job but they are available for work and actively looked for work sometime during the previous four weeks