



*Adjusting methods in the  
Current Employment Statistics Survey  
following Hurricane Katrina*

*Angela Clinton  
Bureau of Labor Statistics*

ASA Strategic Initiative  
Workshop on Modifying Surveys in Response to Disruptions  
March 15-16, 2007

## *Analyzing Katrina Impact for employment in September 2005 and beyond*

- Primary goal of the payroll survey: provide accurate estimates of employment, hours, and earnings on the 1st Friday following the reference month.
- Comparisons of employment changes against recent trends provided a general indication of the impacts at the national level by industry.
- CES state and metropolitan area estimates for September and later months provided further indications of impact at local levels
- Other influences make it impossible to precisely quantify impacts of Katrina on employment in September 2005 and subsequent months.



## *Preliminary Research*

- Identify firms in the disaster areas and determine if they closed because of Hurricane Katrina
- Determine if off-the-job workers were paid and the timeframe they were paid
  - Sources: Web sites, news reports, State and National CES staff contacts by telephone
- Identify sample units in the disaster areas and typical timing for reporting CES data



*Establishments and employment within Katrina-damaged areas of Alabama, Louisiana, and Mississippi, as defined by FEMA.*

Damage type	Estabs	Employment
Flooded area	18,152	305,955
Non-flooded area:		
Limited damage	1,766	20,339
Moderate damage	743	8,519
Extensive damage	164	2,783
Catastrophic damage	1,635	35,698
<b>TOTAL</b>	<b>22,460</b>	<b>373,294</b>

Source: Quarterly Census of Employment and Wages



# *Methodology changes for the September CES*

- Impute zeros for non-responses in flooded/damaged areas
  - 82 zeros; 211 sample units in areas
  - Employment was not imputed for establishments that did not report data but were known to have paid their workers.
- Modify adjustment procedures for business birth employment in flooded/damaged areas
  - Standard procedures
    - Death employment not used in monthly CES calculation to offset missing birth employment
    - Residual employment not accounted for by birth/death offset is modeled and used in monthly CES calculation
  - Modified procedures
    - Use reported deaths; 111 reported
- Increase weights for responding units in impacted areas where response rates fell below recent levels
  - 1,260 sample units reweighted by an average of +30%



# *First Estimates: National Employment Change Compared with Recent Trends*

- Compared multiple runs of estimation to quantify impact of Katrina on employment:
  - National estimates rerun without sample from the Katrina-affected area
  - Estimates run at BLS for New Orleans and Gulfport/Biloxi areas (normally run later than National estimates, by State agencies)
- BLS Deputy Commissioner Rones on October 7, 2005, stated:
  - *“The change reported for September--a loss of 35,000 jobs—is about 230,000 less than the average monthly gain over the previous 12 months.”*



# *State and Local Employment Estimates*

## **Over-the-year employment change as first released for States and selected metropolitan areas affected by Hurricane Katrina\***

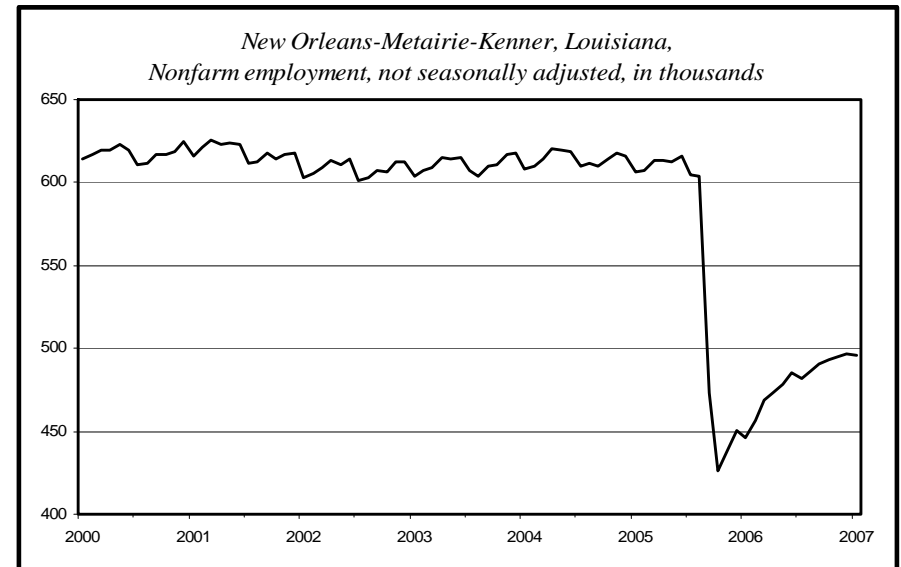
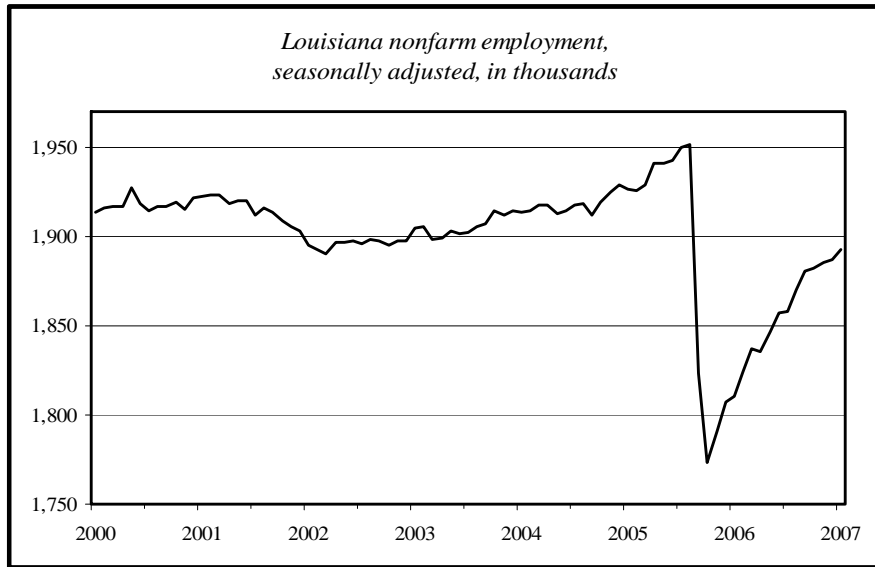
Not seasonally adjusted, in thousands

State and area	August '05	September '05	Difference
<b>Alabama</b>	<b>23</b>	<b>25</b>	<b>2</b>
<b>Mobile</b>	<b>5</b>	<b>5</b>	<b>0</b>
<b>Louisiana</b>	<b>9</b>	<b>-230</b>	<b>-239</b>
<b>New Orleans-Metairie-Kenner</b>	<b>4</b>	<b>-232</b>	<b>-236</b>
<b>Mississippi</b>	<b>12</b>	<b>-53</b>	<b>-64</b>
<b>Gulfport-Biloxi</b>	<b>-1</b>	<b>-31</b>	<b>-29</b>
<b>Pascagoula</b>	<b>4</b>	<b>-6</b>	<b>-10</b>

\*September 2005 data were first released as preliminary on October 21, 2005. Calculations may be off slightly due to rounding.



# Signs of Recovery?

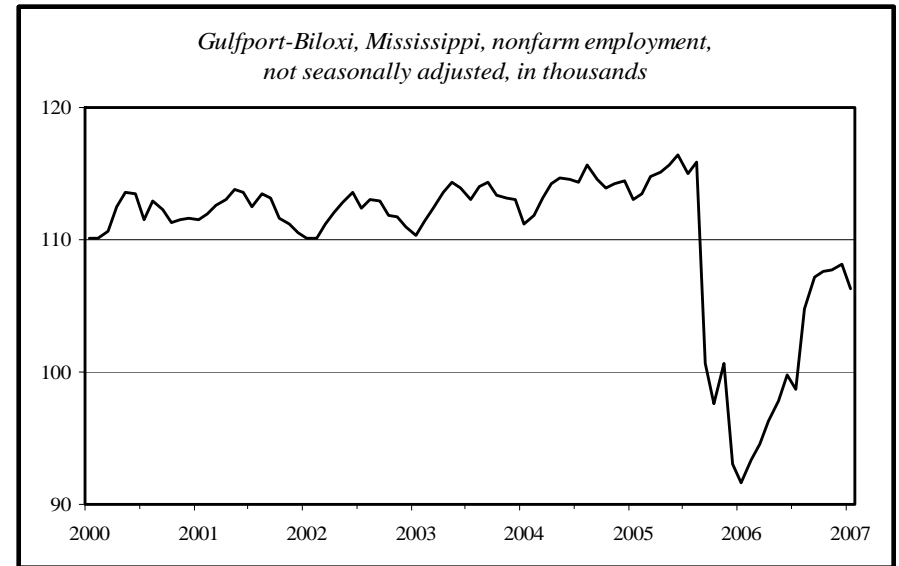
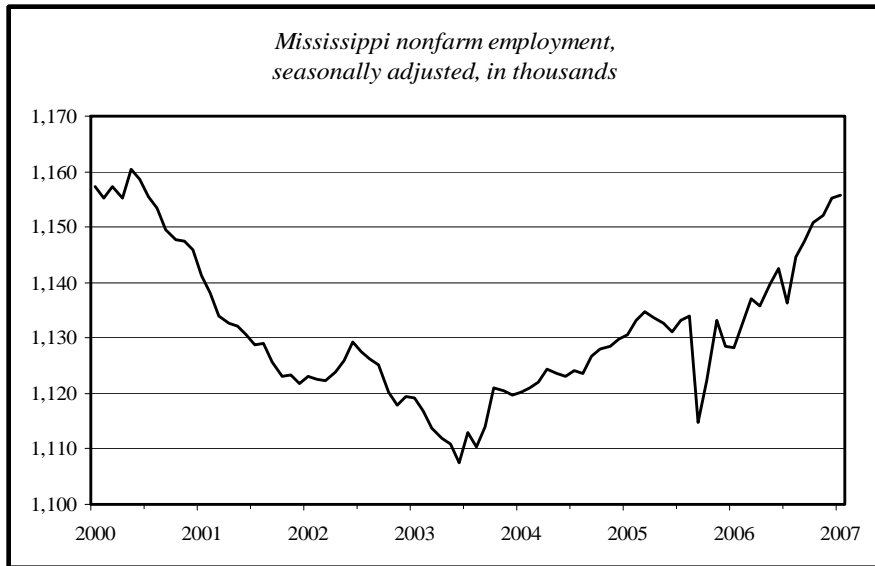


- Data are based on March 2006 benchmarks
- Louisiana data replaced by QCEW counts through 3rd quarter 2006





# Signs of Recovery?



- Data are based on March 2006 benchmarks
- Mississippi data replaced by QCEW counts through 3rd quarter 2006



# *Benchmarked employment*

- BLS overstated the drop in CES employment for the disaster areas by about 60,000 after benchmarking to QCEW counts.
  - However, QCEW imputation rates were also higher than normal.
- The CES drop would have been understated by about 90,000 if no methodological changes had been made.



# *Issues for discussion*

- Did BLS make the appropriate decision to depart from Standard CES methods?
  - If yes, were the adjustments reasonable?
  - Are there alternative or additional adjustments BLS could have made?
- Should BLS prepare and publish an estimate of the impact on monthly employment data for shocks, such as the impact from Hurricane Katrina?
  - If yes, what is the proper measurement concept?
- BLS selects the sample from a QCEW database that predates the disaster. Following major disasters, should BLS modify sample selection and weighting with the annual sample update?



## *For further information...*

- The full array of data available from BLS can be found at our website: <http://www.bls.gov>
- Special Katrina-related pages at BLS: <http://www.bls.gov/katrina/home.htm>
- Information numbers at BLS:
  - CES National data: 202-691-6555
  - CES State and Area data: 202-691-6559

