

The effects of Hurricane Katrina on the New Orleans economy

Hurricane Katrina devastated the New Orleans economy; tourism, port operations, and educational services, the foundation of the city's economy, survived, offering a base for recovery

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On August 29, 2005, Hurricane Katrina made landfall on the gulf coast of the United States, east of New Orleans,¹ with the storm's eye passing within 10 to 15 miles of the city. The effect on New Orleans, as well as on the entire coastal region, was devastating.

In the aftermath of the storm, about 80 percent of the city (much of which is below sea level) was flooded. A recent article estimated damages in excess of \$200 billion, making Katrina one of the most economically costly hurricanes ever to strike the United States.² Reacting to the widespread destruction, the 109th Congress enacted two supplementary appropriation bills totaling \$62.3 billion for emergency response and recovery needs.³ The death toll has been estimated at more than 1,200.⁴ In addition, tens of thousands of citizens were evacuated to other parts of the Nation.

Besides taking its toll on the human, social, and psychological fabric of the city, the storm had a notable effect on the city's economy, its labor market dynamics, and its individual businesses. Just what these effects were has been the subject of some discussion. This article joins the discussion in its analysis of employment and wage data.

In what follows, trends in employment and wage patterns based on data provided by the

Quarterly Census of Employment and Wages (QCEW) program of the Bureau of Labor Statistics (BLS, the Bureau) are compared before and after the storm to measure the extent of the losses during the first 10 months (September 2005 to June 2006) following Katrina.

The findings indicate the extensive effect of Katrina on the New Orleans labor market. The over-the-year loss to the city economy averaged 95,000 jobs during the first 10 months after the hurricane. The job-loss trough occurred in November 2005, when the employment total was 105,300 below what it had been a year earlier. Ten months after the hurricane, in June 2006, the over-the-year job loss had diminished to 92,900. The loss in wages during the 10 months following Katrina was approximately \$2.9 billion, with 76 percent of it, or \$2.2 billion, associated with the private sector.⁵

The New Orleans economy

In order to understand fully the economic impact of Hurricane Katrina on New Orleans, it is important to assess the impact of the economic forces driving the city. In making this assessment, two approaches offer insights.

The first approach, which occupies the next section and to which the analysis returns at the end of the article, evaluates the diver-

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sity within the New Orleans economy compared with that of the Nation. This comparative and static approach uses location quotients based on employment concentration by industry sector; it points out which industrial sectors of the New Orleans economy have a higher concentration of jobs compared with those same industrial sectors of the national economy. (If a New Orleans industry has a greater share than expected, compared with the U.S. share of that industry, then the industry, with its “extra” employment, is assumed to be “basic,” or an export industry, because those additional jobs are above what a local economy needs to serve local needs. Basic New Orleans industries become particularly relevant in assessing New Orleans opportunities for recovery, because it is those industries which connect New Orleans to the rest of the Nation.)

Generalizing the analysis from industry concentration to include the total New Orleans economy, the second analytic approach is a time-focused comparison of changes in the total number of jobs, total wages, and average weekly wages, which together define the New Orleans’ labor market. Assessing these changes affords additional insights, because they represent New Orleans at two different points in time and underscore temporary population displacement and its effect on the local economy. This approach, which provides a basis for assessing the effects of Katrina, will be utilized throughout the rest of the article.

Export industries of New Orleans

As can be seen in table 1, the New Orleans economy can be compared to a three-legged stool, with tourism, port operations, and education serving as the legs of the stool and thereby providing its foundation.

Tourism (arts, entertainment, and recreation; accommodation and food service). As is widely recognized, New Orleans is, or at least has been, among the most visited cities in the United States. Besides the attraction of its French Quarter, its internationally renowned restaurants, and its first-class accommodations, a series of celebrations, including Mardi Gras, the New Orleans Bowl, the Sugar Bowl, and the New Orleans Jazz and Heritage Festival, has drawn thousands of tourists to the city.

Port operations (mining; transportation and warehousing). Less recognized than tourism is the importance of the Port of New Orleans. In combination with the Port of South Louisiana located in nearby LaPlace, the Port of New Orleans handles the most bulk tonnage in the world.

About 5,000 ships from nearly 60 countries dock at the Port of New Orleans each year. Chief exports—to other countries and different regions of the Nation—include grain and foodstuffs produced by Midwestern farmers and petroleum products mined in the Gulf of Mexico. Among the port’s leading imports are chemicals, petroleum, coffee, and cocoa beans. The port handles more trade with Latin America than any other U.S. gateway.⁶

Educational services. Also less recognized than tourism is the role of New Orleans as a center of higher education. Located within the city are Tulane University, the University of New Orleans, Loyola University New Orleans, Xavier University of New Orleans, Southern University of New Orleans, Dillard University, and the Louisiana State University Medical School. In addition, a number of community colleges and technical schools lie within the city’s boundaries. Of special note is the fact that Dillard, Xavier, and Southern University—all serving predominantly African-American students—have educated significant numbers of professionals who have resided in the city.

Pre-Katrina

From 1990 to 2000, the U.S. economy, as measured by total employment, grew by 19.5 percent, or 21.4 million jobs. During the same period, the country’s population increased by 13.1 percent, or 32.7 million people.⁷ In New Orleans, however, the results were different: during the decade, the city lost both jobs and population (as regards the latter, more than 12,000 residents, or 2.5 percent of the city’s population base).

In 1990, almost half of employment in New Orleans (48.5 percent) was associated with four sectors: accommodation and food services (10.9 percent), retail trade (9.3 percent), health care and social assistance (9.2 percent), and government (19.1 percent). In the aggregate, these four sectors provided 39.8 percent of the total wages generated in the city.

Accommodation and food services, a significant part of the “three-legged stool,” is also an export New Orleans industry. By contrast, in local industries, such as retail trade and health care and social assistance, job levels are related to the local population size and reflect the needs of that population.

The 1990 New Orleans average weekly wage in private industry, \$424, was 2.1 percent below the national average of \$433, due to fact that a high percentage of New Orleans jobs were in the lowest paying sectors, namely, accommodation and food services, and retail trade.⁸ Despite

Table 1. Second-quarter employment location quotients, Orleans Parish, 1990, 2000, and 2004

Industry	1990	2000	2004
Total private industry (base).....	1.00	1.00	1.00
Agriculture, forestry, fishing, and hunting.....	.02	.03	.03
Mining.....	6.66	6.64	4.62
Utilities.....	1.28	.75	1.00
Construction.....	.52	.61	.51
Manufacturing.....	.38	.34	.30
Wholesale trade.....	.85	.78	.63
Retail trade.....	.79	.73	.71
Transportation and warehousing.....	2.25	1.63	1.44
Information.....	1.02	.78	.90
Finance and insurance.....	1.07	.99	.93
Real estate and rental leasing.....	1.14	1.10	.94
Professional and technical services.....	1.18	1.04	1.15
Management of companies and enterprises.....	.87	1.53	1.53
Administrative and waste services.....	1.22	1.11	1.19
Educational services.....	2.76	2.16	2.52
Health care and social assistance.....	1.12	1.11	1.04
Arts, entertainment, and recreation.....	.92	2.26	2.19
Accommodation and food services.....	1.53	1.77	1.85
Other services, except public administration.....	1.06	1.09	.96
Port operations.....	3.02	1.80	1.80
Tourism.....	1.43	1.52	1.90

this relatively low average wage, a defining strength of the city's economy was its wide distribution of industries providing employment opportunities. Other than tourism, which represented 12.2 percent of employment, and government, which, as mentioned earlier, accounted for 19.1 percent of jobs, no individual sector dominated the economic landscape.

By 2000, a shift had taken place in the New Orleans employment base: the city lost 2.3 percent of its 1990 private-sector job base. (See table 2.) But this loss was only part of the story. During the decade, the tourism industry increased in importance until, by 2000, it represented 16.0 percent of employment and 8.0 percent of the total wages generated in the city. Government also increased in significance and represented 20.8 percent of all jobs and 24.7 percent of total wages. In 2000, 1 out of 5 people working in New Orleans was employed by Federal, State or local government, 1 out of 6 in tourism, and 1 out of 10 in health care.

In 10 years, the national average weekly wage in private industry had increased to \$648, 13.1 percent higher than in New Orleans.⁹ Thus, in terms of average wages, the gap between New Orleans and the Nation had widened. Both the level and the change in average wage underscore the importance of the "three-legged stool" to the New Orleans economy. Although the average New Orleans

wage was below that of the United States, the city did have an array of high-paying industries. Table 3 shows the 10 highest average weekly wages among New Orleans subsectors in 1990 and 2004. Oil and gas extraction, water transportation, and warehousing and storage—all important elements of the "three-legged stool"—were among the highest ranked industries in the city.

Similarly, despite job losses and relatively low average wages in the city, a number of subsectors experienced notable increases in wages between 1990 and 2004. Five of the 10 industries with the largest increases during this period were from the "three-legged stool" sectors, as indicated in table 4. In all of these subsectors, wages grew at a rate that was almost 2 times the all-industry average for the city.

Job and population losses in New Orleans, identified during the 1990s, continued into the 21st century. By 2004, the New Orleans economy had lost more than 16,000 jobs (6.2 percent) since 2000. (See table 5.) The city's population declined by an additional 23,000 residents, or 4.7 percent, during the same period.

By comparison, during this same timeframe U.S. population increased by 4.1 percent, or 11.5 million. Employment in the country, however, remained relatively fixed, declining by about 860,000 jobs, or less than 1 percent.¹⁰ The average weekly wage in New Orleans private industry increased to \$643, while in the Nation the average weekly

Table 2. Second-quarter employment and wages, Orleans Parish, 2000

Industry	Average monthly employment (thousands)	Percent of Orleans Parish employment	Percent change in employment, 1990–2000	Total wages (millions)	Percent of Orleans Parish total wages	Average weekly wage
All industries.....	266.5	100.0	-0.1	\$2,088.3	100.0	\$603
Private.....	211.0	79.2	-2.3	1,572.8	75.3	573
Agriculture, forestry, fishing, and hunting .....	.1	(¹)	45.1	.3	(¹)	322
Mining	6.5	2.4	-38.3	109.0	5.2	1,298
Utilities .....	.9	.3	-61.7	13.7	.7	1,217
Construction.....	7.9	3.0	22.1	62.5	3.0	610
Manufacturing	11.3	4.3	-30.4	107.5	5.1	730
Wholesale trade.....	8.6	3.2	-17.8	86.3	4.1	770
Retail trade.....	21.2	8.0	-14.9	103.6	5.0	376
Transportation and warehousing	13.0	4.9	-22.7	116.9	5.6	692
Information	5.4	2.0	-19.3	57.1	2.7	810
Finance and insurance.....	10.5	3.9	-18.0	117.2	5.6	857
Real estate and rental leasing	4.3	1.6	-8.8	26.5	1.3	475
Professional and technical services	13.4	5.0	-1.2	150.2	7.2	861
Management of companies and enterprises	5.2	2.0	145.1	62.2	3.0	916
Administrative and waste services.....	17.2	6.4	29.3	75.8	3.6	340
Educational services.....	7.5	2.8	-15.1	79.9	3.8	818
Health care and social assistance	26.6	10.0	8.1	185.4	8.9	536
Arts, entertainment, and recreation....	8.3	3.1	144.0	42.3	2.0	392
Accommodation and food services....	34.3	12.9	18.0	134.5	6.4	302
Other services, except public administration.....	8.7	3.3	-4	41.7	2.0	368
Port operations.....	19.5	7.0	-28.7	225.9	11.0	893
Tourism	42.6	16.0	31.2	176.8	8.0	319
Federal government.....	13.9	5.2	1.1	160.0	7.7	885
State government	18.5	6.9	21.4	153.3	7.3	637
Local government	23.1	8.7	5.4	202.1	9.7	673

¹ Less than 0.1 percent.

wage rose to \$712, about 11.0 percent higher than the New Orleans figure. Tourism maintained its importance in the city's economy, representing 16.0 percent of jobs and 10.0 percent of total wages.

Despite the overall decrease in the city's employment base compared with 2000, jobs in professional and technical services increased by 3.3 percent from 2000 to 2004. With average weekly wages of \$964, this was one of the highest paying sectors among the city's private establishments and represented 7.9 percent of total wages, second only to health care and social assistance.

By the end of June 2005, private-sector employment in New Orleans continued its decline. The second-quarter average figure of 191,701 jobs represented a further decrease of about 3,500 jobs, or 1.8 percent, compared with the figure for the same quarter the previous year.

Post-Katrina

To gain a clear picture of the effect of Katrina, this section presents a series of charts that display various monthly time series of over-the-year employment changes from 2004 to 2006. Monthly data from January 2004 to June 2006 summarize employment and total pay (exclusive of benefits) of workers covered by State and Federal unemployment insurance. Coverage is broad and is estimated at 97.0 percent of all wage and salary employees working in New Orleans during the 2004–06 period.

The methodology presented compares employment levels in the current month with those of the same month in the previous year. (The 42 data points are thus reduced to 30 in each chart.) This approach overcomes problems associated with seasonal patterns in employ-

Table 3. Subsectors with the highest second-quarter average weekly wage, Orleans Parish, 1990 and 2004

Subsector	Average weekly wage	
	1990	2004
Private industry	\$424	643
Securities, commodity contracts, and investments	931	2,160
Oil and gas extraction	926	2,199
Utilities	867	1,528
Fabricated metal product manufacturing ..	759	1,328
Chemical manufacturing	691	1,303
Water transportation	691	1,228
Lessors of nonfinancial intangible assets ..	670	1,112
Professional and technical services	631	1,100
Warehousing and storage	628	1,096
Telecommunications	624	994
Insurance carriers and related activities ..	624	

Table 4. Subsectors with the largest percent growth in second-quarter average weekly wages, Orleans Parish, 1990–2004

Subsector	Average weekly wage	
	1990	2004
Private industry	\$424	\$643
ISPs, search portals, and data processing ..	235	1,228
Performing arts and spectator sports	302	926
Oil and gas extraction	926	2,199
Amusements, gambling, and recreation	207	484
Securities, commodity contracts, investments	931	2,160
Management of companies and enterprises	508	1,112
Educational services	414	816
Merchant wholesalers, nondurable goods ..	474	930
Lessors of nonfinancial intangible assets ..	670	1,303
Water transportation	691	1,328

ment data that are not seasonally adjusted.

Not all industries were affected to the same extent by the hurricane, because the economic circumstance of each sector varied. Before Katrina, some industries were grow-

ing and others were contracting. To evaluate the impact of Katrina on rates of growth (or decline), as well as to assess the magnitude of the loss, a trend line was inferred from January 2003 to August 2005. The deviation from this trend line during the subsequent months indicates the impact of Katrina, not only in terms of job loss, but also on the rate of sector growth, and both of these were considered in evaluating the economic effects of the hurricane.

Describing the loss

Chart 1 presents a picture of job losses in the New Orleans economy from January 2004 to June 2006. Both the gradual, but steady, loss of jobs—from January 2004 to August 2005—and the dynamic and catastrophic loss of jobs—from September 2005 to June 2006—are represented. The trend line extrapolates what the New Orleans economy would likely have looked like had Katrina not occurred.¹¹ As stated previously, the findings indicate Katrina's devastating effect on New Orleans' labor market. During the first 10 months after the hurricane, the city suffered an over-the-year average loss of 95,000 jobs. At the trough of the job loss, in November 2005, employment was 105,300 below the previous year's November figure. By June 2006, the over-the-year job loss, though smaller, was still substantial (92,900). Lost wages over the 10-month period from September 2005 to June 2006 were about \$2.9 billion, with 76 percent of the loss attributable to the private sector.

Job losses by sector: a visualization

To provide additional information about the effects of Katrina, this section examines separate sectors of the New Orleans economy to see how they responded to the storm and its aftermath.

Tourism. As noted earlier, tourism had been one of the bright spots in the New Orleans economy in terms of employment. Between 1990 and 2004, jobs grew by 33.0 percent (10,715) in the sector, and they continued to grow in the months preceding the hurricane. As chart 2 shows, the industry was particularly hard hit by Katrina. First, tourism experienced the largest job loss among all sectors; second, tourism would have shown further gains in employment had the hurricane not struck the city.

During the 10-month period studied, the tourism industry lost approximately 22,900 jobs. Over the 10 months following the hurricane, the loss in wages in the sector was about \$382.7 million.

Table 5. Second-quarter employment and wages, Orleans Parish, 2004

Industry	Average monthly employment (thousands)	Percent of Orleans Parish employment	Percent change in employment, 2000-04	Total wages (millions)	Percent of Orleans Parish total wages	Average weekly wage
All industries	249.9	100.0	-6.2	\$2,192.3	100.0	\$675
Private.....	195.2	78.1	-7.5	1,631.6	74.4	643
Agriculture, forestry, fishing, and hunting .....	.1	(¹)	-12.2	.3	(¹)	352
Mining	4.3	1.7	-33.3	105.5	4.8	1,884
Utilities	1.0	.4	16.9	20.1	.9	1,528
Construction.....	6.4	2.6	-18.6	59.5	2.7	714
Manufacturing	7.6	3.0	-33.0	84.2	3.8	852
Wholesale trade	6.3	2.5	-26.5	72.9	3.3	885
Retail trade.....	19.0	7.6	-10.4	105.4	4.8	426
Transportation and warehousing.....	10.3	4.1	-20.7	99.7	4.5	744
Information	5.0	2.0	-7.2	47.9	2.2	733
Finance and insurance.....	9.7	3.9	-7.6	120.2	5.5	951
Real estate and rental leasing	3.5	1.4	-18.6	23.7	1.1	522
Professional and technical services.....	13.9	5.5	3.3	173.6	7.9	964
Management of companies and enterprises	4.7	1.9	-10.6	67.5	3.1	1,112
Administrative and waste services.....	16.8	6.7	-2.2	79.4	3.6	364
Educational services	9.5	3.8	26.1	100.4	4.6	816
Health care and social assistance	26.1	10.5	-1.8	214.3	9.8	631
Arts, entertainment, and recreation.....	7.7	3.1	-7.8	57.6	2.6	579
Accommodation and food services.....	35.6	14.2	3.6	156.1	7.1	338
Other services, except public administration.....	7.4	3.0	-15.0	40.6	1.9	421
Port operations.....	14.6	5.0	-1.8	205.2	9.0	1,080
Tourism	43.2	16.0	.2	213.8	10.0	381
Federal government.....	12.8	5.1	-8.1	179.7	8.2	1,082
State government	19.4	7.7	4.5	190.1	8.7	756
Local government	22.6	9.0	-2.1	191.0	8.7	650

¹ Less than 0.1 percent.

Port operations. Chart 3 points up the effects of Katrina on port operations. As the chart shows, employment was severely affected by Katrina, the sector having added jobs prior to the hurricane. After a precipitous decline commencing in August 2005, the sector started to rebound. However, the rebound was short lived, and due to the higher wages paid in the sector, the overall financial impact of the jobs that were lost was disproportionately higher than the impact in the tourism sector. During the 10-month period, port operations saw about 3,500 jobs disappear and lost wages amounted to approximately \$136.1 million.

Professional, scientific, and technical services. In 2005, prior to the hurricane, the professional, scientific, and technical services sector recorded a loss of jobs during most of the year. Like the entire New Orleans economy, the sector experienced a precipitous decline after August 2005, but demonstrated a marked improvement begin-

ning in September. As chart 4 shows, the professional and technical services sector was one of the bright spots in the New Orleans economy, returning to its pre-Katrina employment trend line by mid-2006. During the 10-month period, the sector lost approximately 1,680 jobs overall. The loss of wages was about \$84.6 million.

Construction. The construction sector has been the one industry registering job gains in the New Orleans economy. Immediately following the hurricane, job losses were registered, but as recovery efforts began and then took hold, there was an overall increase in employment during the 10-month period examined. (See chart 5.) The sector posted a net gain of 4,927 construction jobs, adding \$1.8 million to the city's economy.

Educational services. The educational services sector had experienced volatility in employment even before Katrina devastated the city. In the aftermath of the

Chart 1. Over-the-year changes in employment, New Orleans, January 2004 to June 2006

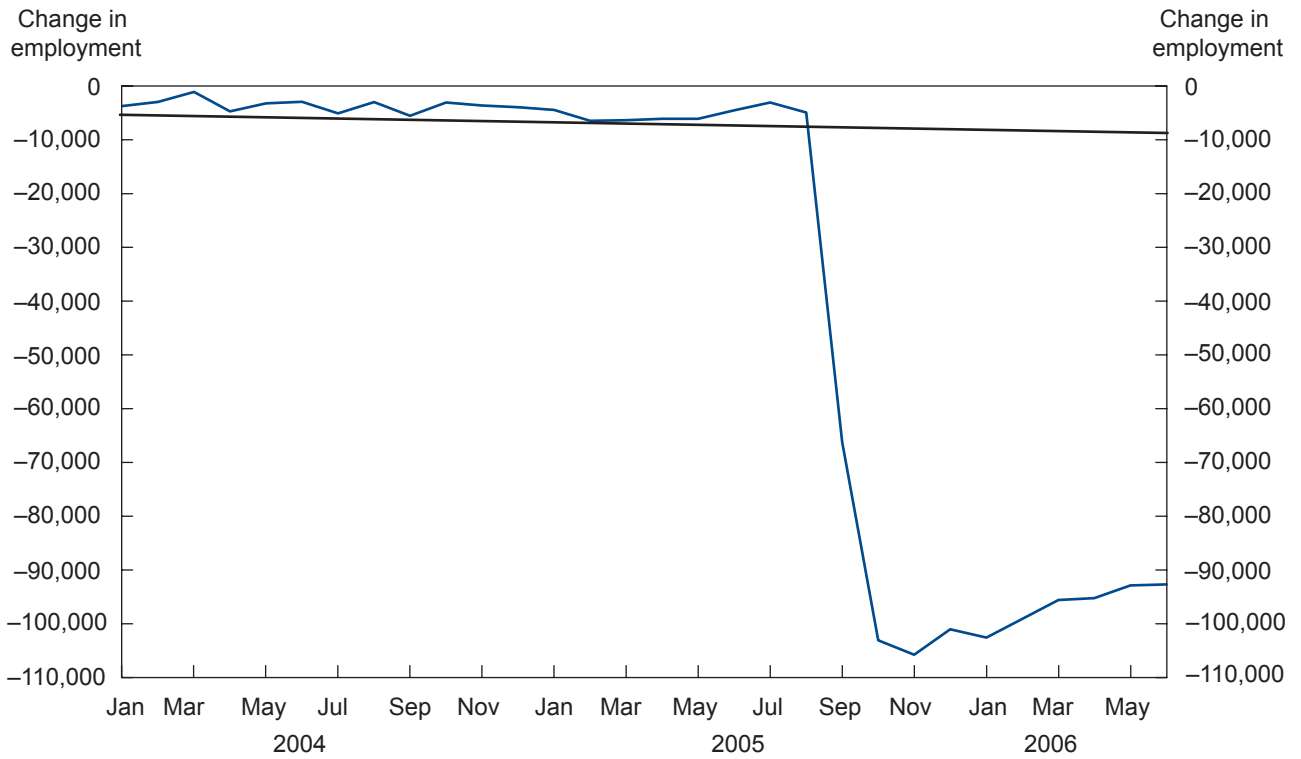


Chart 2. Over-the-year changes in employment in the tourism industry, New Orleans, January 2004 to June 2006

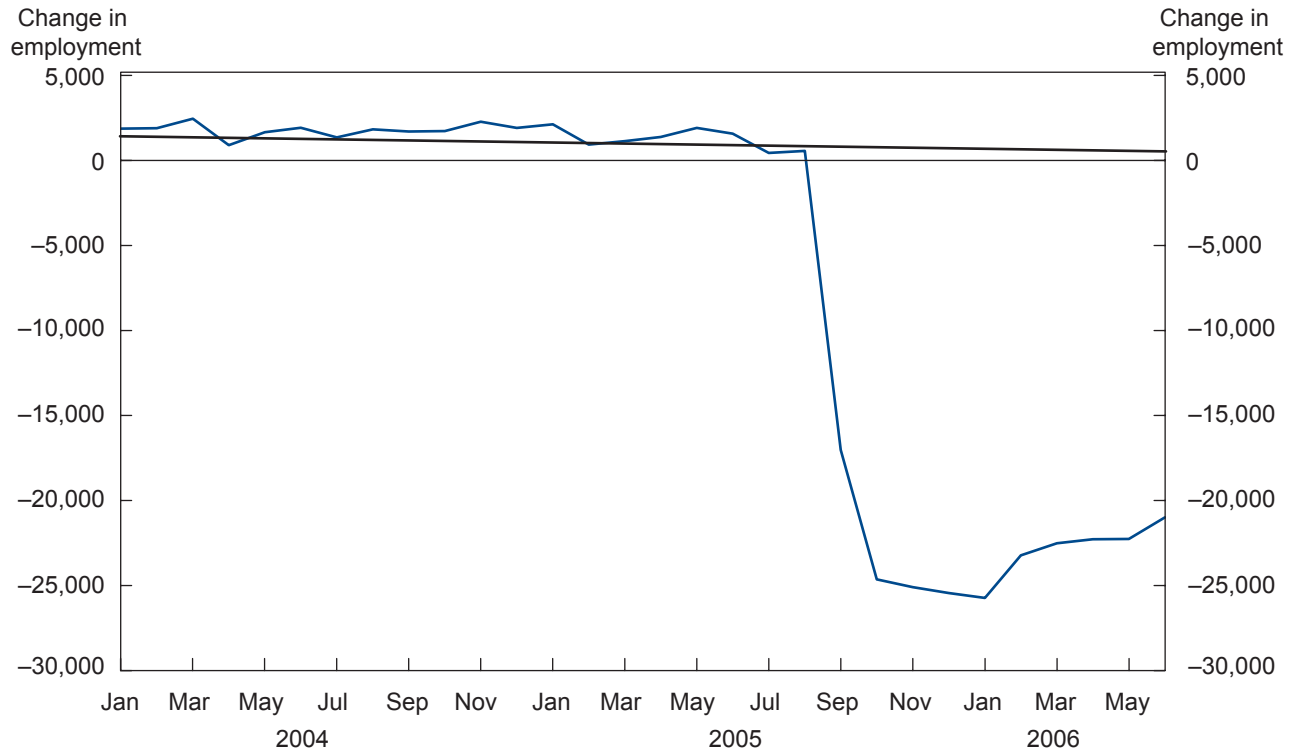


Chart 3. Over-the-year changes in employment in the port operations industry, New Orleans, January 2004 to June 2006

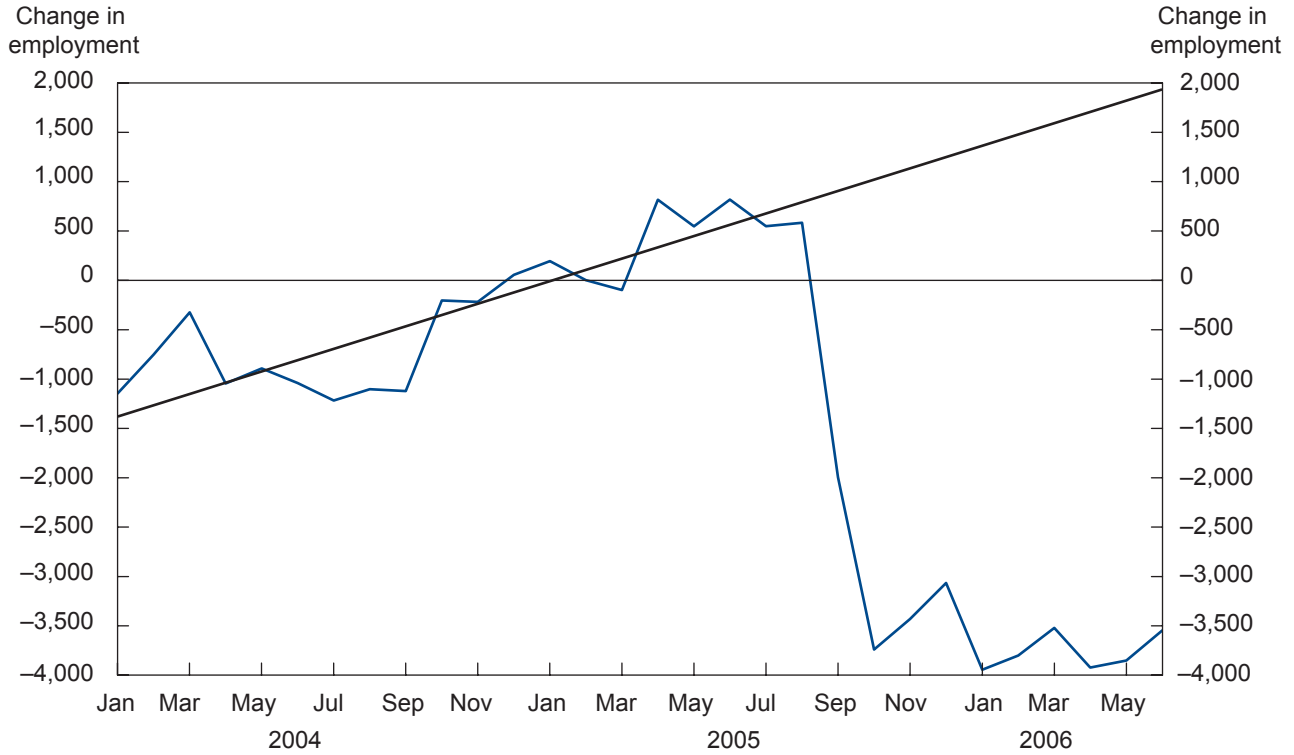


Chart 4. Over-the-year changes in employment in the professional services sector, New Orleans, January 2004 to June 2006

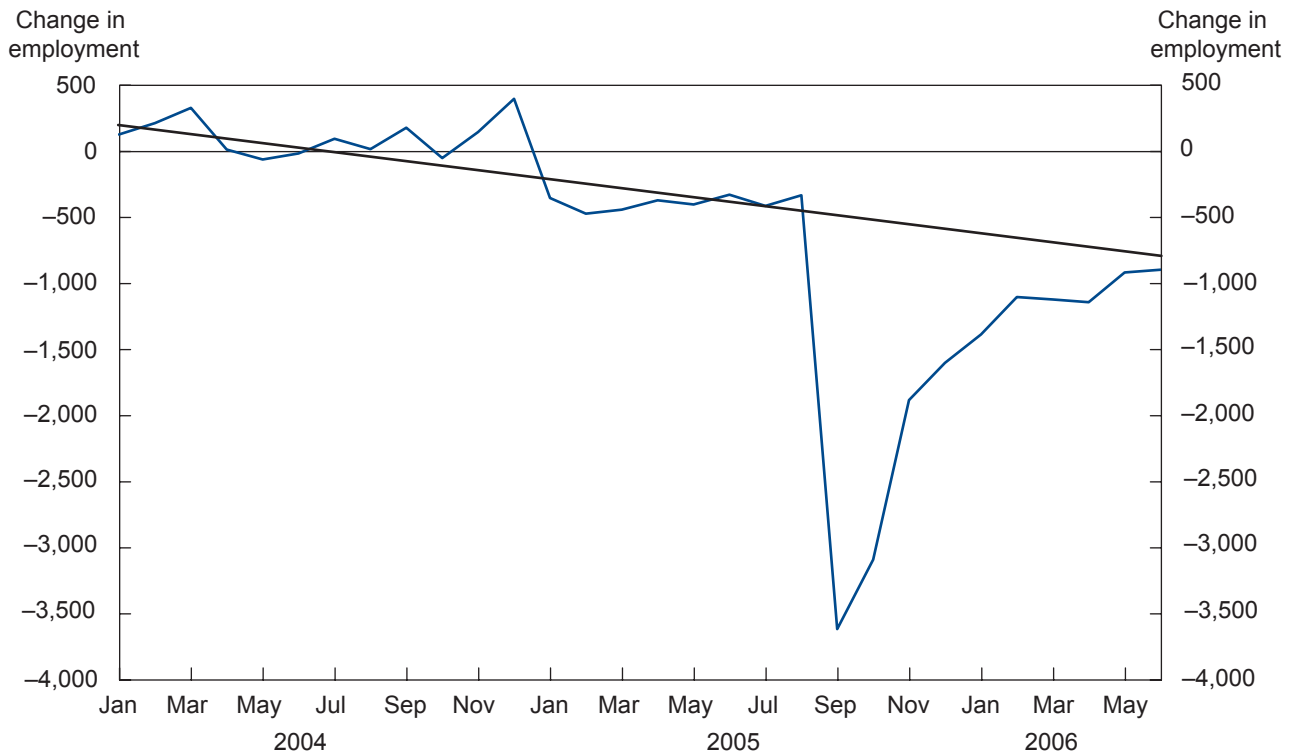
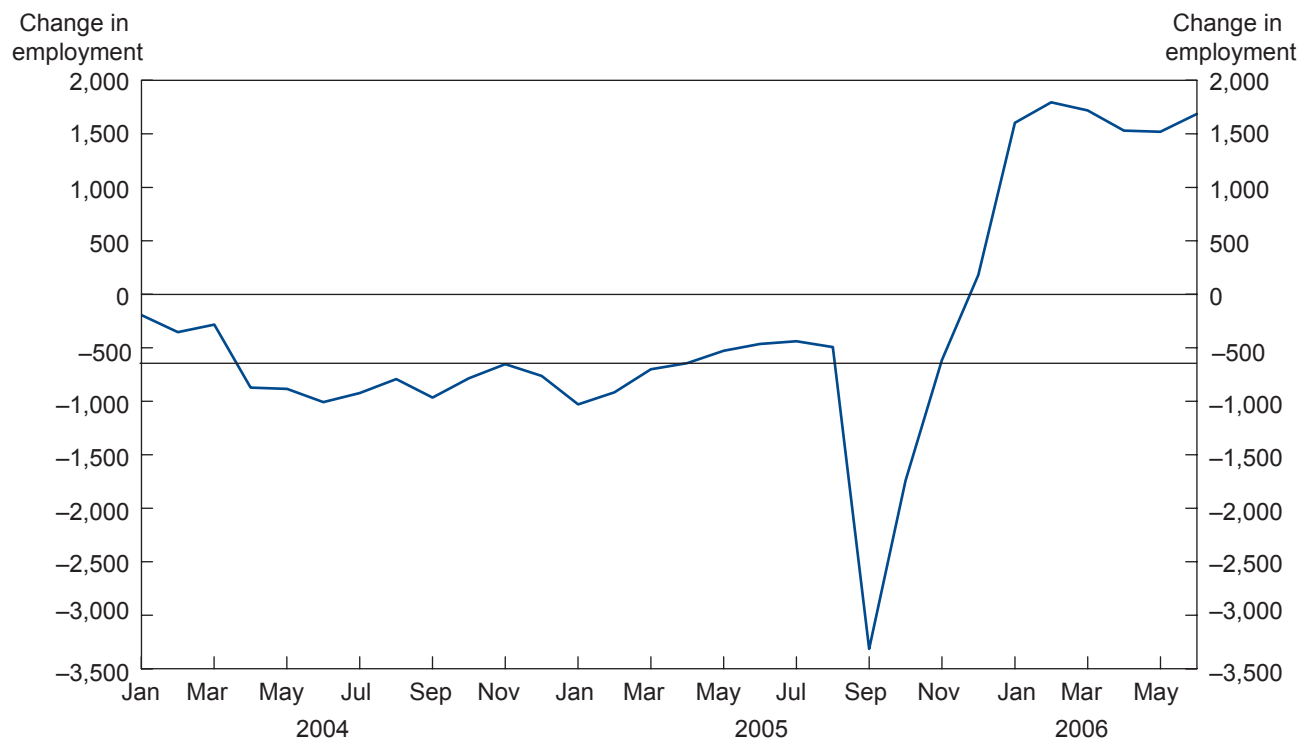


Chart 5. Over-the-year changes in employment in the construction sector, New Orleans, January 2004 to June 2006



hurricane, the sector reached its nadir in job losses in November 2005, after which it began a steady recovery. By May 2006, educational services had almost reached pre-Katrina employment levels; however, employment losses began again soon after. (See chart 6.) During the 10-month period, educational services lost approximately 1,910 jobs, amounting to \$66.4 million in lost wages.

Health care and social services. Job losses in the health care and social services sector mirrored those of the New Orleans economy as a whole. That is, precipitous losses occurred immediately following Katrina, and significant losses continued throughout the 10-month period studied. (See chart 7.) During that period, health care and social services posted a loss of 13,418 jobs, with \$377.8 million in lost wages.

Employment and wages

As shown in charts 2–7, Katrina’s devastating effect on the New Orleans economy was not shared equally by

all sectors. In assessing the 10-month aftermath of the hurricane, it becomes apparent that sectors having the lowest average weekly wage were hardest hit. Besides eliminating jobs from the New Orleans economy, the loss of these lower paying jobs had an effect on the entire economic structure by raising the average weekly wage for the city. In order to further a more complete understanding of that effect, this section divides the post-Katrina period into three specific quarters and analyzes the economic impact of the storm during each quarter.

Fourth quarter, 2005. For the months of October, November, and December 2005—the timeframe that immediately followed the hurricane—average over-the-year job losses were 103,316, or 41.7 percent of the city’s fourth-quarter, 2004, job base. (See table 6.) An examination of these job losses reveals that 46.1 percent were centered in just three sectors: retail trade, which lost 12,140 jobs, or 62.8 percent of its job base; accommodation and food services, in which 21,133 jobs, or 59.3 percent of its job base, were eliminated; and health care and social assistance, which lost 14,330 jobs, or 56.4 percent

Chart 6. Over-the-year changes in employment in the educational services sector, New Orleans, January 2004 to June 2006

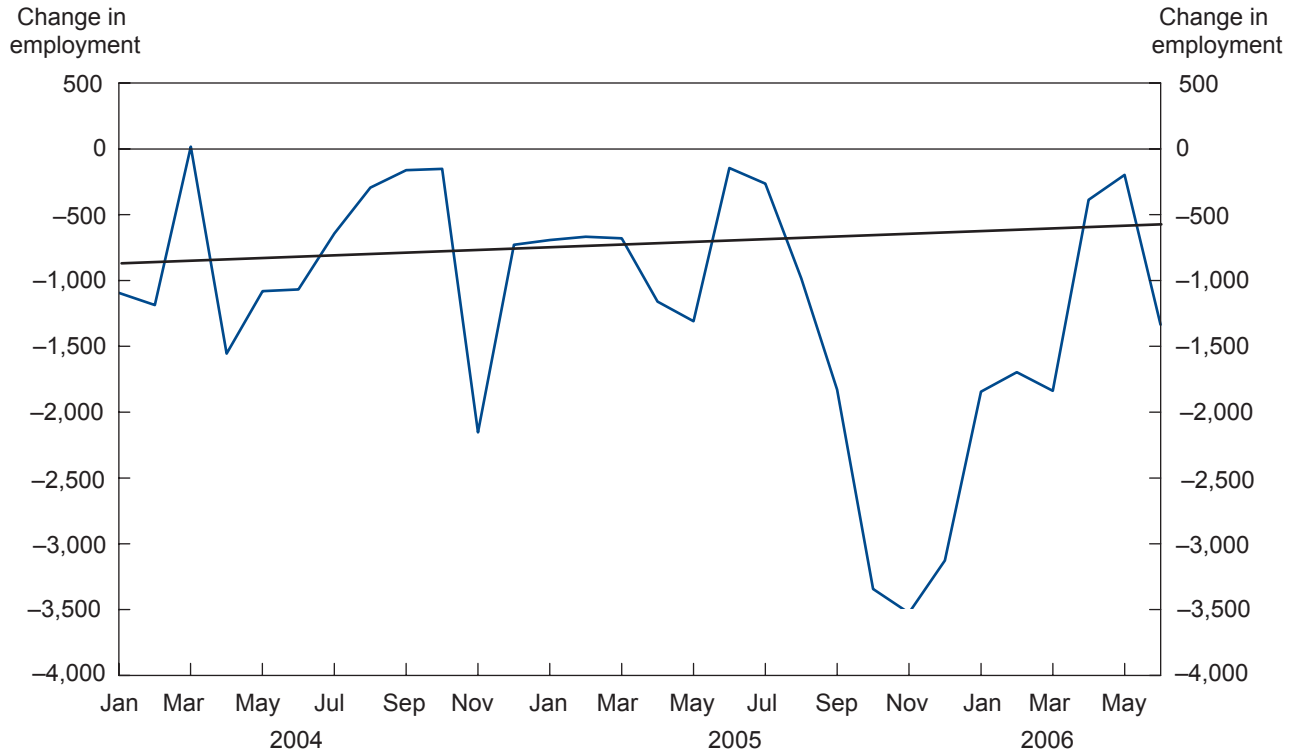


Chart 7. Over-the-year changes in employment in the health care and social assistance sector, New Orleans, January 2004 to June 2006

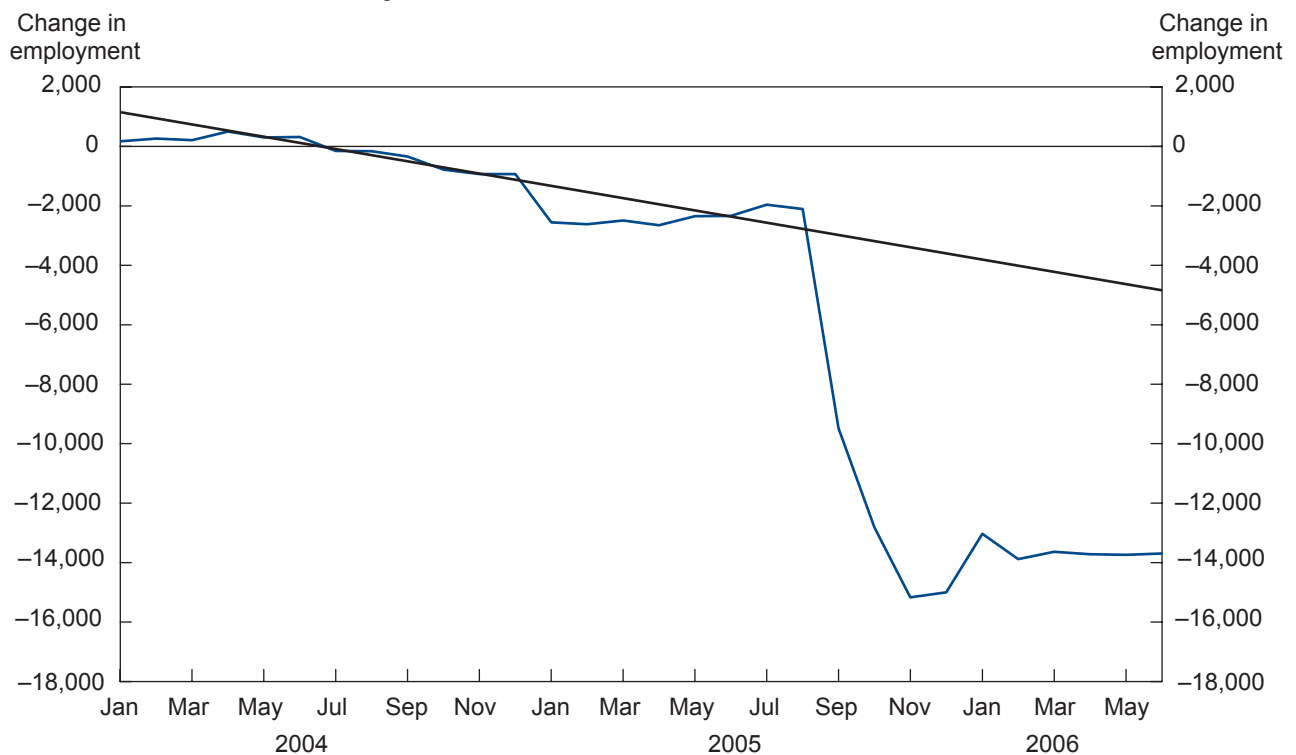


Table 6. Fourth-quarter employment and wages, Orleans Parish, 2005

Industry	Average monthly employment (thousands)	Percent of Orleans Parish employment	Percent change in employment, 2000-05	Total wages (millions)	Percent of Orleans Parish total wages	Average weekly wage	Over-the-year percent change in wage
All industries	144.2	100.0	-41.7	\$1,838.8	100.0	\$981	29.4
Private.....	110.1	76.4	-43.2	1,429.1	77.7	998	34.0
Agriculture, forestry, fishing, and hunting	(¹)	(²)	-27.2	.4	(²)	708	58.7
Mining	4.1	2.9	.3	104.0	5.7	1,943	5.6
Utilities	1.0	.7	-.9	18.3	1.0	1,428	-.9
Construction.....	5.3	3.7	-12.0	74.4	4.0	1,076	25.8
Manufacturing	6.1	4.2	-20.2	84.0	4.6	1,059	6.8
Wholesale trade	4.5	3.1	-27.8	67.9	3.7	1,170	14.3
Retail trade.....	7.2	5.0	-62.8	52.5	2.9	562	20.9
Transportation and warehousing.....	7.4	5.1	-31.7	99.4	5.4	1,035	22.6
Information	3.9	2.7	-34.6	47.5	2.6	942	31.2
Finance and insurance.....	6.1	4.2	-35.0	116.8	6.4	1,481	35.6
Real estate and rental leasing.....	1.9	1.3	-46.8	18.6	1.0	758	25.3
Professional and technical services	11.8	8.2	-15.7	226.5	12.3	1,481	2.9
Management of companies and enterprises	2.7	1.9	-41.1	51.4	2.8	1,462	20.3
Administrative and waste services	9.0	6.2	-40.1	109.3	5.9	938	77.0
Educational services.....	6.0	4.2	-35.6	87.6	4.8	1,117	36.6
Health care and social assistance	11.1	7.7	-56.4	111.5	6.1	774	3.3
Arts, entertainment, and recreation	3.7	2.6	-51.3	43.3	2.4	893	41.1
Accommodation and food services	14.5	10.1	-59.3	81.1	4.4	430	25.4
Other services, except public administration.....	3.6	2.5	-53.8	30.9	1.7	663	31.5
Port operations.....	11.5	8.0	-22.9	203.4	11.1	1,118	21.6
Tourism	18.2	16.6	-57.9	124.4	8.7	394	33.0
Federal government.....	11.4	7.9	-9.4	195.6	10.6	1,319	17.3
State government	16.3	11.3	-17.2	158.3	8.6	745	1.9
Local government	6.4	4.4	-70.3	55.8	3.0	675	-2.0

¹ Fewer than 500 employees.
² Less than 0.1 percent.

NOTE: Percentage bases include the approximately 0.3 percent of private employment with nonclassifiable industries.

of its job base. As data from table 5 indicate, these sectors were among the lowest paid in the entire New Orleans economy. Because of the disproportionate loss of jobs in all three sectors, the average weekly wage for those jobs remaining in the city rose 29.4 percent.

Although retail trade, accommodation and food services, and health care and social assistance bore the brunt of the job losses due to Katrina, practically all sectors of the New Orleans economy suffered notable job losses that, in effect, paralyzed most of the city. (In the utilities and mining sectors, in which the number of jobs was relatively small, employment was static on an over-the-year basis).

Job losses during the fourth quarter were due to two

factors: the destruction of the city's infrastructure, thereby eliminating places of employment; and the destruction of homes and the subsequent public-health crisis, which together forced large segments of the employed population to leave the city.

First quarter, 2006. For the months of January, February, and March 2006, a slight improvement in New Orleans' economic structure began to emerge. The average over-the-year loss of jobs during the quarter was 99,114, or 41.0 percent of the city's first-quarter, 2005, base. (See table 7.) Over the quarter, 44.1 percent of all job losses were associated with retail trade (10,955 jobs, or 58.0 percent of the industry's job base), accommodation

Table 7. First-quarter employment and wages, Orleans Parish, 2006

Industry	Average monthly employment (thousands)	Percent of Orleans Parish employment	Percent change in employment, 2005-06	Total wages (millions)	Percent of Orleans Parish total wages	Average weekly wage	Over-the-year percent change in wage
All industries	142.4	100.0	-41.0	\$1,815.1	100.0	\$981	33.7
Private.....	115.3	81.0	-39.0	1,458.7	80.4	973	36.8
Agriculture, forestry, fishing, and hunting	(¹)	(²)	-12.2	.3	(²)	428	-.9
Mining	3.7	2.6	-9.8	144.3	7.9	2,970	24.0
Utilities .....	.8	.6	-15.1	19.7	1.1	1,877	-4.8
Construction.....	7.2	5.0	31.2	91.8	5.1	985	43.2
Manufacturing	6.4	4.5	-21.7	90.1	5.0	1,083	17.2
Wholesale trade	4.4	3.1	-26.0	73.7	4.1	1,291	20.3
Retail trade.....	7.9	5.6	-58.0	57.3	3.2	556	35.0
Transportation and warehousing.....	7.4	5.2	-31.2	90.0	5.0	938	20.1
Information	3.8	2.7	-33.7	37.5	2.1	762	5.4
Finance and insurance.....	5.9	4.2	-31.4	111.0	6.1	1,445	18.0
Real estate and rental leasing .	1.7	1.2	-50.8	16.6	.9	738	40.8
Professional and technical services	12.5	8.8	-8.8	177.3	9.8	1,091	9.1
Management of companies and enterprises	2.5	1.7	-44.4	51.4	2.8	1,598	-5.7
Administrative and waste services	10.2	7.2	-31.9	157.9	8.7	1,186	103.4
Educational services.....	7.3	5.1	-19.7	89.3	4.9	939	24.4
Health care and social assistance	9.7	6.8	-58.3	96.1	5.3	766	25.8
Arts, entertainment, and recreation	3.4	2.4	-57.5	25.4	1.4	579	-15.7
Accommodation and food services	16.7	11.7	-53.6	96.6	5.3	446	29.7
Other services, except public administration.....	3.5	2.5	-50.4	26.2	1.4	575	30.1
Port operations.....	11.1	7.8	-25.3	234.2	12.9	1,621	31.7
Tourism	20.0	17.4	-54.3	122.0	8.4	468	15.3
Federal government.....	10.1	7.1	-19.0	164.1	9.0	1,248	8.3
State government	11.0	7.7	-43.3	145.0	8.0	1,015	27.7
Local government	5.9	4.2	-71.2	47.3	2.6	615	-1.9

¹ Fewer than 500 employees.

² Less than 0.1 percent.

NOTE: Percentage bases include the approximately 0.3 percent of private employment with nonclassifiable industries.

and food services (19,244 jobs, or 53.6 percent of the industry's job base), and health care and social assistance (13,517 jobs, or 58.3 percent of the industry's job base). As a result of this continued disproportionate number of job losses at the lower end of the wage scale, the average weekly wage for those jobs which remained in the city increased by 33.7 percent.

Significant job losses continued throughout many of the sectors making up the New Orleans economy. However, some rays of light had begun to emerge. On an over-the-year basis, employment in the construction sector increased by 31.2 percent (about 1,700 jobs) as the city began the initial steps to rebuild. A revival in business activity also was indicated by a slowing of job losses in the

professional, scientific, and technical sector (the sector lost just 8.8 percent of its job base on an over-the-year basis), with average monthly employment increasing from the previous quarter. Clearly, the city's economy was still desperate, but some signs of slight improvement were visible.

Second quarter, 2006. During April, May, and June 2006, the intensity of job loss continued to abate. By the end of the quarter, losses stood at 93,594 jobs, or 38.3 percent of the city's second-quarter, 2005, job base. (See table 8.) Of all the job losses in the New Orleans economy over the quarter, 44.4 percent were associated with retail trade (about 9,770 jobs, or 51.4 percent of the industry's

Table 8. Second-quarter employment and wages, Orleans Parish, 2006

Industry	Average monthly employment (thousands)	Percent of Orleans Parish employment	Percent change in employment, 2005–06	Total wages (millions)	Percent of Orleans Parish total wages	Average weekly wage	Over-the-year percent change in wage
All industries.....	150.8	100.0	-38.3	\$1,738.1	100.0	\$887	28.2
Private.....	122.7	81.4	-36.0	1,388.4	79.9	870	31.6
Agriculture, forestry, fishing, and hunting	(¹)	(²)	-19.8	.2	(²)	429	.7
Mining	3.7	2.4	-12.1	101.2	5.8	2,117	10.8
Utilities .....	.8	.5	-18.4	14.6	.8	1,389	-6.0
Construction.....	7.4	4.9	27.0	97.3	5.6	1,006	44.7
Manufacturing	6.6	4.4	-22.1	89.8	5.2	1,042	15.9
Wholesale trade.....	4.5	3.0	-24.7	67.7	3.9	1,152	18.4
Retail trade.....	9.3	6.1	-51.4	64.3	3.7	534	23.9
Transportation and warehousing.....	7.9	5.2	-29.3	108.0	6.2	1,052	32.8
Information.....	3.8	2.5	-18.2	36.6	2.1	742	-3.1
Finance and insurance.....	5.9	3.9	-29.1	91.9	5.3	1,190	17.2
Real estate and rental leasing.....	1.8	1.2	-48.0	18.1	1.0	759	43.2
Professional and technical services.....	12.5	8.3	-7.3	179.6	10.3	1,105	7.5
Management of companies and enterprises	2.5	1.7	-46.4	-45.4	2.6	1,384	13.2
Administrative and waste services.....	10.5	7.0	-36.1	105.9	6.1	776	83.9
Educational services.....	8.0	5.3	-7.4	91.4	5.3	883	3.0
Health care and social assistance.....	10.0	6.6	-57.9	104.9	6.0	809	36.0
Arts, entertainment, and recreation	4.3	2.8	-46.8	34.1	2.0	612	6.6
Accommodation and food services.....	18.7	12.4	-49.1	102.8	5.9	423	24.8
Other services, except public administration.....	4.0	2.7	-43.6	29.0	1.7	557	23.2
Port operations.....	11.6	7.7	-24.6	209.2	12.0	1,391	26.8
Tourism	23.0	15.2	-48.7	136.9	7.9	458	20.1
Federal government.....	9.6	6.4	-22.8	166.6	9.6	1,332	17.4
State government	12.0	8.0	-36.6	128.9	7.4	824	1.4
Local government.....	6.5	4.3	-69.6	54.2	3.1	645	6.1

¹ Fewer than 500 employees.

² Less than 0.1 percent.

NOTE: Percentage bases include the approximately 0.3 percent of private employment with nonclassifiable industries.

job base), accommodation and food services (18,070 jobs, or 49.1 percent of the industry's job base), and health care and social assistance (13,718 jobs, or 57.9 percent of the industry's job base). As a result of these job losses, the average weekly wage for all jobs rose 28.2 percent.

Although grim, the economic climate in the city was improving. Employment in the construction sector continued to grow, increasing, on average, by an additional 2,000 jobs compared with the previous quarter's figure. On an over-the-year basis, employment in the sector increased by 27.0 percent, or 1,580 jobs. Employment in the professional, scientific, and technical sector held steady at 12,500 jobs, but, on an

over-the-year basis, registered a 7.3-percent decline of 988 jobs.

Over-the-year comparison

As noted, the two most significant effects of Katrina were a massive loss of jobs and a significant rise in the city's average weekly wage. On an over-the-year basis, average weekly wages increased 28.2 percent, to \$887. The loss of jobs changed the city's employment patterns, but did not alter the relation of the local to the base (export) economy. By the second quarter of 2006, 81.4 percent of those jobs which remained in the city were associated with the private sector; previously, private-sector

employment had accounted for 78.4 percent of all jobs.

Within the private sector itself, however, a redistribution in employment had taken place. Whereas in the second quarter of 2005 accommodation and food services, the largest employer in New Orleans, accounted for 15.0 percent of all jobs, a year later the sector represented 12.4 percent of employment (still the largest in the economy, though). Employment shares for health care and social assistance had decreased from 9.7 percent to 6.6 percent, while those for retail trade had decreased from 7.8 percent to 6.1 percent. By contrast, the following sectors increased their employment shares: professional, scientific, and technical, from 5.5 percent to 8.3 percent; and educational services, from 3.5 percent to 5.3 percent.

The rise in the proportion of private-sector jobs was the result of a notable loss of government jobs: 46.7 percent, or 24,584 jobs, from the second quarter of 2005 to the same quarter of 2006. All segments of government experienced significant reductions in employment. Federal employment was reduced by 22.8 percent (2,838 jobs), and State employment decreased by 36.6 percent (6,944 jobs). However, it was in the local governmental sector that massive job losses occurred: on an over-the-year basis, the city reduced its governmental workforce by 69.6 percent, or 14,802 jobs.

Ten-month assessment

Over the 10-month period studied, 1 out of every 4 private-sector jobs lost (25.4 percent) was in the accommodation and food services sector. (See table 9.) Due to lower-than-average wages associated with the sector, those lost jobs accounted for just 1 out of every 7 dollars (14.5 percent) lost in total wages in the New Orleans economy. About 1 out of every 6 jobs lost (17.9 percent), amounting to 1 out of every 5 dollars in lost wages (19.6 percent), was associated with the health care and social services sector, while 1 out of every 7 jobs lost (14.3 percent) and 1 out of every 10 dollars in lost wages (10.5 percent) were associated with the retail trade sector.

Thus, in terms of its effect on the private sector, about 6 out of every 10 jobs lost (57.6 percent) and nearly half of all dollars in lost wages (44.6 percent) were associated with just three sectors: accommodation and food services, health care and social assistance, and retail trade.

THE NEW ORLEANS ECONOMY CAN BE COMPARED to a three legged stool, with tourism, port operations,

Table 9. Share of Orleans Parish 10-month (September 2005 to June 2006) private-industry employment and wage loss, post-Katrina

Sector	Percent of—	
	Employment loss	Wage loss
Total private industry.....	100.0	100.0
Agriculture, forestry, fishing, and hunting	(¹)	(¹)
Mining .....	.4	1.3
Utilities .....	.1	.4
Construction	(²)	.9
Manufacturing.....	2.2	3.4
Wholesale trade.....	2.1	3.6
Retail trade	14.3	10.5
Transportation and warehousing	4.3	5.8
Information.....	2.0	2.4
Finance and insurance	3.7	6.7
Real estate and rental leasing	2.2	2.1
Professional and technical services	2.2	4.4
Management of companies and enterprises.....	2.5	5.6
Administrative and waste services.....	7.5	6.2
Educational services	2.5	3.4
Health care and social assistance	17.9	19.6
Arts, entertainment, and recreation.....	5.1	5.4
Accommodation and food services.....	25.4	14.5
Other services, except public administration	4.8	3.7

¹ Less than 0.1 percent.

² Over the 10-month period, construction was the only sector to net over-the-year gains in employment.

NOTE: Calculations exclude the approximately 0.3 percent of private employment with nonclassifiable industries.

and education serving as the legs of the stool and thereby providing its foundation. Of interest is how Katrina, with its effect on the employment and wage dynamics of the city, may have altered that foundation. In particular, what influence has the loss of so many jobs, concentrated in a few specific industry sectors, exerted on New Orleans’s overall economic picture?

Examining the 2-year change in location quotients (from the second quarter of 2004 to the second quarter of 2006) affords a number of insights into this issue. Despite the extensive loss of jobs in the accommodation and food services sector, tourism, with a 2006 location quotient of 1.60 (down from 1.90 in 2004) remains a basic (that is, export) component of the New Orleans economy. (See table 10.) Port operations, with a location quotient of 2.22 (compared with 1.80 in 2004), has increased in importance, as has educational services, with a 2006 location quotient of 3.30, compared with 2.52 in 2004.

Of special note is the increase in strength recorded in the professional, scientific, and technical sector (which

Table 10. Second-quarter employment location quotients, Orleans Parish, 2006

Industry	Location quotient
Total private industry (base).....	1.00
Agriculture, forestry, fishing, and hunting .	.03
Mining.....	5.54
Utilities.....	1.37
Construction.....	.89
Manufacturing.....	.43
Wholesale trade.....	.71
Retail trade.....	.56
Transportation and warehousing.....	1.73
Information.....	1.15
Finance and insurance.....	.91
Real estate and rental leasing.....	.78
Professional and technical services.....	1.57
Management of companies and enterprises.....	1.30
Administrative and waste services.....	1.16
Educational services.....	3.30
Health care and social assistance.....	.63
Arts, entertainment, and recreation.....	1.98
Accommodation and food services.....	1.53
Other services, except public administration.....	.84
Port operations.....	2.22
Tourism.....	1.60

moved from a location quotient of 1.15 in 2004 to 1.57 in 2006), along with the weakening registered in health care and social assistance (which dropped from a location quotient of 1.04 in 2004 to 0.63 in 2006). Significant job losses in this sector clearly weakened its influence in the city's economy and may indicate a real deterioration in the availability of social services, which are, of course, critical during a time of recovery from a disaster.

Within the New Orleans economy, the location quotient for oil and gas extraction increased from 13.7 in 2001 to 14.0 in the second quarter of 2006, and that for the related industry of marine cargo handling rose from 18.5 to 20.6 over the same period. Advances in technology have increased the proportion of exploratory wells,

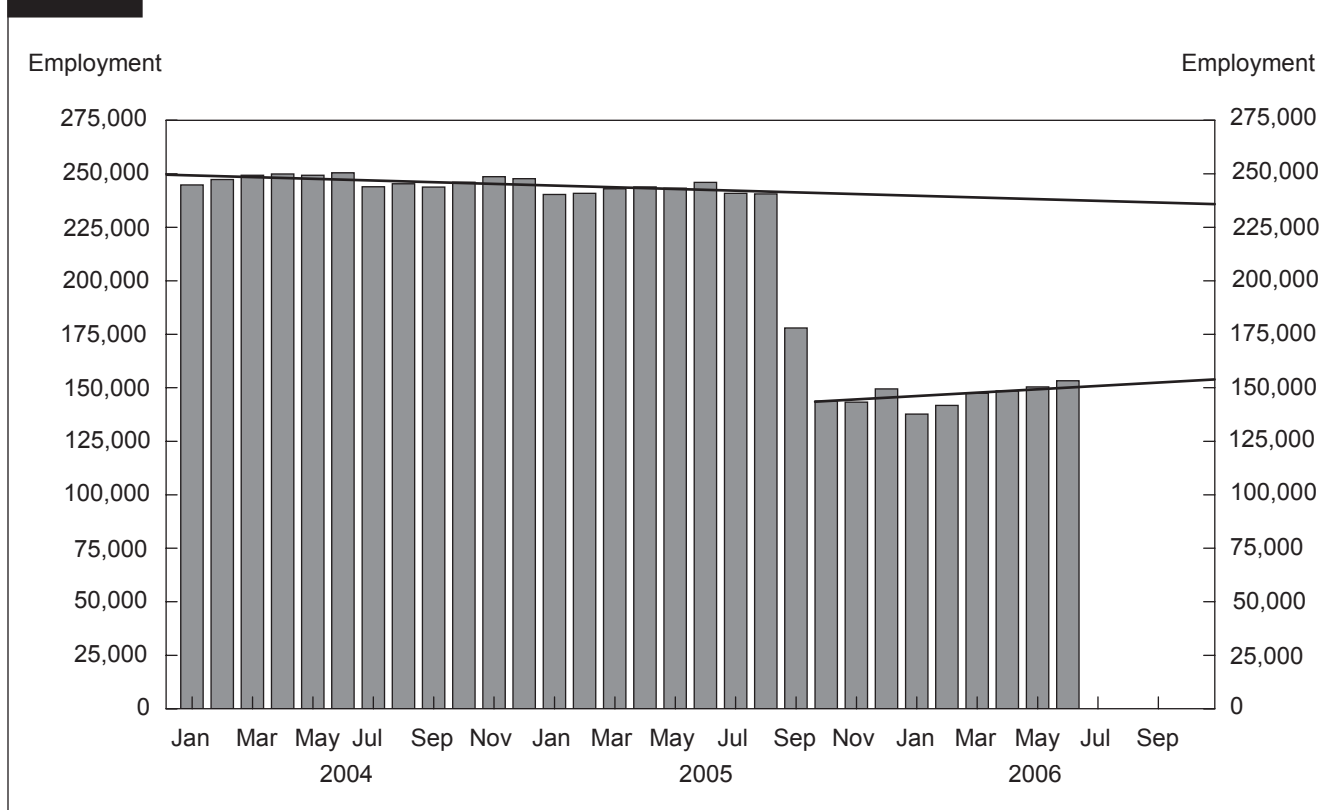
enhanced offshore drilling capacities, and extended the productive, useful life of existing wells. The supplies of oil and gas, nonrenewable resources, depend heavily on their price, which has fluctuated.

In addition, the overall New Orleans tourist industry has been based not only on the presence of physical structures, but also on the manifestation of the city's history in the lives of its people. Prior to the hurricanes, the unique heritage of New Orleans as a former French colony had lived on in its museums (with a location quotient of 2.32) and in the French tradition of converting the experiences of daily life into song and music (musical groups and artists had a location quotient of 3.91).¹² These location quotients show that, despite the shock to the New Orleans economy as a result of Hurricane Katrina, industries associated with the "three-legged stool" (that is, tourism, port operations, and educational services) have maintained their relative strength. Moreover, the employment outlook overall for these sectors is favorable.¹³

National numbers project that, over the next decade, overall employment in colleges and universities is expected to rise by 34.3 percent, with increases of 25.1 percent in arts, entertainment, and recreation and 16.6 percent in accommodation and food services.¹⁴ Thus, despite a lackluster economy prior to Katrina, the structure of the New Orleans economy has a triumvirate source of economic strength—tourism, port operations, and education—that bodes well for the future. Current data indicate that the rebuilding of New Orleans has resulted in steady, continuing employment growth.

Chart 8 presents two trend lines.¹⁵ The top line, commencing in January 2004, projects the long-term employment level in New Orleans had Katrina not devastated the city. The bottom line, starting in October 2006, after the initial destruction and amidst job losses, is projected forward. After having hit its low point of 137,785 jobs in January 2006, the New Orleans employment level continues to increase, suggesting that there is a base for recovery in the post-Katrina New Orleans labor economy. □

Chart 8. New Orleans employment trends, 2004–06



Notes

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¹ For the purposes of this article, “New Orleans” refers to the city of New Orleans (Orleans Parish), as opposed to the larger metropolitan area composed of 12 parishes. The city’s employment and wage losses were just part of the total economic damage caused by Katrina. The analytic framework presented herein will focus on second-quarter data to maintain consistency with the latest quarter (the second quarter of 2006) for which data are available for New Orleans.

² Roger D. Congleton, “The Story of Katrina: New Orleans and the Political Economy of Catastrophe,” *Public Choice*, vol. 127, April 2006, pp. 5–30, especially pp. 5, 6.

³ Congressional Research Service, Library of Congress, May 16, 2006, RS22239.

⁴ See Congleton, “Story of Katrina,” p. 5.

⁵ To avoid the effects of seasonal fluctuation, estimates of employment and wage loss were based on year-to-year differences in monthly employment before and after Hurricane Katrina. Within a given quarter, monthly employment differences were multiplied by the base quarter’s average weekly wage. In evaluating the relative shares of the private-sector loss among industry sectors, this analysis was performed at the North American Industry Classification System (NAICS) sector level. Because the over-the-year loss spanned into higher employment in previous years (annual levels of employment had been declining in New Orleans every year since 2001), this method may have slightly overstated the overall employment loss. The wage loss, however, may have been understated, because it was based on year-old average wage levels. The base-quarter average wage, as opposed to the more recent wage, more accurately re-

flects the occupation and industry mix of the prehurricane economy. Therefore, estimates of employment and wages lost to the hurricane are likely conservative.

⁶ en.wikipedia.org/wiki/New_Orleans,_Louisiana, visited July 5, 2007.

⁷ *Statistical Abstract of the United States: 2006*, 125th ed. (U.S. Census Bureau, 2007), table 1, p. 8.

⁸ The wage figures are from the BLS QCEW program.

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ The trend line represents the least square fit based on values from January 2004 to August 2005, assuming that over-the-year employment change is linear. Linear trend lines were used throughout this analysis, for both total and sector employment.

¹² Location quotients are from the BLS QCEW Program.

¹³ See *Career Guide to Industries, 2006–2007*, Bulletin 2601 (Bureau of Labor Statistics, 2007). The arts, entertainment, and recreation sector is projected to increase by 25 percent (p. 248), food services and drinking places by 16 percent (p. 255), and educational services by 17 percent. With an increase of more than 12 percent, the port facility operations sector is projected within the average range of 14 percent for all industries. Oil and gas extraction is projected to grow worldwide, with the U.S. contribution heavily dependent on relative supplies and prices.

¹⁴ Projections data are for 2004–14 and are from the BLS Employment Projections Program.

¹⁵ Employment levels from January 2004 through August 2005 and from January 2006 through June 2006 were projected forward with the use of simple linear trend lines.