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AN ANALYSIS OF EMPLOYMENT AND WAGES IN SELECT INDUSTRY GROUPS IN THE CITY OF NEW ORLEANS (2004-2016)

DATA SOURCE

Quarterly Census of Employment and Wages (QCEW), Bureau of Labor Statistics, U.S. Department of Labor

DEFINITIONS

Quarterly Census of Employment and Wages- The primary economic product is the tabulation of employment and wages of establishments which report to the Unemployment Insurance (UI) programs of the United States. Employment covered by these UI programs represents about 99.7% of all wage and salary civilian employment in the country. It counts only filled jobs, whether full or part-time, temporary or permanent, by place of work. Wages include bonuses, stock options, severance pay, profit distributions, cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Seven-Digit NAICS-The four-digit value consists of industry groups. Data are by establishment.

PRIVATE INDUSTRIES SELECTED FOR ANALYSIS

A. Software Publishers (NAICS 5112)
B. Motion picture and video industries (NAICS 5121)
C. Specialized Design Services (NAICS 5414)
D. Computer Systems Design and Related Services (NAICS 5415)
E. Scientific Research and Development Services (NAICS 5417)
F. Travel Accommodations (NAICS 7221)
G. Restaurants (NAICS 7225)
H. Drinking places, alcoholic beverages (NAICS 7224)

The above industry groups were selected because they represent both industries driving current job growth (Travel Accommodations, Restaurants and Drinking Places) and industries that have become high profile (Software Publisher, Motion Picture and Video Industries, Specialized Design Services, Computer Systems Design and Scientific Research and Development Services) industries that are expected to increase their share of the City of New Orleans economy.

The data series covers the periods 2004, 2014, 2015 and 2016. The year 2004 was selected because it was the last year in which the data series was not affected by Hurricane Katrina.

INDUSTRY ANALYSIS

Table 1 below looks at the percentage change in the annual average number of establishments between 2004 and 2016. As illustrated in the table, Software Publishers experienced the greatest percentage increase within the selected industries. The number of establishments began to take off in 2012 and by 2016, there were 32 such establishments in the City of New Orleans. Although tiny with respect to employment, it represents, at least into 2016, a new start-up industry in the technology sector cluster. The other establishment growth sectors are: Computer System Design and Related Industries. This industry, however, began to consolidate in 2016 falling from 94 in 20125 to 75 in 2016. However, seventy-three percent (73%) of the selected industries are dominated by Leisure and Hospitality industries (Travel Accommodation, Full-Service Restaurants and Drinking Places.)

Table 1

	Annual Average Number of Establishments in Orleans Parish					Percentage Change 2004-2016	Absolute Change 2004-2016
		YEAR					
NAICS	Industry Title	2004	2014	2015	2016		
5112	Software Publishers	3	22	27	32	967%	29
5121	Motion picture and video industries	39	79	94	75	92%	36
5414	Specialized design services	51	52	53	63	24%	12
5415	Computer systems design and related services	163	240	281	320	96%	157
5417	Scientific research and development services	30	37	37	52	73%	22
7211	Traveler accommodation	172	168	174	178	3%	6
7225	Full-service restaurants	822	921	955	1019	24%	197
7224	Drinking places, alcoholic beverages	210	237	236	246	17%	36
	TOTAL ESTABLISHMENTS IN SELECTED SECTORS	**1,487**	**1,734**	**1,857**	**1,985**	**33%**	**498**
	TOTAL PARISH ESTABLISHMENTS	**12,496**	**11,332**	**11,721**	**12,201**	**-2%**	**-295**

Note: NAICS 7725 was NAICS 7721 up until 2009.
Source: Quarterly Census of Employment and Wages

Table 2 looks at the annual average employment in the identified industries over the period 2004-2016. The table suggests that strong job growth still eludes these critical sectors in the New Orleans economy. Motion picture production, with its heavy public subsidy, employed only four hundred more employees in 2016 as in 2004. Computer systems design and related industries managed to add 924 jobs between 2004 and 2016. The percentage of "high tech" jobs (NAICS 5112, 5121, 5414, 5415, 5417) as a fraction of the total jobs in the selected industries remained relatedly constant between 2004 and 2016 at around 6% of the total select sector and 1% of the city-wide QCEW employment. Full-service restaurants, as would be

expected, dominates the employment in the select sectors. This sector accounts for 52% of the total employment in the select sectors, and 11% of the city-wide QCEW jobs. **The share of total QCEW employment in these selected sectors rose from 15% in 2004 to 21% in 2016. The job share of Leisure and Hospitality sector, as a fraction of the total employment in selected sectors, declined slightly from 91% in 2004 to 88% in 2016.**

Table 2

		Average Annual QCEW Employment				Percentage Change 2004-2016	Absolute Change 2004-2016
NAICS		YEAR					
	Industry Title	2004	2014	2015	2016		
5112	Software Publishers	8	59	63	100	1150%	92
5121	Motion picture and video industries	1,851	2,232	1,615	2,247	21%	396
5414	Specialized design services	222	207	210	225	1%	3
5415	Computer systems design and related services	1,072	1,399	1,526	1,996	86%	924
5417	Scientific research and development services	268	227	234	148	-45%	-120
7211	Traveler accommodation	12,438	10,774	10,930	11,704	-6%	-734
7225	Full-service restaurants	18,299	18,215	19,677	21,233	16%	2,934
7224	Drinking places, alcoholic beverages	3,028	3,213	3,310	3,305	9%	277
	TOTAL EMPLOYMENT IN SELECTED SECTORS	**37,186**	**36,267**	**37,502**	**40,958**	**10%**	**3,772**
	TOTAL AVERAGE ANNUAL PARISH EMPLOYMENT	**247,260**	**180,289**	**187,462**	**193,481**	**-22%**	**-53,779**

Note: NAICS 7725 was NAICS 7721 up until 2009.

Source: Quarterly Census of Employment and Wages

Table 3 gives insight into the lackluster employment growth in select sectors found in Table 2. The table contains several observations. *The average number of employees per target establishment actually has declined or remained constant over the period 2004 and 2016.* As Tables 1 and 2 illustrates, the motion picture and video industry experiences an annual boom and bust employment cycle. *Computer systems design and related industries have been consistent in terms of number of employees per establishment over the study period.* Although the number of employees per establishment appears small, this number is larger than that of the State of Louisiana which had 5.2 employees per establishment in 2016 and smaller than the U.S. average of 7.8 employees per computer systems design and related services establishments. *Traveler's accommodations show the greatest number of employees per establishment in the City of New Orleans. Finally, private sector scientific research and development employment continues to languish.* In comparative terms, this key industry, needed to diversify the local economy, shows both little research and development activity in the private sector both at the parish and state level. In 2016, Orleans Parish level average number of employees per private sector establishment was 2.8 employees. At the state of Louisiana level, the average number of employees per establishment is 5.2. At the United States level in

2016, the average is 20.6 employees per establishment. *The weakness of Scientific Research and Development Services (NAICS 5417) in New Orleans is pointed out by the level of NIH funding for both public and private scientific research establishments.* In Birmingham, academic and non-academic research centers received in 2016 $254 million in NIH funds. In New Orleans, academic and non-academic research centers received $106 million in NIH funding in 2016, with 65% going to Tulane University researchers. In Houston, academic and non-academic research centers received $528 million in NIH funding in 2016.

Table 3

		Average Number of Employees Per Establishment				**Percentage Change 2004-2016**	**Absolute Change 2004-2016**
NAICS		**YEAR**					
	Industry Title	**2004**	**2014**	**2015**	2016		
5112	Software Publishers	**3**	**3**	**3**	3	0%	0
5121	Motion picture and video industries	47	20	23	30	-36%	-17
5414	Specialized design services	4	4	4	4	-0%	0
5415	Computer systems design and related services	7	6	7	6	-14%	1
5417	Scientific research and development services	9	6	4	3	-67%	-6
7211	Traveler accommodation	72	65	64	66	-8%	-6
7225	Full-service restaurants	22	21	21	21	-5%	-1
7224	Drinking places, alcoholic beverages	14	14	15	13	-7%	-1
	TOTAL AVERAGE EMPLOYEES PER ESTABLISHMENT IN SELECTED SECTORS	**22**	**18**	**18**	18	-19%	-4
	TOTAL PARISHWIDE AVERAGE EMPLOYEES PER ESTABLISHMENT	**20**	**17**	**16**	**16**	**-20%**	**-4**

Note: NAICS 7725 was NAICS 7721 up until 2009.
Source: Quarterly Census of Employment and Wages

Table 4 identifies average annual pay in the selected establishments and across all establishments in Orleans Parish over the study period. Although having the highest average pay in 2016, Software Publishers employment is insignificant. Hopefully, employment will expand in time and represent "an emerging industry" in the city of New Orleans. At this stage, it remains more or less a "boutique industry." Average pay earned in the Motion Picture and Video Industries remains unstable going up or down on a yearly basis. This fluctuation occurs because labor force skills vary from motion picture to motion picture. This implies that the mix of the workforce in motion picture and video industries is increasingly shifting between lower pay skills and between part-time and full-time. This shift affects the "average." For example, in 2010 average annual pay for this industry was $58,130 with an employment level of 1,418. In 2011, average annual pay fell to $55,982, with an average annual employment level measured at 1,347 jobs. The downward trend continued into 2012 and 2013, showing recovery in 2015 and 2016. (see Table 4). Average annual jobs in Motion Pictures and Video Industries improved back to the 2013 level in 2016,

averaging 2,247 jobs in Orleans Parish. (see Table 2) The number of establishments in motion pictures and video industries was at an all-time high in 2015 with 94 establishments (Table 1), but fell back below the 2014 level in 2016. Average number of employees per establishment was greater in 2016 than in 2015. *The public policy issue here, given the substantial subsidies to this industry (NAICS 5121), is whether the industry has become highly dependent upon subsidies for its growth, and whether that growth is benefiting the employees of the industry. Data in Table 4 suggests a mixed picture.* Post-Production industries (NAICS 51219) in Orleans Parish have increased every year since 2009, registering 10 establishment in 2016, with 390 employees. Average annual pay in 2016 for this industry was $34,660. Post-Production average salary in the U.S was $91,090 in 2016. It is clear that post-production employment (which is where you see technology gains) still remains minimal in the film production and video industries in Orleans Parish. Site location still drives the local industry. Post-production activities are done elsewhere. Finally, although tourism related industries (traveler accommodations, full-service restaurants and drinking places) reflect 88% of the total employment in these select sectors, weighted average annual salaries are only about 50% of the city-wide average. Although the leisure and hospitality is a job creator, average annual salaries reflect an industry dominated by low skill needs.

Table 4

		Annual Average Salary				Percentage Change 2004-2016 (current $)	Absolute Change 2004-2016 (current $)
		YEAR					
NAICS	Industry Title	2004	2014	2015	2016		
		CURRENT $					
5112	Software Publishers	$56,441	$72,390	$81,662	$80,667	43%	$24,226
5121	Motion picture and video industries	$17,490	$37,236	$46,965	$46,881	168%	$29,391
5414	Specialized design services	$30,030	$44,628	$45,061	$47,231	57%	$17,201
5415	Computer systems design and related services	$62,069	$78,518	$76,877	$79,004	27%	$16,935
5417	Scientific research and development services	$46,374	$61,325	$64,202	$61,960	34%	$15,586
7211	Traveler accommodation	$21,607	$34,194	$34,633	$34,605	60%	$12,998
7221	Full-service restaurants	$14,173	$20,893	$21,796	$22,075	56%	$7,902
7224	Drinking places, alcoholic beverages	$15,433	$20,322	$20,995	$21,180	37%	$5,747
	TOTAL AVERAGE WAGES IN SELECTED SECTORS	**$18,636**	**$28,275**	**$26,905**	**$28,646**	**54%**	**$10,010**
	TOTAL ORLEANS AVERAGE SALARY	**$36,877**	**$49,689**	**$50,157**	**$50,150**	**36%**	**$13,273**

Note: NAICS 7725 was NAICS 7721 up until 2009.

Source: Quarterly Census of Employment and Wages; sum average for selected sectors is weighted by employment resulting in weighted average.

Table 5 shows the total annual payroll in current dollars for each of the selected sectors; the summed total of the selected NAICS industries, and the annual average wage costs for all establishments in Orleans Parish

over the period 2011 to 2016. The year 2004 was excluded in this table because it would distort the percentage change and absolute change between 2004 and 2016 because of the Hurricane Katrina disaster. Employment in the city of New Orleans declined more than 95,000 job decline between 2004 and 2006. In all other tables, the distortion was less significant. (*Note that all other tables do not include 2011.)* So in 2013, the total wage bill (excluding retirement and health benefits) for Orleans Parish was $8.8 billion. By 2016, that amount had increased to $9.7 billion or by 10.3%. The Leisure and Hospitality industries (NAICS 7211, NAICS 7221 and NAICS 7224) accounts for 63% of the total wage costs in 2016 for the selected sectors, and 16% of Orleans Parish total wage costs over all industries. In 2013, that share of Orleans Parish total wage bill was 9%. In 2004, the share of Orleans Parish total wage costs over all industries was 6%.

Table 5

	Orleans Parish	**Total Annual Payroll Over All Select NAICS Industries**					
			YEAR				
NAICS	**Industry Title**	**2013**	**2014**	**2015**	**2016**	**Percentage Change 2013-2016**	**Absolute Change 2013-2016**
		CURRENT $					
5112	Software Publishers	$3,586,992	$4,530,409	$6,247,111	$8,026,320	123.8%	$4,439,328
5121	Motion picture and video industries	$71,350,237	$60,148,872	$101,248,686	$105,348,403	47.6%	$33,998,166
5414	Specialized design services	$9,206,243	$9,375,645	$10,187,563	$10,642,743	15.6%	$1,436,500
5415	Computer systems design and related services	$109,516,962	$119,792,414	$144,484,636	$157,672,452	44.0%	$48,155,490
5417	Scientific research and development services	$14,175,582	$14,350,046	$8,774,207	$9,154,584	-35.4%	($5,020,998)
7211	Traveler accommodation	$358,643,921	$373,748,886	$387,486,999	$405,032,242	12.9%	$46,388,321
7225	Full-service restaurants	$375,475,341	$411,103,402	$442,386,788	$468,731,884	24.8%	$93,256,543
7224	Drinking places, alcoholic beverages	$62,191,180	$67,273,607	$72,461,056	$69,995,697	12.5%	$7,804,517
	TOTAL WAGE COSTS IN SELECTED NAICS	**$1,000,559,466**	**$1,060,323,281**	**$1,173,277,046**	**$1,234,604,325**	**23.4%**	**$234,044,859**
	ORLEANS PARISH ANNUAL AVERAGE WAGE COSTS	**$8,799,864,168**	**$9,314,789,979**	**$9,642,114,488**	**$9,703,041,564**	**10.3%**	**$903,177,396**

Source: Quarterly Census of Employment and Wages

Table 6 gives provides insight into level of development of industries over time within the cluster of selected industries. The most significant statistic to review is the change in the average wage cost per establishment. Data in Table 6 for each select establishment by NAICS industry covers the period 2004 to 2016. The table was developed by dividing the total annual wage cost (Table 5) in each NAICS category by the annual average number of establishments (Table 1) in each year within the category. In 2016, the total weighted annual ***average*** wage bill for the select seven industries in this study was $1,014,000 in 2016.

For all establishments in the City of New Orleans, total annual wage costs per establishment was $795,266 in 2016.

Table 6

		Annual Wage Cost Per Establishment					
			YEAR			Percentage Change 2004-2016 (current $)	Absolute Change 2004-2016 (Current $)
NAICS	Industry Title	2004	2014	2015	2016		
		CURRENT $					
5112	Software Publishers	$148,942	$205,928	$231,374	$250,823	68%	$101,881
5121	Motion picture and video industries	$830,106	$761,378	$1,077,114	$1,404,645	69%	$574,539
5414	Specialized design services	$130,916	$180,301	$192,218	$168,932	29%	$38,016
5415	Computer systems design and related services	$408,177	$499,135	$514,180	$492,726	21%	$84,549
5417	Scientific research and development services	$413,762	$387,839	$237,141	$176,050	-57%	-$237,713
7211	Traveler accommodation	$1,562,464	$2,224,696	$2,226,937	$2,275,462	46%	$712,998
7225	Full-service restaurants	$330,878	$446,366	$463,232	$459,992	39%	$129,114
7224	Drinking places, alcoholic beverages	$222,504	$283,855	$307,038	$284,535	28%	$62,031
	WEIGHTED AVERAGE WAGE COSTS IN SELECTED NAICS	**$754,030**	**$968,939**	**$1,026,685**	**$1,014,900**	**35%**	**$260,870**
	ORLEANS ANNUAL AVERAGE WAGE COSTS PER ESTABLISHMENT	**$729,697**	**$821,990**	**$821,990**	**$795,266**	**9%**	**$65,569**

Note: Total annual average for selected sectors is a weighted average determined by multiplying average employment per establishment by average wage and salary cost per establishment.
Source: Quarterly Census of Employment and Wages

LOCATIONAL SPECIALIZATION ANALYSIS

Location quotient analysis is a good preliminary tool to assess *the relative* (in this case) *competitiveness* of a local industry as measured against the same industry at a larger geographical area*. From an economic development perspective, it provides one preliminary measure of how "successful" a local industry is relative to another area.* In this study, the location quotient technique is used to identify the concentration of the select industries in Orleans Parish relative to the United States and Louisiana. Location quotients are *ratios measuring the concentration* of a specific industry measure (number of establishments, employment, salaries, etc.) relative to the same measure for all industries in that area. This ratio is divided by a similar ratio for the same industries at a larger spatial area (nation, state and region). *The larger (>1.0) the numerical value of the ratio, the greater is the concentration of the specific industry in an area relative to the larger spatial area being measured against. The smaller (<1.0) the ratio, the more likely the industry is locality specific and competes less in the national or larger market area.* **These statistics are averages over the entire specific NAICS sector.** In this analysis, the numerator is Orleans Parish. The dominator is the

United States or Louisiana. The following is the location quotient formula used to identify the concentration of employment in a specific sector relative to the United States.

Concentration Location Quotients (LQ) is as follows:

$$\text{Location Quotient} = \frac{\text{Orleans Employment in Industry I in Year T}}{\text{Total Orleans Employment in Year T}} \Big/ \frac{\text{National Employment in Industry I in Year T}}{\text{Total National Employment in Year T}}$$

Table 7 measures the concentration of the *average number of establishments* in the identified industries for Orleans Parish relative to Louisiana and the United States in the year 2016. Relative to Louisiana, all of the selected industries in Orleans Parish reflect a higher concentration of establishments. As an example, establishments engaged in Motion Picture and Video Production are 3.1 times more concentrated in Orleans Parish than the state as a whole. Relative to the United States, Motion Pictures and Video Industries (NAICS 5121) shows an establishment concentration index of 2.4 times greater in Orleans Parish than the United States. *Drinking places and alcoholic beverage establishments (NAICS 7224) stand out as being highly concentrated in Orleans Parish, having a LQ that is 4.6 times more concentrated than the United States.* This confirms that a large fraction of these establishments' service customers who are not from Orleans Parish, and are heavily oriented toward non-resident visits.

Table 7

Concentration (LQ) Index for Annual Average Number of Establishments in Orleans Parish		
	2016	
Relative to:	**Louisiana**	**U.S.**
Industry		
Software Publishers	2.5	1.3
Motion picture and video industries	3.1	2.4
Specialized design services	2.5	1.4
Computer systems design and related services	2.0	1.0
Scientific research and development services	2.7	1.5
Traveler accommodation	1.9	2.4
Full-service restaurants	1.4	1.5
Drinking places, alcoholic beverages	2.9	4.6
Source: Quarterly Census of Employment and Wages		

Table 8 identifies the average annual employment concentration in the select industries in Orleans as measured against Louisiana and the United States as a whole. What does Table 8 tell us? Early on in this paper, it was noted that one economic development strategy for New Orleans was to further develop tourism-related economic activity and to develop industries in science and technology that would balance growth in the parish. *Table 8 tells us that in the areas of motion picture and video industries, traveler accommodation and drinking places, this objective has been met. However, in the areas of software publishers, specialized design services, computer systems design and scientific research, the concentration index for employment is insignificant relative to both Louisiana and the United States.* Note the difference between Tables 7 and 8. While Orleans Parish has a greater or equal concentration of establishments (Table 7) relative to Louisiana and the U.S., they have not been able to improve their concentration of jobs relative to Louisiana and the U.S. The exceptions are Travers Accommodations and Drinking Places. This would suggest that these industries probably are, on the average, local serving and are likely to grow only through the growth in local industries that require their services. ***In short,*** ***you can see little improvement in employment concentration index over time relative to the U.S. in the technology and information industries in Orleans Parish.*** Overall, employment growth in Orleans Parish is driven by growth in the United States information and technology industries as a whole and not from any locational advantage.

Table 8

Concentration (LQ) Index for Average Annual Employment for Orleans Parish		
	2004	**2016**
Relative to:	**United States**	
Software Publishers	0.0	0.1
Motion picture and video industries	3.8	3.2
Specialized design services	1.4	1.2
Computer systems design and related services	0.7	0.6
Scientific research and development services	0.4	0.3
Traveler accommodation	5.4	4.4
Full-service restaurants	1.7	1.5
Drinking places, alcoholic beverages	6.2	6.7
TOTAL AVERAGE ANNUAL EMPLOYMENT	**247,260**	**187,462**
Source: Quarterly Census of Employment and Wages;		

The picture looks more favorable when reviewing the employment concentration indexes for motion pictures, traveler accommodation, full service restaurants and drinking places industries. ***These industries are clearly driven by locational advantages*** and are oriented toward the capturing a national market.

Table 9 reports the concentration index for salaries relative to Louisiana and the United States. Motion picture and video industries have showed high concentration indexes for both number of establishments and employment in previous tables for Orleans Parish*. However, the LQ for average annual pay relative to both Louisiana and the United States suggests that the high end technical workforce in film production is minimal in this area and insufficient to affect average pay level data.* Further, Table 4 shows that average pay in motion picture and video production has not significantly changed in the recent years. One possible reason is that the job mix increasingly is concentrated on part-time and low skill positions. However, when the salary concentration index (0.6), in comparison to the *national pay level*, for 2016 is measured against the employment concentration index (3.2) against the national level, and the establishment concentration index (2.4), average private sector pay ($46,881 in 2016) best reflects the lower to mid-range skill profile in comparison to the *national level* ($64,786 in 2016) within this industry. Table 9 suggests that demand for high end technical skills, which would command higher than national average salaries in motion picture and video production industry in Orleans Parish, has not sufficiently developed as of 2016 to affect the average.

Table 9

Concentration (LQ) Index for Average Annual Pay for Orleans Parish		
	2016	
Relative to:	**Louisiana**	**U.S.**
Industry		
Software Publishers	0.8	0.5
Motion picture and video industries	0.9	0.6
Specialized design services	0.8	0.7
Computer systems design and related services	1.0	0.8
Scientific research and development services	0.8	0.5
Traveler accommodation	1.2	1.2
Full-service restaurants	1.3	1.3
Drinking places, alcoholic beverages	1.1	1.3
Source: Quarterly Census of Employment and Wages		

It is slightly worrisome that in none of the indices, (establishments, employment and salary) for software publishers, specialized design services, computer system design and scientific research and development, have reached a level of agglomeration that would suggest an increase in comparative advantage for these select industries relative to the United States as a whole. In fact, the indices indicate that these sectors, on the average, are more or less local serving mainly functioning to support other industries in the region. That would suggest that these industries have not matured to the level which would suggest greater concentration of employment and the associated skill levels that would command higher salaries.

CONCLUSION

This paper examined a select group of industries that currently drive a large part of the job growth (traveler accommodations, full-service restaurants and drinking places) in Orleans Parish. Also selected were those industries that many suggest will be needed to expand the potential of the New Orleans economy (software publishers, motion picture and video production, specialized design services, computer systems design and scientific research services) in the future.

This analysis clearly shows the importance of tourism related industries in the local economy as shown by Tables 6, 7 and 8. Correspondingly, the down side of this cluster is that salaries generated in these industries are quite low relation to the average for the parish (Table 4), ranging from 42% (Drinking Places, Alcoholic Beverages) of the average to 69% (Traveler Accommodation) of the average in 2016. These fractional values have, on the average, changed little between 2004 and 2016.

The "emerging" industries that are expected to broaden the economic base of the city reflect a mixed bag. Motion picture and video industries have shown success over the study period, particularly in the area of employment generated. However, the data suggests that ***average pay swings up and down probably due to the change mix of employment in this industry.*** This is disappointing since the industry in the city of New Orleans is more than 2.4 times more concentrated (as shown in Table 7) than the nation as a whole. This suggests that high end technology work in motion picture and video production is (on the average) somewhere else.

Finally, the remaining sectors (software publishers, specialized design service, computer systems design and scientific research services) in the "emerging" industries, on the average, simply are still at the stage of local serving and less competitive on the national scale, as illustrated in Table 7 and 8. Average pay in in scientific research and development services showed improvement between 2004 and 2010, but began to stagnate thereafter and relative to the nation as a whole there still exists a substantially pay scale lag (see Table 9). Annual average pay in private sector scientific research and development services in Orleans Parish are 50% of the national average. Annual average pay in computer system design are 73% of the national average. Annual average pay for software publishers in Orleans Parish is 55% of the national average, and specialized design services average pay is 71% of the national average.

APPENDIX

Interpreting the Location Quotient is very simple. Only three general outcomes are possible when calculating location quotients. These outcomes are as follows:

LQ < 1.0	**LQ = 1.0**	**LQ > 1.0**

LQ < 1.0 = All Employment is Non-Basic

A LQ that is less than zero suggests that local employment is less than was expected for a given industry. Therefore, that industry is not even meeting local demand for a given good or service. Therefore, all of this employment is considered non-basic by definition.

A LQ = 1.0 = All Employment is Non-Basic

A LQ that is equal to zero suggests that the local employment is exactly sufficient to meet the local demand for a given good or service. Therefore, all of this employment is also considered non-basic because none of these goods or services are exported to non-local areas.

A LQ > 1.0 = <u>Some</u> Employment is Basic

A LQ that is greater than zero provides evidence of basic employment for a given industry. When an LQ > 1.0, the analyst concludes that local employment is greater than expected and it is therefore assumed that this "extra" employment is basic. These extra jobs then must export their goods and services to non-local areas which, by definition, makes them Basic sector employment.

Source: Florida State University Department of Urban and Regional Planning, Planning Methods III: Forecasting