

The Economic Impact of Jackson State University

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Overview

This edition of *The MURC Digest* considers the economic impact of Jackson State University (JSU). Our analysis shows that the economic impact of JSU is substantial. The expenditures originating from JSU significantly increase output—the production of goods and services, jobs, and incomes in the regional economy where the university is located. A summary of our estimates of JSU's total economic impact in constant year 2004 dollars on output, jobs and labor income for various levels of the regional economy is as follows:

- **HINDS COUNTY:** Approximately \$148.7 million in output, 1,776 jobs, and \$51.4 million in labor income.
- **JACKSON METROPOLITAN AREA:** Approximately \$170.1 million in output, 2,086 jobs, and \$56.4 million in labor income. In addition, episodic JSU capital expenditures resulted in an additional \$60.7 million in output, 758.1 jobs, and \$25.3 million in labor income.
- **JACKSON e-City:** Approximately \$21.5 million in output, 188.3 jobs, and \$5.6 million in labor income. In addition, the proposed new JSU football stadium could result in an additional \$4.2 million in output, 50.7 jobs, and \$1.5 million in labor income.

Overall, given JSU's 2004 tax subsidy of approximately \$33.8 million—which can be viewed as the cost of JSU to taxpayers—our results suggest that JSU passes the cost-benefit test that should be applied to public projects, since JSU has an economic impact that exceeds its tax-financed appropriation.

As a Mississippi public university that receives tax support, if we abstract away from its mission of providing education, following the theoretical approach of Morse, Sakano and Price (1996), JSU can be viewed as a project. From a public finance perspective, a project is any

intervention that changes the status quo, and its introduction changes prices and income in the political jurisdiction in which it is introduced. Of course an educational institution's primary role is providing educational opportunity—or enabling human capital acquisition in the technical parlance of economists. But the fact that a state-supported institution like JSU receives tax dollars that could be deployed in alternative uses, evaluating JSU as a project allows one to determine if the tax subsidies it receives generate more benefits than costs in a manner that improves the economic status of taxpayers in the jurisdiction in which it operates. It is in this context that an economic impact analysis of JSU is useful.

To the extent that JSU as a project creates benefits that exceed its costs, it improves the economic status quo by affecting favorable changes in the allocation of goods and services that determine the well-being of households in the state of Mississippi, the relevant regional economy, and the city of Jackson. The role of an economic impact analysis is to quantify these benefits, and determine their magnitude, which can be compared to the tax appropriation to assess whether or not, and to what extent, the investment of public tax dollars in JSU is indeed a favorable economic status quo altering public project.

Below, we estimate JSU's impact on economic activity at several geographic/spatial levels within the state of Mississippi. We estimate the economic impact that JSU has on Hinds County, the Jackson Metropolitan Area, and an area in the city of Jackson that includes an economic development project of special interest to JSU-e-City. Presumably, knowledge of JSU's economic impact on these economic areas will reveal the extent to which JSU is potentially an engine of growth and an enabler of improvements in the economic welfare of



Mississippi residents. Of course, public universities do not derive the justification of their existence on the basis of their economic value. However, like all public institutions of higher education, JSU does engage in a significant amount of tax-supported expenditures, and an economic impact analysis would be suggestive of the extent to which such expenditures can pass a cost-benefit test in terms of the narrow economic benefits such expenditures induce.

While it constitutes a level of geography not typically included in economic impact analysis, we include e-City as a result of this geographic area, being a major part of JSU's community economic development initiatives. We also consider the economic impacts of JSU in e-City in an additional context—as the location of a newly-proposed JSU football stadium—and the associated economic impact it would have on e-City. Our perspective for the economic impact of a new JSU football stadium is one of community economic development where we consider the economic impact the new stadium would have in an area of Jackson that, relative to the location of the current facility for JSU football, is economically disadvantaged.



The Project: Jackson State University

JSU is a historically black, coeducational, doctoral, research intensive university of higher learning that has been designated by the Board of Trustees of State Institutions of Higher Learning as the urban institution of Mississippi. JSU is a comprehensive, urban university located in the capital and largest city of Jackson in Mississippi. JSU is the fourth largest institution in the state of Mississippi and has the distinction of being the only four-year public institution in central Mississippi. It is located less than one mile from Jackson's Central Business District.

Founded as Natchez Seminary in 1877 by the American Baptist Home Mission Society to serve the great Mississippi Valley between Memphis and the Gulf Coast, Jackson State University was established at Natchez, Mississippi. The school opened on October 23, 1877, with 20 students, and it operated as a private church school for 63 years. In 1882, the Society moved the school to Jackson. In 1894, the University was moved from its original site in north Jackson to a new tract of land in the southwest section of the city. The state assumed support of the college in 1940, assigning to it the mission of training teachers. Between 1953 and 1956, the curriculum was expanded to include a graduate program and bachelor's programs in the arts and sciences. The name was changed to Jackson State College in 1956 and to Jackson State University in 1974. In 1979, Jackson State was officially designated the Urban University of the State of Mississippi.

JSU functions as a “community of learners” in which teaching, research and public service are central to its total learning environment. It maintains a commitment to effectively serve students from diverse academic, social, economic, ethnic and geographic backgrounds. JSU utilizes its human, cultural and physical resources to enhance the surrounding metropolitan community. Through its resources it develops responsible leaders who are capable and willing to seek solutions to human, social and technological, physical and environmental, community and economic problems, with special emphasis on those

relevant to the metropolitan and urban areas of the state, nation and world. In conjunction with community-based organizations and local governments, JSU has undertaken several community-focused projects with an emphasis in research and public service designed to enhance the quality of life for the community while seeking solutions to urban problems.

The mission of JSU embraces the following core values: *Tradition*: JSU's commitment to its role as a historically black university inspires and exemplifies positive societal change; *Accountability*: JSU is committed to the principled exercise of leadership and the sanctity of the public trust; *Learning*: JSU is committed to providing an experientially enhanced learning environment where teaching, research and service are integrated and mutually reinforcing; *Nurturing*: JSU is committed to creating a community which affirms and welcomes persons from diverse backgrounds and experiences and supports the realization of their human potential; *Service*: JSU responds to the needs of society to the best of its ability and expects its graduates to do likewise; and *Responsibility*: JSU is committed to and accepts its duty to enhance each generation's capacity to improve the human condition.

Theoretical and Empirical Framework

Our approach to quantifying and assessing the economic impact views JSU as a potentially status quo altering public project - a theoretical approach from the economics subfield of public economics.¹ We adopt the so-called *compensation criterion*, which lends itself to a relatively simple and policy-relevant interpretation of results from economic impact analysis.² Let q^0 be an allocation of output, employment and labor income at some status quo, and let q^1 be an allocation of output, employment and labor income. After the implementation of some tax-supported public project, the *compensation criterion* is as follows:³

DEFINITION: An allocation q^1 is preferred to an allocation q^0 if output, employment and labor incomes measured in current prices p is larger at q^1 than at q^0

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**Table 1
Economic Impact of JSU
on Hinds County**

Operating Budget:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$38,629,320	321	\$13,234,710
<i>Indirect Effect</i>	\$ 8,428,184	76.2	\$ 2,884,554
<i>Induced Effect</i>	\$ 7,841,037	90	\$ 2,636,856
<i>Total</i>	\$54,898,541	487.2	\$18,756,120
Payroll:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$35,783,741	393	\$11,474,953
<i>Indirect Effect</i>	\$ 6,708,483	64	\$ 2,294,792
<i>Induced Effect</i>	\$ 6,587,648	76	\$ 2,215,391
<i>Total</i>	\$49,079,872	533	\$15,985,136
Student Expenditure:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$30,752,714	619	\$12,077,793
<i>Indirect Effect</i>	\$ 7,220,564	60	\$ 2,262,555
<i>Induced Effect</i>	\$ 6,781,519	78	\$ 2,280,617
<i>Total</i>	\$44,754,797	757	\$16,620,965
Total Economic Impact:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$105,165,775	1,333	\$36,787,456
<i>Indirect Effect</i>	\$ 22,357,231	200	\$ 7,441,901
<i>Induced Effect</i>	\$ 21,210,204	243	\$ 7,132,864
<i>Total</i>	\$148,733,210	1,776	\$51,362,221

The *compensation criterion* has a straightforward implication. At current prices, any tax-supported, public project that induces a higher allocation of output, income and employment relative to some status quo level on income is a project that improves well-being. If we assume that the project only has so-called first-order effects, there is only an effect on output, income and prices. Then a change in an allocation from y to x will have an effect on well-being that is proportional to the change in the allocation, and can be measured relative to the cost of the project—the difference of which is both the net surplus generated by and can be interpreted as the economic impact of the project.

More formally, for a constant price level p , if the cost of the project to the taxpayers is $\Gamma(p)$, the surplus for a public project is:⁴

$$\Theta(p) = p(q^1 - q^0) - \Gamma(p)$$

If the surplus measured by $\Theta(p)$ is greater than zero, then the project

improves the economic status quo as measured by the output, employment and labor income associated with the allocation q^1 relative to q^0 . For policy analysis, evaluation of any tax-supported project requires observable and estimable magnitudes of the change in the economic status quo engendered by a project that corresponds to $p(q^1 - q^0)$, and for the cost of the project corresponding to $\Gamma(p)$.

Our empirical estimates of the change in the economic status quo engendered by JSU is based on its economic impact as measured through the effects of its expenditures in an input/output (I-O) model of the regional economy and political jurisdiction in which it operates.⁵ An I-O model has the following static representation of a regional economy:

$$[I - A]q = c$$

where $[I - A]$ is a vector of primary input values required to produce a unit of a marketed commodity, q is a vector of output, employment, or income levels, and c is a vector of final demands.

Solving for q provides for a solution whereby the final allocation of output, employment and labor income, is a function of final demands/expenditure of a spending unit of interest. In our analysis, JSU is the expenditure unit of interest, and the solution for q is both JSU's impact on the economic status quo of its operating area as measured theoretically by $p(q^1 - q^0)$, and its economic impact along output, employment, and income dimensions. If after JSU expenditures, the output, employment and income levels are positive in the Mississippi regional economy, and have a value that exceeds the initial tax subsidy, then tax subsidies to JSU can be viewed as a project that improves the economic status quo.

In general, I-O models use transactions among industry sectors, and consumers in a general accounting framework to estimate how a regional economy responds to changes in economic activity in a defined study

Table 2
Economic Impact of JSU
on Jackson MSA

Operating Budget:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$40,520,138	352.6	\$13,535,467
<i>Indirect Effect</i>	\$11,012,793	101.3	\$ 3,490,336
<i>Induced Effect</i>	\$11,507,300	131.2	\$ 3,711,432
<i>Total</i>	\$63,040,231	585.1	\$20,737,235
Payroll:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$36,778,650	405	\$11,424,700
<i>Indirect Effect</i>	\$ 8,439,937	81	\$ 2,661,047
<i>Induced Effect</i>	\$ 9,500,201	108	\$ 3,064,059
<i>Total</i>	\$54,718,788	594	\$17,149,806
Student Expenditure:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$33,357,865	712	\$12,624,424
<i>Indirect Effect</i>	\$ 8,714,886	77	\$ 2,621,657
<i>Induced Effect</i>	\$10,257,794	117	\$ 3,308,369
<i>Total</i>	\$52,330,545	906	\$18,554,450
Total Economic Impact:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$110,656,653	1,470	\$37,584,591
<i>Indirect Effect</i>	\$ 28,167,616	259	\$ 8,773,040
<i>Induced Effect</i>	\$ 31,265,295	357	\$10,083,860
<i>Total</i>	\$170,089,564	2,086	\$56,441,491

area. By taking account of inter-industry linkages in terms of inputs purchased by and outputs sold to each industry, it allows for estimating the “ripple effects” on the regional economy in addition to the directly observable change at different levels of aggregation. Our analysis uses the I-O model implementation of the *IMPLAN Pro 2.0 Software* to estimate the economic impact of JSU at four levels of aggregation: e-City area, Hinds County, tri-county region of Hinds, Madison and Rankin counties, and the five-county Jackson Metropolitan Statistical Area (MSA). The economic impact is estimated for direct, indirect and induced effects in terms of employment and output. Direct effects are changes in economic activity after a first round of spending. Indirect effects refer to changes in economic activity in subsequent rounds of spending as other industry sectors adjust to the changes in the first round. Induced effects are changes that occur in terms of changes in

household expenditures. The total economic impact is measured as the sum of all three estimated effects.

Our estimated economic impacts utilize payroll, total university expenditure, and student expenditure data for JSU in 2004.⁶ For attendance at JSU football games, we use average attendance over the 2000–2004 period.⁷ Identification of the sectors impacted by the various JSU expenditures were selected with care, and in cases where there was no obvious fit, we chose a sector that, in our view, was a close approximation. For example, in the case of JSU football, while *IMPLAN Pro* has a “spectator sport” sector, none existed at any level of regional economic aggregation in the state of Mississippi. In that case we selected “other amusement, gambling, and recreational industries” as the sector through which attendees at JSU home football games effect changes in economic activity. All estimated economic impacts were evaluated in constant 2004 dollars.

The Economic Impact of JSU

The estimated economic impact of JSU on Hinds County is reported in Table 1. JSU’s estimated total economic impact on Hinds County is approximately \$148.7 million in output, 1,776 jobs, and \$51.4 million in labor income. The operational expenditure of JSU has an estimated economic impact of approximately \$54.9 million in output, 487 jobs, and \$18.5 million in labor income. JSU payroll has an estimated economic impact of approximately \$49 million dollars in output, 532 jobs, and \$159 million in labor income. JSU student expenditure has an estimated economic impact of approximately \$44.8 million in output, 757 jobs, and \$16.6 million in labor income.



**Table 3
Economic Impact of JSU
on e-City**

Operating Budget:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$5,505,370	106.6	\$3,574,617
<i>Indirect Effect</i>	\$ 22,981	0.2	\$ 8,548
<i>Induced Effect</i>	\$ 979,197	11.4	\$ 338,120
<i>Total</i>	\$6,507,548	118.2	\$3,921,285
Payroll:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$3,776,099	21	\$621,365
<i>Indirect Effect</i>	\$ 225,361	2.3	\$ 82,400
<i>Induced Effect</i>	\$ 209,675	2.4	\$ 72,392
<i>Total</i>	\$4,211,135	25.7	\$776,157
Student Expenditure:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$10,345,667	39	\$756,999
<i>Indirect Effect</i>	\$ 235,795	2.4	\$ 88,363
<i>Induced Effect</i>	\$ 248,411	2.9	\$ 85,768
<i>Total</i>	\$10,829,873	44.3	\$931,130
Total Economic Impact:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$19,627,136	166.6	\$4,952,981
<i>Indirect Effect</i>	\$ 484,137	4.9	\$ 179,311
<i>Induced Effect</i>	\$ 1,437,283	16.7	\$ 496,280
<i>Total</i>	\$21,548,556	188.2	\$5,628,572

The estimated economic impact of JSU on the Jackson MSA, which includes the counties of Hinds, Madison, Rankin, Copiah, and Simpson, is reported in Table 2. With a population of over half a million, it is the largest metropolitan area in the state of Mississippi. JSU's estimated total economic impact on the Jackson MSA is approximately \$170.1 million in output, 2,086 jobs, and \$56.4 million in labor income. The operational expenditure of JSU has an estimated economic impact of approximately \$63 million in output, 585.1 jobs, and \$20.7 million in labor income. The JSU payroll has an estimated economic impact of approximately \$54.7 million in output, 595 jobs, and \$17.1 million in labor income. JSU student expenditures have an estimated economic impact of approximately \$52.3 million in output, 906 jobs, and \$18.5 million in labor income.

The estimated economic impact of JSU on e-City—a geographical area targeted for economic development by and proximate to JSU, is reported in Table 3.⁸ The total impact was calculated based on the assumption that 25 percent of all expenditures originating from JSU occur within this area.⁹ JSU's estimated total economic impact on e-City is approximately \$21.5 million in output, 188.3 jobs, and \$5.6 million in labor income. The operational expenditure of JSU has an estimated economic impact of approximately \$6.5 million in output, 188.2 jobs, and \$3.9 million in labor income. The JSU payroll has an estimated economic impact of approximately \$4.2 million in output, 25.7 jobs and \$0.8 million in labor income. JSU student expenditures have an estimated economic impact of approximately \$10.8 million in output, 44.3 jobs, and \$0.9 million in labor income.

In recent years, JSU has engaged in significant construction/building projects on its campus. While the capital expenditures associated with this are episodic and not part of normal operations, they do impact upon final demand in the regional economy, and as such, have an economic impact. Table 4 reports our estimates of the economic impact of recent JSU capital expenditures on the Jackson MSA. We report estimates under two scenarios under which the proportion of which the input demand—regional purchase coefficients—for large-scale construction projects is satisfied in the Jackson MSA.¹⁰ Assuming that all inputs for construction projects are purchased locally, JSU capital expenditures have an estimated total economic impact on the Jackson MSA of approximately \$60.7 million in output, 758.1 in jobs, and \$25.3 million in labor income.

**Table 4
Economic Impact of JSU Capital Expenditure on Jackson MSA**

JSU Capital Expenditure (100% local):			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$36,409,476	489.2	\$16,834,566
<i>Indirect Effect</i>	\$10,494,560	111.4	\$ 4,005,137
<i>Induced Effect</i>	\$13,811,946	157.5	\$ 4,487,727
Total Economic Impact	\$60,715,982	758.1	\$25,327,430
JSU Capital Expenditure (modelRPC-90.2% local):			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$36,409,476	441.1	\$15,181,370
<i>Indirect Effect</i>	\$9,463,969	100.5	\$ 3,611,823
<i>Induced Effect</i>	\$12,455,580	142	\$ 4,047,021
Total Economic Impact	\$58,329,025	683.6	\$22,840,214
*in 2003 Dollars			
** JSU capital expenditure was approximately \$37 million in 2004.			

The estimated total economic impact drops slightly if we adopt the *IMPLAN* model-based locally purchased input proportion of approximately 90 percent.

The Proposed JSU Football Stadium

Currently, JSU does not have its own football facility and has recently proposed the construction of one on campus. The proposed new stadium would be housed in e-City. As such, it could potentially provide an economic stimulus to one of the more economically distressed neighborhoods in the city of Jackson. This is a useful community economic development context for assessing the economic impact of the proposed new stadium. There can be little doubt that the current venue that houses JSU football — Mississippi Veterans Memorial Stadium in Jackson’s Fondren district — has an economic impact, both for the neighborhood it occupies and for the Jackson MSA. However, from a community economic development perspective, a venue for JSU football in e-City could potentially catalyze further development in an area of Jackson with perhaps more upside potential. This is

especially compelling given that, relative to the current venue for JSU football, the e-City site under consideration for the new stadium is closer to the central business district.

We estimate the economic impact of the proposed new JSU football stadium by benchmarking it with the football game attendee expenditure profile of a Historically Black College/University (HBCU) for which survey data have been captured—Albany State University (ASU) in Albany, Georgia. In particular, we use the ASU football game attendee expenditure profile provided by Ojemakinde, Ansari and Elimimian (2005) for JSU average home game attendance during the period 2000–2004 to estimate the economic impact of a JSU football facility in e-City for five home games. Our estimate will be an upper bound, as our *IMPLAN* data for the region constituting e-City include areas that are not part of e-City. As such, it is likely that all expenditures by JSU football game attendees will not be spent in e-City. For example, there are no hotels in the area that we are aware of-but clearly there are hotels that are

proximate to the area in the downtown central business district.

The estimated economic impact of a new JSU football stadium in e-City is reported in Table 5. Our results are based on assuming that as in the case of ASU (Ojemakinde, Ansari, and Elimimian, 2005), 40 percent of JSU football game attendees are non-students, and from outside the geographic area under consideration. We use average JSU football attendance data from 2000-2004, and assume that it is similar to football game attendance data at ASU. Non-JSU students and persons from outside the e-City region who attend JSU football games spend an average of \$350.¹¹ We also assume, similar to our analysis of JSU’s operational, payroll, and student expenditure impact on e-City, that 25 percent of all JSU football game attendee expenditure is made in e-City. Given these assumptions, our estimate of the total economic impact of a new JSU football facility on e-City is approximately \$4.2 million in output, 50.7 jobs, and \$1.5 million in labor income.

Table 5
Economic Impact of JSU Football
Game Attendees on e-City

JSU Football Game Attendee Expenditure:			
	<i>Output</i>	<i>Employment</i>	<i>Labor Income</i>
<i>Direct Effect</i>	\$3,408,908	41.6	\$1,209,773
<i>Indirect Effect</i>	\$451,661	4.6	\$169,780
<i>Induced Effect</i>	\$389,720	4.5	\$134,565
Total Economic Impact	\$4,250,289	50.7	\$1,514,118

Conclusion

Abstracting away from JSU's role in providing educational opportunity, we find that viewing it as a public project subject to the potential to alter the economic status quo in Mississippi and subject to the *compensation criterion*, JSU passes the cost-benefit test. Relative to its annual 2004 appropriation of approximately \$33.8 million or the cost of JSU to taxpayers, our estimates of JSU's 2004 economic impact or the benefit to taxpayers, has a dollar value that exceeds the appropriation at both the MSA and county level.¹² The episodic capital expenditures of JSU also appear to have a significant economic impact on the regional economy. We also find that JSU has a substantial economic impact on an economically disadvantaged area of Jackson - e-City - that is a target for community economic development. Our estimates reveal that expenditures originating from JSU significantly improve the economic status quo of e-City. We also find that the newly proposed JSU football stadium has the potential to improve the economic status

quo in e-City even further.

Our analysis of the economic impact of JSU is subject to caveats. Our economic impact estimates are based on a static I-O model, and do not account for potentially important dynamic linkages/adjustments in a regional economy. As such, our estimates could be biased to the extent that dynamic/linkages adjustments are of consequence for regional economies in Mississippi. This is particularly true with respect to the tendency for households and firms to substitute commodities and inputs when prices change (e.g., if the spending associated with a project increases the price of butter, households may substitute toward margarine). In this case, a project that changes the price of butter, but does not account for reduced butter demand would overstate the economic impact. We are confident that our estimates minimize such bias, as we refrain from reporting the economic impact JSU has on the state of Mississippi—a level of aggregation where both substitution and supply constraints are likely to be significant.

(Seaman, 2004).

Finally, our estimates of the impact of JSU on e-City are also potentially biased. We do not know what the explicit dynamic behavioral/structural linkages are between this area of Jackson and the rest of the regional economy and the low-level of aggregation of our data on e-City probably introduce additional biases. In addition, our analysis of the proposed new JSU football stadium does not consider the economic impact of the current existing stadium. We view our estimates of the economic impact of JSU on e-City as upper bounds, and that they are at least illustrative of how JSU can improve the economic status quo of an area of Jackson that is relatively economically disadvantaged—particularly in comparison with the neighborhoods proximate to the current JSU football stadium—and worthy of community economic development initiatives.¹³



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ENDNOTES

¹ See Starrett (1988) for a treatment of public economics approaches to evaluating tax-supported projects.

² An alternative to the *compensation criterion* for interpreting/evaluating the results of economic impact analysis is to take an explicit “welfarist” approach where one explicitly identifies and assigns welfare weights to individuals. We refrain from this, as the *compensation criterion* does not require identifying welfare weights, as this would require controversial normative judgments on how best to quantify individual welfare. It turns out that the *compensation criterion* is based on the least controversial normative criterion in economic theory (Morse, Sakno, Price, 1996).

³ See Varian (1984) for a more formal definition of the *compensation criterion*. Our modification of it allows for explicit consideration of the output and labor income effects of a change in the status quo engendered by a public project.

⁴ See Morse, Sakano and Price (1996) for a more formal derivation of the surplus associated with a project. Here we assume, for simplicity that the value of incomes across households/individuals is constant.

⁵ I-O models of the economy were pioneered by the late Nobel Laureate economist Wasily W. Leontief. See Leontief (1951).

⁶ For the year 2004, the total payroll for JSU was \$58,529,484; total operations expenditure was \$85,339,080; and the student population was 7,098. JSU students were assumed to have an expenditure pattern identical to that of individuals below the age of 25 in the 2004 *Consumer Expenditure Survey*. All estimated economic impacts are in constant year 2004 values. Jobs are measured as full-time equivalent.

⁷ Historical data on attendance at JSU home football games are available at www.jsums.edu/~tigersports/football/att.html.

⁸ Our analysis of e-City is based on IMPLAN data that include the city of Jackson zip codes 39203, 39204 and 39209, of which e-City is a part.

⁹ In particular, we assume that as e-City has approximately 25 percent of the city of Jackson’s population, 25 percent of all expenditures originating from JSU are also made in e-City.

¹⁰ Regional purchase coefficient represents the proportion of intermediate and final demand that is met by local production. For instance, a coefficient of 0.2 for an industry means that 20% of demand for that industry is met locally and 80% is imported.

¹¹ In particular, we used average attendance over the 2000–2004 period. Over that time period, average attendance at JSU football games was approximately 19,783. Over five home games, and where 40 percent of football game attendees are visitors and spend an average of \$350, over one football season JSU football game attendees spend approximately \$14 million. Historical JSU football game attendance data were obtained from www.jsums.edu/~tigersports/football/att.html.

¹² 2004 state of Mississippi appropriation data can be found at www.ihl.state.ms.us/research/profile.04.pdf

¹³ As an example of relative economic disadvantage between the community where JSU currently plays football and the proposed new site, one can consider Census 2000 median household income comparisons. For the Fondren neighborhood—the site of the current JSU football venue—median household income is (in 2000 dollars) \$45,576. For the Washington Addition neighborhood—a community proximate to the site of the newly proposed JSU football stadium—median household income is \$19,130.

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