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ABSTRACT

This case study examines the impacts of South Plains College (SPC) (Levelland, Texas) on the local rural economy of Hockley County in which it is situated, as well as on the economy of neighboring, more metropolitan Lubbock County. The study addressed both business volume and employment impacts. Direct business volume impact was derived from four sources: the institution, employees, students, and visitors. A business volume multiplier of 1.5 was used for the local economy and 1.9 for the nonlocal economy. Direct and indirect expenditures attributable to SPC increased business volume in Hockley County by $21 million in fiscal year 1994, and the total employment impact on the local economy was 817 jobs. For the nonlocal economy of Lubbock County, total expenditures were also increased by about $21 million and the employment impact was about 500 jobs. The study finds that SPC makes a considerable impact on both local and nonlocal economies in terms of increased business volume and employment. Findings are used to speculate on the economic and educational losses that would result from the absence of SPC. This study's inclusion of impacts on the nonlocal economy provides higher education institutions with a new method for demonstrating institutional benefits to regional economies. Contains 17 references. (RAH)

NREA Research Forum Paper Presentation

The Economic Impact of a Rural Higher Education Institution on the Local Economy and the Nonlocal Metropolitan Economy

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Overview

Rural higher education institutions contribute to their local economies in many ways such as providing jobs, increasing the incomes of rural residents, generating spin-off industries, attracting new businesses, injecting money into the economy, increasing business volume, providing human capital and training the work force. When the institution is located in an isolated area or a self-contained economy, the expenditures of students, faculty, staff, visitors and the institution are likely to remain in the immediate local economy and will generate increased economic activity. When the rural institution is located within range of a metropolitan area, the total economic impact of the institution is shared with the local economy and the nonlocal metropolitan economy. A common method of studying the economic impact of higher education institutions is the economic impact analysis (Elliott, Levin & Meisel, 1988; Ryan, 1983; Creech, 1991).

There has been steady growth in the use of economic impact analysis by higher education institutions since John Caffrey and Herbert Isaacs presented their methodology in the 1971 ACE report "Estimating the economic impact of a college or university on the local economy." Leslie and Brinkman (1988)

estimate that half of all higher education institutions have conducted an economic impact study. These studies typically report the direct, indirect, and total economic impact colleges or universities have on the local economy. Direct expenditures flow into an economy generating economic activity beyond the initial expenditures because of the multiplier effect. The multiplier identifies the amount of the initial expenditure that cycles through the designated economy in successive rounds of spending (Leontief, 1956; Miernyk, 1969). Some of the initial expenditure remains in the economy while some of it leaves the designated economy in the form of taxes, savings or spending outside of the studied economy. Total impact is typically reported as the number of jobs and dollars contributed to the economy.

Institutions are encouraged to conduct econmic impact studies for many reasons. Higher education institutions generally face increasing pressure to demonstrate accountability to their many constituents such as taxpayers, legislators, alumni and community officials. As institutional budgets are increasingly scrutinized by these constituents, today, more than ever, administrators must demonstrate their effective and efficient stewardship of resources (Greenwood and Sunell, 1993). Higher education economic impact studies are conducted for many reasons, most of which are related to political or public relations purposes. Four specific reasons for conducting an economic impact study are (1) to make the case for state appropriations (2) to address complaints about the institution's impact on local public services (3) to fight an economic crisis and (4) to satisfy curiosity (D[illegible]n, 1991). These studies report impact of the institution upon the local economy.

The difference between a local and a nonlocal economy is determined by the geographic location of the institution relative to the economy studied. Local and nonlocal economies are described in Figure 1 (figures are located at

the end of the paper). A local economy is an economy within which the studied institution is located. For example, the economic impact of Oklahoma State University (OSU) upon the city of Stillwater represents local economic impact because OSU is located within Stillwater. A nonlocal economy is an economy within which the studied institution is not located. For example, the economic impact of the University of Georgia, located in Athens, upon the city of Atlanta (a specific nonlocal economy) is an example of nonlocal impact.

Purposes

The purposes of this study are (1) to study the impact of a rural community college upon its local economy and the nonlocal metropolitan economy and (2) to compare and contrast the impacts in an effort to better understand the economic impact of a rural higher education institution upon their regional economies. By conducting both a local and a nonlocal economic impact study for a rural community college, the study provides further understanding of the economic impact of rural higher education institutions.

Methodology

The methodology of this study has three distinct parts. First, the institution and economies are defined. South Plains College in Levelland, Texas (SPC) is a community college located in Hockley County (the local economy). Levelland is a rural community (population 12,000) located approximately 35 miles from Lubbock, Texas (metro population 200,000) in Lubbock County (the nonlocal economy). Lubbock is the only major metropolitan area within 120 miles of Levelland. Therefore, SPC has an economic impact upon the Lubbock County economy as college-related

spending leaves Hockley county and leaks into this nonlocal metropolitan area. Impact is studied for the local economy of Hockley County and the nonlocal economy of adjacent Lubbock County. Second, the economic impact of SPC upon the local and nonlocal economies are estimated using existing models and methods for conducting an economic impact analysis. Total impact is reported as dollars and jobs contributed by SPC to the local and nonlocal economies. Additionally, estimates of educational impact are made based of the number of students that may have been lost to the region if SPC did not exist. Third, by comparing and contrasting the two simultaneous studies, differences between estimating local and nonlocal impact are analyzed. One area of differences identified is the methodology for estimating impact upon a local versus a nonlocal economy. Also, outcome differences, i.e., the relative flow of funds and the nature and amount of impact on the local economy versus the nonlocal economy, are identified. Finally, comparing and contrasting the impacts provides further understanding of the economic flows generated by a rural higher education institution and the impact it has upon the local and nonlocal metropolitan economies.

This research is significant because of the economic impact information it provides to the rural institution studied, other higher education institutions and policy makers. Understanding the significant economic flows created by rural institutions can help meet present and future accountability and validation needs of higher education institutions. Furthermore, since most economic impact studies are simply replications studying only local impacts (Leslie and Brinkman, 1988) this study provides a new critical analysis and application of economic impact methodology to nonlocal economies that brings further insight into these studies. Since this approach to estimating economic impact has not been previously studied, this study provides higher education institutions with a new method for

demonstrating economic impact and institutional benefits to their local and nonlocal constituents. This different approach broadens a horizon previously limited by the scope of existing studies.

Rural higher education institutions have a substantial impact upon the development of their regional economies. Learning the significance and relationships of these impacts in both local and nonlocal economies provides further understanding of the role these institutions play in the economic development of their regions. Studying the rural local economic impact alongside the nonlocal metropolitan impact gives a clearer understanding of the total economic impact of rural higher education institutions.

Findings of the Economic Impact Analyses

In addition to presenting a methodology for estimating the impact of a college or university on a nonlocal economy, this study includes an analysis of the impact of a higher education institution (SPC) on both the local and nonlocal economies of Hockley and Lubbock Counties. In both economies SPC makes a considerable impact in terms of increased business volume and employment.

Impact on the Local Economy

It is no surprise that SPC has a considerable economic impact on the local economy. Hockley County receives a sizable contribution to overall business volume and employment levels because of SPC. The economic impact on the local economy is discussed separately in terms of business volume and employment.

Business volume impact. Direct expenditures attributable to SPC increased business volume in Hockley County by nearly $21 million in fiscal year 1994. Direct economic impact is derived from four expenditure sources:

the institution, employees, students and visitors. The dollar amount of these impact sources and the percentage of the total direct impact are presented in Figure 2. Institutional expenditures of just over $5 million represent 36% of the total direct business volume impact on the local economy that is attributable to SPC. Approximately 43% of the total institutional budget is spent in Hockley County.

Student expenditures tell an interesting story because of the magnitude of the impact and the source of the expenditures. Approximately $4.6 million in student expenditures contribute about 33% of the total direct business volume impact on Hockley County. This large percentage of total direct impact attributable to student expenditures is worth noting because SPC draws in a substantial amount of student expenditures from students living outside Hockley County. More than 58% ($2.6 million) of the student expenditures come from students living outside Hockley County. This does not include those who are originally from outside the county and are currently living in the residence halls. It is important to note that this $2.6 million of expenditures would not occur in Hockley County if SPC did not draw these students into the county. More than 1,100 full-time students living outside Hockley County contribute $1.2 million to the county's economy. Furthermore, 1,417 part-time students living outside the county generate more than $1.5 million in direct business volume.

Employees (faculty/staff) are the third largest contributors to total direct business volume impact in the local economy (29% or approximately $4 million). Total employee expenditures in the local economy are diminished because the employees spend substantial amounts of disposable income outside Hockley County. First, a large portion (about 30%) of disposable income leaves the county in the form of mortgage, insurance and retirement plan payments. Additionally, of the remaining disposable income,

approximately 62% is spent in Hockley County while much of the rest is spent in the larger metropolitan area of Lubbock County rather than in the smaller shopping areas in Levelland.

Even though it appears that much of SPC institutional and faculty/staff expenditures are spent outside Hockley County and in Lubbock County, those expenditures may have a hidden advantage to Hockley County and its residents. The flow of those dollars to Lubbock County encourages the growth of Lubbock in terms of services, events, shopping etc. The expansion of Lubbock offerings may actually provide the opportunity for a better quality of life for Hockley County residents since Lubbock is easily accessible to those who wish to enjoy the shopping, services and activities offered in Lubbock. Althhough speculative, it could be true that having the money flow out of Hockley County creates another advantage (decreasing resident anxiety) for Hockley County residents because it prevents their community from growing to a population and economic level that may be undesirable and could bring with it social maladies associated with larger cities.

The final source of direct impact comes from the more than 52,000 visitors to Hockley County that are attributable to SPC. Although SPC attracts a considerable number of visitors annually, total visitor expenditures contribute only about 2% or $273,984 in direct economic impact. This low amount, less than $6 per visitor, is mostly attributable to the fact that Levelland has only a few hotel rooms, therefore visitors who spend the night more frequently stay in Lubbock. In the next stage of estimating economic impact, all of the direct expenditures by the institution, faculty/staff, students and visitors are summed to estimate to indirect economic impact.

The indirect business volume multiplier used in this study is reasonable based on Leslie and Brinkman (1988) guidelines. Because the Hockley County economy is small, not totally self-sufficient and susceptible to

sizable leakages because of the vast consumer market in nearby Lubbock, initial expenditures do not recycle in the economy for very long before leaking out into other economies. The economic multiplier used for the local economy is 1.5. Indirect impact is approximately $7 million. The sum of direct and indirect impact totals more than $20 million.

When discussing the total business volume impact contributed to the local economy by SPC it is useful to complete the economic impact picture by considering the amount of local tax revenues collected to support the college. According to the college's 1993 audit report (Pate and Downs, 1993) $4,948,779 in taxes were collected to support the college. This amount is recouped in direct institutional expenditures alone, which exceed five million dollars (Figure 2). By adding to institutional expenditures the employee, student and visitor expenditures that occur in the local economy, total direct business volume impact becomes $13 million, more than twice the amount of taxes collected to support the college. Finally, after the multiplier effect, Hockley County receives slightly more than twenty million dollars in increased business volume due to college related or attributed expenditures. In the fiscal year studied, that amounts to a return to the economy of about four dollars for every one dollar of taxes invested in the college.

Employment impact. South Plains College makes a substantial employment impact on the local economy and is the second largest employer in the county (Community Fact Sheet, 1994). At the time of this study, 255 (79.19% of all full-time SPC employees) live in Hockley County (see Figure 3). Further employment is attributable to the more than thirteen million dollars of direct expenditures in the local economy. This direct expenditure impact generates an indirect employment impact of 562 jobs in the local economy, bringing the total employment impact of the college on the local economy to 817 jobs. Additionally, 44 part-time employees earn paychecks and live in

Hockley County.

Impact on the Nonlocal Economy

The considerable size and diversity of the Lubbock economy attract a significant amount of spending that is attributable to SPC. In terms of employment, some SPC faculty and staff prefer to live in the larger Lubbock metropolitan area. The estimated economic impact of SPC on the nonlocal economy of Lubbock County is described in terms business volume and employment.

Business volume impact. The total economic impact of SPC on the nonlocal Lubbock economy exceeds $21 million. The dollar amounts and percentages of direct business volume impact on the nonlocal economy are presented in Figure 4. Institutional expenditures in the nonlocal economy of Lubbock County exceed $11 million, generating 48% of the total direct business volume impact attributable to the college. Nearly $5.3 million in business volume is generated in Lubbock County by college expenditures and nearly 46% of all institutional expenditures occur in Lubbock County. The more than $2.1 million of direct business volume generated in Lubbock County by SPC students represents 19% of the total direct impact on the nonlocal economy. Faculty/staff expenditures total nearly $3 million or 27% of the total direct business volume impact. Finally, visitor expenditures contribute nearly three-quarters of a million dollars to the nonlocal economy or 6% of the total direct impact.

The business volume multiplier used in this study is justified by Leslie and Brinkman (1988) who suggest that community college expenditures in a metropolitan area typically turn over 1.9 times. Thus, a business volume multiplier of 1.9 is used which results in nearly $10 million dollars of additional business volume. The direct business volume impact of $11 million plus $10 million of indirect impact yields a total impact on business

volume of $21 million.

Employment impact. Although only 54 (16.77%) of full-time SPC employees live in Lubbock County (Figure 3), a total of 500 jobs in Lubbock County are attributable to SPC related expenditures (Figure 5). Interestingly, according to the City of Lubbock report (1994) the direct employment impact of 54 jobs technically places SPC in the top 100 firms (actually near the third quartile) in Lubbock County as ranked by total number of employees. It is the indirect employment that is generated by the more than $11 million in direct expenditures that quickly boosts total employment in Lubbock County attributable to SPC to 500. Indirect employment represents 446 additional jobs.

The Relative Impact of South Plains College on the Local and Nonlocal Economies

The purpose of this section is to compare the direct, indirect, total and employment impacts of SPC on Hockley and Lubbock Counties. Figures 5-11 provide summaries of the data discussed in this section.

Direct Business Volume Impact

Both Hockley and Lubbock Counties gain sizable business volume increases that are attributable to SPC. Hockley County's direct business volume is increased by nearly $14 million and Lubbock County's by more than $11 million, Figure 6. In comparative terms, that translates to an increase of business volume for Hockley County that is 26% more (almost $2.9 million more) than in Lubbock County. The size of the impact from each of the four impact sources varies between the economies. For example, the portion of institutional expenditures contributing to total direct impact is 12% higher for Lubbock County than for Hockley County (Figures 2 and 4). In

other words institutional expenditures make up a larger percentage of total direct expenditures in the nonlocal economy (48%) compared to the local economy where institutional expenditures account for only 36% of total direct expenditures. On the other hand, the percentage distribution of where institutional expenditures occurs indicates that close percentages are spent in Hockley and Lubbock counties (43.82% and 45.98% respectively, Figure 7) while only 10.2% of the institutional budget is spent outside the two economies. Initial expenditures of the institution and employees may be more frequently made in Lubbock County because in the Hockley County economy prices are sometimes higher, selections may be fewer, speed of delivery may be slower or desired services may be unavailable--entertainment in the form of a movie theater, for example.

Faculty/staff expenditures are relatively equal on a percentage basis representing 27% and 29% of the total direct impact on Lubbock and Hockley Counties respectively (Figures 2 and 4). When all faculty/staff expenditures are combined (Figure 8) 38.4% is spent in Hockley County, 33.76% is spent in counties other than Lubbock and Hockley (much of this is represented by mortgage payments) and 27.84% is spent in Lubbock County. Excluding mortgage payments, approximately 55% of total faculty/staff spending occurs in Lubbock County and 40% in Hockley County. From this information faculty and staff spend more of their disposable income in Lubbock County rather than Hockley County.

Student expenditures account for 33% of the total direct expenditures in the local economy while they represent only 19% of the total for the nonlocal economy. Student expenditures in Hockley County exceed student expenditures in Lubbock County by $2.5 million. A sizable amount of expenditures by students comes to Hockley County from Lubbock County. This translates to an economic gain for Hockley County and a loss for Lubbock

County. Part-time students contributed more than $1.4 million to the Hockley County economy, most of which comes from students commuting to SPC from Lubbock County. No addition to direct impact from part-time student contributions was made to total student expenditures for Lubbock County. Part-time students are not included because it would be difficult to justify that expenditures in Lubbock County by part-time students are fully attributable to SPC. Part-time students living in Lubbock county are more likely have jobs in Lubbock County that are the source and reason for student expenditures in Lubbock County rather than SPC.

SPC attracts more than 52,000 visitors to Hockley County each year. However, lodging accommodations in Hockley County are limited which results in a transfer of lodging expenditures to Lubbock County where hotels and motels are plentiful. When lodging expenditures leave Hockley County., meals and miscellaneous expenditures are also lost because they are spent closer to the lodging facility--typically in Lubbock County. In fact, the dollar amount of visitor expenditures in Lubbock is nearly three times the amount spent by visitors in Hockley County. Regardless, in both economies, visitor expenditures make up only a small portion of total direct expenditures attributable to SPC (6% for Lubbock County and 2% for Hockley County).

Indirect Business Volume Impact

Indirect impact is nearly $3 million greater (42%) for Lubbock County than for Hockley County (Figure 9). The internal linkages of the Lubbock economy encourages direct expenditures or first round spending to circulate within the Lubbock County economy longer than in the Hockley County economy. The multipliers used in this study, 1.9 for Lubbock and 1.5 for Hockley, suggest that a dollar of direct expenditure circulates in Lubbock County about 25% longer before leaving the economy than it would if it were

first spent in Hockley County. A dollar spent in Lubbock County recycles longer in Lubbock County mostly because of the variety of goods and services offered in the county. On the other hand, a dollar spent in Hockley County may not circulate as many times because many goods and services are either not provided in Hockley County or are provided in a preferential fashion (lower price, more quickly accessible, larger variety) somewhere other than Hockley County. Typically that other location is Lubbock County.

Total Business Volume Impact

After direct and indirect impact are added together, the difference between total economic impact in terms of business volume is very small, only $85,617, see Figures 10 and 11. Although direct impact for the local economy is about 26% greater than for the nonlocal economy, indirect impact is about 42% greater for the nonlocal economy than the local economy. Therefore, the significance of the economic multiplier is emphasized as nonlocal impact is substantially increased by the recycling effect. In the end this means that the total impact on the local and nonlocal economies differs by only $85,617 with the local economy receiving a total of $20,975,666 in increased business volume and the nonlocal economy receiving slightly more, $21,061,283 in total economic impact.

Figure 11 provides a cumulative presentation of the direct, indirect and total business volume impacts for the local and nonlocal economies.

Employment Impact

Finally, employment impact is noticeably higher for the local economy in terms of direct, indirect and total employment (Figure 5). SPC contributes nearly five times as many full-time direct jobs to Hockley County than to Lubbock County. Indirectly created jobs number 100 more for the local

economy than the nonlocal economy. Finally, the total number jobs created by SPC in Hockley County exceeds the number created in Lubbock County by 317 (63%). Regardless of the comparative differences between employment contributions for each county, SPC makes a sizable contribution to employment in both counties: 817 jobs for Hockley County and 500 jobs for Lubbock County.

Economic Impact of the Absence of South Plains College

The purpose of this section is to discuss possible implications of the absence of South Plains College on the local and nonlocal economies. By supposing that South Plains College does not exist or that its operations are discontinued, a sizable economic loss would be realized by the area economy that Goldstein (1990) summarizes as the total loss of economic output from the college, "We often conceive of the economic impact of an activity or entire institution that already exists as the total loss in economic output that would be experienced in the region if the activity or institution were to no longer exist, e.g. be defunded" (p. 53). Arguably, the loss would be greater than just the loss of output because of the multiplier effect that causes additional economic activity and also because of related non-economic losses such as the loss of cultural activities and consulting services. Furthermore, long-term losses such as the retrenchment of human capital and decrease in labor force skills might cause losses due to the absence of the college to be even greater. The dissolution of the college has a variety of effects that are short-term and long-term, effecting both society and individuals. A discussion of some of those effects follows.

Short-term Losses

Short-term losses include the loss of jobs and business volume that are

described in the local and nonlocal impact studies. These losses are immediate, representing more than $20 million for both Hockley and Lubbock counties. Approximately 1,300 individuals in Lubbock and Hockley Counties combined would not have jobs if SPC were eliminated. In addition to employment loss, the loss of economic activity must be considered. Economic activity loss may be in the form of decreased business volume that results from the loss of the inflow of dollars from employees living in other counties, yet are working and spending in Hockley County. Finally, Hockley County would lose a substantial source of civic volunteers, business consultants, church leaders and public leaders if SPC did not exist. These immediate, short-term impacts are sizable and can be further described by responses to the faculty and student surveys used in this study.

Survey Responses

The faculty and student surveys probe into the questions of what faculty or students would do if they did not work at SPC or if SPC did not exist. The intention of these question is to gain insight into the full impact that could be expected if SPC did not exist.

Faculty/staff responses. Survey responses reveal that 62.22% of SPC employees living in Hockley County would not live in Hockley County if they did not work at SPC. Such a loss of gainfully employed individuals represents a loss of jobs that is roughly equivalent to the closure of the third largest employer in the county.

Student responses. Similar to the faculty/staff survey, students were asked where or if they would attend college if SPC did not exist. The survey responses are reported in Table 1. Although a total of 714 students responded to the survey, 18 of the responses to question seven were ambiguous or included the selection of more than one response and are, therefore, not

included in the findings reported in Table 1. The survey question supposes that SPC does not exist and asks students to indicate whether they would (1) not attend college, (2) attend college outside Hockley or Lubbock Counties or (3) attend college in Lubbock County. First, approximately 10% of the SPC student respondents would not attend college if SPC did not exist. The impact on the individual of not attending college includes lost earning an promotion capacity and perhaps a lower quality of life. There would likely be a profound impact upon the area economies if 10% more of the population did not have some higher education. It could be expected that the quality of the work force would diminish with the absence of education and training by SPC. Second, approximately 40% of the respondents would leave Lubbock and Hockley Counties to attend higher education if SPC did not exist. In fact 42.7% of the full-time students would leave the two-county area would have a sizable impact on the economy because "This would draw money out of the County, not only by the amount of student expenditures estimated, but also by the additional expenses incurred by their families in supporting a student living away from home" (Romano and Herbert, 1985, p. 26).

Third, approximately 50% of students would attend higher education in Lubbock County if SPC did not exist. The question remains, whether Lubbock County higher education institutions would stand to gain if approximately 50% of the students leave SPC for Lubbock. The answer seems to be yes, but Walleri (1987) poses an analogous dilemma in his economic impact study of Oregon's community colleges,

> What would become of the students who need to develop their academic skills or those who lack the resources to directly enter a four-year college? How could the four-year schools possibly handle so great an influx of students? How could the state afford the increased costs associated with a near doubling of enrollment at four-year colleges? What would happen to the high school dropout who is now provided a second chance through the special programs developed by the community colleges? (p. 2)

It is not certain that the higher education institutions in Lubbock County could or would meet the needs of the students formerly served by the community college, thus it is uncertain how these students would fare in a four-year college setting. For example, Texas Tech University has selective admission criteria that might prohibit many community college students from attending as entering freshmen. Other than Texas Tech University, options for higher education in Lubbock County are then limited to private universities, which may be cost prohibitive, and business colleges, which do not provide baccalaureate level programs. Although almost 50% of the respondents indicated that they would attend college in Lubbock County if SPC did not exist, the chances of that happening must be questioned based on cost, convenience, space availability and accessibility (higher admission standards). Walleri (1987) summarizes the loss to students thorough the loss of a community college,

> Although the financial and employment impact of the community colleges cannot be discounted, perhaps the major finding of this study is the impact on individual students if the colleges did not exist or if their program offerings and capacities were scaled back. Although most of the students indicated that they would attempt to pursue their education by leaving their local communities, how realistic would this really be? If the community college did not provide the job training and upgrading that they now provide, what would take their place? Who would prepare students for transfer to four-year colleges? (p. 2)

In all cases, Hockley County would lose substantially in terms of student expenditures because about 90% of the students would leave Hockley County. Even the 10% who would not attend college are not all Hockley County residents which means Hockley County would lose some expenditures attributable to these students. Furthermore, those students that are Hockley County residents and choose to stay in Hockley County will likely work for a lower wage, paying lower taxes than a person who has engaged in

higher education. Lubbock County would potentially gain some students who would live in the county, yet many students would leave the county to attend college elsewhere.

Long-term Losses

Economic impact analysis offers little information for assessing the potential long-term effect of the absence of a higher education institution from an area's economy. James and Puth (1990) claim that these losses would probably be an even greater cost than the short-term losses in employment and business volume. Long-term losses are those such as a diminishing quality and quantity of human capital, the dwindling frequency of cultural activities in a community and the restructuring of a community's own culture. Without a college, a void exists in terms of workforce training and education. Particularly in case of a community college which has many vocational and technical programs, a region can suffer greatly in terms of workforce quality and quantity if community college provided training is lost. The many special events, speakers, theater productions, sporting events, arts performances and presentations are sacrificed in the absence of SPC. In terms of the community college's contribution to the area culture, it should be noted that most colleges have a profound impact on its surrounding community that goes beyond dollars and jobs. If SPC did not exist, what would exist in its place? What type of effect might a different industry have on the culture of Hockley County? If a large oil company took the place of SPC the type of county and city would be expected to change according to the attributes exhibited by the workers of an oil company rather than a higher education institution. Backing up a few paces, it is actually more likely that if the college did not exist, a large oil company would be less inclined to locate in Hockley County because there would be little access to technical and

managerial skills training opportunities. Thus, the loss of the college might also have a sizable impact on the quantity of skilled laborers available. The long-term effects are numerous and profound. In his Oregon study Walleri (1987) asks,

> Who would help the struggling small business owner to develop the management skills needed to survive in Oregon;'s rapidly changing economy? Who would assist dislocated workers in their search for new employment and/or retraining if it were not for the community colleges? (p. 2)

The loss of SPC could have substantial long-term effects an both Hockley and Lubbock Counties as well as the entire West Texas region.

Positive Impact of the Absence of SPC

Colleges and universities may not only be assets to communities, but they also may be liabilities. Public provisions such as police, sewer, water and fire services may be taxed by the presence of college students, faculty and staff and the institution itself. Students may cause the devaluation of particular areas of the community where low rent housing is available. Rowdy students may disturb communities with pranks, carelessness and other disliked activities. These costs are rarely quantifiable, but are often considered part of the inconvenience of having a college or university in a community. In the case of the Lubbock economy, if SPC did not exist the county would see an influx of students which might increase the need for more police services and road work, for example. On the other hand, the Hockley community potentially would gain by the loss of some rowdy students and the recovering of $5 million in taxes collected to support SPC. Additionally, private enterprises that compete with college provided services might gain because a preferentially treated competitor would be eliminated. However, Romano and Herbert (1985) report that even after considering the disadvantages of a

college there actually is no net cost to the community, "When those additional costs are taken into consideration (lost revenue, jobs etc.), the cost to Broome County of operating the college is nil" (p. 38). Therefore, even in view of possible cost savings, the net effect of the absence of SPC would mean an overall loss for Hockley County.

Summary

There is no question that if SPC did not exist Hockley and Lubbock Counties would stand to lose substantial amounts of business volume and jobs. Even though Hockley County would have $5 million dollars in taxes to redirect or return to the taxpayers, the financial losses after the multiplier effect would still exceed $15 million dollars in business volume. Approximately 1,300 individuals in Hockley and Lubbock Counties would lose their jobs either immediately if the college were eliminated or gradually as the lost business volume trickled through the economy forcing the closure of numerous businesses and a reduction in the workforce. In the long term, individuals lose the opportunity for higher education and society loses the benefits of a skilled workforce and a culture-rich environment. All of these things said, it is hard to disagree with Walleri (1987) who states that the absence of community colleges in Oregon would be devastating, "The economic impact shown in this study does not even begin to describe the true economic impact and personal hardships that would result if Oregon's community colleges did not exist," (p. 2). Although the absence of SPC would not equal the magnitude of the loss of an entire state community college system, the expected overall effect still would be harshly negative. Clearly, Hockley County would lose substantial business volume and jobs. Lubbock County would surely lose as well because many Lubbock County employees receive technical training from SPC or educational preparation for transfer to

a four-year university in the county. As has been discussed, many students, their expenditures, financial aid and their parental support would leave if SPC did not exist. Because SPC is the only community college in the state within 100 miles, the negative impact of the absence of this institution on the local, nonlocal and regional economies would surely be great.

Recommendations for Further Study

Further study should be conducted to learn more about the breadth of the economic impact of higher education institutions and to learn more about the effectiveness of economic impact analysis in achieving useful outcomes. The first area of further study is more concerned with the long-term impact of colleges and universities and the latter area is concerned with the more immediate value of economic impact studies.

First, the long-term positive impact of higher education is frequently espoused as the most significant contribution of colleges and universities. Higher quality of life, increased productivity and increased wealth for both individuals and society are generally believed to have a direct, positive relationship with the presence of higher education. However, these positive relationships as well as the value of these relationships, are not easily quantifiable. Furthermore, the Caffrey-Isaacs methodology (1971) does not estimate long-term impacts such as the effects of colleges and universities on business location or the impact on the skills enhancement in the local workforce. Therefore, the long-term and short-term economic impact methods are independent of each other (Elliott, Levin and Meisel, 1988)

> Thus far, the two literatures remain distinct. following the Caffrey and Isaacs framework, economic impact studies continue to measure short-term dollar effects on the local economies. A new and growing literature, however, focuses on the long-term impact of colleges and universities on regional economic development. (p. 19)

Thus, further study should be conducted to gain a better understanding of the long-term quantitative impact of colleges and universities. Elliott, Levin and Meisel (1988) suggest a need for increased study in this area,

> Changing perceptions of the role of higher education in state legislatures may change the scope of future economic-impact studies. Increased recognition of the linkages between higher education and economic development will pressure future study designs to measure not only short-term fiscal impacts on local areas, but also indicators of long-term success in furthering economic growth. Significant research is needed to expand the methodology of economic impact studies to meet this new challenge. (p. 31)

More recently, Creech et al. (1994) calls for the need to for more long-term studies of higher education's impact, "There is an immediate need to determine what effect the projected increased earning power of an educated populace has on the economy . . . " and " . . . to study the effect of higher education on increased productivity or increased learning capacity" (p. 20). Clearly, emphasis should be placed on the study of the long-term impact of higher education on individuals, economic regions and society in general.

Second, although many economic impact studies of higher education institutions have been conducted since the Caffrey-Isaacs model was presented in 1971, little research investigates the effectiveness of these studies. What outcomes do impact studies generate? This question is not easily answered. Dean (1991) cites Brigham Young University and the University of Utah for gaining benefits from conducting these studies and sharing the results with their constituents. However, these citations lack scientific verification and factors other than the economic impact study could have contributed to the positive results experienced by Brigham Young University and the University of Utah. It is generally believed that these studies help forward the cause of higher education and particular institutions, but by how much? and is it worth the cost? Kinnick and Walleri (1987) summarize this

unclear and unresearched issue,

> Little research is available about what difference these studies make, positively or negatively. There is a strong belief, however, that they can help show that higher education is not a drain on local or state resources, but, rather, a stimulus. Having the results may not produce measurable gains; but not having the information may limit the ability of the institution to compete effectively with others for funds and other kinds of support.
> (p. 69)

Furthermore, economic impact studies are supposed to encourage the development of cooperative relationships between higher education institutions and legislators, civic officials and taxpayers. Unfortunately, little research has been conducted in the area of the effectiveness of impact studies. Even if positive benefits are identified, are the studies justifiable in a cost/benefit sense? Perhaps the costs to conduct the studies exceed the benefits derived. Furthermore, the opportunity costs, or activities that foregone to conduct the impact study, should be researched and considered when determining the cost effectiveness of economic impact studies.

Conclusion

Higher education is increasingly pressured to provide documentation about its economic viability and whether constituents are getting what they are paying for. Technological advances provide the opportunity to increasingly quantify the economic significance of higher education and the economic impact analysis study is a commonly employed method for documenting that significance. Many higher education institutions and systems have used economic impact analysis studies in response to these pressures and to mitigate future questioning and accountability concerns. The studies are normally time-consuming and costly, yet potentially beneficial.

This study provides a new approach to demonstrating the economic impact of an institution by focusing on the impact upon a nonlocal economy. As is shown in this study, institutions may have significant impacts upon not only the local economy, but upon nonlocal economies as well. Therefore, nonlocal economic impact assessments can be valuable for administrators and decision-makers. The methodology for conducting economic impact studies upon nonlocal economies allows institutions and administrators to estimate the economic impact of higher education institutions upon specified economies for which the institution is not located. Just as the methodology for conducting an economic impact analysis upon a local economy assists institutions and their stakeholders to evaluate institutions, the methodology for conducting economic impact studies upon nonlocal economies is another important tool that extends the realm of possibilities for demonstrating the economic impact of higher education institutions. The nonlocal methodology presented in this paper is based on the theoretical foundation of modern local impact studies which spawned from the Caffrey-Isaacs (1971) model. Estimating nonlocal impact is very different from estimating local impact in terms of data gathering and less so in terms of model building for impact estimations.

Two economic impact studies, one local and the other nonlocal, were conducted as part of this study. The test institution, South Plains College, Levelland has a substantial impact on both economies in terms of business volume and employment. The local economy, Hockley County receives more than $13 million of direct business volume impact and more than $20 million total impact after including indirect impact from the multiplier effect. This equates to a four-to-one return on tax dollars invested in the college by Hockley County residents. The nonlocal economy, Lubbock County receives more than $11 million in direct business volume impact and more than $21

million in total impact. Direct full-time employment for Hockley County is 255 and another 562 jobs are created by direct spending by the institution, faculty/staff, students and visitors. Total full-time employment impact on Hockley County is 817 jobs. Lubbock County receives a total of 500 jobs created by SPC (54 direct jobs and 446 indirect jobs).

This study estimates only the short-term economic impact of the college on area employment and business volume. Other substantial short- and long-term contributions to individuals and society made by the college include increasing the local bank deposits, contributing to cultural activities of the community, providing training and education for the workforce and improving the quality of living in the area. Even with the substantial impact colleges and universities have on their economies, the reminder of Romano and Herbert (1985) should resonate, "It must be remembered throughout the course of this discussion, however, that the primary function of a college is to educate - to turn out knowledgeable, creative, productive, and responsible citizens" (p. 1).

Table 1

Higher Education Attendance Preferences of Students Responding to Survey Question which Hypothetically Proposes that South Plains College Does Not Exist

	Full-time (n=541)	Part-time (n=155)	Total N=696
Would not have attended college.	52 (9.61%)	19 (12.26%)	71 (10.20%)
Would have attended college outside Hockley and Lubbock Counties.	231 (42.70%)	36 (23.23%)	267 (38.36%)
Would have attended college in Lubbock County.	258 (47.69%)	100 (64.51%)	358 (51.44%)

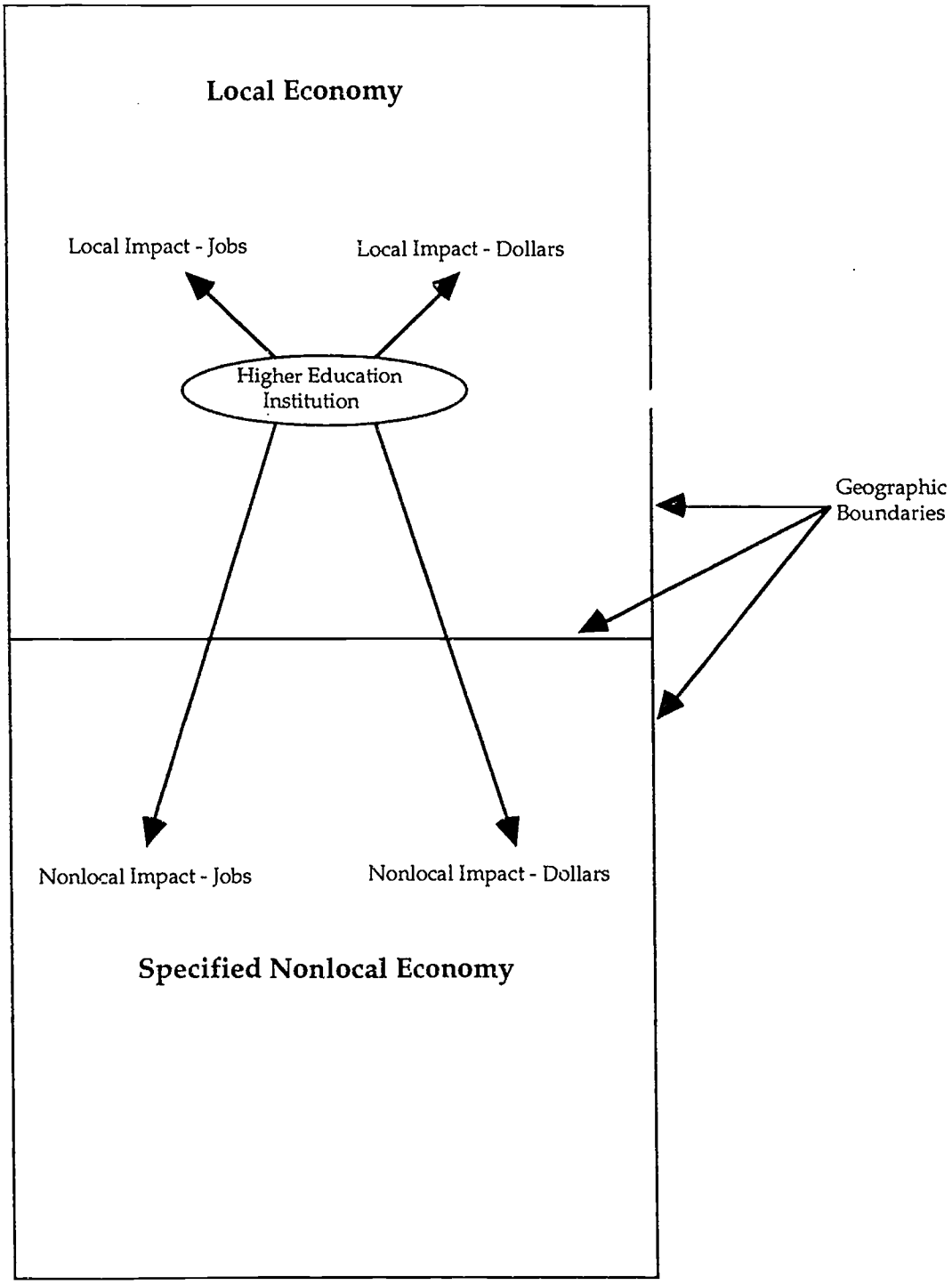

Figure 1

Description of the Geographic

Boundaries of Local and Nonlocal Economic Impact.

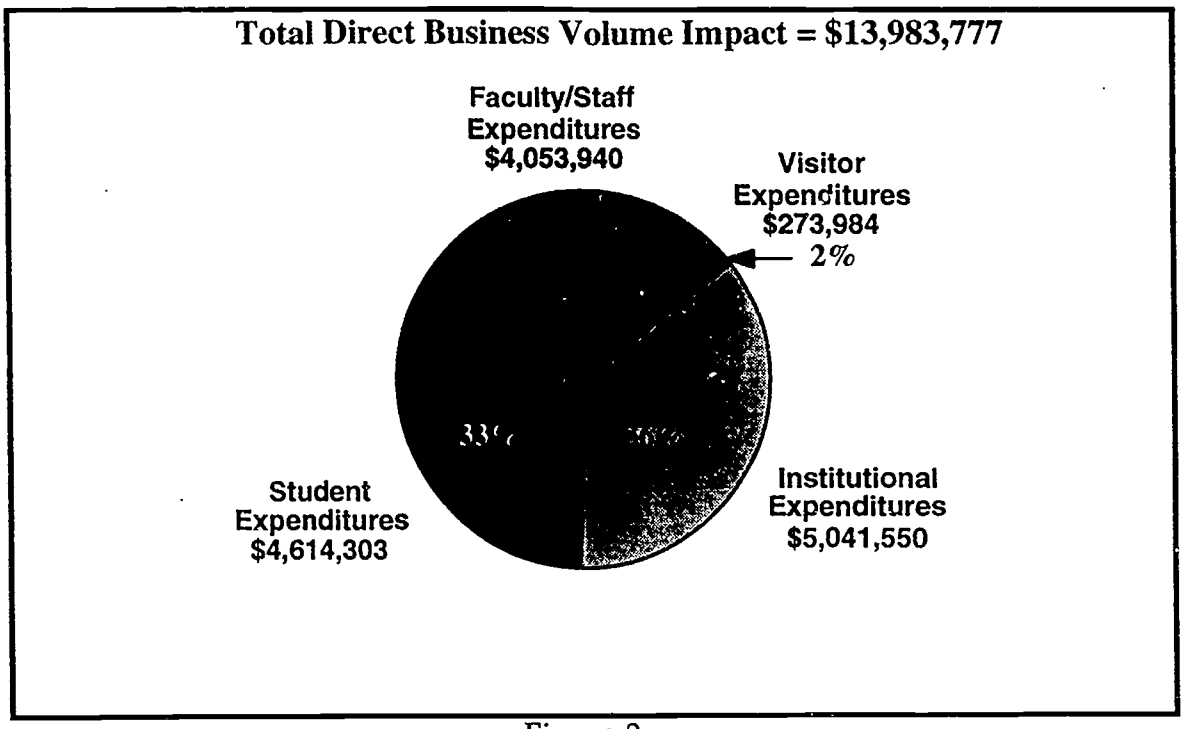

Figure 2
Sources of Direct Business Volume Impact on the Local Economy

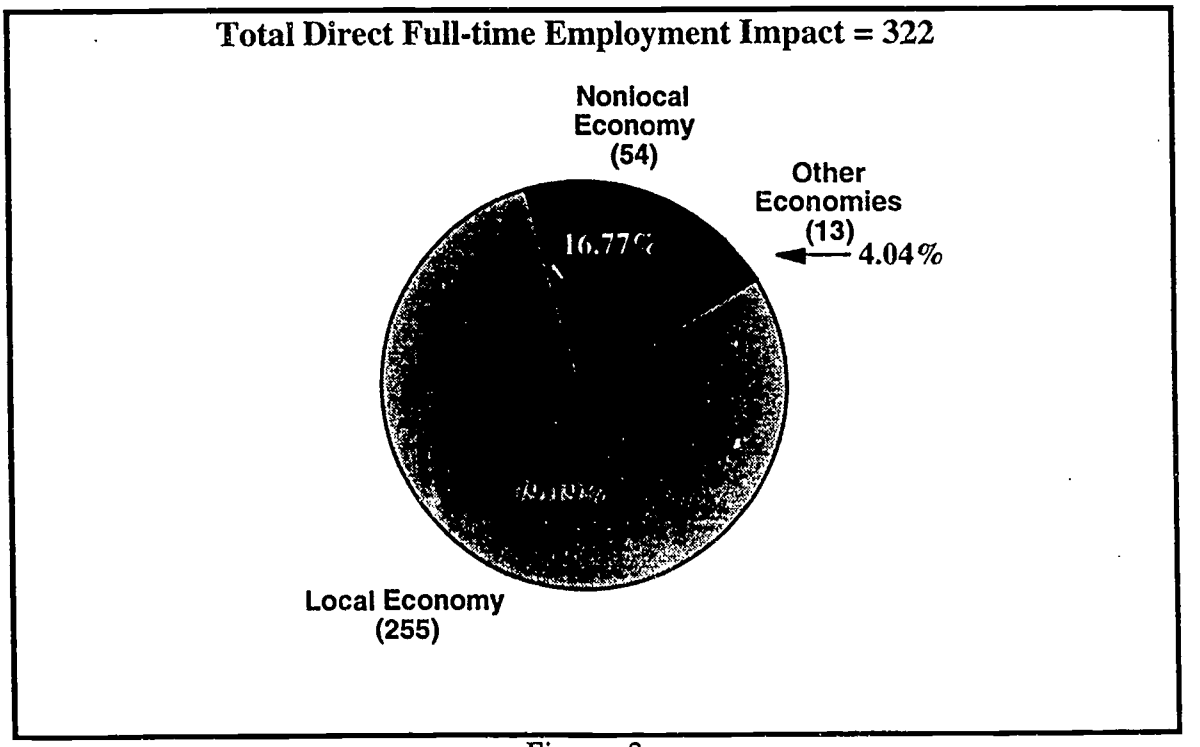

Figure 3
Direct Full-time Employment Impact

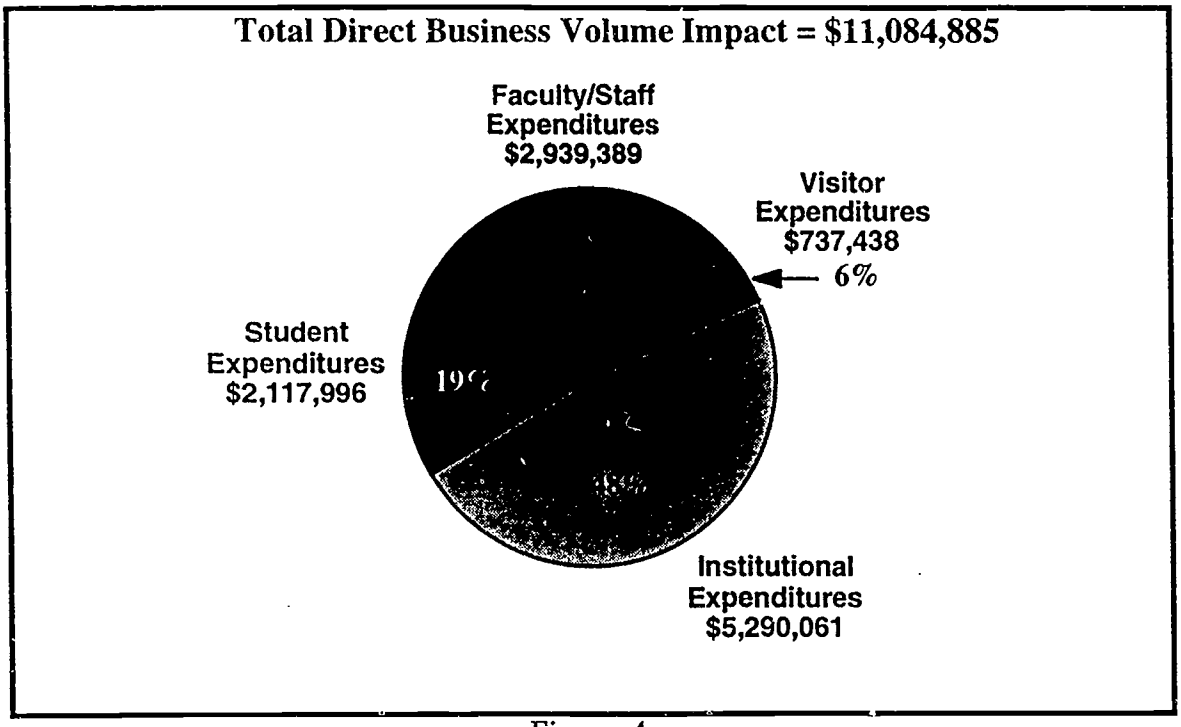

Figure 4
Sources of Direct Business Volume Impact on the Nonlocal Economy

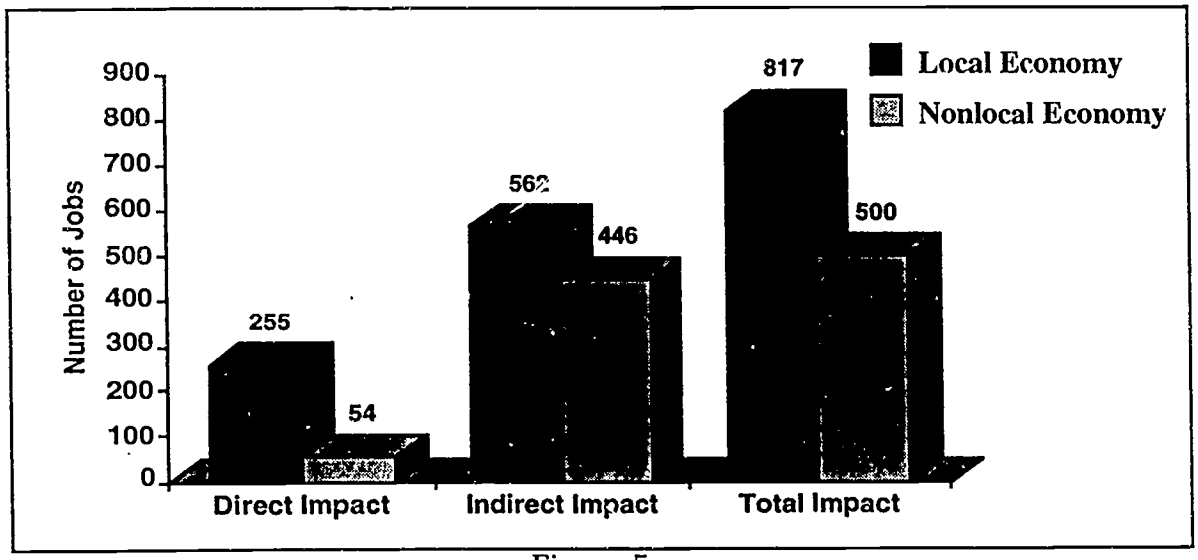

Figure 5
Components of Total Employment
Impact on the Local & Nonlocal Economies

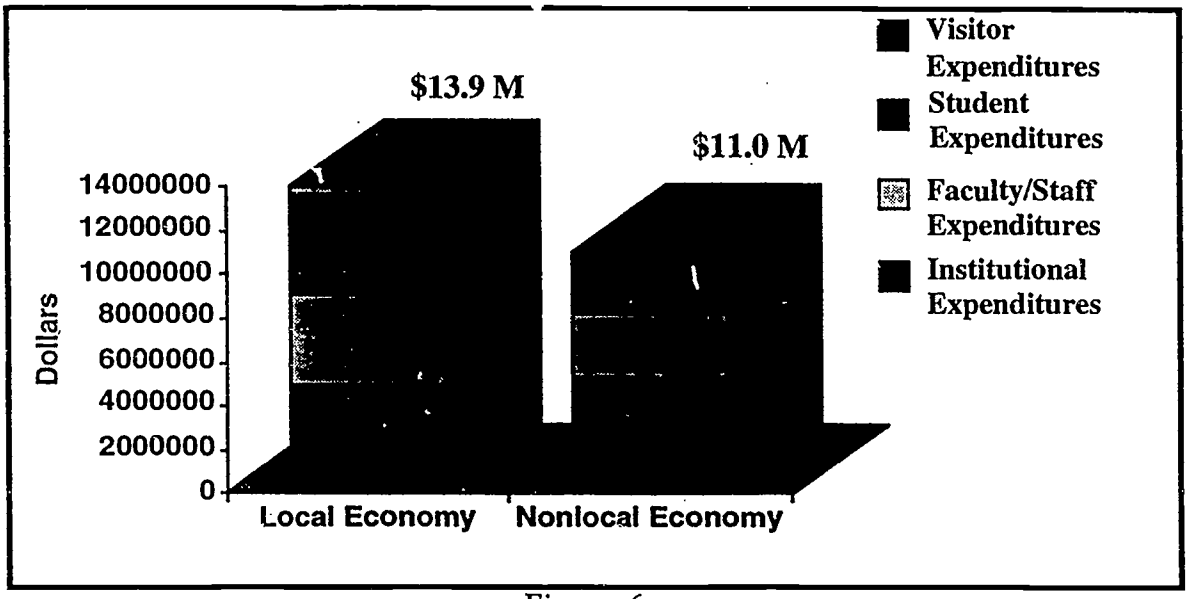

Figure 6
Components of Direct Business Volume Impact

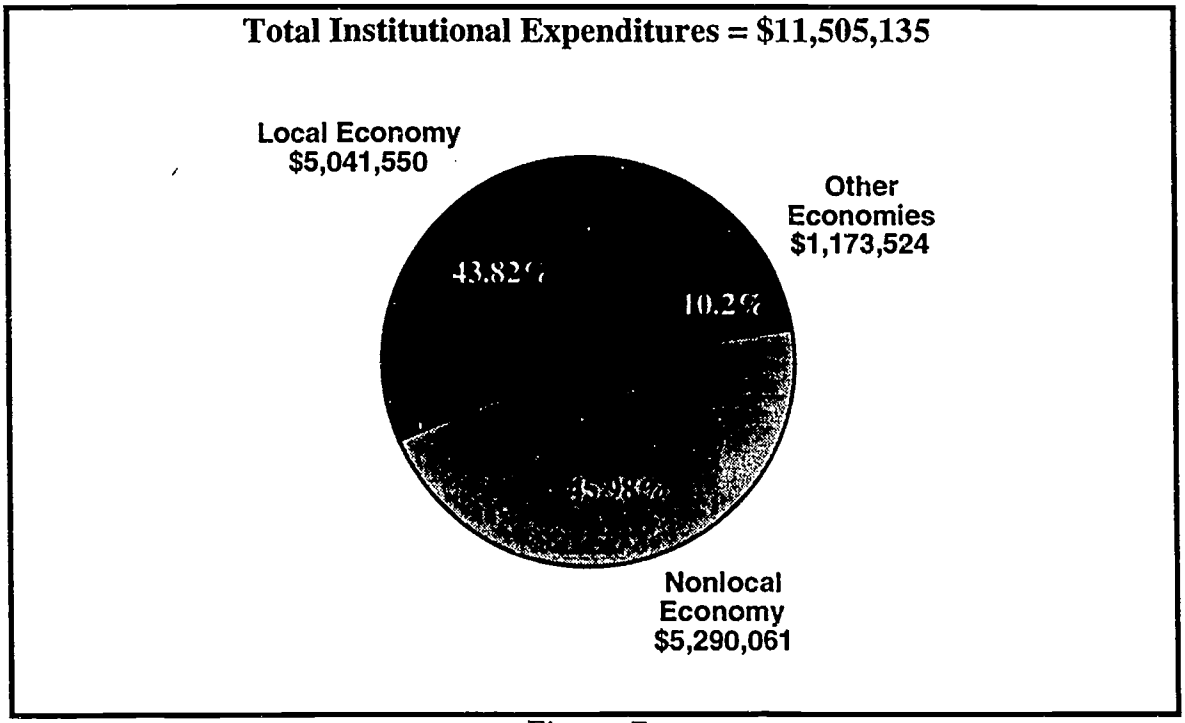

Figure 7
Location of Institutional Expenditures

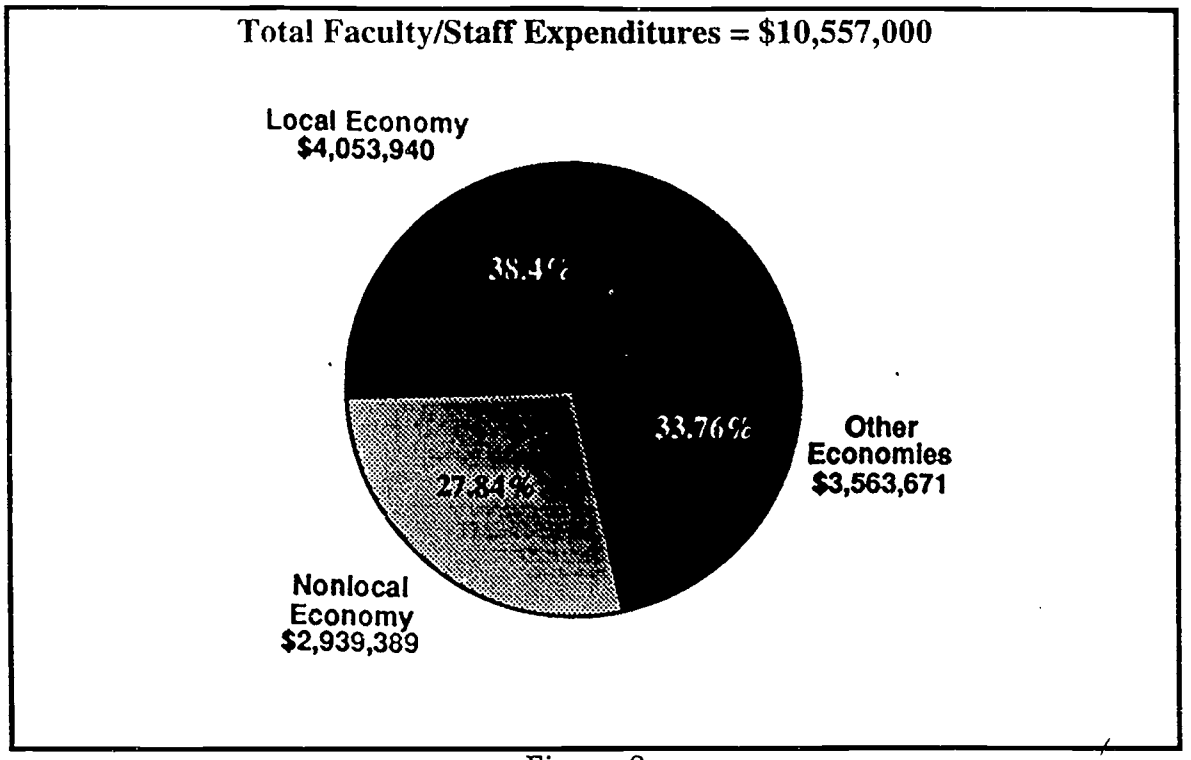

Figure 8
Location of Faculty/Staff Expenditures

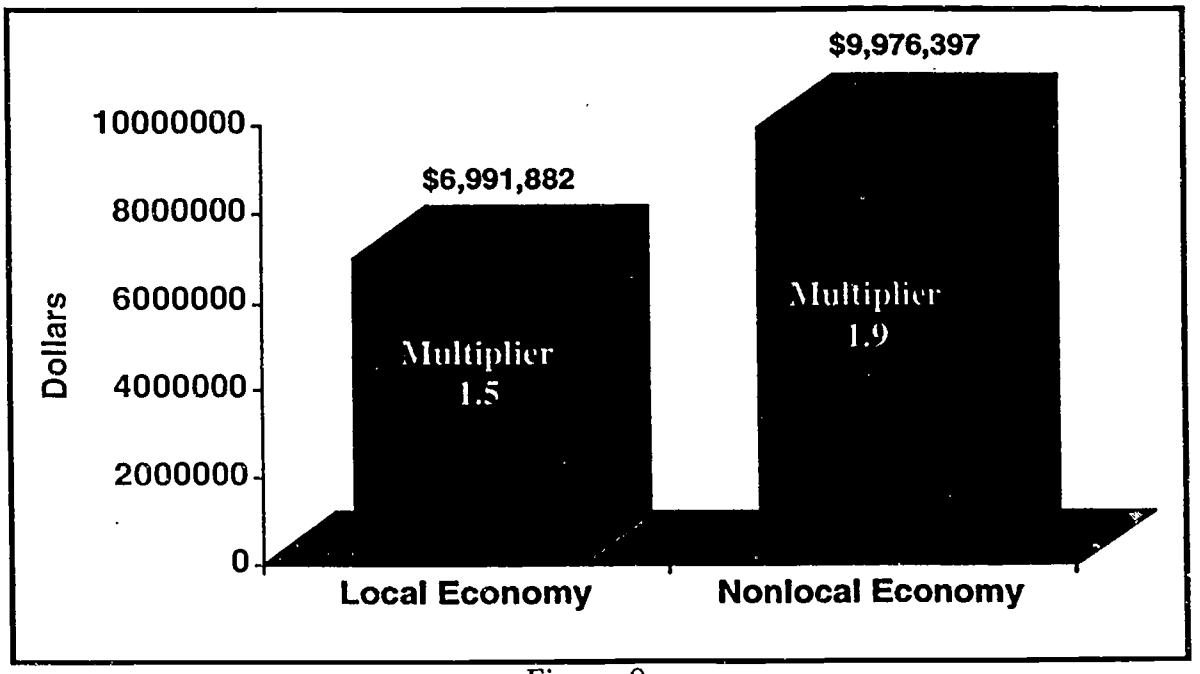

Figure 9
Components of Indirect Business Volume Impact

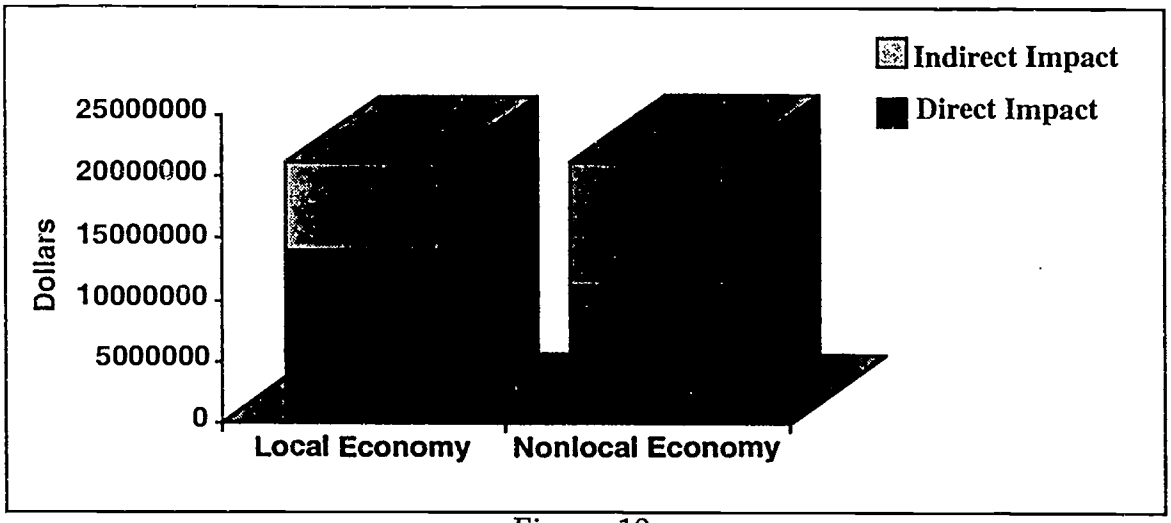

Figure 10
Components of Total Business Volume Impact

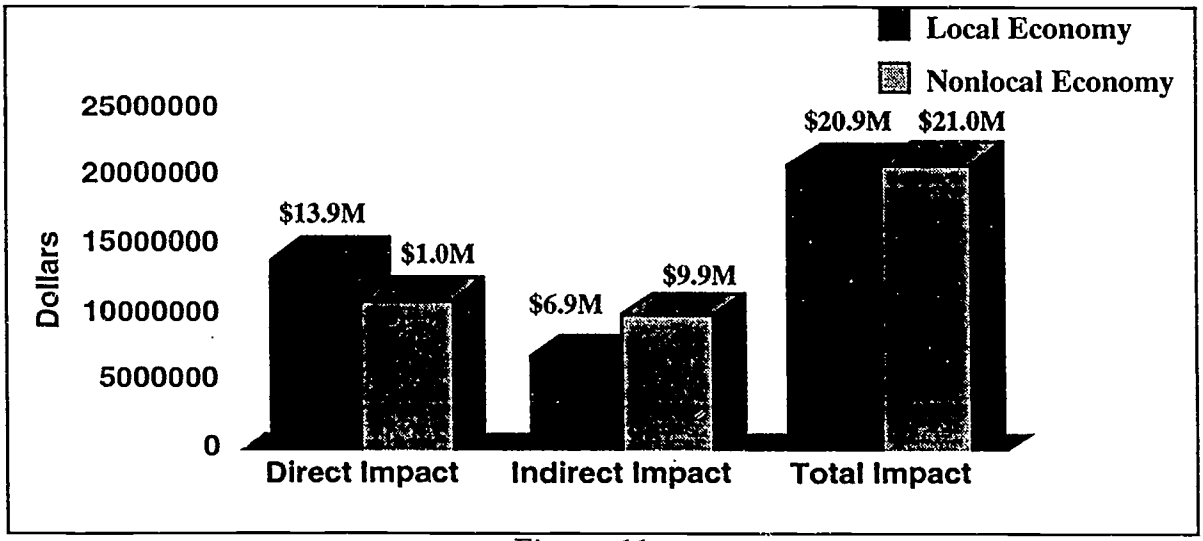

Figure 11
Components of Total Business Volume
Impact on the Local and Nonlocal Economies

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