FACT SHEET

EMPLOYMENT CHANGES IN EXTENSION DISTRICT 5: 1970-1974

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Expansion of employment opportunities has long been a goal of rural Texas communities. To reach this goal, community leaders may find the abundant Texas employment data useful for tracing changes in employment and for planning a variety of economic development activities. The Texas Agricultural Experiment Station and the Texas Agricultural Extension Service have developed a series of reports which utilize a shift-share analytical method and Texas employment data to trace changes in local employment. This report provides the results of a shift-share analysis of Extension District 5 employment compared to statewide growth during 1970-74.

Shift-share analysis is essentially descriptive, but yields more information than normal trend analysis by identifying the contribution to district employment changes made by the region's specific industry mix. Hence, the analysis provides estimates of the district's employment compared to other districts and the state as a whole and indicates those industries for which the region may have competitive advantages.

Reasons for Employment Growth Differences Among Districts

Two major reasons explain why a district may grow at a different rate than the entire state or other regions within the state. First, a district is likely to have a different mix of economic activity. If the dis-

trict is dominated by a variety of rapidly growing industries, it may have above average employment growth. Districts with predominantly slow growth industries may be expected to have below average employment growth.

A second major reason for different employment growth among districts is more rapid growth of a specific industrial activity. While an industrial activity may experience statewide growth, decline or stagnation, that same industrial activity within a given district may manifest quite different local growth. For example, an industrial activity may be slow growing statewide but increase rapidly in a specific district because of locational advantages. Districts dominated by a local, rapidly-growing industrial activity may be expected to have an above-average employment growth (and vice versa).*

The Study Area

Extension District 5 consists of 19 counties in Northeast Texas with a total population of 528,572 in 1970 (Table 1). The district contains three SMSA's; Texarkana in Bowie County, Longview and Marshall, in Gregg and Harrison counties and Tyler in Smith County. The population in Bowie, Smith and Gregg Counties increased from 1960 to 1970 while Harrison County's population decreased during the decade (+13.1% in Bowie, +12.4% in Smith, +9.4% in

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*Employment growth may not be reflected in rapidly growing industries where productivity increases are accompanied by declining employment such as agriculture. These industrial activities are "capital-intensive."

Table 1. District 5 Population and Employment by County

County	1970[1] Population	Percent Population[1] Change 1960-1970	1970[2] Employment	Average Annual 1970[2] Rate of Unemployment
Bowie	67,813	13.1	27,180	8.3
Camp	8,005	2.0	2,775	2.6
Cass	24,133	2.7	8,810	8.1
Delta	4,927	−15.9	1,935	3.7
Franklin	5,291	3.7	2,280	2.8
Gregg	75,929	9.4	30,060	4.6
Harrison	44,841	−1.7	16,920	4.9
Henderson	26,466	21.5	10,580	4.7
Hopkins	20,710	11.4	8,750	2.5
Lamar	36,062	5.3	15,240	4.6
Marion	8,517	−5.8	3,030	4.0
Morris	12,310	−2.1	4,590	4.8
Rains	3,752	25.4	1,305	3.3
Red River	14,298	−8.8	5,380	5.1
Smith	97,096	12.4	40,880	2.9
Titus	16,702	−0.5	7,270	3.5
Upshur	20,976	6.0	7,780	3.0
Van Zandt	22,155	16.0	9,820	2.0
Wood	18,589	5.3	7,370	2.9
District 5	528,572	7.6	221,955	4.7
Texas	11,196,730	16.9	4,548,455	3.7

[1]Bureau of Census: Number of Inhabitants — Texas, Table 9.
[2]Texas Employment Labor Force Estimates for Texas Counties, April 1970.

Gregg and −1.7% in Harrison). Ten of the remaining sixteen counties also experienced population increases from 1960 to 1970 and the entire district population increased 7.6 percent during this period. The overall unemployment rate for District 5 in 1970 was significantly higher than state unemployment.

Employment Analysis for District 5

The employment data was provided by the Texas Employment Commission and was recorded by employee's place of employment rather than residence. Only employment covered by the Texas Unemployment Act was included. This excludes self-employed, unpaid family workers, employees covered by the Railroad Retirement Act and domestic service and farm workers.

Since broad economic trends are of interest, an analysis of the structure of the district's economy was considered at the Standard Industrial Classification Division level. Comparisons of the growth in the agriculture, forestry and fisheries division should be carefully reviewed because of the incomplete nature of this data. Also, it should be noted that the government division includes only federal employees.

Table 2 shows statewide employment growth rates for each employment division for the 1970-74 period. The agriculture, forestry and fisheries division and the services division grew fastest during this period, with rates of 121.9 percent and 83.9 percent respectively. Overall, the average growth rate for the Texas economy was 29.8 percent.

The growth rates shown in Table 2 provide a basis for comparison of growth of industrial divisions in

District 5 with those throughout the state. If District 5 had exactly the same industrial composition as Texas and if each industry within the District had grown at the same rate as it did within Texas, employment in District 5 would have increased 29.8 percent. Thus, the growth rates shown in Table 2 can be considered expected growth rates for the District. However, the District 5 economy differed from the overall state economy and growth rates deviated from the statewide pattern during the 1970-74 period.

Column 2 of Table 3 shows the expected employment increase within each employment division for District 5. These expected increases were computed by multiplying 1970 reported employment levels in the district by the Texas 1970-74 employment divi-

Table 2. Texas Employment Growth Rates 1970-1974

Employment Division* (One-Digit S.I.C.)	Growth Rate 1970-1974
Agriculture, Forestry & Fisheries	121.9%
Mining	19.5%
Contract Construction	36.6%
Manufacturing	11.1%
Transportation, Communication & Utilities	19.2%
Wholesale and Retail Trade	29.2%
Finance, Insurance & Real Estate	37.8%
Services	83.9%
Government	.0%
Weighted Average	29.8%

*Includes only employees covered by the Texas Unemployment Compensation Act. Agriculture, Forestry and Fisheries does not include owner-operators and their families or hired farm workers.

Table 3. District 5 Employment Shifts 1970-1974**

Employment Division (One-Digit S.I.C.)	(1) Reported 1970 Employment	+	(2) Expected Employment Increase	+	(3) Employment Due to Specific Industry Growth Within District	=	(4) Reported 1974 Employment
Agriculture, Forestry & Fisheries	190		230		-102		318
Mining	4,118		804		-174		4,748
Contract Construction	7,285		2,742		-560		9,467
Manufacturing	48,067		5,347		-2,431		50,982
Transportation, Communication & Utilities	7,131		1,367		274		8,772
Wholesale & Retail	27,415		8,008		1,979		37,402
Financial, Insurance & Real Estate	4,354		1,644		-35		5,964
Services	10,281		8,627		1,717		20,624
Government	7,781		104		-1,110		6,774
Totals	116,622		28,872		-443		145,051

**Rounding errors may effect row totals.

sion growth rates. Column 3 identifies growth resulting from specific industries within the district and indicates the difference between reported 1974 employment and the sum of reported 1970 employment and the expected employment increases in each industrial division.

Given the 1970 industrial mix in District 5, the number of jobs within the district would have expanded by 28,872 if every employment division had grown at exactly the state average for that employment division. This would have resulted in an employment growth rate in District 5 of 24.7 percent, substantially below the Texas overall average rate of 29.8 percent (34,753 jobs). In absolute terms, the district was expected to generate 5,881 fewer jobs by having an unfavorable mix of industrial activities.

However, the district generated only 28,429 new jobs between 1970 and 1974 and actually grew at a rate of 24.3 percent rather than the expected 29.8 percent. The reason for this difference is that six of the nine employment divisions located in the district did not keep pace with their counterparts throughout the state. The net result of this apparent loss in regional locational advantage relative to other districts was 443 fewer jobs than expected were generated in District 5.

Summary and Implications

Numerous factors determine location of industrial activity; sources of raw materials, availability of labor supply, nearness of product markets and transporta-

tion. Districts with a favorable industrial mix or a local, rapidly growing industrial activity have a "comparative advantage" — a relative efficiency in the production of these goods or services.

Shift-share analysis identifies employment changes which result from the region's industrial mix and specific industry growth within the district. Causes of employment shifts are not identified. Further research is needed to identify actual causes of employment shifts in the six employment divisions which lag behind respective state growth. Expected employment increases not realized in District 5 may be the result of deliberate or other management decisions based on a number of factors including obsolete equipment, low labor productivity, geographic shifts in markets and inadequate availability of finances.

Additional research should explore the reasons for the district's industrial mix — why particular industries have located within the district. Also, the district's ability to compete for new industry should be examined. Of particular interest should be the ability of local rapidly growing industries to maintain their growth and the district's ability to further exploit its comparative advantage in these industrial activities.

To enable the reader to explore the district's employment shifts in greater depth, a more detailed employment analysis has been developed and is presented in Table 4.* Analyses of employment shifts at the county level are available. Contact your local county Extension agent for further information.

*District totals may differ from those presented in Table 3 as a result of disaggregation problems.

Table 4. District 5 Employment Shifts 1970-1974**

Industrial Sector (One-Digit S.I.C.)	(1) Reported 1970 Employment	+	(2) Expected Employment Increase	+	(3) Employment Due to Specific Industry Growth Within District	=	(4) Reported 1974 Employment
Agriculture	190		227		−99		318
Forestry	0		0		N/A		0
Fisheries	0		0		N/A		0
Metal Mining	231		−99		69		201
Oil and Gas Extraction	3,771		788		−113		4,446
Nonmetal Mining except Fuel	116		2		−16		101
Contract Construction	7,285		2,742		−560		9,467
Food and Kindred Products	5,958		207		384		6,549
Textile, Apparel	4,227		653		891		5,770
Wood Products	2,980		357		−130		3,207
Printing, Publishing	1,270		218		−4		1,485
Chemicals and Allied Products	4,166		120		−1,641		2,646
Petroleum, Coal Products	705		12		122		839
Other Nondurable Manufacturing	3,886		1,079		−354		4,611
Metal Products	16,892		3,498		−4,146		16,244
Machinery Manufacturing	6,068		1,883		−628		7,323
Transportation Equipment	1,663		−421		712		1,954
Instruments and Related Products	77		7		20		104
Miscellaneous Manufacturing	175		70		5		250
Railroad Transportation	0		0		N/A		0
Passenger Transit	221		−6		−42		173
Trucking, Warehousing	1,963		484		281		2,728
Other Transportation	107		27		243		377
Pipeline Transportation	340		−38		149		451
Communication	2,287		432		101		2,820
Utilities	2,213		328		−318		2,223
Wholesale and Retail Trade	6,866		1,422		95		8,383
Food Stores	3,505		1,008		379		4,892
Eating and Drinking Places	3,714		1,788		408		5,910
Retail Trade-General	13,330		3,843		1,043		18,217
Financial, Insurance, Real Estate	4,354		1,644		−35		5,964
Lodging Places	1,406		407		−359		1,454
Personal Services	1,890		125		351		2,366
Miscellaneous Business Services	801		513		80		1,393
Repair Services	709		375		127		1,211
Health Services	4,082		7,524		−1,128		10,478
Legal Services	156		230		−25		361
Educational Services	41		93		572		706
Entertainment	596		152		108		856
Nonprofit Organizations	153		437		332		922
Private Household Services	0		0		N/A		0
Miscellaneous Services	447		303		127		877
State Government	0		0		N/A		0
Local Government	0		0		N/A		0
Federal Government	7,781		104		−1,110		6,774
Non-Classifiable	0		0		N/A		0
	116,622		32,538		−4,110		145,051

**Rounding errors may effect row totals.