

FACT SHEET

EMPLOYMENT CHANGES IN EXTENSION DISTRICT 1: 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 1 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 district 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 1 consists of 20 counties in the Texas Panhandle with a total population of 290,231 in 1970 (Table 1). Amarillo, located on the Randall-Potter county boundary, is the only SMSA in the district. The closing of a major military installation in Amarillo caused a 7.9 percent decrease in population from 1960-70 (137,969 in 1960 compared to 127,010 in 1970). Population in 11 of the rural counties also declined during 1960-70, and the entire district population declined 3.5 percent during this period. The overall unemployment rate for District 1 in 1970 did not differ significantly from state unemployment.

Employment Analysis for District 1

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.

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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 1 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
Armstrong	1,895	-3.6	855	3.4
Carson	6,358	-18.3	2,595	3.7
Collingsworth	4,755	-24.2	2,055	2.1
Dallam	6,012	-4.6	2,680	2.7
Deaf Smith	18,999	44.1	7,975	3.3
Donley	3,641	-18.2	1,570	3.1
Gray	26,949	-14.5	11,650	3.6
Hansford	6,351	2.3	2,580	2.8
Hartley	2,782	28.1	1,065	2.7
Hemphill	3,084	-3.2	1,275	2.7
Hutchinson	24,443	-29.0	9,905	3.6
Lipscomb	3,486	2.3	1,480	2.6
Moore	14,060	-4.8	5,650	2.8
Ochiltree	9,704	3.5	3,875	2.4
Oldham	2,258	17.1	880	3.3
Potter	90,511	-21.7	38,020	4.2
Randall	53,885	58.9	23,320	2.1
Roberts	967	-10.0	410	4.7
Sherman	3,657	40.4	1,505	2.6
Wheeler	6,434	-19.0	2,945	2.3
District 1	290,231	-3.5	122,290	3.4
Texas	11,196,730	16.9	4,446,005	3.7

¹Bureau of Census: Number of Inhabitants — Texas, Table 9.

²Texas Employment: Labor Force Estimates for Texas Counties, April 1970.

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.

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.

The growth rates shown in Table 2 provide a basis for comparison of growth of industrial divisions in District 1 with those throughout the state. If District 1 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 1 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 1 economy differed from the overall state economy and growth rates deviated substantially 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 1. These expected increases were computed by multiplying 1970 reported employment levels in the district by the Texas 1970-74 employment division 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 1, the number of jobs within the district would have expanded by 19,327 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 1 of 29.9 percent, slightly above the Texas overall average rate of 29.8 percent (19,261 jobs). In absolute terms, the district

was expected to generate 66 more jobs by having a slightly favorable mix of industrial activities.

However, the district generated only 16,410 new jobs between 1970 and 1974 and actually grew at a rate of 25.4 percent rather than the expected 29.8 percent. The reason for this difference is that seven 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 that 2,917 fewer jobs than expected were generated in District 1.

Table 3. District 1 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	96		117		196		408
Mining	5,077		991		-708		5,360
Contract Construction	4,096		1,542		1,108		6,746
Manufacturing	14,330		1,594		-1,136		14,788
Transportation, Communication & Utilities	6,114		1,172		-453		6,833
Wholesale & Retail	22,324		6,521		-102		28,743
Financial, Insurance & Real Estate	3,293		1,244		-541		3,996
Services	7,293		6,119		-1,253		12,159
Government	2,014		27		-27		2,014
Totals	64,637		19,327		-2,916		81,047

Summary and Implications

Numerous factors determine location of industrial activity: sources of raw materials, availability of labor supply, nearness of product markets and transportation. 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 seven employment divisions which lag behind respective state growth. Expected employment increases not realized in District 1 may be the result of deliberate or other management deci-

sions 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 1 Employment Shifts 1970-1974

Industrial Sector (Two-Digit S.I.C.)	(1)	(2)	(3)	(4)
	Reported 1970 Employment	+ Expected Employment Increase	+ Employment Due to Specific Industry Growth Within District	= Reported 1974 Employment
Agriculture	96	115	198	408
Forestry	0	0	N/A	0
Fisheries	0	0	N/A	0
Metal Mining	0	0	N/A	0
Oil and Gas Extraction	5,012	1,048	-745	5,314
Nonmetal Mining except Fuel	65	0	-20	46
Contract Construction	4,096	1,542	1,108	6,746
Food and Kindred Products	2,039	71	294	2,404
Textile, Apparel	1,540	238	-21	1,757
Wood Products	407	48	174	630
Printing, Publishing	905	156	-237	824
Chemicals and Allied Products	2,642	76	-347	2,371
Petroleum, Coal Products	1,454	25	6	1,486
Other Nondurable Manufacturing	464	129	-1	592
Metal Products	2,318	480	-226	2,572
Machinery Manufacturing	1,195	371	7	1,573
Transportation Equipment	1,334	-338	-502	494
Instruments and Related Products	0	0	N/A	0
Miscellaneous Manufacturing	32	13	40	85
Railroad Transportation	0	N/A	N/A	0
Passenger Transit	237	-6	11	242
Trucking, Warehousing	1,776	437	64	2,278
Other Transportation	201	50	-28	223
Pipeline Transportation	142	-16	-49	77
Communication	1,436	271	-302	1,405
Utilities	2,322	345	-59	2,608
Wholesale and Retail Trade	7,419	1,537	19	8,975
Food Stores	2,118	609	-378	2,349
Eating and Drinking Places	3,390	1,632	-415	4,607
Retail Trade-General	9,397	2,709	705	12,812
Financial, Insurance, Real Estate	3,293	1,244	-541	3,996
Lodging Places	1,163	337	147	1,646
Personal Services	1,244	83	-58	1,269
Miscellaneous Business Services	1,272	814	-361	1,725
Repair Services	654	346	43	1,043
Health Services	1,473	2,715	-573	3,615
Legal Services	143	211	-71	283
Educational Services	54	123	-88	89
Entertainment	625	159	50	834
Nonprofit Organizations	343	980	-303	1,020
Private Household Services	0	N/A	N/A	0
Miscellaneous Services	322	218	95	635
State Government	0	N/A	N/A	0
Local Government	0	N/A	N/A	0
Federal Government	2,014	27	-27	2,014
Non-Classifiable	0	N/A	N/A	0
	<u>64,637</u>	<u>18,798</u>	<u>-2,389</u>	<u>81,047</u>

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