

FACT SHEET

EMPLOYMENT CHANGES IN EXTENSION DISTRICT 2: 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 2 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 in-

dustries, 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 2 consists of 20 counties in the Texas High Plains with a total population of 381,956 in 1970 (Table 1). Lubbock, centrally located in District 2, is the only SMSA in the district. The population within Lubbock increased 14.7 percent from 1960 to 1970 (156,271 in 1960 compared to 179,295 in 1970). Population in 17 of the rural counties declined during 1960-1970, and the entire district population declined 5.2 percent during this period. The overall unemployment rate for District 2 in 1970 did not differ significantly from state unemployment.

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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 2 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
Bailey	8,487	-6.6	3,985	3.3
Borden	888	-17.5	365	1.4
Briscoe	2,794	-21.9	1,240	4.2
Castro	10,394	16.5	3,215	3.9
Cochran	5,326	-17.0	2,175	4.0
Crosby	9,085	-12.2	3,355	4.4
Dawson	16,604	-13.5	6,425	1.2
Floyd	11,044	-10.7	4,630	3.2
Gaines	11,593	-5.5	4,485	1.4
Garza	5,289	-20.0	2,295	3.4
Hale	34,137	-7.2	14,030	3.2
Hockley	20,396	-8.7	8,085	3.3
Lamb	17,770	-18.8	7,065	3.8
Lubbock	179,295	14.7	71,375	3.8
Lynn	9,107	-16.6	3,730	2.5
Parmer	10,509	9.7	4,300	2.4
Scurry	15,760	-22.6	5,990	2.3
Swisher	10,373	-2.2	4,180	3.2
Terry	14,118	-13.3	5,720	2.8
Yoakum	7,344	-8.6	3,120	2.3
District 2	381,956	-5.2	159,765	3.4
Texas	11,196,730	16.9	4,548,455	3.7

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

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

Employment Analysis for District 2

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 2 with those throughout the state. If District 2 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 2 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 2 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 2. 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 indi-

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 2 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	256		310		-86		480
Mining	3,912		764		55		4,731
Contract Construction	4,295		1,617		-47		5,864
Manufacturing	9,738		1,083		4,715		15,536
Transportation, Communication & Utilities	6,680		1,281		-558		7,403
Wholesale & Retail	26,424		7,719		113		34,256
Financial, Insurance & Real Estate	3,873		1,463		-428		4,908
Services	8,612		7,226		670		16,508
Government	2,690		36		-27		2,699
Totals	66,480		21,497		4,407		92,385

**Rounding errors may effect row totals.

cates 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 2, the number of jobs within the district would have expanded by 21,497 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 2 of 32.3 percent, significantly above the Texas overall average rate of 29.8 percent (19,811 jobs). In absolute terms, the district was expected to generate 1,686 more jobs by having a favorable mix of industrial activities.

However, the district generated 25,904 new jobs between 1970 and 1974 and actually grew at a rate of 39.0 percent rather than the expected 29.8 percent. The reason for this difference is that four of the nine employment divisions located in the district outpaced their counterparts throughout the state, especially manufacturing. The net result of this apparent gain in regional locational advantage relative to other districts was 4,407 more jobs than expected were generated in District 2.

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 five employment divisions which lag behind respective state growth. Unexpected employment increases realized in District 2 may be the result of deliberate or other management decisions based on a number of factors including new equipment, high labor productivity, geographic shifts in markets and adequate 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 2 Employment Shifts 1970-1974**

Industrial Sector (One-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	256	305	-81	480
Forestry	0	0	N/A	0
Fisheries	0	0	N/A	0
Metal Mining	0	0	N/A	0
Oil and Gas Extraction	3,872	809	12	4,693
Nonmetal Mining except Fuel	40	1	-2	38
Contract Construction	4,295	1,617	-47	5,864
Food and Kindred Products	3,056	107	1,112	4,274
Textile, Apparel	909	140	-75	974
Wood Products	245	29	10	284
Printing, Publishing	928	160	-88	1,000
Chemicals and Allied Products	544	16	3	563
Petroleum, Coal Products	79	2	27	107
Other Nondurable Manufacturing	712	197	60	970
Metal Products	908	188	209	1,305
Machinery Manufacturing	1,920	596	3,124	5,640
Transportation Equipment	396	-100	0	296
Instruments and Related Products	0	0	N/A	0
Miscellaneous Manufacturing	41	16	66	123
Railroad Transportation	0	0	N/A	0
Passenger Transit	264	-7	43	300
Trucking, Warehousing	2,400	591	9	3,000
Other Transportation	158	39	36	233
Pipeline Transportation	231	-26	52	257
Communication	2,105	397	-483	2,020
Utilities	1,522	226	-155	1,593
Wholesale and Retail Trade	7,475	1,548	-517	8,507
Food Stores	3,082	886	-151	3,818
Eating and Drinking Places	3,755	1,808	314	5,877
Retail Trade-General	12,112	3,492	450	16,054
Financial, Insurance, Real Estate	3,873	1,463	-428	4,908
Lodging Places	632	182	149	964
Personal Services	1,872	124	337	2,333
Miscellaneous Business Services	885	567	167	1,618
Repair Services	942	499	405	1,846
Health Services	2,761	5,090	-1,498	6,352
Legal Services	128	189	12	329
Educational Services	125	285	682	1,092
Entertainment	694	177	-185	685
Nonprofit Organizations	173	495	-49	618
Private Household Services	0	0	N/A	0
Miscellaneous Services	400	271	-0	671
State Government	0	0	N/A	0
Local Government	0	0	N/A	0
Federal Government	2,690	36	-27	2,699
Non-Classifiable	0	0	N/A	0
	66,480	22,415	3,493	92,385

**Rounding errors may effect row totals.

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