AN ANALYSIS OF RETAIL AGGLOMERATION IN KANSAS AND ITS REGIONS FY 1992 – FY 2001

CD STUDY REPORT # 215

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INTRODUCTION

This report is part of a series of studies on retail trade in Kansas. It is linked to the county trade pull factor report, *CD Study Report #210: County Trade Pull Factors Annual Report for FY 2002*, is an analysis of county retail activity. CD Study Report #211 is an analysis of retail business activity on a regional basis and CD Study #213 is an analysis of city trade. This study looks at the regional trends in market share over the business cycle FY 1992 through FY 2001. The purpose of this report is to determine if retail trade is concentrating in a few places at the expense of many other places in Kansas. Economists call this phenomenon agglomeration.

This report first analyzes the State broken down in six regions and calculates market share and annualized percent growth. Next, county activity within each of the six regions is analyzed over the latest business cycle.

The regional analysis will study the six regions outlined in CD Study Report #210. These are the northeast, north central, northwest, southeast, south central and southwest regions (Table 5). A comparison of individual counties by region will show the retail strength of these counties. The historical data for this study is based on data compiles yearly by K-State Extension. See the *Time Series of County Trade Pull Factors 1980-2002*, website, which is available on the Internet at www.agecon.ksu.edu/ddarling.

STATEWIDE ANALYSIS

Market share analysis on a statewide basis shows how each region's retail activity is performing relative to the total retail activity around Kansas (Table 1). Figure 1 identifies the two most important regions in Kansas to be the NE Region and the SC Region. The NE Region of Kansas dominates Kansas' retail activity with an average percent market share of 43.6 percent and since 1992 is the only region to gain market share.

Within the NE region Johnson, Shawnee, Wyandotte and Douglas counties play a central role in the NE region. The percent market share of the NE Region in Kansas has grown an average of 1.19 percent since 1992 (Table 2.)

The second most important region is the south central, with an average of 30.9 percent of the taxable retail trade in Kansas. The south central region is primarily riding on the strength of Sedgwick County, with Harvey, Butler, and Reno counties, making smaller contributions. The SC region's market share relative to Kansas is high but declining at an average annual rate of 1.06 percent (Figure 1 and Table 2).

The third most important region in Kansas is the NC Region, which averaged 10.9 percent market share over the latest the business cycle. Saline County dominates this region with a 25.6 percent market share. When Riley and Pottawatomie counties are combined, to account for the "Manhattan effect", it becomes the second largest retail unit in the NC region. While the average percent market share of the NC region is nearly double that of the remaining three regions (NW, SE and SW), it too has experienced a gradually declining growth rate (Table 2).

The NW, SE and SW Regions are all virtually identical in market share, all with average market shares below six percent and losing market share.

TABLE 1. Average Percent Market Share by Region

NE	**43.6%**	**SE**	**5.4%**
NC	**10.9%**	**SC**	**30.9%**
NW	**3.5%**	**SW**	**5.7%**

TABLE 2. Percent Market Share Regional Growth Rates

NE	**1.19%**	**SE**	**-0.58%**
NC	**-0.75%**	**SC**	**-1.06%**
NW	**-1.30%**	**SW**	**-0.57%**

The regional average percent market share and the percent annual growth rates in Kansas are listed in Tables 1, 2 and 3.

Table 3 Average Percent Market Share and Growth Rates and Dominant County Analysis by Region FY 1992 - FY 2001

# Dominant Counties	*Avg % Market Share*	*% Annual Growth*
SW (3)	72.5%	0.03%
SC (4)	86.1%	0.09%
SE (4)	66.2%	0.07%
NW (3)	57.2%	1.02%
NC (5)	67.2%	-0.01%
NE (3)	80.0%	0.43%

Source: K-State Research & Extension, D. Darling, M. Seitz, R.. Katragadda. April 2003

This study is an analysis of changes in market concentration in order to uncover possible agglomeration effects in Kansas and provides a quantitative analysis of this phenomenon.

Market share analysis was done on a regional basis following the same methods used in the statewide analysis. The role of the dominant counties on a market share basis for each region is shown in Table 3. Each region's data is shown graphically in Figure 2 through Figure 7 at the end of this report. Table 3 also provides the detailed breakdown of the average percent market share of the dominant counties and the annual market share growth rate in each region during the nine-year study period.

Table 4 provides a rank order of the annualize market share growth for each county. This table shows that 20 counties out of 105 in Kansas increased their market share by 1.0 percent or more annually. The five counties with the highest level of annual market share growth in Kansas were Gray (4.13%), Elk (3.46%), Sherman (3.16%), Barber (2.51%) and Harvey (2.42%). The annual growth in percent market share in Gray and Elk County is not reflective of the overall strength of these counties in their regions. Gray County represents less than 2 percent of the market share in the southwest region and Elk County represents less than 0.20 percent of the south central regional average. The five counties with the greatest annual loss of market share are Atchison (-2.86%), Decatur (-2.88%), Brown (-3.27%), Wichita (-6.19%) and Doniphan (-8.13%).

REGIONAL ANALYSIS

Northeast

The northeast region continues to be the most dominant economic region in Kansas. This fact has been demonstrated in a series of recent CD Study Reports: #210, #211, and #213. These reports are available on the Internet at: www.agecon.ksu.edu/ddarling. Figure 2 shows the market share percentages in graphical form for the three strongest counties as well as the weakest in the NE region: Johnson, Shawnee and Douglas and Doniphan.

The NE region has a total of 15 counties. Of these three counties experienced positive market share gains between FY 1992 and FY 2001, one county experienced no change and 11 lost market share. Johnson, Douglas and Shawnee County are the three dominant counties in the NE region (Table 3). Johnson County's strength comes from a high PF (1.51) and TAC (697,047) giving it the strongest position within the NE region economy. Johnson County also holds an average of 54.5 percent of the region's market share and has seen an annual increase in market share of 1.27 percent (Table 3).

Shawnee and Douglas are the other two dominant counties in the NE region. Shawnee County's PF (1.21) and regional market share (17.7%) are second largest in the NE region. While holding a strong position within the region, Shawnee County has lost 1.68 percent market share annually since 1992.

In this study Wyandotte County's average percent market share is 9.89, but based on other studies, it has a weak pull factor and its dominant city, Kansas City, also has a weak pull factor. This puts Kansas City in weaker position in the NE region compared to Topeka and Lawrence.

Douglas County's 7.86 percent market share and a PF of 0.93, is the fourth largest in the NE region. Like Shawnee County, Douglas has lost market share at an annual rate of 0.56 percent. In contrast Doniphan County's market share growth was the lowest in the NE region and the state, losing 8.13 percent annually. The declining percent market share growth rates in these counties indicate that while holding a relatively strong percentage of the region's market share, they are losing ground to Johnson County.

In summary, an agglomeration effect is occurring in the northeast region. Three counties gained market share, one saw no growth and eleven lost market shared (Table 5).

North Central

Saline County has the largest PF of 1.35 and holds the largest percent market share in the region of 25.6 percent. The Manhattan affected counties – Riley/Pottawatomie - control 22.8 percent of the NC region's market share. While this is a large portion of the regional market share, resulting in an interesting pattern in the growth rates of the two counties. On an individual basis, Riley County's PF is 0.64 and its market share declined at an annual rate of 0.96 percent while Pottawatomie County's PF is 1.38 and its market share grew 1.29 percent. The retail activity on the Pottawatomie County side of Manhattan has driven much of this growth. However, it will be interesting to watch future trends. It is expected that this market share growth pattern will change with two national retailers, Target and Home Depot constructing new facilities in Manhattan in 2002 and 2003, inside Riley County.

Lyon and Geary County have PFs of 0.91 and 0.74 respectively are third and fourth in the region's percent market share with 11.59 percent and 7.16 percent respectively. Figure 3 graphically represents the percent market share of the four dominant counties in the region: Saline, Lyon, Geary and the combination of Riley/Pottawatomie. These counties combined make up 67.6 percent of the NE region's market share (Table 3). Only seven out of 20 counties in the region reported market share growth between FY 1992 and FY 2001. One county, Jefferson, reported no change and 12 lost market share.

In summary, an agglomeration effect is occurring in the north central region. Seven counties in the region realized market share growth while 12 experienced a decrease in market share (Table 4).

Northwest

Three counties dominate the northwest region, Ellis, Thomas and Sherman. The PF in Ellis County is 1.32, Thomas County's PF is 1.13 and Sherman County is 1.14. Ellis with 38.6 percent of the regional market share and Thomas with 11.0 percent hold the number one and two ranking in this region. Overall, there is a much greater dispersion and balance of retail activity in this region than is seen in the NC and NE regions (Table 3).

Annual market share growth in the NW region was experienced by only two of the top three counties and only three of the 18 counties in the region between FY 1992 and FY 2001 (Table 5). Sherman (3.16%) witnessed the strongest annual growth in market share followed by Ellis (1.06%), and Gove (0.15%). Thomas County lost market share at an annual rate of 0.61 percent. The average annual growth in market share across the region was -1.30 percent, indicating business activity in the region declined. One possible explanation for this decline is the loss of population in the region. Figure 4 represents the trends in market share of the three strongest counties in this region.

In summary, the NW region is made up of 18 counties. Over the business cycle FY 1992 – FY 2001, three gained market share and 15 lost ground. This is an indication that agglomeration is occurring in this region (Table 5).

Southeast

Four counties control 66.2 percent of the market in this region. They are: Crawford (22.3%), Montgomery (22.0%), Labette (11.2%) and Neosho (10.8%). This region has 12 counties, the fewest number in six regions. Six counties gained annual market share between FY 1992 – FY 2001, two recorded no change and four lost market share. Of the four dominant counties, Crawford, Labette and Montgomery saw their market share decrease, while Neosho's market share was effectively unchanged. Anderson and Linn counties had the highest annual market share growth rates of 2.40 and 2.38 percent, respectively. (Figure 5 and Table 4). The results suggest there is no agglomeration effect occurring in the southeast as more counties are increasing market share than are losing market share.

South Central

The south central region is dominated by Sedgwick County. In this study Sedgwick County controls an average of 70.0 percent of the region's market. Based on the data in Table 5, retail agglomeration is not occurring in Sedgwick County. There are counties on the edge of Wichita that are realizing market share growth, which is in stark contrast to the situation in the NE region where Johnson County continues to grow at the expense of most of its neighbors. Three other counties in the region: Butler, Harvey and Reno have all realized market share growth during the same period. Harvey County recorded the highest growth at 2.42 percent, with Butler second at 1.78 percent and Reno third at 0.33 percent.

The four dominant counties in this region have a combined market share of 86.1 percent but show little growth, 0.09 percent annually. The slow rate of annual market share growth in these four dominant counties, combined with annual market share growth in six other counties, is an indicator people are moving out of the city of Wichita and are spending more income in satellite communities in adjacent counties (Figure 6).

One interesting finding is the high growth rate of Elk County's retail sector. This growth is from a very small base, an average of 0.14 percent of the region's retail market.

In summary, the dynamics of the SC region's retail sector does not show an agglomeration effect. The region contains 18 counties, nine gained market share while nine lost market share during the latest business cycle (Table 5).

Southwest

The 22 counties in the SW region make this the largest region in Kansas. Of these counties, three counties dominate market share, Finney, Ford and Seward, which control 72.5 percent of market (Table 3). While these counties dominate the region, market share growth has been relatively stable across the region. Nine counties gained market share, one stayed neutral and twelve lost strength during the last business cycle. Finney (0.29%) was the only county of the dominant three to gain market share between FY 1992 and FY 2001. Seward (-0.08%) recorded no effect change in market share and Ford lost ground (-0.20%)

The dominance of these counties mimic the activity seen in the SC region where there has been little growth in the amount of market share captured by the dominant counties. Wichita County has seen the second highest loss of market share statewide between FY 1992 and FY 2001 of any county in Kansas. Declines of this magnitude in counties with such a small market share in the region are usually equated with the loss of a car dealership, general merchandiser or food retailer in the region (Figure 7).

In summary, the dynamics of the SW region are similar to the south central region and do not show an agglomeration effect. The region contains 22 counties. Of these, nine gained market share, one – Morton, stayed neutral and twelve lost market share during the latest business cycle (Table 5).

CONCLUSIONS

The data indicate that there has been a concentration of retail activity over the business cycle analyzed. The NE region's dominance grew with annual market share growth of 1.19 percent. The other five regions all experienced a decline in market share (Table 3). The analysis shows that agglomeration did occur in the three northern regions: NE, NC and NW. The three southern regions did not experience an agglomeration affect over the latest business cycle.

DATA SOURCES

The data to support this study has been compiled by the Department of Agricultural Economics at Kansas State University over the last ten years.

***Additional related information** can be found in a series of annual CD Study Reports and Extension Bulletins are available on Dr. Darling's website at www.agecon.ksu.edu/ddarling.*

***CD Study Reports**:*

CD Study Report #210 *County Trade Pull Factors Annual Report for FY 2002*

CD Study Report #211 *Regional Analysis of Taxable Business Activity in Different Business Classes for FY 2002*

CD Study Report #213 *A Study of Retail Trade in Cities Across Kansas*

***Extension Bulletins**:*
*Building Healthy Communities: Analyzing Local Markets **(L-745)***

*Leadership for Healthy Communities **(MF-2325)***

*Taxing Electronic Commerce: Issues for Local Governments and Retailers. **(EP-73).***

*Marketing: What Needs to Be Done. **(MS7-97-1M)**.*

*Economic Analysis of a New Business – Doing It Right. **(MS4-96-500).***

Table 4. **Rank Order: Market Share Growth Rates, FY 1992- FY 2000** **April-2003**

Rank	Region	County	% GROWTH	Rank	Region	County	% GROWTH	Rank	Region	County	% GROWTH
1	SW	Gray	4.13%	39	SE	Cherokee	0.04%	77	NW	Cheyenne	-1.17%
2	SC	Elk	3.46%	40	SE	Neosho	0.01%	78	NW	Osborne	-1.20%
3	NW	Sherman	3.16%	41	SW	Morton	0.01%	79	NC	Cloud	-1.21%
4	SC	Barber	2.51%	42	NC	Marion	-0.06%	80	NC	Marshall	-1.27%
5	SC	Harvey	2.42%	43	SW	Seward	-0.08%	81	SC	Barton	-1.28%
6	SE	Anderson	2.40%	44	NC	Washington	-0.12%	82	NW	Rooks	-1.34%
7	SE	Linn	2.38%	45	NC	Riley/Pott.	-0.13%	83	NW	Sheridan	-1.38%
8	SC	Stafford	2.35%	46	SC	Sedgwick	-0.14%	84	SC	Greenwood	-1.40%
9	SW	Haskell	2.11%	47	SW	Greeley	-0.18%	85	NE	Leavenworth	-1.42%
10	SW	Stanton	2.09%	48	SW	Meade	-0.19%	86	SW	Clark	-1.43%
11	SW	Hodgeman	1.99%	49	SW	Ford	-0.20%	87	NW	Graham	-1.51%
12	SW	Hamilton	1.92%	50	SE	Montgomery	-0.22%	88	NE	Osage	-1.60%
13	NC	Ottawa	1.92%	51	SW	Ness	-0.22%	89	SE	Allen	-1.61%
14	SC	Butler	1.78%	52	SW	Grant	-0.26%	90	NE	Shawnee	-1.68%
15	NC	McPherson	1.59%	53	NW	Norton	-0.27%	91	SW	Kiowa	-1.78%
16	SE	Coffey	1.44%	54	SE	Bourbon	-0.30%	92	SC	Chautauqua	-1.82%
17	NC	Pottawatomie	1.29%	55	NW	Phillips	-0.39%	93	SW	Edwards	-1.84%
18	NE	Johnson	1.27%	56	SE	Labette	-0.42%	94	NE	Wyandotte	-1.98%
19	NE	Miami	1.27%	57	NE	Wabaunsee	-0.53%	95	NC	Jewell	-2.00%
20	NW	Ellis	1.06%	58	NE	Douglas	-0.56%	96	SW	Lane	-2.02%
21	SC	Rice	0.83%	59	SC	Pratt	-0.58%	97	NW	Russell	-2.04%
22	SW	Comanche	0.76%	60	NE	Franklin	-0.60%	98	NC	Geary	-2.17%
23	NC	Chase	0.74%	61	NW	Thomas	-0.61%	99	NW	Logan	-2.62%
24	NC	Saline	0.64%	62	NC	Morris	-0.66%	100	NW	Smith	-2.67%
25	SC	Sumner	0.59%	63	NW	Wallace	-0.68%	101	NE	Nemaha	-2.72%
26	SW	Stevens	0.50%	64	NW	Rawlins	-0.85%	102	NE	Atchison	-2.86%
27	SE	Woodson	0.36%	65	NC	Clay	-0.86%	103	NW	Decatur	-2.88%
28	SW	Kearny	0.34%	66	NC	Ellsworth	-0.90%	104	NE	Brown	-3.27%
29	NE	Jackson	0.33%	67	NC	Lincoln	-0.96%	105	SW	Wichita	-6.19%
30	SC	Reno	0.33%	68	SC	Cowley	-0.96%	106	NE	Doniphan	-8.13%
31	NC	Lyon	0.32%	69	NC	Riley	-0.96%				
32	SW	Finney	0.29%	70	SC	Pawnee	-1.04%				
33	NC	Dickinson	0.28%	71	NW	Trego	-1.07%				
34	SE	Crawford	0.22%	72	NC	Mitchell	-1.08%				
35	SE	Wilson	0.17%	73	SC	Rush	-1.08%				
36	SC	Kingman	0.16%	74	NC	Republic	-1.08%				
37	NW	Gove	0.15%	75	SW	Scott	-1.10%				
38	NE	Jefferson	0.09%	76	SC	Harper	-1.12%				

Source: K-State Research & Extension, D. Darling, M. Seitz and R. Katragadda

Table 5. County % Market Share & Growth Rates by Region, 1992-2001 April-2003

Region	County	Avg Mkt Share	% Growth	Region	County	Avg Mkt Share	% Growth	Region	County	Avg Mkt Share	% Growth
NE	Atchison	0.89%	-2.86%	NC	Chase	0.38%	0.74%	NW	Cheyenne	1.91%	-1.17%
NE	Brown	0.54%	-3.27%	NC	Clay	1.97%	-0.86%	NW	Decatur	1.77%	-2.88%
NE	Doniphan	0.30%	-8.13%	NC	Cloud	3.15%	-1.21%	NW	Ellis	38.62%	1.06%
NE	Douglas	7.86%	-0.56%	NC	Dickinson	4.54%	0.28%	NW	Gove	2.38%	0.15%
NE	Franklin	1.62%	-0.60%	NC	Ellsworth	1.18%	-0.90%	NW	Graham	2.44%	-1.51%
NE	Jackson	0.61%	0.33%	NC	Geary	7.16%	-2.17%	NW	Logan	2.74%	-2.62%
NE	Jefferson	0.43%	0.09%	NC	Jewell	0.42%	-2.00%	NW	Norton	4.42%	-0.27%
NE	Johnson	54.47%	1.27%	NC	Lincoln	0.53%	-0.96%	NW	Osborne	3.06%	-1.20%
NE	Leavenworth	3.05%	-1.42%	NC	Lyon	11.59%	0.32%	NW	Phillips	4.39%	-0.39%
NE	Miami	1.31%	1.27%	NC	Marion	2.31%	-0.06%	NW	Rawlins	1.43%	-0.85%
NE	Nemaha	0.60%	-2.72%	NC	Marshall	2.80%	-1.27%	NW	Rooks	4.17%	-1.34%
NE	Osage	0.59%	-1.60%	NC	McPherson	8.75%	1.59%	NW	Russell	6.04%	-2.04%
NE	Shawnee	17.71%	-1.68%	NC	Mitchell	2.13%	-1.08%	NW	Sheridan	1.78%	-1.38%
NE	Wabaunsee	0.14%	-0.53%	NC	Morris	1.23%	-0.66%	NW	Sherman	7.62%	3.16%
NE	Wyandotte	9.89%	-1.98%	NC	Ottawa	0.67%	1.92%	NW	Smith	2.96%	-2.67%
				NC	Pottawatomie	8.29%	1.29%	NW	Thomas	10.99%	-0.61%
				NC	Republic	1.15%	-1.08%	NW	Trego	2.32%	-1.07%
				NC	Riley	14.52%	-0.96%	NW	Wallace	0.96%	-0.68%
				NC	Saline	25.62%	0.64%				
				NC	Washington	0.89%	-0.12%				
				NC	**Riley/Pottawatomie**	**22.81%**	**-0.13%**				

Source: K-State Research & Extension, D. Darling, M. Seitz and R. Katragadda

Table 5. Pg 2. County % Market Share & Growth Rates by Region, FY 1992- FY 2001 April-2003

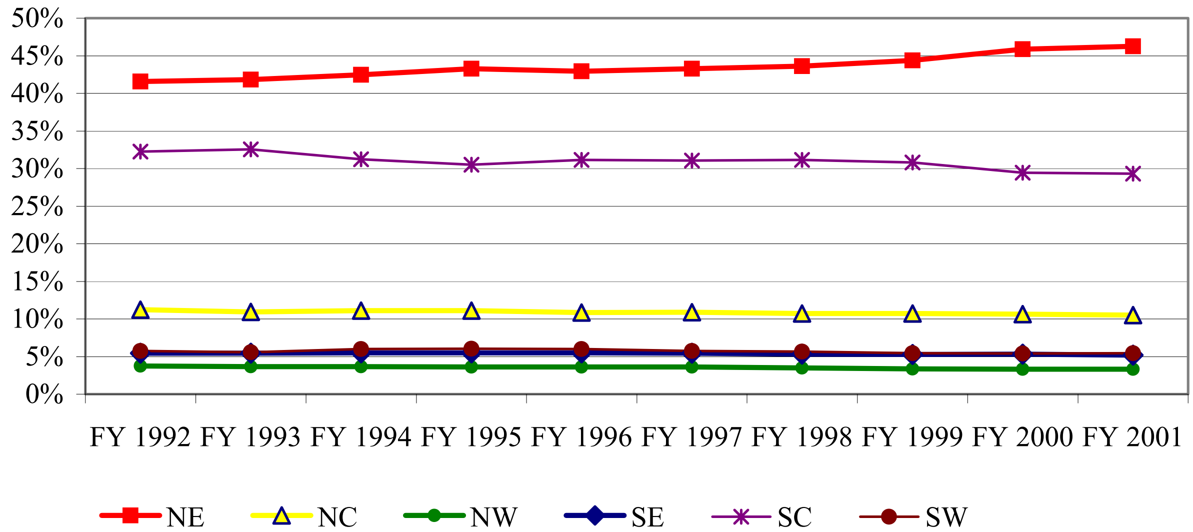
Region	County	Avg Mkt Share	% Growth
SE	Allen	7.35%	-1.61%
SE	Anderson	2.81%	2.40%
SE	Bourbon	7.37%	-0.30%
SE	Cherokee	6.19%	0.04%
SE	Coffey	3.64%	1.44%
SE	Crawford	22.26%	0.22%
SE	Labette	11.19%	-0.42%
SE	Linn	2.29%	2.38%
SE	Montgomery	21.98%	-0.22%
SE	Neosho	10.82%	0.01%
SE	Wilson	3.14%	0.17%
SE	Woodson	0.95%	0.36%

Region	County	Avg Mkt Share	% Growth
SC	Barber	0.43%	2.51%
SC	Barton	4.13%	-1.28%
SC	Butler	4.70%	1.78%
SC	Chautauqua	0.16%	-1.82%
SC	Cowley	3.25%	-0.96%
SC	Elk	0.14%	3.46%
SC	Greenwood	0.44%	-1.40%
SC	Harper	0.57%	-1.12%
SC	Harvey	3.11%	2.42%
SC	Kingman	0.51%	0.16%
SC	Pawnee	0.52%	-1.04%
SC	Pratt	1.30%	-0.58%
SC	Reno	8.39%	0.33%
SC	Rice	0.61%	0.83%
SC	Rush	0.16%	-1.08%
SC	Sedgwick	69.91%	-0.14%
SC	Stafford	0.20%	2.35%
SC	Sumner	1.46%	0.59%

Region	County	Avg Mkt Share	% Growth
SW	Clark	0.60%	-1.43%
SW	Comanche	0.68%	0.76%
SW	Edwards	0.88%	-1.84%
SW	Finney	28.93%	0.29%
SW	Ford	23.18%	-0.20%
SW	Grant	5.85%	-0.26%
SW	Gray	1.80%	4.13%
SW	Greeley	0.55%	-0.18%
SW	Hamilton	0.92%	1.92%
SW	Haskell	1.07%	2.11%
SW	Hodgeman	0.55%	1.99%
SW	Kearny	0.80%	0.34%
SW	Kiowa	1.29%	-1.78%
SW	Lane	0.68%	-2.02%
SW	Meade	1.24%	-0.19%
SW	Morton	1.58%	0.01%
SW	Ness	2.02%	-0.22%
SW	Scott	3.03%	-1.10%
SW	Seward	20.35%	-0.08%
SW	Stanton	0.72%	2.09%
SW	Stevens	2.16%	0.50%
SW	Wichita	1.10%	-6.19%

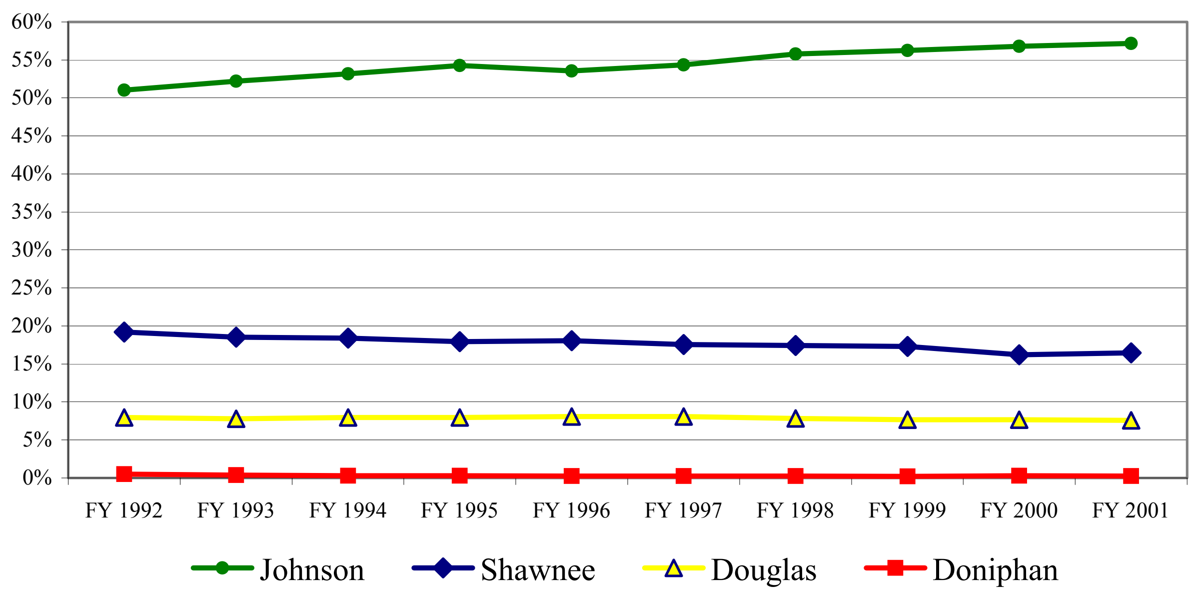
Source: K-State Research & Extension, D. Darling, M. Seitz and R. Katragadda

Figure 1. Regional Percent Market Share Across Kansas



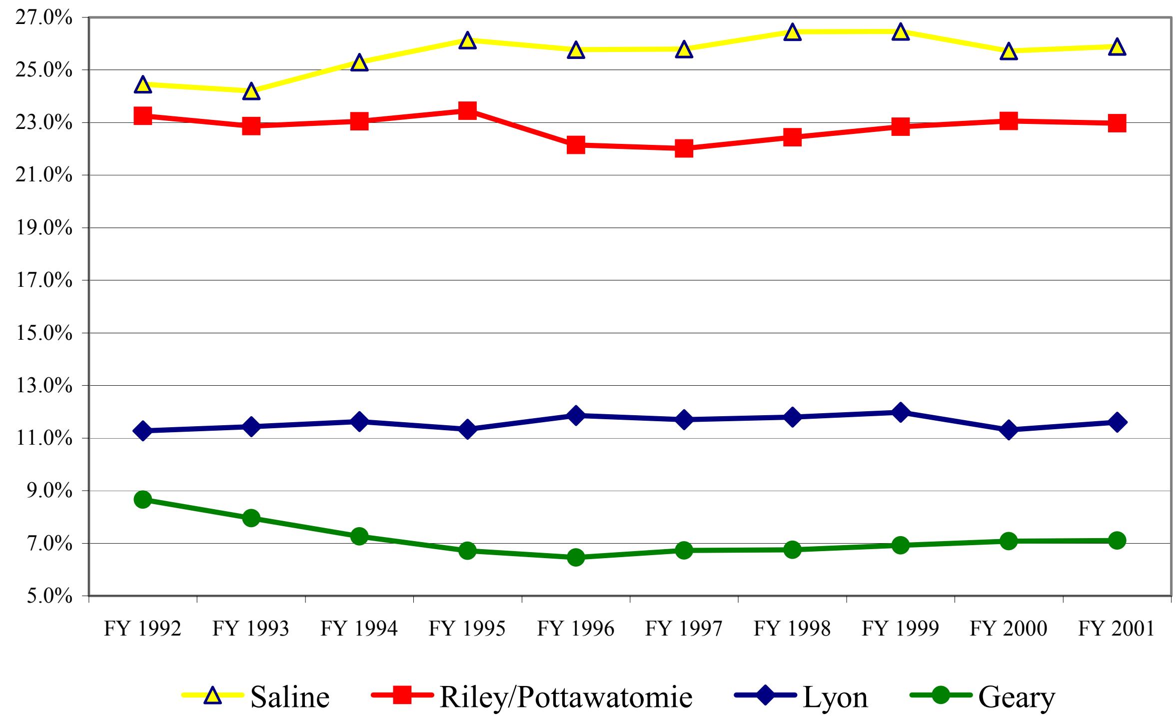
Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

Figure 2. NE Region % Market Share by County



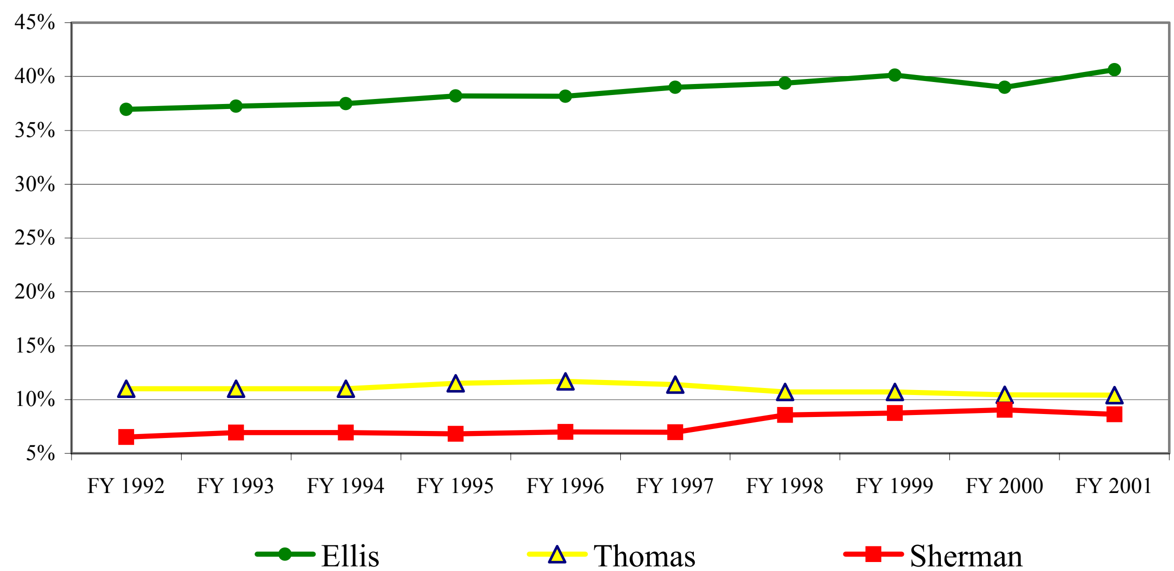
Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

Figure 3. NC Region % Market Share by County



Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

Figure 4. NW Region % Market Share by County



Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

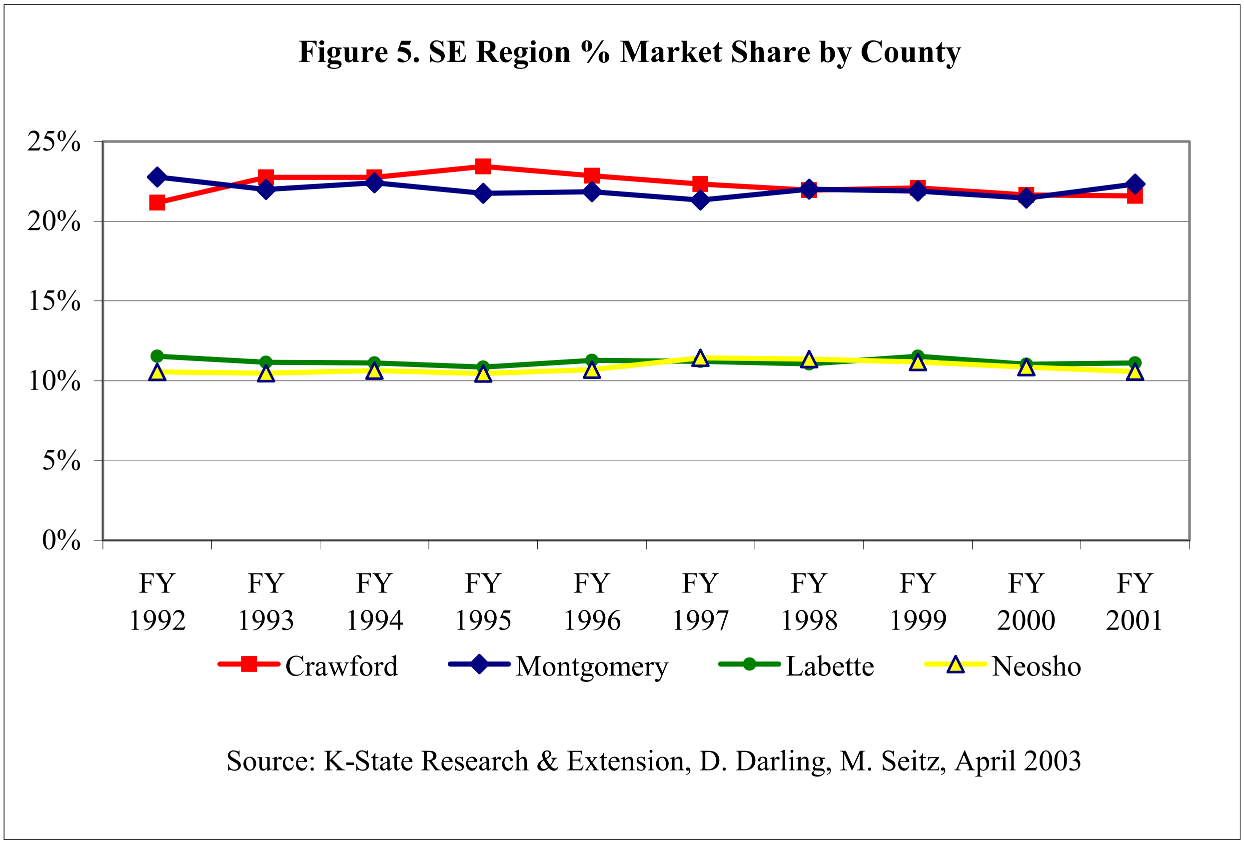


Figure 5. SE Region % Market Share by County
25%
20%
15%
10%
5%
0%
FY 1992
FY 1993
FY 1994
FY 1995
FY 1996
FY 1997
FY 1998
FY 1999
FY 2000
FY 2001
Crawford
Montgomery
Labette
Neosho
Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

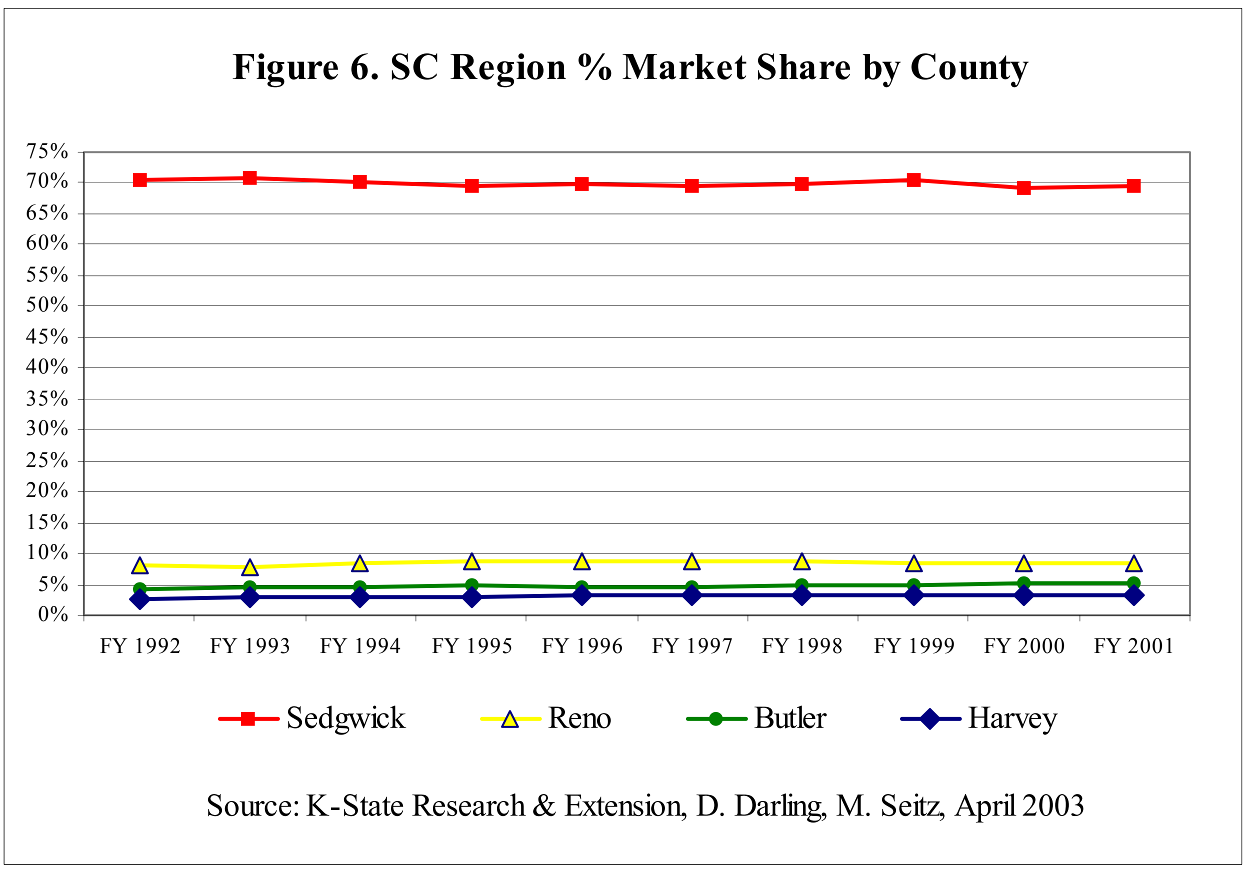
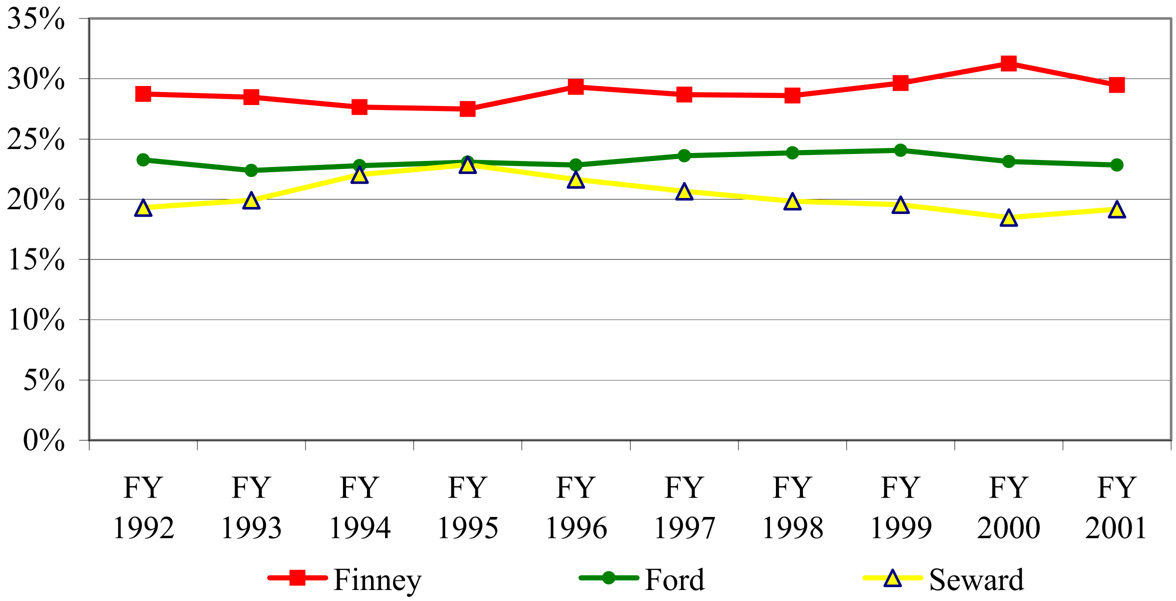


Figure 6. SC Region % Market Share by County
75%
70%
65%
60%
55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
FY 1992
FY 1993
FY 1994
FY 1995
FY 1996
FY 1997
FY 1998
FY 1999
FY 2000
FY 2001
Sedgwick
Reno
Butler
Harvey
Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003

Figure 7. SW Region % Market Share by County



Source: K-State Research & Extension, D. Darling, M. Seitz, April 2003