

***Economic Trends Along the  
Kansas-Missouri Border, 1969-2003***

***August 2005***

Arthur P. Hall, Ph.D.  
Executive Director  
Center for Applied Economics  
University of Kansas School of Business  
arthall@ku.edu

Peter F. Orazem, Ph.D.  
Koch Visiting Professor of Business Economics  
University of Kansas School of Business  
pfo@iastate.edu

**Prepared for:**



## Key Findings

- Johnson County drives the population and income trends in the state of Kansas. It has the same basic effect on the state that it has on the border “region.” In order to illustrate this fact, the report presents the border regions of Kansas and Missouri with and without their most populous counties, Johnson and Jackson. Over the past three decades, Kansas’ border region has grown much faster than Missouri’s border region in terms of population, number of wage and salary workers, and aggregate wage and salary compensation. However, the situation dramatically reverses when Johnson and Jackson Counties are removed from the sample.
- Kansas’ border region has the better 30-year average annual growth rate of per-worker compensation (both with and without Johnson and Jackson Counties included), but Missouri closed the gap in the last decade, because of strong growth outside of Jackson County. During the 1990s, Missouri experienced significantly better productivity growth than Kansas.
- Overall, people in Missouri seem relatively more likely to start a business. With Johnson and Jackson Counties in the sample, Missouri generates non-farm proprietors more rapidly than Kansas relative to employment (2.6-to-1 versus 1.7-to-1) and population (4.5-to-1 versus 2.7-to-1). However, without Johnson and Jackson Counties in the sample, the situation reverses.
- Despite the relatively high start rate of non-farm proprietorships in Kansas (without Johnson and Jackson Counties represented in the samples), inflation-adjusted aggregate non-farm proprietorship income in Kansas has grown little over the past 30 years—and per-proprietorship income has steadily declined at a -1.27 percent average annual rate. Given the overall trends along Kansas’ Missouri border (except for Johnson County) one can make the argument that people are starting non-farm proprietorships for reasons more related to necessity than entrepreneurial choice.

## Report Overview

This report documents and analyzes select economic trends along the Kansas-Missouri border. It is one of a set of seven companion reports that look at long-term economic trends in Kansas from different perspectives.<sup>1</sup> The focus here aggregates into “regions” the counties along the Kansas-Missouri border and compares population, proprietorship, and income growth in each state, as illustrated in the charts and tables that comprise the report. The evaluation of border regions helps provide insight into a state’s relative attractiveness as a place to live, work, and invest, because it helps isolate the policy environment from other important choice-influencing economic factors associated with geography.

One organizing principle for each of the companion reports is to create metrics that will help evaluate productivity growth in Kansas. The Center for Applied Economics at the University of Kansas School of Business published a report in November 2004 titled “The Kansas Productivity Puzzle.”<sup>2</sup> The report found that Kansas has systematically lagged behind the nation and the Plains region in terms of productivity growth from 1977 to 2001, the years of availability for the necessary data. Furthermore, the productivity lag exists in all industry sectors (except durable goods manufacturing).

Productivity is defined as output per worker over a specific unit of time. Productivity was measured in “The Kansas Productivity Puzzle” by dividing Kansas gross state product (the state equivalent of gross domestic product) by the number of workers in Kansas. This metric effectively defines the market value of Kansas’ annual output of goods and services on a per-worker basis. However, no sub-state equivalent to gross state product exists. Fortunately, wage data may offer a suitable approximation to worker productivity.

Economists have long noted a close relationship between labor productivity and wages, both in theory and in economic data. Firms cannot pay workers more than the value of what they produce, and so compensation levels should closely track increases in average output per worker. Indeed, for the state of Kansas, over the period 1977-2001, the relationship between output per worker and compensation per worker is nearly exact, having a statistical correlation of 98 percent. (See footnote 2.)

---

<sup>1</sup> The companion reports are: “Long-Term Economic Trends in the Regions of Kansas, 1969-2003,” “Long-Term Industry Trends in the Regions of Kansas, 1969-2000: Part I—An Industry Focus,” “Long-Term Industry Trends in the Regions of Kansas, 1969-2000: Part II—A Regional Focus,” “Economic Trends Along the Kansas-Nebraska Border, 1969-2003,” “Economic Trends Along the Kansas-Oklahoma Border, 1969-2003,” “Economic Trends Along the Kansas-Colorado Border, 1969-2003.”

<sup>2</sup> This report is available on-line at: <http://www.cae.business.ku.edu>. For a more academic treatment of the same topic, see: Peter F. Orazem, “Slow Growth and the Kansas Productivity Puzzle,” *Kansas Policy Review*, Vol. 26, No. 2 (Fall 2004), published by the Policy Research Institute of the University of Kansas, and available on-line at: <http://www.ku.edu/pri/publicat/kpr/archive.shtml>.

## Data and Methods

This report relies on the close correlation in Kansas between per-worker compensation and productivity in order to use the trends in per-worker compensation as a proxy for relative productivity trends among the border regions of Kansas and Missouri. The focus on the border region requires the use of county-level data.

The primary data for all of the tables and charts contained in this report come from the U.S. Bureau of Economic Analysis (BEA), Regional Economic Accounts, Local Area Annual Estimates (<http://www.bea.gov/bea/regional/data.htm>). The authors aggregated county-level data reported by the BEA into a border region for each state. The sample period ends in 2003 because that is the latest year of data published by BEA.

The most appropriate BEA data to use for measuring productivity is gross state product (GSP), because that metric strives to allocate corporate profits, and other measures of value-added, to their proper geographic location. The BEA currently does not have a similar procedure for allocating corporate profits to counties. Instead it measures county-level income by wages and salary disbursements and proprietors' income. For purposes of measuring productivity, using wage and salary disbursements offers the next best metric to GSP. Proprietors' income should be used only when it is unavoidable. Wage and salary disbursements (including employer-paid benefits and social insurance taxes) are reported separately in this report.

Proprietors' income is not a stable proxy for productivity. First, BEA relies on Internal Revenue Service taxpayer data to estimate proprietorships and proprietor income. This method makes proprietor data more linked to a proprietors' residence than place of business operation. Second, proprietor income is related to the many intricacies associated with income tax law, and may therefore not reflect good measures of value-added per proprietor input.

## **A Snapshot of the Kansas-Missouri Border**

Figure 1 illustrates the approximate alignment of the counties along the Kansas-Missouri border. It reports for each county the 2003 population and average wage compensation level, along with each measure's 1993-2003 and 1973-2003 average annual growth rate. The wage and salary data relate to people's place of work not to their place of residence. Geographically, much of Newton County, Missouri borders Oklahoma; however, it holds part of the Joplin, Missouri urban area, which borders Kansas, so it is included in the sample.

Urban areas tend to generate higher productivity than rural areas. As a result, it is common to see wage gradients emanating out of urban areas, with higher wages in the urban center declining as one moves to more distant rural areas around the urban center. Figure 1 illustrates a well-defined wage gradient on the Missouri side of the border, as one moves outward from Jackson County. Notice at the southern end of the Missouri border that the city of Joplin creates its own wage gradient. Vernon County, Missouri does not fit neatly into the wage gradients of either Kansas City or Joplin. Vernon has several larger townships surrounding the city of Nevada, which is situated in the geographic center of Vernon County.

Kansas' side of the border has a less well defined wage gradient, perhaps because many of the counties close to Jackson County, Missouri evolved as suburbs of the Kansas City metro area. Leavenworth ("the first city in Kansas") has historically influenced the wage levels in Leavenworth County. Along the southern portion of the Kansas border, the Joplin, Missouri area has a likely influence on Cherokee County wages and the population centers of Pittsburg and Fort Scott have had an influence on the wage levels in Crawford and Bourbon Counties, respectively.

If one chooses to evaluate the county-by-county match-ups along the border as an economic competition, then Missouri emerges as a systematic winner in terms of population growth. Johnson and Linn Counties constitute the major exceptions for Kansas. However, Cass County, Missouri experienced faster population growth than Johnson County, Kansas over the past decade.

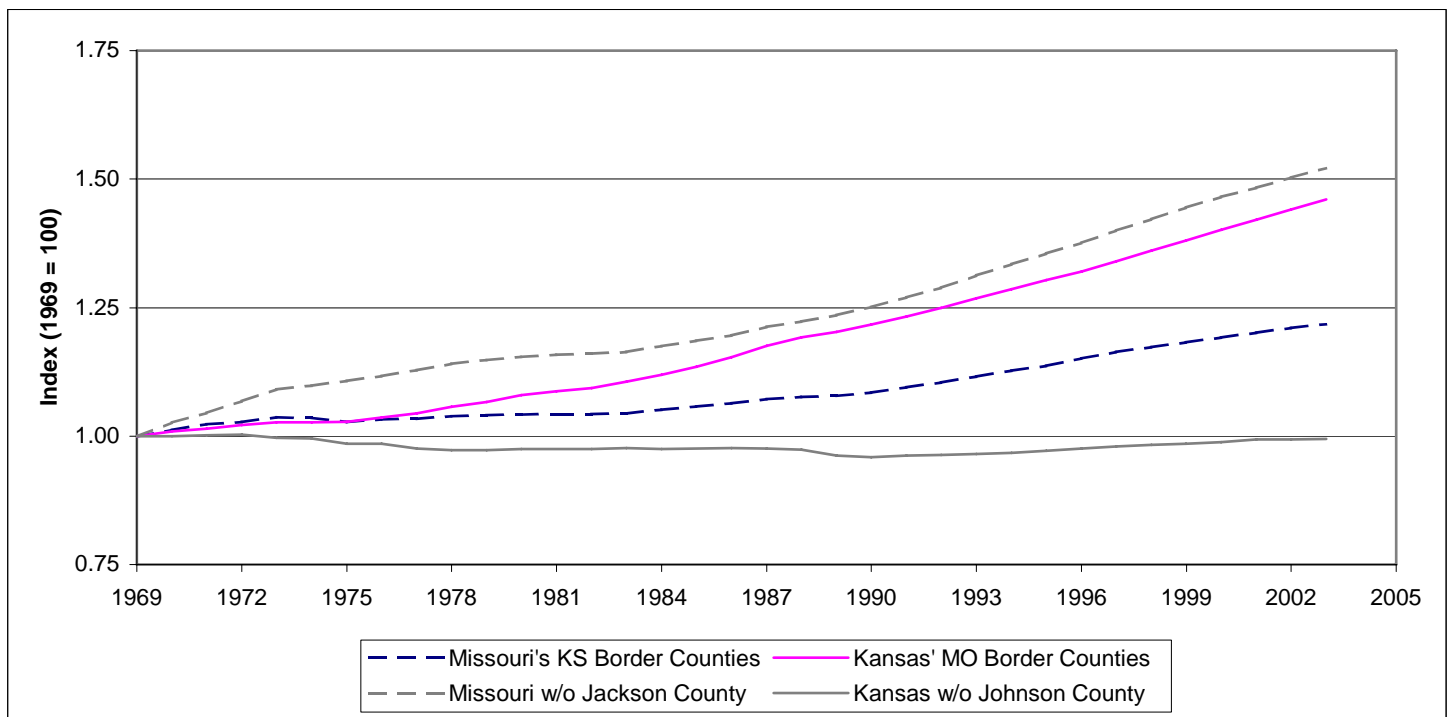
The competition shows mixed results for per-worker wage and salary compensation. Over the past decade, most Missouri counties have demonstrated faster per-worker wage increases than their contiguous Kansas counties. The exceptions are: Johnson County, Kansas versus Jackson County, Missouri; Crawford County, Kansas versus Barton County, Missouri; and Cherokee County, Kansas versus Jasper County, Missouri. When evaluated over the past 30 years, Kansas's counties perform better than their contiguous Missouri counties, except on the northern and southern end of the border. These mixed results are consistent with findings elsewhere indicating that Kansas has experienced relatively slow productivity growth, and that South East Kansas has demonstrated good productivity growth relative to its slow growth of population and total employment.

**Figure 1: A Snapshot of the Kansas-Missouri Border Counties: 2003 Population and Real Per-Worker Wage and Salary Distributions, and 1993-2003 and 1973-2003 Average Annual Growth Rates.**

(Note: W&S includes employer-paid benefits and social insurance taxes.)

Kansas			Missouri		
<i>Nebraska</i>			<b>Holt</b>	<i>Population</i>	<i>W&amp;S</i>
			2003 Level	5,130	\$27,918
			93-03 Growth (%)	-1.19	0.93
			73-03 Growth (%)	-0.99	1.41
<b>Doniphan</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Andrew</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	8,168	\$ 30,802	2003 Level	16,853	\$27,278
93-03 Growth (%)	0.17	1.12	93-03 Growth (%)	1.07	2.30
73-03 Growth (%)	-0.36	0.57	73-03 Growth (%)	0.92	1.37
<b>Atchison</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Buchanan</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	16,794	\$ 30,980	2003 Level	84,988	\$35,798
93-03 Growth (%)	-0.08	1.40	93-03 Growth (%)	0.03	1.44
73-03 Growth (%)	-0.40	0.73	73-03 Growth (%)	-0.13	0.93
<b>Leavenworth</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Platte</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	72,107	\$ 47,906	2003 Level	79,407	\$42,275
93-03 Growth (%)	0.79	1.34	93-03 Growth (%)	2.22	1.70
73-03 Growth (%)	0.99	1.30	73-03 Growth (%)	2.62	0.11
<b>Wyandotte</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Clay</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	157,002	\$ 47,069	2003 Level	194,327	\$45,503
93-03 Growth (%)	-0.15	1.48	93-03 Growth (%)	1.80	2.63
73-03 Growth (%)	-0.53	1.14	73-03 Growth (%)	1.29	0.89
<b>Johnson</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Jackson</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	486,943	\$ 47,350	2003 Level	659,387	\$47,249
93-03 Growth (%)	2.38	2.31	93-03 Growth (%)	0.29	1.96
73-03 Growth (%)	2.50	1.55	73-03 Growth (%)	0.03	1.17
<b>Miami</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Cass</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	29,200	\$ 29,902	2003 Level	88,862	\$32,420
93-03 Growth (%)	1.83	1.35	93-03 Growth (%)	2.61	2.49
73-03 Growth (%)	1.19	0.60	73-03 Growth (%)	2.16	0.23
<b>Linn</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Bates</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	9,750	\$ 35,057	2003 Level	16,993	\$26,202
93-03 Growth (%)	1.38	1.47	93-03 Growth (%)	1.00	2.37
73-03 Growth (%)	0.73	1.60	73-03 Growth (%)	0.15	1.20
<b>Bourbon</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Vernon</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	15,162	\$ 28,751	2003 Level	20,310	\$30,067
93-03 Growth (%)	0.10	1.07	93-03 Growth (%)	0.52	1.32
73-03 Growth (%)	-0.03	0.85	73-03 Growth (%)	0.16	1.27
<b>Crawford</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Barton</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	38,288	\$ 29,797	2003 Level	13,043	\$28,868
93-03 Growth (%)	0.37	1.68	93-03 Growth (%)	1.10	1.63
73-03 Growth (%)	0.08	0.73	73-03 Growth (%)	0.62	1.50
<b>Cherokee</b>	<i>Population</i>	<i>W&amp;S</i>	<b>Jasper</b>	<i>Population</i>	<i>W&amp;S</i>
2003 Level	21,911	\$ 32,048	2003 Level	108,189	\$33,329
93-03 Growth (%)	0.00	1.68	93-03 Growth (%)	1.36	1.58
73-03 Growth (%)	0.00	0.77	73-03 Growth (%)	0.87	1.02
<i>Oklahoma</i>			<b>Newton</b>	<i>Population</i>	<i>W&amp;S</i>
			2003 Level	54,091	\$34,437
			93-03 Growth (%)	1.41	2.61
			73-03 Growth (%)	1.36	1.52

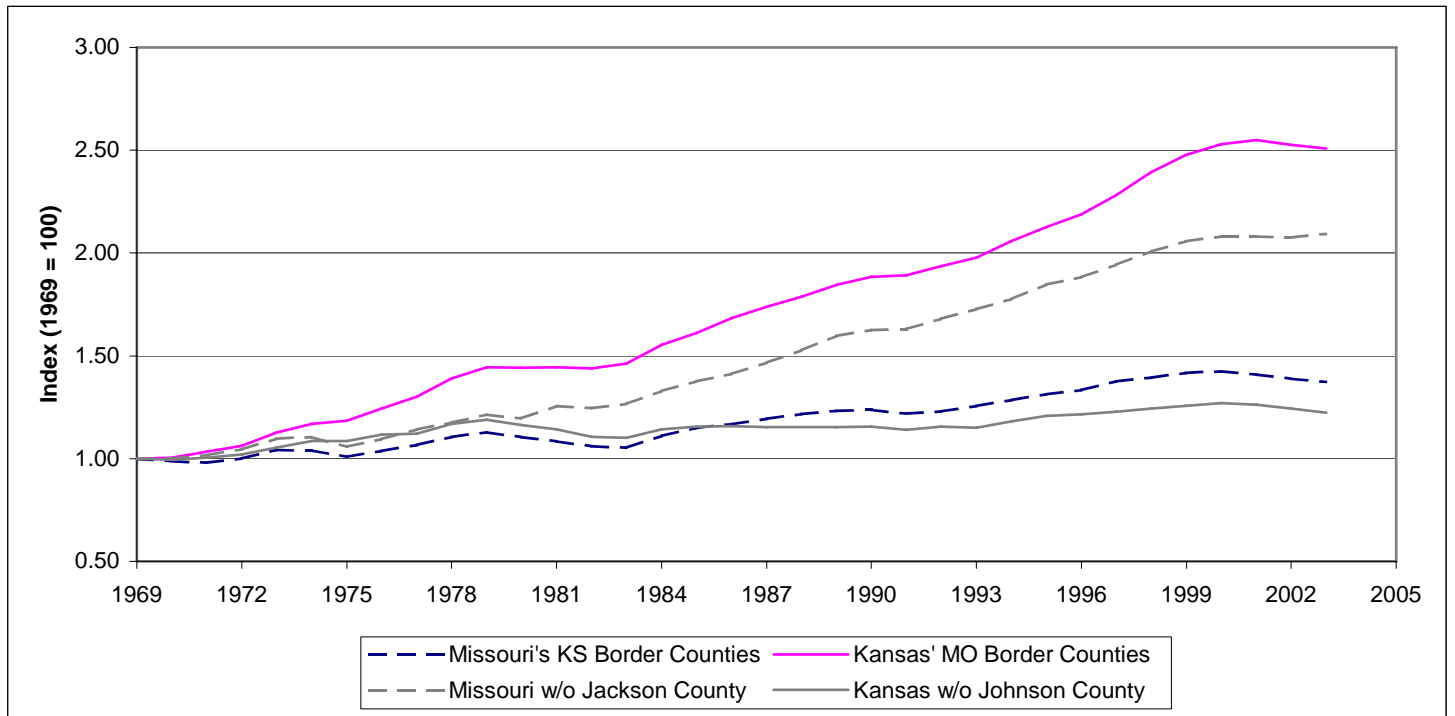
**Chart 1: Trends in Population—Kansas and Missouri Border Counties, 1969-2003**



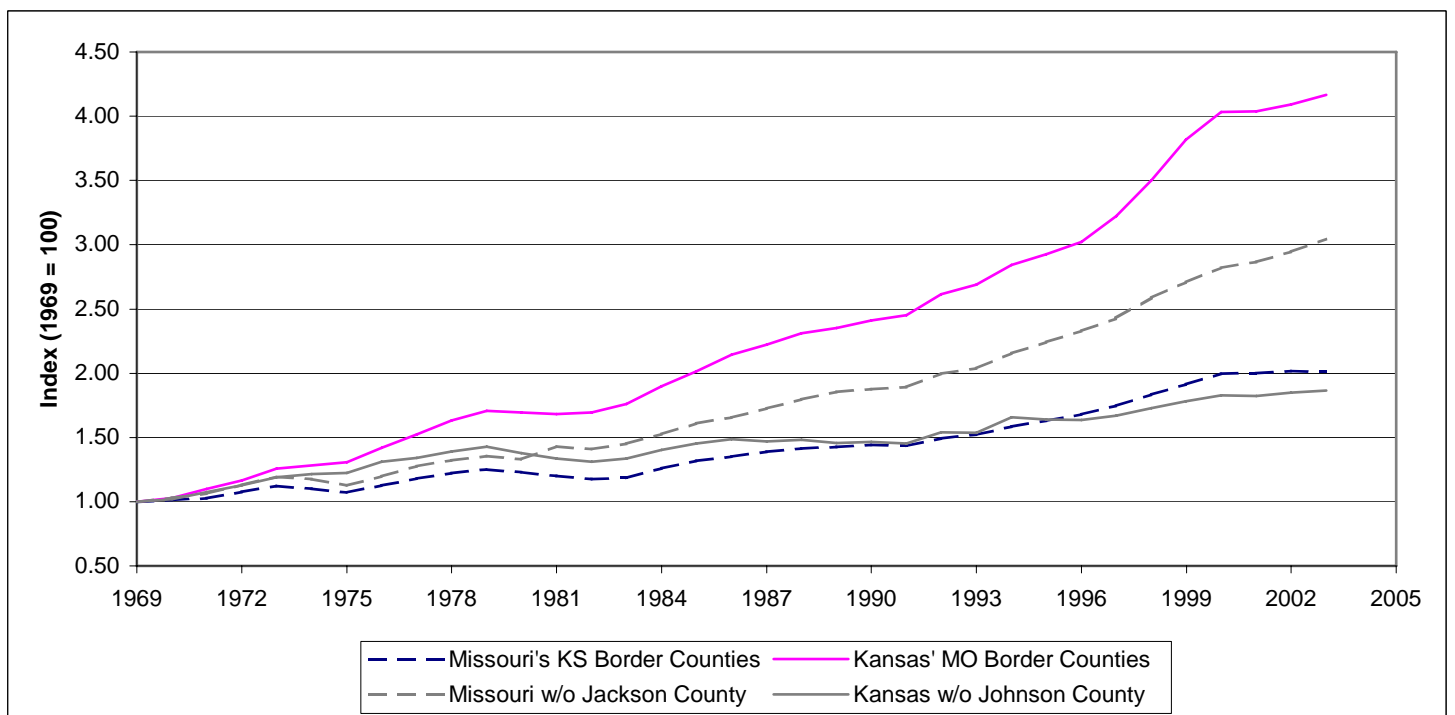
**Comments on Charts 1, 2, and 3:**

- Johnson County drives the population and income trends in the state of Kansas. It has the same basic effect on the state that it has on the border region. In order to illustrate this fact, the charts present the border regions of Kansas and Missouri with and without their most populous counties, Johnson and Jackson. As Charts 1-3 show, over the past three decades, Kansas’ border region has grown much faster than Missouri’s border region in terms of population, number of wage and salary workers, and aggregate wage and salary compensation. However, the situation dramatically reverses when Johnson and Jackson Counties are removed from the sample.
- Table 1 of this report lists decade-by-decade population and employment figures for the two border regions. These data provide detail for the trends depicted in Charts 1 and 2. From 1973 to 2003, population in the Kansas and Missouri border regions grew at the average annual rates of 1.18 percent and 0.54 percent, respectively. Without Johnson and Jackson Counties in the sample, the growth rates change to -0.01 percent for Kansas and 1.11 percent for Missouri. A similar pattern holds for the number of wage and salary workers, except Kansas’ growth rate without Johnson County remains positive.
- Table 2 lists decade-by-decade income-related statistics for the two border regions. These data provide detail for the trends depicted in Chart 3. From 1973 to 2003, aggregate wage and salary compensation in the Kansas and Missouri border regions grew at average annual rates of 4.08 percent and 1.96 percent, respectively. Without Johnson and Jackson Counties in the sample, the growth rates change to 1.51 percent for Kansas and 3.17 percent for Missouri. That growth gap increases when one looks at the decade from 1993 to 2003.
- As mentioned in the Overview, aggregate wage and salary data acts as a proxy for the aggregate output measure needed to determine how much of Kansas’ and Missouri’s economic growth is due to productivity growth as opposed to employment growth. See the comments related to Chart 4.

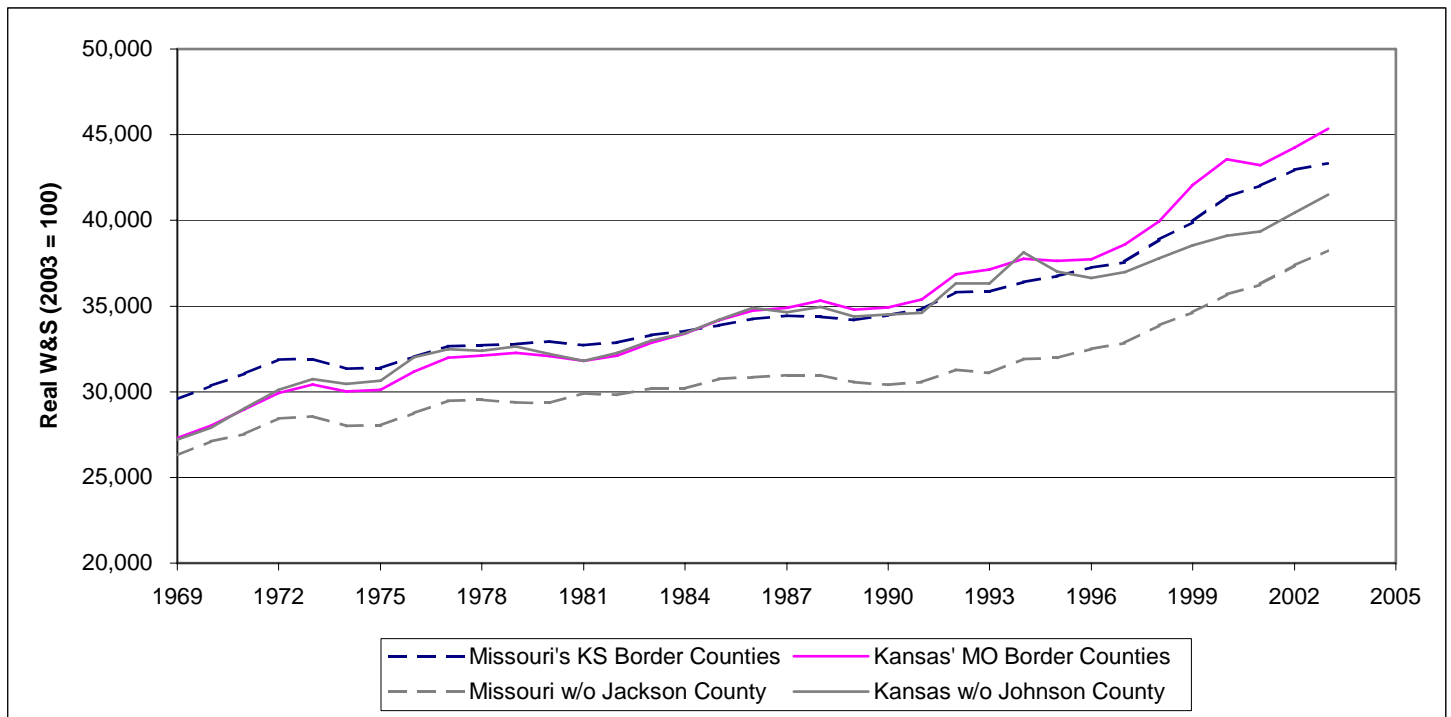
**Chart 2: Trends in the Number of Wage and Salary Workers—Kansas and Missouri Border Counties, 1969-2003**



**Chart 3: Trends in Inflation-Adjusted Aggregate Wage and Salary Disbursements (including Employer-Paid Benefits and Social Insurance Taxes)—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



**Chart 4: Inflation-Adjusted Wage and Salary Disbursements Per Wage and Salary Worker (including Employer-Paid Benefits and Social Insurance Taxes)—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



**Comments on Chart 4:**

- A business cannot sustain an operation if it pays a worker more than the market value of what the worker produces, so the relative level of wage compensation per worker provides insight into the efficiency with which a worker produces goods and services and the relative market value of those goods and services. The growth rate of wages per worker provides insight into the speed at which workers’ efficiency is improving, given the market value of the goods and services being produced.
- Comparing the trends in Chart 4 with the growth-rate details in Table 2 shows that Kansas’ border region has the better 30-year average annual growth rate of per-worker compensation (both with and without Johnson and Jackson Counties included). Over the past decade, Kansas has a better growth rate when Johnson and Jackson Counties are in the sample, but Missouri closed the gap. Missouri demonstrated significantly faster growth than Kansas when Johnson and Jackson Counties are removed from the sample.
- One can better understand the relative levels and trends shown in Charts 2-4 by decomposing the aggregate economic growth (production) of the border regions into two component parts: employment growth and productivity growth, as illustrated by Exhibits A and B below. As mentioned in the Overview, we use wage

**Exhibit A: Components of Regional Growth, 1969-2003**

Region	Production Growth (%)	Employment Growth (%)	Productivity Growth (%)
Missouri Border	101	46	55
Kansas Border	317	201	116
MO w/o Jackson Co.	204	134	70
KS w/o Johnson Co.	86	28	58

and salary compensation as a proxy for growth in the value of regional inflation-adjusted production output. From 1969 to 2003, Exhibit A shows that Kansas' border region experienced 214 percent more aggregate economic growth than Missouri's border region when Johnson and Jackson Counties are included. Note, however, that more than half of Missouri's growth is attributable to productivity growth. Productivity growth accounts for a bit more than a third of Kansas' aggregate growth. These different proportions help explain why on a per-worker basis Missouri's border region trends with Kansas', despite the larger magnitudes of aggregate growth along Kansas' border.

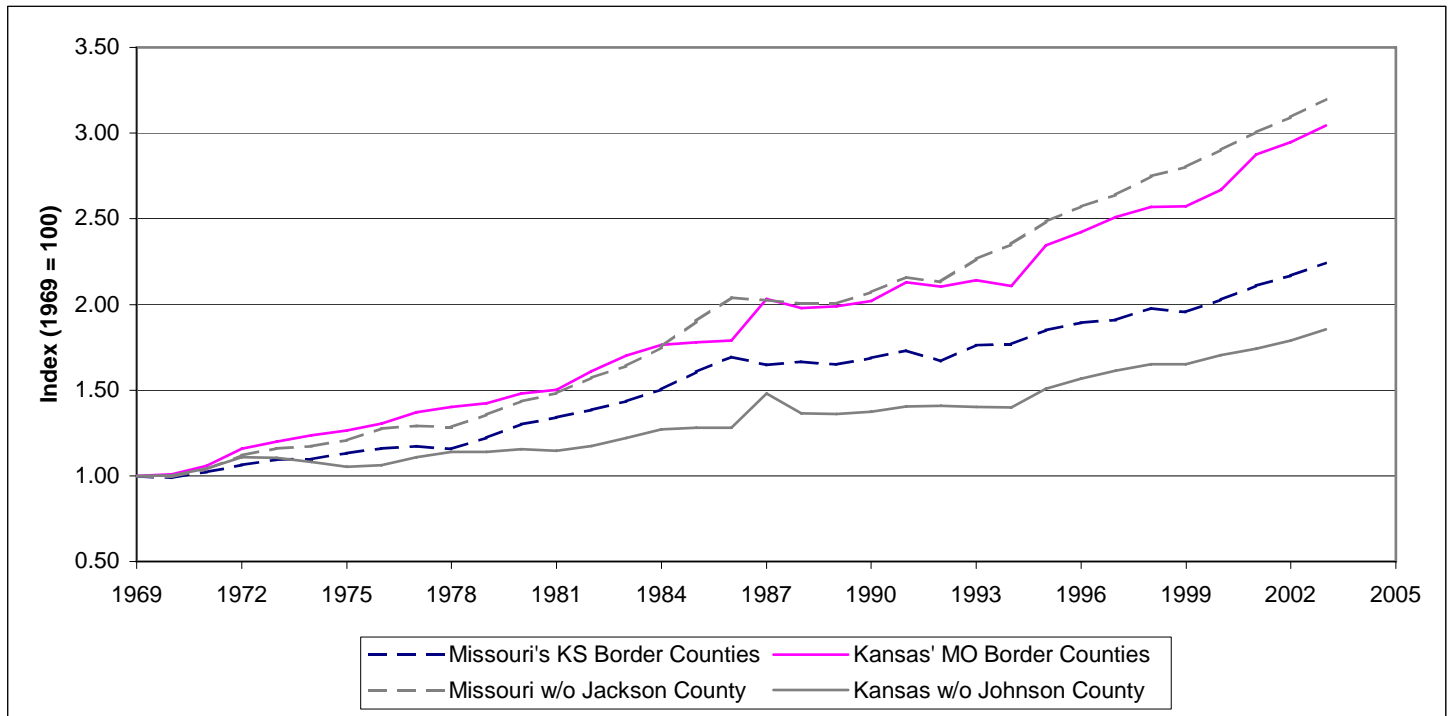
The same phenomenon, but in reverse, occurs when Johnson and Jackson Counties are removed from the sample. Exhibit A shows that Missouri had 137 percent more aggregate growth, but a third of that derived from productivity growth. Two-thirds of Kansas' growth derived from productivity growth. These proportions help explain the per-worker wage gap seen in Chart 4 between Kansas and Missouri without Johnson and Jackson Counties in the sample.

Chart 4 and Table 2 show that the growth trend of per-worker compensation along Missouri's border (with and, especially, without Jackson County in the sample) accelerated relative to Kansas during the 1993-2003 time period. Exhibit B illustrates why. Relative to the 30-year trend, Missouri increased the proportion of its growth attributable to productivity—from 54 to 69 percent with Jackson County included in the sample and from 34 to 51 percent without Jackson County in the sample. When Johnson County is included in the sample, Kansas' border region also increased its productivity share of growth relative to trend, but by a smaller amount, 37 to 45 percent. When Johnson County is removed from the sample, Kansas' border region increased its share of growth related to productivity by only 0.007 percentage points. The negative consequence for relative per-worker wages is evident in Chart 4 starting in 1994.

**Exhibit B: Components of Regional Growth, 1993-2003**

<b>Region</b>	<b>Production Growth (%)</b>	<b>Employment Growth (%)</b>	<b>Productivity Growth (%)</b>
Missouri Border	32	10	22
Kansas Border	55	30	25
MO w/o Jackson Co.	49	24	25
KS w/o Johnson Co.	22	7	15

**Chart 5: Trends in the Number of Non-Farm Proprietors—Kansas and Missouri Border Counties, 1969-2003**



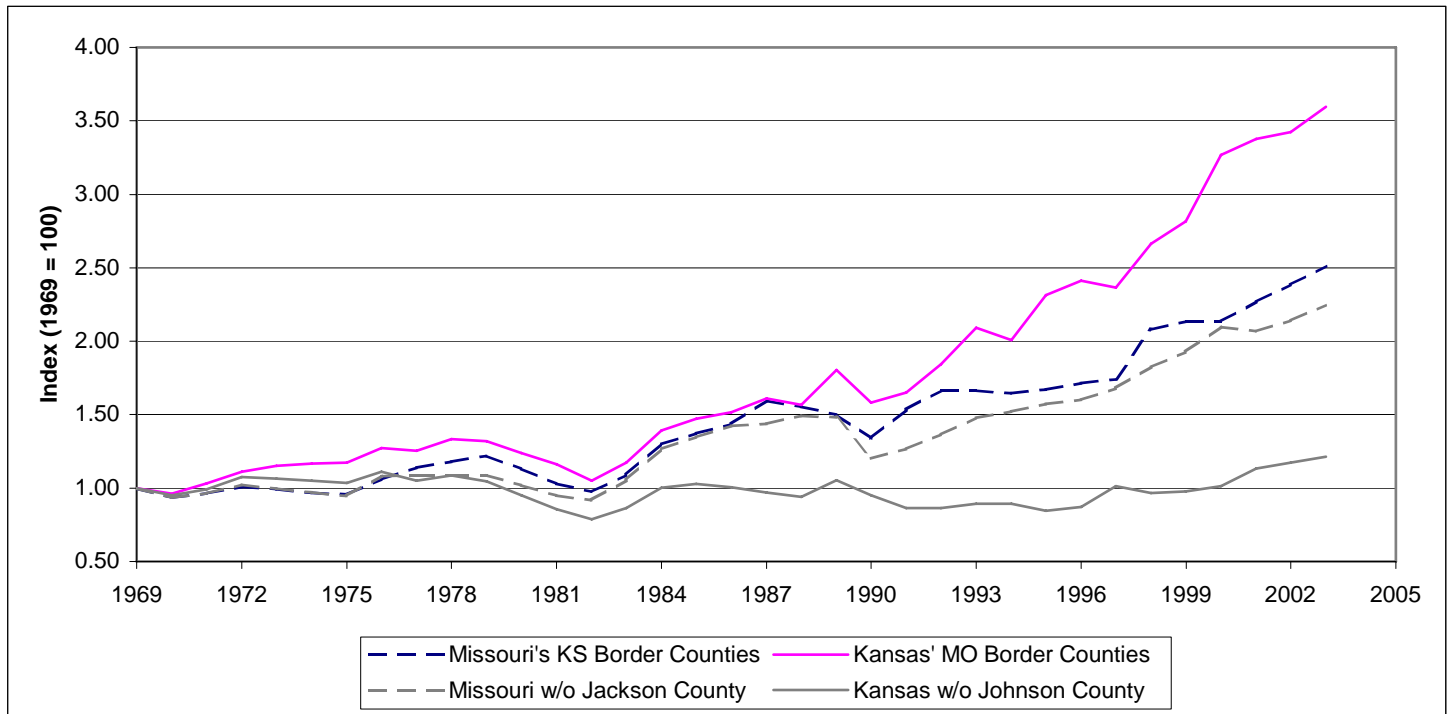
**Comments on Chart 5:**

- Non-Farm Proprietorships offers a good regional proxy for what is popularly referred to as “entrepreneurial activity.” Notice that something caused a spike in non-farm proprietorships in Kansas’ border region in 1987. One explanation for the spike is the federal Tax Reform Act of 1986. However, the same spike did not take place in Missouri’s border region; instead, it appears as if Missouri’s growth of non-farm proprietorships temporarily stagnated. More research is required to provide an adequate explanation for the different outcomes.
- To put the overall growth trends into perspective, one method for evaluating “entrepreneurial activity” is to measure the relative growth of non-farm proprietorships against the growth of population and alternative employment opportunities. The exhibit below compares the 1973-2003 average annual growth rates (%) by region. (See Table 1 for greater detail.)

Region	Non-Farm Proprietors	Population	Wage & Salary Employment
Missouri Border	2.42	0.54	0.93
Kansas Border	3.15	1.18	2.70
MO w/o Jackson Co.	3.43	1.11	2.17
KS w/o Johnson Co.	1.73	-0.01	0.50

- Overall, people in Missouri seem relatively more likely to start a business. With Johnson and Jackson Counties in the sample, Missouri generates non-farm proprietors more rapidly than Kansas relative to employment (2.6-to-1 versus 1.7-to-1) and population (4.5-to-1 versus 2.7-to-1). With Johnson and Jackson Counties removed from the sample, the situation reverses significantly. Kansas generates non-farm proprietorships relative to wage and salary employment at a rate of 3.46-to-1 (versus 1.58-to-1 for Missouri). Relative to population, the start rate of non-farm proprietorships in Kansas is mathematically undefined because of the negative population growth rate. Qualitatively, however, one can see that Kansas has relatively more starts.

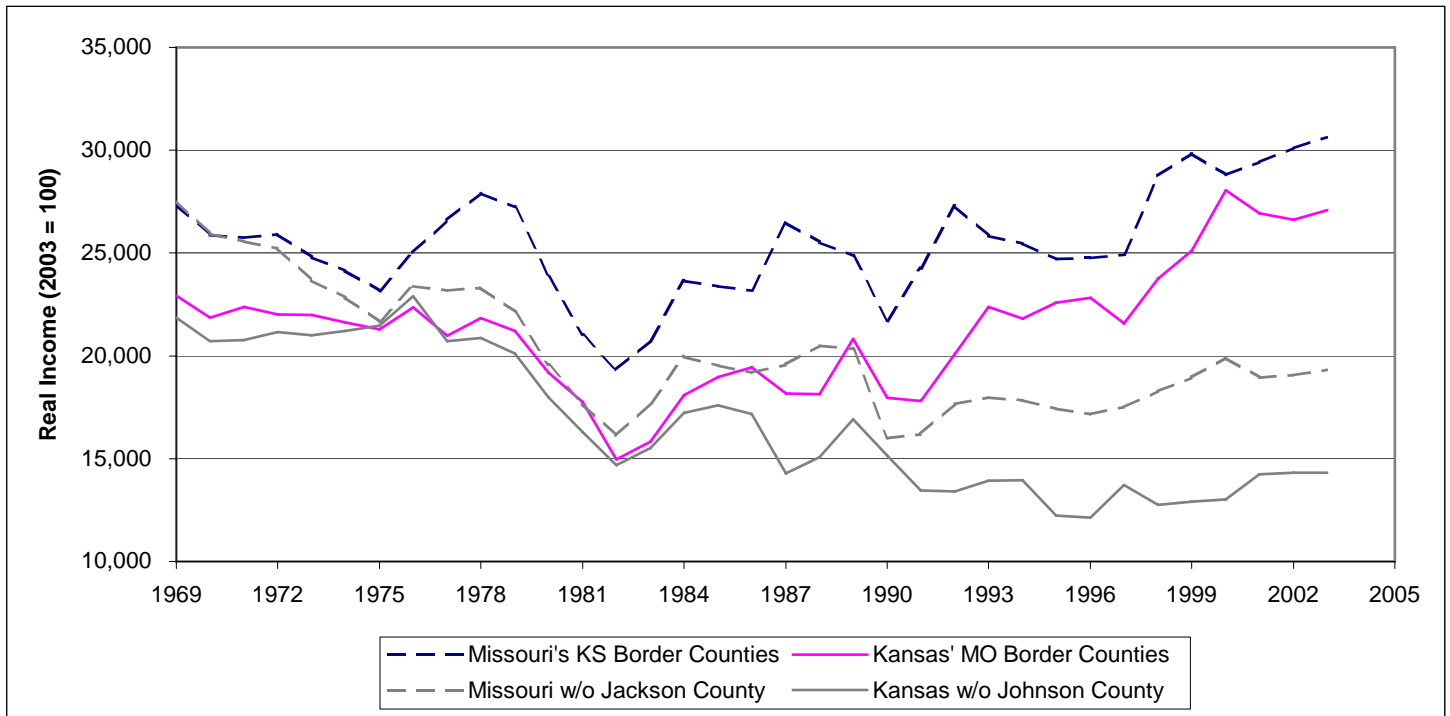
**Chart 6: Trends in Inflation-Adjusted Aggregate Non-Farm Proprietors' Income—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



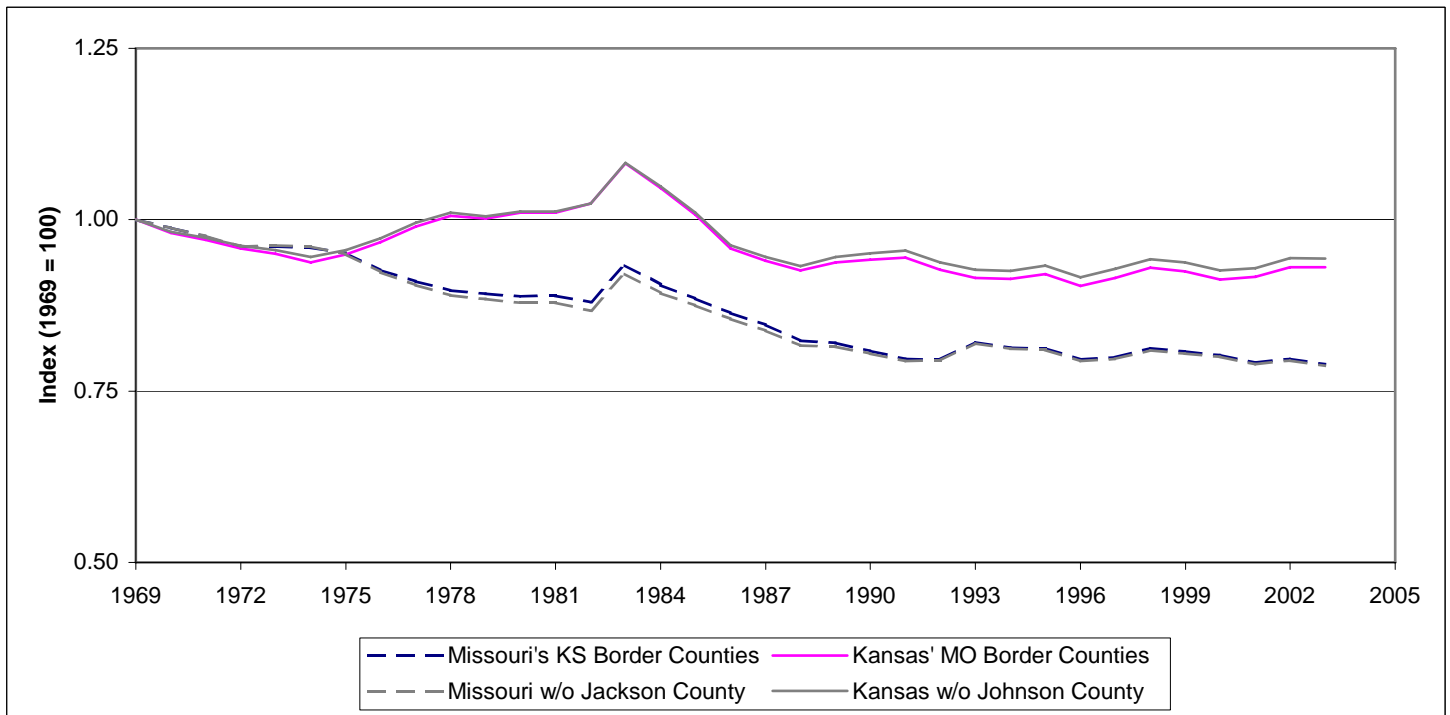
**Comments on Charts 6 and 7:**

- Despite the relatively high start rate of non-farm proprietorships in the Kansas border region (without Johnson and Jackson Counties represented in the data), Chart 6 shows that inflation-adjusted aggregate non-farm proprietorship income in Kansas has grown little over the past 30 years (0.44 percent annually, on average). On a per-proprietorship basis, Chart 7 shows that incomes have steadily declined (-1.27 percent annually, on average). Given the relatively high wage compensation levels, the relatively slow growth rate of wage and salary employment, and the declining income levels, of non-farm proprietorships, one can make the argument that people are starting non-farm proprietorships for reasons more related to necessity than entrepreneurial choice.
- Non-farm proprietorships in the Missouri border region (excluding Jackson County) demonstrated strong inflation-adjusted aggregate income growth, particularly in the 1990s. (See Table 2 for details.) However, per-proprietor income has fallen over the past 30 years. That decline was moderated by an average annual growth rate of 0.72 percent from 1993 to 2003.
- Adding Johnson and Jackson Counties into the sample significantly improves the per-proprietor income growth rates in the regions. Historically, Missouri's non-farm proprietors have had better income performance than Kansas' on a per-proprietor basis, but Kansas caught up during the 1990s, with an average annual growth rate of 1.93 percent (versus Missouri's 1.72 percent).

**Chart 7: Inflation-Adjusted Non-Farm Proprietors' Income Per Non-Farm Proprietor—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



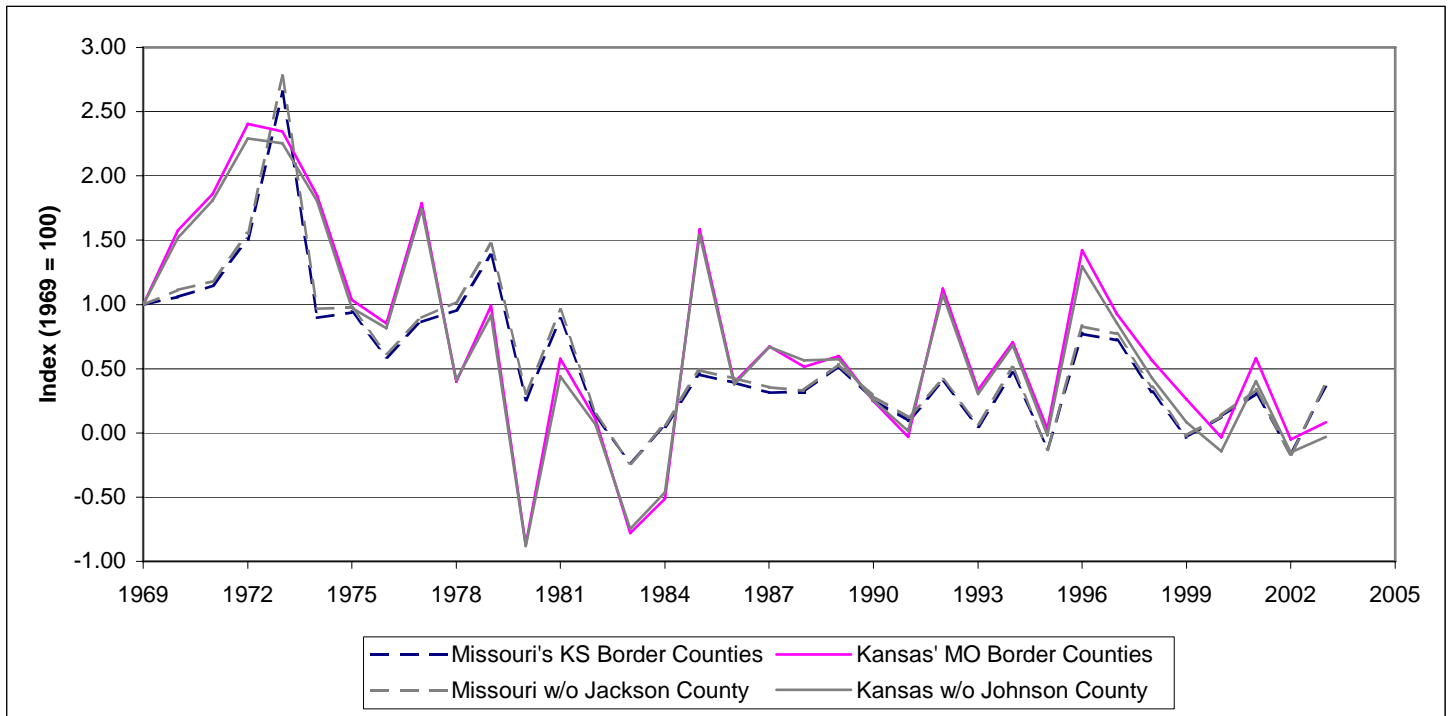
**Chart 8: Trends in the Number of Farm Proprietors—Kansas and Missouri Border Counties, 1969-2003**



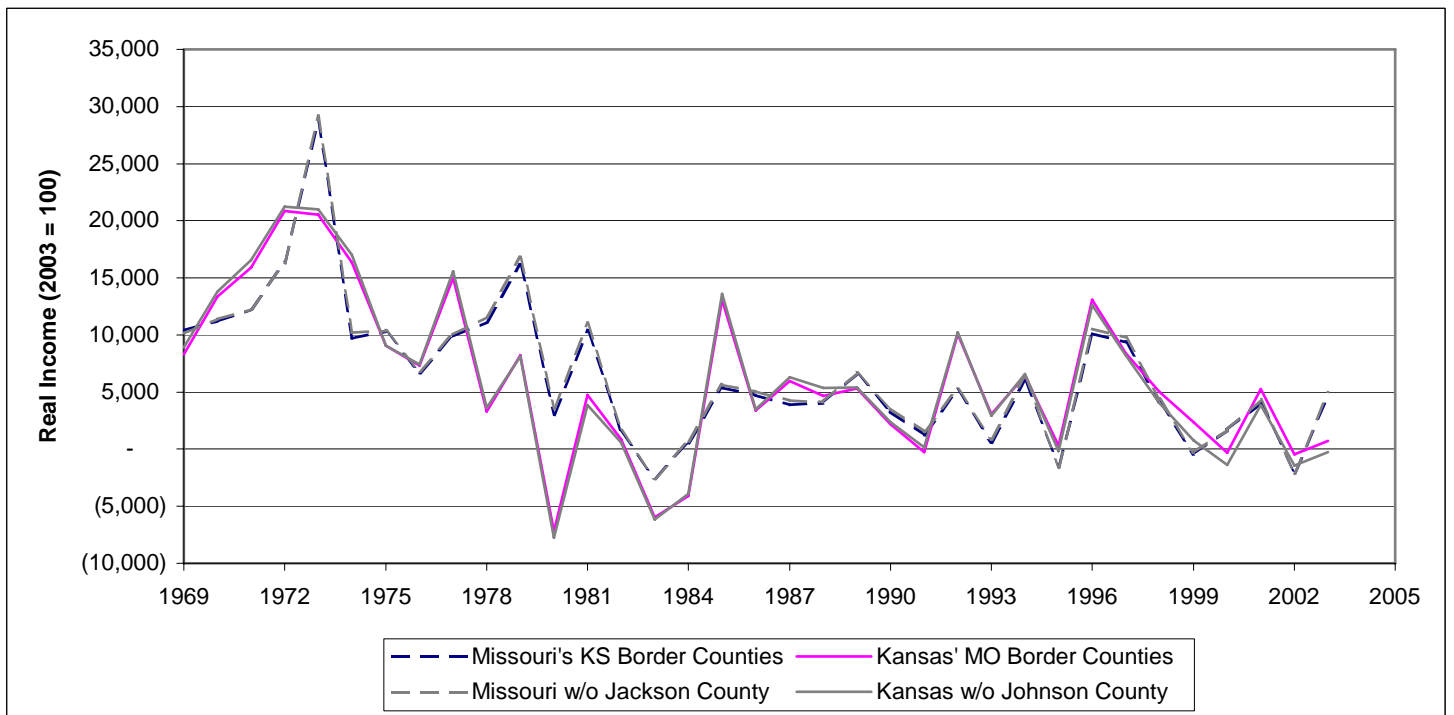
**Comments on Charts 8, 9, and 10:**

- As one would expect, it is the non-urban parts of the border regions that drive the trends associated with farm proprietorships.
- Farm proprietorships and farm proprietor incomes have systematically declined over the past 30 years, with Kansas' border region having experienced greater volatility.

**Chart 9: Trends in Inflation-Adjusted Aggregate Farm Proprietors' Income—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



**Chart 10: Inflation-Adjusted Farm Proprietors' Income Per Farm Proprietor—Kansas and Missouri Border Counties, 1969-2003, Constant 2003 Dollars**



**Table 1: Population, Number of Proprietors, and Number of Workers Figures and Growth Rates, Selected Years**

	1973	1983	1993	2003	Average Annual Growth Rate (%)				
					1973	1983	1993	2003	1973-2003
<b>Missouri's Kansas Border Counties</b>									
Population	1,142,093	1,149,815	1,229,128	1,341,580	*	0.07	0.67	0.88	0.54
Full & Part-Time Employment*	606,703	631,160	749,930	836,368	*	0.40	1.74	1.10	1.08
Farm Proprietors	16,342	15,873	13,970	13,423	*	-0.29	-1.27	-0.40	-0.65
Non-Farm Proprietors	60,938	79,896	98,071	124,715	*	2.75	2.07	2.43	2.42
Wage & Salary Workers	529,423	535,391	637,889	698,230	*	0.11	1.77	0.91	0.93
<b>Missouri Border w/o Jackson Co.</b>									
Population	489,344	521,853	588,610	682,193	*	0.65	1.21	1.49	1.11
Full & Part-Time Employment*	199,745	233,774	312,335	385,631	*	1.59	2.94	2.13	2.22
Farm Proprietors	15,396	14,737	13,116	12,589	*	-0.44	-1.16	-0.41	-0.67
Non-Farm Proprietors	25,702	36,279	50,079	70,727	*	3.51	3.28	3.51	3.43
Wage & Salary Workers	158,647	182,758	249,140	302,315	*	1.42	3.15	1.95	2.17
<b>Kansas' Missouri Border Counties</b>									
Population	601,261	647,777	742,769	855,325	*	0.75	1.38	1.42	1.18
Full & Part-Time Employment*	257,044	336,753	445,868	573,474	*	2.74	2.85	2.55	2.71
Farm Proprietors	8,043	9,163	7,748	7,878	*	1.31	-1.66	0.17	-0.07
Non-Farm Proprietors	36,583	51,890	65,296	92,763	*	3.56	2.32	3.57	3.15
Wage & Salary Workers	212,418	275,700	372,824	472,833	*	2.64	3.06	2.40	2.70
<b>Kansas Border w/o Johnson Co.</b>									
Population	369,022	361,843	357,747	368,382	*	-0.20	-0.11	0.29	-0.01
Full & Part-Time Employment*	164,169	173,387	181,448	198,336	*	0.55	0.46	0.89	0.63
Farm Proprietors	7,353	8,333	7,130	7,258	*	1.26	-1.55	0.18	-0.04
Non-Farm Proprietors	17,560	19,363	22,247	29,417	*	0.98	1.40	2.83	1.73
Wage & Salary Workers	139,256	145,691	152,071	161,661	*	0.45	0.43	0.61	0.50

\* Includes wage and salary employees and proprietors.

**Table 2: Aggregate and Per-Worker Income and Earnings Figures and Growth Rates, Selected Years**

Missouri's Kansas Border Counties	Actual Dollars				Inflation-Adjusted Dollars (2003 = 100)				Real Average Annual Growth Rate (%)				
	1973	1983	1993	2003	1973	1983	1993	2003	1973	1983	1993	2003	1973-2003
Earnings by Place of Work (\$000s)*	5,672,172	11,970,454	21,195,825	34,156,900	18,877,795	19,458,711	25,420,792	34,156,900	*	0.30	2.71	3.00	2.00
Farm Proprietors' Income (\$000s)	141,027	(25,034)	7,011	62,162	469,358	(40,694)	8,409	62,162	*	n/a	n/a	22.15	-6.52
Non-Farm Proprietors' Income (\$000s)	454,151	1,019,603	2,113,701	3,824,540	1,511,479	1,657,428	2,535,025	3,824,540	*	0.93	4.34	4.20	3.14
Wage & Salary Disbursements (\$000s)**	5,076,994	10,975,885	19,075,113	30,270,198	16,896,958	17,841,978	22,877,359	30,270,198	*	0.55	2.52	2.84	1.96
Earnings Per Worker*	9,349	18,966	28,264	40,840	31,115	30,830	33,898	40,840	*	-0.09	0.95	1.88	0.91
Farm Income Per Proprietor	8,630	(1,577)	502	4,631	28,721	(2,564)	602	4,631	*	n/a	n/a	22.64	-5.90
Non-Farm Income Per Proprietor	7,453	12,762	21,553	30,666	24,804	20,745	25,849	30,666	*	-1.77	2.22	1.72	0.71
Wage & Salary Disbursements Per WS Worker**	9,590	20,501	29,903	43,353	31,916	33,325	35,864	43,353	*	0.43	0.74	1.91	1.03
<b>Kansas' Missouri Border Counties</b>	<b>1973</b>	<b>1983</b>	<b>1993</b>	<b>2003</b>	<b>1973</b>	<b>1983</b>	<b>1993</b>	<b>2003</b>	<b>1973</b>	<b>1983</b>	<b>1993</b>	<b>2003</b>	<b>1973-2003</b>
Earnings by Place of Work (\$000s)*	2,233,790	6,046,322	12,779,452	23,961,957	7,434,371	9,828,669	15,326,782	23,961,957	*	2.83	4.54	4.57	3.98
Farm Proprietors' Income (\$000s)	49,590	(33,789)	19,825	5,732	165,043	(54,926)	23,777	5,732	*	n/a	n/a	-13.26	-10.60
Non-Farm Proprietors' Income (\$000s)	241,641	504,871	1,218,152	2,512,710	804,216	820,699	1,460,966	2,512,710	*	0.20	5.94	5.57	3.87
Wage & Salary Disbursements (\$000s)**	1,942,559	5,575,240	11,541,475	21,443,515	6,465,113	9,062,896	13,842,039	21,443,515	*	3.44	4.33	4.47	4.08
Earnings Per Worker*	8,690	17,955	28,662	41,784	28,923	29,187	34,375	41,784	*	0.09	1.65	1.97	1.23
Farm Income Per Proprietor	6,166	(3,688)	2,559	728	20,520	(5,994)	3,069	728	*	n/a	n/a	-13.41	-10.53
Non-Farm Income Per Proprietor	6,605	9,730	18,656	27,087	21,983	15,816	22,375	27,087	*	-3.24	3.53	1.93	0.70
Wage & Salary Disbursements Per WS Worker**	9,145	20,222	30,957	45,351	30,436	32,872	37,128	45,351	*	0.77	1.22	2.02	1.34

\* Includes wage and salary employees and proprietors.

\*\* Includes employer-paid benefits and social insurance taxes.

**Table 2 (Cont.): Aggregate and Per-Worker Income and Earnings Figures and Growth Rates, Selected Years**

	Actual Dollars				Inflation-Adjusted Dollars (2003 = 100)				Real Average Annual Growth Rate (%)				
	1973	1983	1993	2003	1973	1983	1993	2003	1973	1983	1993	2003	1973-2003
<b>Missouri Border w/o Jackson Co.</b>													
Earnings by Place of Work (\$000s)	1,681,098	3,767,545	7,223,826	12,993,231	5,594,933	6,124,377	8,663,752	12,993,231	*	0.91	3.53	4.14	2.85
Farm Proprietors' Income (\$000s)	134,925	(23,763)	9,482	61,996	449,050	(38,628)	11,372	61,996	*	n/a	n/a	18.48	-6.39
Non-Farm Proprietors' Income (\$000s)	182,879	394,332	751,160	1,367,576	608,647	641,011	900,889	1,367,576	*	0.52	3.46	4.26	2.74
Wage & Salary Disbursements (\$000s)	1,363,294	3,396,976	6,463,184	11,563,659	4,537,236	5,521,994	7,751,492	11,563,659	*	1.98	3.45	4.08	3.17
Earnings Per Worker	8,416	16,116	23,128	33,693	28,010	26,198	27,739	33,693	*	-0.67	0.57	1.96	0.62
Farm Income Per Proprietor	8,764	(1,612)	723	4,925	29,167	(2,621)	867	4,925	*	n/a	n/a	18.97	-5.76
Non-Farm Income Per Proprietor	7,115	10,869	15,000	19,336	23,681	17,669	17,989	19,336	*	-2.89	0.18	0.72	-0.67
Wage & Salary Disbursements Per WS Worker	8,593	18,587	25,942	38,250	28,600	30,215	31,113	38,250	*	0.55	0.29	2.09	0.97
<b>Kansas Border w/o Johnson Co.</b>													
Earnings by Place of Work (\$000s)*	1,443,718	3,110,679	4,881,142	7,128,764	4,804,899	5,056,601	5,854,101	7,128,764	*	0.51	1.48	1.99	1.32
Farm Proprietors' Income (\$000s)	46,417	(31,493)	17,332	(1,952)	154,482	(51,194)	20,787	(1,952)	*	n/a	n/a	n/a	n/a
Non-Farm Proprietors' Income (\$000s)	110,867	184,779	258,158	421,192	368,981	300,370	309,617	421,192	*	-2.04	0.30	3.13	0.44
Wage & Salary Disbursements (\$000s)**	1,286,434	2,957,393	4,605,652	6,709,524	4,281,435	4,807,425	5,523,697	6,709,524	*	1.17	1.40	1.96	1.51
Earnings Per Worker*	8,794	17,941	26,901	35,943	29,268	29,164	32,263	35,943	*	-0.04	1.02	1.09	0.69
Farm Income Per Proprietor	6,313	(3,779)	2,431	(269)	21,009	(6,144)	2,915	(269)	*	n/a	n/a	n/a	n/a
Non-Farm Income Per Proprietor	6,314	9,543	11,604	14,318	21,013	15,513	13,917	14,318	*	-2.99	-1.08	0.28	-1.27
Wage & Salary Disbursements Per WS Worker**	9,238	20,299	30,286	41,504	30,745	32,997	36,323	41,504	*	0.71	0.96	1.34	1.01

\* Includes wage and salary employees and proprietors.

\*\* Includes employer-paid benefits and social insurance taxes.

## **Definitions Related to the Data Used in this Report** (Provided by U.S. Bureau of Economic Analysis)

### **Total Full-Time and Part-Time Employment**

The BEA employment series for states and local areas comprises estimates of the number of jobs, full-time plus part-time, by place of work. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

Proprietors employment consists of the number of sole proprietorships and the number of partners in partnerships. The description "by place of work" applies to the wage and salary portion of the series and, with relatively little error, to the entire series. The proprietors employment portion of the series, however, is more nearly by place of residence because, for non-farm sole proprietorships, the estimates are based on IRS tax data that reflect the address from which the proprietor's individual tax return is filed, which is usually the proprietor's residence. The non-farm partnership portion of the proprietors employment series reflects the tax-filing address of the partnership, which may be either the residence of one of the partners or the business address of the partnership.

The employment estimates are designed to be consistent with the estimates of wage and salary disbursements and proprietors' income that are part of the personal income series. The employment estimates are based on the same sets of source data as the corresponding earnings estimates and are prepared with parallel methodologies. Two forms of proprietors' income—the income of limited partnerships and the income of tax-exempt cooperatives—have no corresponding employment estimates.

### **Wage and Salary Workers**

Wage and salary jobs, also referred to as wage and salary employment, measures the average annual number of full-time and part-time jobs in each area by place-of-work. All jobs for which wages and salaries are paid are counted. Full-time and part-time jobs are counted with equal weight.

Jury and witness service, as well as paid employment of prisoners, are not counted as wage and salary employment; the payments for these activities are classified as "other labor income" in the personal income measure. Corporate directorships are counted as self-employment.

### **Wage and Salary Disbursements**

Wage and salary disbursements consists of the monetary remuneration of employees, including corporate officers salaries and bonuses, commissions, pay-in-kind, incentive payments, and tips. It reflects the amount of payments disbursed, but not necessarily earned during the year.

Wage and salary disbursements is measured before deductions, such as social security contributions and union dues.

In recent years, stock options have become a point of discussion. Wage and salary disbursements includes stock options of nonqualified plans at the time that they have been exercised by the individual. Stock options are reported in wage and salary disbursements. The value that is included in wages is the difference between the exercise price and the price that the stock options were granted.

### **Number of Farm Proprietors**

Farm self-employment is defined as the number of non-corporate farm operators, consisting of sole proprietors and partners. A farm is defined as an establishment that produces, or normally would be expected to produce, at least \$1,000 worth of farm products--crops and livestock--in a typical year. Because of the low cutoff point for this definition, the farm self-employment estimates are effectively on a full-time and part-time basis. The estimates are consistent with the job-count basis of the estimates of wage and salary employment because farm proprietors are counted without regard to any other employment. Also referred to as farm self-employment.

### **Farm Proprietors' Income**

Farm proprietors' income consists of the income that is received by the sole proprietorships and the partnerships that operate farms. It excludes the income that is received by corporate farms.

### **Number of Non-Farm Proprietors**

The BEA local area estimates of non-farm self-employment consist of the number of sole proprietorships and the number of individual business partners not assumed to be limited partners. The non-farm self-employment estimates resemble the wage and salary employment estimates in that both series measure jobs—as opposed to workers—on a full-time and part-time basis. However, because of limitations in source data, two important measurement differences exist between the two sets of estimates. First, the self-employment estimates are largely on a place-of-residence basis rather than on the preferred place-of-work basis. Second, the self-employment estimates reflect the total number of sole proprietorships or partnerships active at any time during the year—as opposed to the annual average measure used for wage and salary employment.

### **Non-Farm Proprietors' Income**

Non-farm Proprietors' Income consists of the income that is received by non-farm sole proprietorships and partnerships and the income that is received by tax-exempt cooperatives.

The national estimates of non-farm proprietors' income are primarily derived from income tax data. Because these data do not always reflect current production and because they are incomplete, the estimates also include four major adjustments--the inventory valuation adjustment, the capital consumption adjustment, the "misreporting" adjustment, and the adjustment for the net margins on owner-built housing.

The inventory valuation adjustment offsets the effects of the gains and the losses that result from changes in the prices of products withdrawn from inventories; this adjustment for recent years has been small, but it is important to the definition of proprietors' income.

The capital consumption adjustment changes the value of the consumption, or depreciation, of fixed capital from the historical-cost basis used in the source data to a replacement-cost basis.

The "misreporting" adjustment adds an estimate of the income of sole proprietors and partnerships that is not reported on tax returns.

The adjustment for the net margins on owner-built housing is an addition to the estimate for the construction industry. It is the imputed net income of individuals from the construction or renovation of their own dwellings.

The source data necessary to prepare these adjustments are available only at the national level. Therefore, the national estimates of non-farm proprietors' income that include the adjustments are allocated to states, and these state estimates are allocated to the counties, in proportion to tax return data that do not reflect the adjustments.

In addition, the national estimates include adjustments made to reflect decreases in monetary and imputed income that result from damage to fixed capital and to inventories that is caused by disasters, such as hurricanes, floods, and earthquakes. These adjustments are attributed to states and counties on the basis of information from the Federal Emergency Management Agency.

# KANSAS, INC.

Created by the 1986 Legislature, Kansas, Inc. is an independent, objective, and non-partisan agency designed to conduct economic development research and analysis with a goal of crafting policies and recommendations to insure the state's ongoing competitiveness for economic growth. This is achieved through these primary activities: 1) developing and implementing a proactive and aggressive research agenda; 2) identifying and promoting strategies and policies from the research; 3) conducting evaluation reviews and oversight of programs; and, 4) collaboration with economic development entities and outreach to potential partners. Kansas, Inc. is designed to be a public private partnership with expectations that state investments are leveraged with other funds to maintain a strong research portfolio.

A 17-member Board of Directors co-chaired by the Governor and a private sector representative governs Kansas, Inc. Nine Board members are representatives from identified industries in the private sector and other members are: the Secretary of Commerce, Legislative leadership, the Kansas Board of Regents, and a representative from labor.

---

---

## BOARD OF DIRECTORS

### CO-CHAIRS

**Governor Kathleen Sebelius**  
Topeka

**Patti Bossert**  
Key Staffing, Topeka

### MEMBERS

**Stan R. Ahlerich**  
Ahlerich Farms, Winfield

**Gene Argo**  
American Rodeo Company, Hays

**Rep. Tom Burroughs**  
State Representative, Kansas City

**Secretary Howard Fricke**  
Kansas Department of Commerce, Topeka

**Rep. Lana Gordon**  
State Representative, Topeka

**Donna Johnson**  
Pinnacle Technology, Lawrence

**Sen. Laura Kelly**  
State Senator, Topeka

**Wil Leiker**  
AFL- CIO, Topeka

**Lawrence L. McCants**  
First National Bank, Goodland

**Sen. Stephen Morris**  
Senate President, Hugoton

**Reginald Robinson**  
Kansas Board of Regents, Topeka

**Donald P. Schnacke**  
Donald P. Schnacke, P.A., Topeka

**Paul Stephenson**  
PDS Company, Wichita

**Stephen L. Waite**  
Kansas Calvary, El Dorado

---

---

### KANSAS, INC. STAFF

**Stan R. Ahlerich**  
Interim President

**Debby Fitzhugh**  
Director of Operations

**Dan Korber**  
Senior Research Analyst



632 SW Van Buren, Suite 100  
Topeka, KS 66603  
(785) 296-1460  
(785) 296-1463 (fax)  
[www.kansasinc.org](http://www.kansasinc.org)  
[ksinc@ink.org](mailto:ksinc@ink.org)



University of Kansas School of Business  
Summerfield Hall, 1300 Sunnyside Avenue  
Lawrence, KS 66045-7585  
[www.cae.business.ku.edu](http://www.cae.business.ku.edu)  
(785) 864-5134