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To submit articles for review, please contact the editor by e-mail: [jrosenbloom@ku.edu](mailto:jrosenbloom@ku.edu)

Please visit our Web site: <http://www.ipsr.ku.edu/>

## Editor's Comments

### Joshua L. Rosenbloom

The Policy Research Institute\* sponsors its annual Kansas Economic Policy Conference (KEPC) every October. The conference features a theme related to important policy issues confronting Kansans. In 2005, the conference took on the role of science, technology, and innovation in promoting a healthy and growing Kansas economy.

The 2006 KEPC, *Is Density Destiny? Reshaping Kansas Government for the 21st Century*, is scheduled for October 26. The conference will address the challenges confronting Kansas in the face of long running demographic changes that have reshaped the state and shifted population from rural to urban areas. It will feature keynote speeches on government consolidation and intergovernmental cooperation as well as panel discussions featuring academics and practitioners experienced with the challenges facing the state. In addition to the main conference site in Lawrence, Kansas, the conference will include a satellite site in Ulysses, Kansas, the location for the afternoon panel.

We hope you will attend this year's conference. Please visit our website, <http://www.ipsr.ku.edu/>, later this summer for details about the conference and registration.

Beginning with the 2005 Kansas Economic Policy Conference, a panel assessing the "State of the State" was added to the program and will be a feature each year. The next three articles in this issue of the *KPR* are summaries of the presentations by last year's panelists: perspectives on demographic, economic, and public finance trends that condition the environment in which public-policy decisions must be made. We hope to make publication of the panel presentations a regular feature in the *Kansas Policy Review*.

\* In August 2006, the Policy Research Institute will become the **Institute for Policy and Social Research (IPSR)**.

## Outmigration and the Changing Economy of the Great Plains

**Michael Hayden**

**Editors's Note:**

The following graphics were prepared by Michael Hayden, Secretary of the Kansas Department of Wildlife and Parks for presentation at the 2005 Kansas Economic Policy Conference. Secretary Hayden was unable to provide a written commentary to accompany these images for this publication. Readers can nonetheless clearly grasp the challenges that shifting demographic and natural resource patterns pose for Kansas.

In summary, over the past 75 years, population has shifted from rural to urban areas and from west to east. Because of the selective nature of outmigration Kansas, in general, and its rural counties, in particular, have

seen the average age of their population increase relative to the country as a whole. One factor in the decline of rural population has been the growing size of farms and the consequent reduction in their numbers. In the last decade, Kansas has experienced a marked growth in its Hispanic population.

Settlement and farming in the western parts of the state are highly dependent on ground water, mainly drawn from the Ogallala Aquifer. But extensive pumping means that the usable lifetime of these reserves has dropped sharply. It is estimated that water will be available from this source for 50 years or less.

Another important resource in Kansas has been natural gas. But recent trends suggest that the state's reserves of this resource are also being rapidly depleted.

In the future, sustained economic growth will require a shift toward sustainability of natural resources, and a diversification of the Kansas economy.

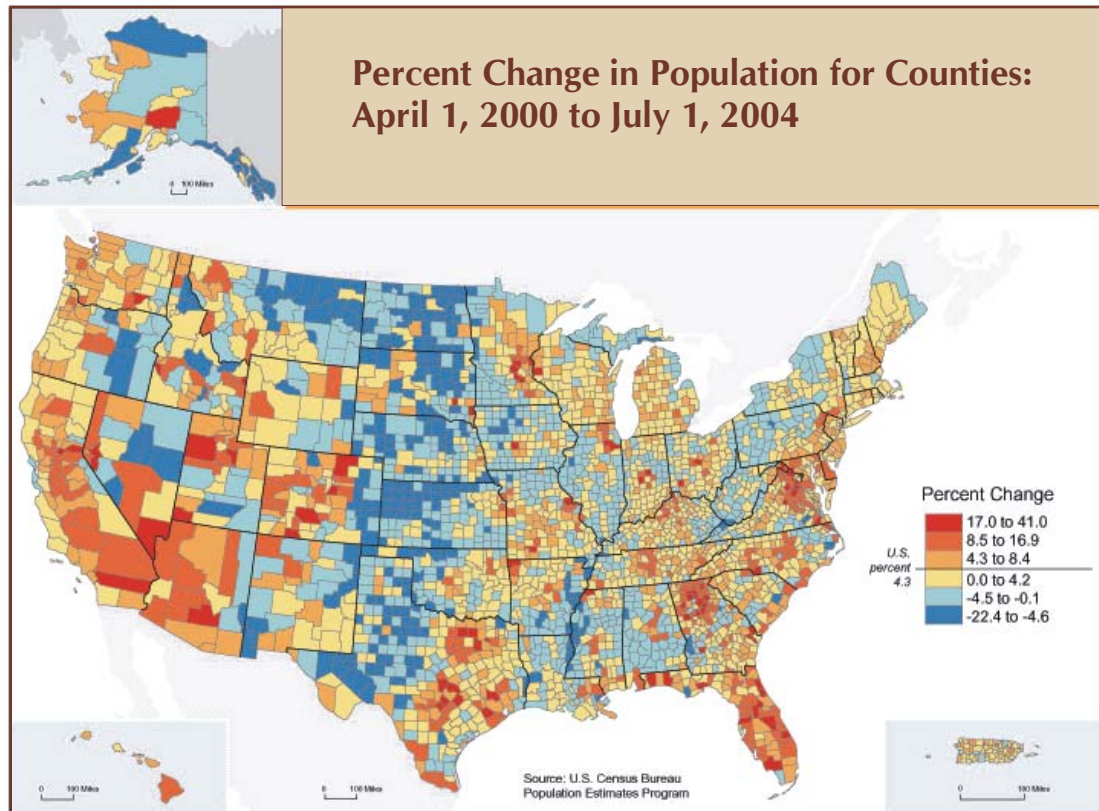
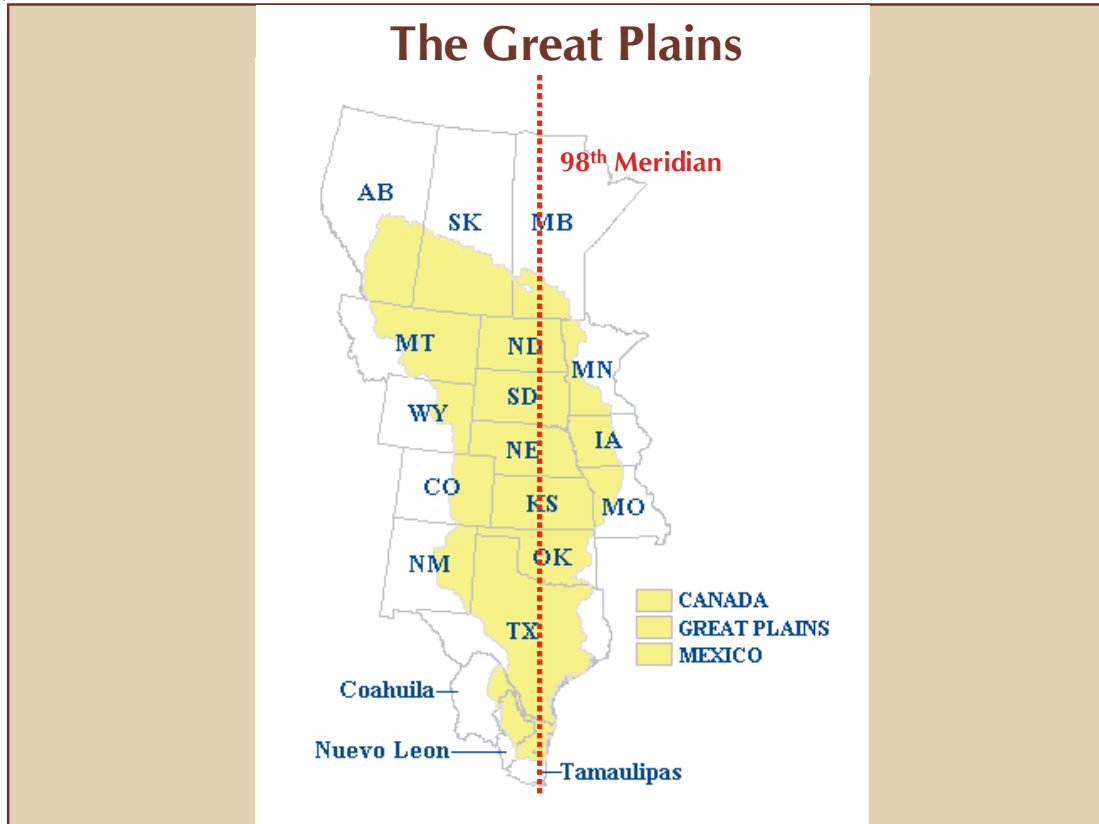
# Outmigration and the Changing Economy of the Great Plains

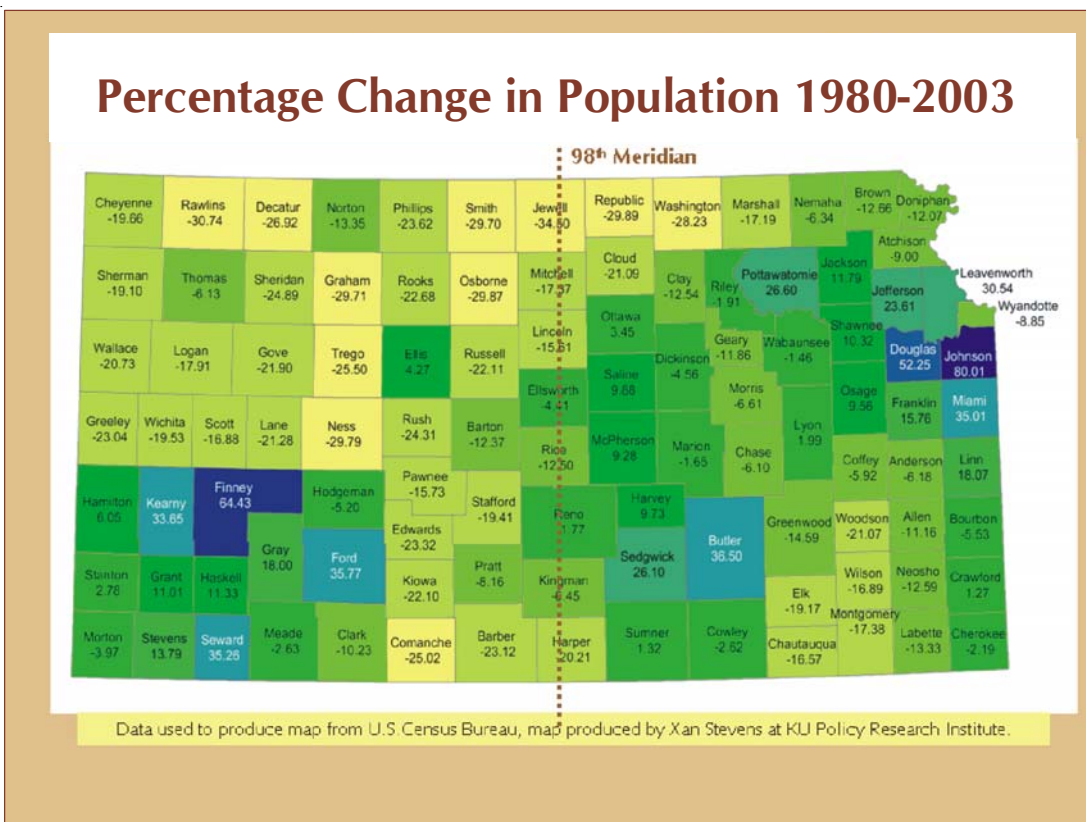
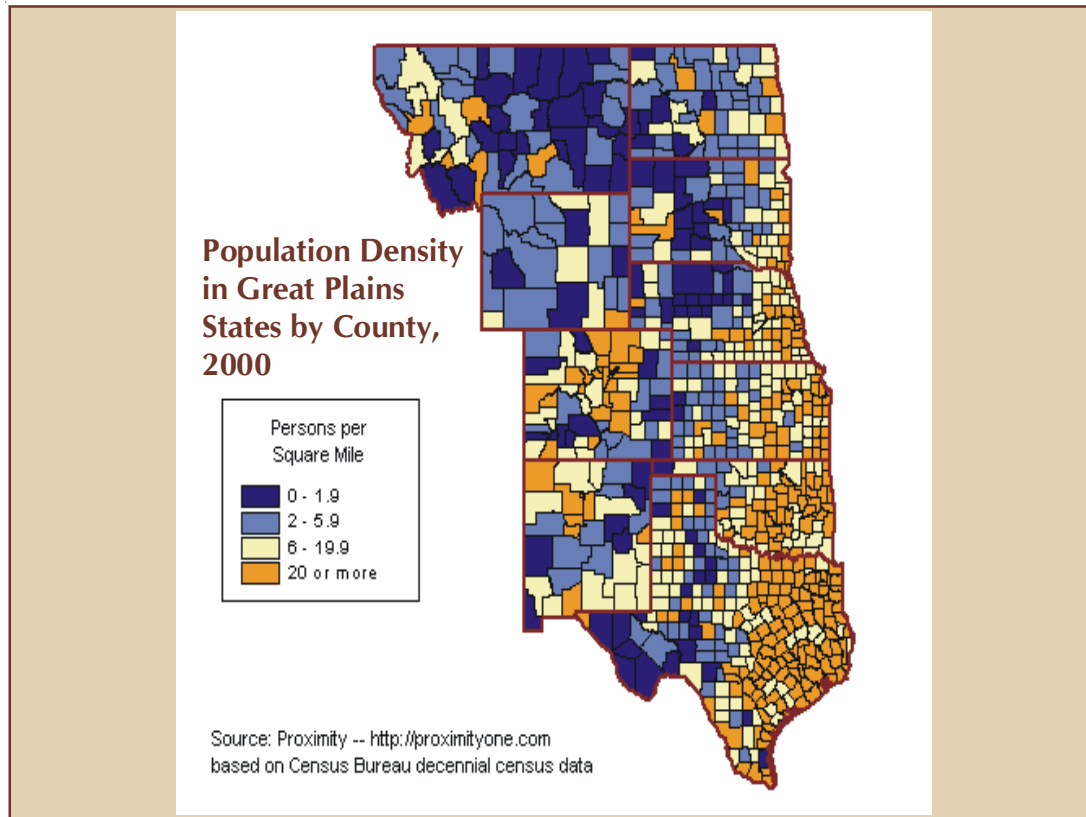


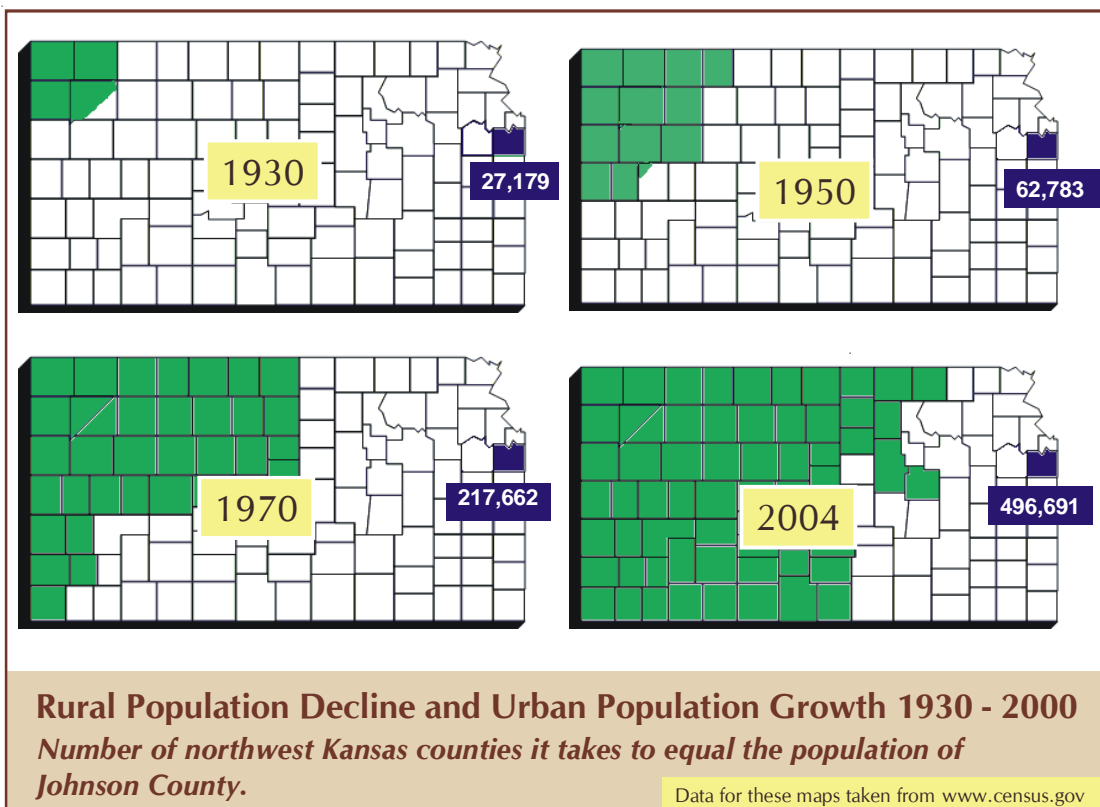
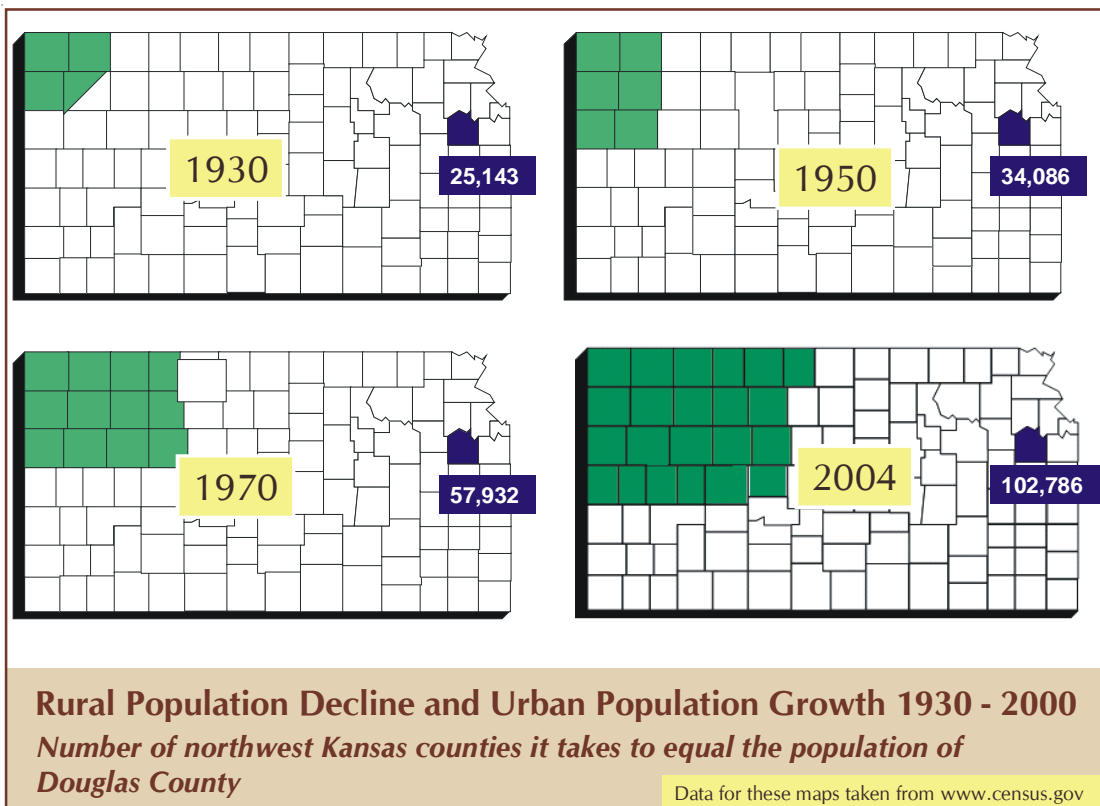
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Presented by:

Michael Hayden, Secretary of the Kansas Department of Wildlife and Parks

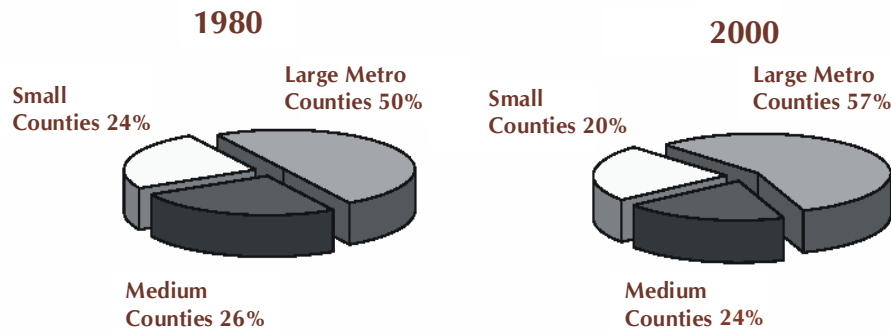








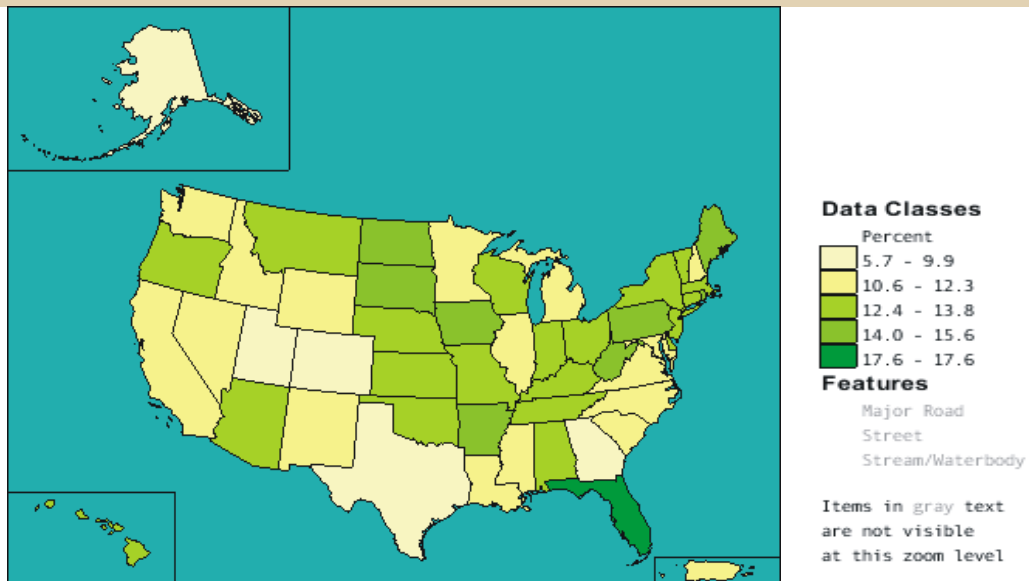
## Increasing Urbanization of Kansas Population



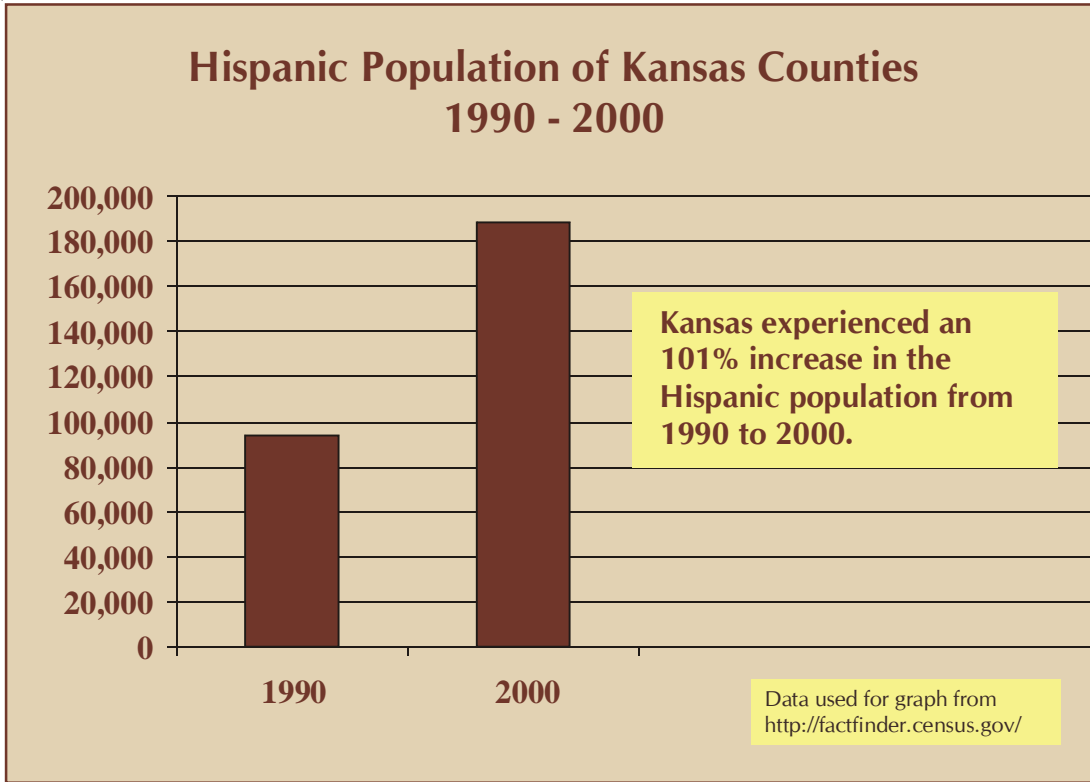
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Kansas has 9 Large Metro Counties & 78 Small Counties. Since 1990 nearly 90% of the state's population growth has occurred in the Large Metro Counties, and from 1988 to 1998 nearly 75% of the state's employment increase was in the same counties. In the Medium Counties, the mid-size communities, such as Hays, Salina, Hutchinson, and Manhattan, are growing, but the rural areas are declining.

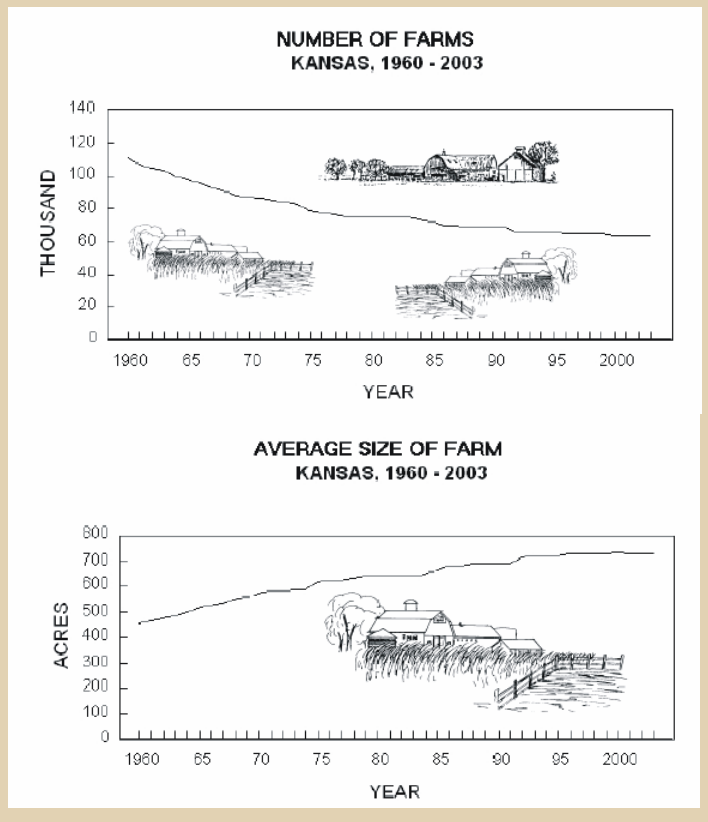
## Aging of Great Plains Population

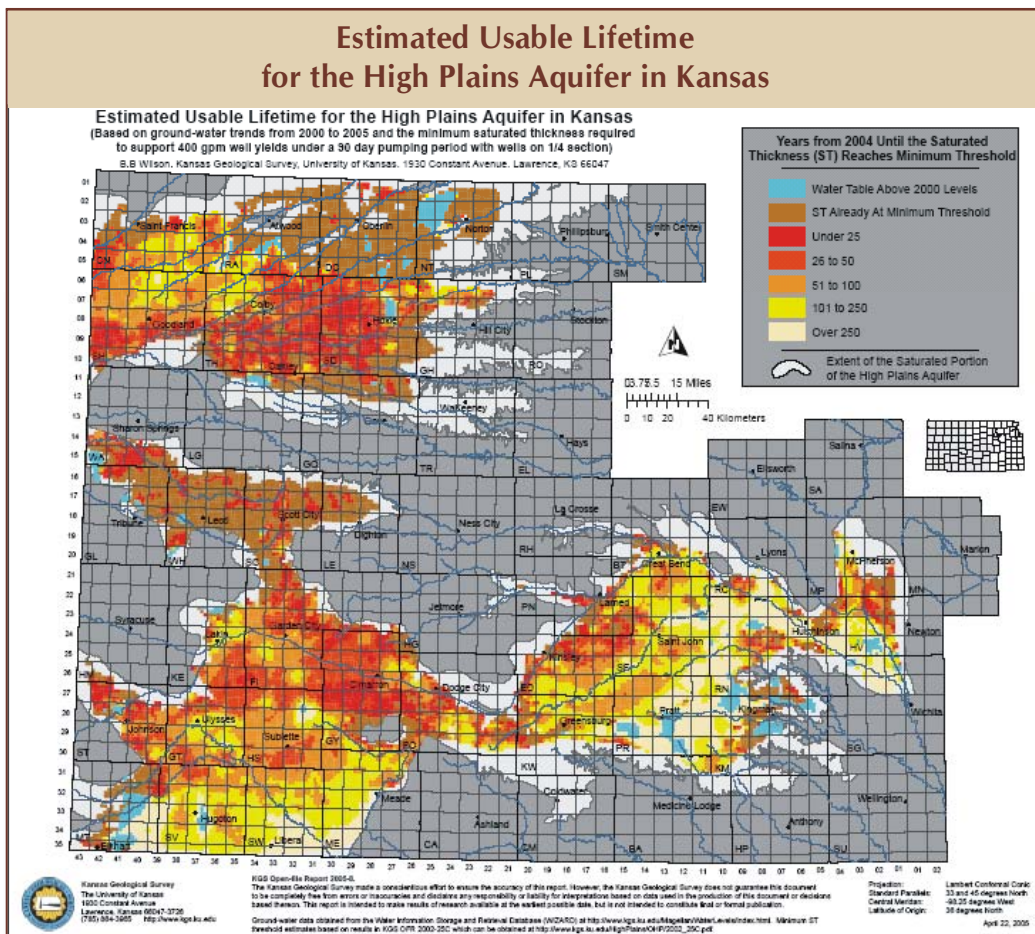
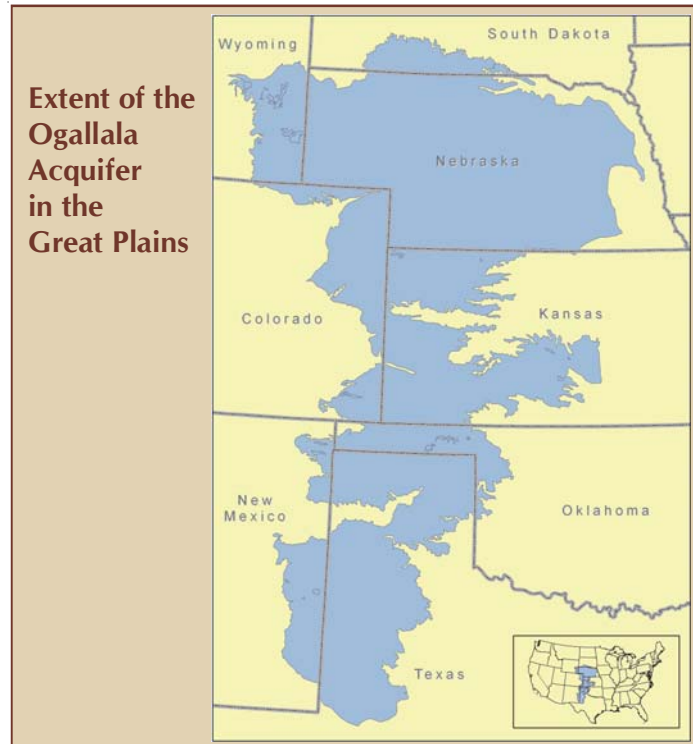


As of 2000, nationwide the percentage of the population 65 and over was 12.4%, while Kansas was 13.3%. Within Kansas, as of 1990, the counties with the greatest population loss in the previous decade, also had the highest percentage of people 65 and over.

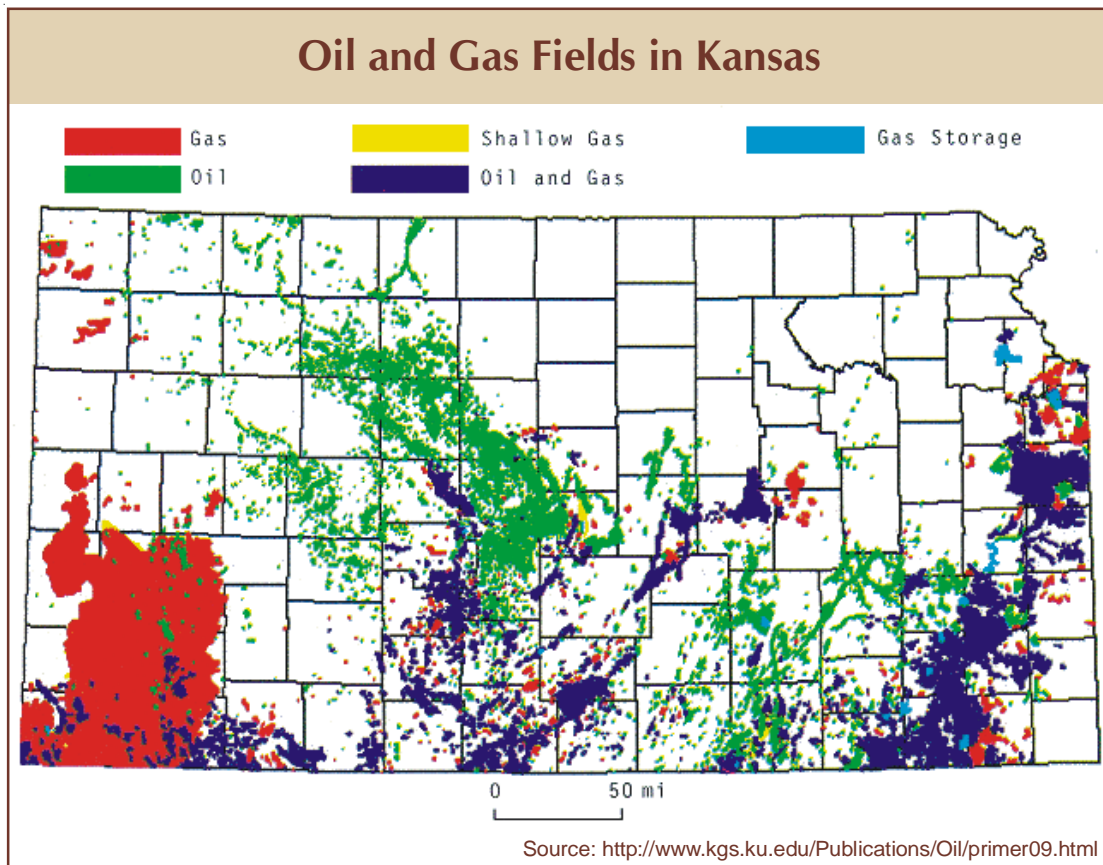
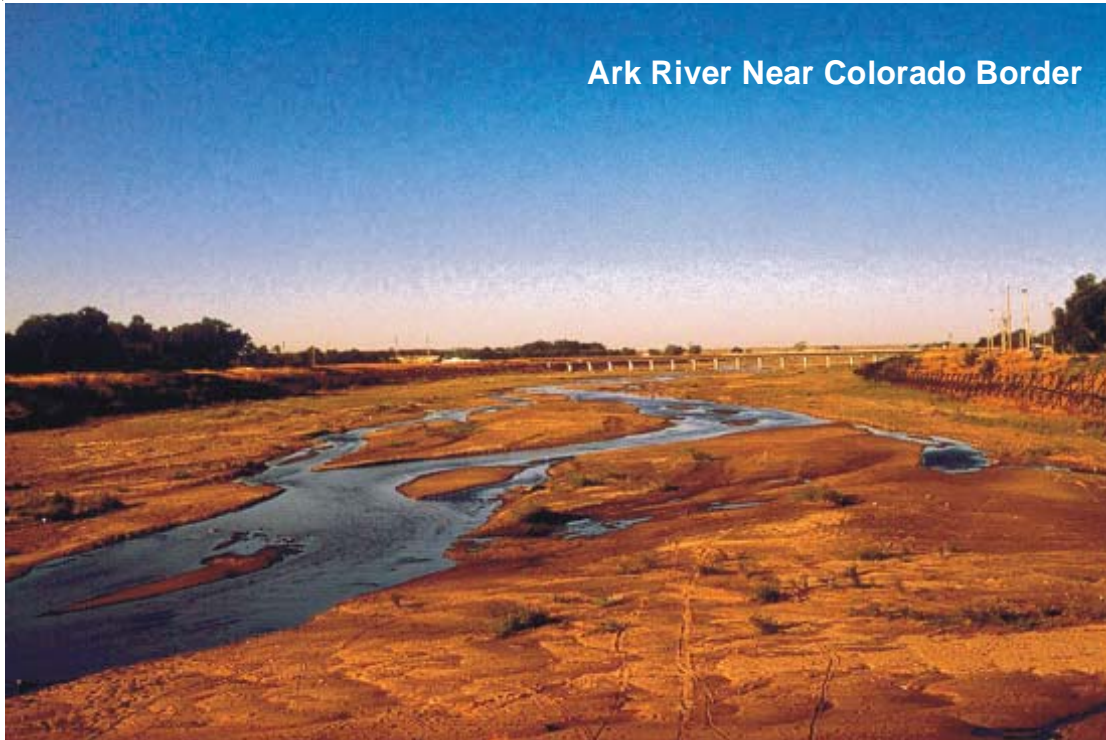


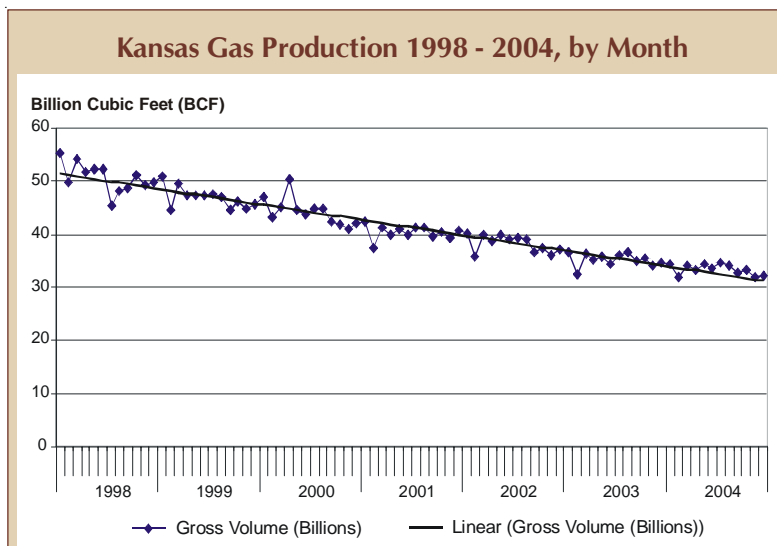
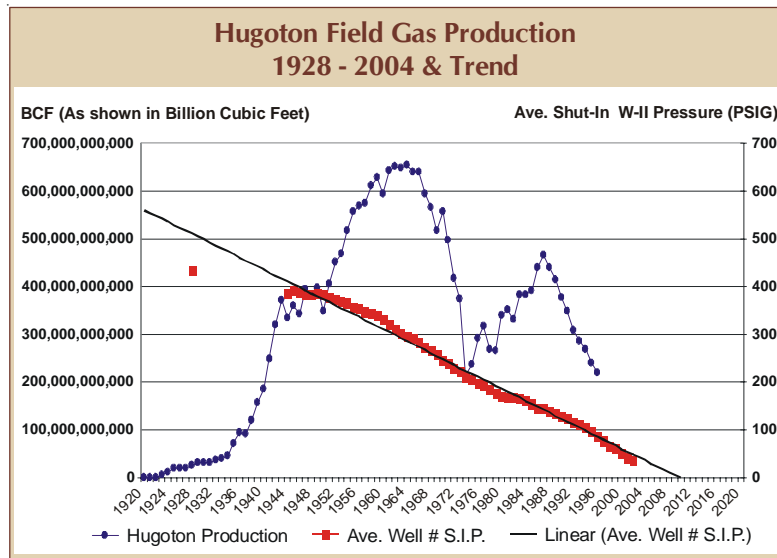
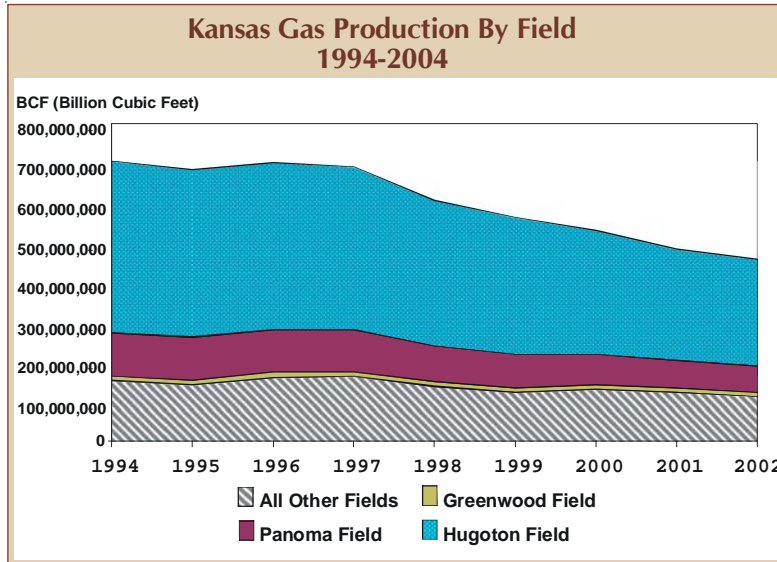
From 1960 to 2003 the number of farms in Kansas decreased 41% from 110,000 to 64,500. However, the average size of the Kansas farm increased from 456 acres to 732 acres.











## What Does the Future Hold?

- **Sustainability of Resources**

- Change in agriculture
  - Value added
  - Niche Markets
- Water usage
- Wind Energy

- **Diversification (Economic Gardening)**

- Agrotourism, ecotourism, and heritage tourism
- Biosciences, (including ethanol, production, biomaterial, pharmaceuticals)
- Free land and other incentives to encourage people to move to Great Plains towns. Current technologies allow people to live anywhere and still conduct business.



## What Does the Future Hold? (cont.)

### Success Stories

- **Valley County Nebraska using the HomeTown Competitiveness (HTC) Program**
  - A comprehensive approach to long-term rural community sustainability, mobilizing local leaders, energizing entrepreneurship, engaging and attracting young people, capturing wealth transfer
  - Valley County has an Entrepreneurial Development System and in the last 6 months they have \$80 million in new investment and have created 80 jobs.
- **Texas Prairie Rivers Region, Inc.**
  - A non-profit public-private partnership of 15 rural counties along the eastern side of the Texas panhandle
  - Over 500 partners include private landowners, small town businesses, local governments, conservationists, resource agencies, and others who work to preserve the native plains and their way of life. Partnership works to address concerns including water conservation, stopping salt cedar and Russian Olive invasions, preservation of habitat and threatened bird and animal species, brain drain of loss of young adults through out-migration, sustainable development of rural communities.





## Economic Growth and Productivity in the Regions of Kansas, 1969-2003

Arthur P. Hall

Over the past quarter-century, Kansas has had an average annual economic growth rate that ranks 35<sup>th</sup> among the states; and ranks 4<sup>th</sup> among the seven states in the Plains region. Relatively slow labor productivity growth in Kansas helps to explain the relatively slow growth rate of the Kansas economy. Professor Peter Orazem presented the evidence for this viewpoint in the Fall 2004 issue of this journal.<sup>1</sup> The following analysis strives to further illuminate Orazem's findings by evaluating economic growth and productivity trends among the Plains states and the different regions of Kansas.

Economic growth is defined as a sustained increase, over a period of time, in the material goods and services produced within a specified geographic region. This definition allows for two basic sources of growth: (1) the number of people that produce and (2) the efficiency with which the people produce over a given time period; that is, their labor productivity. The two elements can change at different rates.

The labor productivity component of economic growth drives labor compensation levels, and thereby the average standard of living within an economy. Businesses cannot, on a sustained basis, pay workers more than the value of what they produce. Therefore, compensation levels should closely track increases in the average monetary value of output per worker. For the state of Kansas, over the past quarter-century, the relationship between the dollar value of output per worker and compensation per worker is nearly exact, having a statistical correlation of 98 percent.<sup>2</sup>

From the perspective of public policy analysis, people involved with the policy making process should distinguish between the terms "economic growth" and "economic development," because people mistakenly use the terms interchangeably. Economic growth has a concise, measurable definition. Economic development has a more amorphous meaning. Simply stated, economic development constitutes the many interrelated economic processes that culminate in economic growth—particularly the component of growth driven by improved labor productivity.

A process known as "capital deepening" defines the core aspect of economic development. Capital deepening simply refers to the capital intensity of the production processes within an economy. However, many complex economic phenomena underlie that simple meaning—phenomena associated with increasing rates

of technological innovation and technological diffusion, increasing degrees of production specialization (including the manufacture of production capital itself), increasing organizational complexity, and increasing levels of relevant know-how within the workforce. These phenomena must come together in a mutually-reinforcing way on the front lines of individual businesses—usually through a risky process of trial and error—before economic development manifests itself as productivity-driven economic growth.

### Productivity in the Plains States

Table 1 reports estimates of the employment and productivity components of economic (output) growth for the Plains states and the United States, using two different data sets for comparison. The comparison reveals the differences between the best available data to use for economic growth and productivity analysis (gross state product) and that which this study must use to approximate economic growth and productivity at the sub-state level (total compensation).<sup>3</sup> Note that output growth is composed of the sum of its employment and productivity components.

The gross-state-product panel of Table 1 shows that Kansas has the 4<sup>th</sup> highest growth of output among the seven Plains states (a region defined by the U.S. Bureau of Economic Analysis). A more in-depth study of the data reveals that Kansas ranked 6<sup>th</sup> among the Plains states in terms of the share of output growth attributable to labor productivity growth. That implies, conversely, that Kansas ranks second among the Plains states in terms of the share of output attributable to employment growth. (Note that the share of output growth attributable to productivity is a different metric than productivity growth itself. From 1977 to 2003, labor productivity in Kansas grew 26 percent; that growth rate ranked 6<sup>th</sup> among the Plains states. Among the Plains states as a group, productivity grew 30 percent. South Dakota, the top-ranking state in the Plains, experienced productivity growth of 38 percent.)

The total-compensation panel of Table 1 shows that employee-related compensation offers a reasonable, yet imperfect, approximation for measuring economic growth. Using this set of metrics, Kansas ranks 5<sup>th</sup> in terms of both total output growth and the share of output growth attributable to productivity growth. Orazem has shown that productivity growth and per-worker compensation growth deviate from one another, despite their strong statistical correlation. For example, in Kansas, compensation has grown \$0.75 for every \$1.00 that productivity has grown; for the Plains as a group, compensation has grown \$0.66 for every \$1.00 that productivity has grown.<sup>4</sup>

Any analysis of growth trends must contend with the influence that the start- and end-points have on the growth calculation. Table 1 begins in 1977 because that is the earliest date in which consistent gross state product data is available. Using total compensation data, which goes back to 1969, Kansas would have a much higher aggregate growth rate—greater than both the Plains and the United States—but it would rank 4<sup>th</sup> among the Plains states. Minnesota and South Dakota would remain the growth leaders in the Plains. (Table A, in the Appendix, reports for the 1993-to-2003 time period, the same data reported in Table 1.)

**Table 1**  
**Component Shares of Economic Growth in the Plains States and United States, 1977-2003**

Area	Gross State Product, 1977-2003			Total Compensation, 1977-2003		
	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)
Iowa	57	32	25	68	34	34
<b>Kansas</b>	<b>84</b>	<b>52</b>	<b>32</b>	<b>97</b>	<b>55</b>	<b>42</b>
Minnesota	128	78	50	146	79	67
Missouri	83	50	33	90	49	41
Nebraska	90	50	40	98	54	44
N. Dakota	62	41	21	83	49	34
S. Dakota	111	63	48	121	70	51
Plains States	91	54	37	103	56	47
United States	120	70	50	116	64	52
KS w/o JoCo	na	na	na	61	31	30

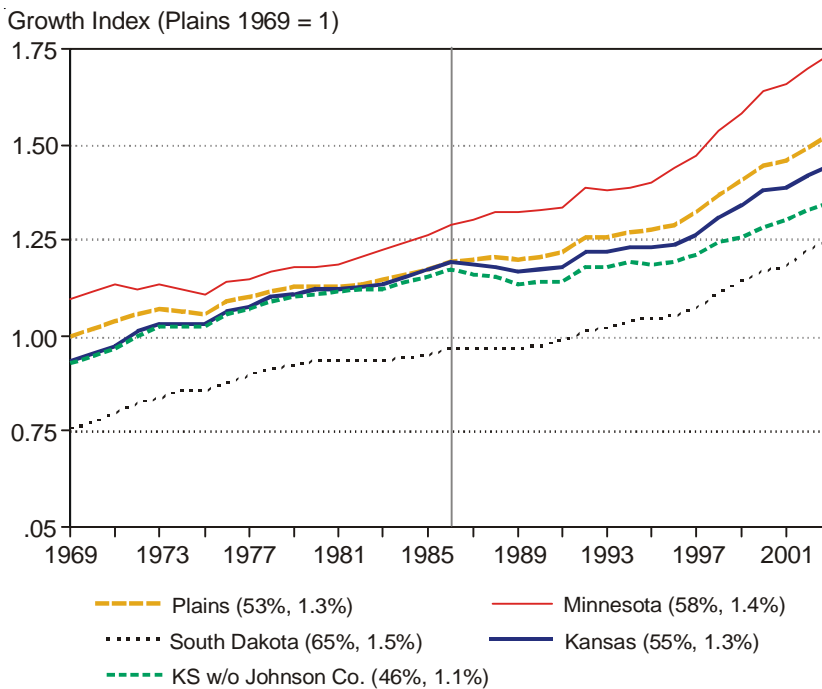
Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.

Figure 1, which uses per-worker total compensation as a proxy for productivity, provides more detail related to the productivity component of Table 1, for the selected regions. The juxtaposition of the curves on Figure 1 (post-1977) offer an extremely close approximation to

the picture that would result from using gross state product data, reinforcing the near-perfect statistical correlation between per-worker compensation and per-worker productivity. The different levels of the curves represent approximations of the market-determined dollar-value difference of the per-worker output in the different regions. The slopes of the curves represent approximations of the growth rate of labor productivity in the different regions. (The statistics reported in parenthesis in the legend of Figure 1 indicate, in percentage terms, the total and average annual growth of productivity, as measured by per-worker compensation. For example, from 1969 to 2003, Kansas experienced estimated productivity growth of 55 percent, which translates into an average annual growth rate of 1.3 percent.)

Figure 1 illustrates three noteworthy features of Kansas' economic history. First, Kansas experienced relatively strong productivity growth during the 1970s. Good times in the oil extraction and marketing business

**Figure 1**  
**Estimated Labor Productivity Trends in Select Regions of the Plains**



Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.



drove a lot of this growth. (The same forces also help explain the 1970s productivity growth in the Dakotas.) Second, the economic dominance of Johnson County began to manifest itself in 1976 – and then in earnest following the national economic recessions of the early 1980s. Third, something significant appears to have happened in 1986 that arrested productivity growth in Kansas, relative to other Plains states, for the next decade. Only in 1996, does Kansas productivity (as measured here) begin to grow at rates greater than some of the other Plains states. A relative productivity growth lag of this duration has had material consequences for the competitiveness of Kansas businesses and the level of compensation provided to Kansas workers.

Figure 1 also helps frame an interesting question related to the history of economic growth in the Plains states: Why have Minnesota and South Dakota experienced productivity growth rates above the national average while all other Plains states have experienced growth rates below – except for Nebraska, significantly below – the national average?

This question has particular relevance in the context of a tenet of economic growth theory known as “convergence.” Economists distinguish between “absolute convergence” and “conditional convergence.”

Absolute convergence predicts that per-worker incomes – and per-worker income growth rates – among regions will converge to similar levels. In particular, absolute convergence predicts that economies with lower per-worker incomes will grow faster than economies with higher per-worker incomes. In a world (or country) that allows for the free mobility of capital and labor, incomes should converge to a common trend as investors deploy capital to areas that have the highest rates of investment return (which is, in part, a function of wage rates) and people move to areas that offer the highest compensation (which is, in part, a function of capital deployment).

Conditional convergence contemplates situations, both natural and man-made, that may not allow absolute convergence to work. It predicts that economies will grow faster the farther away they are from their “natural” level of economic activity – that is, they quickly catch up to where the “should be,” given their combination of natural, man-made, and human resources, once transitory or institutional impediments to growth are removed (or mitigated). Public policies (or other types of shocks, like natural disasters) offer an array of forces within an economy that may make it different from otherwise similarly situated economies. Correcting economic policies that deter the economic development process can allow an economy to accelerate its economic growth to a level that is closer to its “natural” level.

Economic research provides support for absolute convergence, both internationally and among the U.S. states. Absolute convergence tends to show up empirically among the more similarly situated economies, like the U.S. states or the developed economies of Europe. Dissimilar economies – like the industrialized economies and the underdeveloped economies of the world – tend not to demonstrate empirical patterns of absolute convergence. Instead, dissimilar economies tend to show economic growth patterns more consistent with conditional convergence.<sup>5</sup>

Among the U.S. states, there existed a strong tendency toward absolute convergence until the 1970s. Since then, disparity in per-worker incomes (and growth rates) has tended to persist.<sup>6</sup> The productivity growth patterns of Minnesota and South Dakota, illustrated in Figure 1, underscore this modern tendency. The concept of absolute convergence would predict the relatively fast productivity growth rate of South Dakota, since it began the 1970s with the lowest per-worker compensation in the Plains region (and 3<sup>rd</sup> lowest in the nation); it would not necessarily predict the strong growth of Minnesota, the state with the highest per-worker compensation in the Plains (and 25<sup>th</sup> highest in the nation).

Both structural issues and policy regimes may have made the notion of conditional convergence more relevant to the growth patterns of the U.S. states. A recent academic study investigated the influence of state and local policies on economic growth by pulling together three isolated strands of research into a unified framework. The study evaluated growth patterns across the states from 1979 to 1997. Recalling that capital deepening (as discussed above) is a key economic development process that influences productivity growth, the relevant finding of the study for this discussion is that “state and local policies have a more profound influence on the private capital-to-labor ratio in a region than on private output.”<sup>7</sup> In addition, the notion of conditional convergence may help explain why another well-crafted study focused on state tax policy, covering the period 1960-1992, concluded that “it appears that state and local taxes have temporary growth effects that are stronger over shorter intervals and a permanent growth effect that does not die out over time, at least for the sample considered.”<sup>8</sup>

Two major tax policy events occurred in Kansas in the mid-1980s, one federal and one state-specific. One (or both) of these events may have provided a shock to the Kansas economy that helps explain the decade-long stagnation of productivity growth, which started in 1986 (see Figure 1). The federal event was the Tax Reform Act of 1986, the largest change to the federal tax code since 1954. The Kansas event was the 1985

legislation that ordered reappraisal of all property for property taxes purposes (effective 1989) and presented to Kansas voters an amendment to the state constitution that created a brand new property classification system; the amendment passed in November of 1986. Major tax policy changes like these tend to postpone investment activity while taxpayers assess the implications and wait for certainty on the outcomes.<sup>9</sup>

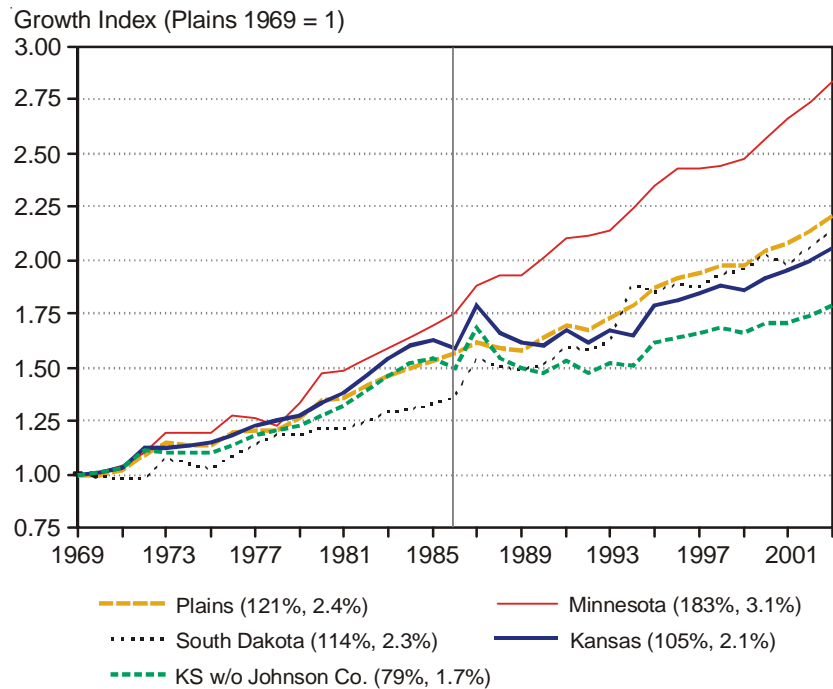
The extent to which these tax policy changes had an affect on capital deepening in Kansas requires more in-depth research. However, Figure 2 provides readily-accessible information that offers some clues. Figure 2 illustrates the rate of new business starts (sole proprietorships and partnerships) for the regions shown in Figure 1. New business starts offer one proxy for assessing the relative attractiveness of Kansas, relative to other states, as a place to invest and take business risks.

The cursory evidence provided by Figures 1 and 2 suggest that (1) the federal Tax Reform Act of 1986 may have had a transitory effect on investment-related activity in Kansas and (2) the Kansas-specific property tax changes may have had a more enduring effect on investment related activity in Kansas. Similar to the patterns shown in Figure 1, Figure 2 indicates that Kansas experienced significant discontinuities in the rate of new business formation about 1986. Related to the 1985 Kansas legislation, only three other states besides Kansas showed a dip in new business formation between 1985 and 1986. Related to the federal legislation, notable discontinuities (both positive and negative) occurred across many states between 1986 and 1987; most of the positive spikes occurred in Midwestern states. Related to the possible enduring effect of the 1985 Kansas legislation, from 1988 to 1994 Kansas ranked 49<sup>th</sup> among the states (just ahead of Oklahoma) in terms of the average annual growth rate of new businesses; from 1995 to 2003, Kansas ranks 45<sup>th</sup>. These rankings represent a substantial drop from pre-1985 growth rates (34<sup>th</sup> from 1969 to 1985; 22<sup>nd</sup> from 1980 to 1985).

### Productivity in the Regions of Kansas

The Kansas Department of Commerce uses the regions delineated in Figure 3 to administer and track

**Figure 2**  
New Business Formation Trends in Select Regions of the Plains States, 1969-2003



Source: Author's calculations using data from the U.S. Bureau of Economic Analysis.

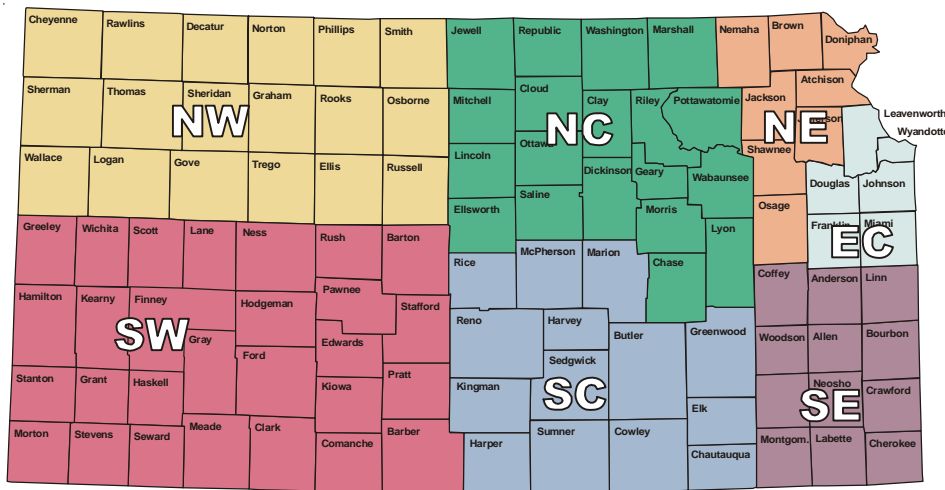
economic development-related initiatives. These regions will inform the regional analysis.

From an economic development perspective, the boundaries of the map in Figure 3 have a somewhat arbitrary demarcation (e.g., the separation of Salina-McPherson and Topeka-Lawrence). It makes more sense to think of economic development in terms of concentric rings around population centers. Population density tends to promote productivity growth.<sup>10</sup> People commonly remark that cities have higher wages because cities have a higher cost of living. However, the economic causality runs in the opposite direction; cities tend to have a higher cost of living because they nurture the productivity gains that allow for higher pay, which, in turn, allows people to bid up the price of real estate and other amenities close to the center of economic activity. The East Central (EC) region tends to most closely approximate the ring around a population center—the Kansas half of Kansas City.

### The Influence of Johnson County, Kansas

The East Central region drives the economic growth of Kansas, and Johnson County drives the East Central region.<sup>11</sup> Table 1 and Figures 1 and 2 provide Kansas

**Figure 3**  
**Economic Development Regions of Kansas as Defined by the Kansas Department of Commerce**



provides some cursory answers. It lists estimated economic growth components for Jackson County, Missouri (home of downtown Kansas City) and the counties contiguous to both Jackson County and the Kansas border (plus Leavenworth County, Kansas). In terms of aggregate economic growth, Johnson County, Kansas is the clear leader, from 1969 to 2003. Cass County, Missouri, which is contiguous to Johnson County, took the lead in the last decade. However, Cass County has a small economic base, so relatively small amounts of absolute growth register as relatively high percentage changes.

economic growth statistics with and without Johnson County included. Over the past three decades, among peer counties (those with a population of 225,000 or more in 1973), Johnson County ranks 3<sup>rd</sup> in terms of employment growth and just inside the top quartile in terms of (estimated) productivity growth, which has made it competitive with fast-growing counties like Fairfax, Virginia (Washington, D.C.); Travis, Texas (Austin); DuPage, Illinois (Chicago); and Cobb, Georgia (Atlanta). (Fairfax and Travis also rank in the top-10 with regard to estimated productivity growth.)

The fact that a major metropolitan area like Kansas City straddles a state border raises questions about how the Kansas side of the border compares to the Missouri side in terms of economic performance.<sup>12</sup> Table 2

The more pointed analysis in Table 2 comes from evaluating how each county has grown. The most striking aspect of the data is how little employment growth has contributed to overall economic growth in Wyandotte County, Kansas and Jackson County, Missouri. The experience in Leavenworth County, Kansas is only moderately better. Productivity growth has driven most of the economic growth experienced in these three counties. Platte County, Missouri and Johnson County, Kansas have had the opposite experience: employment growth accounts for substantially more than half of their overall economic growth.

The phenomenon of Johnson County is that it has experienced strong productivity growth in combination with stellar employment growth. The data in Table 3 augments the data in Table 2 to show the estimated productivity growth rates driving the productivity share of growth. Leavenworth experienced better productivity growth than Johnson over the 1969-to-2003 period. Clay and Cass experienced better productivity growth than Johnson over the 1993-to-2003 period. Note, however, that

**Table 2**  
**Component Shares of Economic Growth in the Greater Kansas City Area**

County	Total Compensation, 1969-2003			Total Compensation, 1993-2003		
	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)
Johnson, KS	850	616	234	77	46	31
Leavenworth	165	62	103	24	9	15
Wyandotte	65	8	57	16	0	16
Cass, MO	227	164	64	101	65	36
Clay, MO	253	180	73	59	26	33
Jackson, MO	67	11	55	24	2	22
Platte, MO	362	312	49	58	36	21

Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.

**Table 3**  
**Productivity Growth in the Greater Kansas City Area**

County	Productivity Growth (%)	Productivity Growth (%)
	1969-2003 (Total/Avg. Annual)	1993-2003 (Total/Avg. Annual)
Johnson, KS	72 / 1.6	26 / 2.3
Leavenworth	85 / 1.8	14 / 1.3
Wyandotte	56 / 1.3	16 / 1.5
Cass, MO	38 / 0.9	28 / 2.5
Clay, MO	42 / 1.0	30 / 2.6
Jackson, MO	53 / 1.3	21 / 2.0
Platte, MO	20 / 0.5	18 / 1.7

Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.

Johnson started both time periods with a significantly larger economic base than every county in Tables 2 and 3 except Jackson.

**Select Counties from the Different Kansas Regions**

Table 4 presents estimates of economic growth-component data for select Kansas counties. It considers two sets of counties. The first set includes the most populous county in each Kansas Department of Commerce Economic Development region. The second set includes the counties that experienced the aggregate economic growth in percentage terms, as measured by total compensation, from 1969 to 2003.

Some regions have only one county listed (those counties listed in bold type), because the county has both the largest population and the highest estimated aggregate output growth.

The top portion of Table 4 reports the components of growth for the most populous county in each region. Given the discussions above about the importance of population centers as

engines of economic development, the relatively slow growth of Sedgwick (Wichita) and Shawnee (Topeka) creates the headline story for Table 4. These are the second and third most populous counties in Kansas, yet their estimated output and employment growth fall significantly below the state average. Thirty years ago, Sedgwick had about 87,000 more wage-and-salary jobs than Johnson. With a 30-year employment growth rate of more than five times that of Sedgwick, Johnson took the top rank for number of jobs in 1996.

Crawford and Ellis help tell another important Kansas economic story, one hidden underneath the statistics in Table 4. The South East region and the North West region, respectively, represent the areas of Kansas with the slowest growth of estimated aggregate output. Both regions have depopulated over the past three decades. Crawford has experienced population growth of only one percent from 1969 to 2003; Ellis experienced 11 percent population growth. Yet Crawford experienced wage-and-salary job growth of 69 percent over the same time period and Ellis experienced job growth of 141 percent. These counties have extremely high labor force participation rates. Both the nation and the Plains region have also experienced increasing labor force participation rates. However, Kansas has among the highest (and historically fastest growing) labor force participation rates among the 50 states. The combination of a saturated labor market and lagging productivity growth may impose an obstacle to future economic growth in Kansas.

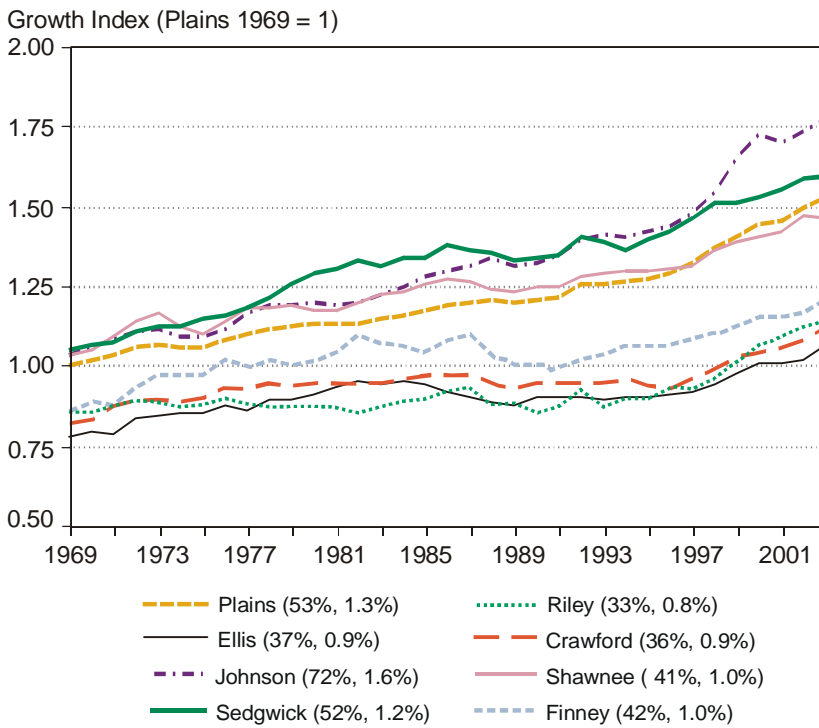
**Table 4**  
**Component Shares of Economic Growth in Select Kansas Counties**

County	Total Compensation, 1969-2003			Total Compensation, 1993-2003		
	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)
Crawford (SE)	130	82	48	41	21	20
<b>Ellis (NW)</b>	229	167	62	47	26	21
<b>Finney (SW)</b>	320	237	82	16	-1	17
<b>Johnson (EC)</b>	850	616	234	77	46	31
Riley (NC)	199	145	54	50	17	33
Sedgwick (SC)	147	79	69	25	10	16
Shawnee (NE)	106	56	50	20	7	13
Coffey (SE)	557	284	273	25	1	24
Jackson (NE)	303	215	88	119	73	46
McPherson (SC)	175	100	75	40	20	20
Pottawatomie (NC)	476	315	161	45	26	19
Kansas	173	97	76	36	16	20
Plains	163	91	72	39	16	23

Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.



**Figure 4**  
**Estimated Productivity Trends Among the Most Populous Counties in Each Kansas Region, 1969 - 2003**



Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.

As the top panel of Table 4 clearly shows, over the 1969-to-2003 time period, Shawnee and Sedgwick, respectively, have had the highest amount of growth attributable to productivity growth (or, conversely, the least amount of economic growth attributable to employment growth). However, over the 1993-to-2003 decade, Finney and Riley took the top-two spots, with Shawnee and Sedgwick dropping to 3<sup>rd</sup> and 4<sup>th</sup>; and Johnson dropping from 4<sup>th</sup> to 7<sup>th</sup>.

The bottom panel of Table 4, combined with the counties in bold text in the top panel, lists the county in each region that has experienced the greatest aggregate output growth over the 1969-to-2003 period. Among these counties, Coffey and McPherson, respectively, experienced the largest share of economic growth attributable to productivity growth. The construction and subsequent operation of the Wolf Creek nuclear power plant drove the growth in Coffey. Over the 1993-to-2003 period, aggregate growth in Coffey fell behind all other counties except Finney. Additionally, Finney and Coffey had the highest share of economic growth attributable to productivity growth over the past decade.

As discussed above, the share of output growth attributable to productivity growth is not the same thing as productivity growth itself. Figure 4 charts the relative trends in estimated productivity growth for the most populous counties in each region. (The numerals in parenthesis listed in the legend of Figure 4 represent, respectively, the total percentage growth and the average annual percentage growth from 1969 to 2003.) Johnson, Sedgwick, and Shawnee had relatively similar levels of labor productivity in 1969, higher than the average level in the Plains states. However, Shawnee and Sedgwick have experienced slower productivity growth than the Plains average, while Johnson has experienced productivity growth substantially greater than the Plains average. In fact, Johnson County surpassed the average U.S. level of productivity (as measured here) in 2000.

As with Table 4, the most significant features of Figure 4 concern the trends in Sedgwick and Shawnee.

Among the most populous counties over the 1969-to-2003 period, Sedgwick experienced greater productivity growth than all counties listed but Johnson. However, it fell to 6<sup>th</sup> place over the 1993-to-2003 period. Shawnee fell from 4<sup>th</sup> place to 7<sup>th</sup> place. Somehow two of the most populous counties in Kansas failed to catch the productivity wave that swept across the U.S. during the 1990s.

Fortunately, a few Kansas counties caught the 1990s productivity wave. Riley experienced better productivity growth than Johnson over the 1993-to-2003 period. Among the fast-growing counties, Jackson (KS) and Coffey experienced better productivity growth than the Plains average during the 1990s. Over the 1969-to-2003 period, in addition to Johnson, Coffey, McPherson and Pottawatomie experienced greater productivity growth than the Plains average (see Figure A in the Appendix).

**Conclusion**

The Kansas economy has experienced significant productivity-driven economic growth in a few of its regions. Overall, however, most of the regions have lagged behind the Plains average. Professor Orazem has suggested that the relatively low population density of many Kansas regions may create a natural



disadvantage to the quest for productivity-driven economic growth. Yet two of Kansas' most densely populated regions have also experienced relatively poor productivity growth. It is worth exploring whether the overall policy mix in Kansas is reinforcing or

counteracting the natural growth disadvantage associated with low population density. It is also worth exploring the degree to which the overall policy mix in Kansas unnecessarily inhibits the economic development process of capital deepening.

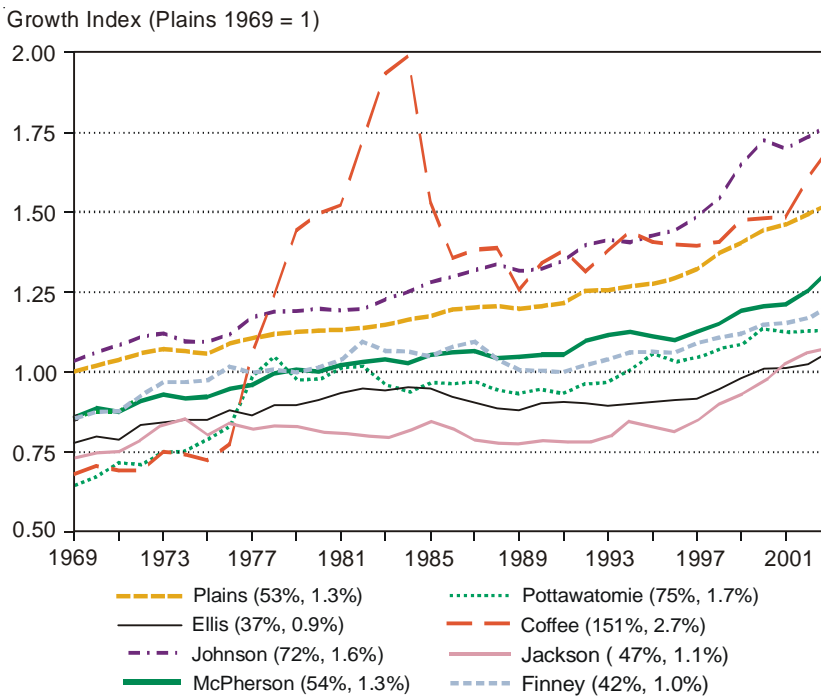
Appendix

**Table A**  
**Components of Economic Growth in the Plains States and United States, 1993-2003**

Area	Gross State Product, 1993-2003			Total Compensation, 1993-2003		
	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)	Output Growth (%)	Employment Growth (%)	Productivity Growth (%)
Iowa	36	14	22	35	13	22
Kansas	35	16	19	36	16	20
Minnesota	49	21	28	48	20	28
Missouri	34	15	19	34	13	21
Nebraska	38	17	21	41	17	24
N. Dakota	38	16	22	38	16	22
S. Dakota	40	19	21	43	19	24
Plains States	39	17	22	39	16	23
United States	40	22	22	38	17	21
KS w/o JoCo	na	na	na	24	9	15

Source: Author's calculations using data from the U.S. Bureau of Economic Analysis.

**Figure A**  
**Estimated Productivity Trends Among the Counties in Each Kansas Region with the Greatest Percentage Growth in Output, 1969 - 2003**



Source: Author's calculations using inflation-adjusted data from the U.S. Bureau of Economic Analysis.

Notes

<sup>1</sup> Peter F. Orazem, "Slow Growth and the Kansas Productivity Puzzle," Policy Research Institute, University of Kansas, *Kansas Policy Review*, Vol. 26 (2), Fall 2004. Note that Orazem ranked Kansas 37<sup>th</sup> in economic growth, using data available at the time. (<http://www.ku.edu/pri/publicat/kpr/kprV26N2/kprv26n2.pdf>)

<sup>2</sup> *Ibid.*, p. 3.

<sup>3</sup> The most appropriate data to use for measuring economic growth and productivity is gross state product (the state equivalent of gross domestic product), because that metric strives to allocate corporate profits, and other measures of business value-added, to their proper geographic location. In the left-hand panel of Table 1, productivity is measured by dividing gross state product by the total number of workers (including self-employed people). In 2003, compensation of employees equaled about 57.5 percent of gross state product. The other components of gross state product relate to business profits and additional measures of business value added – important aspects of productivity measurement.

No analog to gross state product currently exists for counties, and county-level data is required for the regional analysis

goals of this inquiry. For purposes of measuring productivity, using wage and salary disbursements offers the next best metric to gross state product. The estimates in the second panel of Table 1 use total wage and salary compensation (including voluntary and government-mandated employer-paid benefits) as a proxy for total output, wage and salary jobs as a proxy for employment, and total wage and salary compensation per wage and salary job as a proxy for labor productivity.

<sup>4</sup>Orazem, "Slow Growth and the Kansas Productivity Puzzle," p. 3.

<sup>5</sup>Robert J. Barro and Xavier Sala-i-Martin, *Economic Growth* (Cambridge, MA: MIT Press, 1999.), Chapters 1, 10, and 11.

<sup>6</sup>W. Mark Crain, *Volatile States: Institutions, Policy, and the Performance of American State Economies* (Ann Arbor, MI: University of Michigan Press, 2003), Chapter 2.

<sup>7</sup>Stephen P.A. Brown, Kathy J. Hayes and Lori L. Taylor, "State and Local Policy, Factor Markets, and Regional Growth," *The Review of Regional Studies*, Vol. 33(1), 2003, p. 41. (<http://economy.okstate.edu/rrs/issue.asp?volume=33&issue=1> )

<sup>8</sup>Zolt Beets, "Do State and Local Taxes Affect Relative State Growth?" Federal Reserve Bank of Atlanta, *Economic Review*, Vol. 81 (2), March/April 1996, p. 34). (<http://www.frbatlanta.org/filelegacydocs/ACFD5.pdf> )

<sup>9</sup>Arthur P. Hall, "The Cost of Unstable Tax Laws," Tax Foundation *Special Report* No. 41, October 1, 1994. (<http://www.taxfoundation.org/files/79985a8649fa8a5d501dec544dc13960.pdf> )

<sup>10</sup>Peter F. Orazem, "The Growth of Cities and Rural Economic Development," Center for Applied Economics, University of Kansas School of Business, Technical Brief 04-1119, November 2004. ([http://cae.business.ku.edu/gen/cae\\_generated\\_bin/documents/basic\\_module/CAE-GrowthCities%20-%20final.pdf](http://cae.business.ku.edu/gen/cae_generated_bin/documents/basic_module/CAE-GrowthCities%20-%20final.pdf))

<sup>11</sup>For an analysis of the KDOC regions, see Arthur P. Hall and Peter F. Orazem, "Long-Term Economic Trends in the Regions of Kansas, 1969-2003," Kansas Inc. Research Report, August 2005. (<http://www.kansasinc.org/pubs/working/KS%20Region%20Trends.pdf>)

<sup>12</sup>For a more in-depth analysis of economic trends along the Kansas-Missouri border, see Arthur P. Hall and Peter F. Orazem, "Economic Trends Along the Kansas-Missouri Border, 1969-2003," Kansas Inc. Research Report, August 2005. (<http://www.kansasinc.org/pubs/working/KS-MO%20Border.pdf> )

## Fiscal Trends in Kansas: Taxing, Spending, and Borrowing

H. Edward Flentje and W. Bartley Hildreth

### Abstract

This article reviews major fiscal trends in Kansas generally for the period 1990 through 2006, and focuses on trends in taxing, spending, and borrowing primarily by Kansas state government. For taxing and spending trends, the article draws from the most recent data available from official state sources in the fall of 2005, when the research was conducted.<sup>1</sup> Borrowing trends are taken from the *State of Kansas 2005 Debt Affordability Report* conducted by Professor Hildreth under the auspices of the Kansas Public Finance Center at Wichita State University. These data generally cover the period 1993 through 2005, with projections for 2006 and beyond.

### Taxing

Property, income, and sales taxes comprise the three primary sources of state and local governmental revenues. Rates and revenues generated from these tax sources are tracked for the period noted below.

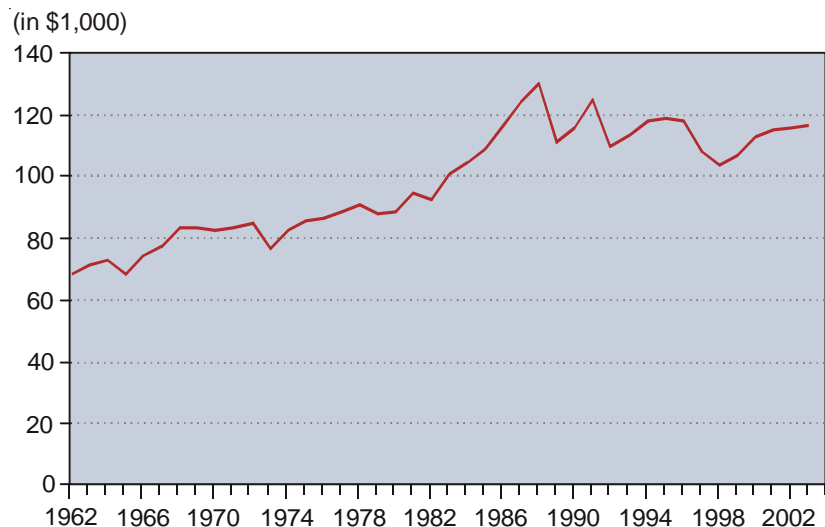
First, property tax rates are determined largely through the independent actions of roughly 4,000 local taxing authorities, as well as state government. This diffusion authority for setting property tax rates was reinforced in 1999 when state lawmakers suspended “all existing statutory fund mill levy rate and aggregate levy rate limitations on all political subdivisions.” Suspension of state limitations on property tax rates was aided by modernized property appraisal enacted in the late 1980s and enforced through judicial oversight of school finance in the 1990s. Modernized appraisal assured that the property tax base would grow more in line with market prices, and as a consequence, the property tax base has increased steadily, if unevenly across the state—relieving pressure on property tax rates. Further, rapidly spreading use of the sales tax by city and county governments over the past fifteen years has also eased reliance on the property tax as a revenue source and given state lawmakers political protection from any property tax revolt.

Total state and local property tax revenues have risen steadily from \$1,655 million in 1990 to \$2,964 million in 2004, representing a compound annual growth rate of 4.25 percent for the period.<sup>2</sup> Differences in this overall rate of change are also evident in two distinct periods. Property tax revenues increased at a compound annual growth rate of 3.36 percent, 1990 through 2000, but jumped to 6.50 percent, 2000 to 2004.

A measure of overall property tax rates in Kansas, that is, total state and local property tax revenues relative to \$1,000 in assessed value statewide, is traced in Figure 1 from 1962 to 2004. The graph shows the downward trend in revenues per property value from the highpoint of 1988, prior to statewide reappraisal and appraisal reforms, to 1999, and tailing upward since. Also shown are the dramatic drops in 1993, 1997, and 1998, when state lawmakers shifted the financing of schools from local property taxes to state sales and income taxes. Even with various fluctuations in property tax rates, total state and local property tax revenues relative to assessed value statewide are virtually identical for the start and end of the period, \$116.1 in revenues per \$1,000 in assessed property value in 1990, \$116.6 in 2004.

State income tax rates for individuals have been increased for higher income taxpayers and reduced for lower income taxpayers, since 1990. Upper bracket rates for couples were adjusted upward from 5.15 percent in 1990 to 6.45 percent in 1992, as part of school finance reforms that year; rates for singles jumped from 5.95 to 7.75 percent at the same time. Lower bracket rates for couples were reduced from 3.65 to 3.50 percent in 1992;

**Figure 1**  
State and Local Property Taxes per \$1,000 in Assessed Valuation, 1962-2004



rates for singles dropped from 4.5 percent in 1990 to 4.4 percent in 1992 to 4.1 percent in 1997.

Since 1990, state and local retail sales and compensating use tax rates have been adjusted upward. State rates were bumped from 4.25 percent in 1990 to 4.9 percent in 1992, as a revenue source for school finance, and again increased to 5.3 percent in 2002 in response to the economic downturn resulting from 9/11. More dramatically, as of January 1, 2006, 210 cities and 85 counties have instituted local sales taxes—compared to 110 cities and 55 counties with local sales taxes in 1990. Local sales tax rates range from .25 to 2.0 percent.

In tax policy, the tax base, as well as tax rates, comes into play. A narrowing of the tax base without changes in rates may reduce revenues and likely place upward pressure on rates in order to maintain revenues. Similarly, a broadening of the tax base may allow a reduction in rates. However, changes in the tax base are not as easily visible as rate changes and are more difficult to track. While tracking tax base changes for property, income, and sales taxes is beyond the scope of this article, a quick look at state tax statutes shows that state lawmakers amended those laws 390 times over the period 1990 to 2004, as follows:

- property tax: 44 statutory changes
- individual income tax: 213 statutory changes
- retail sales and use tax: 133 statutory changes

A cursory review of these statutory changes suggests that a large majority resulted in a narrowing of the respective tax bases through the enactment of new or expanded exemptions. The Kansas Department of Revenue has contracted with the Kansas Public Finance Center at Wichita State University to conduct a more careful examination of erosion of the property and sales tax bases.

Revenue trends for property, individual income, and retail sales and compensating use taxes are shown in Figure 2. Current revenues total: \$2,964 million in state and local property tax revenues (2004), up from \$1,655 million in 1990; \$2,589 million in state and local sales and use tax revenues (estimate for 2006), up from \$1,051 million in 1990; and \$2,130 million in individual income taxes (estimate for 2006), up from \$863 million in 1990. For the period, property tax revenues increased at a compound annual growth rate of 4.25 percent; sales tax revenues at 5.80 percent; and individual income tax revenues at 5.81 percent.

Many state policy makers and tax experts assert that ideal state tax policy should strive for a balance among the primary tax sources. From 1990 to 1998, the state came near to achieving the ideal of balance among

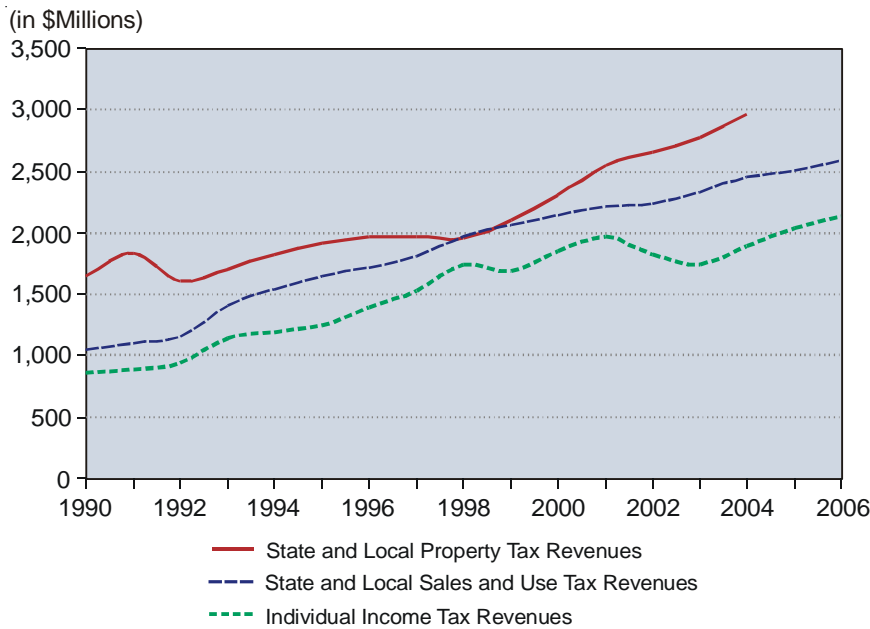
property, sales, and income taxes. This shift was accomplished through actions by state lawmakers primarily in 1992, when income and sales tax rates were raised and property tax rates were reduced in all but a few school districts through a uniform, statewide mill levy for school finance. State-mandated property tax levies for schools were cut further from 35 to 27 mills in 1995 and to 20 mills in 1996. As a result, revenues from state and local sales and use taxes actually exceeded state and local property tax revenues in 1998, which was an historic event in state and local finance in Kansas.

Since 1998, the state has steadily retreated from the ideal of balance, as Figure 2 indicates. A state and national economic downturn resulted in an immediate plunge in individual income tax revenues from 2001 to 2003, and a slowdown in sales tax revenues. In contrast, property tax revenues have notched upward, reflecting a shift in the tax burden from sales and income taxes back to property taxes. To some extent, this swing again reflects actions taken by state lawmakers when they reduced the sharing of state sales tax revenues with local jurisdictions through the local ad valorem tax reduction fund and city-county revenue sharing in 2002. Then they entirely eliminated these programs in 2003, as a result shifting nearly \$100 million in annual tax burden from state to local authorities.

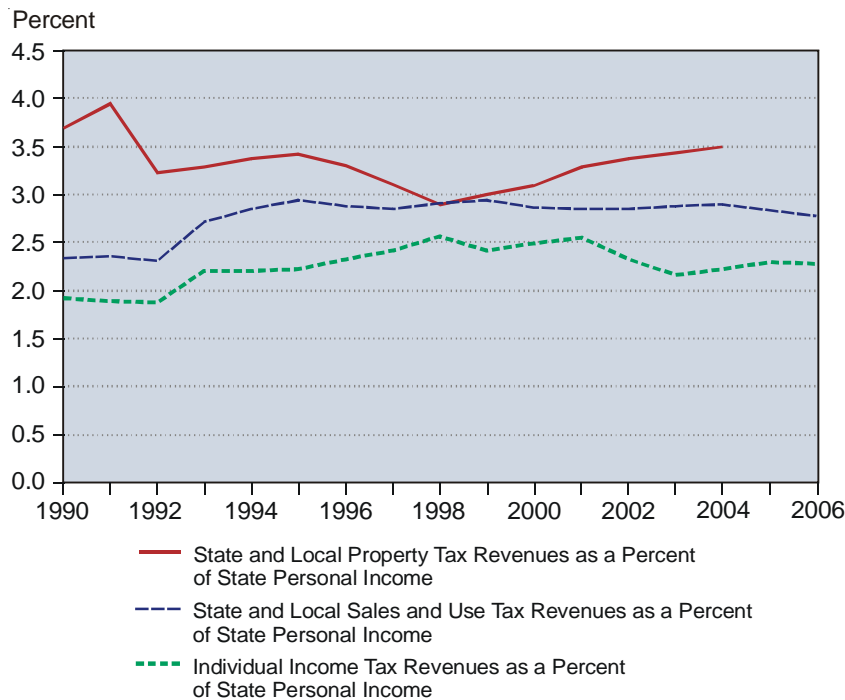
Revenue trends in the primary state tax sources—sales and individual income taxes—also show the vulnerability of these sources to economic volatility. While revenues from these two taxes grew at a compound annual growth rate of 5.8 percent for the period 1990 to 2006, revenue growth since 2000 dropped to 3.23 percent for sales taxes and 2.33 percent for individual income taxes, compared to 7.37 and 7.96 percent respectively during the 1990s. Without the .4 percent increase in state sales and compensating use tax rates enacted by lawmakers in 2002, state revenues would have undergone a more substantial slump for the later period.

Figure 3 traces revenues from the primary sources of state and local taxes as a percentage of personal income over the same period. This graph also illustrates the movement toward and then away from the ideal of balance in primary tax sources. During this period the point of highest tax burden for each of these primary sources occurred before the year 2000. The peaks in tax burden in terms of personal income were: 1991 for the property tax; 1995 and 1999 for the sales and use tax; and 1998 for the individual income tax. In terms of current revenues, property taxes in 2004 were .45 percent of personal income below the peak of 1991; sales taxes in 2006 are .17 percent of personal income below the 1995 and 1999 peaks; and individual income taxes in 2006 are .29 percent of personal income below the 1998 peak.

**Figure 2**  
**State and Local Property, Sales, and Individual Income Tax**  
**Revenues, 1990 - 2006**



**Figure 3**  
**State and Local Tax Revenues as a Percent of Personal Income,**  
**1990 - 2006**



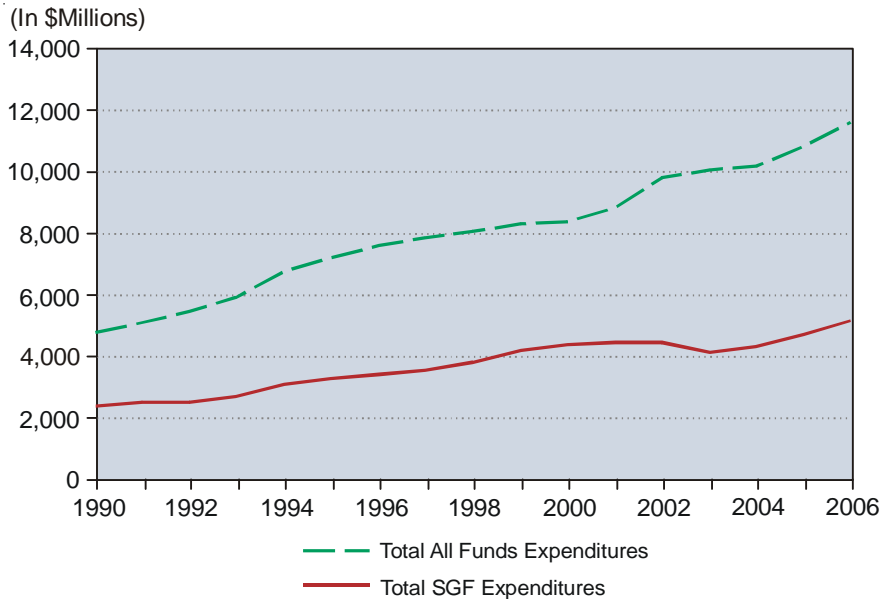
## Spending

Debate over spending limits, such as the Taxpayers’ Bill of Rights (TABOR) initiated next door in Colorado in 1992, and suspended at least temporarily in 2005, make state spending a hot topic in Kansas. Figure 4 traces state government spending in Kansas from All Funds and from the State General Fund (SGF) for the period, 1990-2006. “All Funds” expenditures are those expenditures from all funds in the Kansas state treasury, including: intergovernmental revenues, primarily from federal agencies; dedicated funds, such as the state highway fund that receives fuel taxes and vehicle fees; funds that receive tuition and fees at state universities; and numerous smaller funds, such as those for hunting and fishing licenses. The SGF receives revenues from the state’s major revenue sources, income and sales taxes, and from a variety of smaller tax sources, and finances the general purposes of state government, such as education, public welfare and social services, public safety, and many others. As Figure 4 shows, All Funds expenditures are well over twice the level of SGF expenditures throughout the period. All Funds expenditures grew from \$4,760 million in 1990 to \$11,583 in 2006, at a compound annual growth rate of 5.71 percent for the period. SGF expenditures increased from \$2,400 million in 1990 to \$5,150 million in 2006, at an annual rate of 4.89 percent for the period.

Figure 5 traces state government expenditures as a percent of personal income for the period 1990 through 2006. All Funds expenditures increased from 10.6 percent to 12.4 percent of personal income, while SGF expenditures increased slightly, from 5.35 to 5.51 percent of personal income, a relatively



**Figure 4**  
**Total All Funds and State General Fund Expenditures, 1990 - 2006**

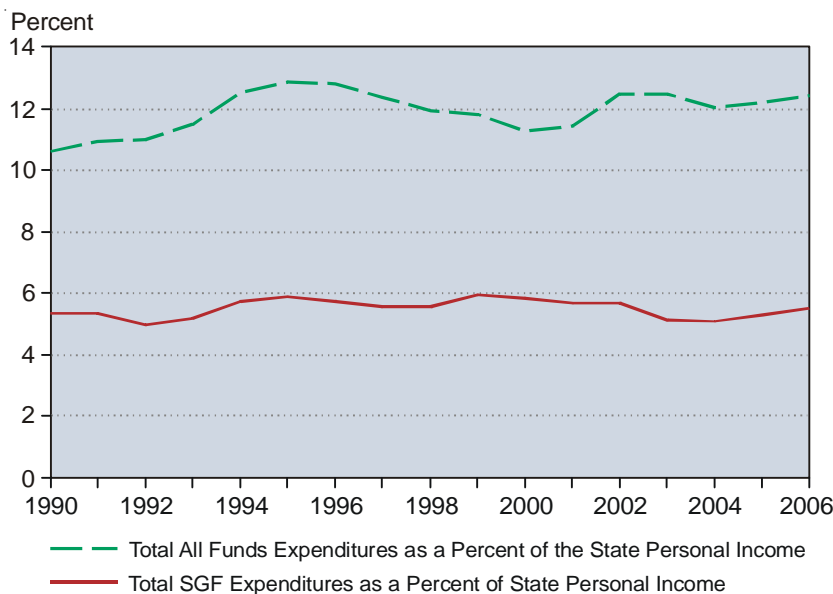


modest increase of .16 of one percent. In terms of personal income, All Funds expenditures peaked in 1995; SGF expenditures peaked in 1999. The two crests in All Funds expenditures, first in 1994-96 and again in 2002-03, are primarily explained by the infusion of revenues from borrowing due to the two comprehensive highway programs, the first enacted in 1989 and the second in 1999. All Funds spending steadily declined, 1995 through 2000, as the borrowed highway funds were spent down.

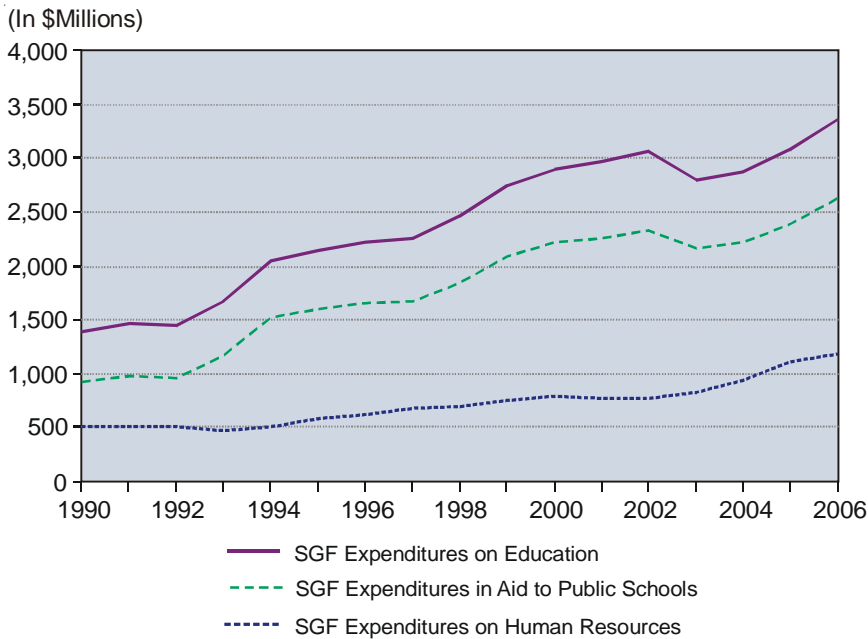
Figure 6 tracks SGF spending on education and human resources—which together comprise most SGF spending. Both functions claimed a growing share of SGF spending: in 1990, these two functions of state spending represented 79.4 percent of total SGF spending; by 2006, they had grown to 88.3 percent. SGF expenditures on education grew from \$1,398 million in 1990 to \$3,360 in 2006, at a compound annual growth rate of 5.63 percent, while SGF expenditures on human resources increased from \$507 million in 1990 to \$1,188 million in 2006, at an annual rate of 5.46 percent. For the period, SGF spending on education and human resources exceeded the compound annual growth rate of total SGF spending by 0.74 and 0.57 percent respectively.

SGF spending on education shows a steep jump from 1992 to 1994, a two-year increase of 25 percent, resulting from school finance reforms in 1992, as well as a one-year drop from 2002 to 2003 of 8.4 percent, as a consequence of the economic downturn after 2001. In contrast, human resource spending was immune to the downturn. From 2000 through 2006, human resource spending grew at a compound

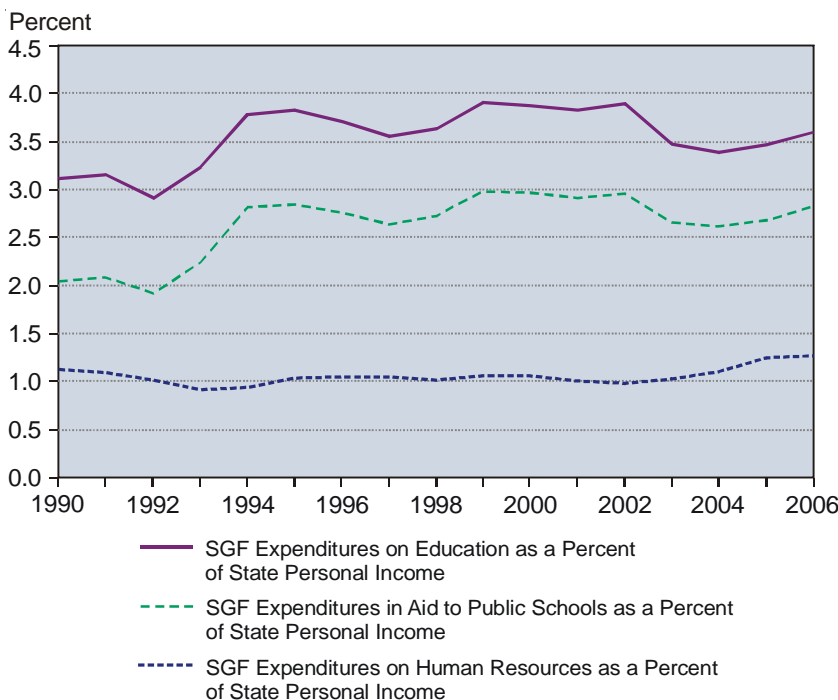
**Figure 5**  
**Total All Funds and State General Fund Expenditures as a Percent of Personal Income, 1990 - 2006**



**Figure 6**  
**State General Fund Expenditures for Education, Aid to Public Schools, and Human Resources, 1990 - 2006**



**Figure 7**  
**State General Fund Expenditures for Education, Aid to Public Schools, and Human Resources as a Percent of Personal Income, 1990 - 2006**



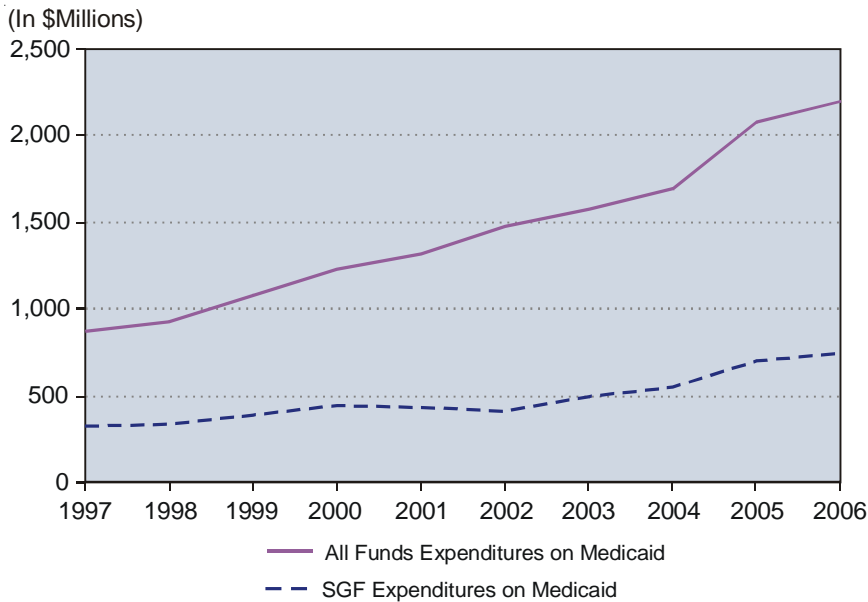
annual growth rate of 7.06 percent, compared to the rate of growth in state personal income of 3.82 percent for that period.

Figure 7 tracks SGF spending on education and human resources as a percent of state personal income. The graph includes SGF spending on aid to public school only as well, essentially removing state spending on post-secondary education from the larger total. Education spending fluctuates for the period and reflects actions taken by state lawmakers. A dramatic upswing after 1992 shows the impact of school finance reform, and a budget tightening, 2002-04, reflects lawmakers' response to the economic downturn. In contrast, human resource spending reveals stability for the period, connected as it is with matching federal funds, but does tail upward following the downturn that began in 2001.

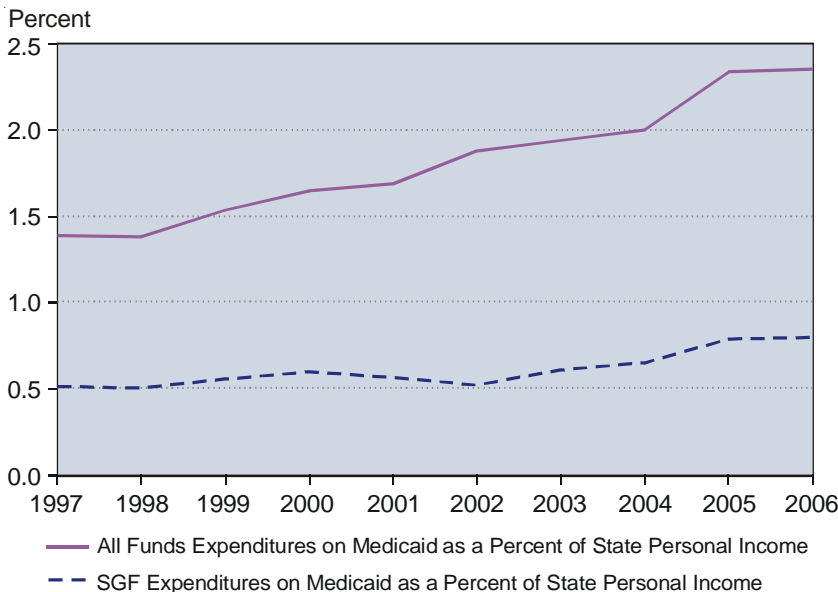
SGF spending on aid to public schools grew substantially in this period, from \$916 million in 1990 to \$2,633 in 2006, at a compound annual growth rate of 6.82 percent. Although not immediately discernible from the graph, SGF spending on aid to public schools claimed a growing share of total SGF spending on education. Spending on aid to public schools, which represented 65.5 percent of total spending on education in 1990, grew to 78.4 percent of education expenditures in 2006. While SGF spending on aid to public schools increased from 2.04 to 2.82 percent of personal income for the period, SGF spending on post-secondary education fell from 1.08 to 0.78 percent of personal income.

SGF spending on aid to public schools also does not include the current state-mandated 20-mill property tax levy for schools, estimated at \$489 million in 2006. Adding estimated property tax revenues to SGF spending on aid to

**Figure 8**  
**All Funds and State General Funds Expenditures on Medicaid, 1997 - 2006**



**Figure 9**  
**All Funds and State General Funds Expenditures on Medicaid as a Percent of Personal Income, 1997 - 2006**

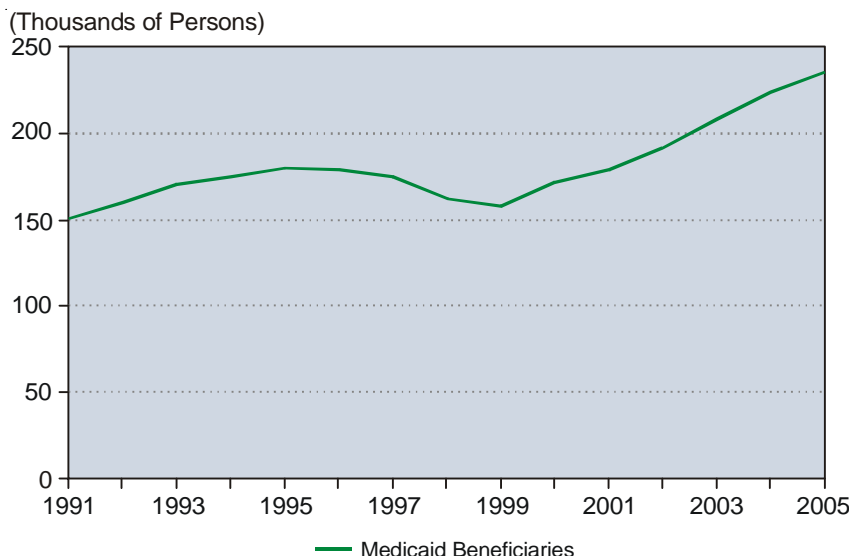


public schools would bring total state resources committed to public schools to \$3,122 million, or 3.34 percent of state personal income in 2006, compared to 2.04 percent of personal income in 1990. Mandated property tax revenues for public schools have ranged from a high of \$580 million in 1996 (a statewide levy of 35 mills) to a low of \$337 million in 1998 (a statewide levy of 20 mills).

State spending on Medicaid, the behemoth of federal grant-in-aid programs, is tracked in Figure 8, for the period, 1997-2006. All Funds expenditures on Medicaid grew from \$877 in 1997 to \$2,197 in 2006, at a compound annual growth rate of 10.74 percent; SGF expenditures on Medicaid grew from \$322 million in 1997 to \$747 million in 2006, a compound annual growth rate of 9.82 percent. The estimates for 2006 are likely on the low side as state lawmakers have consistently added supplemental appropriations for Medicaid spending. Figure 9 tracks state spending on Medicaid as a percent of personal income and also shows upward trends. All Funds expenditures on Medicaid have grown from 1.38 to 2.35 percent of personal income in the nine-year period. SGF expenditures on Medicaid have increased from .51 to .80 percent of personal income for the period.

Medicaid spending poses an ongoing dilemma for state policy makers and has done so throughout the 40-year history of state participation in the program. On the one hand, numerous state studies have pointed with alarm to the accelerating growth in Medicaid-related spending, but state lawmakers have repeatedly chosen to expand rather than restrict eligibility and add rather than reduce services. The recurring rationale of state officials in making these choices is the benefit

**Figure 10**  
**Medicaid Beneficiaries, 1991 - 2005**



derived from federal matching funds. In 2006, for example, state policy makers expect to pay \$747 million in state revenues and receive \$2,197 million in medical assistance for the state’s most vulnerable citizens.

The impact of extended eligibility is shown in Figure 10, which tracks the number of Medicaid beneficiaries, 1991-2005. Over the entire period, the number of beneficiaries has grown at a compound annual growth rate of 3.22 percent, compared to 6.90 percent from 1999 through 2005.

**Borrowing**

Over the past twenty years state lawmakers have shifted away from the state’s long-standing reluctance to use debt finance in addressing the various obligations of state government. The historic stance of “pay-as-we-go” in financing public infrastructure has given way to a “pay-as-we-use” philosophy. In other words, use debt rather than current revenues to undertake major public improvements. As a result of this shift, state government’s more aggressive use of borrowing now ranks Kansas in the mid-teens among the fifty states on key debt indicators, compared to rankings in the mid-forties in the 1980s.

Figure 11 tracks the upward trend in state borrowing for the period 1993 through 2006. Tax-supported debt per capita grew from \$363 in 1993 to \$965 in 2003 and is projected to jump to \$1,610 in 2006. For the ten-

year period 1996 to 2006, tax supported debt per capita increased at a compound annual growth rate of 13.5 percent. These trends parallel closely the annual estimates of state debt load made by the credit rating agency, Standard and Poors, also shown in Figure 11.

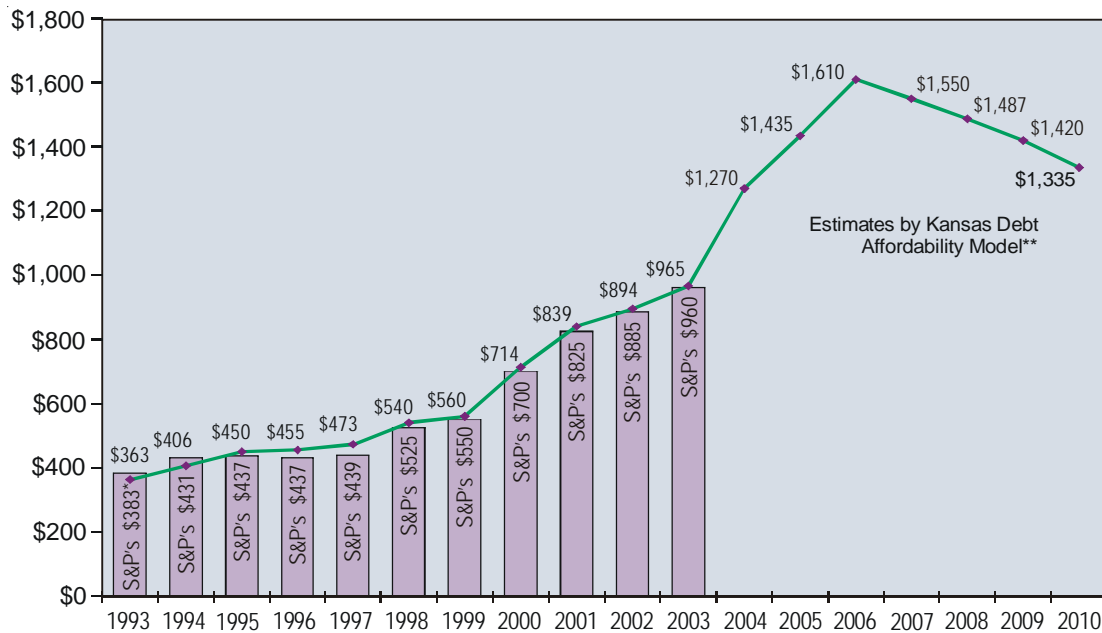
Tax-supported debt as a percent of personal income also moved rapidly upward for the period, as shown in Figure 12. In 1993, tax-supported debt was 1.8 percent of personal income, compared to 3.3 percent in 2003, and is projected at 4.8 percent in 2006. For the period 1996-2006, this measure of debt load has increased at a compound annual growth rate of 9.2 percent. This trend also correlates with estimates by Standard and Poors.

Three primary factors help explain this dramatic shift in state

policy on the use of debt over the past twenty years. First, state law-makers enacted two major highway programs, one in 1989 and another in 1999, both of which authorized aggressive use of debt for highway finance. Second, in contrast to the 1989 program, the 1999 program substantially shifted highway financing from user fees to state sales tax revenues – which worked reasonably well until the economic downturn after 9/11 and the resulting drop in SGF revenues. In response lawmakers reneged on prior commitments to apply sales tax revenues for highways and instead both increased and extended the debt burden for highway finance.

Third, the failure to pay actuarially based contributions for public employee pensions in the 1990s, when state revenues were strong, ballooned unfunded liabilities for these pensions. From 1993 through 2003, unfunded liabilities of the Kansas Public Employees Retirement System quadrupled, from \$968 million in 1993 to \$4,026 billion in 2003. State lawmakers chose to cut property taxes for school finance and on vehicles in the 1990s rather than meet current obligations, and consequently future taxpayers will be paying for the \$500 million in state borrowing required to shore up the state pension system. As a result of decisions on highway and pension finance, outstanding state debt has ballooned from \$424 million in 1992 to \$3,954 million in 2005, and is projected to reach \$4,458 million in 2006.

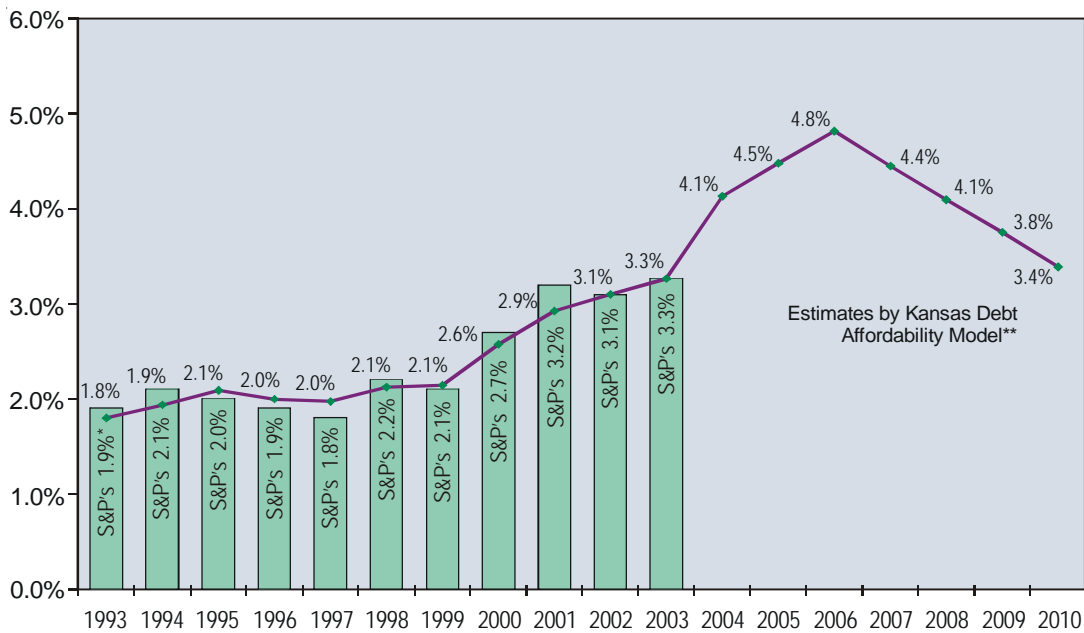
**Figure 11**  
**Tax Supported Debt per Capita, 1993 - 2010**



\*S&P's are estimates.

\*\*Model estimates assume no new debt authorized after June 30, 2005.

**Figure 12**  
**Tax Supported Debt as a Percent of Personal Income, 1993 - 2010**



\*S&P's are estimates.

\*\*Model estimates assume no new debt authorized after June 30, 2005.



**Figure 13**  
**Tax-Supported Debt as a Percent of Personal Income, 1992 - 2004**

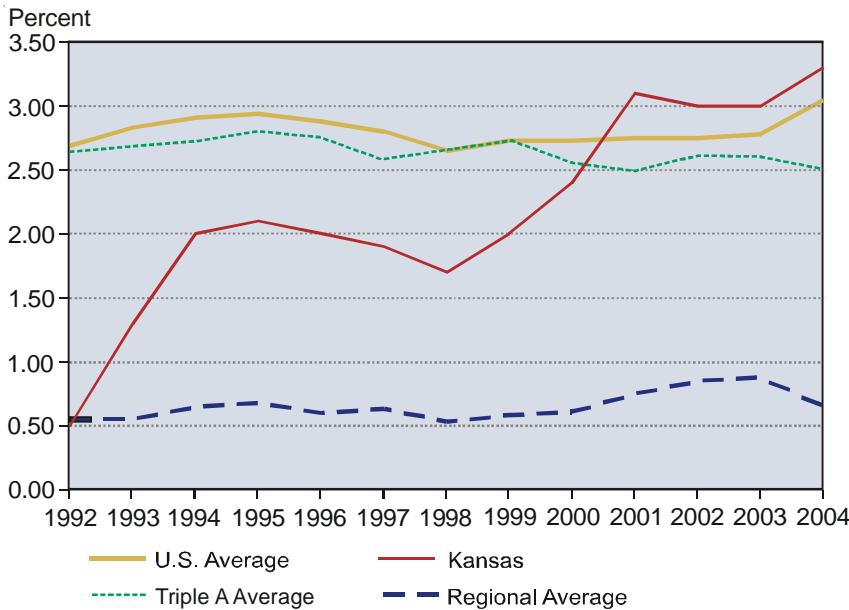
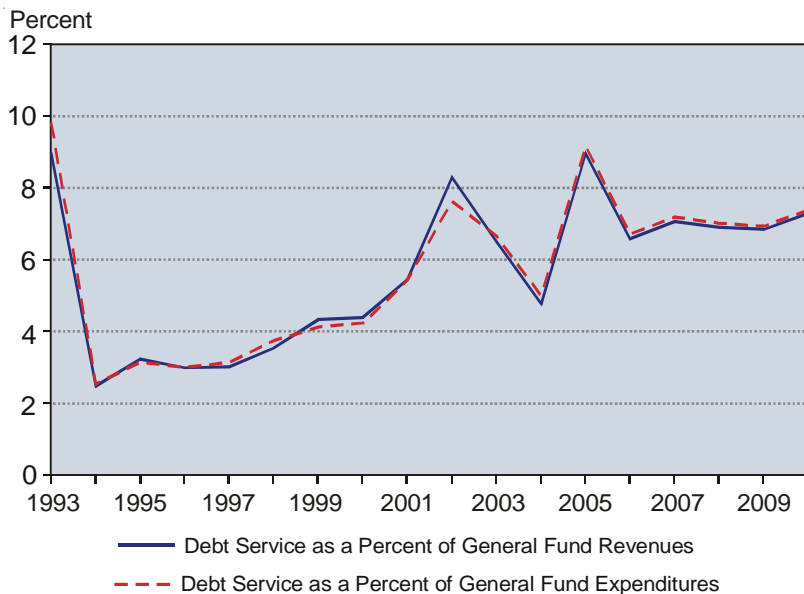


Figure 13 tracks tax-supported debt as a percent of personal income to show the impact of the state’s aggressive use of debt finance compared to regional and national averages. Kansas’ debt load, which in 1992 was comparable to that of surrounding states, had by 2004 swollen to over five times the regional average, 3.30 percent of personal income in Kansas compared to 0.65 percent in surrounding states. In 2001, for the first time ever, Kansas debt load exceeded the national average and has continued to do so through 2004. Kansas’ debt load also exceeds the average of highly rated (Triple A) debt issuers.

Figure 14 tracks state government’s debt service in terms of SGF revenues and expenditures. The bumps in the graph, for example in 1993, 2002, and 2005, represent an influx of revenues from bond issues and refunding of earlier bond issues. Aside from the bumps, the graph documents a steady upward trend, from 2.5 percent in 1994, to over 6.5 percent in 2006, and projected at over 7.5 percent in 2010 – which assumes no new debt after June 30, 2005, and that all debt was an obligation of the SGF.

**Figure 14**  
**Debt Services as a Percent of State General Fund Revenues and Expenditures, 1993 - 2010**



In sum, trends in the debt burden of Kansas state government for the period, 1996 to 2006, show dramatic growth, calculated in terms of compound annual growth rates, as follows:

- debt per capita: 13.5 percent
- debt service per capita: 12.5 percent
- debt per capita as a percent of personal income: 9.2 percent
- debt service as a percent of general fund expenditures: 8.4 percent
- debt service per capita as a percent of personal income: 7.5 percent

## Conclusions

This examination of fiscal trends in Kansas suggests clear warning signs on the horizon in state finance. The following table summarizes trends in taxing, spending, and borrowing in terms of compound annual growth rates, generally for the periods noted.

	Compound Annual Growth Rates (%)
State and local sales and use tax revenues, 1990-2006	5.80
Individual income tax revenues, 1990-2006	5.81
SGF spending, 1990-2006	4.89
SGF spending on aid to public schools, 1990-2006	6.82
SGF spending on Medicaid, 1997-2006	9.82
Tax supported debt as a percent of personal income, 1996-2006	9.15
Debt service per capita, 1996-2006	12.51
Tax supported debt per capita, 1996-2006	13.47

These longer term trends show that state lawmakers have held SGF spending growth below the level of revenue growth in the two primary sources of SGF revenue, state sales and individual income taxes. This restraint in spending plus more aggressive use of debt has allowed reductions in property taxes during the 1990s, additional SGF spending on two major obligations of state government, aid to public schools and Medicaid, and major new financing of highway infrastructure throughout the period.

The shorter term trends, 2003-2006, in the aftermath of 9/11 are more worrisome. The table below shows that increases in SGF spending over the past three years have exceeded growth in the primary revenue sources. SGF spending on Medicaid is growing at more than twice the rate of growth in individual income tax revenues and over four times the rate of growth in sales tax revenues. The level of outstanding debt is accelerating at nearly three times the growth in individual income tax revenues and five times the growth in sales tax revenues.

	Compound Annual Growth Rates (%)
State and local sales and use tax revenues, 2003-2006	3.55
Individual income tax revenues, 2003-2006	6.77
SGF spending, 2003-2006	7.57
SGF spending on aid to public schools, 2003-2006	6.97
SGF spending on Medicaid, 2003-2006	15.08
Outstanding debt (actual), 2003-2006	19.18

### Notes

<sup>1</sup> Property tax revenues were available only through 2004 in October of 2005. Consistent spending data on Medicaid was available beginning in 1997. Revenue and spending figures for 2006 are official estimates available in fall of 2005.

<sup>2</sup> Compound annual growth rate is the metric used for calculating rates of change in spending, taxing, and borrowing throughout this article.

## Credit Card Usage Among Students: Evidence from a Survey of Fort Hays State University Students<sup>1</sup>

Kathleen G. Arano

### Abstract

Credit card use is steadily on the rise and the proportion of students with credit cards is likewise on the upswing. This raises concern on the overall debt burden faced by students even before starting full-time work as professionals. This paper reports on the credit card usage of Fort Hays State University (FHSU) students based on a mail survey conducted in the spring semester of 2005. Students were asked information on their financial resources, spending patterns, employment, and debt. Results suggest that credit card use by FHSU students compares positively to most recent national and Midwest estimates from Nellie Mae. A majority of the students have credit cards (68%), holding an average of 2.78 cards. While 32 percent reported zero balances, those reporting positive balances had an average unpaid balance of \$1,531.53. About 77 percent of students with unpaid balances on their credit cards have student loans as well—more than half of them (61%) with loans under \$11,000.

### Introduction

The use of credit cards as a readily available source of funds to finance consumer spending is steadily on the rise. Factors believed to contribute to this are the increased availability of credit cards and aggressive marketing by the credit card industry (Hayhoe, et. al. 1999). Due to the competitive pressure to recruit new clients, college students are also targeted, and as a result, the proportion of college students with credit cards is also on the rise (Manning 2002).

Credit cards facilitate two distinct services: (1) a convenient transaction medium in which balances are paid off in full each month; and/or (2) a debt/borrowing medium (Cargill and Wendell 1996) which allows higher levels of consumer spending than would otherwise be available.

The easy access to credit cards combined with the increasing social pressure to enjoy a more extravagant college lifestyle increases the likelihood of college students building up credit card debt. This debt, along with the burden of student loans to finance their education, adds to the debt burden faced by college students. In addition, there is the issue of students' financial responsibility in handling credit card debt and the consequences of mismanaging debt. It is, there-

fore, important to examine credit card usage among college students and identify potential problem areas. Previous studies on credit card usage among college students found that although the majority the students handle their credit responsibly, there is a significant minority who have problems. The studies pointed out the need for on-campus financial education or counseling (Cunningham 2002; Norvilitis and Santa Maria 2002).

### The Data

The Fort Hays State University Office of the Provost and Office of Student Affairs sponsored a student survey which was administered by the Docking Institute of Public Affairs at FHSU. The self-administered mail survey gathered information regarding student financial resources, spending patterns, employment activities, and debt. This paper focuses on the results of the credit card usage portion of the survey. The data were collected in the spring semester of 2005 from a random sample of 1,500 undergraduate and graduate students at FHSU taking at least six credit hours. After a second-wave mailing to non-responders, approximately two weeks after the initial mailing, a subsequent e-mail reminder, and a phone call follow-up, 411 completed surveys were returned yielding a response rate of 27.4%. Our sample of 411 students is a good representation of the university population and even larger than the national Nellie Mae estimate which only had 132 respondents.

The final sample closely resembles the original sampling frame on most characteristics with a slight under-representation of males (36% compared to 48.1% females), an under-representation of majors from the College of Arts and Sciences (30.9% compared to 36.7% for the rest of the University), an over-representation from the College of Business and Leadership (26.5% compared to 17.9% for the rest of the University), and a slight under representation of freshmen (15.7% compared to 19.1% for upper classmen and graduate students).<sup>2</sup>

### Results

#### Prevalence of Credit Card

The majority of the students surveyed hold general purpose credit cards—bank cards (Visa, MasterCard, etc.) and charge cards limited to a single business, such as department store/retail cards and gasoline cards. Sixty-eight percent had at least one of these credit cards. This number is lower than the most recent national estimate by Nellie May, in 2004, of 76%. (That estimate includes only undergraduates; our sample

**Table 1**  
**Percentage of FHSU Students Reporting Grade Level at Which First Credit Card was Obtained**

When Students with Credit Cards Got their First Card	Percent
Before college	38.2
First or second year of college	45.6
Third or subsequent years of college	16.2
Total	100.0

includes undergraduates and graduate students). And it is even lower when compared to the Midwest region’s estimate of 82%. Of the 68% with cards, 45.6% said they obtained them in their first or second year of college, while 38.2% had obtained a card even before entering college (Table 1).

Credit card ownership increases with the academic class level of the student, lowest for freshmen at 41.7% and highest for graduate students at 90%. The Analysis of Variance (ANOVA) between groups indicates the percentages of students with credit cards within each class level are statistically different (F-stat = 14.12 and p-value = 0). Table 2 illustrates that the percentage of students with credit cards for freshmen is statistically significantly lower than all the upper class levels and the percentage of students with credit cards for graduate students is significantly higher than all lower class levels.

Students from the College of Business and Leadership (COBL) seem to be more likely to have credit cards relative to other majors. Seventy-five percent of those reporting from the COBL hold credit cards while 65% of those from all the other colleges in the university have credit cards. This difference is significant at the 10% level (F-stat = 3.32, p-value = 0.069).

As discussed in the previous section, college students are one segment of the population being pursued by the credit card industry as potential customers. Financial institutions use different strategies to market credit cards. The respondents in the survey were given a number of these strategies and asked how important they were in their decision to get any credit cards. Results are summarized in Table 3.

The largest share of students (51.7%) say the interest rate on the card (which reflects the price variable on the demand for credit cards as a borrowing medium)

**Table 2**  
**Mean Difference in Percentage of Students with Credit Cards within Each Academic Class**

Class (I)	Class (J)	Mean Difference (I-J)
Freshmen	Sophomore	-0.11
	Junior	-0.22*
	Senior	-0.42*
	Graduate	-0.47*
Sophomore	Freshmen	0.11
	Junior	-0.10
	Senior	-0.31*
	Graduate	-0.36*
Junior	Freshmen	0.22*
	Sophomore	0.10
	Senior	-0.20*
	Graduate	-0.26*
Senior	Freshmen	0.42*
	Sophomore	0.31*
	Junior	0.20*
	Graduate	-0.05
Graduate	Freshmen	0.47*
	Sophomore	0.36*
	Junior	0.26*
	Senior	0.05

\*The mean difference is significant at the 0.05 level.

is very important in their decision to get the card. This is followed by pre-approved solicitations through the mail.

Students whose attitudes are more accepting and positive towards debt are more likely to hold credit cards. Table 4 demonstrates this. About 50% of students with credit cards agree that debt is a normal part of today’s lifestyle and about 66% agree that borrowing for emergencies is acceptable.

**Table 3**  
**Percentage of Students Reporting Level of Importance for Each Factor Affecting Decision to Get Any Credit Cards**

Factors	Not Important at All (%)	Mildly Important (%)	Very Important (%)	Total (%)
General solicitations thru mail	68.5	23.0	8.5	100
Pre-approved solicitations thru mail	55.8	27.3	16.9	100
Marketers on campus	94.1	4.2	1.7	100
APR/Interest on the card	31.0	17.3	51.7	100

**Table 4**  
**Percentage of Students Reporting Level of Agreement**  
**for Each Statement about Debt**

Statement	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)	Total (%)
Debt is a normal part of today's lifestyle	7.2	30.7	49.5	12.6	100
It is okay to be in debt if you can pay it off	11.6	30.2	52.7	5.5	100
Borrowing for emergencies is acceptable	0.8	7.2	66.4	25.6	100

cards held by students also increases with class level. Freshmen hold an average of 1.8 cards, sophomores hold an average of 2.2 cards, juniors 2.8 cards, seniors 2.9 cards, and graduate students held on average 3.5 cards in their name. The average number of cards held across academic class levels are significantly different (F-stat = 3.75, p-value = 0.005). Table 5 illustrates, in particular, that the mean number of cards held by freshmen is significantly lower than those of seniors and graduate students.

**Personal Characteristics and Financial Background**

The percentage of white students with a credit card is 67.8% compared to 65.2% for Non-whites (includes Black, Asian/Pacific Islander, American Indian and others). Out of all students with credit cards, 95% are white. It is also worth noting that almost equal percentages of female and male students have a credit card, with 67.9% female compared to 67.6% male. A larger proportion of married students carry credit cards (84.6%) compared to 64.5% for those who are single.

The survey also provides several measures of the credit card holder's financial resources. These include personal income from employment, allowance from parents/relatives, spouse's employment if married, savings, scholarships, grants, student loans, and other sources. Figure 1 illustrates the student's overall personal income in the last year from all of the resources listed above. Twenty-eight percent reported an overall personal income between \$5,000 and \$9,999.

**Number of Cards**

The survey shows that an FHSU student who holds a credit card has an average of 2.78 cards in his name. Thirty-one percent hold one card, while 8.6% hold more than five cards (Figure 2). These numbers are slightly below the latest estimate from Nellie Mae, in 2004, where the national average is 4.09 cards and the Midwest average is 4.76. These results may reflect the geographical location of FHSU, which is relatively rural compared to other cities in the nation and to other Midwestern cities, in particular.

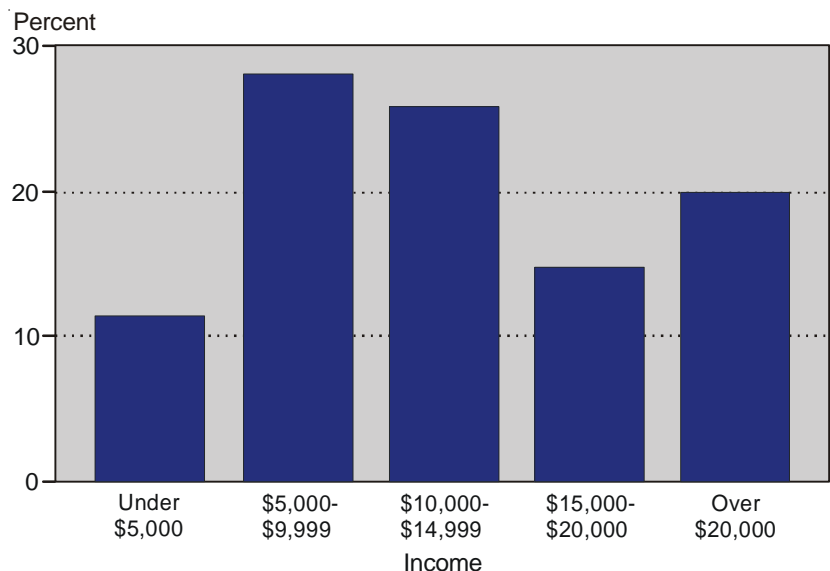
If we categorize according to academic class level, the number of credit

**Use of the Card**

**Unpaid Balance.** Given that the majority of students carry credit cards, the next important consideration is the dollar amount of the balance they carry. This may provide insight to whether students use credit cards mainly as a transactions medium or as a borrowing medium. If used mainly as a borrowing medium, this will have implications on the overall debt burden faced by students.

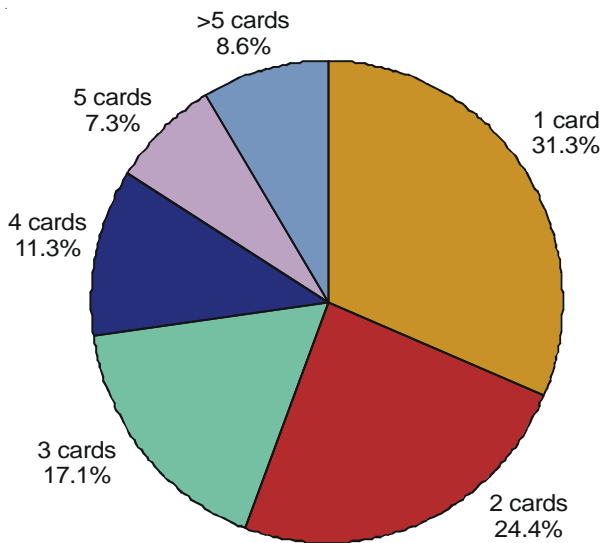
The average unpaid credit card balance reported by students as of the survey date is \$1,043. The national and Midwest averages provided by Nellie Mae, in 2004, is \$2,169 and \$2,498, respectively. In this regard, FHSU students are in a better position than students in the nation and the Midwest. Thirty-two percent of the students with credit cards in the survey had no

**Figure 1**  
**Overall Financial Resources of FHSU Students with Credit Cards**





**Figure 2**  
**Percentage of FHSU Students with One or More Credit Cards**



outstanding balance, a much higher proportion than the Nellie Mae national estimate of only 13%. Table 6 shows the distribution of unpaid balances for student credit card holders.

A more distinct delineation of card usage for transactions purposes vs. borrowing could be made if we had specific information on the average amount of a student’s unpaid balance at any given month. If balances are on average zero at the end for any given month, then we could clearly deduce that credit cards mainly facilitate transactions for convenience. At best, we only have information on total unpaid balances at the time of the survey and categorical answers to the question ‘how much of your credit card balance is usually paid every month?’.

The higher proportion of students carrying balances (68%) suggests credit card use is slightly more prevalent as a borrowing medium than as a transactions medium, even with the majority holding relatively low balances. The low percentage of students carrying a balance of more than \$1,000 would indicate that they are still in control of their debt. The latest estimate shows national and Midwest average credit card debt is over \$1,000: \$2,169 for national and \$2,498 for the Midwest. In fact when we look at how students answered the question ‘how much of your credit card balance is usually paid every month?’, the proportion who indicated paying the full balance every month is more than half (55.5%). Only about 1% reported not being able to pay the monthly minimum balance.

**Table 5**  
**Mean Difference in the Number of Cards Held by Academic Class**

Class (I)	Class (J)	Mean Difference (I-J)
Freshmen	Sophomore	-0.42
	Junior	-0.97
	Senior	-1.18*
	Graduate	-1.65*
Sophomore	Freshmen	0.42
	Junior	-0.54
	Senior	-0.76
	Graduate	-1.22
Junior	Freshmen	0.96
	Sophomore	-0.54
	Senior	-0.22
	Graduate	-0.69
Senior	Freshmen	1.18*
	Sophomore	0.76
	Junior	0.22
	Graduate	-0.47
Graduate	Freshmen	1.66*
	Sophomore	1.22
	Junior	0.69
	Senior	0.47

\*The mean difference is significant at the 0.05 level.

**Table 6**  
**Distribution of Unpaid Balances**

Unpaid Balance	Percent
\$0	32.0
\$1 - \$499	19.6
\$500 - \$999	20.8
\$1,000 - \$2,999	14.9
\$3,000 - \$5,000	8.7
>\$5,000	4.0
Total	100.0

From those students reporting positive balances, perhaps a more relevant piece of information to consider is the mean balance held. For this specific sub sample, the average credit card balance held is \$1,532.

Unpaid balances likewise increase with the student’s academic class level. Graduate students carry an average of \$1,981 unpaid debt in their credit cards while freshmen students have an average of \$863 (Table 7). However, the comparison of means test

**Table 7**  
**Mean Unpaid Balance by Academic Classification**

Academic Classification	Mean Unpaid Balance
Freshmen	\$863
Sophomore	\$908
Junior	\$1,129
Senior	\$1,897
Graduate	\$1,981

(ANOVA) indicates that unpaid balances do differ significantly across student classification only at the 10% level (F-stat = 2.22, p-value = 0.069). The more defined break in the amount of unpaid balances appears to occur between junior and senior years. It may be that seniors (and older students) have access to a higher credit line, and/or hold more credit cards (as shown earlier), and also have greater ability to pay. Seniors are closer to getting their degrees and the prospect of a higher paying job may be more definite. Thus, they may feel more comfortable in using their cards for spending and/or borrowing. It is also possible that they may have higher expenditures, and credit cards may be one financing option.

Given that credit cards can facilitate a transaction (for convenience) or debt (as a borrowing medium), the use of credit cards is related to personal income and/or overall financial wealth. If used mainly as a transaction medium (for convenience), income and wealth put credit card holders in a better position to pay off credit card debt monthly. On the other hand, income

and wealth would reduce the need to use credit cards if used as a borrowing medium.

Table 8 presents a cross-tabulation of categories of balances held vs. reported overall financial resources within the last year. The chi-squared test indicates that the credit card balance held is related to the overall financial resources of the student ( $\chi^2 = 50.33$ , p-value = 0).

Obviously, who actually pays for the student's credit card bills will have an impact on the amount of unpaid balances. Students are responsible for paying off the majority of their balances.

Another factor that may influence credit card debt is whether or not these students were facing rejection on a credit line increase request. Students who are credit constrained may have greater utility for credit cards as a borrowing medium since the constraint may indicate greater need. This may also provide insight into responsible use of credit cards and a good credit rating. A rejection on a credit line increase request can be a signal from lenders on how student borrowing behavior is perceived. The FHSU survey shows that only 2.2% who requested a credit line increase within the last year have been rejected.

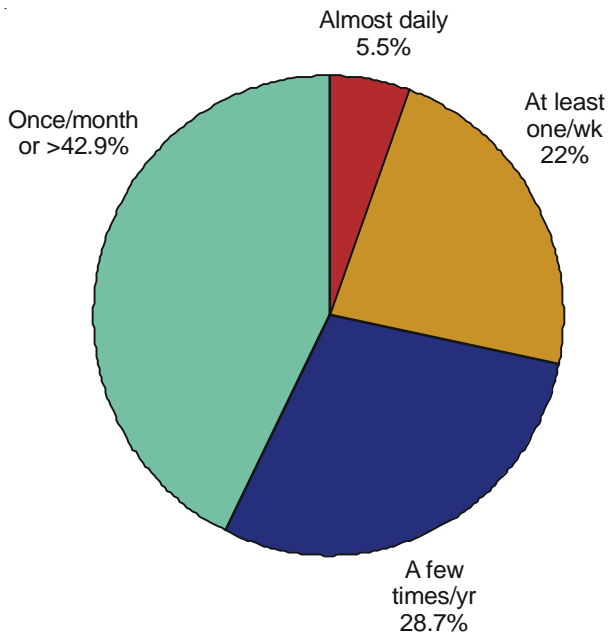
**Frequency of Use.** Another possible indicator in determining whether credit cards are used as a borrowing or a transactions medium is the frequency of use. If credit cards are used less frequently combined with high levels of unpaid balances, this may indicate credit cards are used mainly as a borrowing medium. On the other hand, if cards are used more frequently and have low unpaid balances, this would imply cards are mainly used for transaction convenience. About 43% of students use their credit card occasionally (at least once a month) and only 5.5% use their card almost daily (Figure 3). If we define more frequent use as higher than the median frequency in the sample (which is at least once a month) then 28.4% of the students use their cards more frequently (at least once a week). More than 50% of students with credit cards carry an unpaid balance of less than \$1,000 and, at the same time, a smaller proportion use their cards more frequently. This may again suggest that student credit card use is slightly more prevalent for borrowing purposes than transaction purposes.

**Types of Spending.** Students were also asked for what types of spending they use their credit cards. On average, students responded that 26% of their credit card spending is used to make ends meet (food,

**Table 8**  
**Percentage of Students within Categories of Balances Held by Total Financial Resources within the Last Year**

Balances	Total Financial Resources (Percent of Students)				
	<\$5,000	\$5,000-\$9,999	\$10,000-\$14,999	\$15,000-\$20,000	>\$20,000
\$0	41.4	41.1	25.0	25.6	19.2
\$1 - \$499	34.5	30.1	35.3	30.8	23.1
\$500 - \$999	10.3	13.7	10.3	5.1	15.4
\$1,000 - \$2,999	6.9	8.2	17.6	25.6	15.4
\$3,000 - \$5,000	6.9	6.9	10.3	12.9	9.6
>\$5,000	0	0	1.5	0	17.3
Total	100	100	100	100	100

**Figure 3**  
**Frequency of Use**



clothing, transportation, etc.) while 20% is utilized for convenience. Only 11% is used for spur-of-the-moment buying—a possible signal for irresponsible debt behavior. A larger proportion of spending that students use credit cards for include spending for

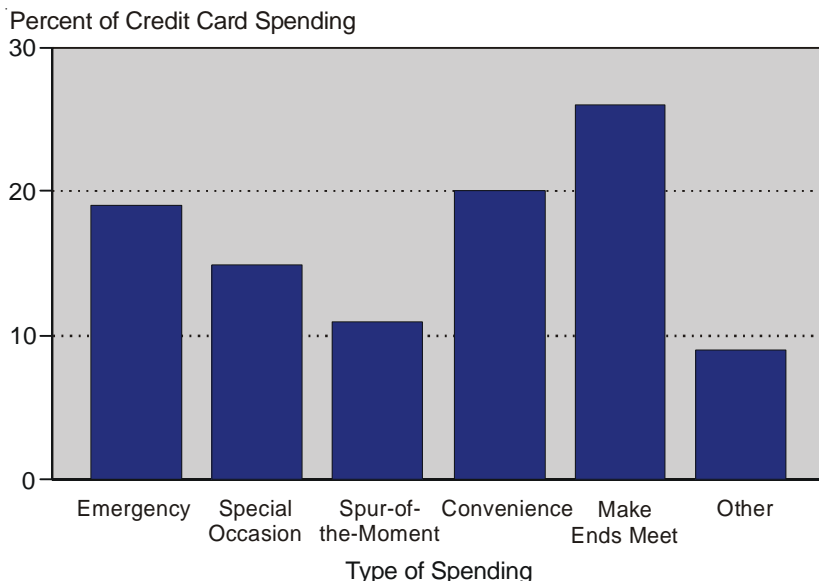
emergencies, special occasions, and for making ends meet, which may all fall under the category of using credit cards for borrowing. These results again point to a slightly higher use of credit cards as a borrowing medium, but also to a responsible use and management of credit card debt (Figure 4).

**Level of Understanding and Knowledge on Credit Card Use**

Most students surveyed have a good understanding of the issues involved in the use and management of credit card debt. Forty-six percent said they had extensive knowledge on how to manage their credit card debt. More importantly, an overwhelming majority (72.5%) reported they have an extensive understanding of the consequences of misusing their cards, including having a bad credit record and bankruptcy. A majority (62.8%) also said had an extensive knowledge of how much their debt will ultimately cost them (Table 9).

Perhaps more important than just the knowledge and understanding of credit card debt is how this translates into actual behavior, in terms of holding lower unpaid balances. Of the three issues presented above, only the level of knowledge and understanding on the first issue—how to manage credit card debt—had a statistically significant effect on the amount of balances held. Table 10 illustrates students with extensive knowledge and understanding on how to manage credit card debt have statistically significant lower unpaid balances than students with moderate knowledge and understanding.

**Figure 4**  
**Types of Spending**



**Total Student Debt**

In addition to credit card debt, another major source of debt for students is student loans to help them finance their education. There is concern about the burden of debt that students accrue even before starting full-time employment. For students reporting positive balances on their credit card, it is interesting to see how much debt burden is added if we combine their student loans as well.

Table 11 presents the distribution of student loan amounts among students with different levels of credit card debt, providing a general picture of the overall debt burden of students at FHSU. The Chi-squared test to evaluate if the distribution of credit card debt is related to student loan amounts indicate that it is ( $\chi^2$  stat = 70.97 and p-value = 0.002).

**Table 9**  
**Percentage of Students with Level of Understanding on Each Issue**

Issue	Little/None (%)	Moderate (%)	Extensive (%)	Total (%)
How to manage card debt	5.4	48.2	46.4	100
Consequences of misusing	3.3	24.2	72.5	100
How much debt will ultimately cost you	5.8	31.4	62.8	100

About 77% of students with unpaid balances on their credit cards are burdened with student loans as well, although more than half (61%) have student loans under \$11,000. Students were also asked how much they agree with the statement ‘borrowing money for a university education is a good investment’: 60.2% agree while 34.2% strongly agree.

**Summary and Conclusions**

A summary of the relevant variables from the survey is presented below:

- Sixty-eight percent of students surveyed (undergraduate and graduate) hold at least one general purpose credit card.
- More than a third (38.2%) acquired their first credit card before college and credit card ownership increases with student academic class level.
- Students reported APR interest on card balances and pre-approved solicitations through mail as the more important factors influencing their decision to get credit cards.
- Students hold an average of 2.78 cards, with 31% of them reporting holding only one card.

**Table 10**  
**Mean Difference in Unpaid Balances Held by Level of Understanding/Knowledge**

Level of Understanding/ Knowledge (I)	Level of Understanding/ Knowledge (J)	Mean Difference (I-J)
Little/None	Moderate	\$139.23
	Extensive	\$693.70
Moderate	Little/None	-\$139.23
	Extensive	-\$554.46*
Extensive	Little/None	-\$693.70
	Moderate	-\$554.46*

\*The mean difference is significant at the 0.05 level.

**Table 11**  
**Percentage of Students within Categories of Credit Card Balances Held by Total Student Loan**

Total Student Loan as of Spring 2005	Credit Card Balances Held (Percent of Students)					
	\$0	\$1-\$499	\$500-\$999	\$1,000-\$2,999	\$3,000-\$5,000	>\$5,000
None	42.5	23.5	40.0	9.8	26.2	18.2
Under \$5,000	19.5	19.8	3.3	12.2	8.7	0
\$5,000 - \$10,999	18.4	24.7	30.0	34.1	8.7	18.2
\$11,000 - \$15,999	8.0	14.8	10.0	12.2	13.0	27.2
\$16,000 - \$20,999	3.4	6.2	10.0	17.1	13.0	0
\$21,000 - \$25,999	3.4	6.2	6.7	4.9	13.0	9.1
\$26,000 - \$30,999	2.4	3.6	0	4.9	0	18.2
\$31,000 - \$35,000	0	0	0	2.4	4.4	0
Over \$35,000	2.4	1.2	0	2.4	13.0	9.1
Total	100	100	100	100	100	100

- The average unpaid balance is \$1,532 for those who reported positive balances. 32% reported zero unpaid balance when the survey was conducted and more than half the students carried balances less than \$1,000.
- More than half (55.5%) indicated that they pay their full balance every month.
- On average, 26% of the student's credit card spending is used to make ends meet while 20% is utilized for convenience.
- About 77% of students with unpaid balances on their credit cards have student loans as well.

In conclusion, student credit-card use at FHSU compares positively to the most recent national and Midwest estimates from Nellie Mae. The proportion of students with credit cards, the average number of credit cards held, and the average unpaid balances on cards are all lower for FHSU students compared to 2004 national and Midwest estimates from Nellie Mae.

The majority of FHSU students have credit cards and reported unpaid balances indicating that credit cards are used to facilitate borrowing slightly more than for transactions for convenience. The relevant policy issue is for what proportion of students are credit cards helpful, and for what proportion are they a liability. About 73% of students with unpaid balances have unpaid balances of less than \$1,000. More than half reported paying off balances every month and only about 1% reported not being able to pay the minimum balance. Only 2% experienced a rejection on a credit line increase request within the last year, generally a reflection of good credit standing. Moreover, students who claim extensive knowledge of how to manage their debt had significantly lower balances. These results suggest responsible management of credit card debt by students, with credit cards being more of a help (to pay for emergencies and special occasions, to make ends meet, and for convenience) than a liability (only 11% reported using credit cards for spur-of-the-moment buying, a possible signal of irresponsible debt behavior). Improving the financial literacy of students may reinforce responsible behavior. Particular attention should be given to the consequences of getting into credit card debt, since survey results indicate there does not seem to be a significant relationship between the students' knowledge and understanding of the consequences of misusing debt, how much the debt will ultimately cost them, and the level of balances held.

In terms of the overall debt burden of students at FHSU, only about a quarter of the students with unpaid balances on their credit cards are not burdened with student loans as well, although more than half of those carrying student loans owe less than \$11,000. This may be perceived as a relatively hopeful situation for the students and university officials, as well.

#### Notes

1. Underlying relationships that seem to emerge from these cross tabulations should be treated with caution as this does not necessarily imply causation. To test for causal relationship of credit card debt to demographic, economic, and attitude variables, consider results from the paper "Modeling Credit Card Borrowing by Students" by Arano and Parker (2006) which uses the same data set.

2. Report from the Docking Institute of Public Affairs, Fort Hays State University.

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