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An Evaluation of Community College Enrollments

A Report Prepared by

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Executive Summary

At the request of the Kansas Board of Regents, the Center for Science, Technology, & Economic Policy at the University of Kansas evaluated community college enrollments in the state of Kansas. The study examined the demand for community college credits over the business cycle. Our analysis found that four-year, community college, and technical college enrollments and credits are responsive to the business cycle. Enrollments in Kansas generally peaked two to three years after the peak of the Kansas unemployment rate (in 2010). We also found that enrollments and credit hours were more responsive at community colleges and technical colleges than at four-year institutions. As the Kansas economy moved out of the recession, enrollment of nontraditional students and enrollment in technical credits dropped significantly.

An Evaluation of Community College Enrollments

By Donna K. Ginther and Patricia Oslund

Purpose and previous research

The purpose of this research is to examine the responsiveness of enrollment in Kansas post-secondary institutions to Kansas economic conditions. Previous national research has shown that college enrollments are countercyclical—particularly enrollments at two year institutions. When the economy looks bad, students facing weak job prospects may return to school. Using data from the 1960s through 1980s, Betts and McFarland (1995) conclude that community college enrollments increase strongly and rapidly when unemployment rates rise. Barr and Turner (2013) find a strong countercyclical pattern of enrollments during the most recent recession, particularly for nontraditional (older) students. Enrollments increased despite reductions in state funding for higher education in many states. Similarly, Long (2014) finds that college enrollments increased significantly during the Great Recession. She also finds strong college enrollment responses among nontraditional students.

US and Kansas business cycles

Recessions are measured by looking at real (inflation adjusted) gross domestic product, the value of all goods and services produced within the US. The National Bureau of Economic Research dates the Great Recession as starting in December 2007 and ending in June 2009. By the third quarter of 2009, real GDP in the US had started to rise. US GDP exceeded its pre-recession peak by the fourth quarter of 2011. In Kansas, GDP also started to rise by the third quarter of 2009 and returned to its pre-recession peak by the third quarter of 2011. However, Kansas GDP fell during the last two quarters of 2012 and was slow to regain speed (Figure 1).

As seen in Table 1 and Figure 2, the number of unemployed people nationally and in Kansas rose throughout the recession, peaking in 2010, slightly after the recession's official end. In Kansas, the number of unemployed people rose by more than 40,000 between 2007 and 2010. The Kansas unemployment rate mirrored the number of unemployed, rising from 4.2% in 2007 to 7.1% in 2010, and falling back to 4.2% by 2015. Note that while the recession ended 2009, it took until 2013 for the number of jobs to return to pre-recession levels for both Kansas and the US. In Kansas, it took until 2015 for the number of unemployed to fall below pre-recession levels. The recovery from the Great Recession often has been called a jobless recovery, because jobs recovered very slowly, especially taking labor force growth into account.

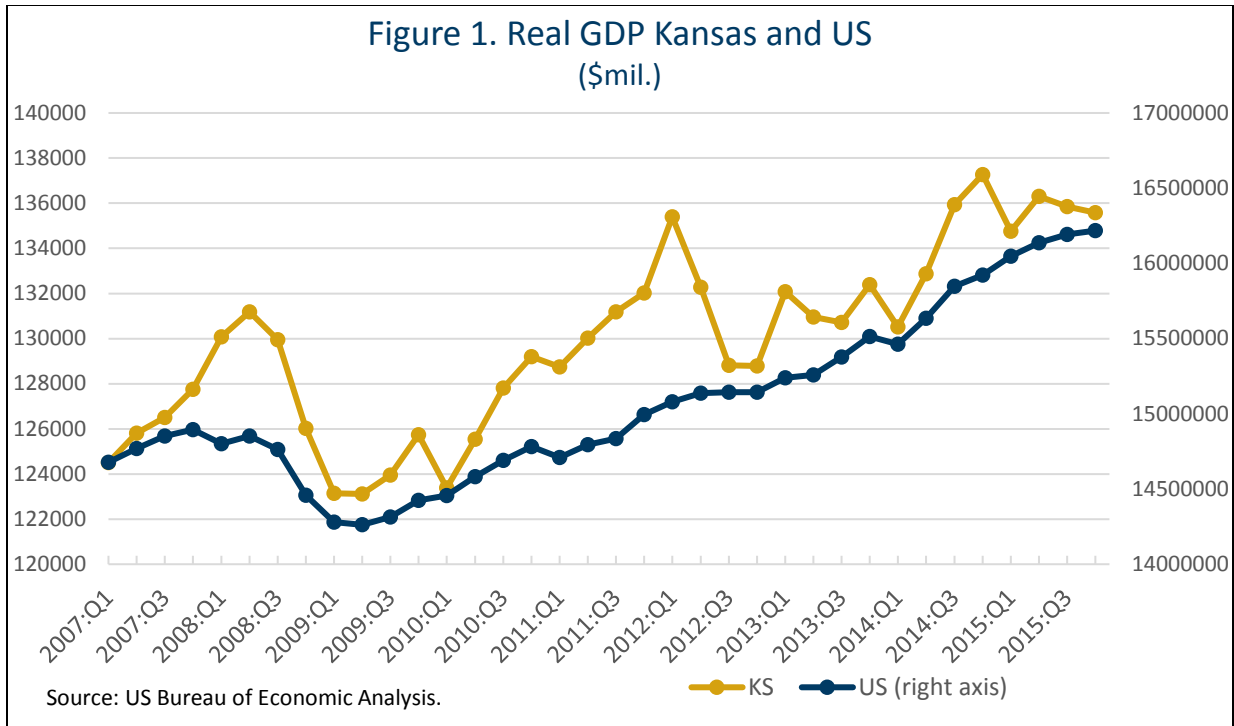
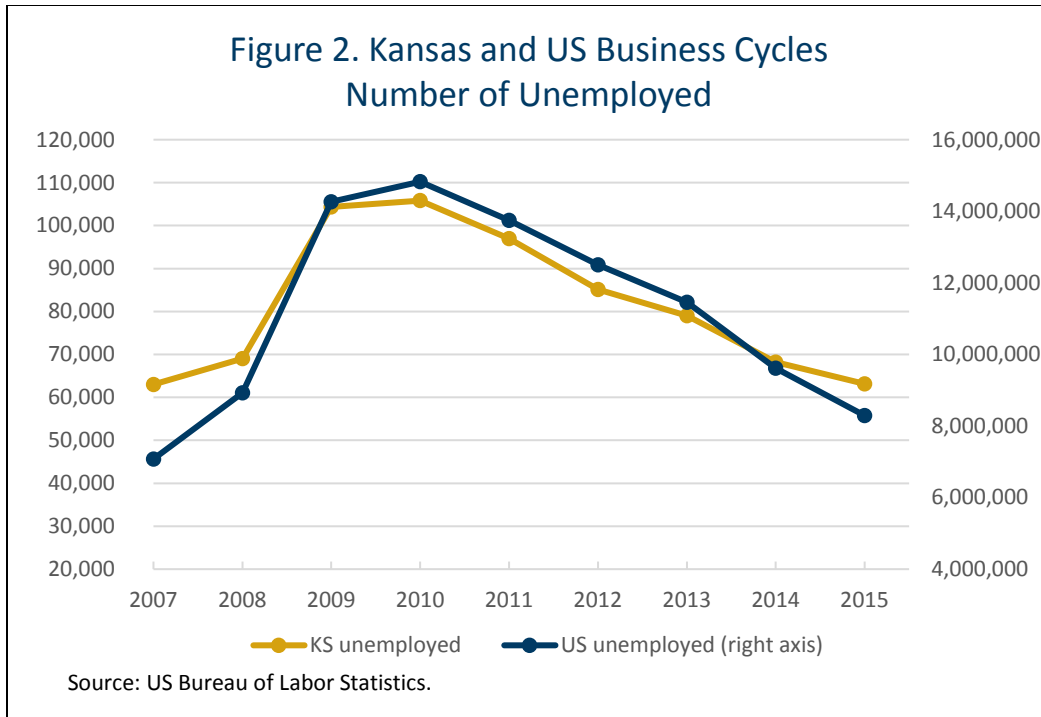


Table 1.
Real GDP, jobs, unemployment rate, and number of unemployed

Calendar Year	Real GDP KS (\$mil.)		UE Rate # Unemp. KS		Real GDP US (\$mil.)		UE Rate # Unemp. US	
	Jobs KS	KS	KS	KS	Jobs US	US	US	US
2007	1,847,146	126,143	4.2	63,009	179,885,700	14,798,367	4.6	7,078,000
2008	1,861,559	129,313	4.6	69,048	179,639,900	14,718,301	5.8	8,924,000
2009	1,818,445	123,986	6.9	104,334	174,233,700	14,320,114	9.3	14,265,000
2010	1,802,671	126,485	7.1	105,806	173,034,700	14,628,165	9.6	14,825,000
2011	1,820,268	130,493	6.5	97,005	176,278,700	14,833,679	8.9	13,747,000
2012	1,841,656	131,320	5.7	85,100	179,081,700	15,126,281	8.1	12,506,000
2013	1,869,343	131,536	5.3	79,031	182,408,100	15,348,034	7.4	11,460,000
2014	1,896,838	134,151	4.6	68,218	186,354,800	15,717,536	6.2	9,617,000
2015	1,911,712	135,621	4.2	63,125	190,422,800	16,148,378	5.3	8,296,000

Source: US Bureau of Labor Statistics, Series LNU03000000, LNU04000000, LAUST2000000000000003, and LAUST2000000000000004; US Bureau of Economic Analysis, Real GDP by State (all industries total) (millions of chained 2009 dollars); US Bureau of Economic Analysis, SA25N Total Full-Time and Part-Time Employment by NAICS Industry.

Note: Green shading indicates return to pre-recession levels.



Enrollments and the business cycle

The business cycle described above created profound effects on enrollment in Kansas public colleges and universities. In the following analysis, we will examine the responsiveness of enrollment to economic conditions in the state of Kansas. Unless otherwise specified, all tables and figures refer to fall semester enrollments. We limit the analysis to students who begin their education as Kansas residents. We presume that out-of-state and international students are less likely than residents to respond to local Kansas conditions when they make enrollment decisions. Note that some four-year and community colleges have expanded into national and international online markets. Online students from outside the state are particularly unlikely to be influenced by the local economy.

Table 2 and Figure 3 show the relationship of the number of unemployed to undergraduate enrollment at Kansas four-year public institutions. For four-year schools, enrollment of traditional undergraduates, ages 18-24, peaked in 2010; enrollment of nontraditional undergraduate students older than 24 peaked in 2012. Enrollment of nontraditional students remained strong until 2014, when both traditional and nontraditional enrollments declined. Enrollment for four-year institutions appears to be very mildly countercyclical, although enrollment peaks occur one to two years after the peak in unemployed in the state. These peaks represent small changes from previous enrollment levels. The number of enrolled credits peaked in 2013 and has fallen off since then.

Could other factors be responsible for the observed enrollment pattern? We examined whether these enrollment patterns were being driven by the supply of recent Kansas high school graduates, that is, graduates in the previous two years. Figure 3 shows that high school graduates rose slowly during the last decade: thus, the supply of high school graduates cannot explain the enrollment drop-offs observed in 2014 and 2015.

Although aggregate four-year enrollments show a mild countercyclical pattern, enrollment patterns differ across Kansas four-year schools. As shown in Table 3, Fort Hays experienced increases in Kansas resident undergraduate enrollments throughout the decade. In contrast, KU and Emporia enrollment of Kansas undergraduates peaked in 2009, near the peak of unemployment in Kansas. Enrollment of Kansas residents at these schools has been on the decline since then. With the exception of Fort Hays, Kansas undergraduate enrollments at all schools declined substantially in 2015.

Table 2. Kansas four-year public institutions								
Relationship of business cycle indicators to undergraduate enrollment measures								
Calendar Year	Kansas Unemploy. Rate	Number of Kansas Unemployed	Recent High School Graduates	Undergrad. Enrollment Count	Undergrad. Traditional Students	Undergrad. Nontrad. Students	Credits Enrolled	Technical Credits Enrolled
4-Year Institutions								
2007	4.2	63,009	59,919	49,935	44,433	5,502	661,520	0
2008	4.6	69,048	60,822	53,427	47,226	6,201	705,556	0
2009	6.9	104,334	61,125	54,998	47,701	7,297	722,733	4,946
2010	7.1	105,806	62,417	55,937	47,865	8,072	736,873	6,023
2011	6.5	97,005	63,590	56,605	47,723	8,882	743,064	6,840
2012	5.7	85,100	63,443	56,805	47,670	9,135	745,173	6,748
2013	5.3	79,031	63,834	56,970	47,831	9,139	748,034	4,973
2014	4.6	68,218	63,521	56,542	47,448	9,094	743,442	4,056
2015	4.2	63,125	63,656	55,035	46,445	8,590	727,510	4,052

Source: US Bureau of Labor Statistics , Kansas Department of Education, and Kansas Higher Education Data System.

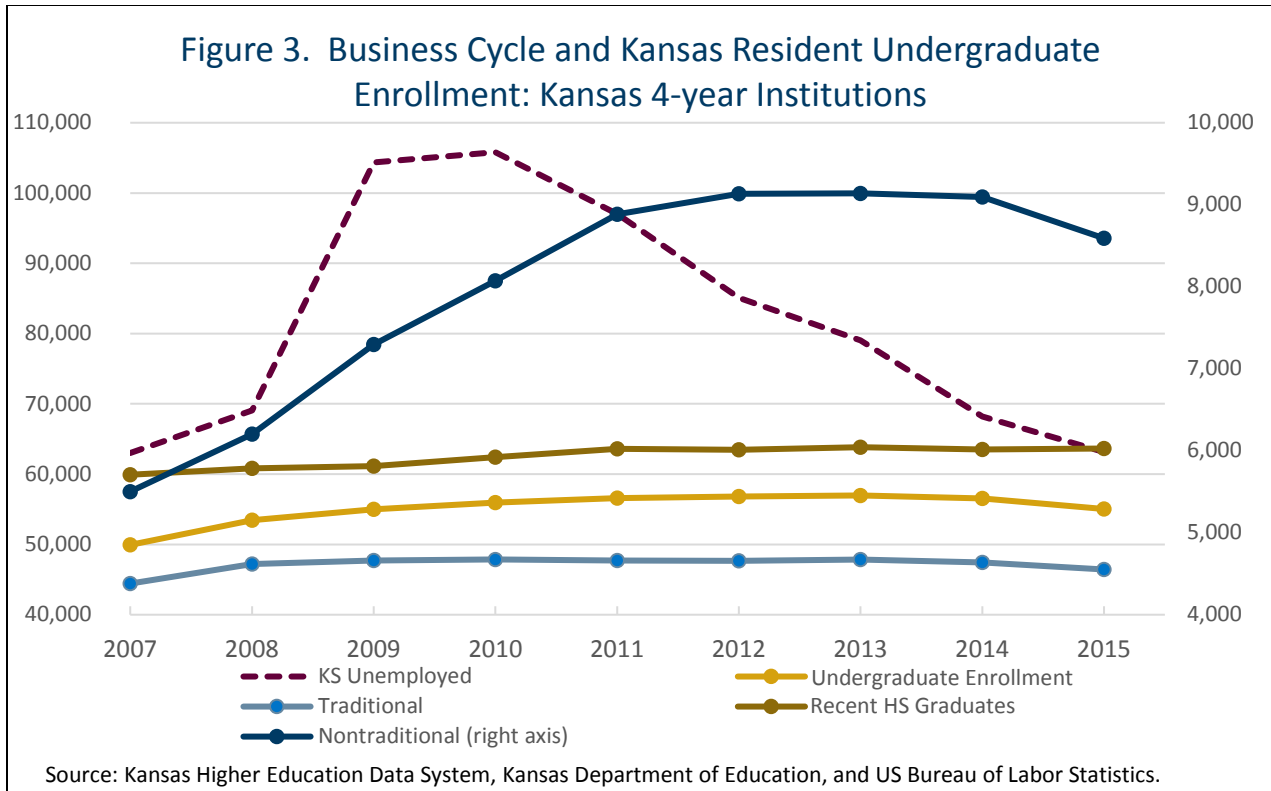


Table 3.
Enrollment of Kansas residents in four-year institutions (fall), 2007-2015

Institution	Calendar year								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Emporia State	3,338	3,379	3,391	3,285	3,097	3,074	3,193	3,193	3,115
Ft. Hays State	3,729	4,033	4,490	4,684	5,028	5,281	5,476	5,655	5,731
Kansas State	13,663	14,413	14,623	15,041	15,337	15,725	15,820	15,723	15,356
Pittsburg State	3,688	3,915	4,034	4,046	4,169	4,105	4,124	4,002	3,798
Univ. of Kansas	13,422	14,812	14,871	14,528	14,061	13,692	13,455	13,208	12,819
Washburn	4,364	4,374	4,524	4,790	4,921	4,935	4,703	4,434	4,251
Wichita State	7,397	8,143	8,692	9,202	9,639	9,638	9,822	9,938	9,547

Source: Kansas Higher Education Data System.
Green shading indicates peak enrollment.

Table 4 and Figure 4 show the relationship of enrollments to the business cycle for community colleges. Aggregate community college enrollment of Kansas residents peaked in 2012. Enrollments of both traditional and nontraditional students fell off sharply after that point. The number of credit hours in which students enrolled peaked earlier—in 2010. Students may cut back to part time status as employment opportunities become available. Enrollment in technical credit hours drove the surge in community college enrollments during recession years. This indicates that students used community colleges to acquire job skills in a tight labor market and to have those skills in place when conditions

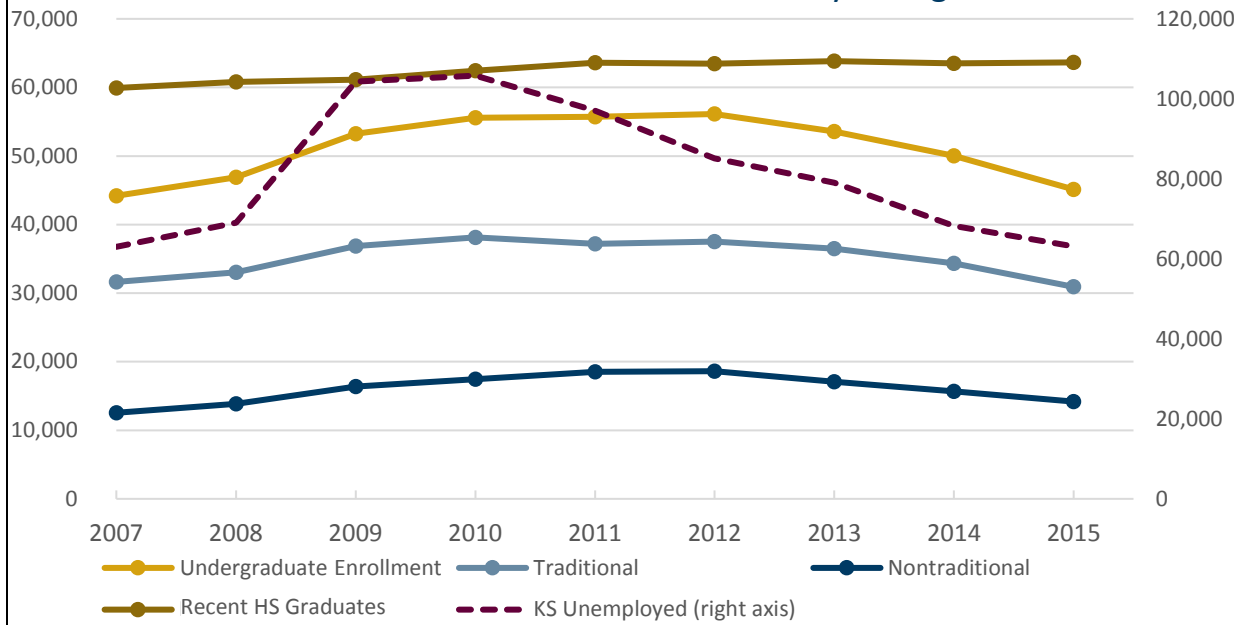
improved. Compared with four-year institutions, countercyclical patters for community colleges are more pronounced.

Individual community colleges reached peak enrollments in different years, but most peaked in 2010-2012 (Table 5). All community colleges saw substantial enrollment declines (for Kansas resident students) after 2013.

Table 4. Kansas community colleges								
Relationship of business cycle indicators to enrollment measures								
Calendar Year	Kansas Unemploy. Rate	Number of Kansas Unemployed	Recent High School Graduates	Undergrad. Enrollment Count	Undergrad. Traditional Students	Undergrad. Nontrad. Students	Credits Enrolled	Technical Credits Enrolled
Community Colleges								
2007	4.2	63,009	59,919	44,197	31,644	12,553	434,960	112,890
2008	4.6	69,048	60,822	46,878	33,042	13,836	447,653	132,886
2009	6.9	104,334	61,125	53,246	36,860	16,386	514,414	161,290
2010	7.1	105,806	62,417	55,590	38,134	17,456	540,269	172,660
2011	6.5	97,005	63,590	55,703	37,185	18,518	538,150	175,465
2012	5.7	85,100	63,443	56,121	37,505	18,616	535,176	175,922
2013	5.3	79,031	63,834	53,589	36,511	17,078	511,527	126,154
2014	4.6	68,218	63,521	50,017	34,342	15,675	488,288	118,152
2015	4.2	63,125	63,656	45,104	30,917	14,187	450,862	109,615

Source: US Bureau of Labor Statistics , Kansas Department of Education, and Kansas Higher Education Data System.

Figure 4. Business Cycle and Kansas Resident Undergraduate Enrollment: Kansas Community Colleges



Source: Kansas Higher Education Data System, Kansas Department of Education, and US Bureau of Labor Statistics.

Table 5.
Enrollment of Kansas residents in community colleges (fall), 2007-2015

Institution	Calendar year								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Metro locations									
Butler County CC	6246	6489	7578	8259	8360	8352	7870	7561	7170
Highland CC	1668	1736	2483	2520	2284	2575	2117	1945	1800
Johnson County CC	10045	10603	11620	12020	12158	11874	11313	11473	11257
Kansas City KS CC	3997	4130	4474	4861	4879	4913	4620	4296	3549
Metro total	8253	8497	9587	10269	10371	10364	9883	9575	9185
Non-metro locations									
Allen County CC	2208	2035	2276	2203	2228	2267	2052	1823	1468
Barton County CC	2610	4691	5269	5560	5750	6022	6232	5709	5278
Cloud County CC	1310	1420	1641	1549	1636	1617	1985	1673	1208
Coffeyville CC	767	862	1105	963	903	799	797	646	594
Colby CC	783	823	872	617	642	701	927	646	537
Cowley County CC	3695	2837	3080	3520	3418	3474	3040	2527	2061
Dodge City CC	892	823	964	1044	1086	996	910	941	845
Ft. Scott CC	1238	1227	1393	1462	1379	1289	1299	1253	1058
Garden City CC	1025	1155	1253	1282	1182	1120	1100	1108	1058
Hutchinson CC	3673	3902	4433	4656	4733	5011	4423	4066	3509
Independence CC	669	621	710	680	719	662	596	503	487
Labette CC	900	958	1092	1074	1089	1043	896	892	765
Neosho CC	1013	1089	1316	1399	1556	1656	1724	1354	1196
Non-Metro total	43733	46320	52252	54280	54457	54727	52190	49076	44659

Source: Kansas Higher Education Data System.

Green shading indicates peak enrollment.

Technical colleges, which make up only a small part of total KBOR enrollment, show an interesting pattern (Table 6, Figure 5). Enrollments and credit hours continued to rise at these institutions until 2013, when the Kansas economy was on the way to recovery. After 2013, they experienced a precipitous drop. Between 2013 and 2015, enrollment fell by 22% and credit hours by 17%. Individual technical colleges all follow similar patterns—they all show steep enrollment declines since 2013 (Table 7).

Table 6. Kansas technical colleges
Relationship of business cycle indicators to enrollment measures

Calendar Year	Kansas Unemploy. Rate	Number of Kansas Unemployed	Recent High School Graduates	Undergrad. Enrollment Count	Undergrad. Traditional Students	Undergrad. Nontrad. Students	Credits Enrolled	Technical Credits Enrolled
Technical Colleges								
2009	6.9	104,334	61,125	5,208	3,199	2,009	62,825	49,993
2010	7.1	105,806	62,417	5,481	3,308	2,173	65,826	52,246
2011	6.5	97,005	63,590	5,729	3,296	2,433	69,974	55,081
2012	5.7	85,100	63,443	5,997	3,485	2,512	70,301	54,129
2013	5.3	79,031	63,834	6,326	3,790	2,536	75,873	50,676
2014	4.6	68,218	63,521	5,729	3,435	2,294	69,600	46,019
2015	4.2	63,125	63,656	4,929	2,871	2,058	62,933	42,080

Source: US Bureau of Labor Statistics, Kansas Department of Education, and Kansas Higher Education Data System.

Note: Data for some colleges not available before 2009.

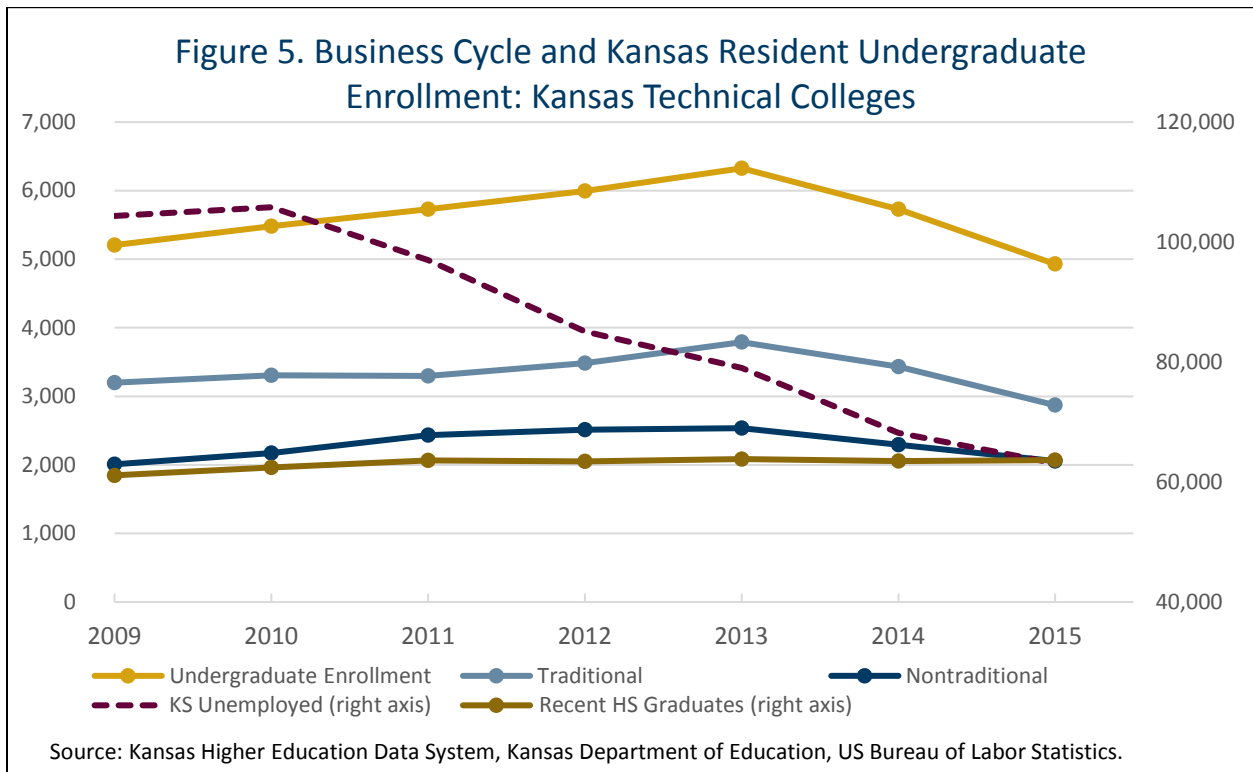


Table 7.
Enrollment of Kansas residents in technical colleges, 2007-2015

Institution	2009	2010	2011	2012	2013	2014	2015
Flint Hills Technical	509	614	612	605	658	635	430
Manhattan Area Technical	562	629	651	677	773	711	615
No. Central Area Technical	747	748	765	760	694	644	608
Northwest Area Technical	266	320	370	380	417	305	324
Salina Technical	446	563	431	443	403	327	281
Washburn Institute of Technology	606	700	755	670	1,004	887	856
Wichita Area Technical	2,072	1,907	2,145	2,462	2,377	2,220	1,815

Source: Kansas Higher Education Data System.
Green shading indicates peak enrollment.

Summary

In general, Kansas post-secondary enrollments show countercyclical trends (Table 8). These trends are weak for the four-year college sector. Most four-year students fall into the traditional age bracket (18-24). Their goals are long-term preparation for employment rather than immediate job training. Community college and technical college enrollments appear more sensitive to the business cycle. Enrollments and credits have fallen consistently since 2013. Particularly notable is the reduction in technical credit hours and reduction in enrollments of nontraditional students. Nontraditional enrollments fell by about 24% at both community and technical colleges, while technical credits fell by almost 38% at community colleges and 24% at technical colleges. We speculate that many would-be technical and nontraditional students now are finding jobs and delaying further education and training.

Table 8. Enrollment and credit changes for Kansas undergraduate resident students
Peak year to 2015

Sector	Peak Year				Change: Peak year to 2015			
	Enroll.	Nontrad. Enroll.	Credit hours	Technical hours	Enroll.	Nontrad. Enroll.	Credit hours	Technical hours
Four-year universities	56,970	9,139	748,034	N/A	-3.4%	-6.0%	-2.7%	N/A
Community colleges	56,121	18,616	540,269	175,922	-19.6%	-23.8%	-16.5%	-37.7%
Technical colleges	6,326	2,536	75,873	55,081	-22.1%	-24.2%	-17.1%	-23.6%

Source: Kansas Higher Education Data System.

Note: Very few technical credits offered at 4-year institutions.

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