The Economic Impact of Barton Community College on the Barton County, Kansas Economy, Fiscal Year 2022

Preston Gilson, Ph.D.

Senior Policy Fellow

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Brett Zollinger, Ph.D.
Director

Jian Sun, Ph.D.
Assistant Director

Michael S. Walker, M.S.
Research Scholar

Marisa M. Johnson, M.B.A.
Administrative Specialist

Leslie Watson-Divittore, M.S.
Research Coord. Admin. Specialist

Wesley Davis
Graduate Research Assistant

Mission:

To facilitate effective public policy decision-making among governmental and nonprofit entities

Docking Institute of Public Affairs
Fort Hays State University
600 Park Street
Hays, Kansas 67601-4099
Telephone: (785) 628-4197
www.fhsu.edu/docking

Executive Summary

- The IMPLAN model shows that for FY 2022 the total economic impact of Barton Community College on Barton County, Kansas was $30,012,000.
- There were 380 FTE jobs in the local economy because of Barton Community College.
- These 380 FTE jobs generated $17,121,000 in labor income.
- Barton Community College activities generated about $247,740 in local taxes.

Introduction

The purpose of this study is to estimate the magnitude of the economic impact of Barton Community College on the local economy (Barton County, including the City of Great Bend) for the most recent fiscal year, 2022, which ended on June 30, 2022. The model used in this study is based on the work of Wassily Leontif. Leontif input-output models attempt to quantify the interdependences between the various sectors of an economy. The model used for this analysis uses the IMPLAN Software and database. The source data for this model comes from a wide variety of sources that are collected and published by the U.S. Government and supplemented by proprietary data developed by IMPLAN. Additional data, specific to this analysis, comes from Barton Community College.

In addition to the immediate economic impact of Barton Community College there are longer-term economic impacts and non-monetized benefits for the local and regional community. These benefits include: a better educated and more productive work force; increased personal income; transfer of know-how and technology to businesses, non-profit organizations, and governmental units; civic leadership and service provided by students and employees; and, sports events, cultural activities, and educational programs that improve the quality of life for the citizens of the surrounding area. Quantifying these long-term, multifaceted benefits is beyond the scope of this study.

Finally, it is vital to understand that the initial economic activity, the Direct Effect, is affected by the larger political and economic environments. The past several years have been marked by difficult social and economic conditions due to COVID 19.

Methodology and Data

How an economy responds to changes in economic activity can be quantified based on the buy-sell relationships among the economic agents (businesses, governmental entities, and households) located within the studied economy. Input-Output (I-O) models estimate the inter-industry relationships in an economy (or region) by measuring the distribution of inputs purchased and outputs sold by each industry. The initial basis for I-O models were those industries that produced physical goods. The production of physical goods requires 1) the purchase of raw materials, 2) workers to transform the raw materials into the finished goods, 3) managers to oversee the process, and 4) capital to finance the business. However, an educational institution does not produce a physical good. Rather, the educational process improves the quality of the willing student (a raw material of sorts) so that they become a trained and educated person (a finished good). Through the use of I-O models it is possible to calculate how the impact of one dollar flows or "ripples" through a regional economy. Indirect effects are the results of business-to-business transactions indirectly caused by the direct effects. Induced effects are the results of increased personal income caused by both the direct and indirect effects. Businesses that experience increased revenue from the direct and indirect effects may increase payroll expenditures by hiring more employees, raising salaries, or increasing payroll hours. Households will then increase spending at local businesses. The induced effects are a measure of the increase in household-to-business activity. Together the indirect and induced effects are the multiplier effects: quantitative measures of the ripple effects that an initial expenditure has on its economy.

The total economic impact on an economy is the sum of the initial economic activity, the Direct Effect, plus all of the secondary effects, the Multiplier Effects. Therefore, it is critical to accurately measure both the initial economic activity and the level of the flow through the economy.

The IMPLAN software and database is a system that produces appropriate industry level multipliers at the county level. This differs from many other methodologies (e.g. Caffrey-Isaacs) that use an average industry level multiplier for colleges and universities. The IMPLAN methodology provides a more data driven and precise measure.

The primary source of data for Barton Community College were from the published Audited Financial Statements of Barton Community College (BCC). These contain the audited financial statements of the college for the three most recent years ending June 30 and the accompanying statements and schedules. More granular data was provided by BCC Institutional Research. Additional calculations using these data are the work of the author.

Appendix B contains additional data for the interested reader, including more granular data from BCC Institutional Research previously reported in "Local Property Tax Return on Investment for Barton Community College" October 2022, Appendix pp. 29 – 30. Information on the level of educational attainment in Kansas by county is presented. And, information about the overall value of formal education at various educational levels attained is shown.

Results and Findings

Tables 1 and 2 provide an economic overview of Barton County. This overview gives a sense of the size and scope of Barton County as an economy.

Table 1: Final Demand, Barton County, KS, 2021

Indicator	Rounded Value	Percentage
Household Demand	$1,022,426,000	79.1%
State/Local Government Demand	$217,580,000	16.8%
Federal Government Demand	$13,826,000	1.1%
Capital	$328,270,000	25.4%
Net Exports	-$237,769,000	-18.4%
Institutional Sales	-$51,097,000	-4.0%
Total Final Demand	$1,293,236,000	100.0%

Source: Implan® with additional calculations by the author. Note that rounding results in a slight discrepancy in the percentage calculation.

Table 1 shows the source of the final demand for goods and services in Barton County. Household demand is the largest source of final demand. Net exports is a negative number which means that the county imports more goods and services than it exports.

Table 2 shows the Gross Regional Product (GRP) calculated by the sources of income. Whether Barton County's GRP is measured by the final demand or the source of the demand it is the same, $1,293,236,000. This economic

activity is created by the 25,200 people living in 10,600 households in the county. There are 17,100 people employed in 206 industries. The total personal income from all sources is $1,251,553,900.

Table 2: Value Added, Barton County, KS 2021

Indicator	Rounded Value	Percentage
1 - Employee Compensation	$626,400,000	48.4%
2 - Proprietor Income	$150,240,000	11.6%
3 - Other Property Income	$410,426,000	31.7%
4 - Taxes on Production and Imports Net of Subsidies	$106,169,000	8.2%
Total Value Added	$1,293,236,000	100.0%

Source: Implan® with additional calculations by the author. Note that rounding results in a slight discrepancy.

Table 3 shows the overall impact of Barton Community College on Barton County, Kansas for FY 2022.

Table 3: IMPLAN Model, Economic Effects, FY 2022

Impact Type	Employment	Labor Income	Output
Direct Effect	323	$14,891,000	$20,654,000
Induced Effect	57	$2,230,000	$9,358,000
Total Effect	380	$17,121,000	$30,012,000

Source: Implan®

Table 3 shows that for FY 2022 the total direct economic impact of Barton Community College on Barton County, Kansas was $20,654,000, and when combined with the induced economic impact ($9,358,000) the total impact is $30,012,000. There were 380 FTE jobs in the local economy because of Barton Community College. These jobs generated $17,121,000 in labor income. Table 4 shows the overall tax effects related to the operation of Barton

Community College at the local, state, and federal levels. BCC helped generate $247,740 in local taxes. Total taxes generated at all three levels were $4.7 million.

Table 4: IMPLAN Model, Tax Effects, FY 2022

Impact	County	State	Federal	Total
Direct	$13,550	$396,700	$3,239,000	$3,649,250
Induced	$234,190	$389,700	$410,000	$1,033,890
Total	$247,740	$786,400	$3,649,000	$4,683,140

Source: Implan®

Appendix A: Value of Partnerships

Docking Institute has reviewed the following additional information from BCC and agrees it should complement the report as an addendum:

Barton Community College's partnerships number more than 750, with each contributing differently to the to institution's objectives. Some partners make one-time cash or merchandise donations, amounting to approximately $350,000 yearly. These contributions support a range of programs such as the Natural Gas Program, Scales Technician Equipment, Hosting Sporting Events, Meals on Wheels, The Cougar Supply Den, and even support-dog counseling services.

The fundraising hub for the College is the Barton Community College Foundation, an independent nonprofit organization that raises funds from private sources to support projects and programs that go beyond the college's operational budget. Last year, the foundation provided a substantial sum of $605,327, primarily allocated through grants and scholarships.

Finally, there are partnerships involving contracts, shared or exchanged services, facilities, and equipment valued at over $8,000,000. Notably, these collaborations include additional equipment, classroom space, and training at countless medical centers, pharmacies, and military installations. Partners such as Case-New Holland and others have contracted to share equipment for training for CNH Top Tech, scales technician, hazmat, and troop-school training among others.

Collectively, these collaborative efforts contributed to a combined total of $8,955,327 during the study period, underscoring the importance of partnerships in accomplishing Barton's Mission.

Appendix B

Table B1: BCC Resident Employee and Student Data, Three Year Average, FY2020 - FY2022

Category	Number	Percentage
Total College Employees =	563	
Total of Barton County resident employees =	323	57.40%
Full Time College Employees =	295	
Full Time Barton County resident employees =	216	73.4%
Student Headcount	12,710	
Dorm Population	414	3.3%
Students with a class on the Barton County Campus	1,867	14.7%
Students with a Barton County Address	1,089	8.6%
Students with a Barton County Address plus Dorm Population	1,503	11.8%

Source: BCC Institutional Research with additional calculations by the author.

Table B2: BCC Expenditures Barton County, Three Year Average, FY2020 - FY2022

Category	Dollars	Percentage
Total College Expenditures =	$52,266,252	
% of College Expenditures Barton County =		13.7%
Total College Expenditures Barton County =	$7,160,635	
Total Barton County Employees Available income =	$13,493,773	

Source: BCC Institutional Research with additional calculations by the author.

The Total College Expenditures in Table B2 include Capital Budgeting and non-public source pass-through funds incurred by BCC. When all these additional expenditures are considered the three year average shows that for every dollar ($1.00) of Revenue derived from the County Property Tax two dollars and five cents ($2.05) is spent in Barton County. The Return on Investment from the Barton County Property Taxes considering all the direct impact of Barton Community College on Barton County is 205 percent.

Table B3: BCC Employees Barton County, Three Year Average, FY2020 - FY2022

Category	Dollars/Number	Percentage
Total Salaries & Benefits	$20,795,787	
Salaries & Benefits to Barton County Residents	$13,493,772	64.9%
# of full time employees living in Barton County	216	66.9%
# of part time employees living in Barton County	107	33.1%
Total number of employees living in Barton County	323	

Source: BCC Institutional Research with additional calculations by the author. From Local Property Tax Return on Investment for Barton Community College, October 2022, Appendix pp. 29 – 30.

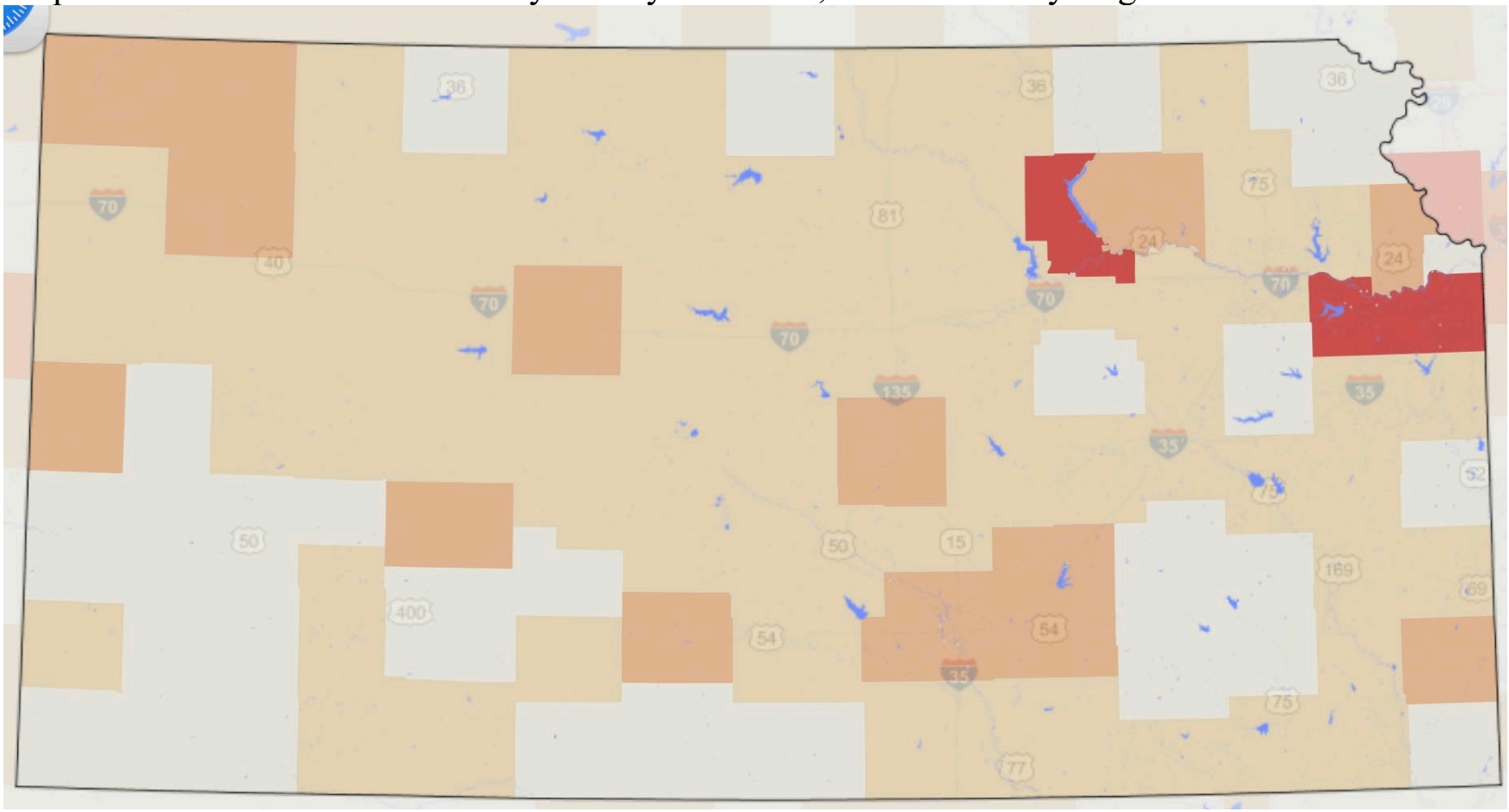
Table B4: Earnings and unemployment rates by educational attainment, 2021

Educational attainment	Median usual weekly earnings	Change in median usual weekly earnings	Median usual annual earnings	Estimated increase in median annual economic value above high school diploma	Unemployment rate
Doctoral degree	$1,909	-15	$99,268		1.50%
Professional degree	1,924	350	$100,048		1.8
Master's degree	1,574	240	$81,848		2.6
Bachelor's degree	1,334	371	$69,368		3.5
Associate's degree	963	64	$50,076	$8,008	4.6
Some college, no degree	899	90	$46,748	$4,680	5.5
High school diploma	809	183	$42,068		6.2
Less than a high school diploma	626		$32,552		8.3

Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.
Source: U.S. Bureau of Labor Statistics, Current Population Survey.

Table B4 shows that the estimated increase in median annual earnings for an individual with some college is $4,680 and for an individual with an associate's degree this amount almost doubles to $8,008. Map B1 shows the percentage of the county population with at least a post-secondary (AA) degree. The range of educational attainment by county varies from a low of 19 percent to a high of 62 percent.

Map B1: Educational Attainment by County in Kansas, Post-Secondary Degree



Legend:

Source: https://statisticalatlas.com/state/Kansas/Educational-Attainment Coarse: Post-Secondary Degree Educational Attainment by County Percentage of the population 25 years and older with given highest level of educational p.6.

The chart below (Table B5) shows the impact of rising educational achievement on the Kansas economy. First, it shows various levels of educational attainment. Column 1 shows the percent of the Kansas population at those levels in 1990. Column 2 shows the number of Kansans in 2014 who would be at those levels based on 1990 attainment. Column 3 shows the average earnings by education level in 2014. Column 4 shows what Kansas earnings would have been in 2014 if the population had been at 1990 levels: about $61.6 billion. Columns 5 and 6 show the actual percent of adult Kansans at various education levels in 2014 after almost 25 years of improving educational outcomes. Finally, Column 7 shows actual estimated earnings: over $67 billion. In other words, improved educational attainment boosted earnings by almost $5.5 billion. BCC contributes to this earnings boost from educational achievement.

Table B5: Testimony by Mark Tallman, February 6, 2017

Kansas Education Levels and Earnings	1	2	3	4	5	6	7
	1990 Percent at Education Levels	2014 Population By 1990 Ed Level	2014 Average Kansas Earnings by Education Level	Hypothetical 2014 Earnings at 1990 Education Levels	2014 Percent at Education Levels	Actual Number at Education Level 2014	2014 Earnings at Actual Education Levels
Population 25 years and over		1,881,521	$35,743			1,881,521	
No High School Diploma	18.7%	351,844	$23,067	$8,115,995,398	9.7%	182,508	$4,209,901,356
High school graduate only (includes equivalency)	32.5%	611,494	$28,063	$17,160,365,242	26.5%	498,603	$13,992,297,813
Some college, or Associate's degree	27.3%	513,655	$32,063	$16,469,327,736	32.2%	605,850	$19,425,360,919
Bachelor's degree	14.4%	270,939	$46,785	$12,675,882,238	20.3%	381,949	$17,869,472,877
Graduate or professional degree	7.0%	131,706	$54,289	$7,150,212,550	11.3%	212,612	$11,542,485,973
Total Wage Earnings:				*$61,571,783,163*			*$67,039,518,938*
Increase in Earning Due to Higher Education Levels							**$5,467,735,775**

Source: Testimony before the Senate Committee on Assessment and Taxation on SB 147 - Concerning income tax by Mark Tallman, Associate Executive Director for Advocacy (Kansas Association of School Boards) February 6, 2017

Table B6: Potential Occupational Opening by Typical Educational Level for Entry

Table 3. Associate's degree; postsecondary nondegree award; and some college, no degree to enter:
Occupations projected to have the most openings each year, on average, 2019–29

Occupation	Occupational openings, projected 2019–29 annual average	Median annual wage, 2019	Typical education needed for entry	Typical on-the-job training
Heavy and tractor-trailer truck drivers	209,200	$45,260	Postsecondary nondegree award	Short-term on-the-job training
Nursing assistants	174,000	29,660	Postsecondary nondegree award	None
Bookkeeping, accounting, and auditing clerks	162,100	41,230	Some college, no degree	Moderate-term on-the-job training
Teaching assistants, except postsecondary	140,400	27,920	Some college, no degree	None
Medical assistants	92,800	34,800	Postsecondary nondegree award	None
Hairdressers, hairstylists, and cosmetologists	70,600	26,090	Postsecondary nondegree award	None
Automotive service technicians and mechanics	61,700	42,090	Postsecondary nondegree award	Short-term on-the-job training
Licensed practical and licensed vocational nurses	58,400	47,480	Postsecondary nondegree award	None
Computer user support specialists	53,600	52,270	Some college, no degree	None
Preschool teachers, except special education	50,600	30,520	Associate's degree	None

Note: None of the occupations in the table typically require work experience in a related occupation for entry.
Source: U.S. Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections.

Table B7: Potential Occupational Opening by Typical Educational Level for Entry

Table 4. Bachelor's degree to enter:
Occupations projected to have the most openings each year, on average, 2019–29

Occupation	Occupational openings, projected 2019–29 annual average	Median annual wage, 2019	Typical work experience
General and operations managers	204,400	$100,780	5 years or more work experience
Registered nurses	175,900	73,300	None
Software developers and software quality assurance analysts and testers	131,400	107,510	None
Project management specialists and business operations specialists, all other	128,000	73,570	None
Accountants and auditors	125,700	71,550	None
Elementary school teachers, except special education	103,200	59,670	None
Management analysts	87,100	85,260	Less than 5 years work experience
Market research analysts and marketing specialists	84,200	63,790	None
Personal service managers, all other; entertainment and recreation managers, except gambling; and managers, all other	74,500	110,630	Less than 5 years work experience
Secondary school teachers, except special and career/technical education	71,100	61,660	None

Note: None of the occupations in the table typically require on-the-job training for competency.
Source: U.S. Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections.

Tables B6 and B7 provide estimates of occupational openings and median annual wage for those individuals with either some college or an associate's degree (Table B6) or those with a bachelor's degree (Table B7). Again, this information shows the economic value of formal education in today's work environments.