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Gatton College of
Business and Economics

Center for Business and Economic Research

Kentucky Annual Economic Report 2026



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The **Center for Business and Economic Research (CBER)** is the applied economic research branch of the Carol Martin Gatton College of Business and Economics at the University of Kentucky. Its purpose is to disseminate economic information and provide economic and policy analysis to assist decision makers in Kentucky’s public and private sectors. CBER performs research projects for federal, state, and local government agencies, as well as for private-sector clients nationwide. The primary motivation behind its research agenda is that systematic and scientific inquiries into economic phenomena yield knowledge that is indispensable to the formulation of informed public policy. Recent projects have been conducted on manpower, labor, and human resources; tourism economics; transportation economics; health economics; regulatory reform; public finance; technology use and adoption; education policy; and economic development.

The initial Annual Economic Report was released in 1972 by the Council of Economic Advisors. This five-member council was established by an executive order signed by Governor Wendell Ford in December 1970. The Council was codified by state statute in 1972, with the responsibility to “monitor the economic progress of the Commonwealth and to advise the Office of the Governor on policies and programs for achieving the Commonwealth’s full potential for economic growth.” The Office of Business Development and Government Services, College of Business and Economics, University of Kentucky, acted as the secretariat, publishing various economic reports, including this Annual Report. In 1984, the Center for Business and Economic Research assumed responsibility as the secretariat for publishing the Annual Report for the Kentucky Council of Economic Advisors. In 1986, KRS 164.738 was passed, which directs CBER to maintain state economic data and produce the annual report. With passage of this statute in 1986, the Center for Business and Economic Research, under the auspices of the Department of Economics, has assumed responsibility for the mission originally set forth in 1970.

From the Director . . .

This report is one of the primary ways in which the Center for Business and Economic Research fulfills its mission to examine various aspects of Kentucky's economy as directed by the Kentucky Revised Statutes (KRS 164.738). The analysis and data presented here cover a variety of topics that range from a discussion of Kentucky's current economic climate to a broad presentation of factors affecting the economy.

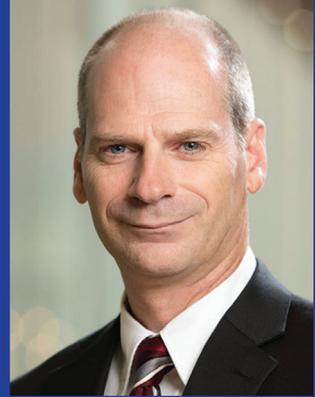
As 2025 draws to a close, both the national and state economies appear to be slowing. Inflationary pressures have returned, and firms have reduced hiring. Unfortunately, economic data has been delayed due to the recent government shutdown, making it more challenging to gauge the economy. The data that is available shows that Kentucky's total non-farm employment was up 0.9% over the first nine months of 2025 compared to the same period in 2024. However, job growth slowed in the most recent months for which data is available. Most of Kentucky's job growth

occurred in the construction sector. Looking forward, I expect employment in Kentucky to grow very modestly. While I do not currently anticipate a recession, the risk has increased.

In addition to our economic outlook, we present a broad array of data on Kentucky that measure both economic inputs and outputs. This report includes data for Kentucky over many years, which allows one to assess change over time. We have included data on the U.S. and the twelve states considered Kentucky's main economic competitors—Alabama, Georgia, Illinois, Indiana, Mississippi, Missouri, North Carolina, Ohio, South Carolina, Tennessee, Virginia, and West Virginia. This allows readers to assess Kentucky's relative position over time across numerous measures of economic and social well-being.

We have organized the data into thirteen thematic areas: Agriculture, Community, Economy, Economic Security, Education, Energy, Environment, Equity, Health, Infrastructure, Innovation, Population, and Public Finance.

The information contained in this report documents the substantial progress Kentucky has made but also shows that there is still considerable work to be done. We present this report as a resource for Kentucky's policymakers, business and community leaders, and citizens to evaluate challenges Kentucky faces and the progress made in addressing them.



Dr. Michael W. Clark
Director, CBER

Contents

Economic Outlook	1
Agriculture	11
Farms.....	13
Farms, Indexed.....	14
Farms, Indexed (continued).....	15
Ag Economy Barometer.....	16
Indices of Current Conditions & Future Expectations.....	17
Agriculture and GDP.....	18
Farm Employment.....	19
Value-Added Food Production.....	20
Farm Commodities.....	21
Local Food Suppliers.....	22
Organic Farming.....	23
Hemp.....	24
Community	25
Economic Connectedness.....	27
Social Capital Index: US.....	28
Social Capital Index: KY.....	29
Volunteer Rate.....	30
Volunteer Hours.....	31
Participation in Local Groups.....	32
Favors for Neighbors.....	33
Community Based Organizations.....	34
Nonprofits.....	35
Charitable Contributions.....	36
Donations.....	37
Children in Single-Parent Families.....	38
Children in Single-Parent Families by County.....	39
Grandparents as Caregivers.....	40
Reactions to Lack of Child Care.....	41
Child Care Gaps.....	42
Child Care Gaps by County.....	43
Neighborhood Quality.....	44
Students Feeling Unsafe at School.....	45
Adverse Childhood Experiences.....	46
Adverse Childhood Experiences (continued).....	47

Contents

Property Crime Rate.....	48
Violent Crime Rate.....	49
Incarceration Rate.....	50
Disconnected Young Adults.....	51
Attendance at Artistic & Cultural Events.....	52
Participation in the Artistic Activities.....	53
Community Engagement.....	54
Talk with Neighbors.....	55
Loneliness.....	56
Economy.....	57
New Employers.....	59
High-Propensity Business Formations.....	60
High-Propensity Business Formations (continued).....	61
High-Growth Firms.....	62
High-Growth Firm Employment.....	63
Jobs Gained & Lost by Firm Type.....	64
High-Growth Firms by Sector.....	65
High-Growth Firms, Indexed (KY, CS, US).....	66
High-Growth Firms, Indexed (KY, GA, NC).....	67
Productivity.....	68
Productivity (continued).....	69
Wage & Salary Change by State.....	70
Wage & Salary Change by Kentucky Region.....	71
Employment Change by State.....	72
Employment Change by Kentucky Region.....	73
Wage & Salary Change by Kentucky County.....	74
Employment Change by Kentucky County.....	75
Per Capita Personal Income.....	76
Household Income.....	77
Net Earnings Per Capita.....	78
Net Earnings Per Capita by County.....	79
Employment-Population Ratio.....	80
Employment-Population Ratio (continued).....	81
Labor Force Participation.....	82
Labor Force Participation by County.....	83
Main Reason for not Working.....	84

Contents

Labor Force Participation Relative to Expectations.....	85
Imports.....	86
Exports.....	87
Employment by Foreign Companies.....	88
Trade Exposure.....	89
Housing Starts.....	90
Home Ownership Affordability Monitor.....	91
Banks.....	92
Banks by Kentucky Region.....	93
Earnings Gap.....	94
Economic Security.....	95
Index of Deep Disadvantage.....	97
Marital Status.....	98
Selected Factors Affecting Household Income.....	99
Transfer Payments by County Type.....	100
Transfer Payments by County.....	101
Gini Index by State.....	102
Gini Index by County.....	103
Household Income Growth.....	104
Household Income Ratio.....	105
Cost-Burdened Renters.....	106
Cost-Burdened Owners.....	107
Cost-Burdened Owners (With Current Mortgage).....	108
Mortgage Default Rate.....	109
Severe Housing Problems.....	110
Banking Status.....	111
Personal Bankruptcies.....	112
Business Bankruptcies.....	113
Poverty Rate.....	114
Poverty Rate by County.....	115
Child Poverty.....	116
Elder Poverty.....	117
Food Insecurity.....	118
Food Stamp Participation.....	119
Temporary Assistance For Needy Families.....	120
Medicaid Beneficiaries.....	121

Contents

Supplemental Security Income (SSI).....	122
Disability Income (DI).....	123
Women, Infants, and Children (WIC).....	124
Free- and Reduced-Lunch Eligibility.....	125
Public Assistance Recipients.....	126
Education.....	127
Educational Attainment.....	129
Post-Secondary Education.....	130
Workforce by Education.....	131
Lifetime Earnings by Educational Attainment.....	132
Financial Impact by Educational Attainment.....	133
Family Income by Education.....	134
Labor Force Participation by Education.....	135
Health by Education.....	136
Public Assistance by Education.....	137
Volunteer Rate by Education.....	138
Voting by Education.....	139
Food Insecurity by Education.....	140
Telework by Education.....	141
Education Index.....	142
Selected Educational Indicators.....	143
Selected Obstacles to Education.....	144
Educational Spending per NAEP.....	145
Public Pre-K Enrollment.....	146
Kindergarten Readiness.....	147
Educational Achievement Gap: KSA.....	148
Educational Achievement Gap: NAEP.....	149
High School Attainment.....	150
High School Graduation Rate.....	151
College Readiness.....	152
Advanced Placement Exam Mastery.....	153
Performance on Standardized Tests: NAEP.....	154
Performance on Standardized Tests: KSA.....	155
College Attainment.....	156
College Attainment by County.....	157
Science and Engineering Graduates.....	158

Contents

Some College or Associate’s Degrees.....	159
Bright Spot Schools.....	160
Excellence Gap.....	161
Excellence Gap Schools.....	162
Energy.....	163
Renewable Energy Production.....	165
Energy Consumption by End-Use Sector.....	166
Energy Consumption by Source.....	167
Kentucky Coal Distribution.....	168
Natural Gas Supplanting Coal.....	169
Coal Production.....	170
Coal Mining Employment & Production.....	171
Energy Consumption per GDP.....	172
Energy Efficiency.....	173
Industrial Electricity Costs.....	174
Residential Electricity Costs.....	175
Motor Gasoline Expenditures.....	176
Environment.....	177
Natural Amenities Scale.....	179
Recycling.....	180
Toxic Releases.....	181
Solid Waste.....	182
Landfill Gas Energy Projects.....	183
Air Quality.....	184
Air Quality (continued).....	185
Lead & Copper Rule Violations.....	186
Lead Risk.....	187
Equity.....	189
White, Non-Hispanic Population.....	191
Population by Race.....	192
Hispanic Population.....	193
Unemployment Rate.....	194
Employment-Population Ratio.....	195
Minority Earnings Gap.....	196
Earnings by Race, Ethnicity, & Metro Status.....	197

Contents

Self-Employed by Race & Ethnicity.....	198
Food Insecurity by Race & Ethnicity.....	199
Poverty Rate by Race & Ethnicity.....	200
Poverty Rate by Race & Ethnicity (continued).....	201
Disconnected Young Adults by Race & Ethnicity.....	202
Disconnected Young Adults by Race, Ethnicity & Gender.....	203
Educational Achievement Gap: NAEP.....	204
Educational Achievement Gap: KSA.....	205
Post-Secondary Education by Race & Ethnicity.....	206
Post-Secondary Education by Race, Ethnicity & Gender.....	207
College Degrees by Race & Ethnicity.....	208
College Degrees by Race, Ethnicity & Metro Status.....	209
Home Ownership Rates by Race & Ethnicity.....	210
Severe Housing Problems by Race & Ethnicity.....	211
Cost-Burdened Renters.....	212
Cost-Burdened Owners.....	213
Health Insurance by Race & Ethnicity.....	214
Health Insurance by Chronic Disease, Race & Ethnicity.....	215
Health Status by Race & Ethnicity.....	216
Leading Causes of Death.....	217
Racial & Ethnic Teleworking Disparities.....	218
Environmental Disparities.....	219
Racial Equity Index.....	220
Health.....	221
Social Determinants of Health.....	223
Health Outcomes.....	224
Health Conditions.....	225
Drug Overdose Death Rate.....	226
Drug Overdose Death Rate (continued).....	227
Children with MEDB Problems.....	228
Teens’ Mental Health.....	229
Poor Mental Health Days.....	230
Depression.....	231
Adult Smokers.....	232
Adult Obesity.....	233
Risk Behaviors and Chronic Disease.....	234

Contents

Number at Risk for Chronic Disease.....	235
Chronic Disease Risk by Age Group.....	236
Disability.....	237
Health Insurance Coverage: Children.....	238
Health Insurance Coverage: Everyone.....	239
Youth Health-Related Behaviors.....	240
Youth Obesity.....	241
Youth Smoking & Vaping.....	242
Youth Alcohol and Drug Abuse.....	243
Oral Health.....	244
Infrastructure.....	245
Commuting.....	247
Road Condition.....	248
Narrow Roads.....	249
Bridges.....	250
Problem Bridges by County.....	251
Water Quality.....	252
Health-Based Violations.....	253
High-Speed Internet.....	254
High-Speed Internet by County.....	255
Dams.....	256
High-Hazard Potential Dams.....	257
Solid Waste Disposal.....	258
Innovation.....	259
Early-Stage Entrepreneurship.....	261
AI Impact on Selected Occupations.....	262
AI Impact on State Economies.....	263
State Technology and Science Index.....	264
County-Level Innovation Index.....	265
Patents.....	266
Patents by County.....	267
Small Business Innovation Research.....	268
Small Business Innovation Research (continued).....	269
Academic Research & Development.....	270
Academic Research & Development (continued).....	271

Contents

STEM Occupations by State.....	272
STEM Jobs.....	273
High-Technology Establishments.....	274
Venture Capital.....	275
Self-Employed.....	276
Entrepreneurial Depth.....	277
Nonemployer Establishments.....	278
Population.....	279
Population Totals.....	281
Rural Population.....	282
Population Change.....	283
Regional Population Change.....	284
County Population Changes.....	285
Foreign-Born Population.....	286
Foreign-Born Population by County.....	287
Population by Age Group.....	288
Aging Population.....	289
Population Mobility.....	290
Interstate Migration.....	291
Fertility Rates.....	292
Public Finance.....	293
Federal Funds & Kentucky Expenditures.....	295
General Fund Receipts by Source.....	296
State and Local Tax Revenue by Source.....	297
Tax Collections and Personal Income.....	298
Growth Rates, Taxes and Income.....	299
Revenue from Federal Transfers.....	300
State and Local Own Source Revenue.....	301
State and Local Expenditures, Kentucky.....	302
State and Local Expenditures.....	303
Social Services Expenditures.....	304
Social Services Expenditures in the U.S.....	305
Education Expenditures.....	306
Education Expenditures in the U.S.....	307
Community Development Expenditures.....	308
Community Development Expenditures in the U.S.....	309

Contents

Public Protection Expenditures.....	310
Public Protection Expenditures in the U.S.....	311
Infrastructure Expenditures.....	312
Infrastructure Expenditures in the U.S.....	313
Insurance Trust Expenditures.....	314
Insurance Trust Expenditures in the U.S.....	315
Government Administration Expenditures.....	316
Government Administration Expenditures in the U.S.....	317
Debt.....	318
Public Pension Funding Gaps.....	319
Pension Funded Ratio.....	320
Pension Funding.....	321
Notes & Sources.....	323
Glossary.....	355
Subject Index.....	361

Summary

State-level economic success depends on a combination of fundamental conditions: the education and skill level of the workforce, the extent to which working-age adults participate in the labor market, the strength and diversity of the industrial base, the capacity for innovation, the health of communities, the quality of infrastructure, demographic vitality, and the resilience of public finances. The *Kentucky Annual Economic Report 2026* evaluates each of these factors and shows a state with meaningful advantages alongside persistent structural challenges. In the near term, however, both the U.S. and Kentucky economies are entering a period of slower growth, with renewed inflationary pressures and heightened uncertainty shaping the outlook for 2026.

At the center of any state's long-term prosperity is human capital, but Kentucky continues to lag the U.S. and most competitor states in educational attainment. While post-secondary education and training have increased, the share of adults with bachelor's degrees remains comparatively low, with pronounced regional disparities. The Urban Triangle—Louisville, Lexington, and Northern Kentucky—approaches national levels, while much of eastern and parts of western Kentucky remain far behind. These gaps matter because education is strongly associated with lifetime earnings, labor force participation, health outcomes, and reliance on public assistance. Indicators of kindergarten readiness, K-12 performance, and college readiness show that these disparities emerge early and compound over time, underscoring the importance of strengthening human capital as a foundation for long-term growth.

Labor force participation is another core determinant of competitiveness, and Kentucky faces persistent challenges in this area. Participation remains among the lowest in the nation, with clusters of counties—particularly in eastern Kentucky—where fewer than half of working-age adults are engaged in the labor market. Recent labor market data indicate that declining unemployment partly reflects workers exiting the labor force rather than sustained job creation, signaling a softening labor market. Caregiving responsibilities, illness and disability, and limited access to child care continue to constrain participation, especially in rural areas where child-care gaps remain large. Addressing these barriers will require coordinated investments in health, early childhood systems, and access to reliable care, in addition to workforce training.

A strong and adaptable industrial base continues to support Kentucky's economy. Manufacturing—particularly automotive, aerospace, advanced materials, and food processing—remains a central pillar, and the state has experienced a substantial increase in value-added food production since the mid-2000s, far outpacing national growth. Kentucky's central location and transportation network also support logistics and distribution activity and integration into national and international supply chains. At the same time, productivity and wage growth trail high-performing states, and although Kentucky has retained manufacturing employment better than the nation, slower national growth and contracting manufacturing activity pose near-term risks.

Innovation capacity is essential for advancing beyond mid-wage, mid-skill growth, yet Kentucky's overall performance remains modest. Venture capital investment, patent activity, and STEM employment lag national averages, even as university-based research continues to expand. Innovation activity is highly concentrated in the Louisville–Lexington corridor, leaving many regions without the technical workforce or research assets needed to support innovation-led growth. Recent investment patterns suggest that firms are increasingly adopting capital and technology to offset expected labor constraints,

highlighting the importance of technology diffusion and stronger university–industry linkages.

Economic outcomes are also shaped by the strength of communities. The report documents strong relationships between social capital, civic engagement, and economic mobility. Children raised in communities with greater cross-class interaction experience higher rates of upward mobility. Many rural and Appalachian counties score low on measures of economic connectedness and social capital, overlapping with areas facing high poverty, low labor force participation, and poor health outcomes. At the same time, Kentucky exhibits notable strengths: volunteerism is high, volunteer hours per resident exceed those of most competitor states, and violent and property crime rates remain below national averages. Persistent challenges—including child-care shortages, high rates of single-parent families, and limited local institutional capacity—continue to constrain community resilience.

Infrastructure quality remains a foundational driver of competitiveness. Kentucky’s interstate network and location strengthen its logistics economy, but infrastructure conditions vary widely across the state. Ongoing challenges include rural road quality, bridge conditions, water system compliance, dam safety, and broadband availability. These gaps affect safety and quality of life and increasingly influence business location decisions, as national site-selection surveys rank infrastructure reliability among the most important factors for investment. Expanding high-speed internet access is particularly urgent, given its role in education, telehealth, remote work, and entrepreneurship.

Demographic trends further shape the state’s long-term labor supply and fiscal base. Kentucky faces slow population growth and an aging population, with most gains concentrated in the Urban Triangle and continued losses in many rural counties. Limited in-migration and low labor force participation reinforce one another, creating workforce constraints that may limit future growth unless the state attracts and retains more working-age adults.

Public finance rounds out the landscape. Kentucky’s fiscal position is currently stable, supported by solid General Fund growth, but the state remains heavily reliant on federal transfers and faces long-term obligations, including pension liabilities and infrastructure needs. Sustaining investments in education, workforce development, and infrastructure will be critical to maintaining competitiveness.

Looking ahead to 2026, both the U.S. and Kentucky economies are expected to slow further. Employment growth is projected to be modest, inflation is likely to remain elevated, and the risk of recession is lurking amid ongoing monetary policy tightening. Taken together, the report portrays a state with substantial strengths—a diverse industrial base, strategic location, competitive energy costs, strong civic engagement, and expanding value-added manufacturing—but also enduring challenges that constrain opportunity. Kentucky’s long-term prosperity will depend on improving educational attainment, raising labor force participation, strengthening innovation capacity, modernizing infrastructure, and reducing regional disparities. With targeted investment and coordinated action, the Commonwealth can build on its existing advantages and foster more inclusive growth across all regions.

Acknowledgments

The inspiration and intellectual framework for this report rests on the foundation and scaffolding constructed during the past half-century by the Department of Economics faculty, and the prior staff of the Center for Business and Economic Research, who produced the previous fifty-three *Kentucky Annual Economic Reports*. We have melded their tradition of academic rigor with the public policy breadth found in the biennial reports on trends affecting Kentucky's future produced by the staff of the Kentucky Long-Term Policy Research Center from 1993 to 2010—*Michal Smith-Mello, Billie Dunavent, Amy Burke, Mark Schirmer, Peter Schirmer, and the late Suzanne King*. Also, we would be remiss if we did not recognize the contributions of countless interns, undergraduates, and graduate students who assisted in the work of these annual reports over the years.

While we respect the past, we are simultaneously embracing the future. This report incorporates limited use of artificial intelligence tools as part of its production process to demonstrate its capabilities and potential economic implications. As an illustration of its capability, most of the images appearing in the document were created using OpenAI's ChatGPT 5.1 (noted with "*Image generated using OpenAI's ChatGPT. Used with permission.*"). We provided the contents of the section, including all text, figures, and tables, and prompted it to generate an image that captures its essence. The resulting images in this report are the results. In addition, the introductory pages for each major section (including Agriculture, Community, Public Finance, and others) were initially drafted with assistance from ChatGPT based on author-written content. Likewise, the two-page summary (pp. xv-xvi) was AI-generated from author-written content. All AI-generated material was subsequently reviewed, fact-checked, and thoroughly revised by the authors to ensure accuracy, clarity, and consistency with the report's analytical framework.

The cover of this annual report, on the other hand, was produced without the use of artificial intelligence tools. We are especially grateful to the staff of the Gatton College of Business and Economics Marketing & Communications department, especially graphic designer *Kelsey Tucker*, who lent her expertise in the design and production process.

We are grateful for the efforts of those who came before us and appreciate the AI-assisted summaries of our work, but we accept sole responsibility for any omissions, mistakes, or errors contained in this report.

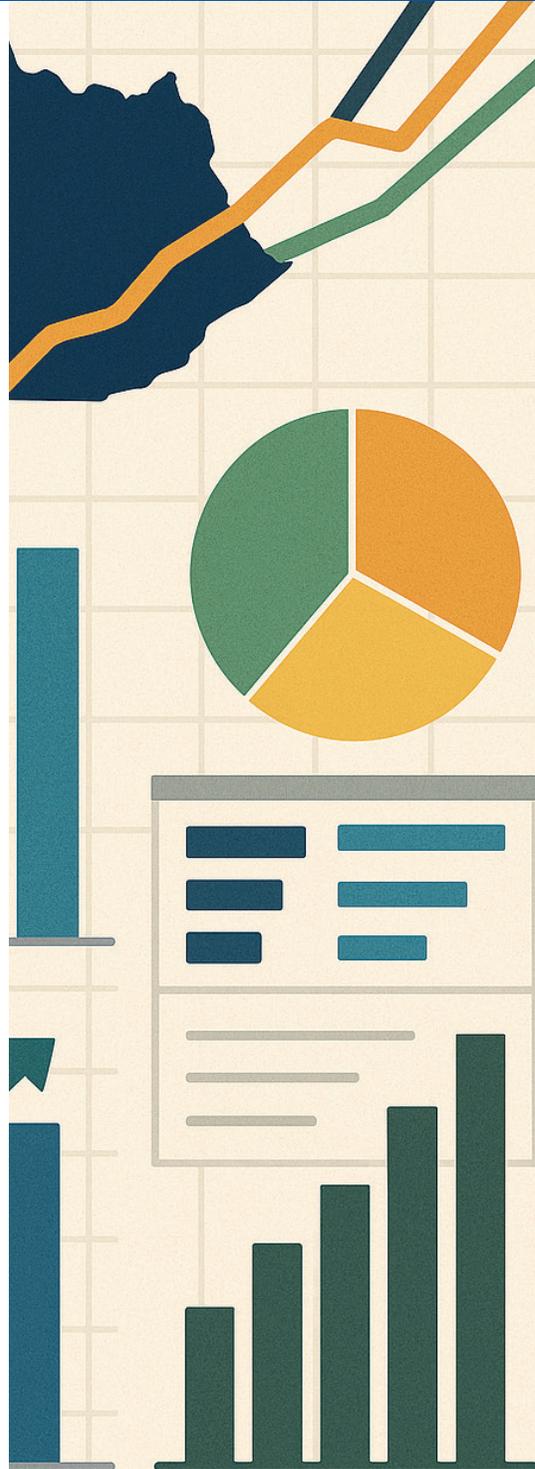
Economic Outlook *by Michael W. Clark, Ph.D.*

LAST YEAR, I PROJECTED THAT THE economy was likely to slow in 2025. After posting strong employment growth over the last few years, I expected employment to grow at a slower pace, one that was more consistent with our long-term trends. I also noted that policy priorities being discussed by the then incoming presidential administration could create headwinds for the economy. While we expected inflation to slow, the prospect of higher tariffs on imports risked rekindling inflationary pressures. In addition, stricter immigration policy could make it harder for firms to find workers, further slowing employment growth.

As I write this in early December of 2025, we face greater uncertainty due to a lack of current data. Due to the federal government shutdown, agencies such as the Bureau of Economic Analysis (BEA) and the Bureau of Labor Statistics (BLS) had not updated some of the most important indicators of how the U.S. economy is performing. The most recent data from these agencies on employment and inflation reflects September 2025. These agencies will release more current estimates soon, but they will not be available for this outlook. In addition, there are also growing concerns that monthly figures might overstate the true employment situation.

What data are available suggest that inflationary pressures have returned and employment has slowed and is likely to slow further. This poses a dilemma for the Federal Reserve, which must determine whether rising prices or slow job growth is the greater threat to the U.S. economy.

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If the Fed keeps rates high to combat inflation, it increases the risk that the U.S. could slip into a recession. Alternatively, lowering rates could help increase demand for goods and services and prop up job growth. But if the Fed lowers rates too soon or too aggressively, it risks allowing higher inflation to become more entrenched in consumers' and businesses' expectations.

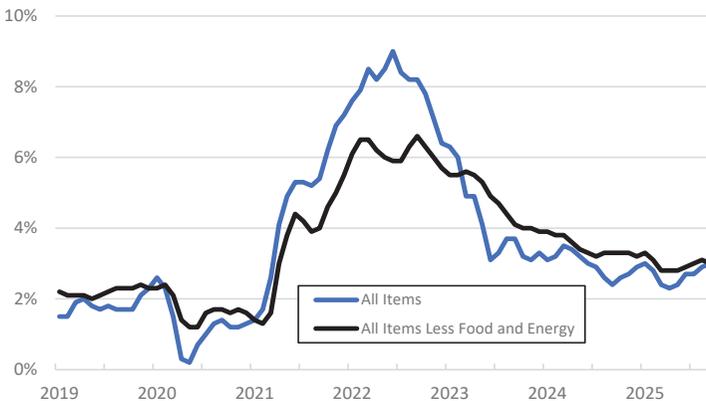
Inflation

Figure 1 shows price changes through September as measured by the 12-month percent change in the Consumer Price Index. Prices in January 2025 were up about three percent over prices in January 2024. Over the next few months, inflationary pressures eased. By April, inflation had slowed to 2.3 percent, close to the Fed's two percent target. Since April, however, inflation had increased. As of September, the most recent reading available as I write this, inflation was back up to three percent year-over-year.

Price increases have been particularly high among several expenditure categories. For example, grocery prices were up 2.7 percent in September 2025 compared to a year earlier. This is twice the rate of inflation that we saw at the same point last year. Higher prices for beef are currently the main driver of higher grocery prices. In September, beef prices were up 14.7 percent compared to a year ago. Prices for non-alcoholic beverages are another major driver of higher grocery prices. Specifically, coffee prices were up 10.6 percent compared to a year ago.

Prices for shelter, which refers to rental prices and owners' equivalent of rent, were up 3.6 percent in September 2025. This is still high but does represent an improvement over last year. Rental rates were up 3.4 percent in September 2025 compared to September 2024.

FIGURE 1
12-month Percent Change in Consumer Price Index



Source: U.S. Bureau of Labor Statistics, Consumer Price Index-All Urban Consumers, Seasonally Adjusted.

Overall, energy prices have increased by 2.8 percent year-over-year. Electricity prices were up 5.1 percent and utility gas services were up 11.7 percent from last year. However, motor vehicle drivers saw some relief at the pumps as gas prices fell by 0.5 percent.

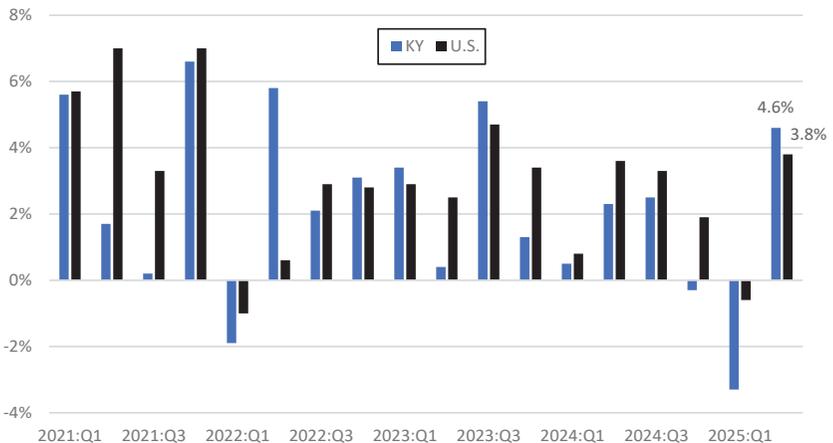
Economic Output

Figure 2 shows the percent change in real Gross Domestic Product (GDP) at annual rates for the U.S. and Kentucky. GDP refers to the value of the goods and services produced by an economy. Real GDP has been adjusted for price increases. Removing inflation from the estimates allow for GDP to better reflect growth in the economy rather than rising prices. Estimates of U.S. and Kentucky GDP were only available for the first two quarters of the year as I write this.

Nationally, real GDP decreased at an annual rate of 0.6 percent during the 1st quarter of 2025 but jumped by 3.8 percent during the 2nd quarter. Net exports were the main drag on 1st quarter GDP. It appears that U.S. firms stockpiled imports early in the year in an attempt to avoid higher tariffs. During the 2nd quarter, both imports and exports declined as higher tariffs restricted trade with other countries. Overall, the decline in imports was greater than the decline in exports. As a result, net exports increased.

Consumers were still spending but their growth in their expenditures slowed during the first half of 2025. Residential fixed investment, which includes housing, was flat during 2025. Businesses increased their investments in equipment and intellectual property products but appeared to be working down their inventories. This suggests that they might be concerned about having too much inventory in

FIGURE 2
Percent Change in Real GDP, Kentucky & U.S.
 (Annual Rates)

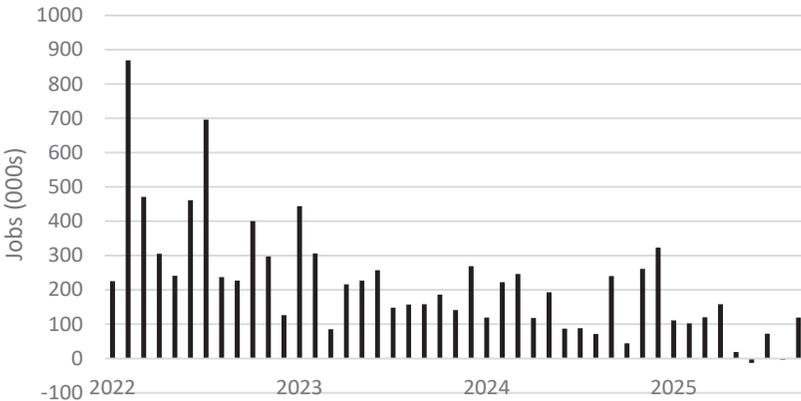


Source: U.S. Bureau of Economic Analysis. Seasonally adjusted at annual rates.

4 • KENTUCKY ANNUAL ECONOMIC REPORT 2026

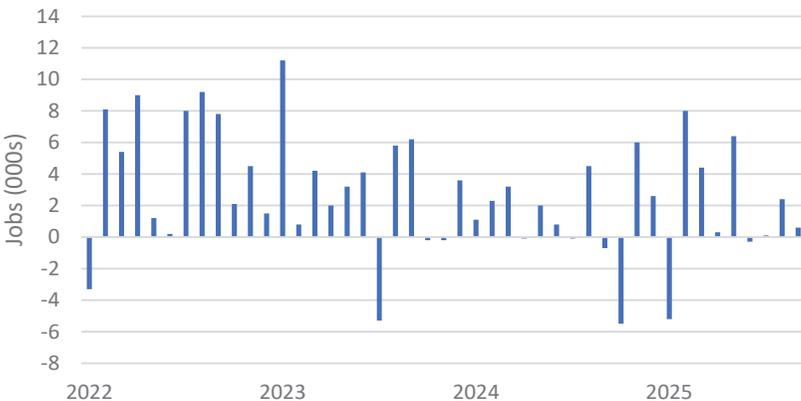
the short-run but are making investments in preparation for long-term growth. Business investments can help firms maintain and increase the production capacity. These investments might also reflect concerns about the availability of workers as the labor force declines. If firms anticipate having trouble finding workers in the future, they might accelerate plans to adopt new equipment that can reduce their need for labor. Kentucky’s real GDP declined at an annual rate of 3.3 percent during the 1st quarter of 2025 but recovered in the 2nd quarter, increasing by 4.6 percent.

FIGURE 3A
Monthly Change in Total Nonfarm Employment, U.S. (000s)



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Seasonally Adjusted.

FIGURE 3B
Monthly Change in Total Nonfarm Employment, KY (000s)

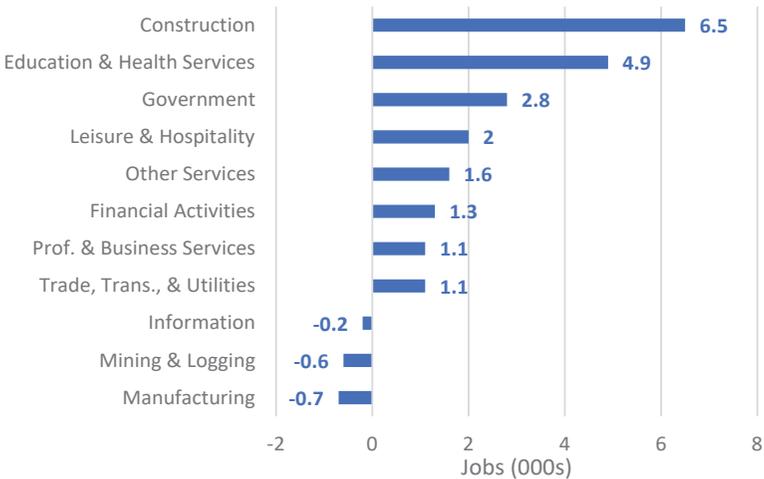


Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Seasonally Adjusted.

Labor Market

While the available data on GDP indicates that the U.S. and Kentucky economies were producing more goods and services during the first half of 2025, there is increasing evidence from the labor market suggesting that the economy has slowed considerably. Figure 3A shows the monthly change in total nonfarm employment for the U.S. During the first four months of 2025, the U.S. economy added 123,000 jobs on average per month. While employment grew at a slower rate than it did during the same months of 2024, it did grow consistently during this period. Since April, however, employment has grown significantly slower, averaging only 39,000 per month, and declined in two months. Employment in Kentucky also appears to be slowing in recent months. However, Kentucky’s monthly employment estimates tend to be more volatile than the national estimates (Figure 3B).

FIGURE 4
Change in Kentucky Employment from September 2024 to September 2025
by Sector



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics. Seasonally Adjusted.

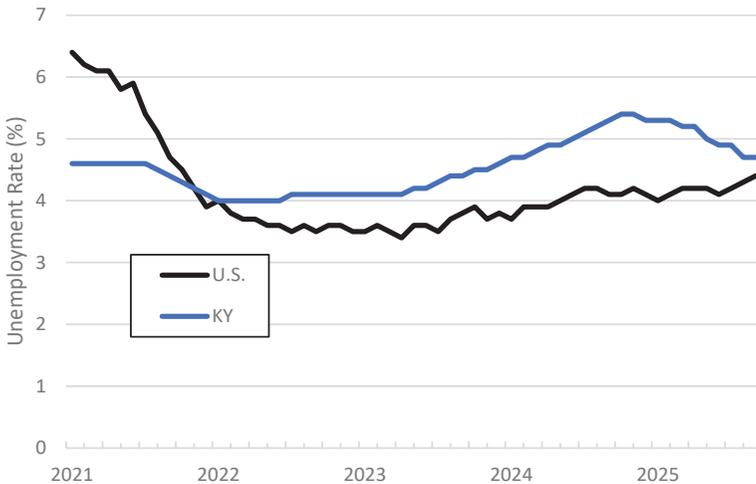
Figure 4 shows how employment changed from September 2024 to September 2025. Eight of the eleven major sectors experienced an increase in employment over this period. Kentucky’s construction sector recorded the largest employment gains with an increase of 6,500 jobs in September 2025 compared to September 2024. This represents a gain of 6.9 percent, substantially higher than the gain of 0.5 percent for the nation. Employment in Kentucky’s education and health services sector increased by 4,900 jobs, an increase of 1.6 percent. Kentucky’s growth in this sector, however, was considerably slower than the 3.1 percent

reported nationally. On a percentage basis, Kentucky’s employment growth in financial activities, professional and business services, and other services exceeded the nation’s growth. Kentucky also saw gains in its government, leisure and hospitality, and trade, transportation, and utilities sectors.

Kentucky lost jobs in three sectors. Most of the job losses occurred in Kentucky’s manufacturing sector, which lost 700 jobs, or 0.3 percent. National manufacturing fared a bit worse with employment down 0.7 percent. Employment in the information sector, which includes software publishing, motion pictures, and telecommunications, was down 200 jobs. Mining and logging employment was down by 600 jobs.

Kentucky began 2025 with an unemployment rate of 5.3 percent, but the rate has steadily decreased since. By September, Kentucky’s unemployment rate had decreased to 4.7 percent (Figure 5). While Kentucky’s unemployment rate has declined, the nation’s rate was flat for much of the year and has recently begun to increase. There were two main drivers contributing to Kentucky’s declining unemployment rate during 2025.

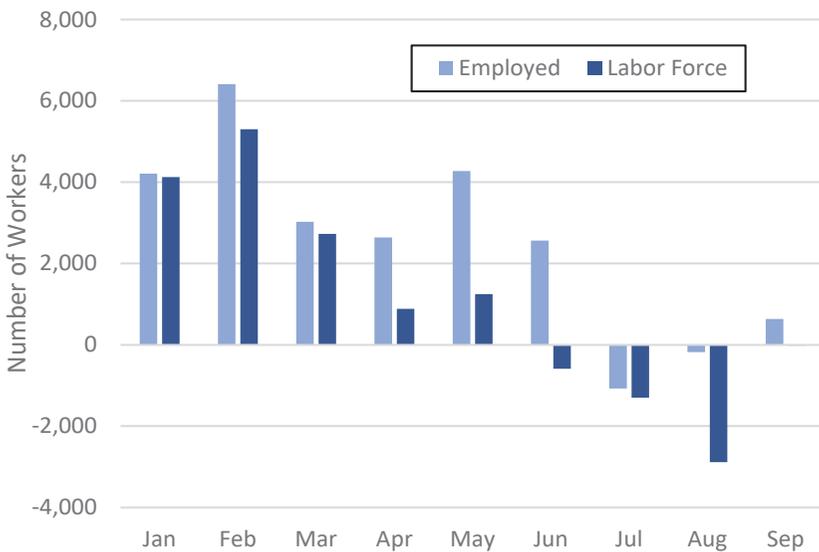
FIGURE 5
Unemployment Rates, Kentucky & U.S.



First, from January to June, both the number of people working and the number in the labor force increased, but people were finding jobs at a faster rate than they were entering the labor force (Figure 6). As a result, the state’s unemployment rate declined. The BLS estimated that the number of people employed in Kentucky increased by more than 23,000 workers during this period. These trends reflected an improving labor market. Workers were entering the labor market and quickly finding jobs.

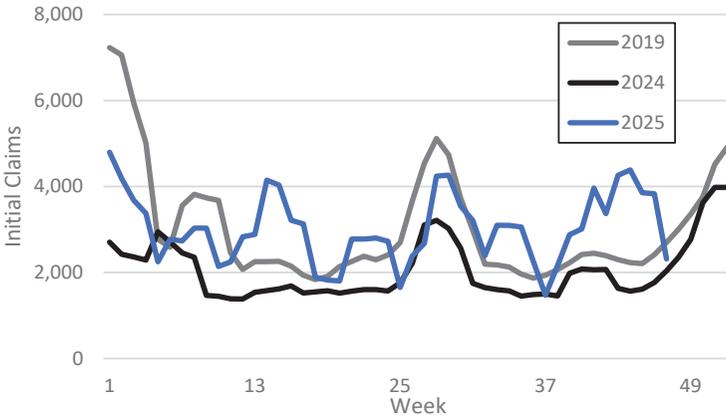
Around June and July, the situation appeared to change and suggests a weakening labor market. From July to September, employment stopped growing and declined slightly in two months. However, workers also began to exit Kentucky’s labor market. With employment flat and people leaving the labor force, Kentucky’s unemployment rate has declined further. It is not clear why workers left the state’s labor market. This commonly happens when workers struggle to find jobs. It could also reflect the aging of the population. However, the decline in the labor market could also reflect the stricter enforcement of immigration policy.

FIGURE 6
Monthly Change in Number of Workers Employed
and In the Labor Force, Kentucky 2025



Initial claims for unemployment insurance increased for much of October and November but fell toward the end of November (Figure 7). Overall, the level of initial claims suggest that firms are not significantly reducing their payrolls. However, we have also seen the number of continuing claims increase. These claims represent workers who are already receiving unemployment benefits and are continuing to file for benefits because they have not returned to work. An increase in continuing claims suggests that workers who have lost their jobs are taking longer to find new employment and may indicate that firms have slowed hiring.

FIGURE 7
4-week Moving Average Initial Unemployment Insurance Claims
Kentucky 2019, 2024, & 2025



Source: U.S. Department of Labor. Employment & Training Administration.

Outlook

Both the national and Kentucky economies slowed in 2025 and are likely to slow further in 2026. In recent months, firms have reduced the rate at which they hire new workers, consumer confidence has fallen, and price increases have accelerated. At its December meeting, the Fed lowered its target for the Federal Funds rate by one quarter point citing concern over the slowing employment growth. I expect the Fed will reduce rates further during 2026.

Table 1 presents my forecast. As I write this, economic data for 2025 are not complete. Therefore, the table shows the average of monthly estimates for 2025 based on the data available compared to the same period in 2024. Looking to 2026, I expect the national and state economy to slow further.

I expect U.S. real GDP to grow by 2.2 percent in 2026. Firms will be slow to add new workers but will attempt to maintain their current employment levels given the limited growth in the labor supply. Employment growth will slow to 0.3 percent nationally and 0.2 percent in Kentucky. As labor demand eases, the annual unemployment rate will increase to 4.6 percent for the U.S. and 5.4 percent for Kentucky. I expect the annual inflation will remain high in 2026 with prices increasing by 3.1 percent for the year.

The Institute for Supply Management’s (ISM) Manufacturing Purchasing Managers’ Index (PMI) suggests manufacturing is still contracting as of November 2025. Manufacturing employment has trended downward since the post-pandemic recovery. Given this trend and the slowing economy, I expect manufacturing employment will decline somewhat nationally. While national

manufacturing employment has been declining, Kentucky has been able to retain its manufacturing jobs. While I expect some volatility, I expect little change overall in Kentucky’s manufacturing employment in 2026.

TABLE 1 Forecast for 2026			
	2025 Forecast	2025 Actual or Best- Available	2026 Forecast
Real GDP Growth—U.S.	2.1%	1.9%	2.2%
Unemployment Rate—U.S.	4.3%	4.2%	4.6%
Inflation—U.S.	2.3%	2.8%	3.1%
Employment Growth—U.S.	1.1%	1.0%	0.3%
Growth in Manufacturing Employment—U.S.	-0.3%	-0.5%	-0.2%
Real GDP Growth—Kentucky	1.9%	0.6%	1.7%
Unemployment Rate—Kentucky	5.3%	5.1%	5.4%
Employment Growth—Kentucky	0.9%	0.9%	0.2%
Growth in Manufacturing Employment—Kentucky	-0.5%	0%	0%

Agriculture

AGRICULTURE REMAINS ONE of the most enduring and defining elements of Kentucky's economy, even as its role has evolved from the state's dominant industry to one of several interconnected pillars of growth. For generations, farming shaped Kentucky's communities, culture, and commerce, but over time, the forces of mechanization, urbanization, and globalization have transformed how—and where—Kentuckians earn their living from the land. In 1963, agriculture accounted for nearly 5 percent of Kentucky's gross domestic product; by 2024, that share had declined to just 1.4 percent. Still, Kentucky's agricultural contribution remains higher than the national average, and the state's deep ties to farming continue to influence its broader economy. Employment in agriculture has followed the same pattern, falling from about 11 percent of Kentucky's total workforce in the late 1960s to roughly 3 percent today.

Even so, agriculture in Kentucky has adapted with resilience, finding new ways to remain productive and relevant. As the crop mix shifted away from tobacco—once nearly one-fourth of farm receipts in 1990 but less than 3 percent by 2024—farmers diversified into livestock, soybeans, corn, and poultry. Poultry has been the standout success story, rising to account for more than 21 percent of farm receipts in 2023. This diversification has helped cushion Kentucky's farm sector from commodity price swings and created stronger linkages between agricultural production and the state's

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food processing and export industries. By 2023, total agricultural receipts approached \$8 billion, supported by a combination of livestock production, crop diversification, and value-added food products.

The expansion of food manufacturing illustrates how agriculture continues to fuel Kentucky's broader industrial economy. Between 2007 and 2021, the state's food manufacturing output increased by 38 percent—more than twice the national growth rate. Today, food processing employs nearly 30,000 Kentuckians and draws heavily on locally grown inputs, including grains, meats, and specialty ingredients. Bourbon distilling alone purchases hundreds of millions of dollars' worth of Kentucky corn and other grains each year, while meat and poultry processing plants create a web of jobs and suppliers that span from rural counties to metropolitan centers like Louisville and Bowling Green. These interconnections reveal that agriculture's true contribution extends far beyond the farm gate; it underpins entire sectors of Kentucky's industrial and export economy.

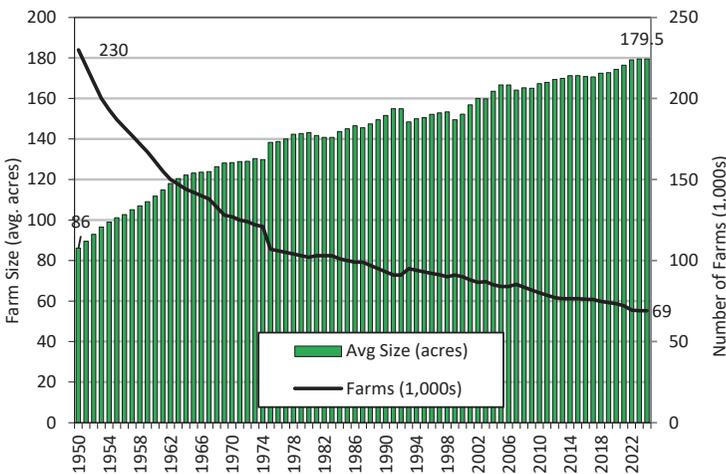
Changing consumer preferences have also revitalized smaller farms and rural communities. Farmers' markets, community-supported agriculture, and direct-to-consumer operations have grown steadily across the state, linking producers more closely with local consumers. About 4.2 percent of Kentucky farms now sell directly to consumers—below many neighboring states—but these local food networks have become essential to rural entrepreneurship and community identity. While organic farming remains limited—with twenty-five certified organic farms per 10,000 compared to ninety-one nationally—it represents a promising avenue for growth. These trends reflect how Kentucky agriculture continues to evolve alongside consumer tastes, providing opportunities for both traditional and emerging farm enterprises.

Even as agriculture's direct share of Kentucky's GDP and employment has diminished, its broader influence remains deeply rooted in the state's economy, culture, and identity. Farming supports a diverse array of industries—transportation, logistics, manufacturing, and tourism—and provides the foundation for many of Kentucky's globally recognized products, from bourbon and beef to horses and hemp. The sector's contributions ripple outward, sustaining small-town economies, preserving rural landscapes, and shaping the state's reputation for craftsmanship and quality. In this sense, agriculture is not simply a legacy of Kentucky's past but a dynamic force that continues to drive innovation, connect communities, and anchor the state's resilience amid economic change. Though smaller in scale, Kentucky's farms remain central to the state's prosperity—bridging its traditions of hard work and self-reliance with new opportunities in a global economy.

FARMS

Thomas Jefferson and Alexander Hamilton, advanced divergent visions of America’s future. Jefferson envisioned a nation of farmers, and an economy built on agriculture. Hamilton, on the other hand, argued for an economy built on industry. Hamilton’s vision, of course, came to fruition, but Kentucky grew its present-day manufacturing-based economic structure from an agricultural foundation championed by Jefferson. Despite having an economy that revolves around the manufacturing and service sectors, many of the Commonwealth’s signature products are rooted in agriculture (e.g., bourbon, thoroughbreds, tobacco, and poultry). Kentucky still has thousands of small farmers (about two-thirds of the total), but the family farm has nearly become a quaint relic of Kentucky’s past. Over the last half century, two major trends have transformed the state’s countryside: the consolidation of small, family-owned farms into larger enterprises; and the conversion of agricultural land to urban (or suburban) uses. Roughly one-third as many farms exist today as there were in 1950, while the average size of Kentucky’s farms has doubled. Currently, there are approximately 69,100 farms in Kentucky with an average size of just under 180 acres. Most Kentucky farms are owned by an individual or a family (91%), and 43 percent of Kentucky farmers spend at least 200 days a year off the farm working in other jobs.

Kentucky Farms and Average Farm Size, 1950 to 2024



Source: Kentucky Department of Agriculture & USDA National Agricultural Statistics Service (NASS), available at <https://www.nass.usda.gov/>

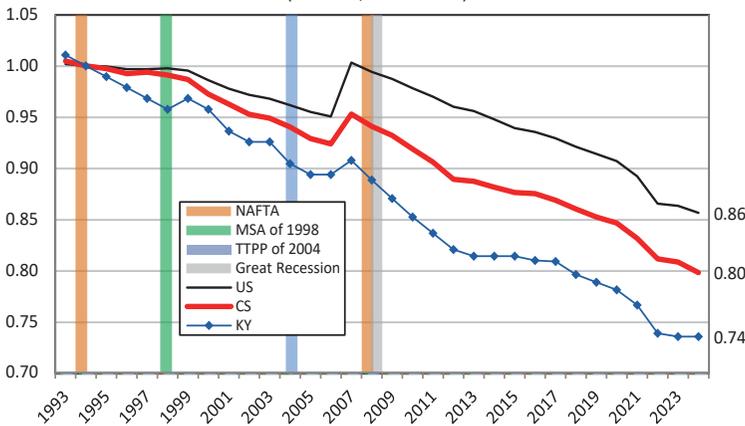
FARMS, INDEXED

Mechanization, outmigration, extreme weather, and government policy are some of the factors that have buffeted farm communities over the last several decades. While the charts below illustrate changes in the number of farms and operational acres in farms (indexed to 1994), the factors driving these trends took root decades earlier. Nonetheless, the last three-and-a-half decades provide an important backdrop to contextualize the decline in farms. Against this ever-changing landscape, the present-day flurry of on-again, off-again trade tariffs represents the latest challenge to the nation’s farmers. When farmers are asked, “What impact do you expect the U.S. government’s imposition of tariffs on imports will have on your farm’s income in 2025?,” a plurality say it will be negative (Purdue, 2025). We do not yet know what impact the tariffs will have on farmers over the long-term, but several major policies over the years illustrate how public policy can shape the contours of our rural communities. For example, the graphs on these two pages bracket with orange vertical bars another important change in international trade policy affecting farms—the North American Free Trade Agreement (NAFTA)—which was implemented in 1994 and “completed” in 2008 with the transition to tariff- and quota-free trade among the United States, Canada, and Mexico. The U.S. Department of Agriculture (USDA) credits NAFTA for

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**Number of Farms,
Kentucky, Competitor States, and the U.S., 1993-2024**

(Indexed, 1994 = 100)



Source: Author’s analysis of U.S. Dept. of Agriculture, National Agricultural Statistics Service data (FARM OPERATIONS - NUMBER OF OPERATIONS), available at: https://www.nass.usda.gov/Statistics_by_State/, downloaded 7/29/2025.

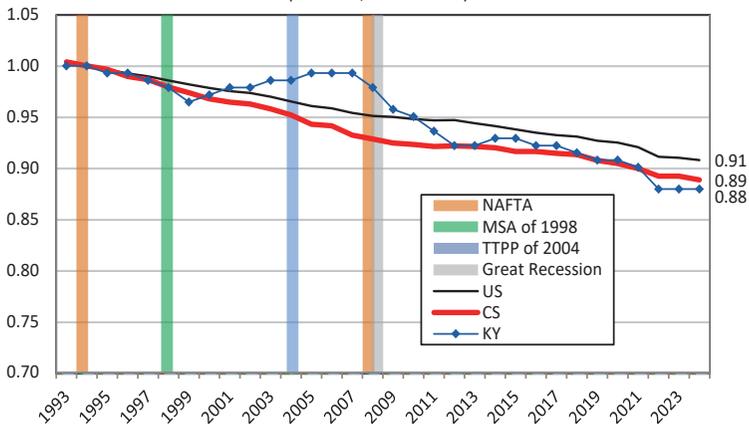
ACRES, INDEXED

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the increase in imported fresh produce from 2007 to 2023, as “the percent of U.S. fresh fruit and vegetable availability supplied by imports grew from 50 percent to 59 percent for fresh fruit and from 20 percent to 35 percent for fresh vegetables...” (USDA). Another policy, the 1998 Master Settlement Agreement (MSA), resolved litigation between most states and the tobacco industry and led to billions of dollars going to the states for, among other items, public health initiatives and agricultural programs. In Kentucky, half of the funds went to agriculture. Six years later, the Fair and Equitable Tobacco Reform Act of 2004 eliminated the tobacco quota and price support programs, which created the Tobacco Transition Payment Program (TTPP). This program provided payments to farmers with a tobacco quota over a 10-year period. Then, unsurprisingly, the Great Recession in 2008 put downward pressure on the number of acres in farms, as well as the number of farms, particularly in Kentucky. These charts show that the number of farms in Kentucky in 2024 is about 74 percent of the number in 1994, with a similar, but less dramatic decrease in the number of farm acres. Farms are businesses, and like businesses, the unpredictability of on-again, off-again trade tariffs exposes Kentucky businesses to intense and unexpected uncertainties that can paralyze planning, stunt revenue growth, and jeopardize jobs.

**Number of Acres in Farms,
Kentucky, Competitor States, and the U.S., 1993-2024**

(Indexed, 1994 = 100)

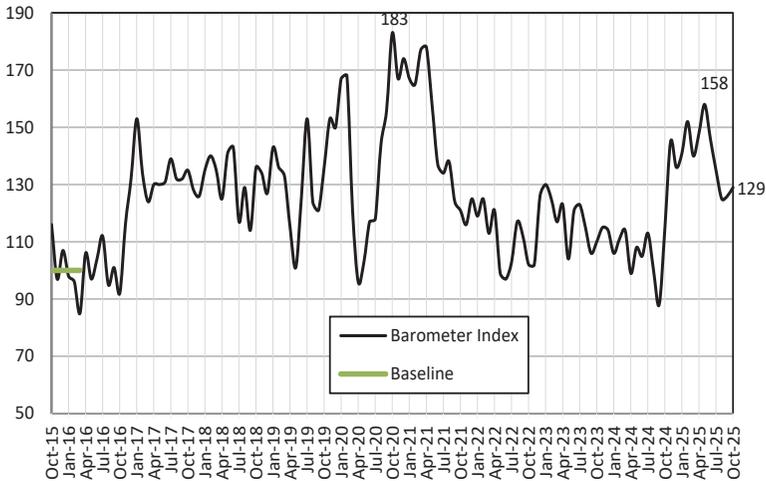


Source: Author's analysis of U.S. Dept. of Agriculture, National Agricultural Statistics Service data (FARM OPERATIONS - ACRES OPERATED), available at: https://www.nass.usda.gov/Statistics_by_State/, downloaded 7/29/2025.

AG ECONOMY BAROMETER

Throughout 2025, the Purdue University *Ag Economy Barometer* reflected a year of shifting moods among U.S. agricultural producers—a story that resonated deeply in Kentucky’s own farm economy. The index began in the spring on a strong note, climbing to 158 in May, as optimism spread among livestock producers riding record-high beef and broiler prices that lifted incomes across much of central and western Kentucky. By mid-summer, however, sentiment eroded: the barometer fell to 135 in July and then to 125 in August as crop producers—especially those growing corn, soybeans, and winter wheat in the Purchase and Pennyrile regions—faced weaker prices and unrelenting input costs for fertilizer, fuel, and seed. Even producers in Kentucky’s diverse specialty sectors, from bourbon-related grain growers to hemp and horticultural operations, reported tighter margins. Rising interest rates and declining cash flow added to the strain, mirroring the national increase in unpaid operating debt. Meanwhile, uncertainty surrounding federal trade and energy policies left many questioning how future tariffs or environmental rules might affect rural Kentucky. By October, the index had edged up to 129, reflecting some renewed confidence tied to strong livestock markets, yet the overall tone—both nationally and in Kentucky—remained one of cautious resilience amid persistent financial and policy headwinds.

National Ag Economy Barometer,
October 2015 to October 2025

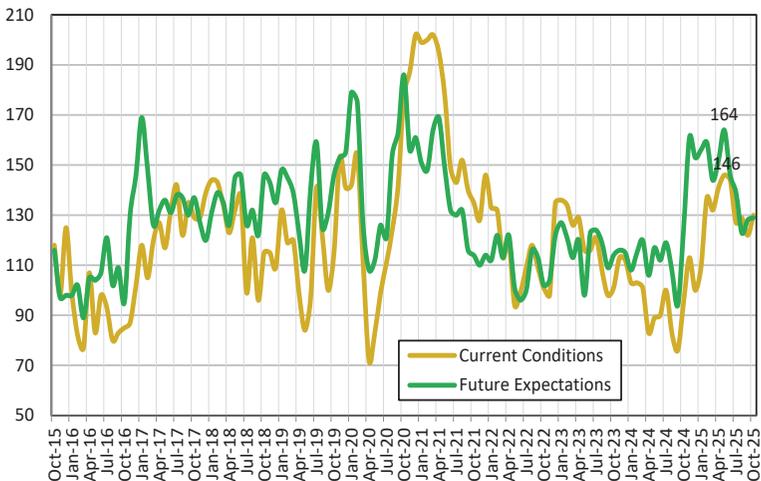


Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2025

INDICES OF CURRENT CONDITIONS & FUTURE EXPECTATIONS

The *Ag Economy Barometer's* sub-indices for current conditions and future expectations revealed not only the shifting mood of U.S. producers but also patterns that closely mirrored developments in Kentucky's farm economy. In the spring, optimism was high—the Index of Current Conditions rose to 146 in May, and the Index of Future Expectations reached 164—as farmers benefited from steady commodity prices and strong livestock markets. Kentucky producers, particularly in the state's robust cattle and poultry sectors, shared this optimism as export demand for beef and broilers supported farm incomes. This suggested confidence that the year's planting season and early commodity prices would translate into healthy returns. But as the summer advanced, margins tightened. Grain producers in western Kentucky faced lower corn and soybean prices, while input costs for fertilizer and fuel remained high, eroding profits. These pressures were reflected nationally in July's decline, when current conditions slipped to 138 and future expectations to 132. By August, those indices fell to 129 and 123, respectively, as rising interest costs and softening crop prices dampened outlooks. Even as livestock strength helped October's current-conditions reading rebound to 130, future expectations remained subdued near 129—echoing the cautious resilience seen across Kentucky's diverse but cost-pressed agricultural landscape.

**Indices of Current Conditions & Future Expectations,
October 2015 to October 2025**

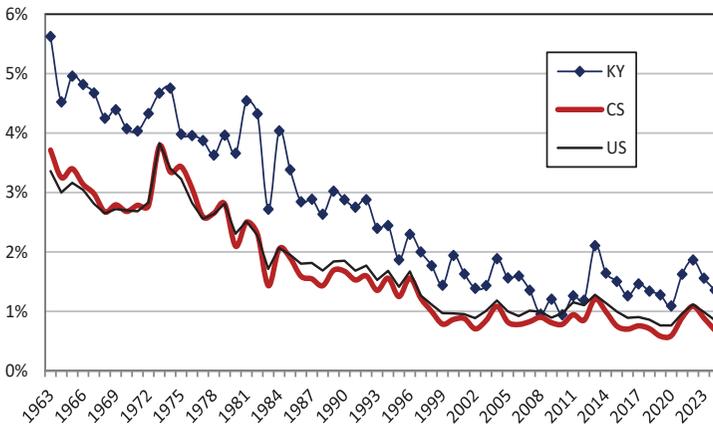


Source: Purdue University Center for Commercial Agriculture, Producer Survey, November 2025

AGRICULTURE AND GDP

While still playing an important role in some *local* and *regional* areas around the state, agriculture’s role in the larger state economy has been declining for many years. Within the Agriculture, Forestry, Fishing, and Hunting sector, the Bureau of Economic Analysis (BEA) includes “establishments primarily engaged in growing crops, raising animals, harvesting timber, harvesting fish and other animals from a farm, ranch or their natural habitats.” The BEA notes that “these establishments are often described as farms, ranches, dairies, greenhouses, nurseries, orchards or hatcheries...(and) the sector includes two basic activities: crop and animal production (farms) and forestry, fishing, and related activities.” In 1963 agriculture accounted for about 5 percent of Kentucky’s gross domestic product (GDP), compared to about three-and-a-half percent for the U.S. and competitor states. In 2024, this economic sector accounted for 1.4 percent of Kentucky’s gross domestic product, compared to 0.9 percent in the U.S. and 0.7 percent in the competitor states. South Dakota has the highest percentage among the states with agriculture accounting for 7 percent of its gross domestic product while Massachusetts and Connecticut have the lowest at 0.1 percent. Among the competitor states, Mississippi is the highest at 2.1 percent and Tennessee the lowest at 0.3 percent.

Agriculture and Related Activities in Kentucky, Competitor States, and the U.S., 1963 to 2024
(agriculture, forestry, fishing & hunting as a percentage of GDP)

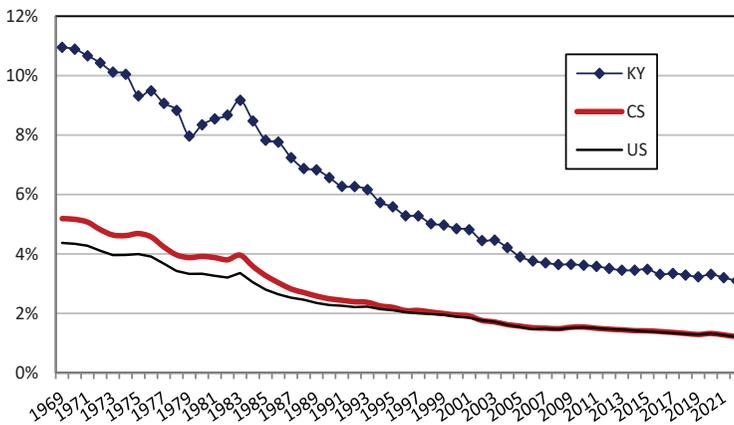


Source: U.S. Department of Commerce, Bureau of Economic Analysis, Table SAGDP2N

FARM EMPLOYMENT

Farm mechanization and a changing state economy have resulted in a steady decline in the percentage of Kentuckians working on the farm. Farm employment is the “number of workers engaged in the direct production of agricultural commodities, either livestock or crops; whether as a sole proprietor, partner, or hired laborer.” The Bureau of Economic Analysis estimates Kentucky’s farm employment at about 82,400, which is around 3.1 percent of total employment or jobs in the state. As one can see on the chart below, this is much higher than either the competitor states or the U.S., both of which are estimated at about 1.2 percent. While Kentucky’s farm employment is high compared to other states and the nation, it has decreased precipitously since the late 1960s when it was about 11 percent. Kentucky’s farm employment has been under 4 percent since 2005 and has continued to decline gradually since that time.

Farm Employment as a Percentage of Total Employment, Kentucky, Competitor States, and the U.S., 1969 to 2022
(percentage of total jobs, includes full- and part-time employment)

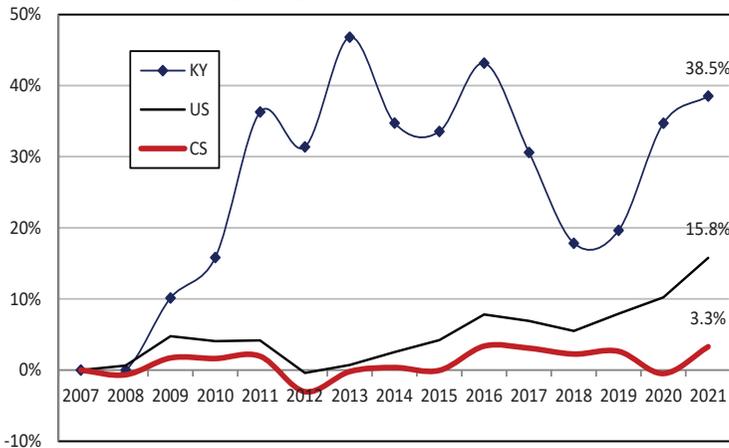


Source: U.S. Department of Commerce, Bureau of Economic Analysis derived from table SAEMP25N

VALUE-ADDED FOOD PRODUCTION

Kentucky’s farm traditions have long yielded significant economic benefits to the state, but the continued development of more refined, downstream products that use these raw materials holds the promise of even greater returns. The idea of increasing agricultural-based incomes by developing value-added food production has been embedded in the Kentucky Department of Agriculture’s strategic plans going back to the mid-1990s. Salsa, not tomatoes, is an example of a value-added food product that can enrich and sustain a farm economy. There are any number of value-added food products—from salsa to wine to jerky to jam—that provide opportunities to enrich individuals as well as communities and generate new economic opportunities that help sustain Kentucky’s rural areas. The chart below illustrates how the growth of Kentucky’s value-added food production has significantly outpaced the competitor states and the U.S. from 2007 to 2021. Valued-added food production in Kentucky increased from \$4.7 billion in 2007 to \$6.5 billion in 2021 (in constant 2022\$), representing a 38.5 percent increase. By comparison, the U.S. and competitor states value-added food production grew by 15.8 and 3.3 percent, respectively, over the same period. The continued development of the state’s value-added food manufacturing sector will help provided jobs and income to Kentucky’s rural communities.

Value Added to Food Products, Kentucky, Competitor States, and the U.S., 2007 to 2021
(percentage change from 2007, using constant 2022\$)



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Annual Survey of Manufactures, various years. The 2017 values are interpolated.

FARM COMMODITIES

The past three decades have seen significant changes in Kentucky’s agricultural profile. In 1990, tobacco was the state’s signature commodity and constituted nearly a quarter of Kentucky’s farm receipts (23.8%). By 2000, tobacco ranked second and accounted for 18.5 percent of farm receipts, and by 2024 it had declined to eighth and 2.6 percent of Kentucky’s total farm receipts. While tobacco’s value has dropped precipitously, Kentucky’s other major crops and animals—soybeans, cattle, and corn—have all shown considerable growth in sales. Poultry has also experienced dramatic growth—now one of the state’s top farm commodities. In 1990, farm chickens, broilers (chickens raised for food), and chicken eggs constituted less than 1 percent of total farm receipts (0.82%). In 2023, poultry and eggs accounted for 21.3 percent of the \$7.9 billion in total farm receipts. The dramatic swings in receipts for Kentucky’s various farm products underscores the necessity of agricultural diversity, so that farmers’ fortunes do not rise and fall based on the market for a single commodity.

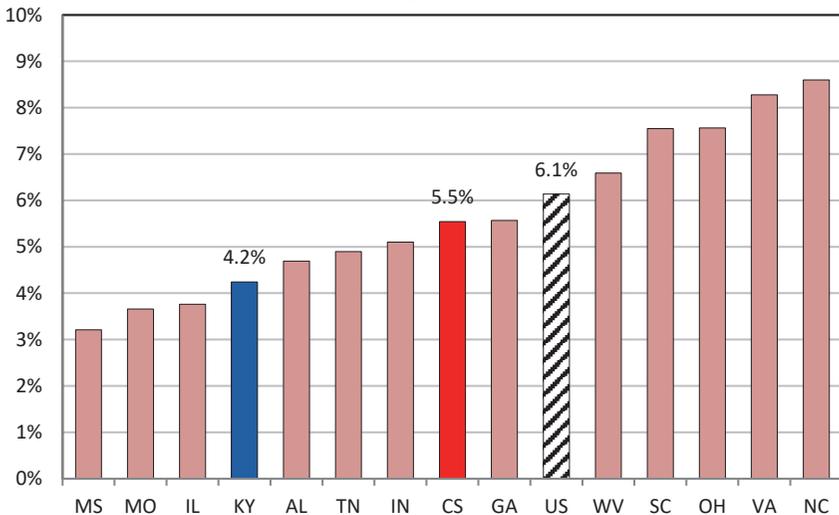
Kentucky’s Top Ten Farm Commodities, 2024 (current dollars)		
RANK	COMMODITY	VALUE OF RECEIPTS (\$1,000s)
1	Cattle and calves	1,513,628
2	Broilers	1,403,258
3	Corn	1,065,662
4	Oil crops (e.g., soybeans)	1,055,731
5	Feed crops (excl. corn)	396,436
6	Poultry & Eggs (excl. broiler)	281,662
7	Tobacco	205,694
8	Wheat	201,891
9	Dairy products, Milk	192,360
10	Hogs	164,327
Total	All commodities	7,919,510

Source: USDA Economic Research Service. All other animals and products not listed (e.g., honey, wool, floriculture) total to \$1,438,861, or 18.2% of total.

LOCAL FOOD SUPPLIERS

Internationally, the “slow food” movement has grown exponentially, providing a boost to small farm profits in an era of industrialized agriculture and making fresher food, often organically grown, more readily available. Kentuckians are embracing the movement of foods grown closer to home, giving rise to an increasing number of bustling farmers’ markets that have helped advance agricultural diversification and make healthy fare more readily available. Farms can sell directly to consumers through farmers’ markets, on-site stores, online, and through a CSA, community-supported agriculture, which permit consumers to buy a portion of a farmer’s output—fruits, vegetables, and other farm products delivered weekly—at the beginning of the growing season. Research shows that farms engaged in selling directly to consumers are more likely to stay in business. A dozen years ago there were 114 farmers’ markets registered with the Kentucky Department of Agriculture, and now there are more than 170. Of Kentucky’s nearly 69,425 farms, about 2,944 sell agricultural products directly to consumers. This represents 4.2 percent of Kentucky farms, which is lower than the competitor states (5.5%) and the U.S. (6.1%). The New England states lead the nation in selling farm goods directly to consumers, evidenced by New Hampshire (27.5%), Vermont (25.1%), and Maine (25.2%).

Farms Selling Directly to Consumers, 2022
(percentage of all farms)



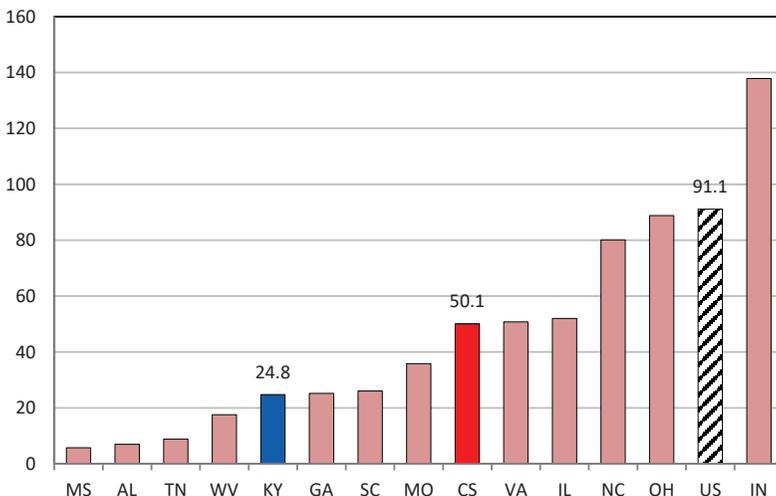
Source: 2022 Census of Agriculture

Note: CS is the weighted average of the competitor states.

ORGANIC FARMING

The outlook for organic products appears strong, as consumers continue to embrace organic and locally produced commodities. According to the U.S. Organic Trade Association (OTA), consumer demand for organic has grown by double-digits nearly every year since the 1990s, with sales increasing from \$3.6 billion in 1997 to \$50 billion in 2018. Citing 2016 Nielsen data, the OTA reports that 82 percent of U.S. households purchase organic products (78% in Kentucky). Nationally, the number of USDA National Organic Program certified or exempt farms decreased from 18,166 to 17,321 during the five-year period from 2017 to 2022, but sales of organically produced commodities increased by 32 percent, from \$7.3 billion to \$9.6 billion. While the value of sales increased in Kentucky by 164 percent during this period, the number of farms decreased from 184 to 172—a 6.5 percent decline. Other states appear to be pursuing organic farming with greater enthusiasm. While Kentucky’s network of small farms would seem to be an ideal place for the organic movement to flourish, the chart shows that—at least by this metric—Kentucky lags the U.S. and most competitor states in the rate of organic farms. Kentucky has 24.8 organic farms per 10,000 total farms, compared to 50.1 for the competitor states and 91.1 for the U.S.

Certified or Exempt Organic Farms, 2022
(per 10,000 total farms)

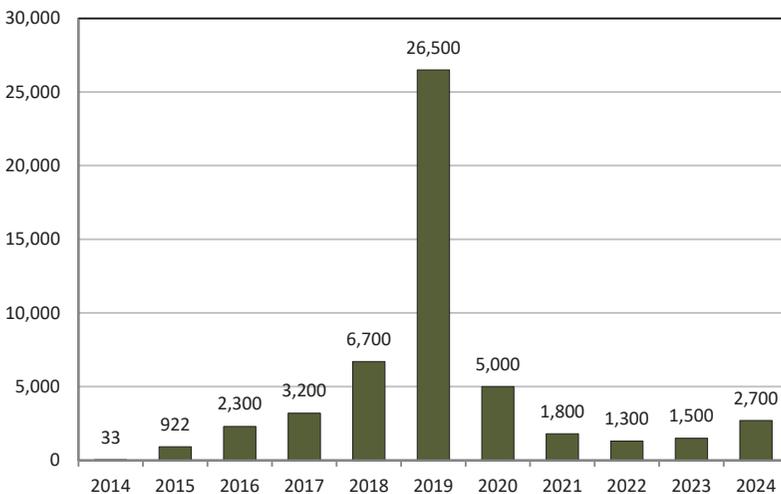


Source: USDA 2022 Census of Agriculture

HEMP

A headline from 2021, *The Hemp Boom is Over. What Now?*, stands in stark contrast to the enthusiasm surrounding hemp’s economic potential from just a few years earlier (PEW Stateline, July 9, 2021). While hemp continues to attract attention, evidenced by its presence in 60 of Kentucky’s counties in 2025, the excitement over its possibilities as a lucrative cash crop has waned in the last few years due to a supply glut, market uncertainties, and the pandemic. The Kentucky Department of Agriculture (KDA) reported that 960 farmers sought hemp licenses in 2020, but 157—or 16 percent of these farmers—had no plans to grow hemp in 2020; they simply needed the license to store and eventually sell crops from earlier growing years. Moreover, there were half as many approved growers in 2021, around 450, and it plummeted to 160 growers by 2025. Hemp’s economic contribution to Kentucky’s agricultural economy has waxed and waned through the years with changing federal laws. By April of 2020, 48 states had passed legislation allowing commercial, research, or pilot programs related to industrial hemp. Hemp production has fallen precipitously in Kentucky since 2019—as illustrated in the graph below. As the market for hemp products matures, hemp could eventually emerge as an important cash crop for Kentucky’s rural communities—but for now it’s a minor factor.

Planted Acres of Hemp in Kentucky, 2014 to 2024



Source: Kentucky Department of Agriculture, KDA Industrial Hemp Research Pilot Program, Annual Overview, available at: <<https://www.kyagr.com/marketing/hemp-overview.html>>.

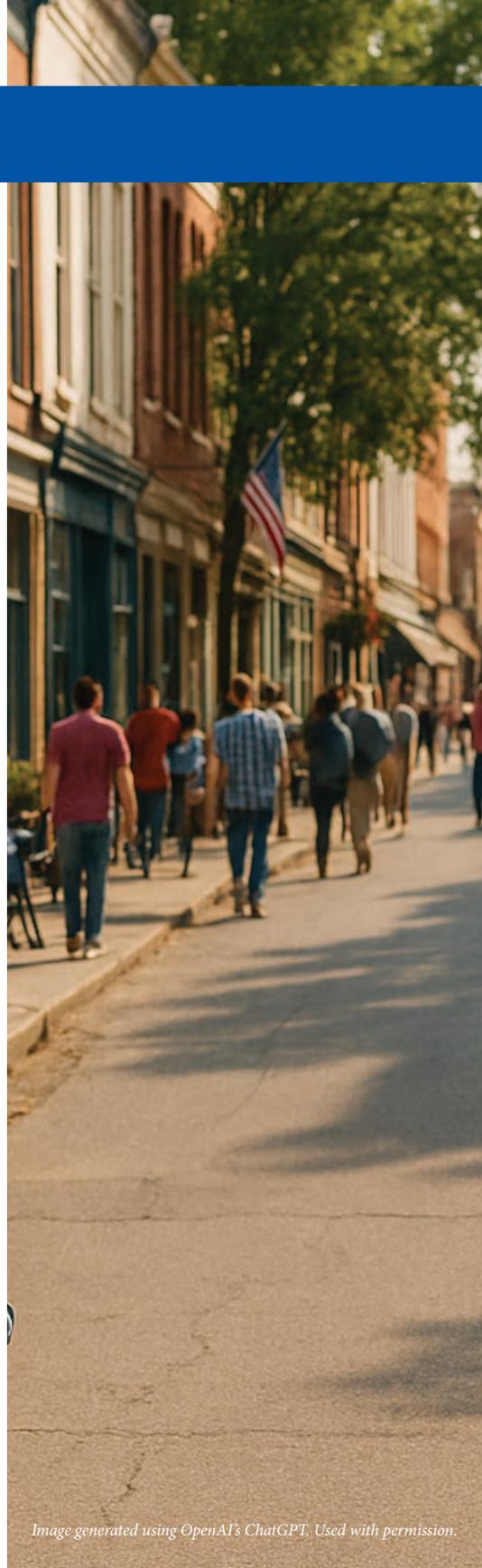
Community

KENTUCKY'S ECONOMY IS INSEPARABLE from the strength of its communities. County-level measures show a clear pattern: where health outcomes and educational attainment are low and social connections are weak, economic opportunity is also limited. These conditions reinforce one another, shaping individual outcomes and community prosperity alike. Because 41 percent of Kentuckians live in rural counties—nearly three times the national share—the state's economic future depends heavily on the social and institutional health of its communities.

Over the past few decades, the gap between rural and urban America has widened, and Kentucky illustrates this divide. The *Distressed Communities Index* finds that 33 percent of Kentuckians live in distressed ZIP codes—among the highest shares nationally. Prosperous areas tend to be more diverse and better educated, while economic distress is concentrated in rural regions. Research by economists Raj Chetty and Nathaniel Hendren shows that children in communities with more cross-class friendships—what they term “economic connectedness”—are much more likely to rise from poverty. In many Kentucky counties, those connections are limited, narrowing the pathways to mobility.

The social fabric that supports opportunity is captured by the concept of social capital—the networks and trust that foster cooperation and engagement. Areas with higher social capital experience faster income growth and greater resilience. Kentucky's social

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capital is strongest in its central and western regions but notably weaker in the east. None of the state's counties fall within the top ten percent nationally, and only a few reach the upper quartile. These disparities mirror broader regional divides that separate Kentucky's thriving areas from those still struggling to keep pace.

Despite these challenges, Kentuckians demonstrate a strong civic spirit. About 28 percent volunteered in 2023, contributing nearly 73 million hours of service worth over \$2 billion. Yet only 16 percent reported working with neighbors to improve their community, below national levels. Kentucky's number of community-based organizations is roughly average, but it has fewer nonprofits, which limits the local infrastructure that connects people to services and one another. These groups—religious, civic, professional, and charitable—provide vital support that strengthens communities and fuels local development.

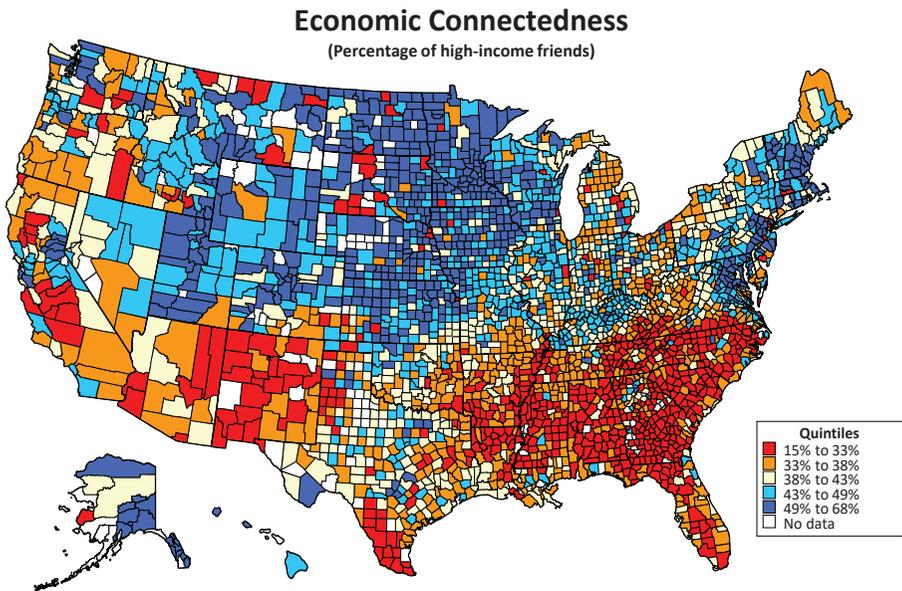
Family stability also shapes Kentucky's economic base. More than one-third of children live in single-parent households, a rate tied to higher poverty and lower educational attainment. Nearly 100,000 grandparents live with their grandchildren, and about half serve as primary caregivers—often under financial strain. The state's 30 percent child care gap, which exceeds 50 percent in some rural areas, further limits parents' ability to work, constraining labor force participation and economic growth.

Still, Kentucky benefits from strong assets. Its violent and property crime rates remain well below national levels, contributing to a sense of safety that attracts residents and employers. Yet emotional and social well-being pose concerns: about 15 percent of Kentuckians report feeling lonely—above the national average—and roughly 14 percent of young adults are disconnected, neither working nor in school. These indicators reveal that social connection is not merely a personal matter but a vital economic one. As the U.S. Surgeon General noted in a 2023 report, *Our Epidemic of Loneliness and Isolation*, rebuilding connection and belonging strengthens both individual and community health.

Cultural and creative engagement also influence Kentucky's competitiveness. About 28 percent of residents attend artistic or cultural events, and nearly one in six actively create or study art. These activities enrich community life and help retain talent, while the state's nonprofit sector contributes billions to its economy and employs thousands of workers. Together, these patterns show that Kentucky's economic prospects depend not only on jobs and investment but on the quality of the communities where people live and work. When Kentuckians volunteer, create, and care for one another, they build the trust, safety, and shared purpose that sustain prosperity across the Commonwealth.

ECONOMIC CONNECTEDNESS

Community characteristics affect economic opportunities in multiple ways. One way is friendships. Research released in August 2022 by Raj Chetty and his colleagues with *Opportunity Insights* found that children who grow up in communities with higher levels of economic connectedness—*specifically, they have friendships or connections with individuals from higher income groups*—are much more likely to emerge from poverty later in life. The county-level map below shows estimates for the share of “above-median friends among below-median people,” with cross-class connections more prevalent in the Upper Midwest than in the Southeastern part of the country. They explain this process by stating that “growing up in a more connected community may improve children’s chances of rising up through a variety of mechanisms, from shaping career aspirations and norms to providing valuable information about schools and colleges to providing connections to internship and job opportunities.”



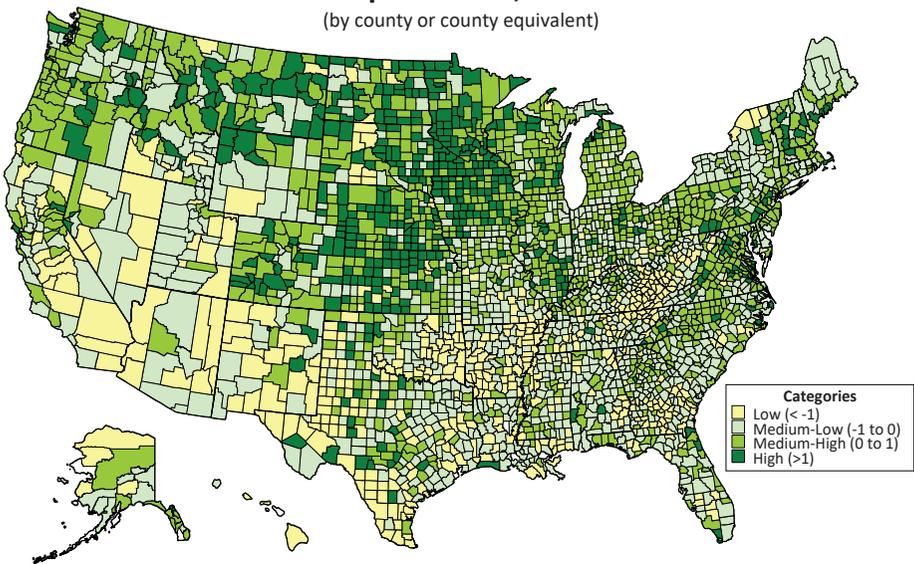
Source: Opportunity Insights, Social Capital Atlas, refer to socialcapital.org.

SOCIAL CAPITAL INDEX

Many scholars have advanced the idea that strong community structures are beneficial to economic health (e.g., James Coleman, 1990; Robert Putnam, 1993; Francis Fukuyama, 1995). We know that strong communities are important for several reasons, but the relationship between social capital—which the OECD defines as the “networks together with shared norms, values and understandings that facilitate co-operation within or among groups”—and economic growth is still being explored and studied. Pulling from the existing economic development literature, The World Bank notes that “development and growth specialists are uncovering the importance of social cohesion for societies to prosper economically and for development to be sustainable.” Rupasingha, Goetz, and Freshwater (2000, 2006) operationalize the concept of social capital by using variables that include, but are not limited to, voting rates, the number of nonprofit organizations, and the presence of community-based membership organizations. Using the same method, we have produced updated county-level estimates—as shown in the map below. The darker areas of the map indicate denser networks of social connections while the lighter areas suggest lower levels of social capital. Kentucky is located in a region of the country where networks of social connections are less dense.

Social Capital Index, 2020-2022

(by county or county equivalent)

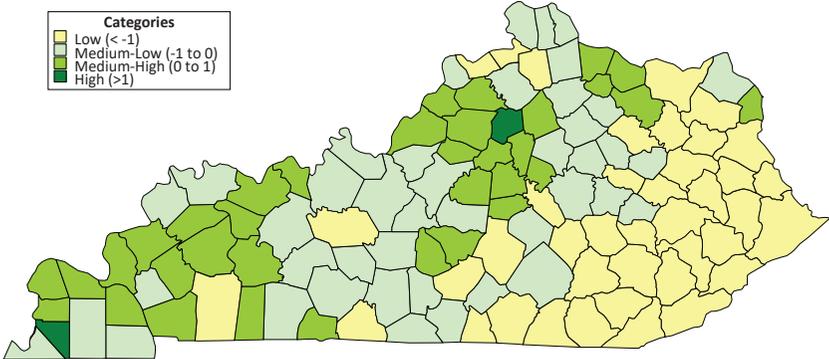


Source: Author's analysis of multiple data sources, various years (see Notes & Sources)

SOCIAL CAPITAL INDEX

Strong, resilient, and vibrant communities are created and nurtured by engaged and connected citizens. The economic development literature linked to social capital suggests that areas with dense networks of citizens who are invested in their communities derive economic benefits. For example, Rupasingha, *et al.*, (2000, 2006) find that “social capital has a statistically significant, independent positive effect on the rate of per-capita income growth.” These authors have developed an approach for constructing a county-level social capital index (see the facing page) which we have updated with more current data and present in the map below. These estimates reveal a relatively dense concentration of social capital in Western Kentucky and in Central Kentucky (darker areas), but much less in Eastern Kentucky (lighter areas). This is one of the factors used in the county-level assessment presented in the Summary of this report (see page xiii). There are no Kentucky counties in the upper 10 percent of counties nationally, but there are six in the upper 25 percent. The rest of the state’s 114 counties are in the lower 75 percent of counties.

Social Capital in Kentucky, 2020 to 2022

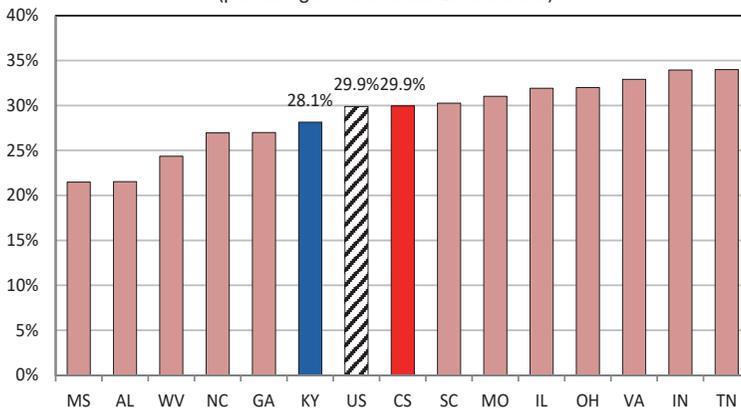


Source: Author's analysis of multiple data sources, various years (see Notes & Sources)

VOLUNTEER RATE

Some studies have linked participation in civil society—volunteering for example—to higher levels of community prosperity, higher achievement in schools, and improved individual health. Volunteers can tackle problems such as poverty, illiteracy, and drug abuse that public or private sectors have not adequately addressed—making a community more attractive for economic development. Some research even suggests that members of communities with high levels of civic participation enjoy better health and live longer. A highly visible volunteer activity related to public safety is fire fighting. The National Fire Protection Association (NFPA) reports that the total number of volunteer firefighters in the U.S. dropped 17 percent over a five-year period, from about 815,000 in 2015 to 677,000 in 2020 (*Daily Yonder*, 2023). Volunteers, not local governments, typically are the first responders in smaller communities for “everything from fires, to car crashes to natural disaster rescue missions.” Unsurprisingly, volunteering declined during the pandemic, but has been increasing in post-pandemic America. An estimated 28.1 percent of Kentucky residents volunteered at some point in 2023, a percentage that is statistically no different from the U.S. average of 29.9 percent. Nationally, the highest volunteer rate in 2023 belongs to Utah (49.2%), while the lowest is found in Nevada (20.2%).

**Residents Who Volunteer, 2023,
Kentucky, Competitor States, and the U.S.**
(percentage of individuals 16 and older)

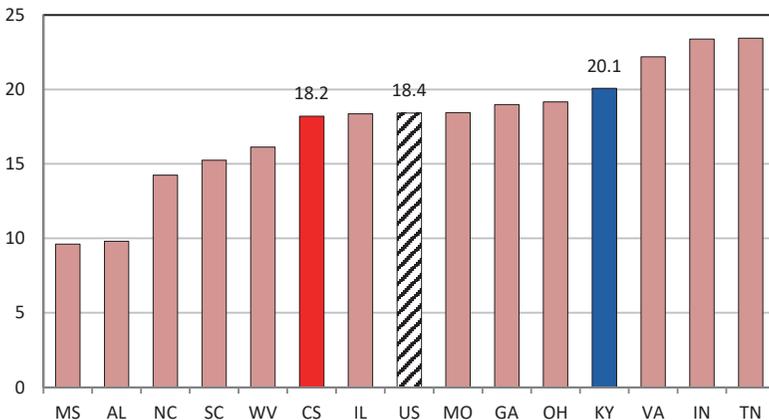


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

VOLUNTEER HOURS

Formal volunteering in America is rebounding from its pandemic decline. According to AmeriCorps, “more than 75.7 million people ... formally volunteered through an organization in 2023, giving more than 4.99 billion hours of service with \$167.2 billion of economic value.” AmeriCorp reports that “978,672 formal volunteers [in Kentucky] contributed 72,945,628 hours of service through organizations worth an estimated \$2.1 billion.” Kentuckians contributed an estimated 20.1 hours per resident 16 years and older in 2023. The total annual estimated value of volunteer service in Kentucky is based on the *Independent Sector’s* annual estimate of a volunteer hour in Kentucky at \$28.53. The average number of volunteer hours in Kentucky (20.1) is higher than the competitor states (18.2) and U.S. (18.4) averages. At 44.1 volunteer hours per resident 16 years old and older, Utah ranks first in the country (Mississippi is last with 9.6 hours). Volunteers, community groups, and nonprofit organizations add essential social and economic value to Kentucky’s economy and society.

**Volunteer Hours, 2023,
Kentucky, Competitor States, and the U.S.**
(hours served in a year, per resident 16 and older)

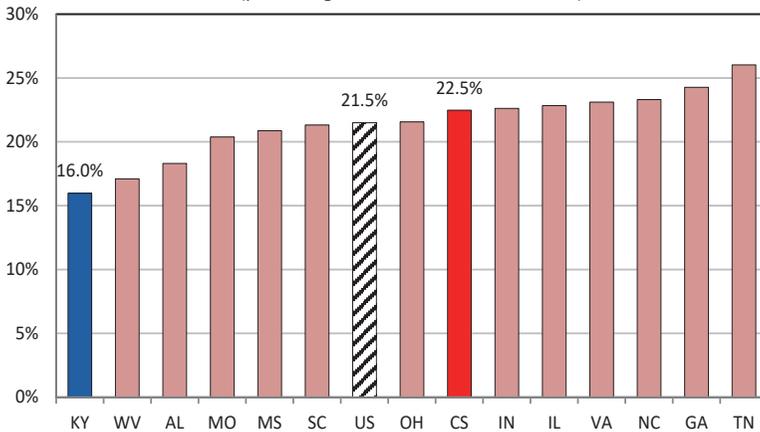


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

PARTICIPATION IN LOCAL GROUPS

As we noted in the social capital discussion, strong, resilient, and vibrant communities are created and nurtured by engaged and connected citizens. The economic development literature linked to social capital suggests that areas with dense networks of citizens who are invested in their communities derive economic benefits. Some measures of this include the presence of community-based membership organizations. These include establishments like religious, civic, social, business, political, professional, labor, and sports organizations. It is also possible for one to participate within an *ad hoc* group that has no specific organizational mission or purpose beyond improving one’s community. The question here reports whether “*the person worked with others in their neighborhood to fix or improve something in the past year.*” An estimated 16.0 percent of Kentucky residents said “yes.” However, this is statistically significantly lower than the competitor state (22.5%) and U.S. averages (21.5%). Nationally, the highest participation rate belongs to Utah (44.1%), while the lowest is found in Rhode Island (13.3%). All of these percentages are estimates for 2023.

**Worked with Neighbors to Improve Community, 2023,
Kentucky, Competitor States, and the U.S.**
(percentage of individuals 16 and older)

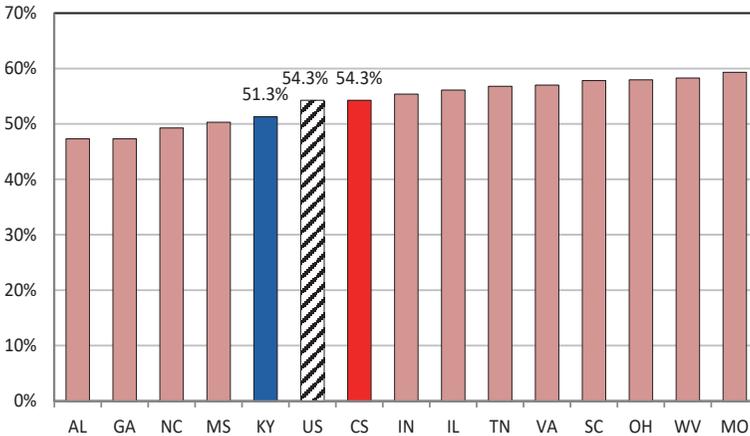


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/DO30.V12.0>

FAVORS FOR NEIGHBORS

An indicator of community strength, social capital, and neighborhood cohesiveness is the extent to which neighbors do favors for each other. These favors include things like watching each others children, helping with shopping, house sitting, lending garden or house tools, and other small acts to lend a helping hand. About half of Americans do occasional favors for neighbors, with an estimated 54.3 percent indicating they do so with varying frequency. There are virtually no differences between Kentucky, the competitor state average, and the U.S. in the frequency with which neighbors do favors for each other. Nationally, the highest participation rate belongs to Utah (68.2%), while the lowest is found in Nevada (45.7%).

**Residents Doing Favors for Neighbors, 2023,
Kentucky, Competitor States, and the U.S.**
(percentage of individuals 16 and older)

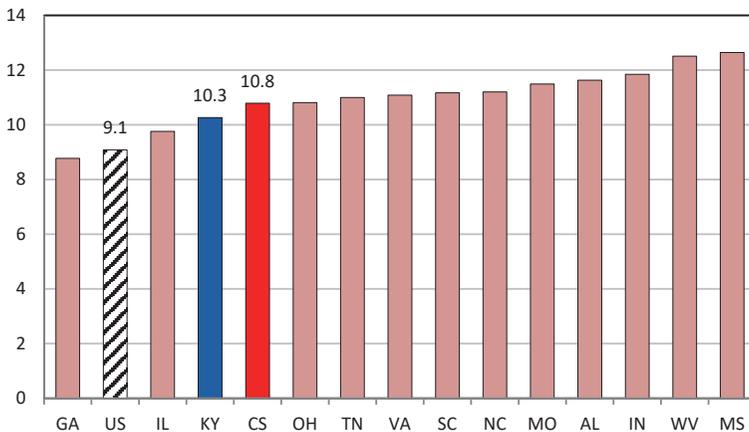


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

COMMUNITY BASED ORGANIZATIONS

Community-based organizations (CBOs) are public or private entities that provide services to the community and enable individuals to expand their network of associations. There are many types of community-based organizations, but here we focus on CBOs used in the creation of the social capital index shown in the beginning of the Community section of this report. These establishments encourage action through attendance or participation—not just with passive membership. These establishments and associations represent a variety of organizations, including religious entities (e.g., churches, mosques, synagogues, temples), civic and social groups (e.g., garden clubs, fraternal lodges), business associations (e.g., chambers of commerce, agricultural associations), political groups (e.g., political parties, campaigns), professional associations (e.g., lawyers, teachers, medical), labor groups (e.g., union, federation), bowling centers or alleys, fitness and recreational sports centers (e.g., gym or athletic club), golf courses (including country clubs), and sports teams (e.g., professional or semiprofessional baseball, basketball, football, hockey, etc.). Opportunities for building resilient communities should improve as the number of these organizations increases. With 10.3 CBOs per 10,000 population, Kentucky has slightly more than the U.S., and slightly less than the competitor state weighted average.

**Community Based Organizations, 2023,
Kentucky, Competitor States, and the U.S.**
(per 10,000 population)

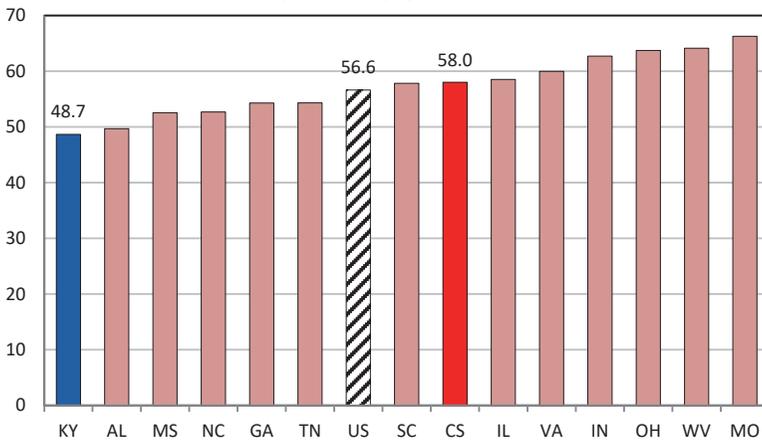


Source: U.S. Census, County Business Patterns (2023), & U.S. Census, ACS 2023 1-year population estimates.
Note: CS is the weighted average of the competitor states

NONPROFITS

Like the number of volunteers or the amount of money donated to charity, the number of nonprofits is an indicator of a community’s social capital. The nearly 1.9 million nonprofits in the U.S. include social organizations (e.g., art, health, education, and advocacy groups), labor unions, business and professional organizations, and religious congregations. Nonprofits also have a direct economic impact. According to a 2019 report from the Urban Institute, *The Nonprofit Sector in Brief*, “The nonprofit sector contributed an estimated \$985.4 billion to the US economy in 2015, composing 5.4 percent of the country’s gross domestic product (GDP).” The average number of nonprofits per 10,000 population in the U.S. is 56.6, compared to Kentucky’s 48.7. Among the competitor states, Kentucky has the fewest number of nonprofits per 10,000 population. At 66.3 per 10,000 population, Missouri has the most among competitor states. Nationally, Montana has the highest number overall with 105.5 while Utah has the lowest at 35.7. The *National Council of Nonprofits* reports that over 154,000 individuals are employed by Kentucky’s nonprofits, which is equivalent to about 9 percent of the state’s private employment. As of March 2025, Kentucky had 22,025 registered nonprofit organizations with \$40.1 billion in annual revenue and \$76.8 billion in assets.

**Registered Nonprofit Organizations, 2025,
Kentucky, Competitor States, and the U.S.**
(per 10,000 population)

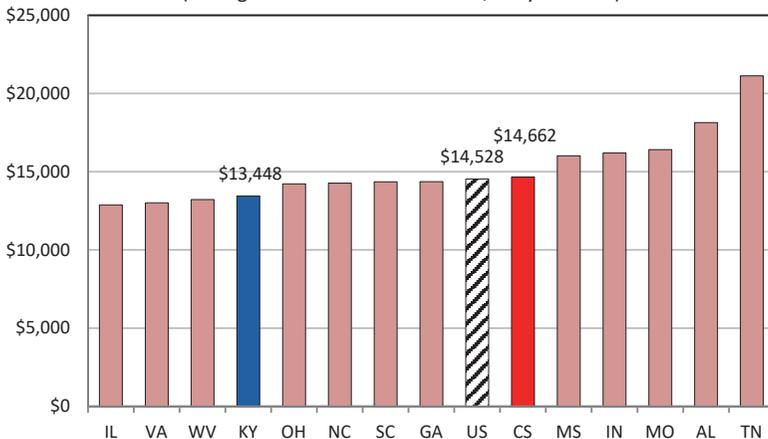


Source: Internal Revenue Service, Exempt Organizations Business Master File (2025, March) & U.S. Census, ACS 2023 1-year population estimates. Note: CS is the weighted average of the competitor states

CHARITABLE CONTRIBUTIONS

America’s giving spirit continued to rise in 2024 with giving by individuals, bequests, foundations, and corporations increasing by an estimated 6.3 percent according to *The Giving Institute*. At \$392.45 billion, charitable giving by *individuals* in 2024 was equal to about 66 percent of the estimated total contributions from all sources, \$592.5 billion. Nationally the average charitable contribution among those who itemize deductions—which is about 9.5 percent of those who file an income tax return—equaled \$14,528 for the 2022 tax year, compared to \$13,448 in Kentucky. Among the competitor states, Tennessee has the highest amount at \$21,130 and Illinois the lowest at \$12,877. Nationally, Hawaii is the lowest at \$7,304 and Wyoming is the highest at \$81,205. Obviously, those who do not itemize deductions on their tax returns frequently make charitable contributions, but it is estimated that itemizers account for about 80 percent of all charitable contributions from individuals. Because of changes in the federal tax law that took effect in 2018 (e.g., increase in the standard deduction), the number of itemizers declined in the 2021 tax year by 68 percent, from 47.1 million in 2017 to 12.1 million in 2022. The total dollar amount claimed as charity on itemized returns decreased from \$256.3 billion in 2017 to \$220.9 billion in 2022 (in current dollars).

**Charitable Contributions in 2022,
Kentucky, Competitor States, and the U.S.**
(average contribution of itemizers, tax year 2022)

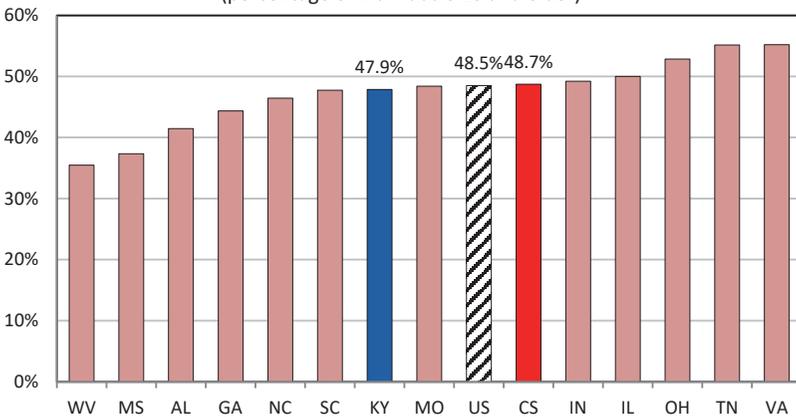


Source: Internal Revenue Service, *Statistics of Income, Historical Table 2*
Note: CS is the competitor state weighted average

DONATIONS

While the facing page shows the average annual charitable contributions by those who itemize their tax returns, the figure below shows the percentage of the population age 16 and older who made a charitable donation in 2023 for selected states. Individuals were asked whether they donated more than \$25 in money, assets, or property to a charitable or religious organization in the past year. At 47.9 percent, Kentucky is statistically no different from the competitor states (48.7%) or the U.S. (48.5%). Utah has the highest percentage at 64.1, while Nevada is the lowest at 33.9 percent. Overall, there are six states statistically lower than Kentucky, and 15 (including DC) that are statistically higher. The remaining 29 states are not statistically different from Kentucky (using a 95% confidence interval).

**Made a Charitable Donation, 2023,
Kentucky, Competitor States, and the U.S.**
(percentage of individuals 16 and older)

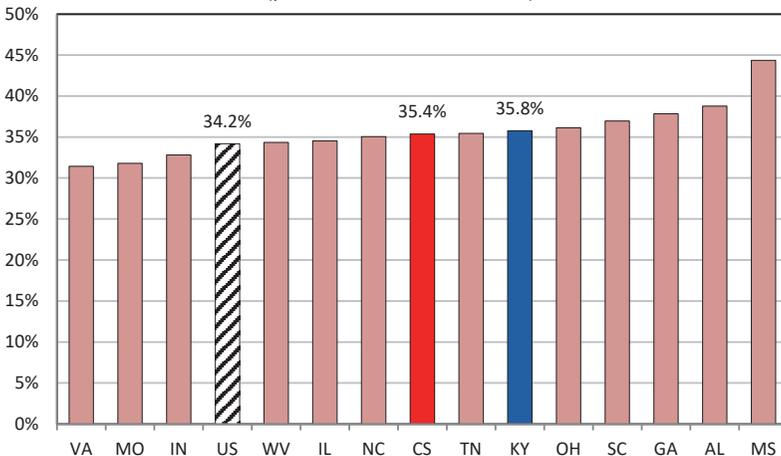


Source: CBER analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>.

CHILDREN IN SINGLE-PARENT FAMILIES

Research shows that intergenerational (economic) mobility can be muted by the constellation of factors associated with growing up in a single-parent family (Chetty, *et al.*, 2014). In 1960, approximately 12 percent of children under 18 in the U.S. lived with only one parent; in 2023, however, over one third of this county’s children lived in a single-parent family (34.2%). As a country we went from about one in ten children to over one in three—a substantial demographic shift. The research shows that children living in single-parent households tend to face more significant obstacles in life, which present emotional, health, economic and academic challenges for many of these children. And there can be lifelong economic consequences. As Raj Chetty and his colleagues have noted, “the United States is better described as a collection of societies, some of which are ‘lands of opportunity’ with high rates of mobility across generations, and others in which few children escape poverty.” Another type of living arrangement, children living with at least one grandparent, increased by 36 percent nationally, from 9.3 percent in 2000 to 12.7 percent in 2019. According to a December 2023 Brookings report by Elizabeth Link, Tara Watson, and Simran Kalkat, *More Kids are Living with their Grandparents. Can Safety Net Policy keep up?*, this growing trend has implications for the well-being of the children, grandparents, and governmental finance.

**Children in Single-Parent Families, 2023,
Kentucky, Competitor States, and the U.S.**
(percent of children under 18)

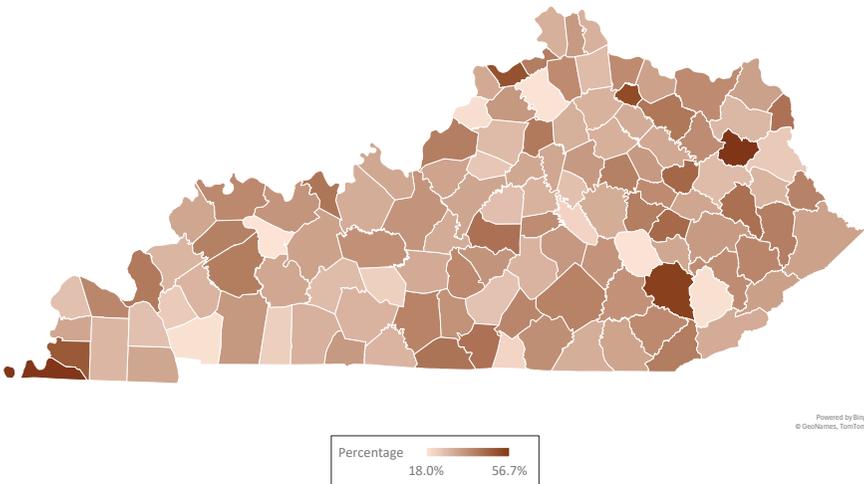


Source: Census Bureau, American Community Survey, 1-year estimate, 2023, Table B23008

CHILDREN IN SINGLE-PARENT FAMILIES BY COUNTY

As noted on the facing page, an estimated 35.8 percent of children in Kentucky live in single-parent families. Yet, there is wide variation among Kentucky counties, bounded by McLean County at 18 percent and Elliott County at nearly 57 percent. Some have written that America has become two nations—not divided by class so much as by whether one comes from a single- or two-parent household. As James Q. Wilson, the eminent political scientist asserted two decades ago: *Children in one-parent families, compared to those in two-parent ones, are twice as likely to drop out of school. Boys in one-parent families are much more likely than those in two-parent ones to be both out of school and out of work. Girls in one-parent families are twice as likely as those in two-parent ones to have an out-of-wedlock birth. These differences are not explained by income....children raised in single-parent homes [are] more likely to be suspended from school, to have emotional problems, and to behave badly.* Of course, one’s family environment does not determine one’s future, but it can create significant obstacles for children that last into adulthood, with clear implications for the state’s economy.

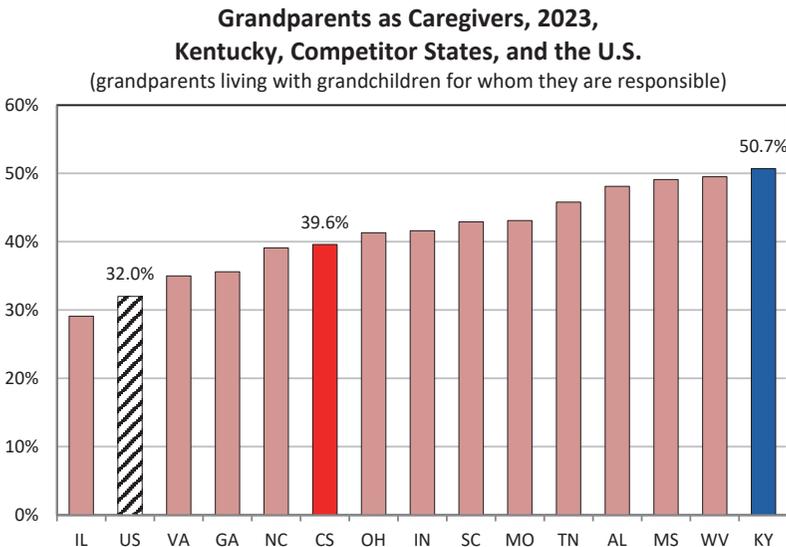
**Children in Single-Parent Families,
by Kentucky County, 2019-2023**
(percentage of children under 18 years old)



Source: U.S. Census, American Community Survey (ACS), 2023 5-Year estimates, Table B23008

GRANDPARENTS AS CAREGIVERS

There were approximately 98,200 Kentucky grandparents living with their grandchildren under 18 years old in 2023. About half (50.7%) of these grandparents are *caregiving*. In other words, they are grandparents who are responsible for their grandchildren under 18. These 50,000 or so grandparents constitute a miniscule portion of Kentucky households, but a city of this size would be the fifth largest in the state, exceeded only by Louisville, Lexington, Bowling Green, and Owensboro. As illustrated in the figure below, the percentage of Kentucky grandparents responsible for their grandchildren is much higher than the competitor state (39.6%) and national (32.0%) averages. Unfortunately, for too many grandparents, their psychological and emotional commitment to the well-being of their grandchildren is not matched by their physical abilities and financial means. In Kentucky, for example, the poverty rate is around 25 percent in households where grandparents are caring for their grandchildren, compared to an overall rate of around 17 percent. Moreover, around 33 percent of these caregiving grandparents are disabled, compared to a statewide disability rate of about 18 percent. These numbers suggest the potential value of community-based organizations in advancing the well-being of Kentucky families.



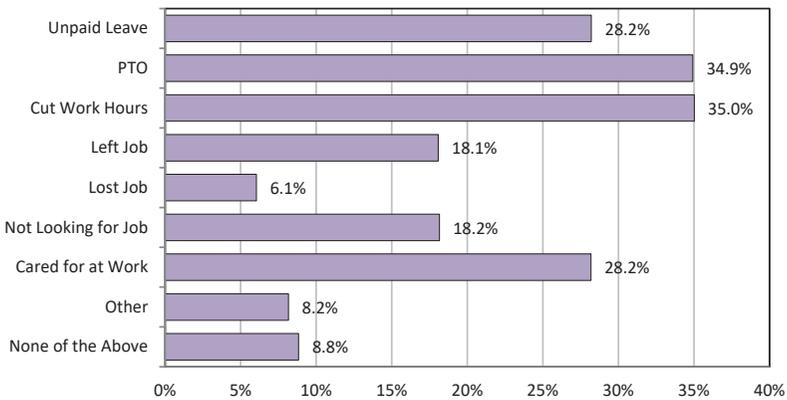
Source: Census Bureau, ACS 5-year estimate, 2023, Table DP02

REACTIONS TO LACK OF CHILD CARE

Whether child care is available, accessible, or affordable for parents has implications for the economy. An estimated 18 percent of Americans with children, nearly one out of five, answered “yes” when asked: *At any time in the last 4 weeks, were any children in the household unable to attend daycare or another childcare arrangement as a result of child care being closed, unavailable, unaffordable, or because you are concerned about your child’s safety in care? Please include before school care, after school care, and all other forms of childcare that were unavailable.* These individuals were then asked a series of follow-up questions about how they responded to the sudden absence of child care and were presented with several options (selecting all that apply), including “You (or another adult) took unpaid leave to care for the children” (28.2%), “... used vacation, or sick days, or other paid leave in order to care for the children” (34.9%), “... cut your work hours in order to care for the children” (35.0%), “... left a job in order to care for the children” (18.1%), “...lost a job because of time away to care for the children” (6.1%), “...did not look for a job in order to care for the children” (18.2%), and “...supervised one or more children while working” (28.2%). These data are from the U.S. Census Bureau’s 2024 Household Pulse Survey, which provides state-level insights on numerous topics, including child care.

Which if any of the following occurred in the last 4 weeks as a result of childcare being closed, unavailable, unaffordable, or because you are concerned about your child’s safety in care?

(Select all that apply)

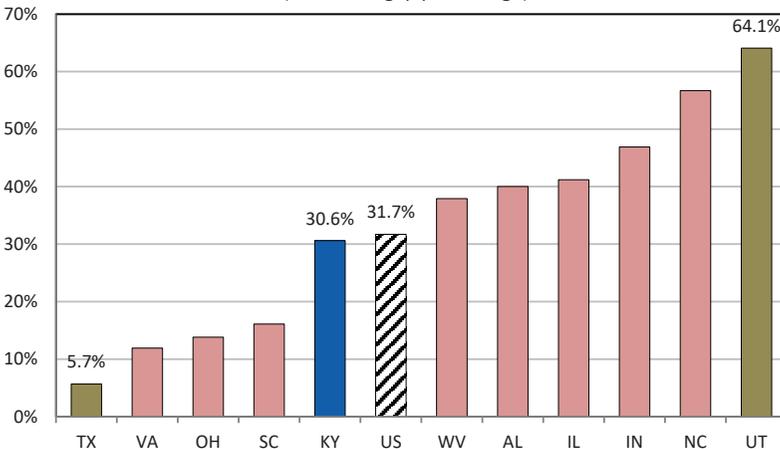


Source: CBER analysis of data from the U.S. Census Bureau, U.S. results, Household Pulse Survey, 2024.

CHILD CARE GAPS

The availability of child care plays a vital role in ensuring parents can work. Yet, a November 2021 report by the Bipartisan Policy Center, *Child Care in 35 States*, shows a national child care gap of 31.7 percent; Kentucky’s gap is 30.6 percent. Texas has the smallest gap (5.7%), and Utah has the largest (64.1%). The gap represents the difference between the potential child care need and the supply of formal child care. Kentucky’s estimated gap is consistent with a Kentucky Chamber of Commerce 2023 survey finding that “one in three parents with young children report leaving the workforce altogether at some point because of child care.” Indeed, a sizable portion of Kentucky’s workforce are parents of small children. Economists at the Federal Reserve Bank of St. Louis estimate that around 21 percent of Kentucky’s prime-age workforce (ages 25-54) are parents of children less than six years old (*The Economic Impact of Child Care by State*, 2021). About a quarter of the prime working-age individuals who are not in the labor force cite “family responsibilities” or “can’t arrange childcare” as the main reason they are not looking for work (see the Economy section). This percentage could rise as pandemic-era government support for child care providers dries up in 2024, and this could reduce labor force participation among parents with small children.

Child Care Gaps, 2021,
Kentucky, Selected States, and the U.S.
 (estimated gap percentage)

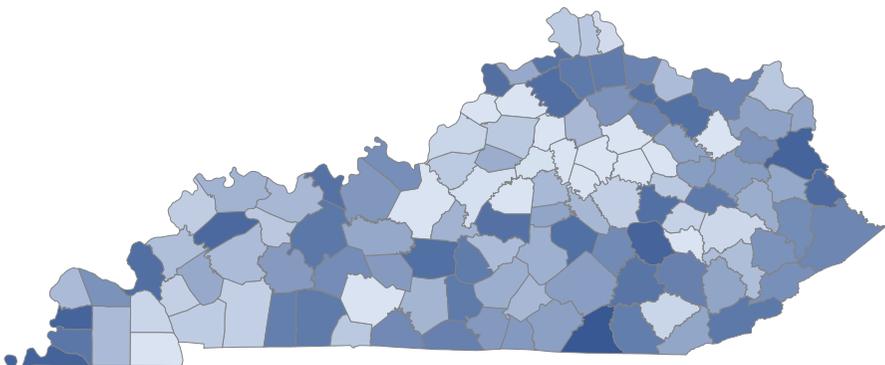


Source: *Child Care in 35 States: What we know and don't know*, Bipartisan Policy Center, Linda Smith, et al., November 2021, available online <<https://bipartisanpolicy.org/report/child-care-gap/>>.

CHILD CARE GAPS BY COUNTY

Kentucky’s statewide child care gap is distributed unequally across the state and is between one-fifth and one-third of the children potentially needing child care. The potential need is the number of children under six-years-old living with working parents—200,000 children (2022 ACS 5-Year). The supply of child care “slots” at licensed providers was just over 159,000 (April 2024)—resulting in a gap of 40,700 children, or about 20 percent of the total. The gap, however, could be larger, given that the Bipartisan Policy Center (BPC) estimates Kentucky’s gap to be 30.6 percent (see the facing page); although the higher estimate by the BPC is based on 2021 data. Nonetheless, the BPC finds that nationally the child care gap is larger in rural areas. As illustrated below, this is the case in Kentucky. On average, Kentucky’s thirty-nine metro counties have an estimated gap of 10.3 percent. This is significantly lower than the state’s twenty-one “somewhat rural” counties (29.3%) and its sixty “mostly rural” counties (50%). The higher child care gaps in rural areas make it more difficult to increase labor force participation rates, which are lower in rural areas.

Child Care Gap by County, 2024
(darker shading indicates larger gap)

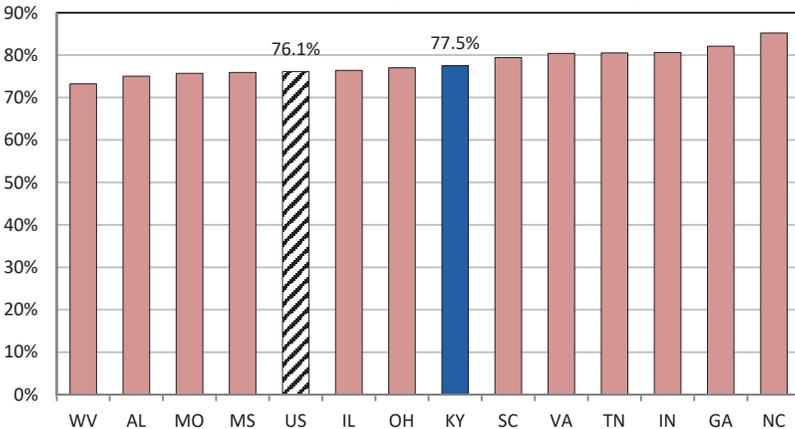


Source: Author’s analysis of child care supply data from the Homeland Infrastructure Foundation-Level Data (HIFLD), available online at <https://hifld-geoplatform.hub.arcgis.com/pages/hifld-open>, using data current as of April 17, 2024, and U.S. Census 2022 5-Year, Table 23008, children under 6 whose parent(s) is in the labor force to estimate potential demand.

NEIGHBORHOOD QUALITY

The incidence of crime is one way to measure the quality of a neighborhood. Other factors that detract from neighborhood quality include graffiti, dilapidated housing, and litter. To gauge the quality of neighborhoods in which children live, the National Survey of Children’s Health posed several questions to survey respondents, including “In your neighborhood, is there litter or garbage on the street or sidewalk?,” “Does the neighborhood contain poorly kept or dilapidated housing?,” and “In your neighborhood is there vandalism such as broken windows or graffiti?” The numbers in the chart below are estimates of the percentage of children living in neighborhoods where *none* of these three detracting elements are present. Kentucky’s percentage (77.5%) is statistically the same as the U.S. percentage (76.1%). Michigan has the highest value among all of the states (82.2%) and New York the lowest (62.5%). At 45.5 percent, the District of Columbia is even lower than New York.

Children Living in Neighborhoods *Without* Detracting Elements, KY, Competitor States, and the U.S., 2022-2023
(percent living in areas with no graffiti, dilapidated housing, or litter)

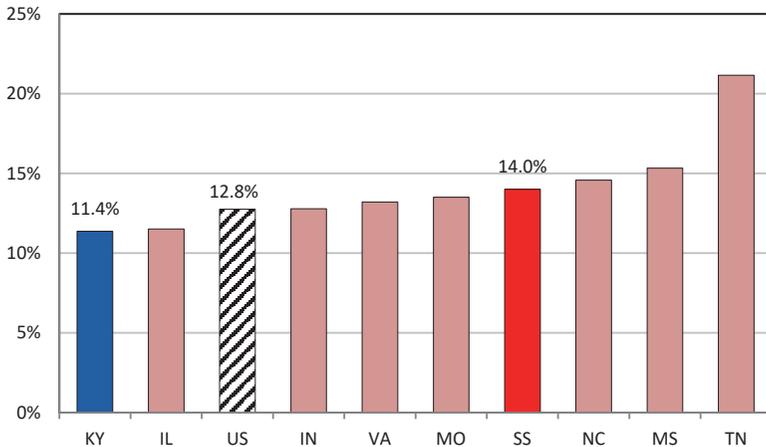


Source: Child and Adolescent Health Measurement Initiative. 2022-2023 National Survey of Children’s Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved [7/9/25] from [www.childhealthdata.org].

STUDENTS FEELING UNSAFE AT SCHOOL

Another signal of community well-being is whether students feel unsafe at school, and Kentucky is at the national average. The Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS) Survey is a national survey of high school students, grades 9 through 12. The figure below reflects the percentage of high school students who did not go to school because they felt unsafe at school or on their way to or from school (on at least 1 day during the 30 days before the survey). Kentucky’s 11.4 percent is not statistically different from the national number (12.8%), but is statistically different from the surrounding state (SS) weighted average (14.0%). Including Kentucky, there were 27 states that participated in the survey and adopted this question; sixteen states are statistically no different from Kentucky, four have lower percentages, and six have higher percentages.

High School Students Who Did Not Go to School Because They Felt Unsafe, 2023



Source: Centers for Disease Control and Prevention (CDC). 1991-2023 High School Youth Risk Behavior Survey Data. Available at <http://yrbs-explorer.services.cdc.gov/>. Accessed on [7/12/2025], as well as author’s analysis of Centers for Disease Control and Prevention. 2023 Youth Risk Behavior Survey Microdata.
 Note: SS indicates 7 surrounding states (IL, IN, MO, MS, NC, TN, & VA).

ADVERSE CHILDHOOD EXPERIENCES

Childhood experiences can have lifelong consequences, both positive and negative, for individuals, families, and the wider community. Children growing up with adverse childhood experiences (ACE) may have a range of difficulties, including, but not limited to, unstable work histories as adults who struggle with finances, jobs, and depression, all of which, of course, can affect the economy. Indeed, research suggests that ACEs levy significant economic and social costs on families, communities, and society that totals hundreds of billions of dollars each year. The table below shows the percentages of adults who experienced selected ACEs. Three areas in which Kentucky is statistically higher than both the U.S. and nearby states are: *Substance Abuse (30.3%)*, which is derived from two questions, “Did you live with anyone [as a child] who was a problem drinker or alcoholic?” or “Did you live with anyone who used illegal street drugs or who abused prescription medications?”; *Mental Illness (22.4%)*, “Did you live with anyone who was depressed, mentally ill, or suicidal?”; and *Incarcerated Household Member (13.1%)*, “Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?” In all three instances, Kentucky’s respective percentages are statistically significantly higher than the comparison geographic areas.

Prevalence of Adverse Childhood Experiences (ACE), U.S., Selected Nearby States, and Kentucky, 2020 (Adults 18 and Older)			
ACE Category	US (%)	Nearby States (%)	KY (%)
Emotional Abuse	33.4	32.0	33.2
Physical Abuse	23.9*	20.9	21.8
Sexual Abuse	13.2*	13.2	14.7
Parents Violent with One Another	17.1	16.6	17.5
Substance Abuse	27.0*	27.0*	30.3
Mental Illness	17.1*	17.6*	22.4
Parental Separation or Divorce	31.4	32.6	32.8
Incarcerated Household Member	9.7*	10.2*	13.1

Source: Author’s analysis of data from Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020

Note: The selected nearby states are AL, GA, MO, MS, SC, & VA. See Notes & Sources at the end of this report for more information about each of the ACE factors.

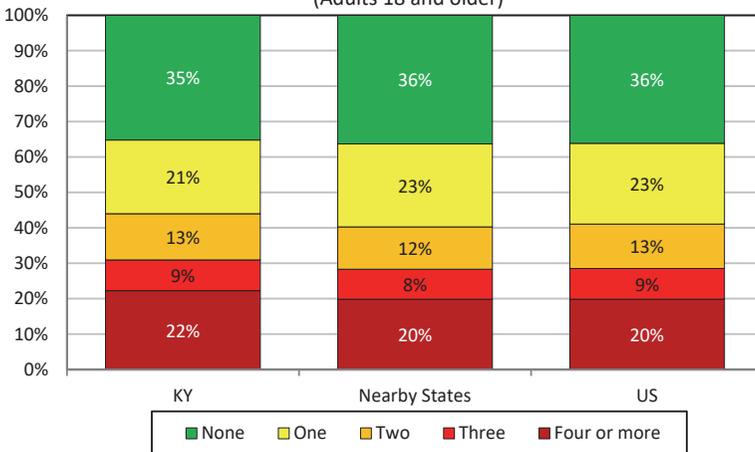
**These percentages are statistically different from the Kentucky percentages (alpha=.05).*

ADVERSE CHILDHOOD EXPERIENCES

In general, about two-thirds of adults have reported at least one adverse childhood experience (ACE), and about one in five reported four or more ACEs. Adverse childhood experiences include abuse, household challenges, and neglect—with more specific factors listed in the table on the facing page. At least one study found that “a graded dose-response relationship between ACEs and negative health and well-being outcomes.” In short, as the number of ACEs increases so does the risk for negative outcomes in adulthood (see Felitti, et al., “Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults,” *American Journal of Preventive Medicine*, vol. 14, no. 4, 1998). Kentucky looks quite similar to the U.S. and selected nearby states with regard to the number of ACEs.

**Number of Adverse Childhood Experiences (ACE),
Kentucky, Nearby States, and the U.S., 2020**

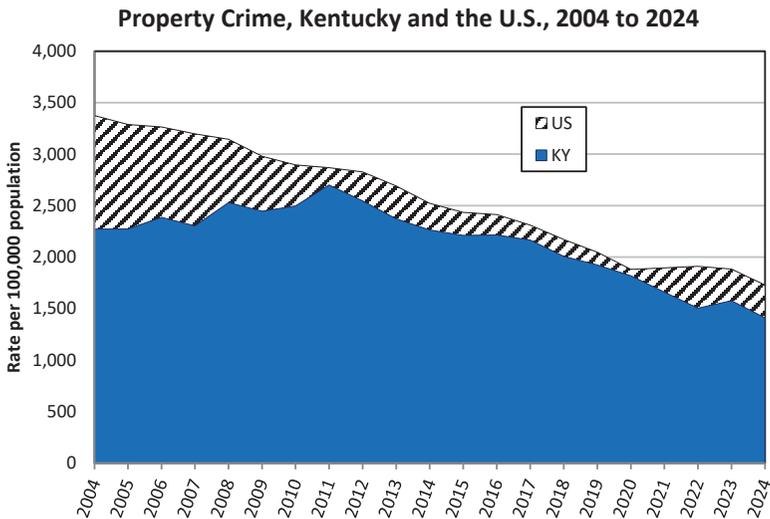
(Adults 18 and older)



Source: Author’s analysis of data from Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020. Note: The selected nearby states are AL, GA, MO, MS, SC, & VA.

PROPERTY CRIME RATE

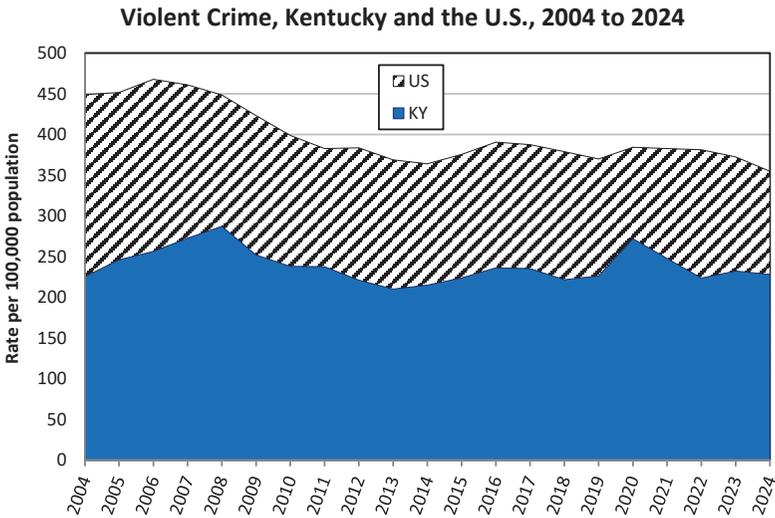
Any discussion of community would be incomplete without consideration of the role of crime, which can instill fear, undermine trust, and fray connections—and impact economic development decisions and outcomes. There are two trends that are demonstrated in the figure below. First, the property crime rate has been on a downward trend for both Kentucky and the U.S. since about 2011. Second, Kentucky’s property crime rate is consistently lower than the U.S. property crime rate. Kentucky’s comparatively low crime rate remains a strong asset that contributes to a sense of well-being and trust, which, in turn, helps create caring places that nurture productive lives.



Source: Federal Bureau of Investigation, Crime Data Explorer, <<https://cde.ucr.cjis.gov/>>. Data downloaded August 22, 2025. Crime count converted to rate using U.S. Census population estimates. Crime count for 2021 is interpolated using 2020 and 2022 counts. These data include all property crimes.

VIOLENT CRIME RATE

There are two important factors illustrated in the figure below about the violent crime rates in Kentucky and the U.S. First, since about 2008 in Kentucky and around 2011 in the U.S., the violent crime rates has been relatively stable for several years. Second, similar to the property crime rate, Kentucky’s violent crime rate is consistently lower than the U.S. rate. This represents an affirmation of the viewpoint of Kentucky’s communities as relatively safe and stable places.

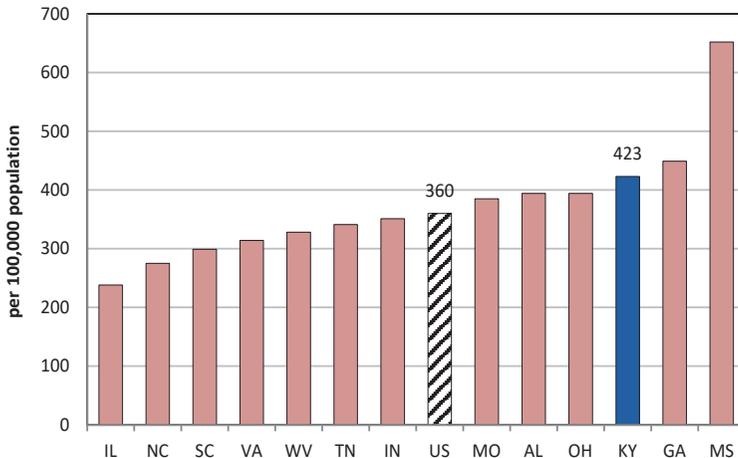


Source: Federal Bureau of Investigation, Crime Data Explorer, <<https://cde.ucr.cjis.gov/>>. Data downloaded August 22, 2025. Crime count converted to rate using U.S. Census population estimates. Crime count for 2021 is interpolated using 2020 and 2022 counts. These data include all violent crimes.

INCARCERATION RATE

Incarceration rates are windows through which one can assess the nature, quality, and character of a community. According to a September 2025 report from the U.S. Department of Justice, *Prisoners in 2023*, the United States had an estimated 1,254,200 prisoners under the jurisdiction of state and federal correctional authorities in 2023. This is equivalent to 360 prisoners per 100,000 population. Kentucky’s rate, by comparison, was somewhat higher at 423. The state with the highest incarceration rate in 2023 was Mississippi (652), while Massachusetts was the lowest (96). As one can see in the chart below, Kentucky’s incarceration rate is toward the high end when comparing it to the nearby states. Kentucky’s prison population steadily increased from 3,588 in 1980 to 21,823 in 2007. It declined, however, to 20,330 by 2013. Unfortunately, fueled by the opioid epidemic, it started to trend upward again and reached 23,082 in 2019, but declined to 19,175 by 2023.

**Prison Incarceration Rate, 2023,
Kentucky, Competitor States, and the U.S.**
(prisoners of all ages)

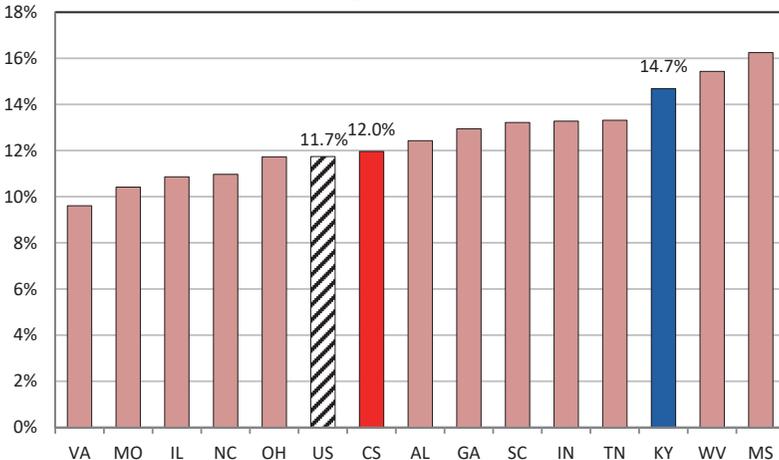


Source: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, *Prisoners in 2023*

DISCONNECTED YOUNG ADULTS

Strong, resilient, and vibrant communities are created and nurtured by actively engaged, invested, and connected citizens. The figure below shows the percentage of young adults (18 to 24 years old) who are “disconnected.” These young adults are *not* enrolled in school, are *not* currently employed, and have *no* degree beyond a high school diploma or GED. Collectively these factors could indicate that a young person is having difficulty making a successful transition to adulthood. An estimated 61,600 of Kentucky’s youth are disconnected according to this definition, which is 14.7 percent of the population in this age cohort. This percentage is *not* statistically different (using a 95% confidence interval) from six of the competitor states (i.e., GA, IN, MS, SC, TN, and WV). However, Kentucky is statistically *higher* than the competitor state (11.9%) and U.S. (11.6%) averages, as well as all of the remaining competitor states. Louisiana has the highest percentage of disconnected young adults at 18.1 percent, and North Dakota has the lowest percentage at 4.2 percent. Among all states and the District of Columbia, only one is higher (Louisiana), 34 are lower, and 15 are statically the same as Kentucky. An October 2025 RAND report sheds light on some of the underlying factors leading to young adults becoming disconnected. See Bonds and Wenger, *What Predicts Disconnection Among American Youth?*, Oct. 2025.

**Disconnected Young Adults, 2024,
Kentucky, Competitor States, and the U.S.**
(percent of young adults, 18 to 24 years old)

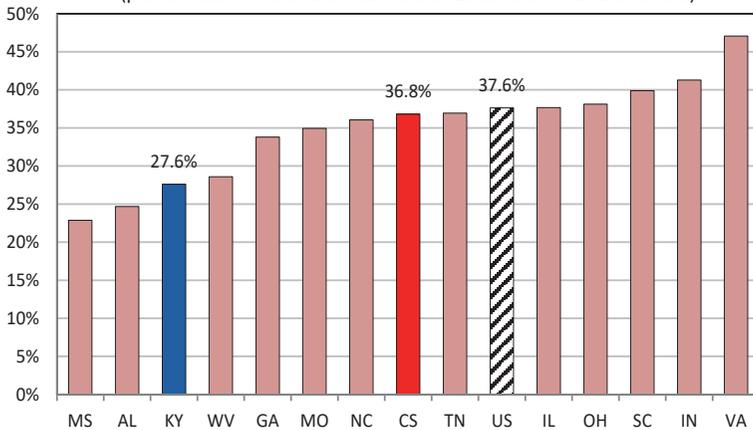


Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS.

ATTENDANCE AT ARTISTIC & CULTURAL EVENTS

A thriving local culture is a cornerstone of a high quality of life, allowing citizens to enrich and educate themselves by experiencing the arts and learning about history. Cultural amenities can constitute an integral role in site selection decisions, with the so-called “creative class” placing a premium on living in locations that offer enriching lifestyles. From music to museums, the arts matter. The chart below shows attendance at least one of thirteen different activities included in the Survey of Public Participation in the Arts. These activities include, but are not limited to, whether one has visited an art museum or gallery during the last 12 months; whether one has visited a historic park or monument, toured buildings or neighborhoods for historic or design value during the last 12 months; and whether one has attended a musical stage play, an operetta performance, or a live music performance during the last 12 months. With 27.6 percent of the population participating in at least one of the thirteen public arts, entertainment, or cultural activities, Kentucky is statistically lower than the competitor states (36.8%), the U.S. (37.6%), 33 other states (including DC). On the other hand, Kentucky is statistically the same as 17 states. As the competitive pressures of attracting a highly skilled global workforce rise, it becomes increasingly important for the Commonwealth to support a culturally competitive environment.

**Attendance at Selected Artistic & Cultural Events,
Kentucky, Competitor States, and the U.S., 2020 & 2022**
(percent who attended at least one of 13 different cultural events)

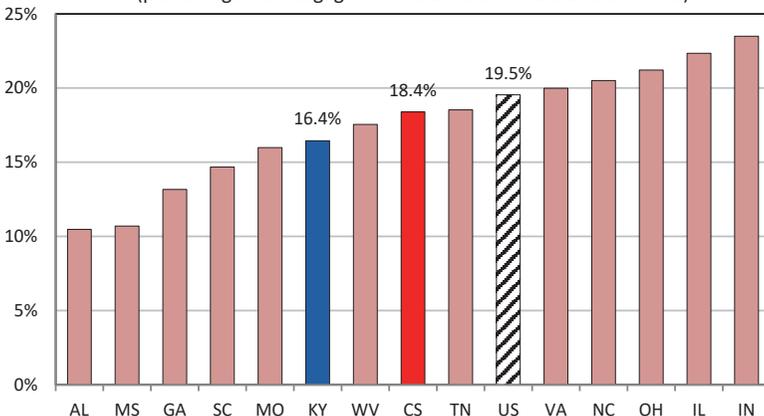


Source: Author's analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Public Arts Supplements, 2020 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

PARTICIPATION IN ARTISTIC ACTIVITIES

These measures of artistic activity are estimated from the 2020 and 2022 Surveys of Public Participation in the Arts, and represent a more *active* approach in the creation of artistic works than the activities shown on the facing page. The figure below represents the percentage of individuals who have engaged in at least one of the following nine *broad* artistic activities (in the last year): written stories, poems, or plays; engaged in painting, drawing, sculpture, or printmaking; made photographs, movies, or videos; did pottery, ceramics, jewelry, leatherwork or metalwork; practiced weaving, crocheting, quilting, needlepoint, or sewing; took classes in art appreciation or art history; took creative writing lessons; took music or music appreciation lessons; or photography lessons. With an estimated 16.4 percent of the population participating in at least one of the nine artistic activities, Kentucky is statistically no different from the competitor states (18.4%), the U.S. (19.5%), or 25 other states. Kentucky is statistically higher than two states and significantly lower than 23; DC is included in the group of 23. Relative to the twelve competitor states, Kentucky is statistically higher than Alabama (10.5%) and Mississippi (10.7%), lower than Illinois (22.3%) and Indiana (23.5%), and statistically no different from the other eight competitor states. The states with the highest percentages are Oregon (34.8%), Vermont (34.5%), and Utah (31.7%).

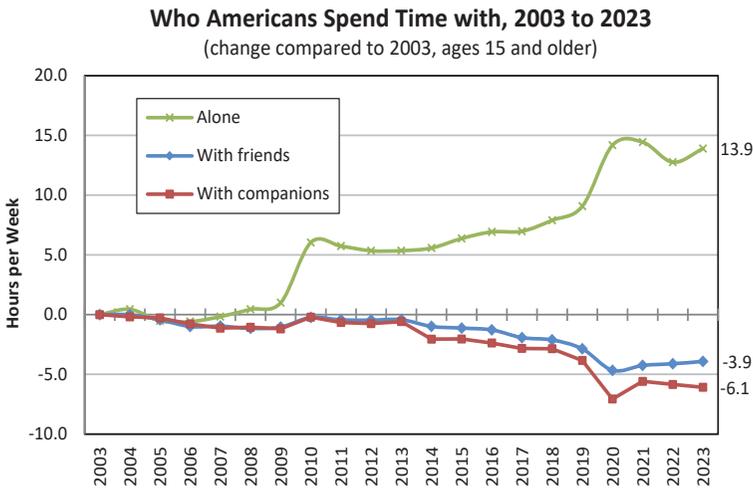
Participation in Selected Artistic & Cultural Activities, Kentucky, Competitor States, and the U.S., 2020 & 2022
(percentage who engaged in at least one of nine arts activities)



Source: Author's analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Public Arts Supplements, 2020 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

COMMUNITY ENGAGEMENT

Economist Bryce Ward, founder of ABMJ Consulting, published a piece in the *Washington Post* in November 2022 showing the changing patterns American’s time utilization. His analysis is based on data from the Census Bureau and Bureau of Labor Statistics’ *American Time Use Survey* (ATUS). He writes that “the amount of time the average American spent with friends was stable, at 6½ hours per week, between 2010 and 2013. Then, in 2014, time spent with friends began to decline. By 2019, the average American was spending only four hours per week with friends (a sharp, 37 percent decline from five years before). Social media, political polarization and new technologies all played a role in the drop.” He notes that the pandemic deepened these trends but did not cause them. His analysis also shows that these trends are pervasive—affecting men, women, various races, different income levels, and urban residents as well as rural. Our examination of ATUS data during the two decades from 2003 to 2023 reveals that the amount of time Americans spend interacting with friends and companions decreased (about 4 and 6 hours respectively), while time spent alone jumped by nearly 14 hours per week. Ward writes that “friends and social connections ... boost health and lead to better economic outcomes.” Community engagement is vitally important for our individual and mental health, as well as economic well-being.

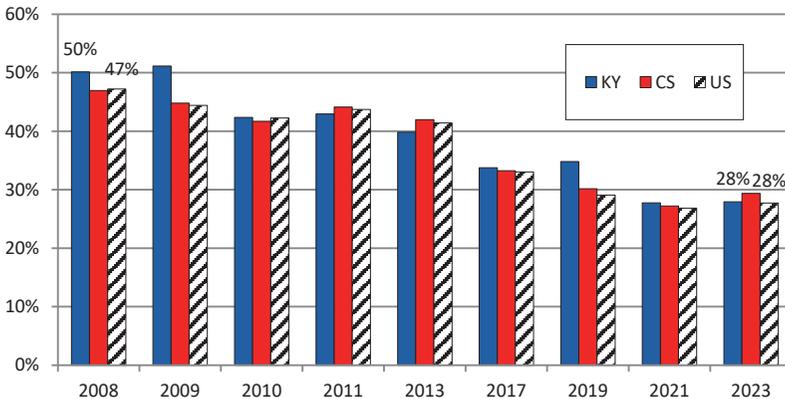


Source: CBER analysis of data courtesy of Sarah M. Flood, Liana C. Sayer, Daniel Backman, and Annie Chen. American Time Use Survey Data Extract Builder: Version 3.2 [ATUS, various years]. College Park, MD: University of Maryland and Minneapolis, MN: IPUMS, 2023. <https://doi.org/10.18128/D060.V3.2>

TALK WITH NEIGHBORS

Neighbors are important. Most Americans will turn to family, friends, or neighbors for transportation, childcare, or other unexpected needs. Indeed, neighbors can be the first place we seek assistance when help is needed. Research has found that regular interactions with neighbors boost feelings of well-being and enhance one’s quality of life; other research shows that in communities where people are connected to their neighbors, residents can rebound quicker from disruptive events such as natural disasters or health emergencies. Unfortunately, over the last dozen years, there has been a steady decline in the percentage of neighbors regularly talking to each other. The graph below shows the estimated percentage of people who talked to their neighbors at least weekly over the past 12 months. This includes those who responded *Basically Every Day* or *A Few Times A Week* (other responses were *A Few Times a Month*, *Once a Month*, *Less Than Once a Month*, or *Not at All*). The question did not specify whether interactions had to be in-person or not. In a decade and a half, Kentucky’s percentage declined from 50 percent to 28 percent, with the competitor states and the U.S. exhibiting similar declines. This decline has implications for individual well-being and community resilience.

Talk with Neighbors, 2008 to 2023
Kentucky, Competitor States, and the U.S.
 (percent who talk to neighbors at least weekly)

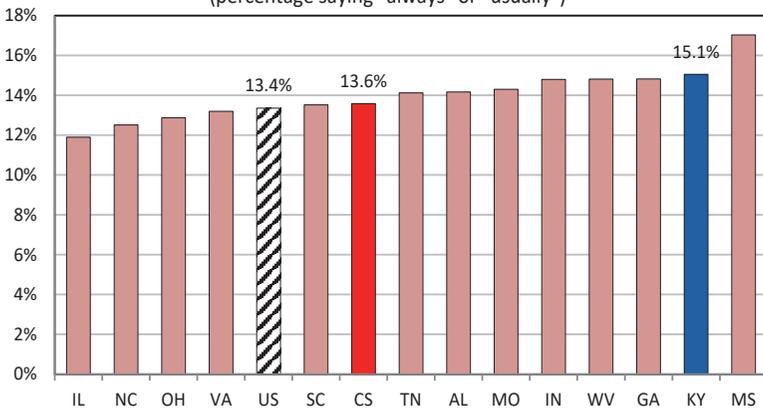


Source: CBER analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement & Volunteering Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

LONELINESS

The prevalence of loneliness can reveal as much about a community as it does the individual. The U.S. Census Bureau’s 2024 Household Pulse Survey provides state-level insights on numerous topics, including social isolation. Mississippi has the highest percentage of individuals who report being lonely *always* or *usually* (17%) and New Jersey has the lowest (11%); other responses to “How often do you feel lonely?” include *sometimes*, *rarely*, and *never*. Both states are statistically different from Kentucky (15.1%). Only one state, Mississippi, is statistically higher than Kentucky, while 28 are statistically lower and 21 are statistically the same. Among the competitor states, six are statistically the same as Kentucky (i.e., AL, GA, IN, MO, TN, & WV) and five are statistically lower (i.e., IL, NC, OH, SC, VA); the U.S. (13.4%) and competitor states (13.6%) are also statistically below Kentucky. In its assessment of these data, the *Washington Post* asserted that “loneliness seems to go hand in hand with a lack of social, economic and community strength” (*The Washington Post*, March 21, 2025). It is not clear if the “loneliness epidemic” will hinder or help the economy. It could decrease productivity, increase healthcare costs, and lower consumer spending in some sectors. However, it could stimulate growth in other sectors, resulting in a redistribution of time, money, and other resources.

Feelings of Loneliness, 2024
Kentucky, Competitor States and the U.S.
 (percentage saying "always" or "usually")



Source: Author’s analysis of U.S. Census, Household Pulse Survey Public Use File (PUF), Cycles 1 through 9, conducted from January 9 through September 16. Responses to the question “How often do you feel lonely?” (SOCIAL2, Frequency of Loneliness), available online at: <<https://www.census.gov/programs-surveys/household-pulse-survey/data/datasets.html>>.

Economy

KENTUCKY'S ECONOMY REFLECTS a mix of durable strengths and structural challenges, shaped by patterns of business formation, productivity, employment, wages, and global integration. Recent data show clear signs of resilience—yet also underscore persistent weaknesses that inhibit long-term growth relative to the nation and competitor states.

One of the state's strongest areas is *supporting* early-stage entrepreneurship. Kentucky's rate of new employer business actualization exceeds the national average, and its *New Employer Business Actualization Speed Index* is among the strongest in the region, indicating that new firms convert into employer businesses more efficiently than in many nearby states. The surge in high-propensity business applications since the start of the COVID-19 recession reinforces this pattern: applications rose more than 65 percent, outpacing national gains and reflecting the adaptability of entrepreneurs in an economy increasingly conducive to online business formation. Yet, even with this momentum, Kentucky struggles to expand the share of high-growth firms. For more than four decades, the proportion of such firms has remained consistently below the U.S. and competitor-state averages, signaling a gap in the type of fast-scaling businesses that contribute disproportionately to job creation and innovation.

This tension between entrepreneurial activity and the limited presence of high-growth firms connects directly to Kentucky's productivity performance.

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Productivity—one of the most important drivers of wages and long-run growth—lags both the U.S. median and the levels observed in leading states. Kentucky’s real output per hour worked ranks in the lagging category, with growth rates that fall short of national benchmarks. Because productivity and wages move together over time, this helps explain why the state’s wage and salary growth, while positive, trails the U.S. and competitor-state averages. Regional patterns reinforce these differences: South Central Kentucky has posted impressive wage and employment gains, but other areas, including parts of Eastern and Western Kentucky, continue to grow more slowly, with several counties experiencing employment and wage declines even five years after the pandemic began.

Kentucky’s income measures reveal long-term weaknesses. Per capita personal income has hovered around 80 percent of the national average for decades, and median household income stands at roughly 72 percent of the U.S. level. Net earnings per capita—one of the clearest indicators of underlying economic vitality—has fallen from 82 percent of the national average in the late 1970s to just under 74 percent today. These statewide averages mask stark geographic disparities: many counties, particularly in Eastern Kentucky, have remained in the bottom five percent nationally for net earnings for most of the last half-century.

Labor market dynamics further constrain growth. Kentucky’s prime-age employment-population ratio is among the lowest in the nation, with only two states statistically below it. Labor force participation is similarly weak, especially for adults ages 55 to 64, and county-level rates vary dramatically—some exceeding national averages, others falling below 50 percent. Survey data suggest that family responsibilities, skill gaps, health issues, and child-care challenges are major barriers preventing willing workers from entering the labor force.

Yet even in the face of these challenges, Kentucky benefits from economic strengths that are unusual for a midsized state. It is deeply integrated into global supply chains, ranking first in imports and third in exports as a share of GDP. Transportation equipment, chemicals, and advanced manufacturing anchor a trade ecosystem that connects Kentucky to nearly 200 countries. Foreign direct investment is also a source of strength: more than 400 international firms operate in the state, and the share of workers employed by U.S. affiliates exceeds both the national and competitor-state averages.

Taken together, these indicators portray an economy with meaningful competitive advantages—especially in trade, logistics, and early-stage entrepreneurship—but one that continues to grapple with chronic issues in productivity, workforce participation, income growth, and the development of high-growth firms. Addressing these structural weaknesses is essential for translating Kentucky’s economic potential into broader, more inclusive prosperity.

NEW EMPLOYERS

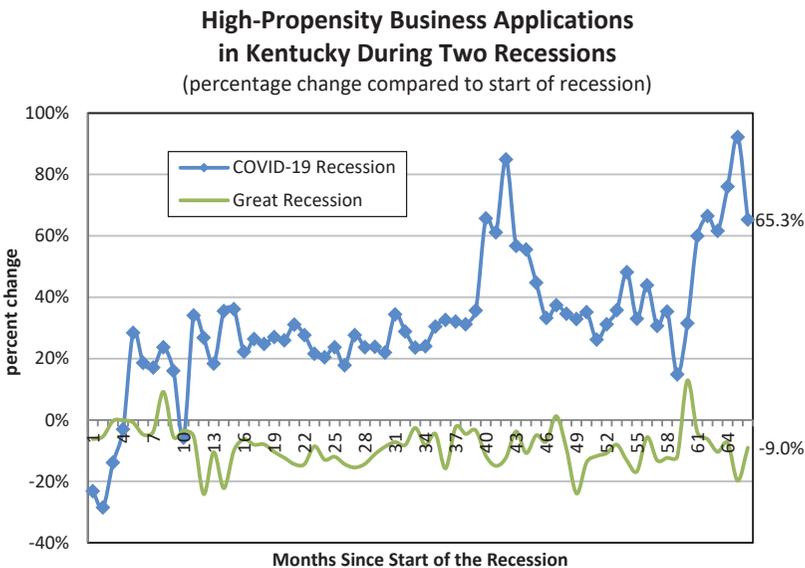
The *Kauffman New Employer Business Indicators* include: *Rate of new employer business actualization*—business that becomes an employer within two years of filing an application. In 2021, the rate of new employer business actualization in Kentucky was 9.29%, meaning that for every 100 new business applications, about 9 of these became employers within two years; *Rate of new employer businesses*—startups that become new employers for every 100 people. Kentucky’s rate of new employer businesses was 0.10, meaning that about 100 new employer businesses were formed for every 100,000 people; *New employer business velocity*—the average amount of time, in quarters, between filing a business application and hiring a first employee. New employer business velocity in Kentucky was 1.83, meaning that it took new employer businesses, on average, 1.83 quarters, or almost 6 months, from the filing of a business application to the time the first employee was hired; and *Employer business newness*—new employer businesses as a share of all employer firms. Employer business newness was 5.56%, meaning that new employers were about 5.6% of all employer firms. *New Employer Business Actualization Speed (NEBAS) Index* reflects the emergence (actualization) and speed (velocity) of new employer businesses. The NEBAS Index for the Kentucky was 0.75.

2021 New Employer Business Indicators					
Area	Rate of New Employer Business Actualization	Rate of New Employer Businesses	New Employer Business Velocity	Employer Business Newness	NEBAS Index
US	9.16%	0.15	2.06	6.98%	0.70
AL	7.89%	0.12	1.90	5.69%	0.72
GA	6.12%	0.18	2.16	7.55%	0.62
IL	9.03%	0.14	2.13	5.98%	0.69
IN	8.66%	0.11	1.99	5.31%	0.71
KY	9.29%	0.10	1.83	5.56%	0.75
MS	5.51%	0.12	1.78	5.30%	0.71
MO	9.74%	0.13	1.81	6.13%	0.76
NC	9.84%	0.16	1.97	7.04%	0.73
OH	7.58%	0.10	2.05	4.90%	0.67
SC	8.44%	0.16	2.06	6.74%	0.70
TN	9.18%	0.12	1.83	6.56%	0.76
VA	8.36%	0.13	2.18	6.04%	0.65
WV	9.23%	0.07	*	4.43%	*

Source: *Kauffman Indicators of Entrepreneurship, 2021 National & State Reports on Early-Stage Entrepreneurship, May 2022.*
 Note: Missing values indicated by * are due to missing data in underlying source/s used to calculate the indicators.

HIGH-PROPENSITY BUSINESS FORMATIONS

The growth of high-propensity business applications has been markedly greater during and after the COVID-19 Recession compared to the Great Recession. Creating a new business begins with an application for an Employer Identification Number from the IRS. The Census Bureau uses these applications to estimate whether an entity has a high probability of becoming a business with a payroll. Kentucky’s trends for high-propensity business applications (HBA) during the months following the onset of the last two recessions—the Great Recession which began in December 2007, and the COVID-19 Recession which started in February 2020, are quite different. By June 2013, 66 months after the beginning of the Great Recession, the HBA rate was 9.0 percent lower than when the recession started—860 applications compared to 945 (seasonally adjusted). In contrast, there was a steep decline in the HBAs at the onset of the COVID-19 Recession in Kentucky, but the HBA rate increased 35.5 percent by April 2021, from 936 to 1,268; it has decreased somewhat, but was over 65 percent higher in August 2025—66 months after the start of the COVID-19 Recession. The higher HBA rate during the COVID-19 Recession is a national trend and is, in part, a function of the increased ease of starting a business that is based online.

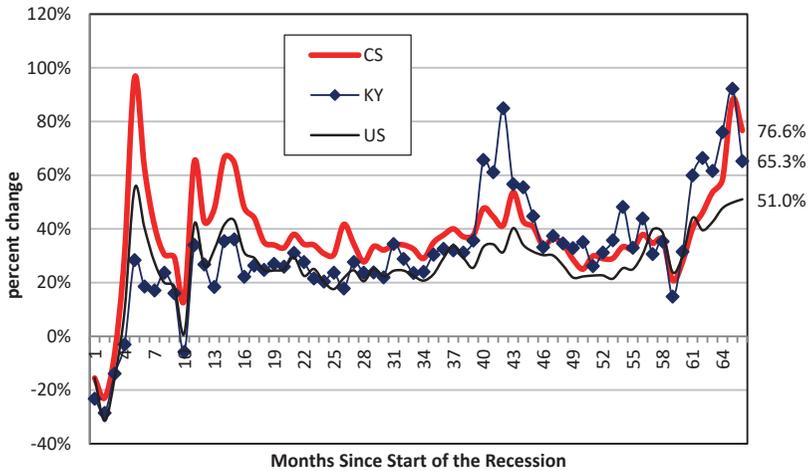


Source: Author’s analysis of U.S. Census, Business Formation Statistics, based on seasonally adjusted numbers.

HIGH-PROPENSITY BUSINESS FORMATIONS

Kentucky has experienced a significant increase in high-propensity business applications during the COVID-19 Recession compared to the 66 months following the start of the Great Recession (see facing page). Kentucky’s increase more or less follows the national trend. For example, in August 2025, there were 1,547 high-propensity business applications (HBA) in Kentucky, which is a 65.3 percent increase from the 936 at the onset of the recession in February of 2020. The percentage increases over the same time period for the competitor states and the U.S. are 76.6 percent and 51.0 percent, respectively. Business applications that have a high-propensity of turning into businesses with payroll are considered high-propensity business applications. According to the U.S. Census Bureau, “the identification of high-propensity applications is based on the characteristics of applications revealed on the IRS Form SS-4 that are associated with a high rate of business formation.”

COVID-19 Recession High-Propensity Business Applications: Kentucky, Competitor States, and the U.S.
(percentage change compared to start of recession)

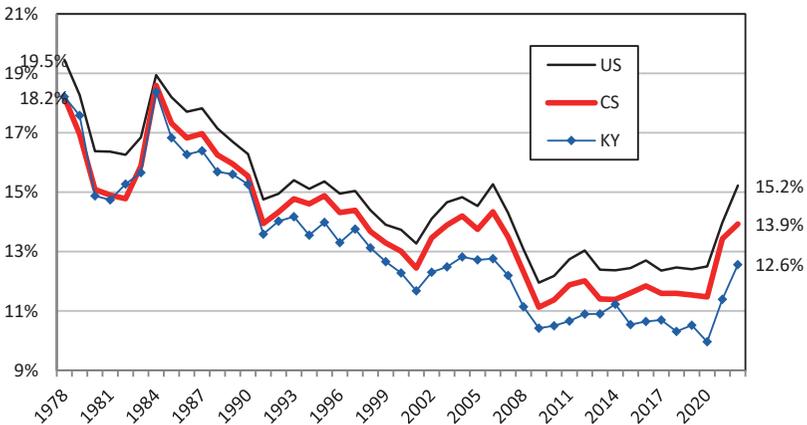


Source: Author’s analysis of U.S. Census, Business Formation Statistics, seasonally adjusted numbers.

HIGH-GROWTH FIRMS

Despite the importance of high-growth firms (HGF) to economic dynamism, there is no broadly held consensus on a definition (Motoyama et al., 2024). *Inc. Magazine*, for example, produces an annual list of rapidly growing companies in America, the Inc. 5000, and defines them as: privately held, for profit, and independent; revenue generating for at least three years; and revenue growth over three years from a minimum of \$100,000 to at least \$2 million. In 2024 there were three Kentucky companies in the top 500: Cornbread Hemp (at #122), TruDiagnostic (127), and OnPoint Warranty Solutions (338). Motoyama, et al., borrows the *Inc. Magazine* approach, but then tailors it slightly by focusing on firms that achieved 100 percent revenue growth over a three-year period with the minimum revenue of \$1 million. Focusing on employment instead of revenue, we use an approach developed by researchers who have leveraged a newly developed data source from the U.S. Census Bureau (Kim, et al., 2024). They define high-growth firms as ones where the annual employment growth rate is 0.8 or greater. The chart below shows that high-growth firms as a percentage of total firms has been declining, and that, in general, over the last four decades, Kentucky has a smaller percentage of high-growth firms than the competitor states and the United States.

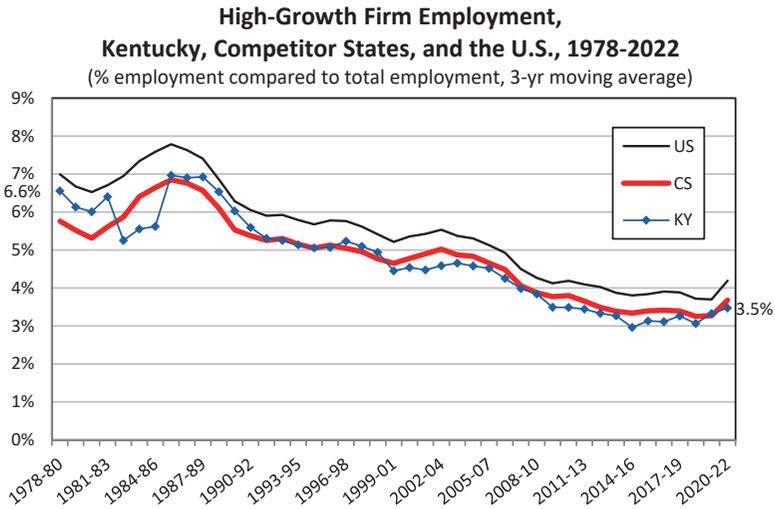
**High-Growth Firms,
Kentucky, Competitor States, and the U.S., 1978-2022**
(as a percent of total firms)



Source: Author's analysis of U.S. Census Bureau, Business Dynamics Statistics of High Growth data, available at: https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html<bds2022_gr_st.csv>, downloaded 2/17/2025.

HIGH-GROWTH FIRM EMPLOYMENT

While constituting only a small portion of the total number of firms or aggregate employment, high-growth firms are vital to an economy because of the outsized role they play in generating revenue and creating jobs. Studies have shown that 2.4 percent of the firms accounted for 40 percent of new jobs in the U.S. from the mid-1990s to the late-2000s (Brookings, 2018). Other work has found that high-growth firms, defined as having one-year growth rates in revenue above 25 percent, account for 12 percent of firms but 50 percent of economy-wide revenue. Similarly, firms with a one-year employment growth above 25 percent account for 17 percent of firms, but generated 59 percent of job creation (Haltiwanger, 2017). Regardless of how one defines “high growth” or the period studied, research shows that a small number of firms consistently account for a disproportionate amount of total revenue and job creation. Yet high-growth firm employment as a share of total employment has been declining over the last 40 years. It declined in Kentucky, for example, from 6.6 percent in the late 1970s to 3.5 percent during the three-year period from 2020 to 2022. Moreover, Kentucky is consistently about seven-tenths of a percentage point below the U.S. level over this period.

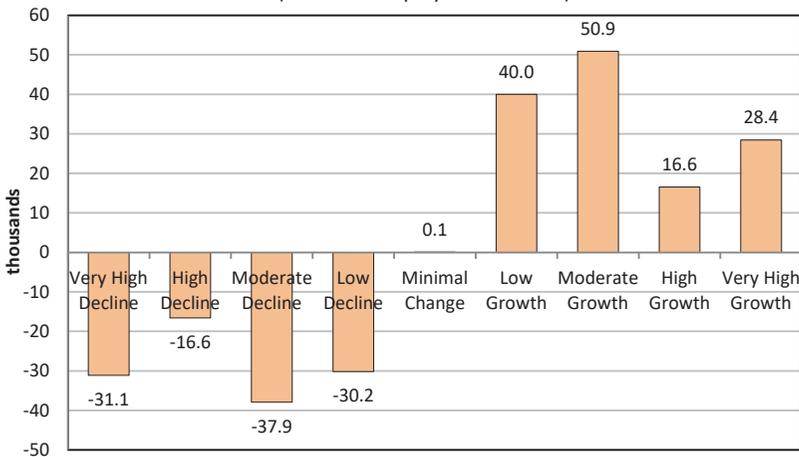


Source: Author's analysis of U.S. Census Bureau, Business Dynamics Statistics of High Growth data, available at: <https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html> <bds2022_gr_st.csv>, downloaded 2/17/2025.

JOBS GAINED & LOST BY FIRM TYPE

The economy is in constant motion, churning over and over like a gear in a machine. This is demonstrated by the incessant births and deaths of firms, along with the concomitant gain and loss of jobs. Most of the time, but not always, of course, the economy grows from one year to the next. During the ten-year period preceding the COVID-19 Pandemic Recession, from 2010 to 2019, the number of private sector jobs in Kentucky increased, on average, by about 20,000 per year. This is Kentucky’s annual average net private employment change and represents a net growth as the state emerged from the Great Recession. This is reflected in the chart with the sum of the bars equaling a net annual average increase of 20,120 private sector jobs. High-growth firms—shown in the figure as *high growth* (i.e., growth between 0.8 and 2.0) and *very high growth* (i.e., growth over 2.0)—account for around one third of the annual average non-farm employer business job growth during these years, 16,600 and 28,400 respectively. The low and moderate growth firms have higher net jobs, but there are also more firms in these categories. Refer to the Notes & Sources for more details.

Annual Average Net Job Change in Kentucky, by Firm Growth Rate Category, 2010 to 2019
(non-farm employer businesses)

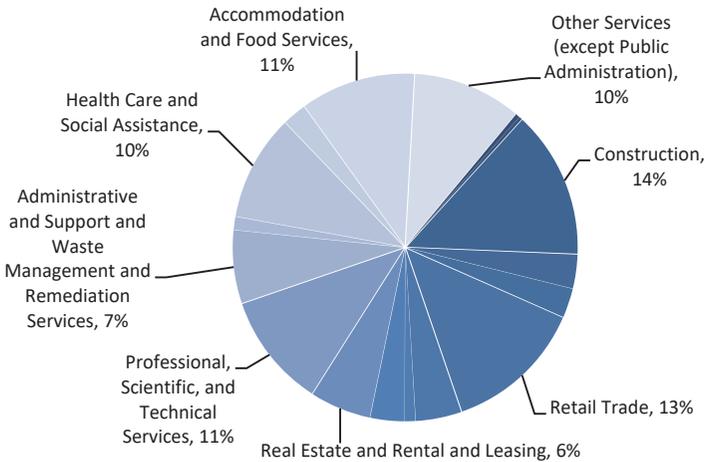


Source: Author’s analysis of U.S. Census Bureau, Business Dynamics Statistics of High Growth data, available at: <https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html> <bds2022_gr_st.csv>, downloaded 2/17/2025.

HIGH-GROWTH FIRMS BY SECTOR

High-growth firms cover the economic landscape, representing all major economic sectors—not only the “high-tech” sector. During the three-year period from 2020 to 2022, high-growth firms in Kentucky were mostly in construction (14%), followed by retail trade (13%), accommodation and food services (11%), professional, scientific, and technical services (11%), and health care and social assistance (10%). The national distribution of firms comprising the 2024 *Inc. 5000* companies shows a diverse mix of industries as well, evidenced by business products & services with nearly 12 percent of the total, followed by software (10.6%), advertising & marketing (10%), IT services (8.3%), construction (6.4%), and health services (6.4%). Despite the broad representation of firms across a diverse range of industries, research suggests that “support programs of high growth firms are heavily geared toward firms in the high-tech sector that seek venture capital investment and hyper growth” (Motoyama, et al., 2024). Contrary to conventional wisdom, this research finds that “infusing money” is less effective than expertly tailored knowledge support (e.g., mentoring) that provides “practical and operational knowledge of being an entrepreneur.” Understanding the local economic context and the business challenges that are often unique to industrial sectors is fundamentally important for supporting high-growth firms.

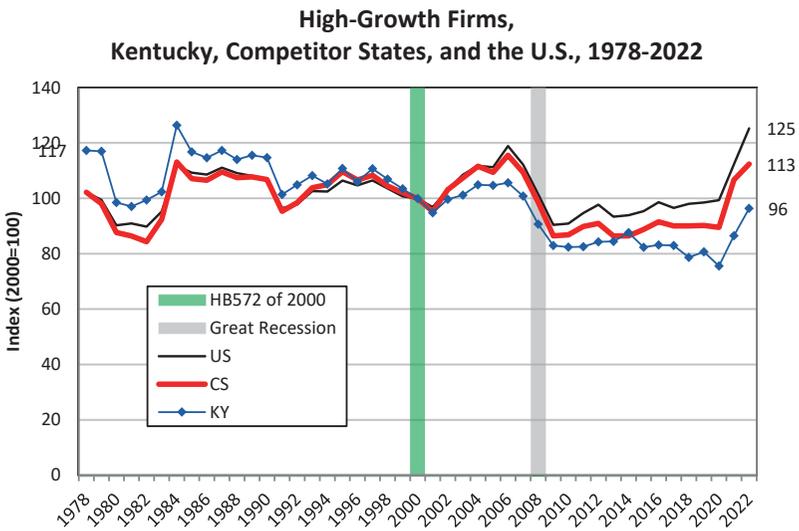
Kentucky High-Growth Firms by Sector, 2020-2022
(based on 20,539 high-growth firms)



Source: Author’s analysis of U.S. Census Bureau, *Business Dynamics Statistics of High Growth* data, available at: <https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html> <bds2022_gr_st_sec.csv>, downloaded 2/17/2025.

HIGH-GROWTH FIRMS, INDEXED (KY, CS, US)

High-growth firms are important because a small number of high-growth firms contribute disproportionately to economic development (Motoyama, *et al.*, 2024). Policy makers across the country recognize the importance of innovative high-growth businesses for advancing economic growth. In Kentucky, a legislative act two-and-a-half decades ago laid the foundation for innovation and economic change—the Kentucky Innovation Act of 2000 (House Bill 572). There were several facets to this bill, including the creation of what is currently known as the Kentucky Innovation Hubs. This is a network of six regional centers across the state with “the purpose of driving economic development through entrepreneurship and innovation” (Kentucky Science and Technology Corporation, 2025). The goal of this network is to facilitate the creation, growth, and development of high-growth firms. The chart below shows that, in Kentucky, the number of high-growth firms began to increase four to six years after HB572 passed in 2000 (indicated by the green vertical bar), albeit at a lower rate than the competitor states and the U.S.; the data are indexed so that the year 2000 equals 100. Unfortunately, the Great Recession (indicated by the gray bar) marks a turning point with several years of flat or minimal change in the index, especially in Kentucky.

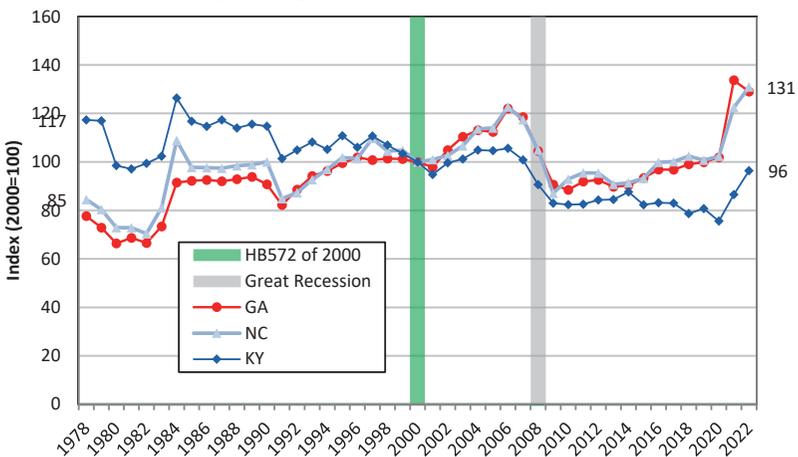


Source: Author's analysis of U.S. Census Bureau, Business Dynamics Statistics of High Growth data, available at: <https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html>, downloaded 2/17/2025.

HIGH-GROWTH FIRMS, INDEXED (KY, GA, NC)

Georgia and North Carolina provide interesting comparisons to Kentucky for at least two reasons: both are “competitor states” for economic development opportunities, and both are higher performing with respect to their share of high-growth firms. One ranking of high-growth firms as a share of all firms places Georgia at 10th, North Carolina at 19th, and Kentucky at 38th (Kim, *et al.*, 2024). Based on the indexes below, the growth shown by Georgia and North Carolina is notable; their index values increased from around 80 in 1978 to about 130 in 2022 (2000 = 100). Meanwhile, and perhaps ironically, Kentucky’s index value hovered just above 100 before the Kentucky Innovation Act of 2000, and mostly below it since then. This, of course, raises the question: what accounts for the better performance of Georgia and North Carolina over the last four-and-a-half decades? We do not answer the question here, but undoubtedly the remarkable growth and development of Charlotte and Atlanta as major metropolitan economic engines play a significant role. A 2018 Brookings city-level analysis of *Inc. 5000* firms identifies factors associated with fast-growing businesses, such as “a well-educated workforce, a concentration of high-tech activity, a critical mass of mid-career professionals, and an experience-base and culture that is oriented towards entrepreneurship.”

High-Growth Firms,
Kentucky, Georgia, and North Carolina, 1978-2022

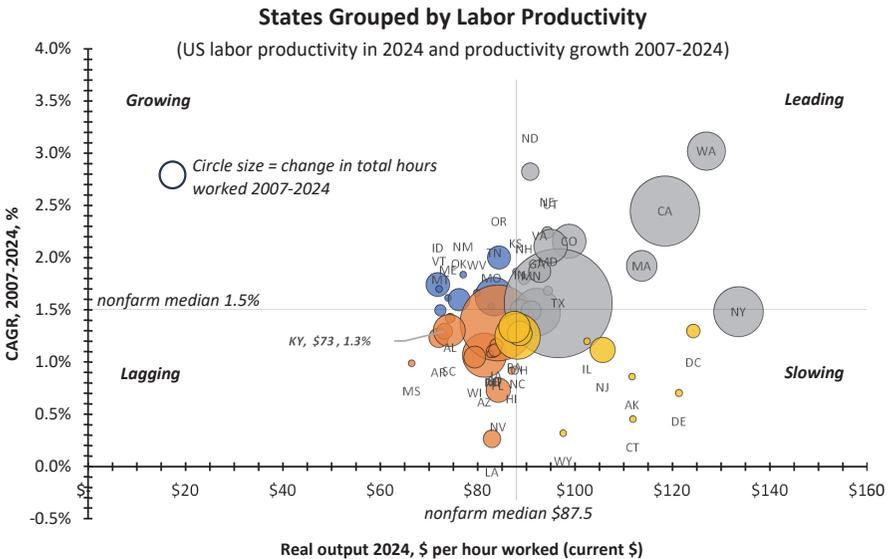


Source: Author's analysis of U.S. Census Bureau, Business Dynamics Statistics of High Growth data, available at: <https://www.census.gov/programs-surveys/ces/data/public-use-data/experimental-bds/bds-high-growth/data.html>, downloaded 2/17/2025.

PRODUCTIVITY

Economic productivity is the ratio between inputs and outputs of goods and services. It is driven by three main factors: human capital (e.g., education, skills, and training of workers), physical capital (e.g., machines, automation), and technological progress (e.g., improved methods, technologies, and processes). Increases in labor productivity helped fuel American economic prosperity in the post-WWII era by increasing output in goods and services from 1947 to 2013 by a factor of nine with only marginal increases in hours worked (BLS). Policymakers are interested in boosting productivity because it is “the most consequential determinant of long-term economic growth and substantive improvements in individual living standards,” (Congressional Research Service, January 2023). Moreover, increasing labor productivity is tightly linked to increases in real (i.e., inflation-adjusted) wages for workers. Furthermore, with respect to the states, productivity levels and increased productivity over time are important signals about workforce quality and business environments. Indeed, economists find that higher levels of educational attainment and economic innovation are the two most important factors affecting a state’s economic success, and, year after year, corporate leaders indicate that “the availability of skilled labor” is the most important factor driving their site selection decisions (*Area Development*

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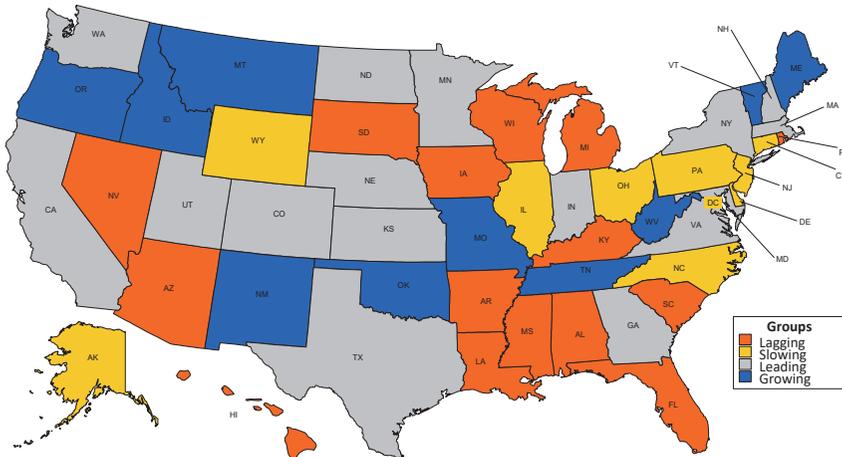


PRODUCTIVITY

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Magazine, Annual Surveys, various years). At the national level, labor productivity has slowed in the last 15 to 20 years. According to a 2023 McKinsey report, *Rekindling US Productivity for a New Era*, U.S. labor productivity increased at an average rate of 2.2 percent from 1948 to 2019, but only 1.4 percent from 2005 to 2019. At the state level, there are significant differences in labor productivity levels and rates of change. For example, New York has the highest real output per hour worked (\$134) and Mississippi has the lowest (\$66). And, with respect to changes over time, Washington increased at an average annual rate of 3.0 percent from 2007 to 2024, but Louisiana *decreased* by an average annual rate of 0.3 percent. Kentucky’s economic output per hour (\$73.2) is below the national median (\$87.5) and has grown at a slower rate than the national median of 1.5 percent. Using the method and approach of the McKinsey report, but with more current data, we categorize states according to labor productivity growth over a seventeen-year period and output (per hour worked) in 2024. There are four groups of states: *Growing*—states moving up from a smaller base (e.g., TN); *Lagging*—states falling behind (e.g., KY); *Leading*—states “pulling away” (e.g., WA); and *Slowing*—states falling back from a higher level (e.g., DE).

Four Groups of States Based on Labor Productivity



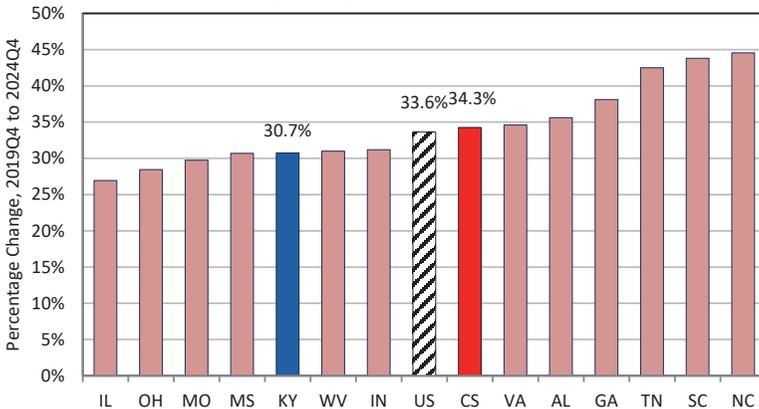
Source: Estimated by the author using productivity data from the U.S. Bureau of Labor Statistics, Office of Productivity and Technology, data released May 29, 2025

WAGE & SALARY CHANGE BY STATE

Private sector growth of *total* wages and salaries in a state over time is indicative of its economic energy. During a global pandemic, the trajectory of private sector wage growth is also indicative of a state’s economic resiliency. Here we look at the growth from just before the pandemic, 2019Q4, to the end of 2024 (Q4). Over this five-year period, *total* (nominal) wages and salaries in the U.S. were 33.6 percent higher. In our region of the country, North Carolina’s 44.5 percent increase led the way. Meanwhile, Kentucky’s total wage and salary levels are up 30.7 percent, below the U.S. (33.6%) and competitor state (34.3%) averages. On the national level, Idaho has the highest wage and salary growth during this period—registering an enviable 58 percent increase—while North Dakota experienced the lowest increase (22.7%).

Economy

**Wage and Salary Change,
2019 (Q4) to 2024 (Q4),
Kentucky, Competitor States & the U.S.**

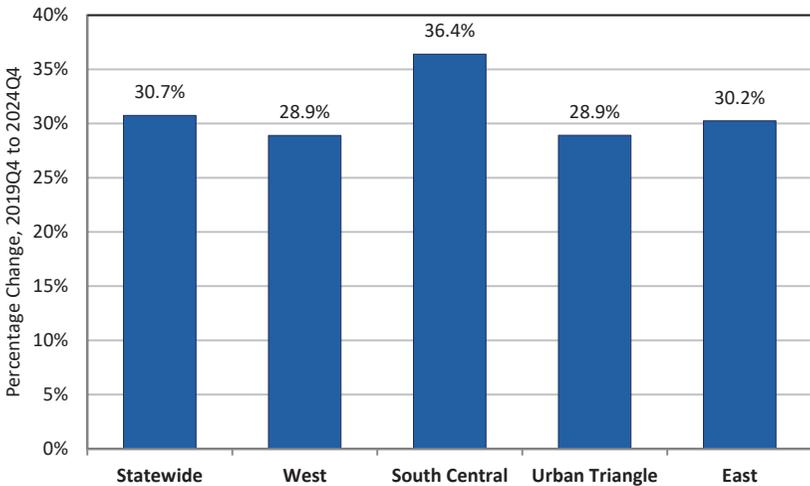


Source: Author’s calculations using data from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages (private, all industries, all sizes). The U.S. estimate is constructed from state data.
Note: CS is a weighted average of the competitor states

WAGE & SALARY CHANGE BY KENTUCKY REGION

The growth of total private wages and salaries in Kentucky and its regions is shown below. From just before the pandemic’s emergence (2019Q4), to the end of 2024, there is variation across the Commonwealth’s regions. The state’s economic engine—the Urban Triangle—experienced a 28.9 percent increase (a county-level map of these four regions is available in the glossary). Similarly, Western Kentucky also experienced an increase of 28.9 percent and Eastern Kentucky demonstrated a 30.2 percent improvement. The largest increases in wages and salaries, however, was in the South Central region, evidenced by a 36.4 percent jump.

Wage and Salary Change in Kentucky Regions, 2019 (Q4) to 2024 (Q4)

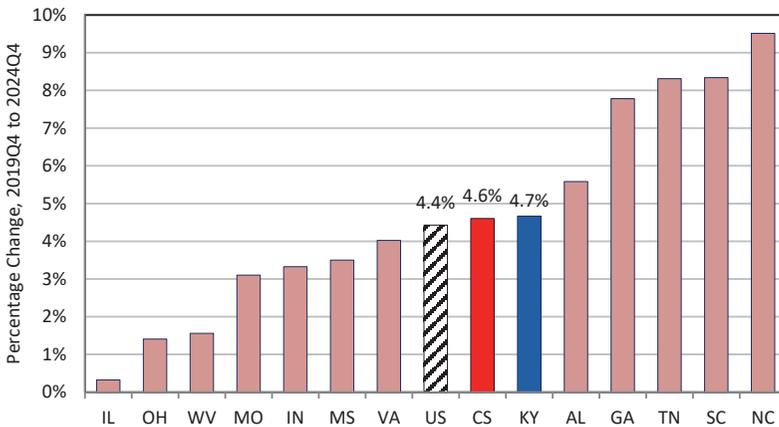


Source: Author’s calculations using data from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages (private, all industries, all sizes). See glossary for map of Kentucky regions by county.

EMPLOYMENT CHANGE BY STATE

The change in private sector *total* employment is indicative of a state’s economic energy and resiliency. Here we look at the changes from the last quarter of 2019, which was just before the onset of the pandemic, to the last quarter of 2024; the COVID-19 Pandemic was officially declared over in May of 2023. Over the five-year period captured in the graph, *total* employment in the U.S. increased 4.4 percent. Of Kentucky’s competitor states, Illinois experienced the smallest increase during this period, 0.3 percent. Meanwhile, Kentucky’s total employment was up 4.7 percent. On the national level, Hawaii experienced the largest employment decline (-3.5%), while Idaho *increased* employment by 15.9 percent.

**Employment Change,
2019 (Q4) to 2024 (Q4),
Kentucky, Competitor States & the U.S.**

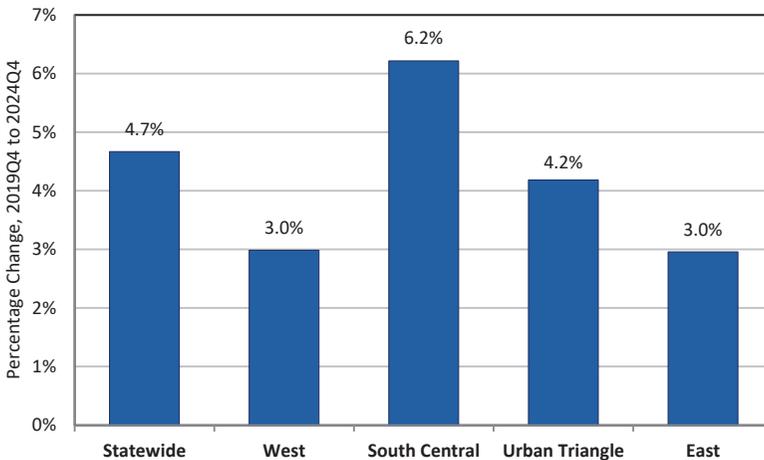


Source: Author’s calculations using data from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages (private, all industries, all sizes). The U.S. estimate is constructed from state data.
 Note: CS is a weighted average of the competitor states

EMPLOYMENT CHANGE BY KENTUCKY REGION

The West and East regions of Kentucky have lagged behind the rest of the state in recovering jobs lost during the pandemic. From the final quarter in 2019, which was just before the pandemic hit, to the fourth quarter of 2024, a five-year period, total private sector employment increased in Kentucky by 4.7 percent. All of the regions in Kentucky, except the South Central region, increased at rates between 3 and 4.2 percent. The South Central region, meanwhile, increased by 6.2 percent.

Employment Change in Kentucky Regions, 2019 (Q4) to 2024 (Q4)



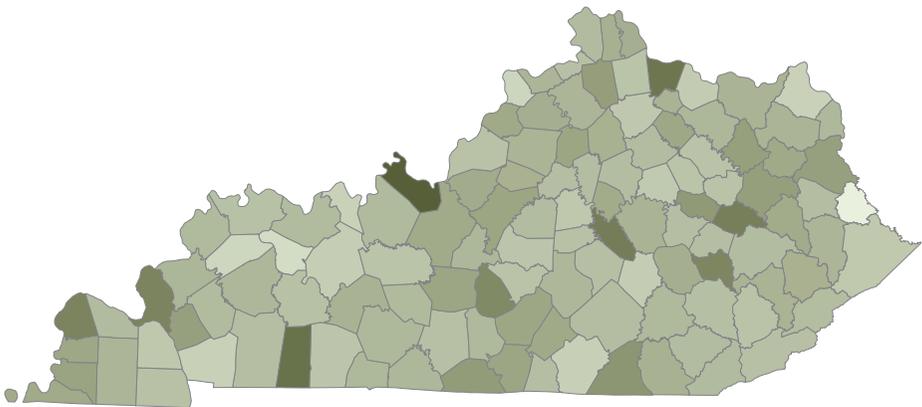
Source: Author's calculations using data from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages (private, all industries, all sizes). See glossary for map of Kentucky regions by county.

WAGE & SALARY CHANGE BY KENTUCKY COUNTY

There is substantial variation across the Commonwealth in changes of *total* private sector wages and salaries experienced at the county level from just before the pandemic to five years after it. The growth or decline of wages at the county level from the last economic quarter before the pandemic (i.e., 2019Q4) to the fourth quarter of 2024 is shown below in the county-level map. Martin County, located in Eastern Kentucky along the border with West Virginia, suffered through a 23 percent decline, while Meade County, located near Elizabethtown and Ft. Knox, enjoyed a 120 percent increase. The statewide average during this five-year period was nearly 31 percent.

Wage and Salary Change by County, Five Years After the Pandemic Began

(percentage change, 2019 Q4 to 2024 Q4)

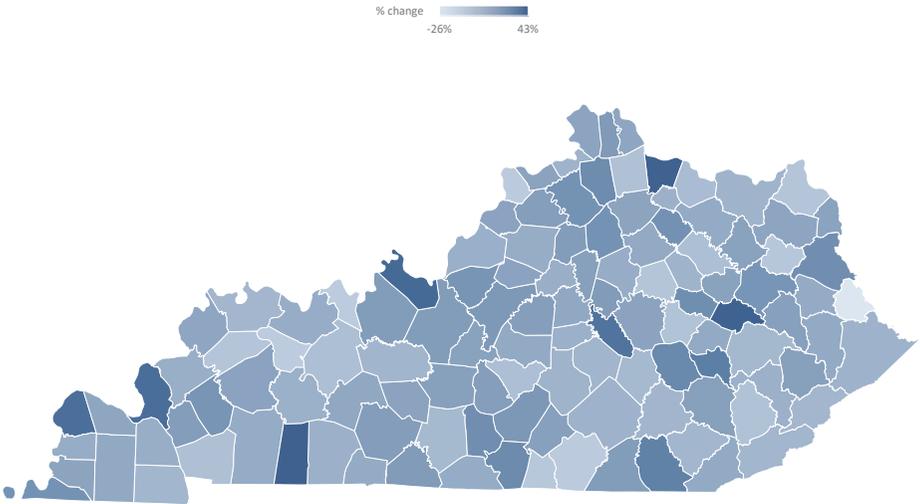


Source: Author's calculations using data from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages (private, all industries, all sizes).

EMPLOYMENT CHANGE BY KENTUCKY COUNTY

Similar to the pattern seen in the wage changes across the state (see the facing page), there has been significant variation across the Commonwealth in how individual counties have fared with respect to employment changes during and after the pandemic. The growth or decline of employment at the county level from the last economic quarter before the pandemic (i.e., 2019Q4) to the fourth quarter of 2024 is shown below in the county-level map. Martin County, which also experienced the state’s large wage and salary decline, has absorbed a 26 percent decline in total employment. Todd County, situated near Ft. Campbell along the Tennessee border, enjoyed a 43 percent increase—the state’s largest. The statewide average during this five-year period was 4.7 percent.

**Employment Change by County,
Five Years After the Pandemic Began**
(percentage change, 2019 Q4 to 2024 Q4)

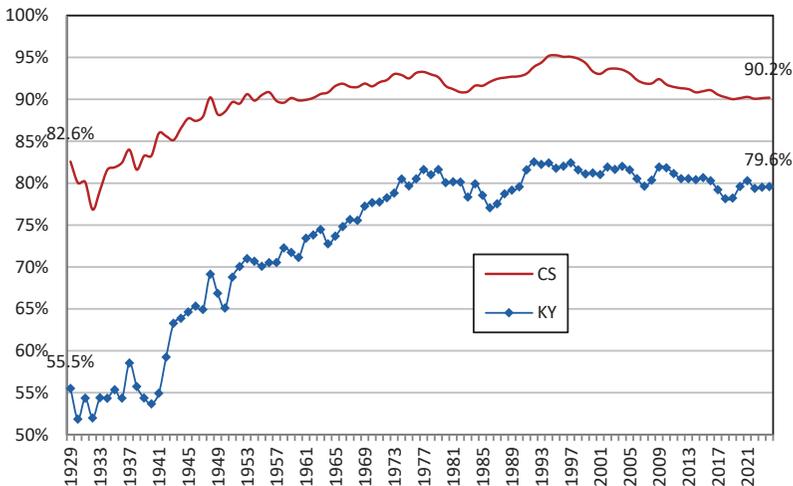


Source: Author’s calculations using data from the Bureau of Labor Statistics, *Quarterly Census of Employment and Wages* (private, all industries, all sizes).

PER CAPITA PERSONAL INCOME

While Kentucky’s per capita personal income has grown significantly over the years, its position relative to the nation has not demonstrably improved since around 1974. Indeed, Kentucky’s per capita income has oscillated around 80 percent of the national average since the mid-1970s. In 2024 it was just under 80 percent of the U.S. average while the average of the competitor states was just over 90 percent. Lagging growth in per capita income has kept Kentucky ranked in the bottom tier of states (i.e., 46th in 2024). Within Kentucky, there are marked differences between urban, somewhat rural, and mostly rural counties—as reflected in their respective 2023 per capita income levels of approximately \$61,400, \$47,400, and \$44,100.

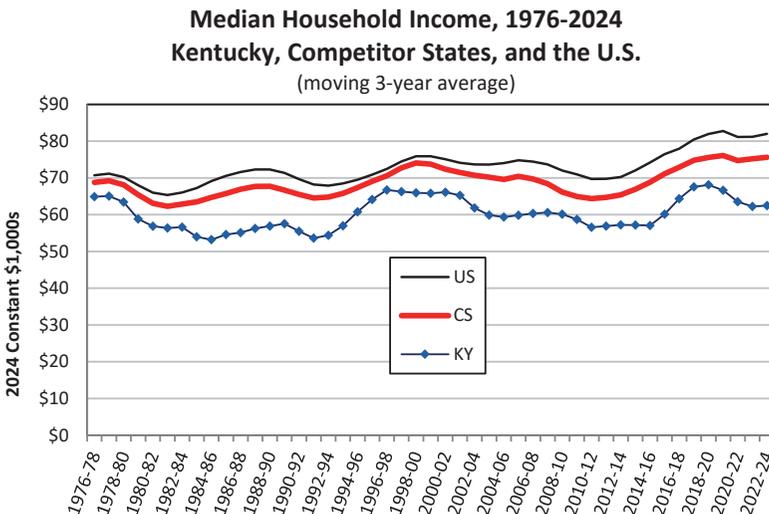
Per Capita Personal Income as a Percentage of the U.S. Average, Kentucky and Competitor States, 1929 to 2024



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Table SAINC1

HOUSEHOLD INCOME

At about \$64,500, median household income in Kentucky is about 72 percent of the U.S. median; by comparison, the competitor states median is 92 percent of the U.S. median. The median level is the point at which half the households are lower, and half are higher. In real dollars, Kentucky’s median household income has been trending downward for the last few years; real dollars factor out inflation and are expressed as constant dollars. Researchers at MIT estimate that, in Kentucky, two working parents with one child need to earn about \$79,700 a year for a living wage. This assumes both parents work full-time, 2,080 hours per year, and each earn \$19.16 per hour. About 58 percent of the households in Kentucky *do not* generate sufficient income to meet living wage standards given the state’s average cost of living. The U.S. Census Bureau estimates that the average family size in Kentucky is 3.1 people. Similarly, according to the Census Bureau’s American Community Survey estimates, about 1.1 million Kentucky households made less than \$75,000 in 2024, which is around 57 percent of the households.

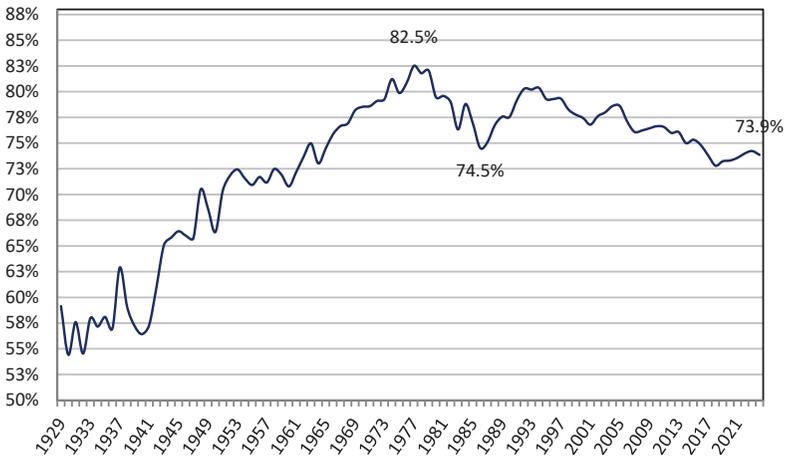


Source: Author’s analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

NET EARNINGS PER CAPITA

Because net earnings is the portion of personal income that does not include transfer payments from various social assistance or public welfare programs or income from dividends, interest, or rent, it is a good indicator of the underlying economic vitality of a state, county, or region. Kentucky’s net earnings per capita relative to the U.S. average increased steadily from 1929 to 1977; it hit its high point of 82.5 percent in 1977. Since 1977, Kentucky’s net earnings per capita relative to the U.S. has dropped and is currently just under 74 percent. This places Kentucky at 46th compared to other states and DC. Kentucky’s current net earnings per capita is \$32,784, significantly below the highest state, Massachusetts (\$60,010) but above the lowest state, Mississippi (\$28,950). The District of Columbia (DC) has net earnings per capita even higher than Massachusetts, at \$74,440.

Net Earnings Per Capita in Kentucky as a Percentage of the U.S. Average, 1929 to 2024



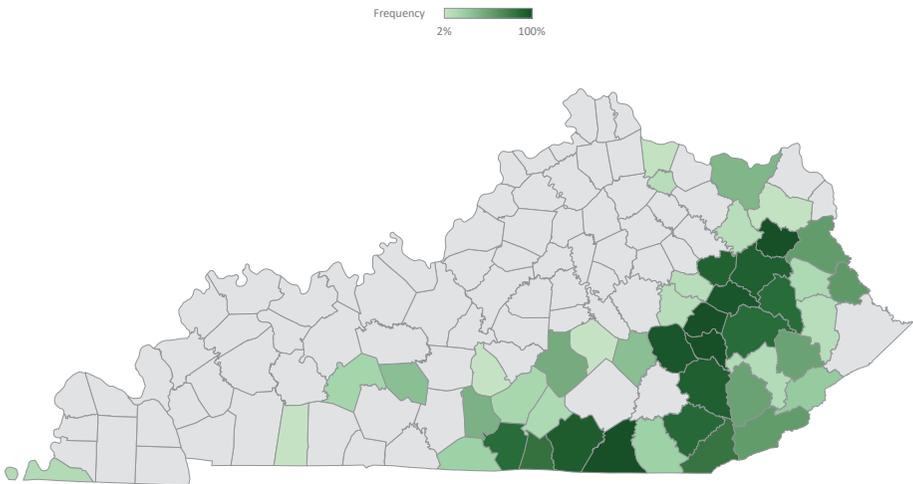
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Table SAINC4 Personal income and employment by major component.

NET EARNINGS PER CAPITA BY COUNTY

When President Johnson’s War on Poverty was gathering steam in late 1960s, 25 of Kentucky’s 120 counties had per capita net earnings placing them in the bottom five percent of the 3,000-plus counties in the United States. As we note on the previous page, net earnings is the portion of personal income that does not include transfer payments from various social assistance or public welfare programs or income from dividends, interest, or rent, and therefore is a good indicator of the underlying economic vitality of a region. By 2022—54 years later—18 of these counties, or 72 percent, were still in the bottom five percent. Nearly half of the counties nationally (42%) and in the dozen nearby competitor states (34%) that were in the bottom five percent in 1969 were still there in 2022. The map below illustrates this trend somewhat differently by highlighting counties that have consistently been in the bottom five percent of counties since 1969. There are 15 counties that have this distinction in at least 44 of the last 55 years (or 80 percent of the time from 1969 to 2023), highlighted by the darker green shading in the county map below. While most of these persistently poor counties are in Eastern Kentucky, the map also shows several counties in the south central part of the state. The counties colored in gray have not been in the bottom five percent during the time period of 1969 to 2023.

The Persistence of Poverty, 1969 to 2023

The percentage of years over the last fifty-five when a Kentucky county was in the bottom five percent nationally for net earnings per capita. (percentages range from 2% to 100%, lighter to darker green)

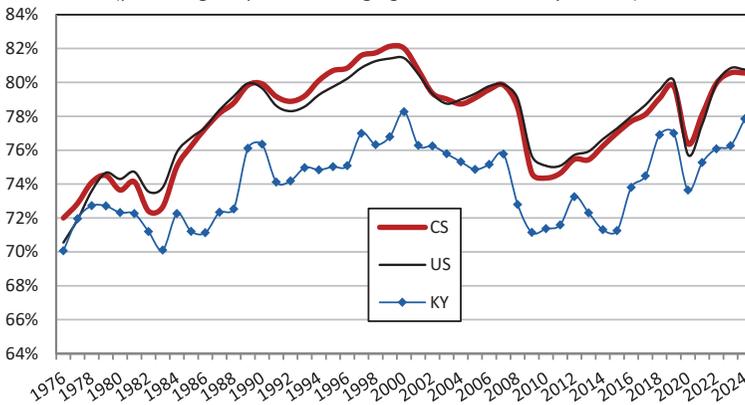


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EMPLOYMENT-POPULATION RATIO

This ratio is the proportion of the civilian non-institutional population that is employed, and it turned down sharply during the pandemic. According to the U.S. Department of Labor, Bureau of Labor Statistics (BLS), some believe the employment-population ratio is a better indicator of economic activity and economic performance than the more frequently referenced unemployment rate. Here, we focus on the prime working-age population, which includes those individuals between 25 to 54 years old. In 2024, Kentucky had one of the lowest employment-population ratios in the country at 77.9 percent. In fact, there are only two states with a ratio that is statistically significantly lower (LA & WV); there are 14 states statistically the same as Kentucky while the remaining 33 states and DC are statistically higher. In 1976, Kentucky and the United States had nearly identical employment-population ratios for this age group at about 70 percent. Since that time, as evidenced in the figure below, both the competitor states and the U.S. have employment-population ratios consistently higher than Kentucky. Key factors necessary for increasing the economic growth rate, both in Kentucky as well as in the U.S. overall, are to draw more individuals into the labor force (i.e., increasing the employment-population ratio) and maximizing their overall productivity.

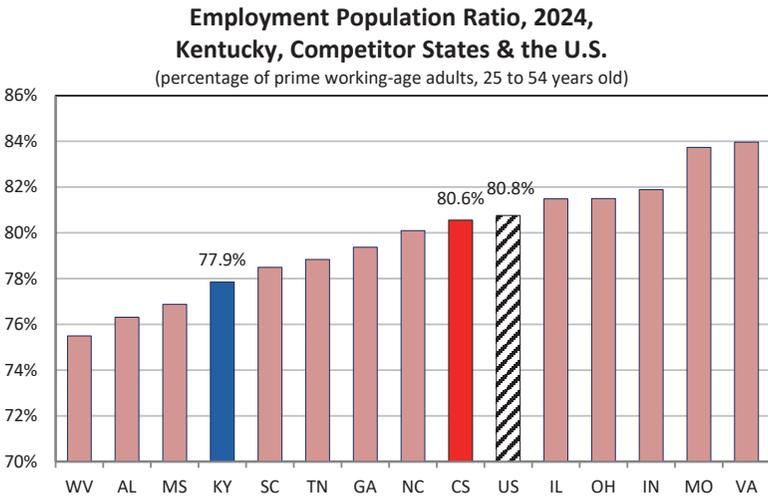
Employment-Population Ratio, Kentucky, Competitor States, and the U.S., 1976 to 2024
(percentage of prime working-age adults, 25 to 54 years old)



Source: Author's analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS Basic Monthly, Jan. 1976 to Dec. 2024]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

EMPLOYMENT-POPULATION RATIO

West Virginia is the only competitor state with a (statistically significant) lower employment-population ratio than Kentucky among the prime working-age adults (25 to 54 years old). Alabama, Georgia, Mississippi, South Carolina and Tennessee, as well as the competitor state and U.S. averages, are statistically no different from Kentucky. Meanwhile the balance of the competitor states are statistically higher. Louisiana has the lowest employment-population ratio for prime working-age adults in the U.S. (74.9%) while South Dakota has the highest (87.6%). A key for Kentucky's future economic growth is to identify and successfully implement programs that increase the employment-population ratio, particularly for prime working-age adults. These strategies include, but are not limited to, increasing the transition from high school to post-secondary education, improving the skills of non college-educated workers, addressing the substance abuse problem, focusing on family-friendly workplace policies, like child care, and embracing equity issues outlined in the equity section of this report.

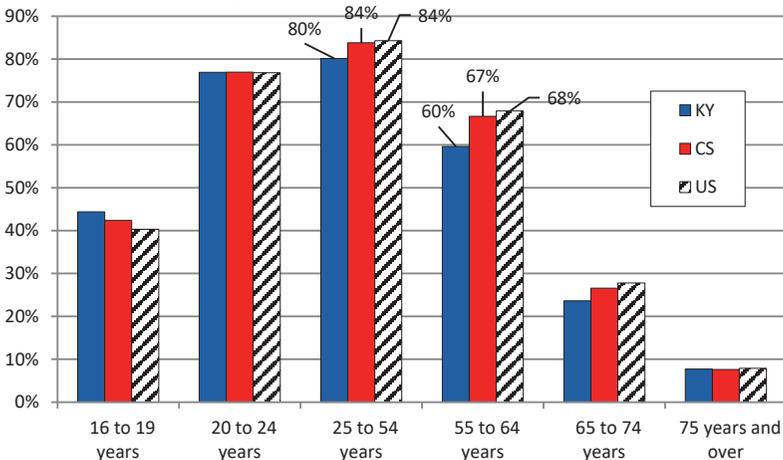


Source: Author's analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS Basic Monthly, Jan. 1976 to Dec. 2024]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

LABOR FORCE PARTICIPATION

The labor force participation rate is the proportion of the civilian noninstitutional population that is in the labor force, which is slightly different from the employment-population ratio described on the previous pages. The labor force is comprised of individuals who are employed *as well as* individuals who are unemployed but searching for a job. The national labor force participation rate increased from around 60 percent in 1970 to about 67 percent in 2000, driven in large part by the increased participation of women. In 2024, the U.S. labor force participation rate for individuals 16 and older was 64 percent and Kentucky’s was 60.2 percent. Kentucky’s labor force participation rate for those 20 to 24 looks very similar to both the competitor states and the U.S. However, the labor force participation rate for Kentuckians 25 to 54—the prime working years—is 80.2 percent compared to 84.3 percent for the United States. And, in the 55 to 64 age group, Kentucky is significantly lower, as evidenced in the chart below.

Labor Force Participation by Various Age Groups, Kentucky, Competitor States, and the U.S., 2024
(percent of individuals in the labor force)



Source: U.S. Census Bureau, 2024 American Community Survey 1-Year Estimate, Table S2301

MAIN REASON FOR NOT WORKING

Individuals express a variety of reasons for not working, but the most frequent responses have to do with family responsibilities—including not having child care. Using U.S. Census, Current Population Survey data, we examine the *main* reasons given by prime working-age adults, 25 to 54 years old, who want a job but did not look for work in the previous four weeks. Focusing on the U.S. results, 28.1 percent cited either family responsibilities or no child care; the Kentucky responses are statistically no different from the U.S. or the competitor states. Other reasons given include they “couldn’t find any work,” (13.4%), had “ill-health or disability” (11.0%), and they did not have the skills employers were looking for (real or perceived); an estimated 6.4 percent indicated an expertise mismatch and 1.6 percent said inadequate education or training. Across the board, in the U.S., Kentucky, and the competitor states, over forty percent cited a family issue, a skill deficiency, or a health problem as the *main* reason. These responses are to the CPS Monthly surveys over a 57-month period, from November 2020 to August 2025 (the May 2023 CPS survey is not included) .

Main Reason for Not Being in the Work Force, U.S., Competitor States, and Kentucky, 2020-2025 (prime working-age adults)			
Adults, 25 to 54 years old	US (%)	CS (%)	KY (%)
Believes no work available in area of expertise	6.4	5.3	4.2
Couldn't find any work	13.4	14.1	12.2
Lacks necessary schooling/training	1.6*	1.8*	0.4
Discrimination of some type (e.g., race, age, sex)	0.4	0.4	0.5
Can't arrange childcare	4.8	5.3	4.6
Family responsibilities	23.3	22.9	22.5
In school or other training	6.7*	6.7*	3.9
Ill-health, physical disability	11.0	11.8*	8.0
Transportation problems	2.6*	3.8	5.4
Other	29.6*	28.0*	38.3

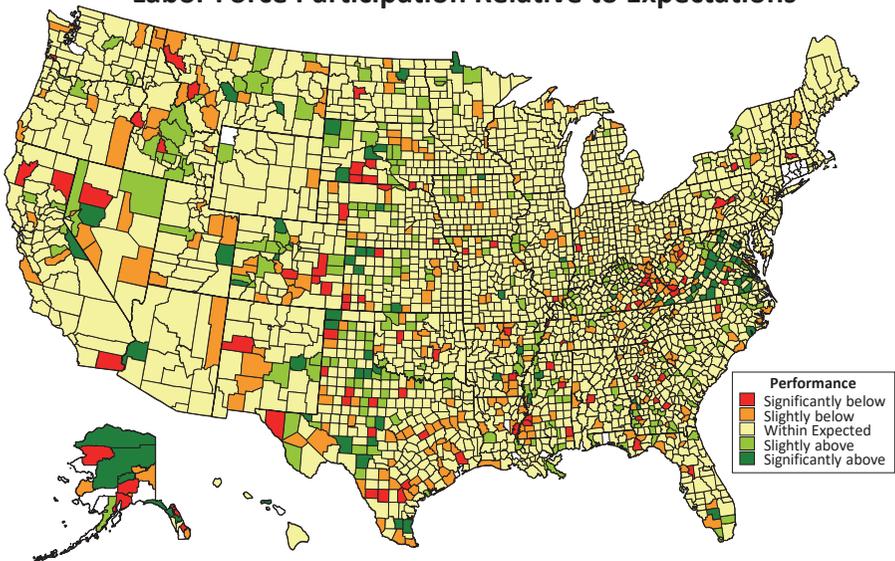
Source: Authors' analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [November 2020 to August 2025 (May 2023 excluded)]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

**These percentages are statistically different from the Kentucky percentages (alpha=.05).*

LABOR FORCE PARTICIPATION RELATIVE TO EXPECTATIONS

Many economic development professionals believe that increasing Kentucky’s labor force participation rate is an essential step for bringing prosperity to the state’s persistently poor communities. Some counties, of course, have labor force participation rates that exceed the national rate, while others rank in the bottom tier nationally. There are many reasons for this, some of which we discuss on the preceding pages. Using the 2023 county-level labor force participation rates, we generate estimates of what one would *expect* given a number of factors that include, but are not limited to, urbanity, age distribution, disability, education, economic structure, and whether it faces deep disadvantages. We describe the last factor, the Index of Deep Disadvantages, in the Economic Security section of this report (see page 87). Based on these factors, we use a multiple regression state fixed-effects model to generate estimates of expected labor force participation. By comparing the *expected* rates to *actual* rates, we can classify a county on the basis of whether it under- or over-performs, and by how much. Fewer than two percent of the counties nationally perform *significantly* above expectations, and Taylor County is one of the 62 that do (another four Kentucky counties perform *slightly* above expectations). It is possible, with additional research, to uncover lessons from counties that perform above expectations to help elevate others.

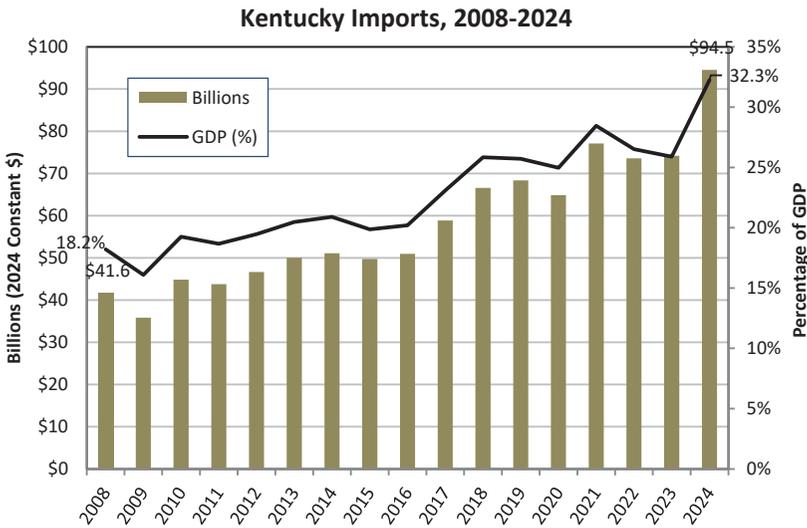
Labor Force Participation Relative to Expectations



Note: Expectations are model-based estimates produced by the author. See the Notes & Sources section for details.

IMPORTS

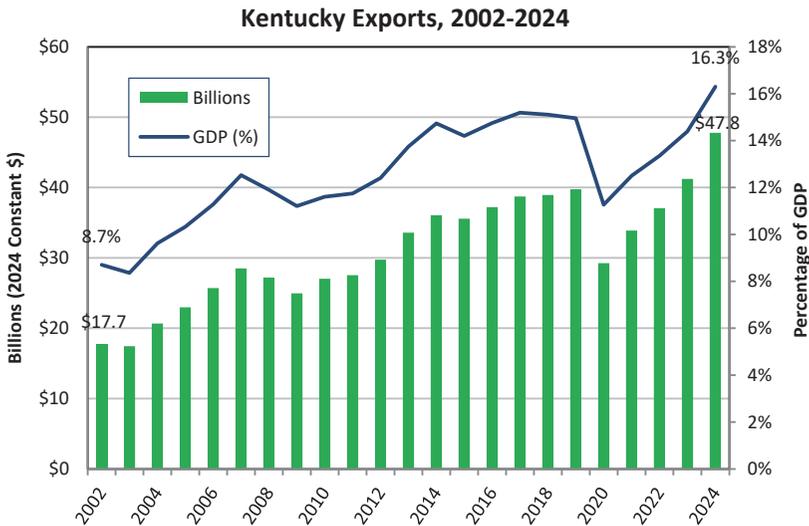
Kentucky’s economy is tightly integrated into the system of international trade. Using gross domestic product (GDP) as the backdrop, an imperfect but useful metric for comparing trade exposure on a state-by-state basis, the National Association of Realtors (NAR) has found that the Kentucky economy is “deeply integrated into global supply chains on both ends” (Evangelou, 2025). The assessment shows that Kentucky ranks first in imports and third in exports as a percentage of GDP. They note that “with robust manufacturing logistics, the state has become a key player in facilitating the movement of goods across borders.” The value of Kentucky’s imports has more than doubled since 2008, from \$41.6 billion to \$94.5 billion in 2024 (in constant dollars). When compared to the state’s GDP, the value of these imports increased from 18.2 percent to 32.3 percent. The GDP percentage should be viewed as a general barometer of exposure. This is because goods often cross borders multiple times during production (e.g., car parts manufactured across states and countries), so the import-export numbers may not represent the final value created in a state. In 2024, Kentucky’s top four 3-digit NAICS sectors accounted for 76 percent of total imports: 325—Chemicals (38%); 334—Computer & Electronic Products (18%); 336—Transportation Equipment (13%); and 333—Machinery, Except Electrical (7%).



Source: International Trade Administration, TradeStats Express-National and State Trade Data, <<https://www.trade.gov/report/tradestats-express-national-and-state-trade-data>>, and U.S. Bureau of Economic Analysis, <<https://www.bea.gov/data/gdp/gdp-state>>.

EXPORTS

Exports have helped to fuel the state’s economic prosperity. Kentucky’s exports of goods have more than doubled in real dollars over the last two decades. From 2002 to 2024 the compound annual growth rate of Kentucky’s exports is 7 percent, which exceeds the U.S. (5.1%) and competitor states (5.2%). The pandemic hit the export sector hard, evidenced by a sharp decline in 2020. The value of Kentucky’s exports of goods increased in 2024 to \$47.8 billion, which is equivalent to 16.3 percent of Kentucky’s gross domestic product. In 2024, most of Kentucky’s exported goods went to Canada, which accounted for 19.5 percent of the total. The United Kingdom accounts for about 10.3 percent, followed by France (9.9%), China (9.0%), and Mexico (8.7%). Kentucky’s businesses exported to nearly 200 different countries in 2024, but the top five and top ten countries received 58 percent and 79 percent, respectively, of the total value. Some traditional Kentucky products, like “beverages & tobacco products,” which includes distilled products like bourbon, accounted for \$761 million in exports, or 1.6 percent of the total. However, 53.4 percent of the value of exported goods is accounted for by 336—Transportation Equipment (e.g., aerospace and motor vehicle industries), followed by 325—Chemicals (13.9%), 334—Computer and Electronic Products (7.6%), and 333—Machinery-Except Electrical (6.6%).

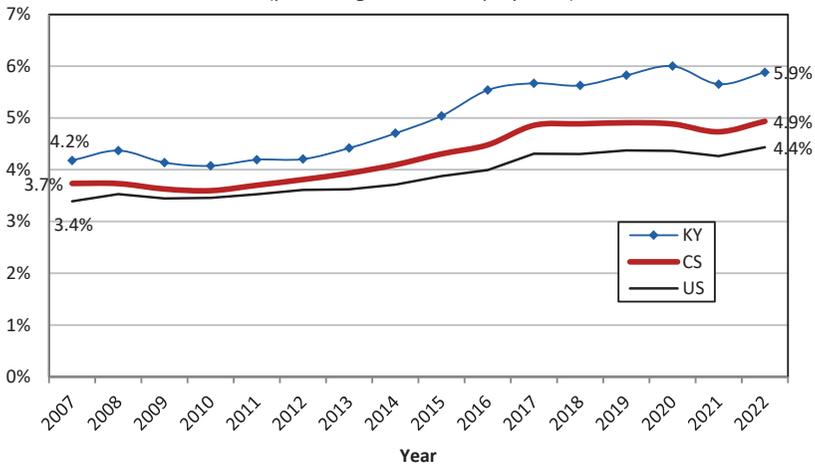


Source: International Trade Administration, TradeStats Express-National and State Trade Data, <<https://www.trade.gov/report/tradestats-express-national-and-state-trade-data>>, and U.S. Bureau of Economic Analysis, <<https://www.bea.gov/data/gdp/gdp-state>>.

EMPLOYMENT BY FOREIGN COMPANIES

Foreign companies create important economic benefits for the American economy. These companies invest billions of dollars in the U.S. economy and create hundreds of thousands of jobs. Kentucky has worked hard to capitalize on the opportunities presented by globalization—reflected by the presence in the state of more than 400 international companies from nearly 30 countries. A U.S. affiliate is an American business enterprise in which there is a foreign direct investment that accounts for some of the ownership. In Kentucky, there are an estimated 155,100 individuals employed by U.S. affiliates. This equates to 5.9 percent, as a percentage of total employment, in Kentucky. This is higher than the U.S. average of 4.4 percent, as well as the competitor state average of 4.9 percent. The percentage of employment by foreign companies has been increasing since at least 2007.

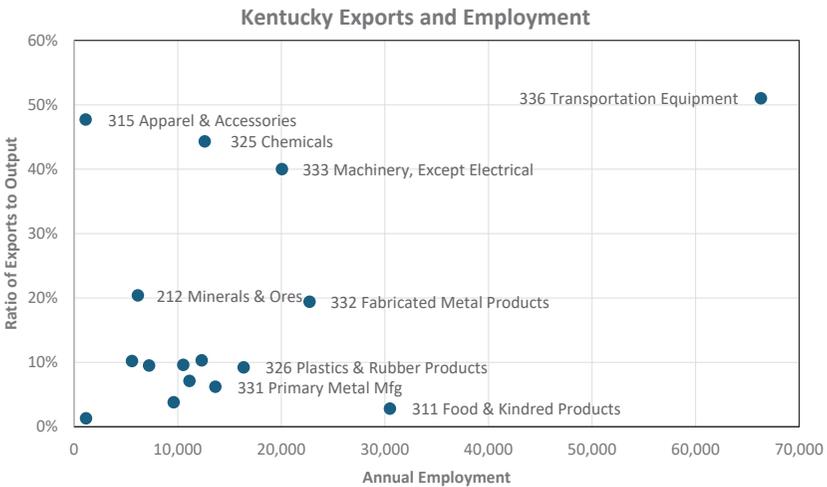
**Employment by All U.S. Affiliates, 2007 to 2022,
Kentucky, Competitor States, & the U.S.**
(percentage of total employment)



Source: Author's calculations using data from the Bureau of Economic Analysis, Regional Economic Accounts & International Data. Note: CS is a weighted average of the competitor states

TRADE EXPOSURE

This chart provides insights into the relative exposure of Kentucky’s economic sectors to the vagaries of international trade. The flurry of on-again, off-again trade tariffs in 2025 has exposed Kentucky businesses to intense and unexpected uncertainties that can paralyze planning, stunt revenue growth, and jeopardize jobs. We examine the nexus of two important dimensions: *exports relative to output* and *employment*. Each point represents an economic sector, like Transportation Equipment (NAICS 336), which employs over 66,000 and accounts for 53 percent of the state’s exports. This level of trade accounts for just over half of the output of the sector (51%). Three large subsectors in this category are Motor Vehicles (3361), Motor Vehicle Parts (3363), and Aerospace Products & Parts (3364). While Transportation Equipment has the largest exposure, there are other sectors, as shown in the chart, that have nontrivial exposure to one or both dimensions. The Computer & Electronic Products sector (334), which accounts for 7.6 percent of total exports (the third highest in 2024), is not shown because employment data are not available. In short, businesses and economic sectors have varying exposure to the tariff vicissitudes depending on their embrace of the global economic system.

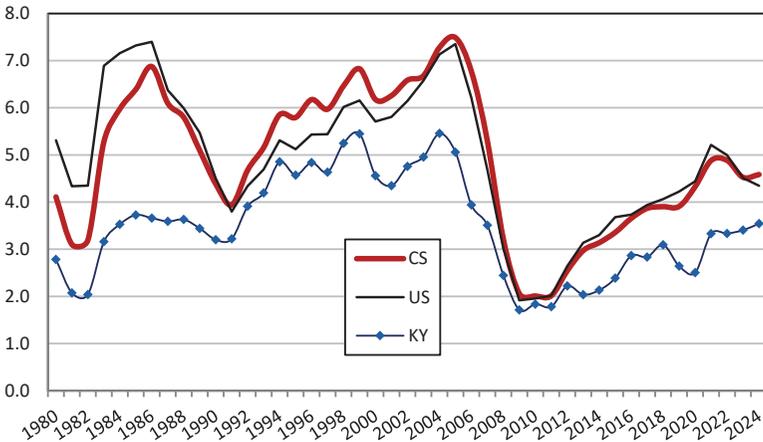


Sources: US Census Bureau. USA Trade Online. IMPLAN Data Library 2023, US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

HOUSING STARTS

A housing start occurs when a new foundation is laid. Because housing starts represent the first step in a series of cascading future purchases, such as furniture, appliances, and landscaping, a housing start is considered a leading economic indicator and a foundation of determining future economic trends. Going back to 1980, Kentucky’s housing starts peaked in 2004 with 22,623 and declined steadily until hitting its nadir of about 7,400 in 2009. Following the U.S. and competitor state trend, Kentucky housing starts have stabilized since then and increased to around 16,260 in 2024. In Kentucky, single family homes accounted for about 8,900 of the new starts in 2024, or about 55 percent of home construction starts. *The Wall Street Journal* reported in a May 2018 article, entitled “Rural America Has Jobs. Now It Just Needs Housing,” that a lack of housing across *rural* America has become an obstacle for economic development and growth. A 2025 Pew report suggests little has changed, it notes that “the rural housing shortage eclipsed 456,000 units in 2022 and resulted from a lack of new construction, mounting home repair needs, and difficulties obtaining mortgage financing.” Increasingly, new housing is being built in urban areas, not rural regions. And rural areas face new difficulties recruiting new industry and keeping younger workers because of insufficient housing stock.

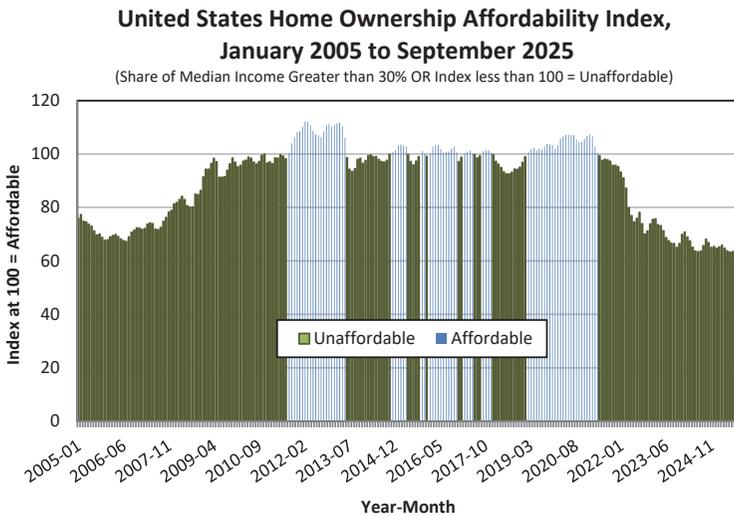
**Number of New Residential Housing Units,
Kentucky, Competitor States, and the U.S., 1980 to 2024**
(Per 1,000 Population)



Source: U.S. Census Bureau, Building Permits Survey, Permits by State
<<https://www.census.gov/construction/bps/statemonthly.html>>.

HOME OWNERSHIP AFFORDABILITY MONITOR

The Federal Reserve Bank of Atlanta’s *Home Ownership Affordability Monitor* (HOAM) provides a monthly measure of the median-income household’s capacity to afford the median-priced home at the national, metro, and metro-county levels. HOAM takes into consideration the monthly principal and interest cost, given the current mortgage interest rates, as well as the costs associated with taxes, property insurance, and private mortgage insurance. HOAM uses the US Department of Housing and Urban Development (HUD) standard 30 percent share of income threshold to measure affordability. If the annual cost of homeownership exceeds a 30 percent share of the annual median household income, homeownership is considered unaffordable. Conversely, if the annual cost of homeownership is below a 30 percent share of the annual median household income, homeownership is considered affordable. Alternatively, HOAM allows the user to view affordability using an Affordability Index, where an index value of 100 or above indicates a median-income family could afford a median-priced home; a value below 100 indicates a median-income family would not be able to afford a median-priced home given the current interest rate (*Source: Federal Reserve Bank of Atlanta*). In September 2024, selected Kentucky values include Bowling Green (68.1), Elizabethtown (85.9), Frankfort (113.4), and Louisville (83.5).



Source: The Federal Reserve Bank of Atlanta’s Home Ownership Affordability Monitor (HOAM), <https://www.atlantafed.org/center-for-housing-and-policy/data-and-tools/home-ownership-affordability-monitor#Tab1>

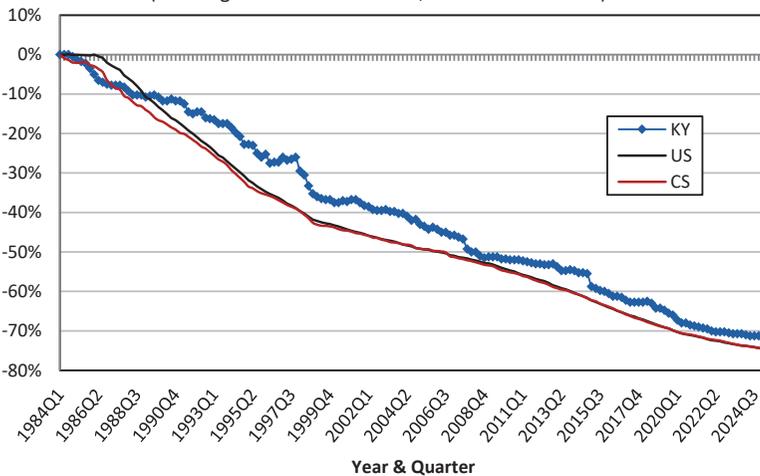
BANKS

Banks play a key role in a region’s economic success. This is especially true of community banks, which have assets less than \$10 billion and constitute about 97 percent of all banks. According to a Council of Economic Advisors Issue Brief in August 2016, community banks provide “the only local source of brick-and-mortar traditional banking services for many counties, as well as key sources of credit for rural communities and small business loans.” Indeed, as Esther George, the President and CEO of the Federal Reserve Bank of Kansas City wrote in 2017, “traditional banks are essential to thousands of communities across the country.” Moreover, the leaders of these banks are integral members of their communities. As President George notes, “these bankers serve on the boards of local schools, hospitals and other civic organizations, providing a key source of leadership in the community.” However, the number of banks has been declining for years. There were, for example, 400 community banks in Kentucky at the beginning of 1984, but only 115 by 2025 (Q2)—a 71 percent decline and a loss of twenty-one since the onset of the Pandemic. There has been a similar downward trend in the competitor states and the U.S. While the market forces affecting banks are widespread, analyses by the Federal Reserve Board show that the nation’s rural areas and small towns are disproportionately affected.

Economy

**FDIC Insured Community Banks
in Kentucky, Competitor States, & the U.S.**

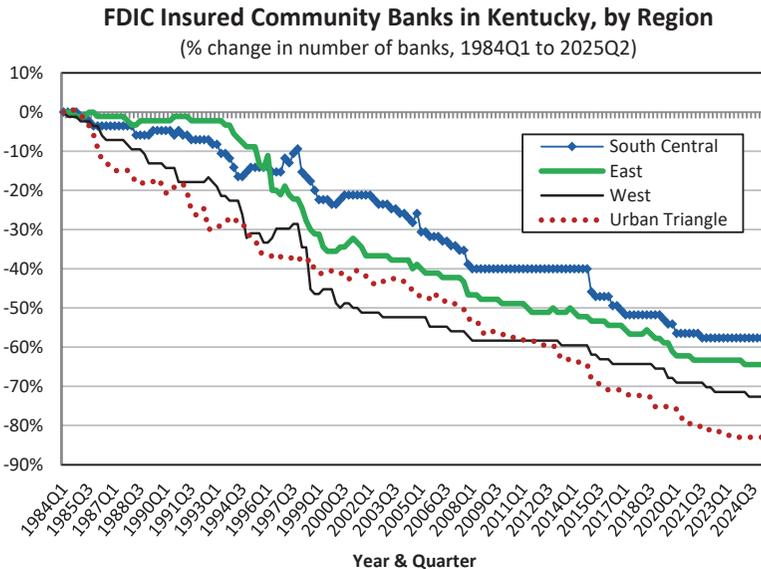
(% change in number of banks, 1984Q1 to 2025Q2)



Source: Author's analysis of FDIC Community Banks Study Reference Data.

BANKS BY KENTUCKY REGION

Citing the Federal Reserve Board banking data, the *Wall Street Journal* reported in 2017 that since the Great Recession small bank loans of less than \$1 million, once adjusted for inflation, have not recovered in the nation’s rural areas. At the same time, however, from 2010 to 2016, loans in large metropolitan areas, their suburbs, and medium-to-small metropolitan areas rebounded to pre-recession levels. Across Kentucky’s regions, there has been a significant decrease in the number of community banks from 1984 to 2025. Our analysis of FDIC Community Banking Study Reference Data reveals that the number of community banks in Kentucky with a *commercial and industrial loan specialty* (e.g., business loans) declined from 24 banks in the fourth quarter of 1984 to only two banks by the second quarter of 2025. Total deposits at these 24 banks at the end of 1984 totaled \$14.2 billion (in inflation adjusted 2025 dollars), compared to \$92.1 million in the **two** banks specializing in commercial and industrial loans in 2025 (Q2). Banks that do not specialize in commercial and industrial loans still make business loans, but the precipitous decline in the number of banks specializing in business loans, as well as the decline in total deposits, is indicative of the challenges facing rural businesses.

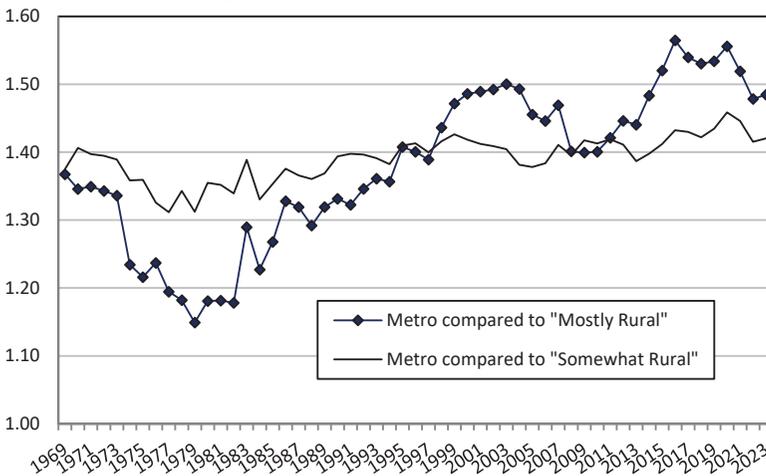


Source: Author's analysis of FDIC Community Banks Study Reference Data.

EARNINGS GAP

Creating abundant high-paying jobs in Kentucky’s rural areas has been, and continues to be, a challenge for policymakers, economic development professionals, and civic leaders. This figure illustrates the gap in wages between workers in Kentucky’s metro counties and those in “somewhat rural” or “mostly rural” counties. Going back to 1969, earnings in metro areas have been consistently higher than those in rural counties—especially when compared to Kentucky’s 60 “mostly rural” counties. In 2023, for example, earnings in metro counties were about 42 percent higher than those in “somewhat rural” counties and about 48 percent higher than wages in “mostly rural” counties. While the current urban-rural earnings difference is notable, the growing gap over the last three and a half decades is perhaps more significant. The earnings differential between the 35 metro counties and 85 rural counties increased steadily from the late 1970s to the present—suggesting new approaches to rural community and economic development are needed. Based on numerous studies of rural communities across the country, economists have outlined approaches for rural America to improve rural prosperity by thinking and acting regionally, finding new economic niches in high-value knowledge industries that leverage a region’s strengths, and placing a premium on homegrown entrepreneurs.

Kentucky's Urban-Rural Earnings Gap, 1969-2023
(average geographically based per job earnings ratio)



Source: Bureau of Economic Analysis, CAINCS0, Economic Profile & 2023 Urban-Rural classification.
Note: Author estimate by taking ratio between Urban-Rural Continuum Codes 9-8-7 (mostly rural), 6-5-4 (somewhat rural), and 3-2-1 (metro), based on 2023 codes over the entire time period.

Economic Security

KENTUCKY'S ECONOMIC PERFORMANCE is deeply intertwined with the financial security of its people. When households experience stability—steady employment, affordable housing, and access to basic needs—the state's economy gains strength through greater consumer spending, productivity, and tax capacity. Yet, many Kentuckians face persistent financial vulnerability, limiting both personal advancement and the Commonwealth's overall economic growth.

Nationally, the Federal Reserve's 2024 *Survey of Household Economics and Decisionmaking* found that 73 percent of adults were "doing at least okay" financially, down from 78 percent in 2021. Inflation and prices continued to be the top financial concern, particularly the prices of food and groceries. On top of these costs, rents continued to rise. The median reported rent was \$1,200 in 2024, up about 10 percent each year since 2022. And for young families with working parents, childcare costs are significant. These national patterns reflect Kentucky's own experience, where modest wage growth, high housing costs, and limited savings leave many families living close to the edge.

Income trends over the last four decades reveal widening inequality. In Kentucky, real household incomes at the 25th percentile fell by 5.5 percent since the late 1970s, while those at the 75th percentile grew by 14 percent. Nationally, the upper tier gained more than twice that rate. Automation and globalization have rewarded high-skill industries while

continued on the next page



continued from the previous page

suppressing wages for routine and middle-skill jobs. As a result, Kentucky's middle class—once a driver of statewide economic stability—has weakened, with income growth increasingly concentrated among the most educated and urban workers.

Social and demographic shifts further shape household security. Marriage rates have declined from 74 percent in the early 1960s to about 55 percent in 2024. Research links marriage with higher household income and greater financial resilience, largely through shared resources and long-term financial planning. In Kentucky, where dual incomes help offset modest wages and rising costs, the decline in marriage amplifies financial vulnerability for single-earner households.

Geography reinforces these divides. Transfer payments—such as Social Security, Medicaid, and SNAP—account for more than one-quarter of Kentucky's total personal income, compared with 18 percent nationally. In mostly rural counties, they make up over 40 percent of income, underscoring the degree to which local economies depend on federal support. This reliance, while essential for residents, highlights structural weaknesses in private employment and limits the fiscal flexibility of rural governments.

Measures of income inequality, such as the Gini coefficient, place Kentucky near the middle among states. Yet, within the state, disparities are pronounced: rural and economically distressed counties—particularly in Eastern Kentucky—exhibit some of the highest inequality. These regions align closely with national “deep disadvantage” indices, where poverty, poor health, and low social mobility converge to depress labor force participation and economic vitality.

Housing affordability adds another dimension to household security. Nearly 47 percent of Kentucky renters spend more than 30 percent of their income on housing, while one in five homeowners is cost burdened. Mortgage default risks remain elevated, and roughly 13 percent of homes exhibit severe housing problems such as overcrowding or inadequate plumbing.

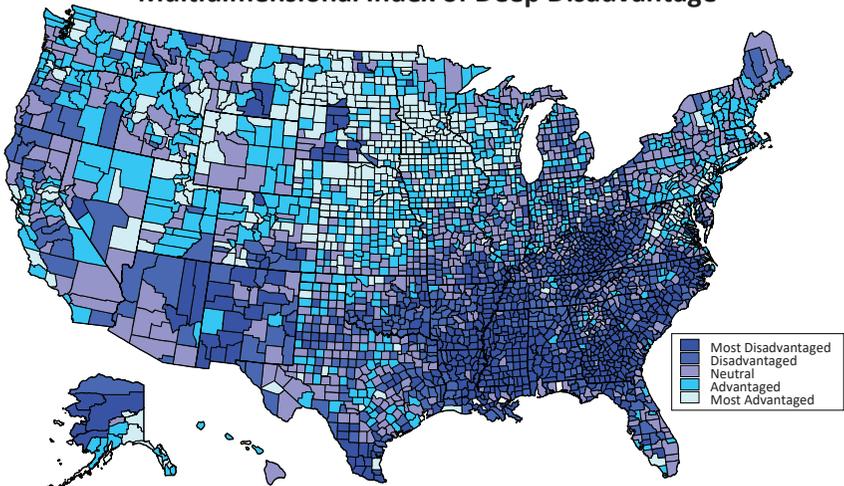
Finally, Kentucky's extensive participation in public assistance reflects both need and structural dependence. Nearly 30 percent of working-age adults receive Medicaid, SNAP, or similar benefits—far above national levels. Medicaid enrollment alone has risen 125 percent since the Affordable Care Act, with three in ten Kentuckians now covered. Disability and Supplemental Security Income rates are also well above national averages, signaling persistent barriers to work and health that reduce economic dynamism.

Together, these patterns show that Kentucky's economic future hinges on improving household security—through higher wages, affordable housing, better health outcomes, and stronger education. The economic strength of the Commonwealth ultimately depends on the financial resilience of its people.

INDEX OF DEEP DISADVANTAGE

The map below illustrates the findings from a multidimensional **Index of Deep Disadvantage** for all counties and the 500 largest cities in the United States (the cities are not shown on the map below). Based on the work of Kathryn J. Edin, H. Luke Shaefer, and Timothy J. Nelson, *The Injustice of Place: Uncovering Poverty in America*, combines census and administrative data to discern community vulnerability in three interconnected areas: 1) *income*, using poverty rates; 2) *health*, using life expectancy and birth weight data; and 3) *social mobility* estimates. Using a technique called principal component analysis, the researchers weight the variables and then rank order them on a continuum of disadvantage. Their analysis revealed, to the surprise of the researchers, that the “most disadvantaged” places were mostly in rural areas. Specifically, most of the disadvantaged counties are located in the Appalachian, Delta, and south Texas regions. We use this index as one of the variables in our model of county-level labor force participation that is described in the Economy section of this report.

Multidimensional Index of Deep Disadvantage



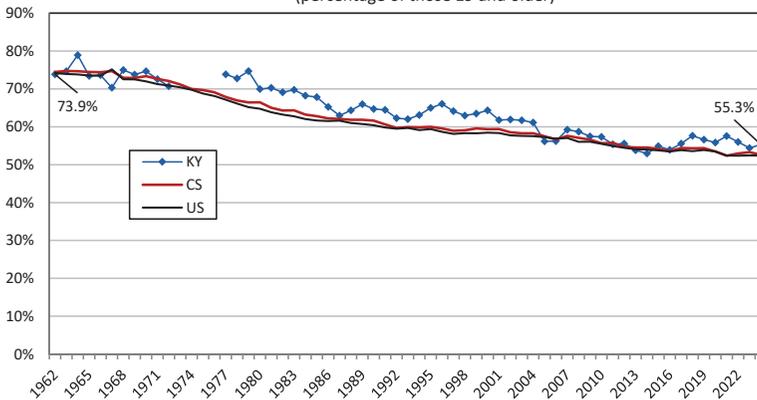
Source: Data downloaded on September 5, 2024, <https://tableau.dsc.umich.edu/v/UM-Public/Views/IndexofDeepDisadvantage/CountiesCitiesMap>. Kathryn J. Edin, H. Luke Shaefer, and Timothy J. Nelson, *The Injustice of Place: Uncovering the Legacy of Poverty in America* (Mariner Books, 2023).

MARITAL STATUS

Since the early 1960s, Kentucky has experienced a steady decline in marriage rates, reflecting broader national trends with important implications for household and community economic security. In the early 1960s, nearly 74 percent of Kentuckians age 19 and older were married; by 2024 that share had fallen to just over 55 percent—a decline of almost 20 percentage points. This shift parallels national and regional patterns driven by delayed marriage, higher divorce rates, and the rising economic independence of individuals, particularly women. Peer-reviewed research finds that marriage is associated with greater financial stability and resilience (e.g., Kearney, 2023; Lerman, 2002). Married adults, on average, experience higher household incomes, accumulate more wealth, and face lower poverty risks compared with single or cohabiting individuals. The economic advantages often stem from resource pooling, shared financial decision-making, and more stable long-term planning. In Kentucky, where many households rely on dual incomes to offset modest wage growth and rising living costs, the continued decline in marriage may heighten vulnerability among single-earner families. Over time, this could widen disparities in economic well-being across the state, underscoring the social and fiscal importance of family structure in shaping Kentucky’s economic security.

Economic Security

Married Individuals
Kentucky, Competitor States, and the United States, 1962 to 2024
 (percentage of those 19 and older)



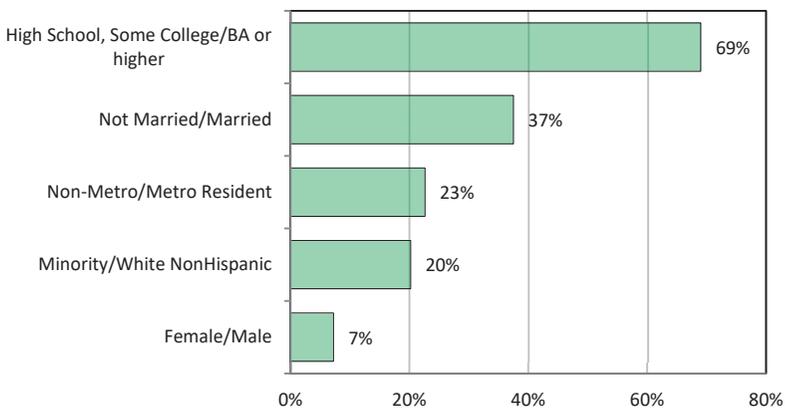
Source: CBER analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [ASEC, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

SELECTED FACTORS AFFECTING HOUSEHOLD INCOME

There are many factors affecting household income and economic security, including the ones shown in the figure below. Each of these factors—educational attainment, marital status, race, ethnicity, sex, and whether one lives in a metro or non-metro area—is associated with personal as well as household income. We use a multiple regression model to estimate the association of each of these factors on household income while holding other factors constant. The percentages shown in the figure represent changes relative to the sample average when the value of each variable is altered. For example, holding all the variables constant at their mean value except education—which we change from *high school or some college* to *bachelor’s degree or higher*—results in an estimated change in household income from \$45,800 to \$83,600—an increase of \$37,800. This increase is equal to 69 percent of the sample mean, which is \$54,900 (current dollars). Out of all the factors listed in the figure, marital status results in the second highest increase in household income (37%). This exceeds the effect of geographic residence (23%), minority status (20%), and sex (7%). This analysis focuses on Kentucky data from 1962 to 2024 (see the facing page), and uses current dollars. More details about the sample, variables, and method are available in the Notes & Sources section.

Estimated Percentage Change in Household Income with Change in Variable, Kentucky, 1962 to 2024

(income value change as a percentage of estimated average)

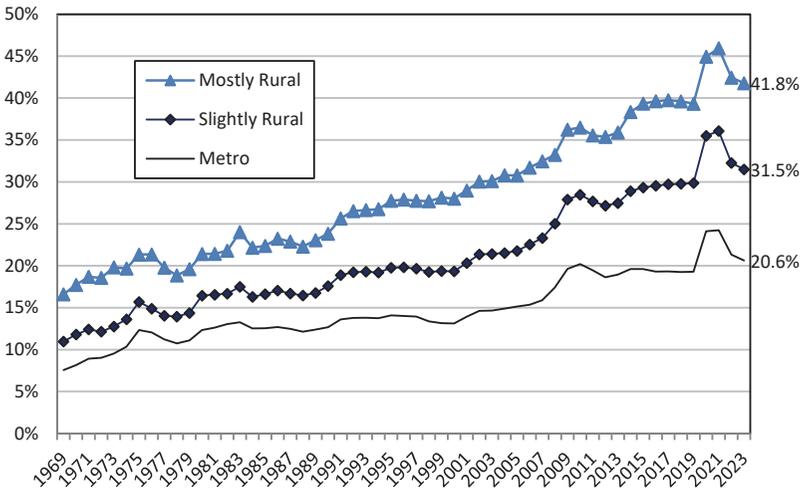


Source: Author’s analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [ASEC, survey years 1962 to 2024]. Minneapolis, MN: IPUMS, 2024.

TRANSFER PAYMENTS BY COUNTY TYPE

Transfer payments are benefits transferred from local, state, or federal governments to an individual. These payments include, but are not limited to, retirement and disability insurance benefits like Social Security, medical benefits such as those provided through Medicaid and Medicare, income maintenance benefits like TANF and SNAP, unemployment insurance compensation, and veterans’ benefits. Transfer payments account for about 18.3 percent of total personal income in the U.S., up from 17.2 percent in 2019. In Kentucky, transfer payments account for 25.8 percent of total personal income, which is an increase from 24.2 percent in 2019. We use 2019 as a base year because it was just before the Pandemic and the flood of federal relief to state and local government, as well as individuals and families. Within the Commonwealth, there are marked differences between metro, slightly rural, and mostly rural counties. As shown in the chart, the portion of personal income that is comprised by transfer payments has been trending upward since 1969 for all three county types. However, mostly rural counties are more dependent on transfer payments (41.8% in 2023), than slightly rural (31.5%) or metro counties (20.6%).

Kentucky Income Transfers by County Type, 1969-2023
(as a percentage of total personal income)

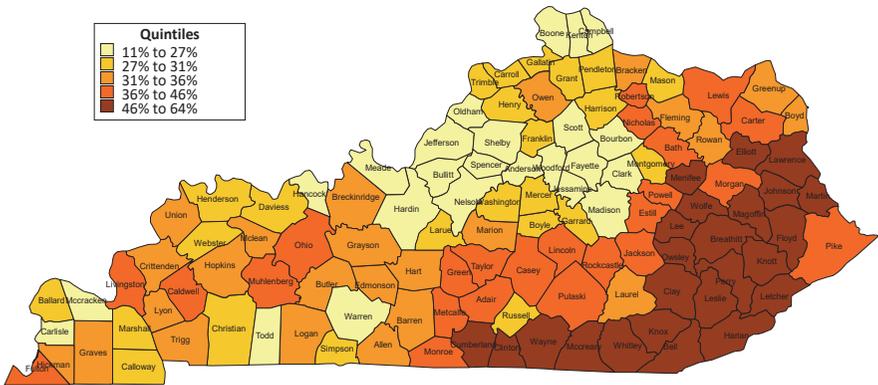


Source: Bureau of Economic Analysis, CAINC30, Economic Profile & 2023 Urban-Rural classification.
 Note: Author estimate by taking ratio between Urban-Rural Continuum Codes 9-8-7 (mostly rural), 6-5-4 (somewhat rural), and 3-2-1 (metro), based on 2023 codes over the entire time period.

TRANSFER PAYMENTS BY COUNTY

As described on the facing page, transfer payments are benefits transferred from local, state, or federal governments to an individual. Transfer payments account for 18.3 percent of total personal income for the U.S. (25.8 percent for Kentucky statewide)—but several Kentucky counties are significantly higher than the national and state averages. There are fifteen Kentucky counties over 50 percent, and 37 counties where transfer payments are over 40 percent of personal income; this is nearly one-third of the state’s counties. The percentages for Kentucky’s metro, slightly rural, and mostly rural counties are, respectively, approximately 20.6, 31.5, and 41.8. There are several counties that are heavily dependent on transfer payments as a source of personal income, with the highest percentages concentrated in Eastern Kentucky.

Transfer Payments by Kentucky County, 2023
(as a percentage of total personal income)



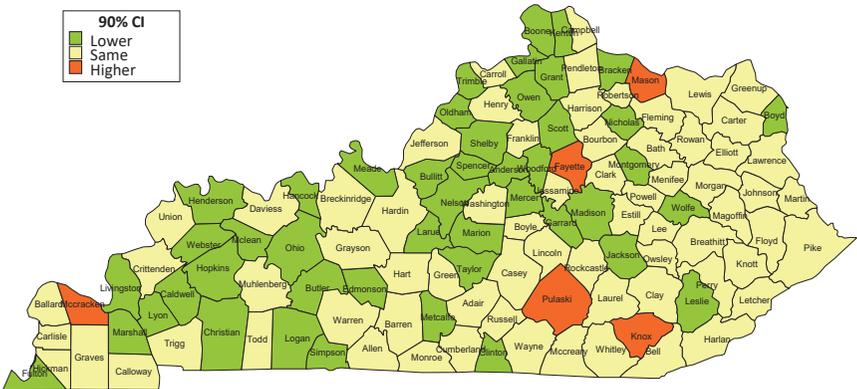
Source: Bureau of Economic Analysis, Table CAINC30

GINI INDEX BY COUNTY

This map shows the Gini Index values for Kentucky counties organized into three categories: counties that are statistically no different from the state average (.478) using a 90 percent confidence interval (.475 to .480); those that are statistically significantly higher than the state average; and those that are statistically lower than the state average; this is based on the U.S. Census 2023 American Community Survey 5-year estimates. As explained on the previous page, the Gini Index is a measure of income dispersion. A higher number indicates more concentration of income in fewer hands, with a value of “1” indicating that one person holds all the income. In previous years, the highest Gini Index values (i.e., higher income inequality) were concentrated in the poorer areas of Kentucky, while the urban triangle had a higher concentration of counties with Gini Index values lower than the state average. However, with these data that pattern is not the case, evidenced by a mix of economically advantaged and economically distressed counties having relatively high Gini Index values. Martin County has the highest Gini Index value (.559) and Spencer County has the lowest (.391). We should note, however, that Martin County might have the highest estimated Gini Index value, but this estimate is not statistically different from the state average. Knox County has the highest Index value of counties statistically higher than the state (.541).

GINI Index of Income Inequality, 2023

(Kentucky counties higher, lower, or within the state 90% MOE)

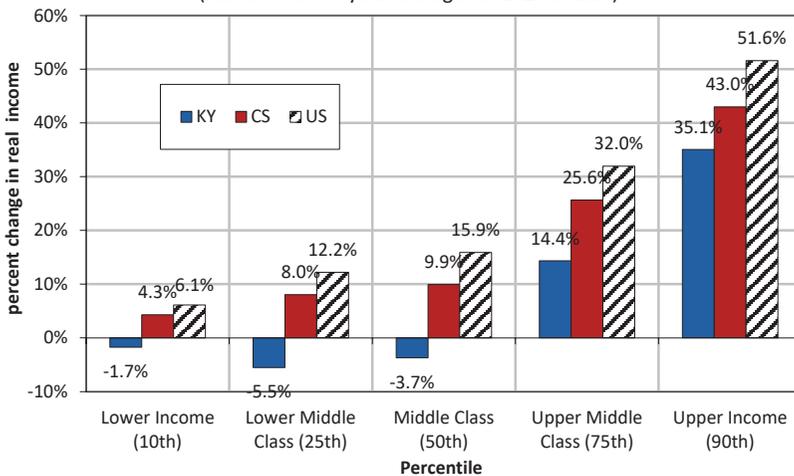


Source: U.S. Census Bureau, 2023 5-Year American Community Survey, Table B19083

HOUSEHOLD INCOME GROWTH

Middle-class families have become less economically secure. For nearly 50 years household income levels have changed at uneven rates depending upon whether one is “rich,” “poor,” or somewhere in-between. For Kentucky families, incomes at the 25th percentile—what some might consider “lower middle class”—declined by 5.5 percent compared to a 12.2 percent *increase* nationally in real dollars. By comparison, incomes at the 75th percentile, or “upper middle class,” increased for Kentucky and the U.S. by around 14.4 and 32 percent, respectively, in real dollars, from the late 1970s to the early- to mid-2020s. The contrast is the greatest between incomes at the 10th and 90th percentiles, with incomes *declining* in Kentucky by 1.7 percent at the lower income level and *increasing* by 35.1 percent at the upper income level; a large difference also exists between the 10th and 90th percentiles for the competitor states and the U.S. These data reflect total pre-tax personal income from all sources for all adults in the household. Noncash benefits, such as food stamps, health benefits, or subsidizing housing are not included as household income. Many factors have contributed to the widening gap, including the rise of globalization and outsourcing, increasing returns to high-level skills, job automation, declining unionization, immigration, and tax policies.

Changes in Household Income, by Income Level, 1976-78 to 2022-24, KY, Competitor States and the U.S.
(based on three-year averages of 2024 dollars)

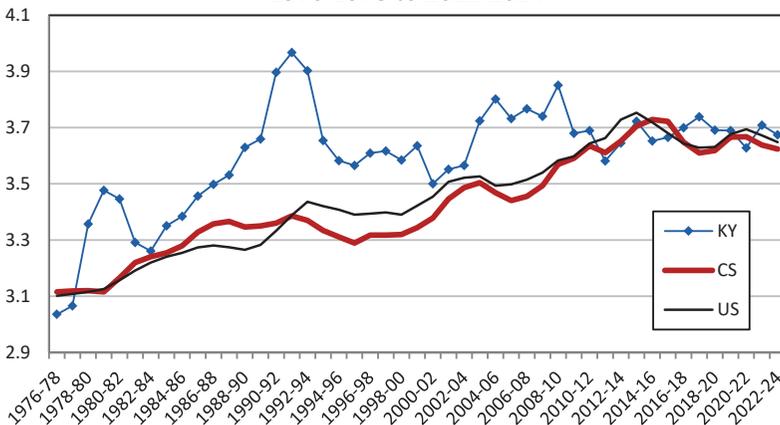


Source: Author's analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

HOUSEHOLD INCOME RATIO

Household incomes at the 25th and 75th percentiles can be viewed as boundaries around America’s middle class. In the late 1970s, upper middle class households—those at the 75th percentile—had incomes about 3 times larger than lower middle class households, which are those at the 25th percentile; this is true of Kentucky, its competitor states, and the United States overall, where the ratios were 3, 3.1, and 3.1, respectively, around 50 years ago. However, the gap has widened since then, evidenced by the ratios increasing to around 3.7 for Kentucky, its competitor states, and the U.S. by the early 2020s. The upward trending lines in the figure below are indicative of a widening income gap between those who occupy the upper and lower boundaries of the American middle class. These trends are occurring because household incomes have been increasing for the upper middle class while declining for the lower middle class (in real terms), as illustrated in the bar chart on the facing page. These household income trends suggest that, especially in Kentucky, those in the bottom half of the income distribution are facing relative economic stagnation and decline compared to those in the competitor states and the U.S.

Household Income Ratios, 75th/25th Percentiles, Kentucky, Competitor States, and the U.S., 1976-1978 to 2022-2024

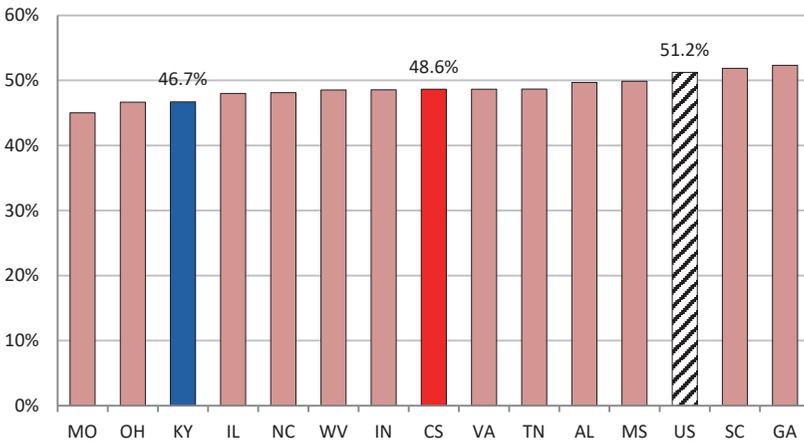


Source: Author’s analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

COST-BURDENED RENTERS

According to the U.S. Census Bureau, “over 21 million renter households spent more than 30% of their income on housing costs in 2023, representing nearly half (49.7%) of the 42.5 million renter households in the United States for whom rent burden is calculated” (Sept. 12, 2024 press release). The U.S. Department of Housing and Urban Development (HUD) uses a 30 percent share of income threshold to measure whether a renter is cost burdened. If the annual cost of rent exceeds a 30 percent share of the annual median household income, rental cost is considered a financial burden. On the other hand, if the annual cost of rent is below a 30 percent share of the annual median household income, rental cost is considered affordable and not a burden. Using this same threshold, but focusing on pooled 2022 and 2023 American Community Survey data, we estimate that 46.7 percent of Kentucky’s renters are cost burdened. This percentage is statistically significantly lower than the competitor state (48.6%) and U.S. (51.2%) averages. There are only five states statistically lower than Kentucky. Meanwhile, there are 24 states with statistically significant higher percentages and 20 states and DC are statistically the same as Kentucky.

Cost-Burdened Renter-Occupied Households, Kentucky, Competitor States, and the U.S., 2022-2023

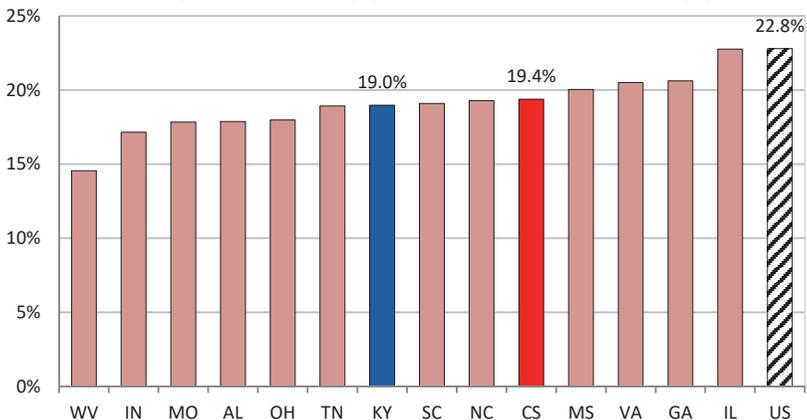


Source: Author’s analysis of data provided by Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 2022 & 2023 1-year estimates pooled]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>.

COST-BURDENED OWNERS

Owning a home is expensive, and for over a fifth of owners nationally (22.8%) the annual cost exceeds 30 percent of their annual household income. This threshold is used by HUD (see the previous page) to measure whether a home owner is cost burdened. The chart below includes those with a mortgage as well as those without a mortgage. Even if a home is fully paid off, there are still costs associated with ownership, such as taxes, insurance, and utilities. An estimated 19.0 percent of owners in Kentucky are cost burdened, meaning that their annual costs of ownership exceed 30 percent of their annual total household income. This percentage is statistically lower than the U.S. average (22.8%), but statistically the same as the competitor state average (19.4%). There are only eight states statistically lower than Kentucky. There are 32 states along with DC that have statistically significant higher percentages, and nine states statistically the same as Kentucky.

**Cost-Burdened Owner-Occupied Households,
Kentucky, Competitor States, and the U.S., 2022-2023**
(housing units with a mortgage as well as those without a mortgage)

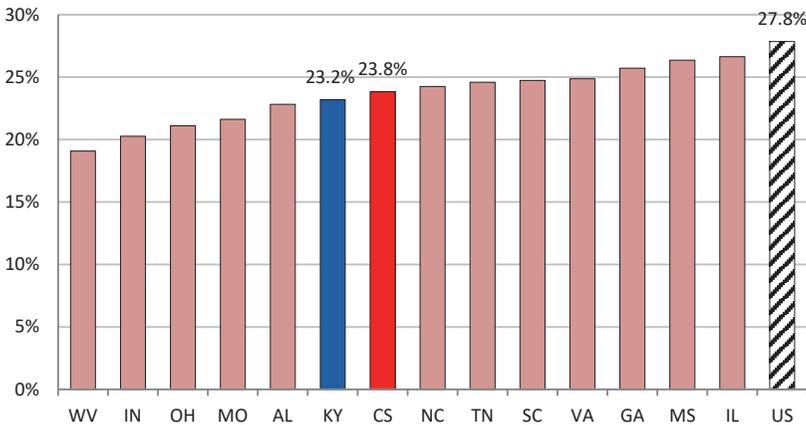


Source: Author's analysis of data provided by Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 2022 & 2023 1-year estimates pooled]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>.

COST-BURDENED OWNERS (WITH CURRENT MORTGAGE)

This figure shows the percentage of owners with a current mortgage that are cost-burdened (see the previous two pages for an explanation of “cost-burdened”). The figure on the previous page shows all owners, including those with and without a current mortgage, but here we focus solely on owners with a current mortgage. Kentucky’s percentage is relatively low, evidenced by the 23.2 percent shown in the figure. There are only six states nationally with statistically significant lower percentages, and they are mostly, but not exclusively, competitor states (i.e., IA, IN, OH, MO, ND, and WV). Kentucky is statistically lower than 31 states and statistically the same as 13 states and the District of Columbia.

**Cost-Burdened Owner-Occupied Households,
Kentucky, Competitor States, and the U.S., 2022-2023**
(housing units with a mortgage)

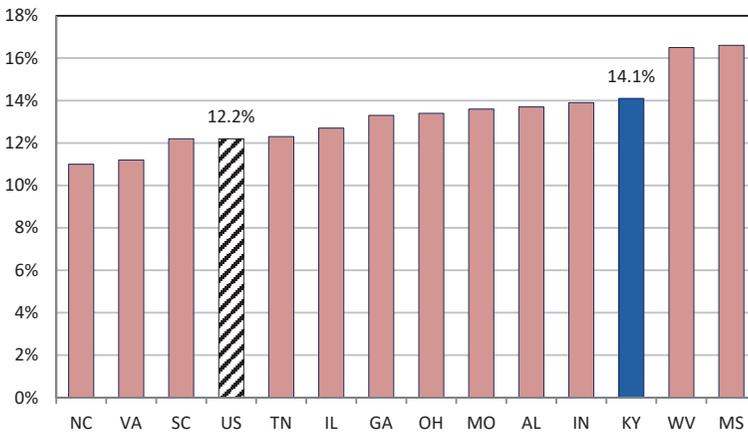


Source: Author’s analysis of data provided by Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 2022 & 2023 1-year estimates pooled]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>.

MORTGAGE DEFAULT RATE

An estimated 14.1 percent of mortgages in Kentucky are at risk of default under economic conditions similar to those present at the start of the Great Recession. The American Enterprise Institute (AEI) refers to this risk index as a “mortgage default rate,” but it is really an estimate of *potential* defaults if the economy were to experience another Great Recession. Despite being a misnomer, it is a useful indicator of economic strength. Leading up to the Great Recession, the federal government and the private sector undertook extensive efforts to increase the number of homeowners by keeping mortgage rates low and by allowing small, or nonexistent, down payments. By the fourth quarter of 2007—the peak of the economic expansion—it became clear that many of these new homeowners could not afford their homes as the foreclosure rate rose in 2008. The AEI Mortgage Default Rate measures how “the loans originated in a given month would perform if subjected to the same stress as in the financial crisis that began in 2007.” Estimated rates of 7 percent or less are considered low risk, those with default rates of 7.01 to 14 percent are considered medium risk, and those with higher default rates are considered high risk. AEI has data on 102 of the state’s 120 counties, with three counties classified as low risk. It shows twenty-five Kentucky counties as medium, and seventy-four as high risk.

Potential Mortgage Default Rate, 2024
Kentucky, Competitor States & the U.S.
 (National Mortgage Risk Index)

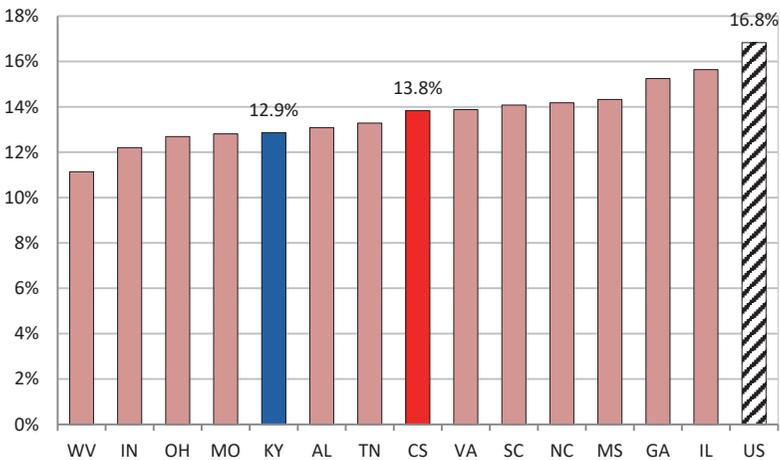


Source: American Enterprise Institute (AEI), *State and County Housing Market Indicators: Update for 2024*, <<https://www.aei.org/the-state-of-the-housing-market/>>, downloaded 11/8/2025.

SEVERE HOUSING PROBLEMS

An estimated 16.8 percent of the occupied housing units in the U.S. have at least one severe housing problem, as defined by the U.S. Department of Housing and Urban Development, based on its Comprehensive Housing Affordability Strategy (CHAS, 2017-2021). The Kentucky percentage is lower (12.9%). An occupied housing unit is considered to have a severe problem with at least one of the following: lack of complete kitchen facilities, lack of plumbing facilities, overcrowding or severely cost-burdened occupants. Housing quality matters for many quality-of-life reasons. As noted by *America’s Health Rankings*, “Housing influences health and well-being. Poor quality of housing can cause disease and injury as well as affect development in children. Other housing-related factors such as neighborhood environment and overcrowding can affect mental and physical health.”

**Severe Housing Problems, 2017-2021,
Kentucky, Competitor States, and the U.S.**

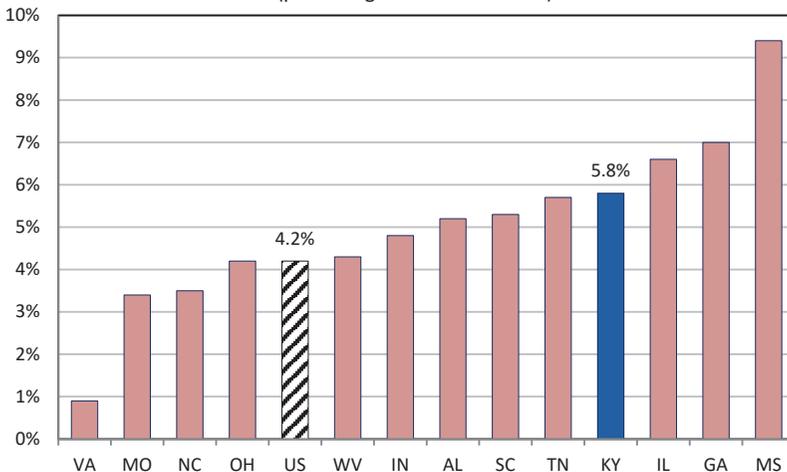


Source: U.S. Department of Housing and Urban Development, Comprehensive Housing Affordability Strategy (CHAS) 2017-2021 survey, accessed December 1, 2024 <<https://www.huduser.gov/portal/datasets/cp.html>>.
 Note: CS is the weighted average of the competitor states.

BANKING STATUS

Whether someone has a bank account can have important implications for their financial well-being. According to the Federal Deposit Insurance Corporation (FDIC), “access to an account at a federally insured institution provides households with the opportunity to conduct basic financial transactions, save for emergency and long-term security needs, and access credit on fair and affordable terms.” Moreover, it can help protect “households from theft and reduces their vulnerability to discriminatory or predatory lending practices.” Surveys done by FDIC find that low-to-moderate income Americans are less likely to “access mainstream financial products such as bank accounts and low-cost loans.” At 5.8 percent, Kentucky households are more likely to be “unbanked” than the U.S. (4.2%). In Kentucky, the percentage of unbanked households has steadily declined, from 9 percent in 2015 and 7.2 percent in 2017, to the current estimate of 5.8 percent. Factors associated with being unbanked include, but are not limited to, lower levels of education and income, being disabled, and belonging to a minority group.

**Unbanked Rates, 2023,
Kentucky, Competitor States, & the U.S.**
(percentage of all households)

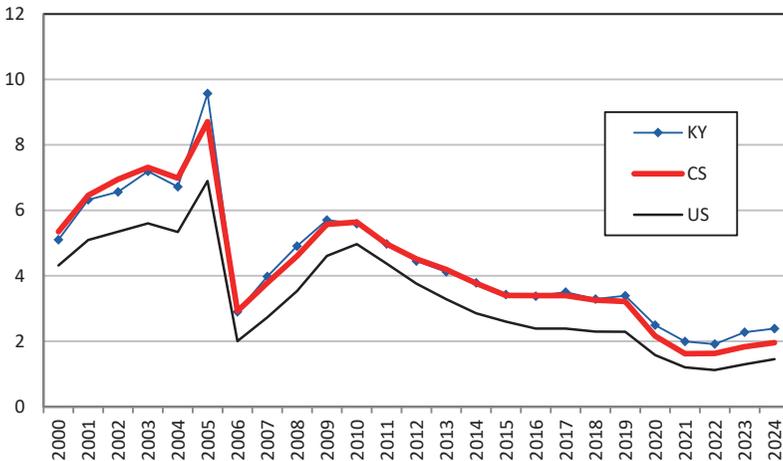


Source: Federal Deposit Insurance Corporation, *How America Banks*, FDIC 2023 Survey

PERSONAL BANKRUPTCIES

Bankruptcy is defined as “a legal proceeding involving a person or business that is unable to repay outstanding debts.” The idea is to develop a plan that enables the individual (or business) to gain a fresh financial start while providing creditors with some prospect of repayment for outstanding debts. The personal bankruptcy rate provides an indication of the overall financial health of individuals and families. As consumers acquire excessive debt or economies are in recession, for example, the threat of personal bankruptcy increases. The laws governing bankruptcy changed in 2005, which had the immediate effect of reducing the number of individuals filing for bankruptcy. Kentucky’s personal bankruptcy rate in 2024 was 2.4 bankruptcies per 1,000 population. The U.S. average has been somewhat lower over the 2000-2024 period, and stood at 1.5 in 2024. Overall, the bankruptcy rate has been on a downward trend since 2010, and was recently at its lowest point in the last twenty-three years. However, beginning in 2022 the bankruptcy rate began rising for Kentucky, the competitor states, and the U.S. overall.

Personal Bankruptcies, Kentucky, Competitor States, and the U.S., 2000-2024
(bankruptcies per 1,000 population)

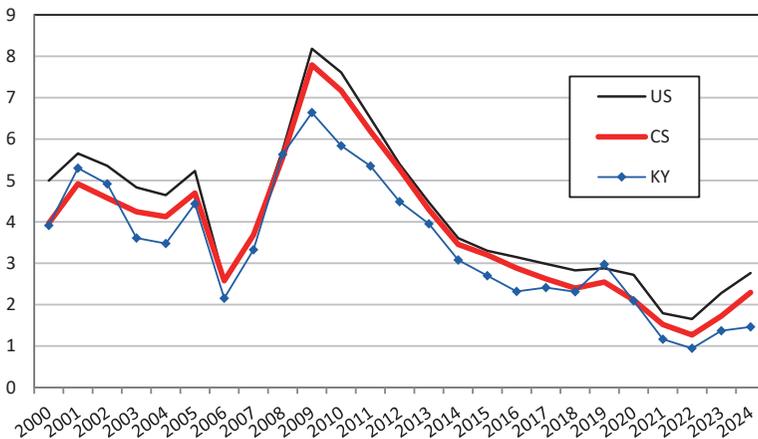


Source: Author’s calculations based on Administrative Office of the U.S. Courts & Census data, various years.

BUSINESS BANKRUPTCIES

Similar to the recent upward trend in personal bankruptcies, the business bankruptcy rate has risen somewhat since 2022. According to the National Bureau of Economic Research (NBER), the trough of the Great Recession was in the second quarter of 2009. It is perhaps no surprise, then, that 2009 is the peak year, as shown in the graph below, for the number of businesses that filed for bankruptcy. Across the various Circuit and District Courts in 2009, there were 60,837 bankruptcy business filings (Chapters 7, 11, 12, 13)—but this has steadily declined since then with 13,481 in 2022. However, it jumped to 18,926 in 2023 and then to 23,107 in 2024. When expressed as a percentage of business establishments, Kentucky has been lower than the competitor states and the U.S. most years. In 2024 Kentucky’s rate was 1.5 businesses per 1,000 business establishments. The number of businesses filing for bankruptcy increased from 87 in 2022 to 138 in 2024.

**Business Bankruptcies,
Kentucky, Competitor States, and the U.S., 2000-2024**
(bankruptcies per 1,000 business establishments)

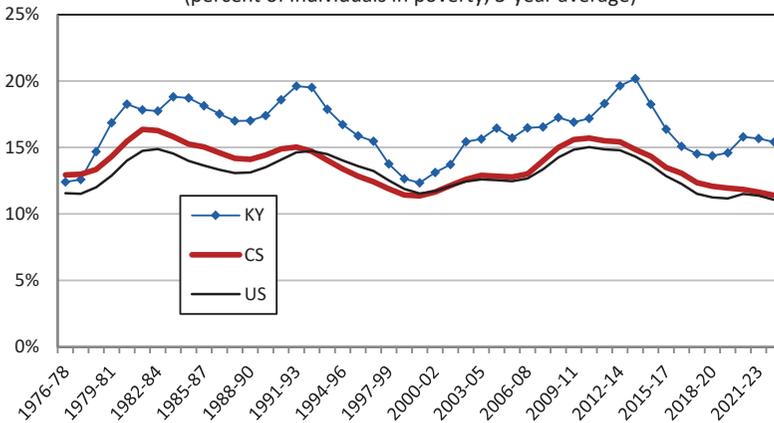


Source: Estimated from Administrative Office of the U.S. Courts data along with establishment data from the U.S. Census, County Business Patterns, various years. Note: 2024 data are estimated by using 2023 establishments and 2024 bankruptcies.

POVERTY RATE

Living in poverty can have far-reaching economic, social, and cultural consequences for families and entire populations. Studies reveal that those who grow up in poverty not only experience a lack of basic needs, but that this scarcity can shape their lives and families for generations. In addition, the concentrations of poverty have a significant negative effect on the fiscal health of cities and regions that, as a result, must shoulder higher spending. The U.S. poverty rate currently stands at around 12 percent, depending on the data source. From about 1980 to the present, Kentucky’s poverty rate has been consistently higher than both the U.S. and competitor states. The data in the chart show the 3-year moving average poverty rate estimated from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). According to the Census Bureau’s 2024 American Community Survey 1-year estimate, another estimate of the poverty rate, Kentucky’s poverty rate is 15.6 percent, which is higher than the U.S. (12.1%) poverty estimate. More information about the definition of poverty, the poverty rate, and the poverty threshold is in the Glossary of this report.

**Poverty Rate 1976 to 2024,
Kentucky, Competitor States, and the U.S.**
(percent of individuals in poverty, 3-year average)

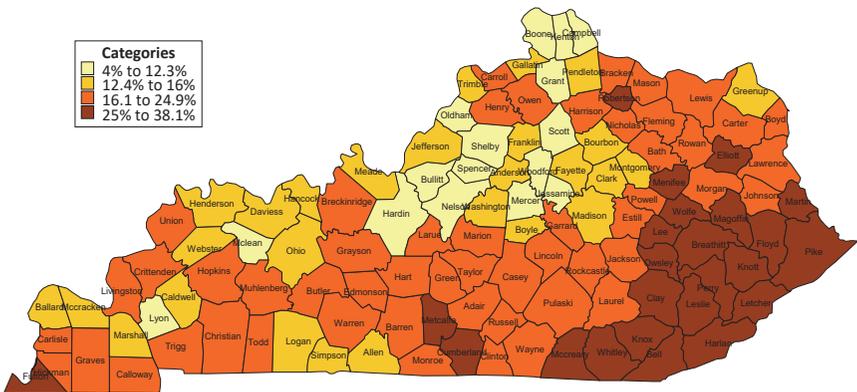


Source: Author’s analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

POVERTY RATE BY COUNTY

Kentucky’s persistently poor counties are concentrated in Eastern Kentucky, but high poverty is found across the state. Poverty rates in five counties are at least 33 percent—Cumberland, Knox, Magoffin, McCreary, and Wolfe Counties. Meanwhile, Boone, Bullitt, McLean, Nelson, Oldham, Shelby, and Spencer Counties have rates in the single digits. There can be, of course, concentrated pockets of poverty within counties with relatively low rates. For example, the Jefferson County poverty rate is 14.5 percent. However, about one-fifth of the county’s population (20.5%) live in Census tracts where less than 5 percent of the population live in poverty, and nearly 12.2 percent live in tracts where the poverty rate is at least 30 percent of the population. In general, “mostly rural” counties have higher poverty rates (22.6%) than “slightly rural” (17.3%) or metro counties (13.2%). The U.S. average poverty rate (12.4%) is much lower than Kentucky’s statewide average (16.1%), based on the U.S. Census 2023 American Community Survey 5-year estimate.

Kentucky County-Level Poverty Rates
(2019 to 2023, 5-Year Estimates)

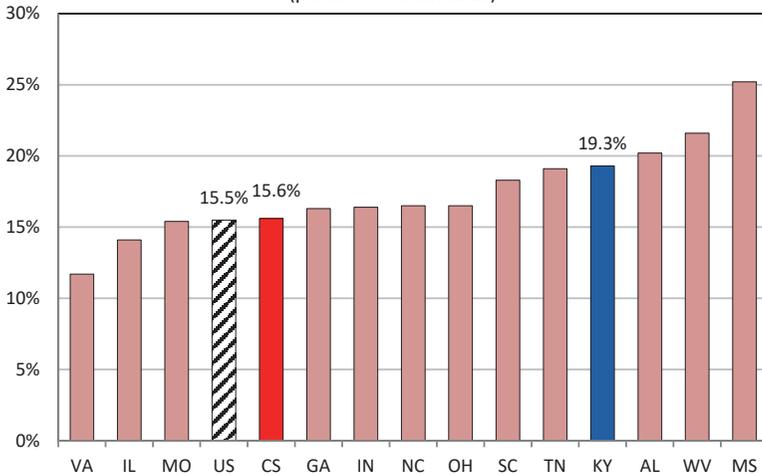


Source: American Community Survey (ACS), 2023 5-Year Estimates, Table S1701

CHILD POVERTY

According to a national study released in late 2022, child poverty fell by 59 percent from 1993 to 2019; the authors of the study attribute this decline to the array of government programs targeted toward improving the welfare of children. The decline in child poverty was experienced by all states. Yet, child poverty, and all that it bodes for the future, continues to be disturbing and vexing problem for Kentucky. Here, we illustrate child poverty rates for Kentucky, the competitor states, and the U.S. The rates shown are for children who live in households with incomes below 100 percent of the federal poverty level. Kentucky’s poverty rate for children under 18 in 2024 was 19.3 percent, significantly higher than the U.S. rate of 15.5 percent. Nationally, only two states have child poverty rates statistically significantly higher than Kentucky (i.e., Louisiana and Mississippi). At 25.2 percent, both states are tied for the highest child poverty rates in the nation (DC is higher at 28.3%); New Hampshire is the lowest with a child poverty rate of 6.6 percent.

**Poverty Rate, 2024, Children Under 18,
Kentucky, Competitor States and the U.S.**
(percent of individuals)

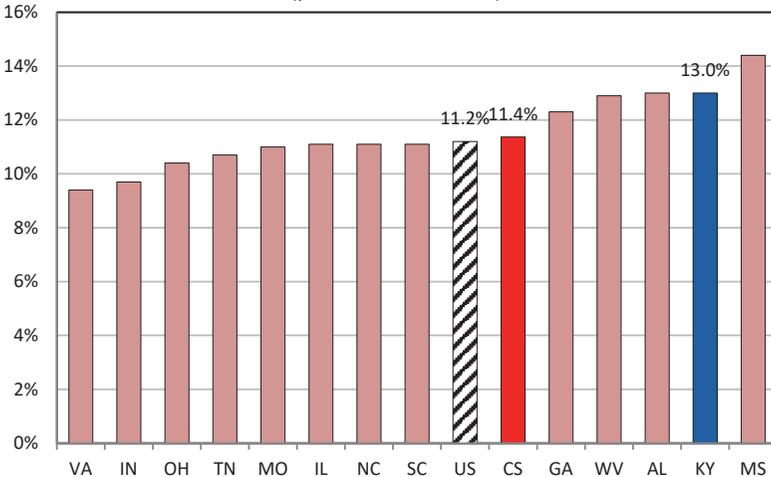


Source: 2024 American Community Survey 1-Year Estimates, Table S1701

ELDER POVERTY

At 13 percent, Kentucky’s population of persons aged 65 and older who live below the poverty level is higher than most of the competitor states as well as the U.S. average of around 11.3 percent. According to the (EBRI) Employee Benefit Research Institute’s *2024 Retirement Confidence Survey*, which is a national survey, 74 percent of retirees are confident they have enough money for a comfortable retirement. While these survey results show that most retirees feel financially confident, current workers not yet retired feel less certain. According to the EBRI researchers, less than one-fifth (21%) of American *workers* feel very confident about their ability to afford a comfortable retirement. Compared to Kentucky, only one state has a statistically significant higher poverty rate for individuals 65 and older, Louisiana (14.9%). The District of Columbia is higher than any state with a poverty rate of 18.2 percent among individuals 65 and older.

Poverty Rate, 2024, Adults 65 and Over
Kentucky, Competitor States and the U.S.
 (percent of individuals)



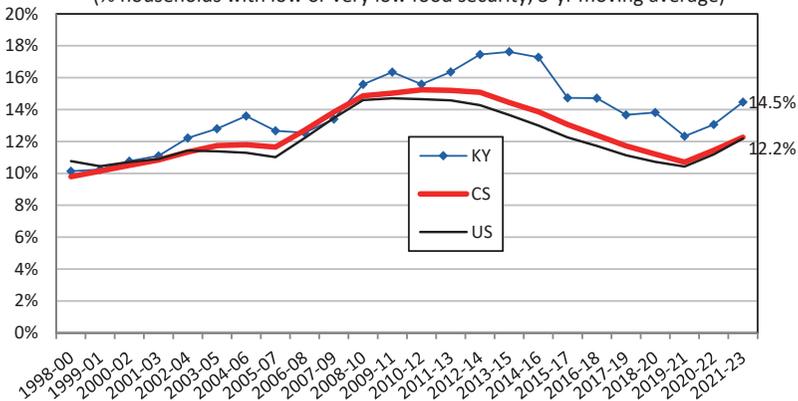
Source: 2024 American Community Survey 1-Year Estimates, Table S1701

FOOD INSECURITY

Food security is defined as having “access at all times to enough food for an active, healthy life for all household members,” while food insecurity means “that the food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food.” As shown in the figure below, food insecurity has generally been higher in Kentucky than in the competitor states or the U.S. for the past decade. According to an September 2024 USDA report, *Household Food Security in the United States in 2023*, an estimated 14.5 percent of Kentucky households experienced low or very low food security, on average, during the 2021 to 2023 period. This rate is statistically significantly the same as the U.S. overall (12.2%) during the same period. Generally, national data show that rates of food insecurity tend to be higher for certain groups, such as households with children—especially young children (under age 6), households with children headed by a single parent—especially a woman, and households headed by a minority—especially Black and Hispanic.

**Prevalence of Food Insecurity,
Kentucky, Competitor States, and the U.S., 1998-2023**

(% households with low or very low food security, 3-yr moving average)

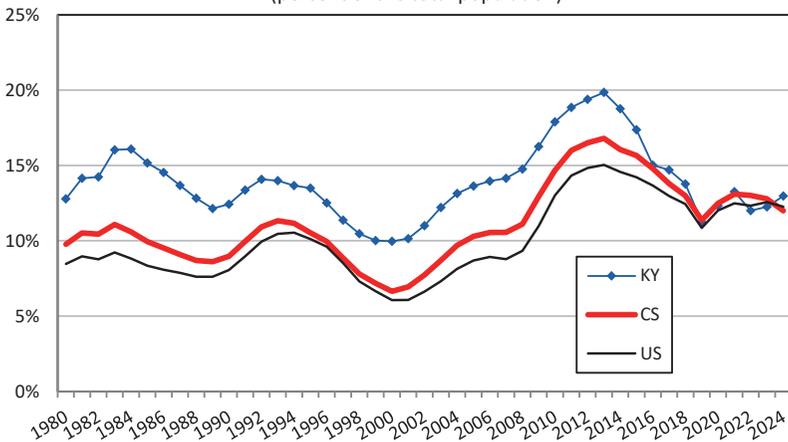


Source: Author's analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [CPS Food Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

FOOD STAMP PARTICIPATION

The Food Stamp Act of 1977 defines this federally-funded program as one intended to “permit low-income households to obtain a more nutritious diet.” Nationally, almost 75 percent of Food Stamp Program (FSP) participants are in families with children and more than one-quarter of participants are in households with seniors or people with disabilities. As noted on the facing page, University of Kentucky economist James Ziliak has found that rates of food insecurity have remained persistently high following the Great Recession for Americans over 60. This is noteworthy since the Robert Wood Johnson Foundation has reported on research showing that seniors who participate in the Supplemental Nutrition Assistance Program (SNAP) are much less likely to be admitted to nursing homes and hospitals. The implication of this finding, of course, is that ensuring food security for elders can potentially reduce health care costs and improve health outcomes. In 2024, an estimated 13.0 percent of Kentucky’s population participated in the FSP, a similar percentage as both the competitor states (12.0%) and the U.S. (12.3%). SNAP benefits are dependent on, among other factors, family size and income levels—with the average SNAP recipient in the U.S. costing about \$187 a month. The average per person cost in Kentucky is around \$169.

Food Stamp Program, Average Monthly Participation, Kentucky, Competitor States, and the U.S., 1980-2024
(percent of the total population)

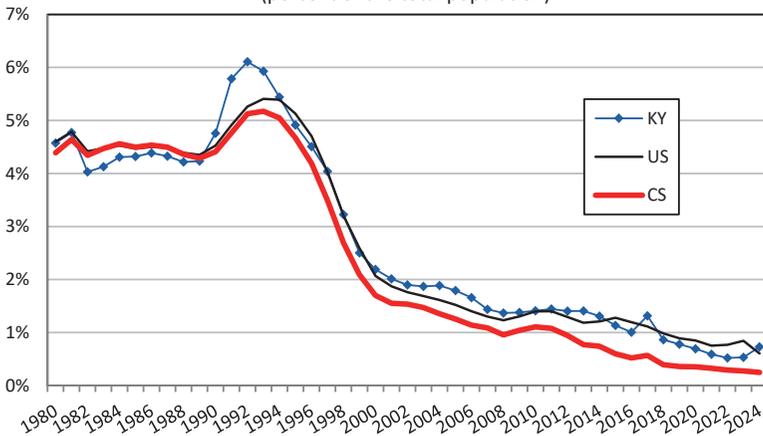


Source: University of Kentucky Center for Poverty Research. 2025. “UKCPR National Welfare Data, 1980-2023.” URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 SNAP recipients <<https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>>.

TEMPORARY ASSISTANCE FOR NEEDY FAMILIES

The number of Kentuckians receiving Aid to Families with Dependent Children (AFDC)—known as Temporary Assistance to Needy Families (TANF) since the 1996 welfare reform law—has decreased significantly from its high point of 229,400 in 1992 to 33,440 in 2024; roughly 85 percent of the recipients in 2024 were children. This decline is not unique to Kentucky. For example, marking the 20th anniversary of the 1996 legislation that fundamentally changed the program, the Center on Budget and Policy Priorities (CBPP) issued a report in August, 2016, noting that nationally the number of families receiving TANF (AFDC) benefits for every 100 families with children in poverty has declined sharply over time. In 1979, for instance, 82 families per 100 with children in poverty received benefits, compared to 68 in 1996—when TANF was enacted—to 23 in 2014. As a percentage of the total population, more Kentuckians received TANF benefits in 2024, about 0.7 percent, than the competitor state average of 0.3 percent. The benefit amount for a Kentucky family of three is \$262 per month, which has not changed since 1996. If the benefit had been indexed to the inflation rate it would be over \$500 in 2024.

**AFDC/TANF Recipients,
Kentucky, Competitor States, and the U.S., 1980-2024**
(percent of the total population)



Source: University of Kentucky Center for Poverty Research. 2025. "UKCPR National Welfare Data, 1980-2023." URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 TANF recipients <<https://www.acf.hhs.gov/ofa/data/tanf-case-load-data-2024>>.

MEDICAID BENEFICIARIES

Medicaid is a state-federal partnership to provide health care coverage for people with lower incomes, older people, individuals with disabilities, and some families and children. The Medicaid program is jointly funded by states and the federal government. In Kentucky, the Department for Medicaid Services administers the program, which has an annual budget over \$20 billion. There are many types of services provided for Kentucky’s nearly 1.4 million Medicaid beneficiaries—from inpatient hospitalization to long-term care to prescription drugs for acute care. Medicaid constitutes a significant portion of Kentucky’s total state government spending. According to the National Association of State Budget Officers, *State Expenditure Report: Fiscal Years 2022-2022*, 35.7 percent of Kentucky state government expenditures were for Medicaid in FY2024. The percentage of the population on Medicaid in Kentucky, the competitor states, and the U.S. is 30, 22 and 23 percent, respectively. And, as a result of the Affordable Care Act, Kentucky has experienced one of the largest increases in Medicaid enrollment in the country. The U.S. average is a 35 percent increase in enrollment, compared to Kentucky’s 125 percent.

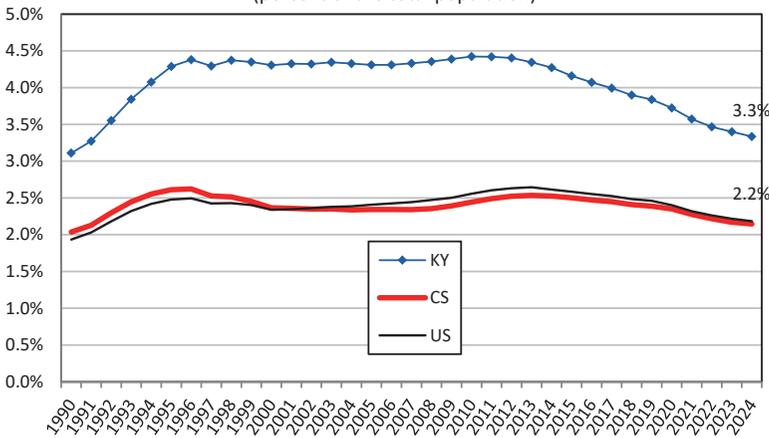
Total Monthly Medicaid and CHIP Enrollment, Pre-ACA Compared to June 2025, U.S., Competitor States, and Kentucky				
Area	Pre-ACA Average Monthly Enrollment	Total Monthly Medicaid/CHIP Enrollment	% Change	% Total Population Enrolled
US	56,511,799	77,748,161	35%	23%
AL	799,176	937,844	17%	18%
GA	1,535,090	1,895,148	23%	17%
IL	2,626,943	3,104,051	18%	24%
IN	1,120,674	1,666,284	49%	24%
KY	606,805	1,365,046	125%	30%
MS	615,556	592,690	-4%	20%
MO	846,084	1,230,024	45%	20%
NC	1,595,952	2,872,039	80%	26%
OH	2,130,322	2,790,508	31%	23%
SC	889,744	1,013,694	14%	19%
TN	1,244,516	1,430,912	15%	20%
VA	935,434	1,722,527	84%	20%
WV	354,544	501,577	41%	28%
CS	14,694,035	19,757,298	34%	22%

Source: CMS, Medicaid & CHIP Monthly Applications, Eligibility Determinations, and Enrollment Reports: January 2014 - June 2025 (preliminary), as of September 26, 2025.
Note: CS is a weighted average of the competitor states.

SUPPLEMENTAL SECURITY INCOME (SSI)

The Supplemental Security Income (SSI) is a Federal income supplement program that is administered by the Social Security Administration (SSA) and funded by general tax revenues (not Social Security taxes). According to the SSA, “It is designed to help aged, blind, and disabled people, who have little or no income, and it provides cash to meet basic needs for food, clothing, and shelter.” Of Kentucky’s 153,000 recipients in 2024, 6 percent were aged and 94 percent were blind and/or disabled. Just over one-third of the recipients were either under 18 (14%) or over 64 years old (22%). As is evident by the figure, the percentage of Kentuckians receiving SSI benefits, 3.3 percent, is higher than the U.S. or competitive state averages (2.2%).

Supplemental Security Income (SSI) Recipients, Kentucky, Competitor States, and the U.S., 1990-2024
(percent of the total population)

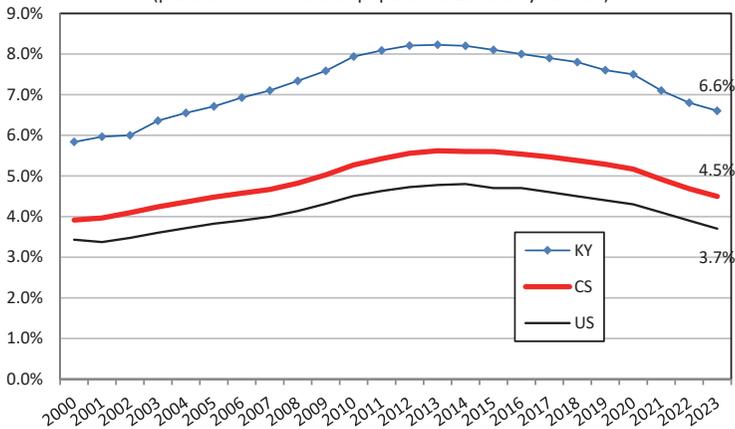


Source: University of Kentucky Center for Poverty Research. 2025. "UKCPR National Welfare Data, 1980-2023." URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 SSI recipients, Table 10 <https://www.ssa.gov/policy/docs/statcomps/ssi_asr/2024/sect02.pdf>.

DISABILITY INCOME (DI)

According to the Social Security Administration, “Studies show that just over 1 in 4 of today’s 20 year-olds will become disabled before reaching age 67.” The Social Security Disability Insurance (SSDI) program pays benefits to disabled individuals and some family members if the individual worked long enough and paid Social Security taxes. Kentucky has a higher than average disability rate so it is not surprising that a higher percentage of the state’s population receive DI benefits. The percentage of Kentuckians between 18 and 64 years old who receive DI benefits is 6.6 percent, markedly higher than both the competitor state (4.5%) and U.S. (3.7%) averages. The average monthly benefit nationally for disabled workers is about \$1,537.

**Disability Income (DI) Recipients (18-64 Years Old),
Kentucky, Competitor States, and the U.S., 2000-2023**
(percent of the resident population 18 to 64 years old)

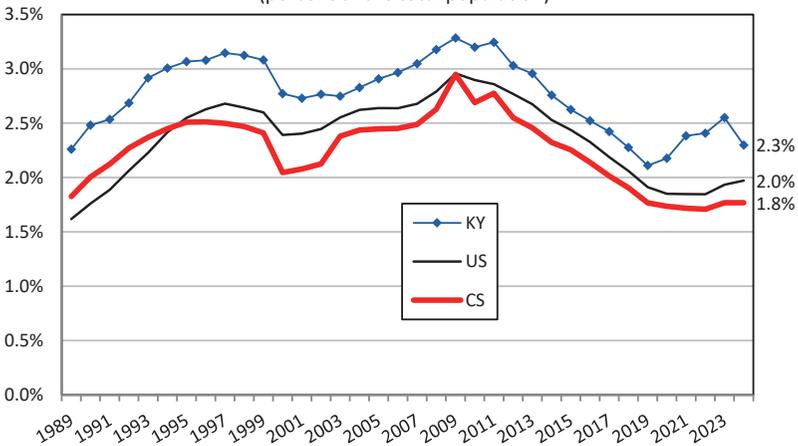


Source: Social Security Administration, Annual Statistical Report on the Social Security Disability Insurance Program, various years <available at https://www.ssa.gov/policy/docs/statcomps/di_asr/2023/>.

WOMEN, INFANTS, AND CHILDREN (WIC)

Women, Infants, and Children (WIC) is a federal nutrition program for “supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.” In Kentucky, around 2.3 percent of the population receives WIC benefits; participation has increased markedly since 2019. While Kentucky’s percentage increased from 2019 to 2023, the U.S. (2.0%) and competitor states (1.8%) remained relatively unchanged.

Women, Infants, and Children (WIC) Recipients, Kentucky, Competitor States, and the U.S., 1989-2024
(percent of the total population)

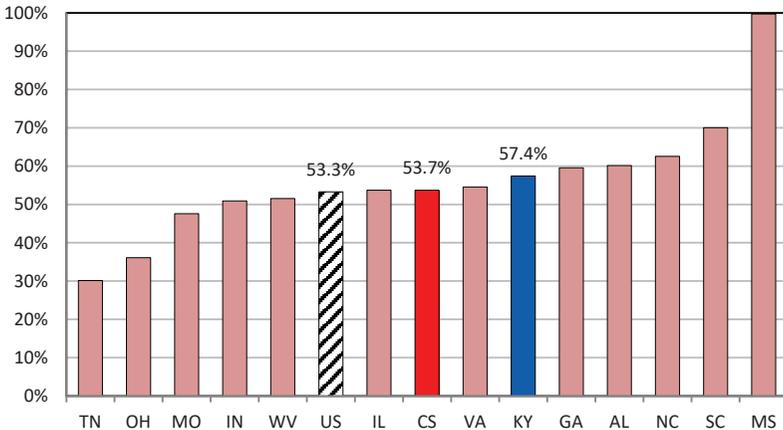


Source: University of Kentucky Center for Poverty Research. 2025. "UKCPR National Welfare Data, 1980-2023." URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 WIC recipients available here: <<https://www.fns.usda.gov/pd/wic-program>>.

FREE- AND REDUCED-LUNCH ELIGIBILITY

Less-advantaged students face many obstacles to educational success. On average, students eligible for free- or reduced-priced lunch in Kentucky follow national trends and do not score as high on standardized tests such as NAEP when compared to students who are not eligible; the same is true for Kentucky’s various state-specific assessment tools, such as the Kentucky Summative Assessment (KSA). Regardless of the assessment system, less-advantaged students do not perform as well, on average, as more-advantaged students. Researchers at organizations like the Education Trust, for example, have examined the underlying reasons for the achievement gap and identified several systemic causes, such as persistent poverty. A student’s eligibility for the free-lunch program is determined by household income and size. During the 2022-2023 school year, Kentucky ranked above the national average with 57.4 percent of public school students eligible for a free- or reduced-priced lunch. The national average is 53.3 percent. Among the 50 states, Mississippi has the highest percentage at 99.7 percent while New Hampshire has the lowest at 23.4 percent. Large changes in state-level percentages have been occurring since the pandemic due to changes in the National School Lunch Program (NSLP) eligibility policies.

Students Eligible for Free or Reduced-Price Lunch, Kentucky, Competitor States, and the U.S.
(percent of public school students, school year 2022-23)



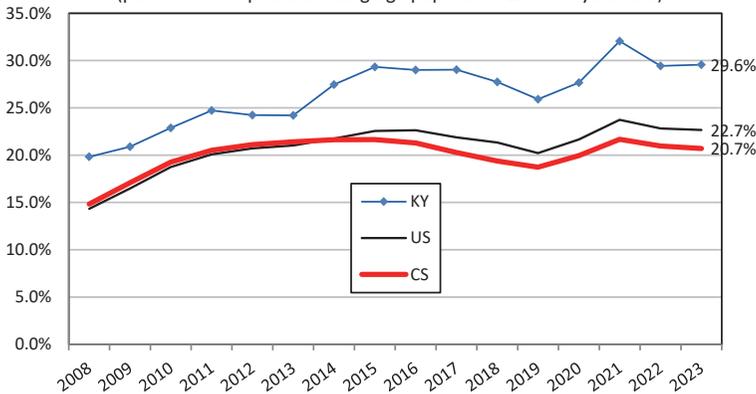
Source: U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 2023, Table 204.10. Number and percentage of public school students eligible for free or reduced-price lunch, by state: Selected school years, 2000-01 through 2022-23. Data were downloaded 6/3/2024.

PUBLIC ASSISTANCE RECIPIENTS

In Kentucky, the percentage of prime working-age individuals, those between 25 to 54 years old, receiving SNAP benefits (the Supplemental Nutrition Assistance Program previously known as Food Stamps), Medicaid health benefits, Supplemental Security Income (SSI), or public assistance income is substantially higher than in the competitor states or the U.S. overall. Indeed, in 2023 nearly 30 percent of prime working-age Kentuckians received public assistance, a statistically significant difference from the U.S. (22.7%) or the competitor states (20.7%) average. In fact, Kentucky’s percentages are statistically higher over the entire period shown in the figure. With around 30 percent of Kentucky’s total population enrolled in Medicaid, a much higher percentage than most states, these results are not particularly surprising. One can see, for example, a discernible increase in Kentucky’s trend line in 2014. This reflects the effect of The Affordable Care Act (ACA), formally known as the Patient Protection and Affordable Care Act (PPACA) and informally as Obamacare, when the ACA’s major provisions came into force.

Economic Security

**Public Assistance Recipients,
Kentucky, Competitor States, and the U.S., 2008-2023**
(percent of the prime working-age population 25 to 54 years old)



Source: Estimated by the author using data courtesy of Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 1-year estimates, 2008 to 2023]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>

Education

E DUCATION AND ECONOMIC prosperity in Kentucky are inseparable. Each fuels the other—higher educational attainment expands opportunity, raises incomes, and strengthens communities, while economic growth provides the resources to invest in human capital. Over the past three decades, landmark reforms such as the Kentucky Educational Reform Act of 1990 and the Postsecondary Education Improvement Act of 1997 have transformed both K–12 and higher education, helping to develop a more skilled workforce and a stronger foundation for growth.

The share of Kentuckians with postsecondary education has risen sharply, from 10 percent of prime working-age adults in 1960 to 40 percent in 2022. Since 2001, the number of workers with at least some college education has grown nearly 35 percent—well above national and regional averages. While Kentucky still trails the U.S. in four-year degrees, the gap is narrowing.

The payoff is substantial. A typical college graduate in Kentucky earns nearly twice as much over a lifetime as a high school graduate, while holders of graduate degrees earn about 2.4 times more. These higher earnings translate into stronger state and local revenues—college graduates pay roughly twice as much in taxes—and greater consumer spending, which circulates through local economies. The link is clear: as education levels rise, so do income, spending power, and community prosperity.

Education also strengthens Kentucky's

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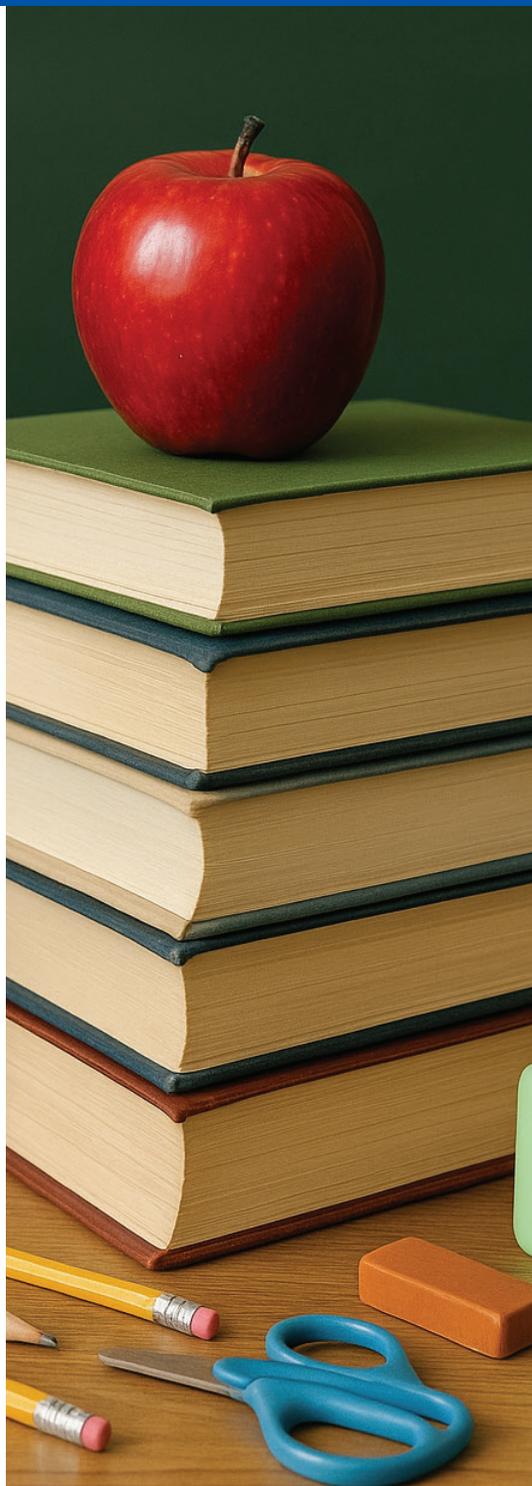


Image generated using OpenAI's ChatGPT. Used with permission.

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labor market. Labor-force participation climbs from 66 percent among those with only a high school diploma to 84 percent among those with a bachelor's degree or higher. Higher education is tied not only to stronger employment prospects but also to healthier lifestyles, lower rates of chronic disease, and reduced dependence on public assistance. A Kentuckian with only a high school education is roughly three times more likely to receive public aid than one with a college degree, underscoring how education alleviates poverty and public cost burdens.

Civic engagement also rises with education. College-educated Kentuckians are far more likely to volunteer and vote, reinforcing community cohesion and social capital. Volunteerism doubles between those with high school and graduate degrees, while the likelihood of voting increases from roughly half to nearly three-quarters. These patterns create a virtuous cycle—educated, civically engaged communities are more attractive to employers and better equipped for long-term growth.

Yet progress is uneven. Educational attainment varies widely across the state: only seven counties exceed the national average for bachelor's degrees, while more than 100 fall below the Kentucky average. Economic disadvantage also undermines academic achievement—students from low-income families score less than half as high as their peers—on state and national assessments. Early educational experiences compound the challenge: fewer than half of Kentucky's kindergarten entrants are deemed school-ready, and only about 28 percent of three- and four-year-olds are enrolled in public pre-kindergarten programs. Yet every dollar invested in high-quality early childhood programs yields multiple dollars in long-term economic returns.

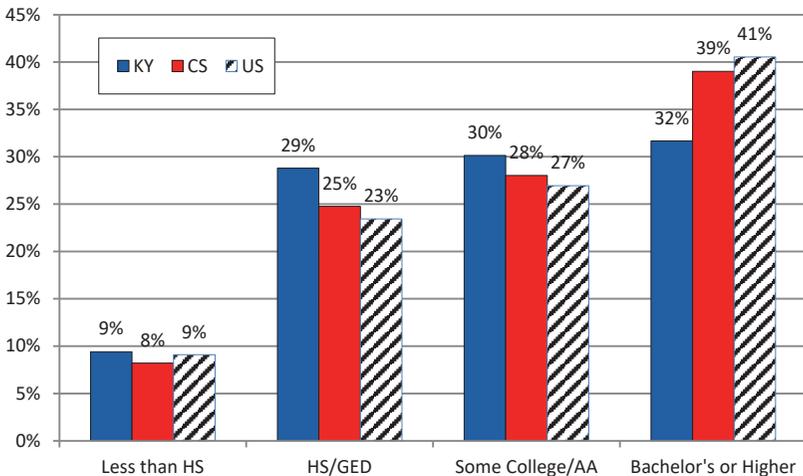
High school graduation rates in Kentucky are encouraging—at 90 percent, the state exceeds the national average—but postsecondary preparation lags. Only about one in four graduates meet ACT college-readiness benchmarks in three or more subjects, and just 15.5 percent of students score 3 or higher on Advanced Placement exams, well below the U.S. rate. Kentucky also produces fewer science and engineering graduates per capita than most competitor states, limiting access to high-wage, high-demand STEM careers.

Despite these challenges, the trajectory is positive. Since 1990, the share of adults with a four-year degree has doubled, and more Kentuckians are entering skilled and technical fields than ever before. The evidence is unequivocal: education fuels economic advancement, improves health and civic engagement, and reduces inequality. To sustain growth, Kentucky must continue expanding educational access and quality from preschool through college. The state's future prosperity—and its ability to compete in a knowledge-driven economy—depends on its continued investment in people.

EDUCATIONAL ATTAINMENT

Constituting the foundation of individual well-being and community prosperity, *education* is the principal factor driving a state’s current and future economic prosperity. Without a highly educated population and skilled workforce, Kentucky will fall behind in the never-ending race for competitive advantage. While economists find that higher levels of educational attainment and economic innovation are the two most important factors affecting a state’s economic success, year after year corporate leaders, when surveyed, indicate that “the availability of skilled labor” is the most important factor driving their site selection decisions (*Area Development Magazine*, Annual Corporate Surveys, various years). Education, training, and other productivity-boosting factors are the key ingredients of a skilled workforce. According to a report by the Lumina Foundation, by 2025, about 60 percent of all jobs in the United States will require postsecondary education or training. This includes not only bachelor’s degrees but also associate degrees, industry certifications, and apprenticeships. While about 62 percent of Kentucky’s prime working-age population have, at a minimum, some college, the state trails the competitor states and the U.S., as each is at least 67 percent.

Educational Attainment, 2024
Kentucky, Competitor States, and the U.S.
 (prime working-age adults, 25 to 54 years old)



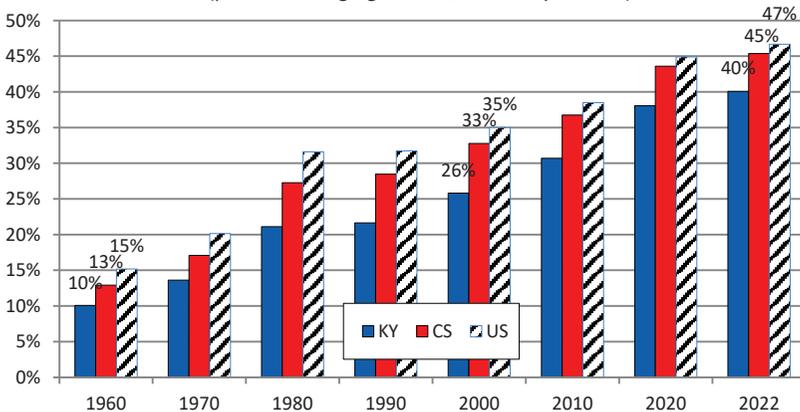
Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS.

POST-SECONDARY EDUCATION

The Kentucky Council on Postsecondary Education released its 2022-2030 state plan for higher education in February 2022. The overall goal, as articulated in *Higher Education Matters: A Statewide Strategic Agenda for Kentucky Postsecondary Education*, is to increase the percentage of Kentuckians with a postsecondary degree or certificate to 60 percent by the year 2030. The U.S. Bureau of Labor Statistics estimates that around 67 percent of the *new* occupational positions created nationally from 2023 to 2033, and about 41 percent of the *total* jobs in 2033, will require at least some college (BLS, Employment Projections, Table 1.2 Occupational Projections 2023-33). The percentage of jobs requiring some education, training, or credentials beyond high school has increased over time. This is reflected in the chart shown below. The percentage of prime working-age adults (25 to 54 years old) in Kentucky with at least two years of post-secondary education increased from 10 percent in 1960 to 40 percent in 2022, and the BLS occupational projections suggest a continuation of this trend. The chart also shows that Kentucky consistently lags behind the competitor states and the U.S. Kentucky, for instance, reached a level in 2020 that the U.S. and its competitor states reached a decade earlier. This suggests, of course, that our state needs to work harder to keep pace with the competition.

Education

**Two or More Years of Post-Secondary Education,
Kentucky, Competitor States, and the U.S.**
(prime working-age adults, 25 to 54 years old)



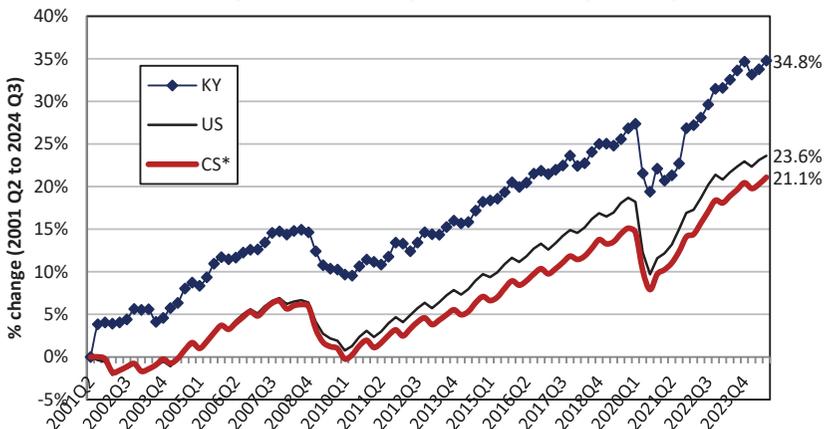
Source: Author's analysis of U.S. Census Bureau data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [1960 5% sample; 1970 Form 1 State 1%; 1980, 1990, & 2000 5% samples; 2010, 2020, & 2022 ACS 5-Year]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

WORKFORCE BY EDUCATION

Two legislative acts in the last three and a half decades laid the foundation for educational change in the Commonwealth—the Kentucky Educational Reform Act of 1990 (KERA) and the Kentucky Postsecondary Educational Improvement Act of 1997. The principal goal of the former was to improve K-12 educational achievement while the main goal of the latter was to increase educational attainment. Both have helped to increase the number of individuals in Kentucky’s workforce with a higher levels of postsecondary education, which, as illustrated in the graph below, has outpaced the competitor states and the U.S. Some of the Kentucky increase, however, could be due to migration into the state. The number of individuals in Kentucky’s workforce with at least a some college increased by 34.8 percent from mid-2001 to mid-2024, a much higher rate compared to the competitor states (21.1%) or the U.S. (23.6%). Kentucky still trails the competitor states and the U.S. in the percentage of its prime working age population with a bachelor’s degree or higher, but this growth rate suggests that the gap is narrowing. While all post-secondary degrees or credentials add value to the workforce and are, on average, associated with positive returns to an individual’s income, employment, and health, to name a few benefits, it is the four-year degrees and higher that garner the greatest returns.

Employment with Postsecondary Education, Kentucky, Competitor States* & the U.S.

(Some College & Associates Degree, Bachelor’s Degree & Higher)

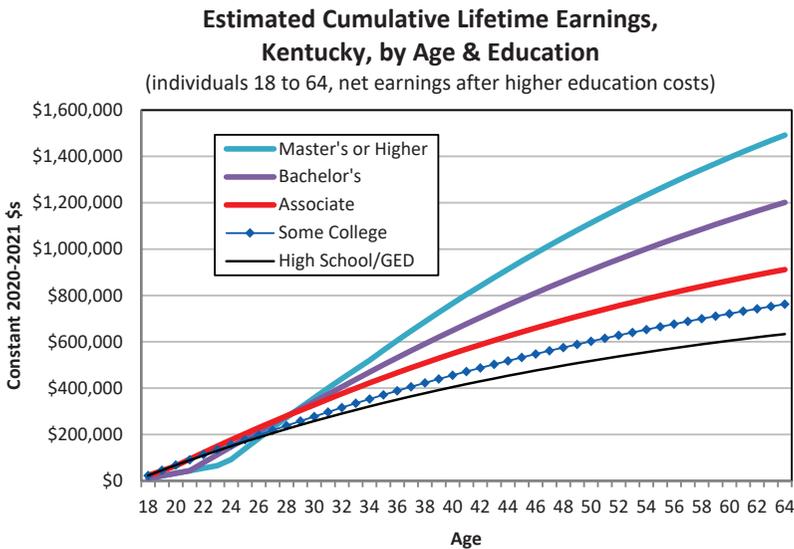


Source: Estimated by the author using U.S. Census, LED Extraction Tool, Quarterly Workforce Indicators (QWI), <<https://ledextract.ces.census.gov/qwi/all>>, data downloaded 10/28/2025.

Note: CS* denotes a modified collection of competitor states that excludes Mississippi and Missouri, due to several quarters of missing workforce data.

LIFETIME EARNINGS BY EDUCATIONAL ATTAINMENT

Education pays in a lot of ways—higher earnings, increased labor force participation, better health, and more civic involvement are just a few of the benefits. These benefits accrue, on average, with each earned degree, and the wage differential between those with high and low levels of education is stark. We use statistical methods designed to isolate the impact of education on earnings from the many other known factors such as age and gender which affect earnings too. We estimate that a typical college graduate in Kentucky will have lifetime earnings, from 18 to 64 years old, nearly double that of a high school graduate, a wage premium that is 1.9 times higher. The ratios for associate degree holders (1.4) and graduate degree holders (2.4) are also significant. The estimated lifetime earnings premium for a typical Kentucky high school graduate are just over \$600,000, compared to \$1.2 million for a bachelor’s degree holder (in 2020-2021 dollars). The trajectories of the cumulative lifetime earnings by credential illustrate that it does not take long for an individual pursuing higher education to catch up with the high school graduate and surpass them, even when accounting for the out-of-pocket costs of postsecondary education as well as the opportunity costs of delayed entry to the labor force.

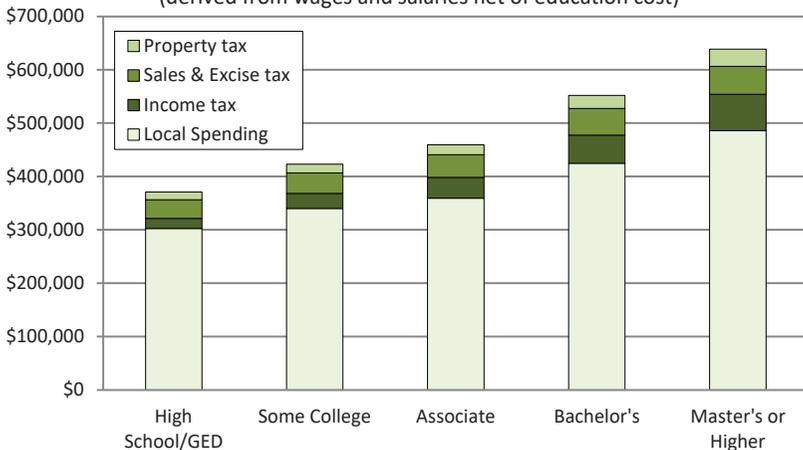


Source: Model-based estimates calculated by the Center for Business and Economic Research (CBER), Gatton College of Business and Economics, University of Kentucky, using U.S. Census, American Community Survey, 2021 and 2022 1-Year estimates, PUMS, using a 3 percent discount rate.

FINANCIAL IMPACT BY EDUCATIONAL ATTAINMENT

One effect of higher personal incomes, as illustrated on the facing page, is more tax revenue for state and local governments. Using the tax distribution framework developed by the Institute on Taxation and Economic Policy (ITEP), we estimate that an individual with a bachelor’s degree will pay twice the amount of state and local income, sales, and property taxes as someone with a high school diploma. Compared to a high school diploma, an associate degree (46% more), bachelor’s degree (86%), and graduate degree (123%) are associated with higher tax revenue. Another financial benefit is higher levels of consumer spending. When consumers spend money at local businesses, the dollars cascade through the local economy. One person’s spending is another person’s salary, which can also be spent, and thereby contribute to another person’s salary, and so on. This is known as the “local multiplier effect,” and it can significantly boost a community’s economic vitality. Using the 2023 Consumer Expenditure Survey as a guide, we can estimate average expenditures by education level. Local consumer spending is 40 percent higher for a bachelor’s degree holder compared to someone with only a high school diploma, holding other factors constant. Over the course of a working career, someone with a higher income will obviously have much greater spending power, even if they are spending a lower portion of their income.

Estimated Cumulative Financial Impact, Kentucky, Age 18 to 64, by Educational Attainment
(derived from wages and salaries net of education cost)



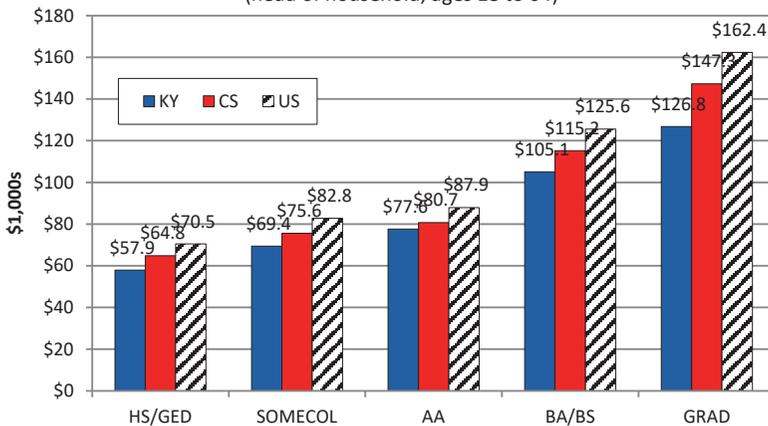
Source: Estimates calculated by the Center for Business and Economic Research (CBER), Gatton College of Business and Economics, University of Kentucky, using U.S. Census, American Community Survey, 2021 and 2022 1-Year estimates, PUMS; Institute on Taxation and Economic Policy (ITEP), Who Pays? 7th Edition

FAMILY INCOME BY EDUCATION

Economists and other researchers have long studied the relationship between education and earnings. On average, as education goes up, so do earnings. Using data from the U.S. Census Bureau American Community Survey (ACS) for the years 2021-2022, statistical methods were used to isolate the relationship between education and family income while holding other known factors constant that also affect earnings, such as age, sex, race, ethnicity, and location of residence. The differences between a high school diploma or GED and virtually any level of postsecondary education are striking. Across the board, Kentucky, the competitor states, and the U.S. show that someone with a Bachelor’s degree have family income around 80 percent higher than someone with a high school diploma. An important component of family income is wages and salaries. Those with higher levels of education have realized wage gains since the 1970s, while those with only a high school credential, or less, have experienced large declines in hourly wages. Wages for Kentuckians with only a high school credential have declined since the late 1970s, while the wages of Kentuckians with a Bachelor’s degree have slightly increased. The lesson here is clear: to get ahead financially in today’s labor market, it is essential to have higher levels of education.

Education

**Estimated Family Income by Education,
Kentucky, Competitor States, and the U.S., 2021-2022**
(head of household, ages 18 to 64)

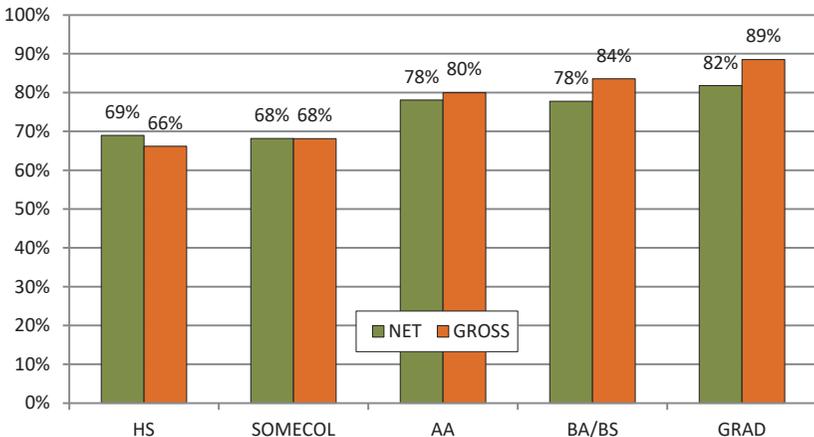


Source: Estimated by CBER using data courtesy Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [ACS 1-year 2021 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

LABOR FORCE PARTICIPATION BY EDUCATION

There is a positive association between educational attainment and labor force participation, as shown in the graph below. There is a consistent rise in the labor force participation rates as education levels increase from a high school diploma to a bachelor’s degree or higher for working-age adults who are 18 to 64 years old. The “gross” estimates (i.e., averages for the educational categories) show an 18 percentage-point increase in the estimated labor force participation rate in Kentucky from high school (66%) to bachelor’s degree (84%). The “net” percentages reflect the estimated relationship between educational attainment and labor force participation while holding other factors constant, like sex, age, family income, race, ethnicity, urbanity, and marital status. The same upward trend of increasing labor force participation with higher levels of educational attainment is evident. The variable used here indicates whether an individual was a part of the labor force—working or seeking work—and, if so, whether the person was currently unemployed. In short, one can be employed or unemployed, and be part of the labor force. The labor force participation net percentage differences between high school (69%) and those with an associate degree (78%), bachelor’s degree (78%), or graduate degree (82%) are all statistically significant. Likewise, the gross percentages for AA, BA/BS, and GRAD are statistically different from HS.

**Labor Force Participation
by Educational Attainment, 2023**
(Kentucky estimates, 18 to 64 years old)



Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 11.0 [CPS, Basic Monthly, Jan.-Dec. 2023]. Minneapolis, MN: IPUMS, 2023. <https://doi.org/10.18128/D030.V11.0>

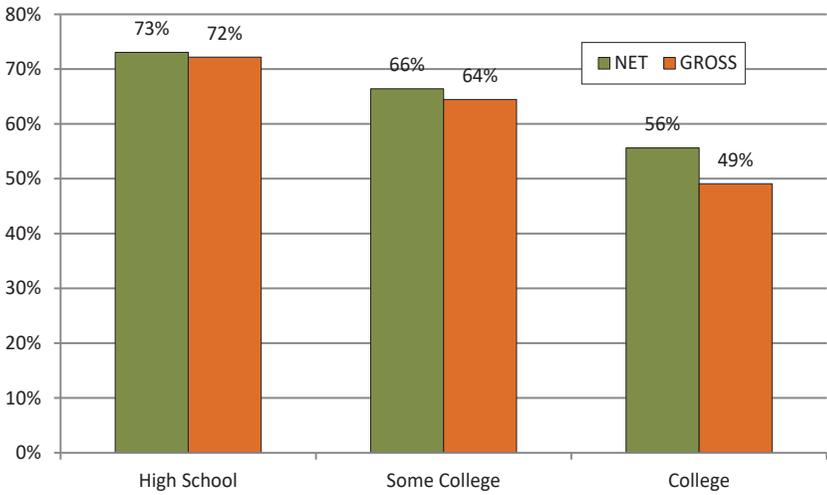
HEALTH BY EDUCATION

An estimated 90 percent of the nation’s \$4.5 trillion annual health care expenditures is for people with chronic and mental health conditions, such as heart disease, cancer, stroke, diabetes, and arthritis. Much of the chronic disease is caused by four preventable health risk behaviors—lack of exercise, poor nutrition, smoking, and heavy alcohol consumption. Compared to the average American, Kentuckians are more likely to smoke, be obese, and not engage in regular physical activity. However, higher levels of education are associated with healthier behaviors and lower rates of chronic diseases. We estimate differences in chronic disease risk behaviors by education levels by analyzing data from the Behavioral Risk Factor Surveillance System (BRFSS) while controlling for other factors, such as race, ethnicity, sex, age, urbanity, marital status, and income. For Kentucky, chronic disease risk behaviors *decrease* as education levels go up. Using net percentages as an example, the estimated chronic disease risk behaviors decline from 73 percent to 56 percent as educational attainment increases from a high school diploma to a college degree. The chronic disease risk behavior net percentage differences between high school (73%) and those with some college (66%) or college (56%) are all statistically significant. The gross percentages for some college and college are statistically different from high school as well.

Education

**Chronic Disease Risk Behaviors
by Educational Attainment, 2018-2022**

(Kentucky estimates, 18 to 64 years old)

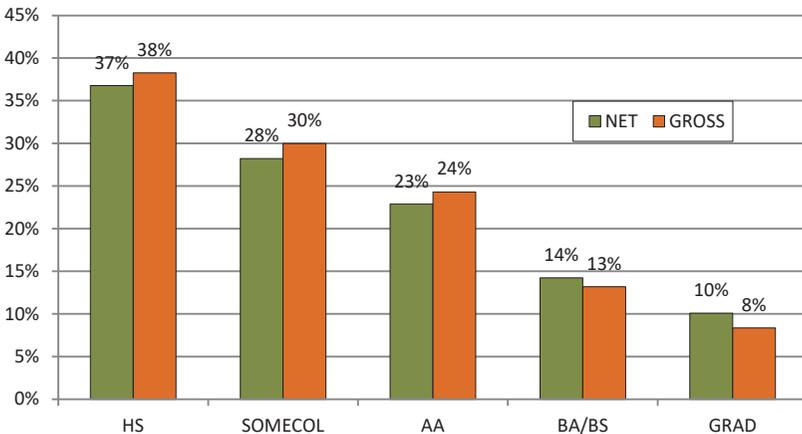


Source: Estimated by CBER using CDC Behavioral Risk Factor Surveillance System data, data pooled for 5 years.

PUBLIC ASSISTANCE BY EDUCATION

In Kentucky, the percentage of high school graduates 18 to 64 years old receiving SNAP benefits (the Supplemental Nutrition Assistance Program previously known as Food Stamps), Medicaid health benefits, Supplemental Security Income (SSI), or public assistance income is 2.9 times higher than those with a bachelor’s degree—38 percent compared to 13 percent (gross percentages). After controlling for age, marital status, sex, urbanity, race, and ethnicity, the relationship between education and receiving public assistance remains strong (net percentages). As illustrated below, a Kentucky high school graduate is estimated to be 2.6 times more likely to receive public assistance (37%) than someone with a bachelor’s degree (14%). Studies show that public assistance participation rates decline as education levels increase, translating into cost savings for the state. Importantly, this relationship—higher levels of educational attainment associated with lower levels of public assistance program participation—holds across a range of public assistance programs. The public assistance recipient net percentage differences between high school (37%) and those with some college (28%), associate degree (23%), bachelor’s degree (14%), or graduate degree (10%) are all statistically significant. The gross percentages for SOMECOL, AA, BA/BS, and GRAD are also statistically different from HS.

**Public Assistance
by Educational Attainment, 2021-2022**
(Kentucky estimates, 18 to 64 years old)



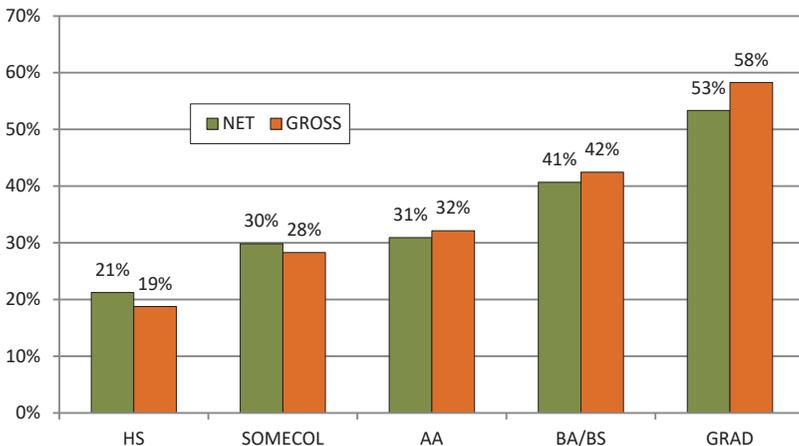
Source: Estimated by CBER using data courtesy of Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [ACS 2021 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

VOLUNTEER RATE BY EDUCATION

Studies have linked participation in civil society, volunteering for example, to higher levels of community prosperity, higher achievement in schools, and improved individual health. Volunteers can tackle problems such as poverty, illiteracy, and drug abuse that public or private sectors have not adequately addressed, making a community more attractive for economic development. Some research even suggests that members of communities with high levels of civic participation enjoy better health and live longer. We present volunteer estimates for Kentucky for individuals with a high school degree only, some college (but no degree), associate degree, bachelor’s degree, and graduate degree. The net percentages reflect the association between education and volunteering while holding other factors constant, such as income, gender, race, urbanity, and age. There is a clear and consistent relationship between increasing education levels and higher rates of volunteerism. Individuals with a bachelor’s degree volunteer at a significantly higher rate (42%) than those with a high school education (19%). The volunteerism *net* percentage differences between high school (21%) and those with some college (30%), associate degree (31%), bachelor’s degree (41%), or graduate degree (53%) are all statistically significant. The gross percentages for SOMECOL, AA, BA/BS, and GRAD are also statistically different from HS.

Education

Volunteerism by Educational Attainment, 2002-2023
(Kentucky estimates, 18 to 64 years old)

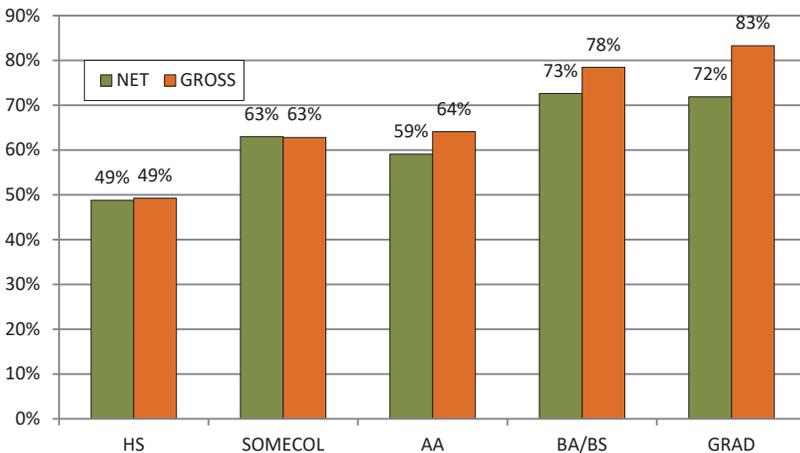


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2002-2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

VOTING BY EDUCATION

Voting is a basic act of civic engagement and community involvement. Strong, resilient, and vibrant communities are created and nurtured by engaged and connected citizens. Many scholars have advanced the idea that strong community structures are beneficial to economic health. Pulling from the existing economic development literature, The World Bank notes that “development and growth specialists are uncovering the importance of social cohesion for societies to prosper economically and for development to be sustainable.” Voting, which is an act of civic engagement that facilitates the growth of social capital, increases with higher levels of educational attainment. We estimate that in Kentucky the net association between education and voting would suggest that bachelor’s degree holders (73%) would be 1.5 times more likely to vote than those with a high school diploma (49%), while holding other factors constant, such as marital status, sex, race, ethnicity, urbanity, age, and family income. The voting net percentage differences between high school (49%) and those with some college (63%), associate degree (59%), bachelor’s degree (73%), or graduate degree (72%) are all statistically significant. The gross percentages for SOMECOL, AA, BA/BS, and GRAD are also statistically different from HS.

Voting by Educational Attainment, 1982-2022
(Kentucky estimates, 18 to 64 years old)



Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 11.0 [Voting and Registration Supplement, 1982 to 2022].
Minneapolis, MN: IPUMS, 2023. <https://doi.org/10.18128/D030.V11.0>

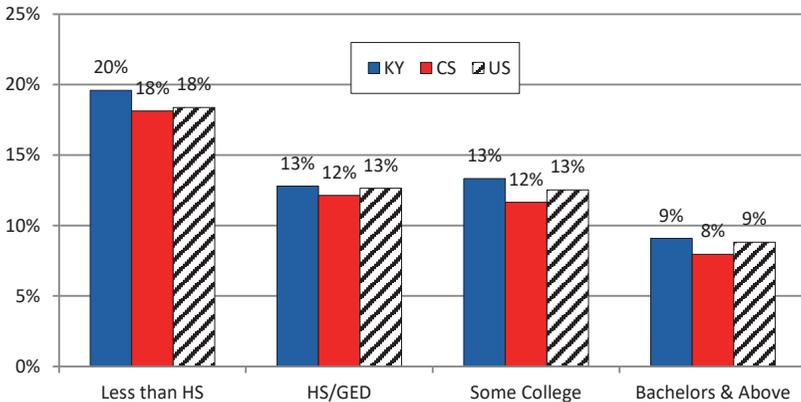
FOOD INSECURITY BY EDUCATION

Food security is defined as having “access at all times to enough food for an active, healthy life for all household members,” while food insecurity means “that the food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food.” During the three-year period, from 2021 to 2023, the household food insecurity percentage in the United States and Kentucky was, respectively, 12.2 and 14.5 percent. We estimate the relationship between education and food security using a model-based approach that controls for other factors, such as work status, family income, age, gender, race, ethnicity, marital status, and whether one lives in a rural or urban area. While holding these factors constant, we find that higher levels of education are clearly associated with lower levels of food insecurity—even for individuals with similar income levels and employment statuses.

Education

**Food Insecurity by Educational Attainment
Kentucky, Competitor States and the U.S.**

(net effect of educational attainment, ages 25 and older, percentage)

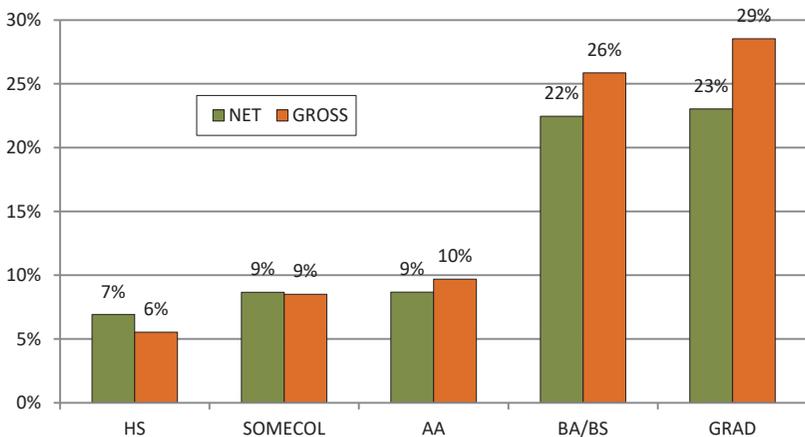


Source: Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [CPS Food Security Supplement, 2000 to 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

TELEWORK BY EDUCATION

Social distancing policies were used during the pandemic to thwart the spread of disease. The efficacy of these approaches, however, is largely determined by the extent to which individuals adhere to it. The ability to work remotely can facilitate adherence to social distancing requirements with minimal financial pain for workers. The ability to telework is viewed as a vital factor in improving community resilience during natural disasters. The graph below shows how a college degree is related to the ability to telework. For example, an individual in Kentucky with a high school diploma or GED is likely to have a lower likelihood of being able to telework (7%) compared to someone with a bachelor’s degree (22%). This is the estimated effect of education while holding many other factors constant, including marital status, sex, age, race, ethnicity, urbanity, and family income. The teleworking net percentage differences between high school (7%) and those with a bachelor’s degree (22%) or graduate degree (23%) are statistically significant. The gross percentages for SOMECOL, AA, BA/BS, and GRAD are statistically different from HS. The teleworking net percentage differences between high school (7%) and those with a bachelor’s degree (22%) or graduate degree (23%) are statistically significant. The gross percentages for SOMECOL, AA, BA/BS, and GRAD are statistically different from HS.

Telework by Educational Attainment, 2022-2024
(Kentucky estimates, 18 to 64 years old)

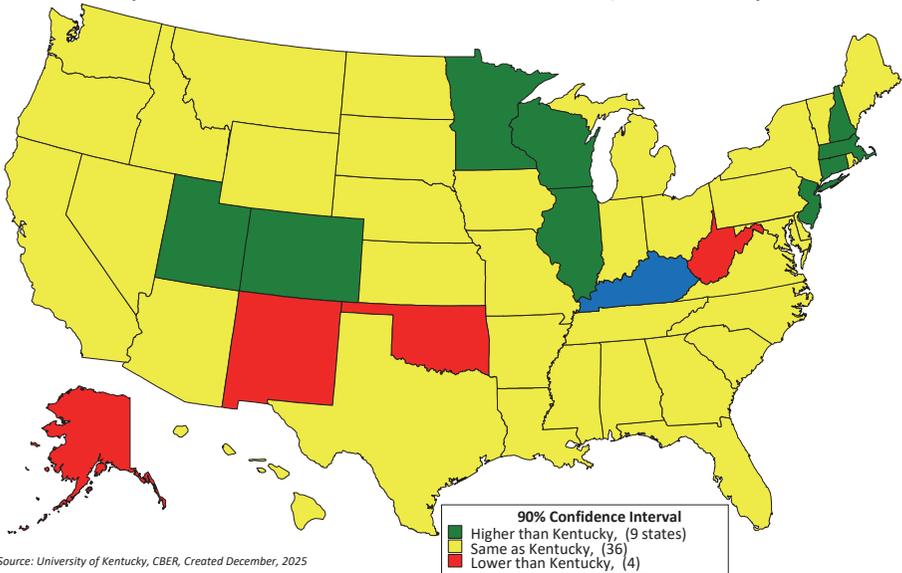


Source: Estimated by CBER using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 11.0 [CPS, Basic Monthly, October 2022 to March 2024]. Minneapolis, MN: IPUMS, 2023. <https://doi.org/10.18128/D030.V11.0>

EDUCATION INDEX

The map below shows how educational outcomes in Kentucky compare to those in other states. Based on nine educational attainment and achievement factors combined into a single index (see the table on the following page), Kentucky is statistically higher than 4 states, lower than 9 states, and no different statistically from 36 states (using a 90% confidence interval). Looking at Kentucky’s competitor states, this Index shows that Kentucky ranks higher than West Virginia and lower than Illinois, but is not statistically different from any other nearby competitor state.

Kentucky's Educational Performance Relative to Other States
(nine measures of attainment and achievement, 2022 to 2024)



Source: University of Kentucky, CBER, Created December, 2025

SELECTED EDUCATIONAL INDICATORS

Some key indicators used to compare states on educational outcomes are listed below. They include measures of educational attainment, such as the percentage of the population 25 to 54 (prime working age) with a high school diploma or bachelor’s degree, as well as educational achievement, including the percentage of students scoring proficient or higher on the various National Assessment of Educational Progress (NAEP) reading and math assessments. Kentucky students were statistically no different from the national public students in 4th grade math, 4th grade reading, and 8th grade reading, or 8th grade math. There is a considerable gap between Kentucky and the top tier of states. The top nine states are those shown in the U.S. map on the facing page as statistically significantly higher than Kentucky on the education index.

Education Indicators, Kentucky, United States, and the Top Nine States, 2022-2024 (percentages)			
Education Indicators	Kentucky	U.S.	Average for Top Nine States†
High School diploma (2024)	90.6	90.9	92.7
Some College (2024)	30.1	26.9	25.2
Bachelor’s degree or Higher (2024)	31.7	40.5	46.8
Adj. Cohort HS Grad Rate (class of 2022)	90.1	87.0	87.1*
8th Grade Math NAEP (2024)	24.3	26.9	34.4
8th Grade Reading NAEP (2024)	28.6	28.7	34.2
4th Grade Math NAEP (2024)	38.4	39.4	43.0
4th Grade Reading NAEP (2024)	32.7	30.5	34.6
Advanced Placement (AP) Mastery (2024)	15.5	22.6	26.4*
†The top nine states are statistically significantly higher than Kentucky (using a 90% confidence interval): CO, CT, IL, MA, MN, NH, NJ, UT, & WI. *Indicates the number is the average of the state averages— <i>not a weighted average</i> of the nine states. Note: High School diploma, Some College (includes “Some college, but less than 1 year,” “1 or more years of college credit, no degree,” and “Associate’s degree”), and Bachelor’s Degree are for those between 25 and 54, the prime working age. The NAEP data reflect the percentage of public students scoring proficient or higher, and the U.S. data represents the National Public. The average of the top nine states is a <i>weighted average</i> using the NAEP Data Explorer tool which can be used to combine states.			

SELECTED OBSTACLES TO EDUCATION

While Kentucky has made educational progress compared to its pre-KERA low point, there is much to be done to improve educational outcomes—and not all of it strictly in the classroom. As is evident by the numbers in the table, obstacles to cost-effective educational performance are more prevalent in Kentucky than in most other places. Each of the factors listed below represents a potential obstacle to optimal educational performance and/or cost-effective educational spending. Considering factors like poverty, parental education, obesity, students’ health status, disability rates, and missed school days, these obstacles, if addressed, could enable better educational outcomes in Kentucky.

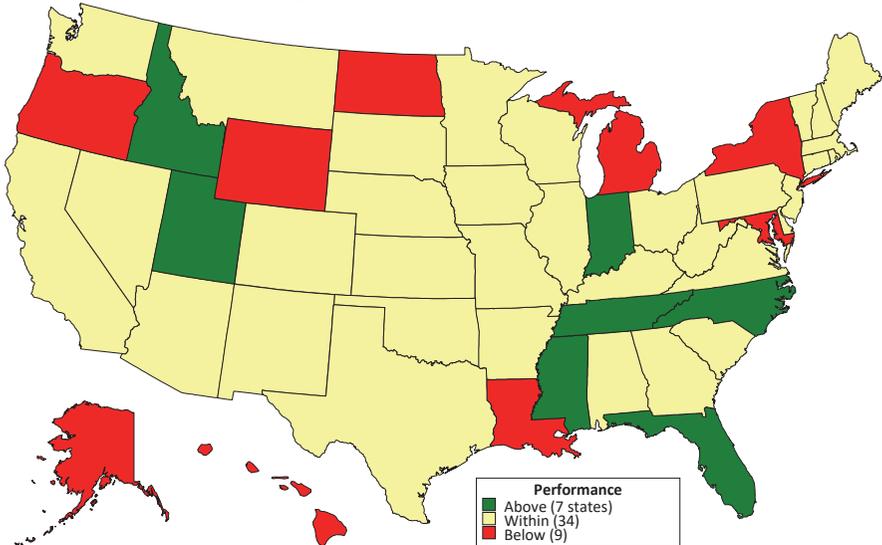
Education

Selected Obstacles to Cost-Effective Educational Performance, Kentucky, the U.S. & the Top 9 Performing States, 2021-2025 (percentages)			
Obstacles	Kentucky	U.S.	Average Top 9 States†*
Children who have at least one parent with a postsecondary degree (2025)	48.2	60.5	67.9
Children eligible for free and reduced priced lunch (2022-23)	57.4	53.3	41.9
Students who live in rural areas (2024)	32.5	15.7	14.6
Children and teens (6 to 17) who are overweight or obese (2022-23)	34.5	32.0	28.3
Students with disabilities as a percent of public school enrollment (2022-23)	16.6	15.2	16.4
Limited English proficiency students as a of total enrollment (2021)	5.4	10.6	8.6
Children (6 to 17) who missed 11 or more school days due to illness/injury (2022-23)	9.6	6.8	7.4
Children (0 to 17) whose overall health is fair or poor (2022-23)	1.6	1.4	1.2
†The top 9 states based on the education index are: CO, CT, IL, MA, MN, NH, NJ, UT, & WI. *Except for the first row (i.e., parents with a degree), these percentages are the averages of the state averages—not a weighted average of the top 9 states.			

EDUCATIONAL SPENDING PER NAEP

Kentucky’s NAEP results show that, on average, an estimated 31 percent of 4th and 8th graders scored proficient or higher on the 2024 math and reading exams. With per pupil expenditures of \$15,357 (adjusted for cost-of-living differences across the states), Kentucky gets an estimated 2.0 NAEP proficiency percentage points for every \$1,000 in per pupil spending. Once we account for the relative differences in obstacles to optimal educational performance and/or cost-effective educational spending faced by the states (e.g., the obstacles are listed in the table on the facing page), we find that Kentucky and 33 other states perform as expected. There are 7 states that perform above expectations, and 9 states perform below expectations.

NAEP Reading & Math Proficiency/Distinguished Points per \$1,000 in Per-Pupil Spending Relative to Selective Obstacles, 2021 to 2025



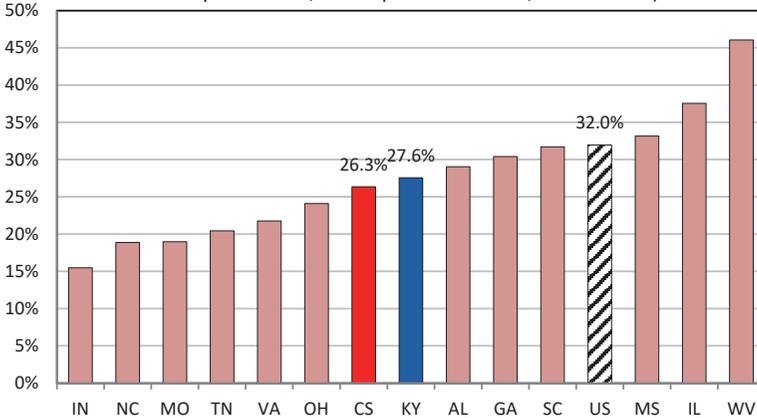
PUBLIC PRE-K ENROLLMENT

The Kentucky Department of Education Kindergarten Readiness Screener data show that under half (46%) of the students who entered kindergarten in the 2022-2023 school year were ready (see the facing page for more details). Early childhood development programs can help. A 2016 RAND study—*Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs*—touts their benefits. “High-quality preschool programs represent a significant investment of resources, but that investment may be paid back through improved outcomes during the school-age years and beyond,” said the authors. They found that “credible estimates of the economic return for full-scale high-quality preschool programs range from about \$2 to \$4 for every \$1 invested.” Similarly, a 2009 CBER study estimated that in Kentucky “the total estimated benefit is more than \$5 for every \$1 the state would invest in an expanded pre-k program.” According to estimates from the National Institute for Early Education Research, 27.6 percent of Kentucky’s 3- and 4-year-olds are enrolled in *public* pre-kindergarten programs.

Education

Enrollment in Pre-K Programs, 2023-2024 School Year Kentucky, Competitor States and the U.S.

(estimated percent of all children 3- and 4-years-old in public Pre-K, Pre-K special education, & Head Start)

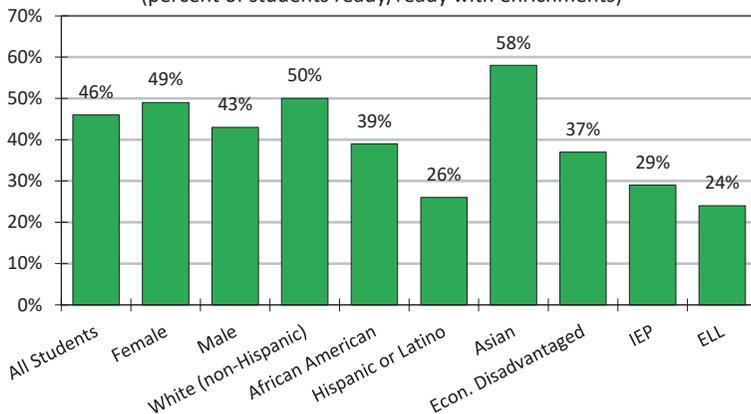


Source: Estimated from *The State of Preschool 2024*, *State Preschool Yearbook*, National Institute for Early Education Research. Note: These estimates likely include some double-counted children since some Head Start children are likely in State Pre-K programs too.

KINDERGARTEN READINESS

Kindergarten students in Kentucky are evaluated on their readiness. The data show that under half (46%) of the students who entered kindergarten in the 2024-2025 school year were ready when assessed on three scales: academic/cognitive; language development; and physical development. Moreover, children with limited English proficiency (24%), poor children (37%), and those with a disability (29%) have even lower levels of readiness. Among race and ethnic groups, Asians, on average, have the highest level of readiness (58%), followed by white non-Hispanics (50%), Blacks (39%), and Hispanics (26%). Research shows that kids who start behind in the early grades have difficulties catching up in the later grades. Early childhood development programs can help mitigate educational disparities. In fact, there is abundant research supporting the efficacy of these enrichment programs. However, according to findings by the Brookings Institution published in early 2022, “high rates of teacher turnover are among the greatest barriers to building high-quality early childhood education (ECE) systems.” Their research finds that increasing teacher pay can substantially reduce teacher turnover, leading to better student outcomes. These programs are expensive, but cost-benefit analyses consistently demonstrate the long-term benefits exceeding the initial investments.

**Kindergarten Readiness in Kentucky
by Selected Categories, 2024-2025 School Year**
(percent of students ready/ready with enrichments)



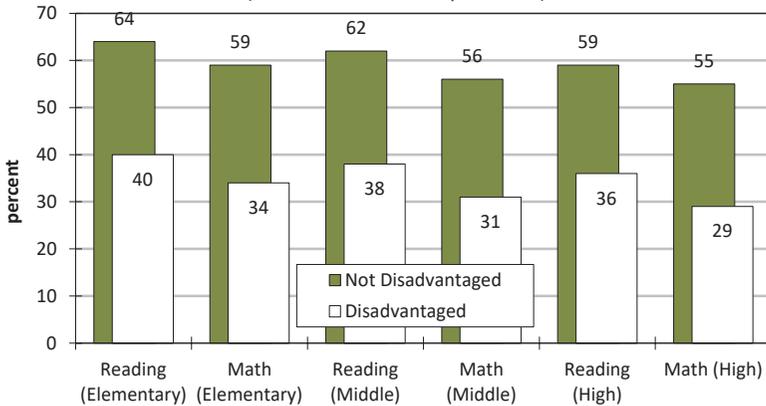
Source: Kentucky Department of Education (KDE), Kindergarten Screen Data, <https://education.ky.gov/AA/Assessments/Pages/K-Screen.aspx>
 Note: IEP signifies students with disabilities, ELL is English Learner

EDUCATIONAL ACHIEVEMENT GAP: KSA

The academic success of disadvantaged children will affect whether the state’s future remains one of disproportionate poverty or gives way to rising prosperity. Economic disadvantage has a significant negative drag on academic performance, and the sheer number of economically disadvantaged students in Kentucky adversely affects overall performance on both state and national tests. Kentucky has one of the nation’s largest populations of students eligible for free or reduced-price lunches (57.4%), a reliable proxy for poverty and need. The different outcomes on Kentucky’s Summative Assessment exams are stark. The percentage of students scoring at or above proficiency is consistently and markedly lower for economically disadvantaged students in every grade and subject area. As shown below in the figure, proficiency levels for disadvantaged students are generally less than half the level of more-advantaged students.

**Kentucky Summative Assessment (KSA) Results
by Economic Status, 2024-2025 School Year**

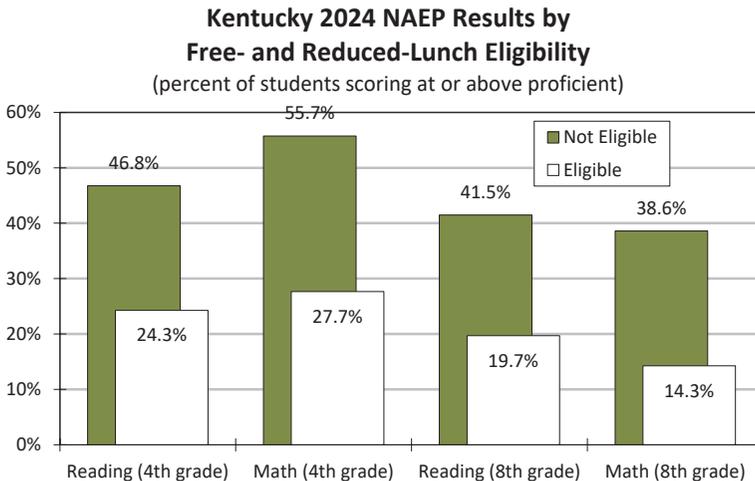
(Students at or above proficient)



Source: Kentucky Department of Education, Assessment and Accountability Datasets 2024-2025, downloaded 11/23/2025, available at: https://www.education.ky.gov/OpenHouse/data/Pages/Assessment_Accountability_Datasets_2024-2025.aspx

EDUCATIONAL ACHIEVEMENT GAP: NAEP

The different outcomes on the National Assessment of Educational Progress (NAEP) exams are as striking as those on the Kentucky Summative Assessment (see the facing page). The percentage of students scoring at or above proficiency is consistently and markedly lower for less-advantaged students regardless of grade or subject area. As evident below in the figure, proficiency levels for less-advantaged students are generally less than half the level of more-advantaged students. Kentucky is not alone—the achievement gap between economically advantaged and disadvantaged students is just as pronounced for the U.S. overall and the competitor states.



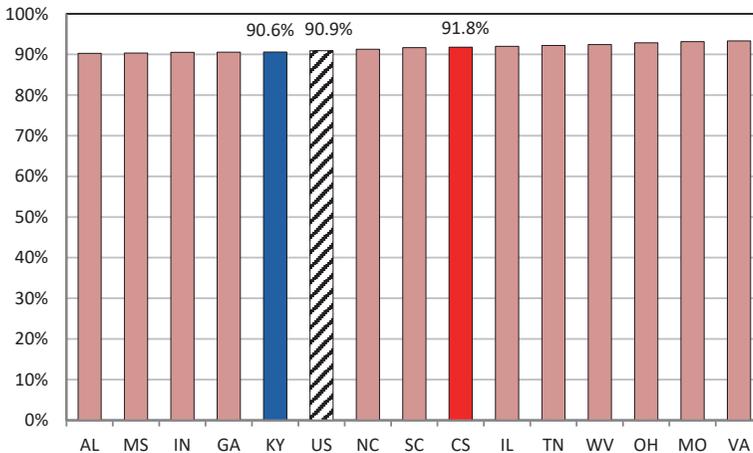
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2024 Reading & Math Assessments. <https://www.nationsreportcard.gov/ndecore/xplore/NDE>, accessed September 9, 2025

HIGH SCHOOL ATTAINMENT

Kentucky’s labor force increasingly competes in a global environment that demands rising levels of educational attainment. At a minimum, today’s workers need a high school diploma. Following the education reforms of the early 1990s, Kentucky’s adult population (25 and older) made significant gains, as the portion with a high school diploma or higher rose from 65 percent in 1990 to 88.9 percent in 2024. At the same time, the nation improved to 89.9 percent, which is statistically higher than Kentucky’s 88.9 percent. Looking just at those individuals 25 to 54—the prime working age group—Kentucky’s 90.6 percent is statistically the same as the U.S. average of 90.9 percent, but statistically lower than the competitor state average of 91.8 percent. Among the competitor states, none have statistically significant lower rates, seven are statistically significantly higher, and five are statistically the same as Kentucky (AL, GA, IN, MS, & NC). Among all states, 30 are higher, 6 are lower, and 13 are statistically the same as Kentucky. California has the lowest high school attainment rate (87.4%) and Vermont has the highest (96.3%).

Education

**High School Graduate or Higher,
Kentucky, Competitor States and the U.S., 2024**
(percent of individuals 25 to 54 years old)

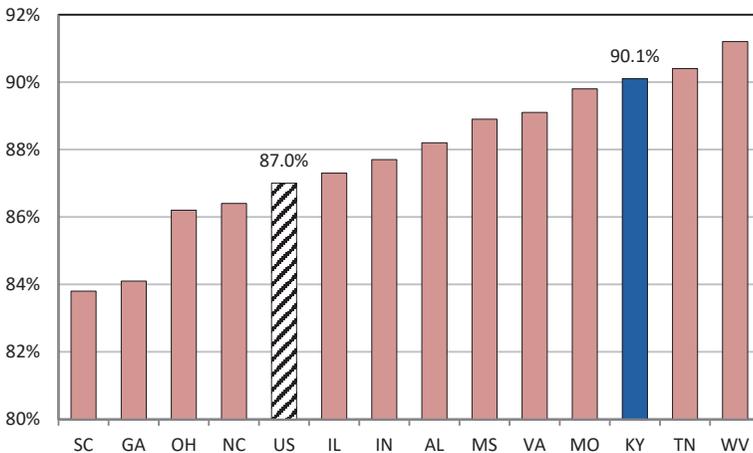


Source: Estimated by the author using the 2024 1-Year U.S. Census ACS PUMS.

HIGH SCHOOL GRADUATION RATE

The adjusted cohort graduation rate (ACGR) for public high school students in the United States in the 2021–2022 school year was 87 percent. Nationally, however, there is wide variation among racial and ethnic groups (i.e., Asian/Pacific Islander students, 94%; white, 90%; Hispanic, 83%; Black, 81%; and American Indian/Alaska Native: 74%). There are important economic consequences of dropping out of high school—for the individual, of course, but also for the wider community. The U.S. Department of Education data shown in the figure below are the latest data for the competitor states and Kentucky, which are for the 2021-2022 school year. As one can see by the figure, Kentucky is well positioned among the competitor states with a 90.1 percent adjusted cohort graduation rate (ACGR). At 91.2 percent, West Virginia has the highest ACGR in the country while New Mexico has the lowest at 76.6 percent; DC is lower than any state, with a value of 76.4 percent.

**Graduation Rate, 2021-2022 School Year,
Kentucky, Competitor States, and the U.S.**
(four-year regulatory adjusted cohort graduation rate)



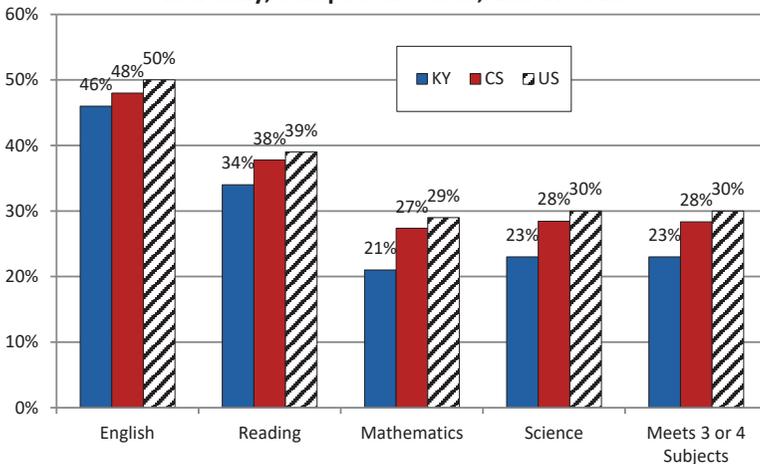
Source: U.S. Department of Education, ED Data Express, Data Library, Four-Year Adjusted-Cohort Graduation Rate and Cohort Count, data as of 5/24/2023

COLLEGE READINESS

The national average Composite score for the graduating class of 2025 is 19.4 (unchanged from 1994), down slightly from 19.5 for the class of 2023, the lowest average score since 1991. The reason: it is thought that the academic challenges created by the COVID-19 pandemic dampened performance. However, Kentucky was on a downward trend before the pandemic. An estimated 23 percent of Kentucky’s recent high school graduates are considered “college ready” in 3 or 4 of the tested subjects—English, reading, mathematics, and science. The percentage of students nationally and in the competitor states who are “college ready” in 3 or 4 subjects is higher than it is in Kentucky, 30 and 28 percent respectively. It should be noted that one reason for Kentucky’s lower percentage is that since 2009 state law mandates that every 11th grader take the ACT—even those who have no interest or intention of going to college. In contrast, 50 percent of the graduating class in the competitor states and 36 percent nationally took the ACT in 2025. There is a strong inverse relationship between the percentage of students tested and the percentage who are college and career ready in 3 or more subjects.

Education

Percent of 2025 ACT-Tested High School Graduates Meeting College Readiness Benchmarks by Subject, Kentucky, Competitor States, and the U.S.

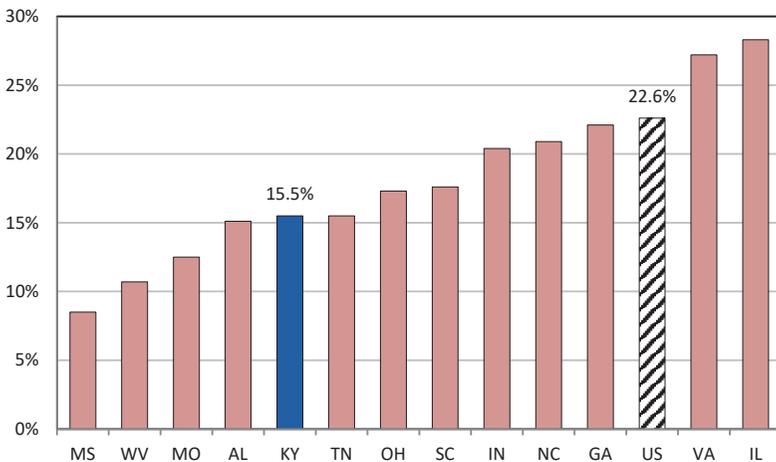


Source: U.S. High School Class of 2025 Graduating Class Data, 2025, ACT, Inc.

ADVANCED PLACEMENT EXAM MASTERY

In order to pass an Advanced Placement (AP) examination, a high school student must demonstrate mastery of college-level material. Indeed, many colleges and universities award college credit for students showing AP mastery (scoring 3+ on an exam). The National Conference of State Legislatures reports that 28 to 40 percent of first-time undergraduates take at least one remedial course. These high percentages highlight the importance of high school students being challenged academically so they are better prepared in college. The College Board, which administers the advanced placement program, offers 35 different AP exams each spring on subjects ranging from Art History to Calculus to Macroeconomics. In 2024, there were over 1.2 million U.S. public high school graduates who had taken an AP exam at some point, with 22.6 percent scoring a 3 or higher. This is a substantial increase from the 16.2 percent in 2010. Kentucky’s students have also increased their performance on AP exams over the years, from 11.3 percent in 2010 to 15.5 percent in 2024. Massachusetts had the highest percentage of students in the class of 2024 scoring a 3 or higher on an AP exam during high school—32.8 percent. Mississippi (8.5%), Oklahoma (10%), and Louisiana (10.1%) were the lowest.

High School Students Scoring 3+ on AP Exams, Kentucky, Competitor States, and the U.S., 2024
(percent of graduating students)



Source: College Board, AP Report to the Nation, various years, and the AP Cohort Data, Graduating Class, 2024

PERFORMANCE ON STANDARDIZED TESTS: NAEP

The pandemic exacted a high cost on student learning. The National Assessment of Educational Progress (NAEP), commonly known as the “Nation’s Report Card,” gauges student progress in a variety of subject areas, including reading, mathematics, and science. When the 2022 results were released in October 2022, it showed falling math and reading scores in nearly every state. Here we present the test results for 4th and 8th graders from 2005 to 2024. Before the pandemic, Kentucky 4th graders experienced large gains in math and more modest gains in reading. At the 8th grade level, Kentucky students have demonstrated modest gains in math, but have consistently trailed the national performance. Reading proficiency for Kentucky 8th graders rose to levels that were significantly higher than the national percentages in 2011 and 2013, but have since fallen to a level similar to 2007. Performance in science has been unchanged, but generally better than the national public. In 2024, Kentucky students were statistically no different from the national public students in 4th grade math, 4th grade reading, and 8th grade reading, and 8th grade math. However, while Kentucky students improved in 2024 compared to 2022, they have not matched the 2019 pre-pandemic performances.

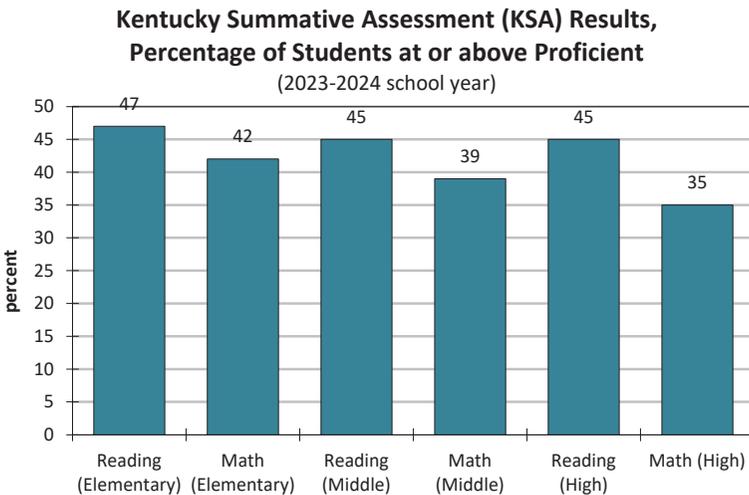
**Kentucky’s Math, Reading, and Science NAEP Results,
Percentage Scoring Proficient or Higher,
By Subject, Grade, and Year**

	2005	2007	2009	2011	2013	2015	2017	2019	2022	2024
Math 4	26 [↓]	31 [↓]	37	39	42	41	40	40	33	38
Math 8	23 [↓]	27 [↓]	27 [↓]	31 [↓]	30 [↓]	28 [↓]	29 [↓]	29 [↓]	22 [↓]	24
Reading 4	31	33	36 [↑]	35	36	40 [↑]	38	35	31	33
Reading 8	31	28	33	36 [↑]	38 [↑]	36	34	33	29	29
Science 4	-	-	45 [↑]	-	-	44 [↑]	-	-	-	-
Science 8	-	-	34 [↑]	34 [↑]	-	35	-	-	-	-

Source: National Center for Education Statistics (NCES), Institute of Educational Sciences (IES), National Assessment of Educational Progress (NAEP), Kentucky State Profile.
Note: A dash (-) in the cell indicates that this test was not taken by Kentucky students. An arrow pointed down (↓) next to a number indicates that the percentage is statistically significantly lower than the National public percentage. Conversely, an arrow pointed up (↑) next to a number indicates that the percentage is significantly higher. No arrow indicates that the Kentucky percentage is not significantly different from the National public.

PERFORMANCE ON STANDARDIZED TESTS: KSA

Kentucky students take the Kentucky Summative Assessment (KSA) to meet federal and state testing requirements. Previously, these tests were called Kentucky Performance Rating for Educational Progress (K-PREP). They are developed by Kentucky teachers and align with the Kentucky Academic Standards in each content area. There are a number of tests used to assess academic performance, such as reading, math, science, social studies, and writing. The percentage of students who are considered proficient or distinguished—the levels we want students to achieve—are less than half. The figure below illustrates reading and mathematics proficiency or higher on the most recent school year (2023-2024).



Source: Source: Kentucky Department of Education, Assessment and Accountability Datasets 2023-2024, downloaded 10/23/2024, available at: https://www.education.ky.gov/OpenHouse/data/Pages/Assessment_Accountability_Datasets_2023-2024.aspx

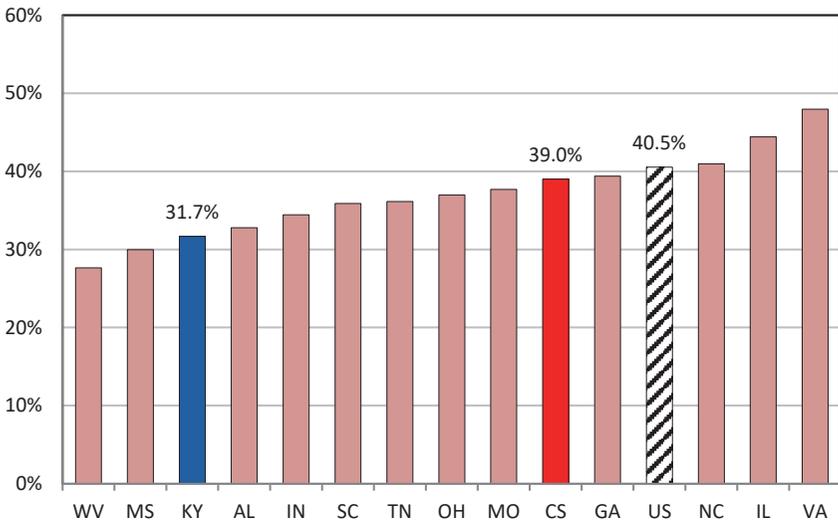
COLLEGE ATTAINMENT

Today, any “routine” job and a growing number of high-skill jobs can be automated and outsourced. Competition in such an environment requires providing something that others cannot. That “something” will come from workers who have high levels of education, skill, and competency. Even as “AI” appears to threaten some white-collar jobs, the rigors of the global economy still require creative, highly skilled, college-educated workers. Since 1990, Kentucky has made significant progress, as the proportion of adults 25 and older with a four-year degree or higher climbed from 13.6 percent to 27.9 percent in 2024; by comparison, the U.S. percentage in 2024 was 36.9. Among prime working age adults 25 to 54, however, the state continues to significantly lag the competitor states and the nation in educational attainment at the college level—31.7 percent for Kentucky compared to 39.0 and 40.5 percent for the competitor states and U.S. respectively. Virtually all of the competitor states are (statistically) significantly higher than Kentucky, while Mississippi and West Virginia are significantly lower; Alabama is statistically the same as Kentucky. Massachusetts has the highest rate in the nation (54.0%) and Mississippi the lowest (27.6%). Nationally, 41 states have higher rates than Kentucky while five are lower and three are statistically the same as Kentucky.

Education

**Bachelor's Degree or Higher,
Kentucky, Competitor States and the U.S., 2024**

(percent of individuals 25 to 54 years old)

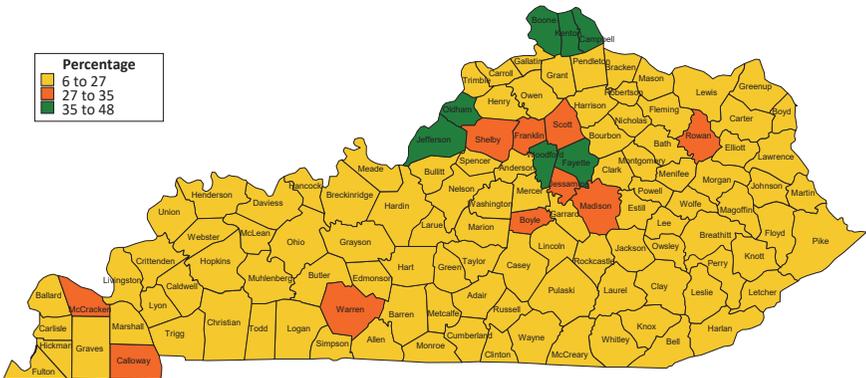


Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS.

COLLEGE ATTAINMENT BY COUNTY

There are seven Kentucky counties where the percentage of the population with a bachelor’s degree or higher (using the 2019-2023 American Community Survey 5-year estimate) exceeds the U.S. average of 35 percent. These seven counties anchor the so-called urban triangle—Fayette (47.3%), Oldham (45.6%), Woodford (41.7%), Campbell (39.5%), Kenton (37.6%) Jefferson (36.6%), and Boone (35.4%). There are ten counties that are at or above the Kentucky average of 27 percent but below the U.S. average—ranging from Rowan County’s 27 percent to Madison County’s 34.2 percent. Kentucky’s remaining 103 counties are below the Kentucky average, with five counties in the single digits. It is extremely difficult for any geographic region—whether a city, a county, a state, or a country—to be globally competitive without a skilled and educated population.

Kentucky County-Level Bachelor's Degree or Higher, 2019-2023
(individuals 25 years and older)



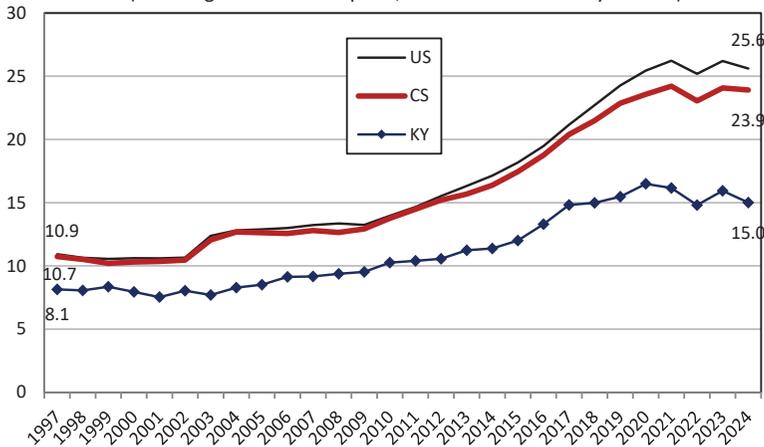
Source: U.S. Census, American Community Survey, 2023 5-Year Estimate, Table S1501

SCIENCE AND ENGINEERING GRADUATES

Being competitive in the global economy depends upon many things—including continuous innovation in products and services and having a highly skilled workforce. It is especially important to have a workforce with a high level of science, technology, engineering, and mathematics (STEM) training and expertise. The national average wage for all STEM occupations in 2024 was \$116,830, nearly double the national average wage for non-STEM occupations (\$64,430). And not only are wages nearly double for STEM occupations compared to non-STEM occupations, so too is the job growth rate. Employment in STEM occupations grew by 19.2 percent nationally, or nearly 1.5 million jobs, between May 2007 and May 2018, compared with 6.6 percent growth in the number of jobs overall. While remaining substantially below the competitor states and the U.S., the total number of science and engineering degrees conferred per 1,000 individuals from 20 to 24 years old in Kentucky has increased since 1997—from 8.1 to 15.0. By comparison, the competitor states (23.9) and the U.S. (25.6) awarded significantly more STEM-designated bachelor’s degrees in 2024. Over the last two and a half decades, the percentage increase in these numbers is greater in the U.S. (135%) and the competitor states (123%) than in Kentucky (84%).

Education

STEM-Designated Bachelor's Degrees Awarded, Kentucky, Competitor States, and the U.S., 1997-2024
(total degrees conferred per 1,000 individuals 20-24 years old)

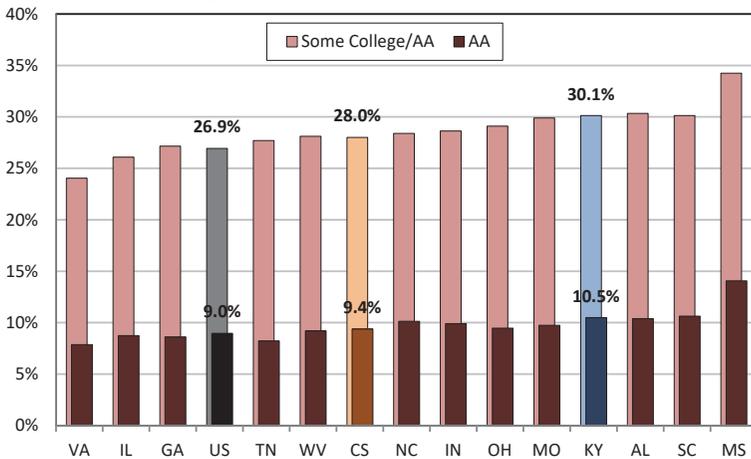


Source: Author's analysis of Integrated Postsecondary Education Data System (IPEDS) data using 2013 designated CIP Codes to identify STEM degrees & U.S. Census data for population estimates

SOME COLLEGE OR ASSOCIATE DEGREES

The associate degree is a terminal degree for many people, while others use it as a springboard toward a bachelor’s degree. A significant portion of the population, however, have one or more years of college but no degree. Individuals with some college but no degree are good candidates for continuing their education toward a degree or credential. Our analyses on the economic and societal benefits of postsecondary education show that an individual with an associate degree or a bachelor’s degree will, on average, have higher income, less unemployment, and better health outcomes—to name a few of the benefits afforded by higher education—than someone with lower levels of education. The percentage of prime working age adults between 25 and 54 years old in Kentucky with an associate degree is an estimated 10.5 percent. Among the competitor states, six have statistically significant lower percentages (i.e., GA, IL, OH, TN, VA & WV), and this includes the competitor states (9.4%) and the U.S. (9.0%). We also show the percentage of prime working-age adults who attended college but did not graduate combined with those who have earned an associate degree (i.e., AA & Some College combined). Over 30 percent of Kentucky’s prime working-age population (30.1%), for example, have an associate degree or at least some college without earning a four-year degree.

Some College or Associate's Degree Attainment, Kentucky, Competitor States and the U.S., 2024
(percent of individuals 25 to 54 years old)



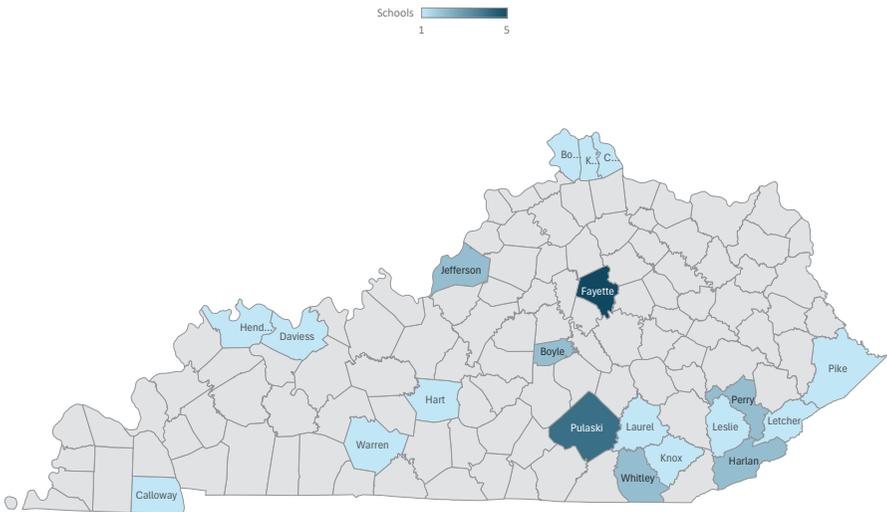
Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS.

EXCELLENCE GAP

Excellence Gaps, according to Plucker and Peters (see Jonathan A. Plucker & Scott J. Peters, *Excellence Gaps in Education*, 2019), are “differences between subgroups of students performing at the highest levels of achievement.” They argue that “these gaps are among America’s most pressing educational problems.” In cooperation with the Prichard Committee for Academic Excellence, the University of Kentucky Center for Business and Economic Research (CBER) identified 32 Kentucky schools in 20 different counties where students perform at high levels in math and/or reading (grades 3, 5, 8, and 10), and have relatively small excellence gaps between important student groups (i.e., male–female students and/or disadvantaged/non-disadvantaged students). For example, while the characteristics of the Leslie County High School students and surrounding community would suggest that about 9 to 10 percent of its 10th grade students would perform at the distinguished level on math, a much higher percentage—around 20 percent—did so during the 2023-2024 academic year (statewide, 11 percent were distinguished). Moreover, the gaps between male (19%) and female (22%), as well as economically disadvantaged (22%) and nondisadvantaged (15%), were in the single digits. Using a multiple regression model, we estimated school level percentages for the distinguished category using 2023-2024 assessment

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Counties with Overperforming Schools



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EXCELLENCE GAP SCHOOLS

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data. Our five independent variables are: the percentage of economically disadvantaged students in the school; the percentage of minority students in the school; the school-level teacher experience in years; the percentage of the population ages 25 and older, with a bachelor’s degree or higher who reside in the same zip code as the school’s address, as a proxy for the educational attainment for the students’ households; and the school’s Urban-Rural Continuum Code using the most recent 2023 update by USDA. If a school’s positive residual (studentized residuals) were over two we considered it significantly over expectations. There were 27 schools that met this condition, but we included five other schools that were either very close to the 2.0 threshold, but not above it, or we believed were important to include for the diversity of our school group (e.g., geographic, subject, or grade). The student outcomes at these schools are exceptional and the gaps were relatively small. It warrants, therefore, additional investigation to determine if unique learning approaches are being used that can be applied in other schools. The table below shows the schools beating expectations and where they are located.

Excellence Gap Schools (students perform better than expected)					
Subject	Grade	Gap Type	County	District	School
MATH	8	Male-Female	BOONE	Boone County	Conner Middle School
MATH	5	Economic	BOYLE	Boyle County	Junction City Elementary School
MATH	5	Male-Female	BOYLE	Boyle County	Woodlawn Elementary School
MATH	10	Male-Female	CALLOWAY	Murray Independent	Murray High School
READING	3	Male-Female	CAMPBELL	Fort Thomas Independent	Johnson Elementary School
MATH	5	Male-Female	DAVIESS	Owensboro Independent	Newton Parrish Elementary School
READING	5	Male-Female	FAYETTE	Fayette County	Ashland Elementary School
MATH	3	Male-Female	FAYETTE	Fayette County	Glendover Elementary School
READING	10	Male-Female	FAYETTE	Fayette County	Lafayette High School
MATH	5	Male-Female	FAYETTE	Fayette County	Meadowthorpe Elementary School
READING	3	Male-Female	FAYETTE	Fayette County	Wellington Elementary
MATH	3	Male-Female	HARLAN	Harlan County	Black Mountain Elementary School
MATH	10	Economic	HARLAN	Harlan County	Harlan County High School* (1.9)
READING	8	Economic	HART	Hart County	Munfordville Elementary School
MATH	3	Economic	HENDERSON	Henderson County	Niagara Elementary School* (1.4)
READING	8	Male-Female	JEFFERSON	Jefferson County	J. Graham Brown School
READING	8	Male-Female	JEFFERSON	Jefferson County	Mezzeek Middle
MATH	10	Male-Female	KENTON	Beechwood Independent	Beechwood High School
READING	5	BOTH	KNOX	Knox County	G R Hampton Elementary School
READING	5	Male-Female	LAUREL	Laurel County	Wyan-Pine Grove Elementary
MATH	10	BOTH	LESLIE	Leslie County	Leslie County High School
MATH	8	Economic	LETCHER	Letcher County	Whitesburg Middle School* (0.9)
READING	5	Male-Female	PERRY	Perry County	Viper Elementary School
READING	8	Economic	PERRY	Perry County	West Perry Elementary School
MATH	10	Male-Female	PIKE	Pikeville Independent	Pikeville High School
READING	3	Male-Female	PULASKI	Pulaski County	Nancy Elementary School
READING	3	Economic	PULASKI	Pulaski County	Oak Hill Elementary School
MATH	5	Male-Female	PULASKI	Pulaski County	Pulaski Elementary School
MATH	8	Male-Female	PULASKI	Pulaski County	Southern Middle School
MATH	8	Economic	WARREN	Warren County	South Warren Middle School* (0.9)
READING	10	Economic	WHITLEY	Corbin Independent	Corbin High School
MATH	3	Economic	WHITLEY	Whitley County	Whitley Central Intermediate School* (1.4)

*Indicates that the school’s studentized residual was below 2.0.

Energy

KENTUCKY'S ECONOMY AND ITS energy policies are deeply intertwined, each shaping the other's trajectory. The state's industrial foundation—anchored in manufacturing and historically powered by coal—has long relied on abundant, low-cost energy. Yet this dependence also makes Kentucky more vulnerable to national and global energy shifts. Recent federal legislation, including the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022, initially stimulated investment in renewables, but a political turn toward carbon-based fuels and the rising power demands of artificial intelligence have altered expectations. Electricity needs are increasing and this rising demand is keeping coal and natural gas relevant even as renewable generation expands.

For Kentucky, these national crosscurrents translate into both opportunity and risk. Natural gas has steadily supplanted coal as the principal fuel for electricity generation, a transformation more than three decades in the making. By 2023, natural gas produced 43 percent of U.S. electricity, while coal's share had fallen to 15 percent. In Kentucky, coal still dominates the power mix—providing 68 percent of electricity—but consumption has declined sharply from 52 percent of total energy use in 2011 to 30 percent in 2023. Low natural gas prices, aging coal-fired plants, and environmental regulations have hastened this decline, especially in Eastern Kentucky, where mine employment has fallen to levels not

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Image generated using OpenAI's ChatGPT. Used with permission.

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seen in more than a century. Only about 3,600 Kentuckians now work in coal mining, representing just two-tenths of one percent of total state employment.

This contraction, though small in statewide economic terms, has devastated local communities and weakened one of Kentucky's traditional competitive advantages: inexpensive power. Industrial electricity prices, once the lowest in the nation, have risen 132 percent since 1997, though they remain below the U.S. and competitor state averages. The erosion of this price edge concerns manufacturers that depend heavily on affordable, reliable energy. Industry accounts for 36 percent of Kentucky's energy consumption—well above the national share—and the state consumes 5,700 British thermal units of energy for every dollar of GDP, compared to a U.S. average of 3,400. That intensity underscores how energy prices ripple through Kentucky's economy more strongly than in most states.

While coal's economic footprint has contracted, the rise of renewables and natural gas offers new points of growth. Renewable energy sources—biomass, geothermal, wind, solar, and hydropower—now provide 7 percent of Kentucky's total production, close to the national average but below competitor states' 11.7 percent. Federal incentives have helped spur this expansion, but recent policy reversals, narrowed tax credits, and canceled grants have introduced headwinds. Still, corporate strategies and cost competitiveness are driving continued adoption. Major employers such as Toyota, Ford, GE, UPS, and Walmart have established internal targets for carbon reduction and renewable sourcing, embedding energy transition goals directly into the state's economic base.

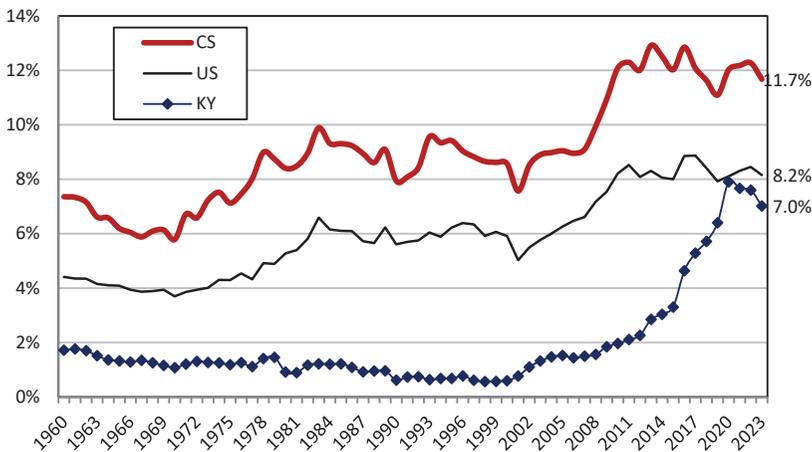
Kentucky's energy profile also shapes household economics and consumer behavior. Residential electricity costs remain below national norms, averaging \$134 per month in 2024 compared with \$142 nationally, helping to offset other expenses such as transportation fuel. Yet gasoline prices—subject to global volatility—disproportionately affect rural Kentuckians, who have longer average commutes. These differences highlight how energy affordability influences regional economic resilience within the state.

Overall, Kentucky stands at a crossroads between its industrial past and an increasingly diversified energy future. Economic policies that sustain manufacturing competitiveness depend on preserving reasonable energy costs, while energy policies that encourage diversification and efficiency determine whether those costs remain stable. As renewables expand, coal declines, and natural gas strengthens its foothold, Kentucky's policy choices will determine how successfully it converts energy transition into economic advantage. The state's experience underscores a fundamental truth: in Kentucky, energy is not merely a sector of the economy—it is the fuel that powers the economy itself.

RENEWABLE ENERGY PRODUCTION

Renewable energy sources include biomass, geothermal, wind, solar, and hydropower. The U.S. Energy Information Administration (EIA) considers multiple future energy production scenarios, and, despite current headwinds, expects the growth of renewables to continue. According to the EIA *Annual Energy Outlook 2025*, renewables are likely to overtake natural gas as the primary electricity generation source within a decade. The growth of renewables is especially pronounced in Kentucky, as illustrated by the graph below. There could be important future economic implications for Kentucky as a result of this anticipated shift in energy production. Rising employment in solar, wind, and natural gas has coincided with the shift in energy generation by source. Of Kentucky’s total energy production, 7.0 percent is from renewable sources. This is just below the national average (8.2%), but nearly four percentage points behind the competitor state average (11.7%). Yet, the current headwinds, which include narrowed credits (i.e., H.R.1, aka “One Big Beautiful Bill Act”), canceled grants (e.g., EPA Solar for All), and an offshore wind freeze (i.e., Trump Administration’s wind energy executive order), are significant. At the same time, however, state policies, corporate practices, and the inherent cost-competitiveness of renewables will continue supporting future growth.

**Renewable Energy Production,
Kentucky, Competitor States, and the U.S., 1960 to 2023**
(expressed as a percentage of total energy production)



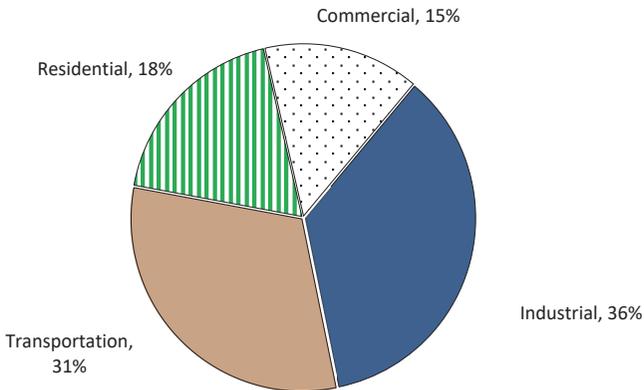
Source: U.S. Energy Information Administration, *State Energy Data Production, State Energy Data System (SEDS)*, 1960-2023 estimates, <https://www.eia.gov/state/seds/>

ENERGY CONSUMPTION BY END-USE SECTOR

Energy consumption is categorized into four broad sectors: industrial, commercial, residential, and transportation. Industry consumes the bulk of energy in Kentucky, accounting for 36 percent of the total consumption (2023). As noted in the Kentucky Department for Energy Development and Independence, *2024 Energy Profile*, our state has large manufacturing operations like General Electric, Ford, and Toyota, as well as other energy-intensive manufacturing processes including; aluminum smelting, iron and steel mills, paper mills, chemical production, and glass manufacturing. By comparison, industrial consumption by the competitor states and the U.S. as a percentage of total energy consumption is 30 and 33 percent, respectively. The transportation sector in Kentucky is the second largest consumer of energy, accounting for 31 percent, which is just above the competitor states (29%) and the U.S. (30%). The residential sector in Kentucky, the competitor states, and the U.S., consumes 18, 22, and 20 percent. And while the commercial sector in Kentucky accounts for only 15 percent, it represents slightly more of the total energy consumption in the competitor states (19%) and the U.S. (17%). Broadly speaking, these distributions suggest that national-level public policies affecting energy usage will be disproportionately felt in Kentucky by *industrial* users.

Energy

Kentucky Energy Consumption by Sector, 2023
(consumption by end-use sector)

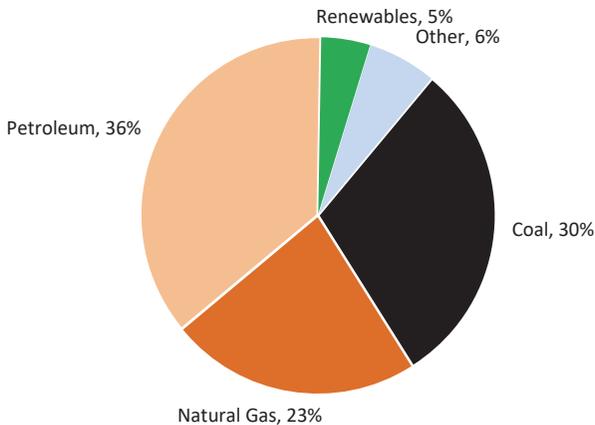


Source: U.S. Energy Information Administration, State Energy Data System 2023

ENERGY CONSUMPTION BY SOURCE

Of the four broad energy sources used in Kentucky—coal, natural gas, petroleum, and renewables—petroleum has surpassed coal, and accounts for the majority of the total consumption at 36 percent (2023). In 2011, coal was the main source and constituted over half at 52 percent, but in 2023 it was 30 percent. While the chart below represents energy consumption for all uses, Kentucky relies heavily on coal for electricity generation. According to the Kentucky Department for Energy Development and Independence, *2024 Energy Profile*, “Coal accounts for 68% of Kentucky’s electricity portfolio and 33% of its total energy consumption.” This is expected to change, however, given the many factors affecting coal usage, such as federal environmental regulations, aging coal generators, and low natural gas prices. The upshot is that Kentucky will become increasingly dependent upon natural gas for future electricity generation. By comparison, coal consumption by the competitor states and the U.S. as a percentage of total energy consumption is 13 and 9 percent, respectively, and is declining. Natural gas is about 23 percent in Kentucky (and rising), but much higher as well as rising in the U.S. (36%) and the competitor states (32%). The competitor states and the U.S.—as well as Kentucky—are moving away from coal and toward natural gas.

Kentucky Energy Consumption by Source, 2023
(consumption by fuel type)



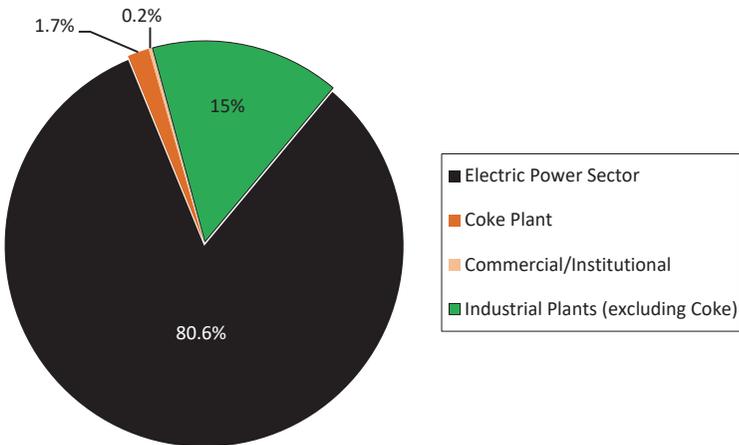
Source: U.S. Energy Information Administration, State Energy Data System 2023

KENTUCKY COAL DISTRIBUTION

The vast majority of Kentucky coal is used to generate electricity. Of the 22 million tons of Kentucky coal distributed in 2024, a miniscule amount was exported (59,600 tons or about 0.3%). The rest was distributed domestically among the four categories shown below: electric power sector; coke plant; commercial & institutional; and industrial plants (excluding coke). Of the Kentucky produced coal that was consumed domestically in 2024, it is estimated that 80.6 percent went toward electric power generation. However, for a variety of reasons, electrical power plants are moving away from coal and toward natural gas as a fuel source (see the next page), and this has been a major factor in the decline of Kentucky’s coal industry.

Energy

Kentucky Coal Distribution, 2024
(domestic consumption by end-user type)



Source: U.S. Energy Information Administration, *Annual Coal Distribution Report 2024*, available at: <https://www.eia.gov/coal/distribution/annual/>

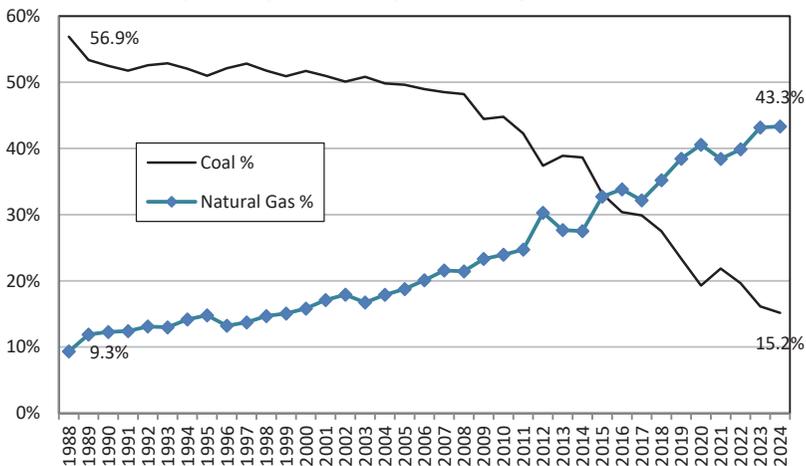
NATURAL GAS SUPPLANTING COAL

The use of natural gas to produce electricity—and the concomitant decline in the use of coal—has been going on for over 35 years. In 1988, coal accounted for about 57 percent of the total megawatt hours generated and natural gas accounted for just over 9 percent. This was the high point for coal and the low point for natural gas when viewed over the 74 year period from 1949 to 2024. Since 1988, coal has been declining and natural gas has been increasing, as is readily evident by the line chart below. This is a watershed moment for coal. Natural gas has supplanted coal as the principal source of fuel for generating electricity in the United States—accounting for 43.3 percent; coal, by comparison, accounts for 15.2 percent. Nuclear is another major energy source of electricity in the U.S. at 18.1 percent. The fracking boom has made natural gas a more financially attractive source of fuel for generating electricity. Relatively cheap natural gas, the rising importance of renewable sources, which currently accounts for about 22.7 percent of total net electricity generation in the U.S., and the mounting environmental concerns surrounding coal-fired power plants, are making fundamental changes to the global energy market—which, of course, are being felt in Kentucky’s coal regions. Coal-fired power plants are being retired in large numbers in the U.S., and portend a continuing decline in the coal industry.

Energy

**U.S. Electricity Generation, by Source,
Coal and Natural Gas, 1988-2024**

(percentage of total megawatt hours generated)

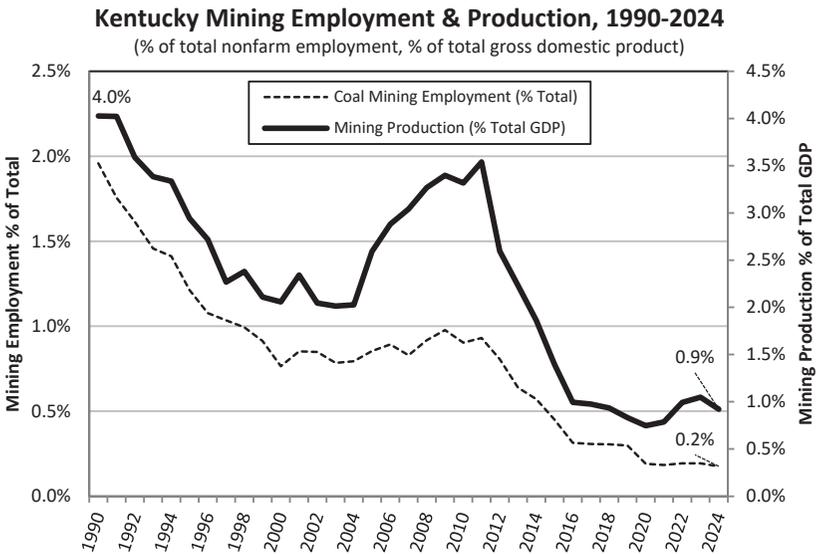


Source: Energy Information Administration, State Energy Data System

COAL MINING EMPLOYMENT & PRODUCTION

According to the Bureau of Labor Statistics (BLS), an estimated 3,600 persons were employed in Kentucky’s coal mining sector in 2024. One has to go back over 120 years to find employment levels this low; there were an average of 6,399 coal miners in the state in 1898. While Kentucky mines a significant amount of coal in both Western and Eastern Kentucky, the bulk of the job losses have been in Eastern Kentucky. When viewed within the context of the state’s wider economy, the coal mining sector accounted for 0.2% of total nonfarm employment in 2024, down from about 2.0% in 1990. Similarly, mining production accounts for 0.9% of Kentucky’s gross domestic product, a decline from 4.0% in 1990. While the effects of declining production and loss of jobs are small relative to the size of the state’s overall economy, the communities where these jobs are concentrated have been hit extremely hard. According to the latest employment numbers from the Kentucky Energy and Environment Cabinet, in the second quarter of 2025, coal related employment was 2,371 in Eastern Kentucky and 1,420 in Western Kentucky. These employment numbers include all employees engaged in production, preparation, processing, development, maintenance, repair, shop or yard work at mining operations, mining operations management and all technical and engineering personnel (these numbers also include office workers).

Energy

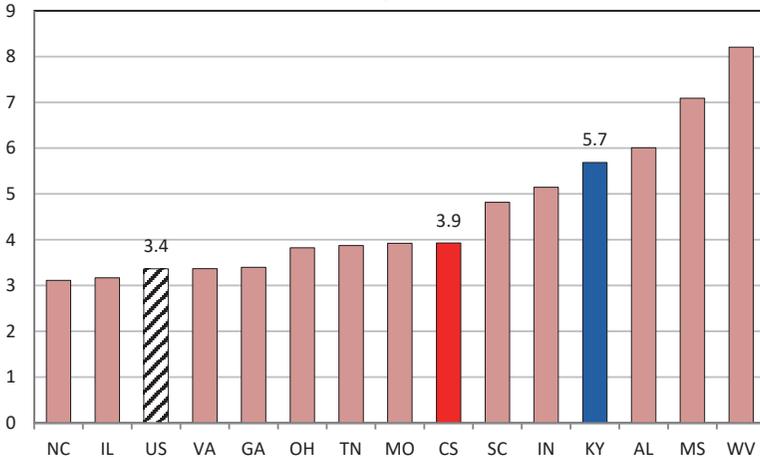


Source: Bureau of Economic Analysis (BEA) & Bureau of Labor Statistics (BLS)

ENERGY CONSUMPTION PER GDP

Kentucky has an energy intensive economy. To generate \$1 in state gross domestic product, Kentucky consumes about 5,700 Btu (2023). By comparison, the U.S. average is around 3,400 Btu and the competitor state average is 3,900 Btu. This difference is driven, in part, by Kentucky's larger than average manufacturing sector, which, of course, depends greatly upon energy as a production input. One implication of this higher dependence on energy as an economic input is that, compared to most of the competitor states, Kentucky's economy is more sensitive to energy prices.

**Energy Consumption per Real Dollar of GDP, 2023,
Kentucky, Competitor States, and the U.S.**
(thousand Btu per 2023 dollar)

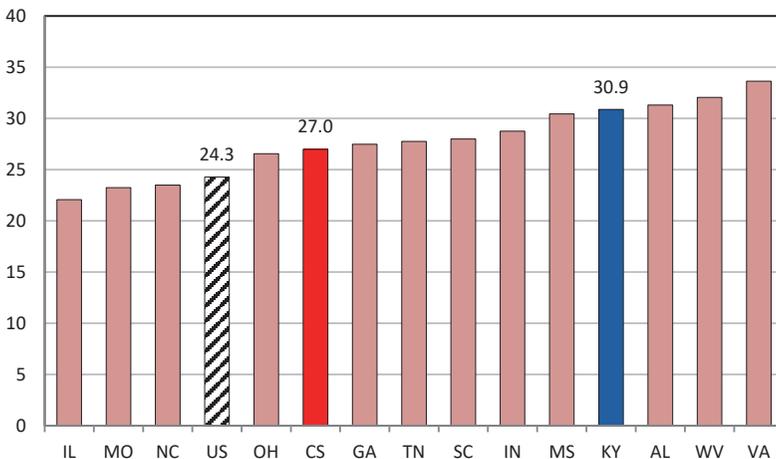


Source: Calculated using data from the U.S. Energy Information Administration and Bureau of Economic Analysis

ENERGY EFFICIENCY

This variable is an indicator of energy efficiency and conservation. It is the number of megawatt hours of electricity sold to all customers; it is inclusive of residential, commercial, industrial, and transportation sales and customers. It is not a perfect measure of energy efficiency, since it is affected by the industrial mix in a state. If we limited this to only residential sales and customers, then Kentucky’s energy usage/efficiency improves somewhat when compared to the competitor states and the U.S. For example, while Kentucky has the fourth highest usage when including *all sales and customers* (see below, comparing competitor states only), it is the sixth highest when only examining *residential* usage/efficiency. Kentucky’s megawatt usage per residential customer is 12.6 (in thousands of megawatt hours), which is below Mississippi (13.9), the highest competitor state; Illinois is the lowest competitor state using the residential measure (8.3). The residential only competitor state average is 11.7 while the U.S. average is 10.4—both lower than Kentucky’s residential per customer usage (12.6).

**Megawatt Hours per Energy Customer, 2023,
Kentucky, Competitor States, and the U.S.**
(thousands of megawatt hours)



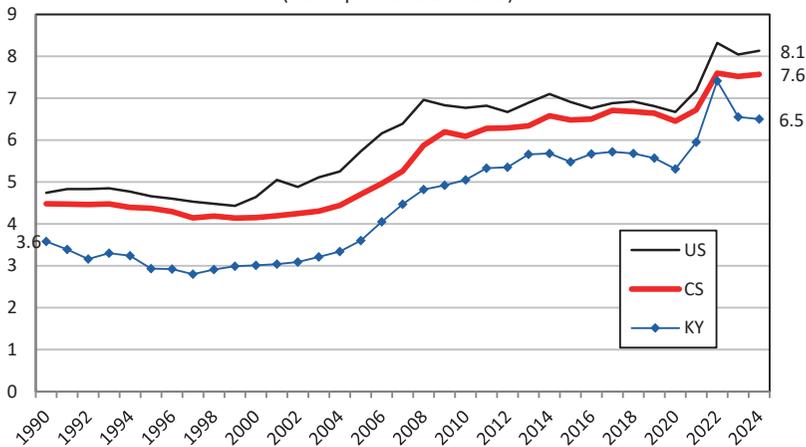
Source: Calculated using data from the U.S. Energy Information Administration

INDUSTRIAL ELECTRICITY COSTS

Frequently cited as an important factor to recruit new industries to Kentucky as well as keep existing industries competitive, electricity prices here are consistently below the U.S. and competitor state averages. Kentucky’s industrial rates are lower because of an abundance of coal and coal-fired power plants in the state and region. However, the average retail price of electricity to industrial customers increased in Kentucky by 132 percent from its nadir of 2.8 cents in 1997 to 6.5 cents in 2024 (current dollars). As prices have increased so too have the worries that Kentucky is losing its comparative advantage in low-cost utility rates; price increases for the U.S. and competitor states during the same time period (from 1997 to 2024) have been about 81 percent. Nonetheless, in 1990 Kentucky had the seventh lowest industrial rate in the country and in 2024 it was the sixth lowest. And among the competitor states Kentucky’s industrial rates are the second lowest, trailing only Tennessee. Kentucky’s annual rate in 2024—at 6.5 cents per kilowatt-hour—was below the U.S. (8.1) and competitor states (7.6).

Energy

Average Retail Price of Electricity, Industrial Customers, Kentucky, Competitor States, and the U.S., 1990-2024
(Cents per Kilowatt-Hour)



Source: U.S. Energy Information Administration

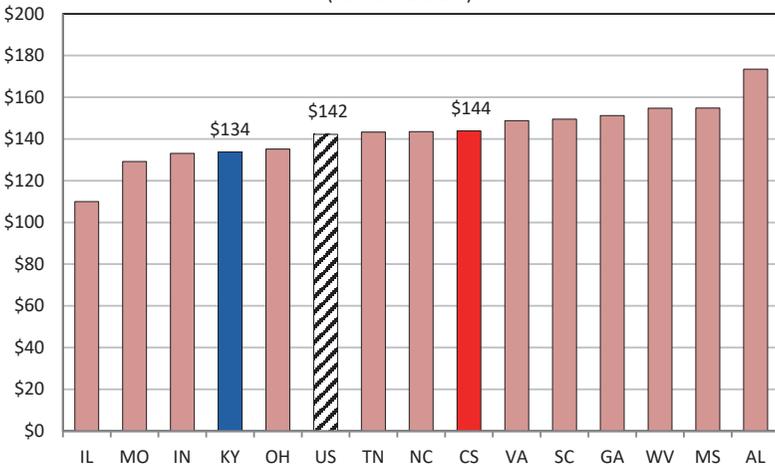
Note: The CS values are calculated as an unweighted average each year using the 12 competitor states.

RESIDENTIAL ELECTRICITY COSTS

According to the U.S. Census Bureau, Consumer Expenditure Survey, the typical “consumer unit” had \$77,280 in average annual expenditures in 2023 (the most recent year available)—with annual electricity expenses of \$1,763. In the South Region of the U.S.—where Kentucky and eight of the competitor states are located—average annual expenditures were \$68,364 and annual electricity expenses were \$1,962. Electricity costs range in these two examples from 2.3 to 2.9 percent of total expenditures. Using data from the U.S. Energy Information Administration, residential average monthly electricity bills in 2024, among the competitor states, ranged from a low of \$110 in Illinois to a high of \$174 in Alabama. At \$134, Kentucky’s average residential monthly bill is below the U.S. and competitor state averages. Like industrial customers of electricity, Kentucky’s residential customers enjoy somewhat lower rates than most competitor states.

**Residential Average Monthly Electricity Bill, 2024,
Kentucky, Competitor States, and the U.S.**

(current dollars)



Source: U.S. Energy Information Administration

Note: The competitor states average (CS) is an unweighted average.

MOTOR GASOLINE EXPENDITURES

The typical American “consumer unit,” what most would consider the average household, spent \$77,280 on various products and services in 2023 according to the Consumer Expenditure Survey; “gasoline and motor oil” accounted for \$2,694—about 3.5 percent of the total. This is a large decrease compared to 2022 when it was 4.2 percent. The high point for gasoline in the last thirty years was in June 2008, when it reached \$5.88 a gallon (constant 2024 dollars). Soon after the pandemic began in April 2020, the price was down to \$2.37. Prices peaked again in June 2022 (\$5.33), but declined to around \$3.19 by September 2025. High gasoline prices can affect people differently depending on where they live. Many rural residents in Kentucky have longer commute times (and therefore probably longer distances to travel) compared to Kentuckians living in metro areas. In fact, the longest commute times in Kentucky are in *mostly rural* counties (28.6 minutes)—nearly four minutes longer than in *somewhat rural* (24.6) and two-and-a-half minutes longer than *metro* counties (26.1).

Energy

**U.S. All Grades, All Formulations, Retail Gasoline Prices,
Dollars per Gallon, April 1993 to September 2025**

(constant 2024\$, monthly estimates)



Source: Energy Information Administration, State Energy Data System

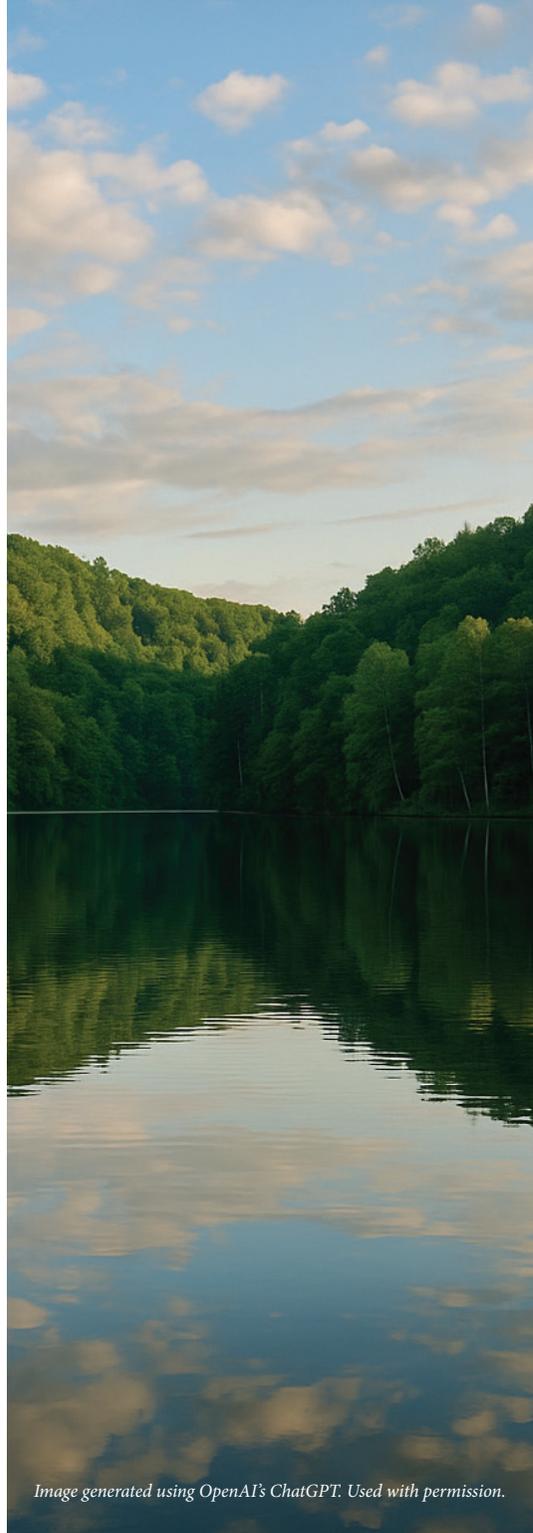
Environment

KENTUCKY'S ENVIRONMENT AND economy are closely linked. The state's natural resources, industries, and public policies shape environmental conditions, while environmental quality directly affects economic opportunity and quality of life. The Commonwealth's environmental progress, though gradual, can support its long-term competitiveness, health, and resilience.

Kentucky's landscapes and outdoor opportunities remain powerful economic assets. These amenities strengthen local economies through tourism and recreation while helping attract retirees and workers seeking an appealing quality of life. Nationally, areas with more natural amenities tend to show faster population and job growth, and 90 percent of corporate executives cited "quality of life" as an important or very important site-selection factor—second only to labor costs (*2025 Area Development* survey).

Kentucky's recycling and waste management trends reveal similar ties between environmental practice and economic benefit. After reaching its lowest level in 15 years, the state's recycling rate rebounded to 34.2 percent in 2022, up from 26 percent in 2021. This recovery reflects renewed global demand for recyclables and illustrates how sustainable practices create economic value. The U.S. Environmental Protection Agency estimates that recycling and reuse industries support over 680,000 jobs nationwide and nearly \$38 billion in wages. About 85 percent of Kentucky households participate in municipal

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solid-waste collection, and when self-hauling and multifamily units are included, participation likely reaches 90–95 percent. This strong infrastructure underpins environmental protection while reinforcing local service and logistics economies.

The state’s manufacturing base, long a cornerstone of its economy, presents ongoing environmental challenges but also opportunities for innovation. Industrial production historically produced higher toxic releases in Kentucky than in many states, yet progress is evident. In 2024, the state recorded 8.8 pounds of toxic releases per capita—down from 12.6 in 2022 and slightly below the national average. Cleaner production technologies and stricter oversight have reduced emissions while keeping manufacturing competitive, showing that environmental compliance and industrial strength can coexist.

Kentucky’s landfill gas-to-energy projects further demonstrate this alignment of environmental and economic goals. Sixteen landfills—covering about two-thirds of the state’s solid-waste tonnage—now capture methane to generate energy. Although participation (66 percent) lags the U.S. average (76.6 percent) and competitor states (73 percent), these systems cut greenhouse-gas emissions, lower energy costs, and support jobs in engineering and maintenance.

Air quality improvements have been particularly striking. Since 1976, sulfur dioxide emissions from Kentucky coal-fired power plants have dropped by 91 percent. Levels of ozone, nitrogen dioxide, and particulate matter have also declined, even as the population and economy have grown. Advances in pollution control, cleaner energy technologies, and vehicle efficiency have produced cleaner air, healthier communities, and a more attractive business climate.

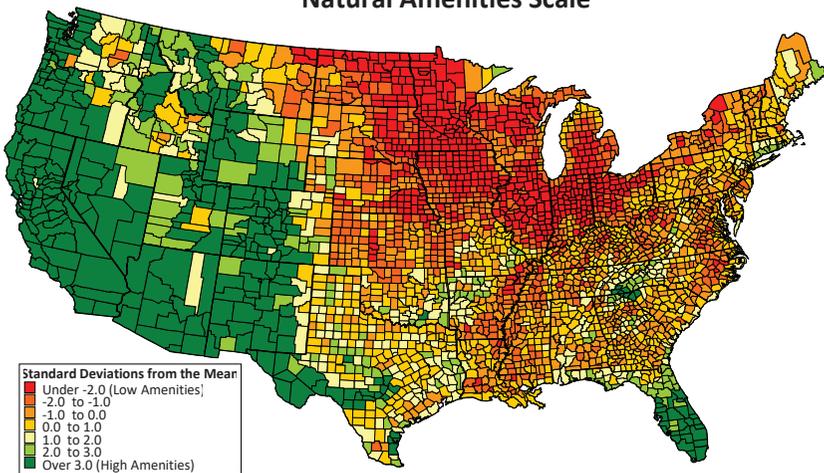
Water quality data tell a similar story. In 2024, Kentucky reported only eight Lead and Copper Rule violations, affecting about one percent of residents—well below the U.S. average of 6.2 percent. Meanwhile, 14.3 percent of Kentucky’s housing stock presents potential lead-exposure risk compared to 16.4 percent nationally, reflecting ongoing investment in safer infrastructure and modern housing. Clean water and safe homes strengthen the state’s workforce, reduce healthcare costs, and enhance economic productivity.

Taken together, Kentucky’s environmental indicators portray a state making steady progress while leveraging its natural advantages. Though it may rank modestly on national amenity scales, Kentucky’s forests, rivers, and open spaces remain defining assets—sources of recreation, tourism, and pride. Cleaner air, improved waste management, renewable energy innovation, and responsible industry together reveal that economic growth and environmental stewardship are mutually reinforcing. In Kentucky, protecting the environment is not separate from prosperity—it is an essential part of achieving it.

NATURAL AMENITIES SCALE

The natural amenities scale is a measure of the physical characteristics of a county area that enhance it as a place to live. It was developed by David McGranahan, an economist with the USDA, Economic Research Service. The scale was constructed by combining six measures of climate, topography, and water area that reflect environmental qualities most people prefer. These measures are warm winter, winter sun, temperate summer, low summer humidity, topographic variation, and water area. These factors are highly related to rural county population change over the last several years. The Natural Amenities Index is related to many factors affecting a community’s economic development prospects. For example, average population change in nonmetropolitan counties is low among counties low on the natural amenities index, and much higher among counties high on the index. Also, most retirement counties and recreation counties score in the top quarter of the amenities index. And, employment change is also highly related to natural amenities. Importantly, quality-of-life factors was cited by 90.2 percent of corporate executives as “important” or “very important,” in the 2025 *Area Development Corporate Survey* on site selection factors. This factor was ranked second in overall importance. Only labor costs was ranked higher, with 92 percent indicating it was important or very important.

Natural Amenities Scale



Source: USDA, Economic Research Service <<https://www.ers.usda.gov/data-products/natural-amenities-scale/>>.

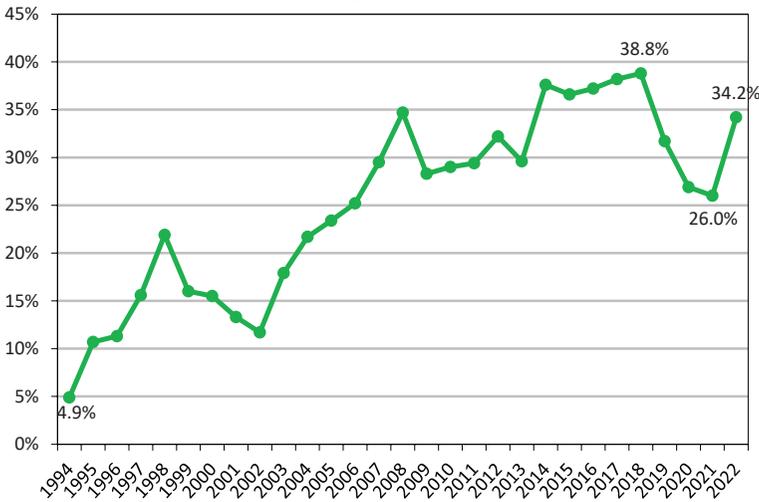
RECYCLING

According to the Kentucky Division of Waste Management, Kentuckians recycled 34.2 percent of common household recyclables in 2022 (e.g., aluminum, cardboard, steel, plastic, newspaper, glass, and paper), up from 26 percent a year earlier. The 2021 recycling rate was the lowest percentage since 2006. The percentage of generated waste in Kentucky that is recycled climbed steadily from the mid-1990s to 2018—as evidenced by the nearly eightfold increase in the recycling rate from 1994 to 2018. However, the rate dropped sharply in 2019 as the demand for recycled material in the global commodities market softened during the pandemic, and continued its downward trend until 2021. Nationally, Americans generated about 292.4 million tons of municipal solid waste (MSW) in 2018, according to the U.S. Environmental Protection Agency (EPA), and recycled (or composted) approximately 94 million tons of this material—resulting in a 32.1 percent recycling rate. Americans generate around of 4.9 pounds of waste per person each day and recycle or compost 1.6 pounds of it. There are economic benefits associated with recycling. An EPA study, for example, found that recycling and reuse activities in the United States accounted for 681,000 jobs and \$37.8 billion in wages.

Environment

Kentucky's Recycling Rates, 1994-2022

(As a Percentage of Waste Generated)

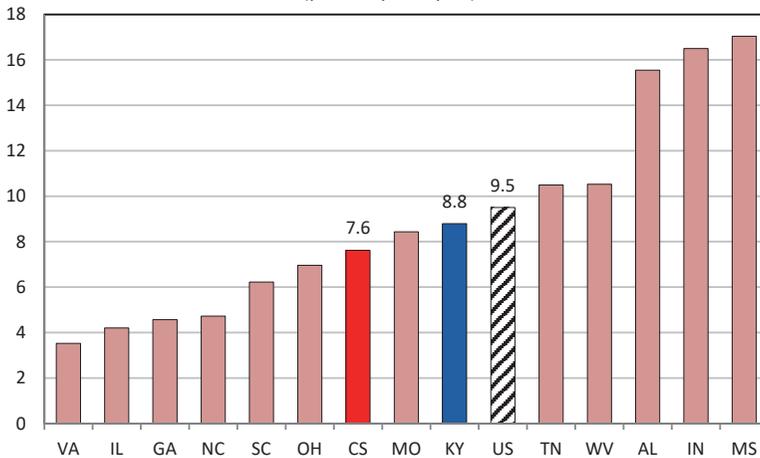


Source: Kentucky Division of Waste Management, Annual Reports, various fiscal years

TOXIC RELEASES

Toxic pollutants can cause cancer or other serious health effects, such as reproductive or birth defects, as well as adverse ecological and environmental consequences. The Environmental Protection Agency (EPA) provides data to help communities identify chemical disposal facilities and other toxic release patterns that warrant public vigilance. Combined with hazard and exposure information, these data can be valuable in risk identification. Given that toxic releases are often by-products of manufacturing processes, it is not surprising that Kentucky, which is home to an above-average manufacturing base, historically exceeds the U.S. average in toxic releases. In 2024, however, the EPA reports that Kentucky experienced 8.8 pounds of toxic releases per capita (the 20th highest nationally); this is a decrease from 12.6 pounds in 2022 (but a slight increase from 7.8 in 2023). The most recent data show that Kentucky is below the national level (9.5 pounds) but is slightly higher than the competitor states average (7.6).

Toxic Chemicals Disposed of or Otherwise Released, 2024
Kentucky, Competitor States, and the U.S.
 (pounds per capita)

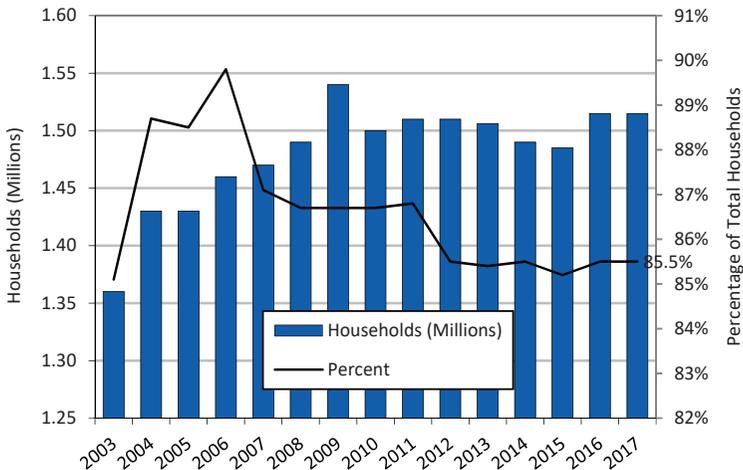


Source: United States Environmental Protection Agency. (2025). TRI Explorer (2024 Dataset (released September 2025)) [Internet database]. Retrieved from <https://enviro.epa.gov/triexplorer/>, (October 11, 2025).

SOLID WASTE

Beginning in 2002, state law required waste haulers and recycling haulers to register and report to each county in which they provide service, thereby providing data on the number of households that participate in municipal solid waste collection (MSW). The 2016 and 2017 statewide household participation rates for MSW collection were around 85.5 percent. The Kentucky Division of Waste Management (DWM) estimates that another 5-10 percent of households either legally self-haul their waste to transfer stations or are otherwise not counted in these numbers because they use dumpsters in multi-unit housing complexes. Consequently, the real percentage of households participating in municipal solid waste collections is likely 90 to 95 percent according to the DWM. The remaining 5 to 10 percent of households are thought to illegally dump their waste. The DWM notes in its 2018 Annual Report that household municipal solid waste participation remains steady in 2017.

Kentucky Households Participating in Municipal Solid Waste (MSW) Collection, 2003-2017



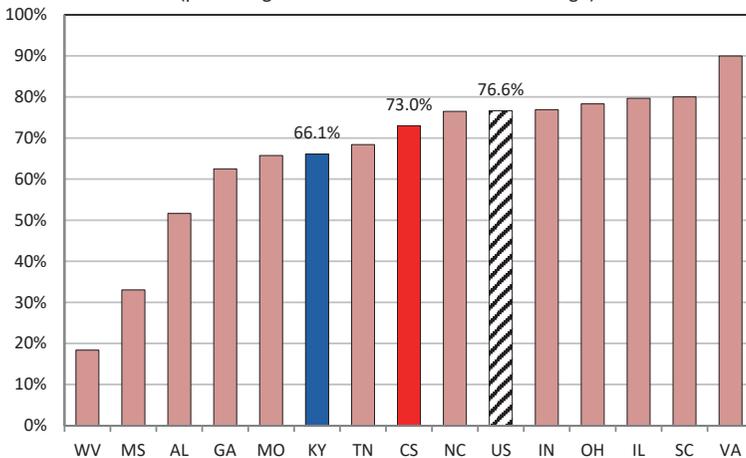
Source: Kentucky Division of Waste Management Annual Reports, various years

LANDFILL GAS ENERGY PROJECTS

There are more than 2,600 municipal solid waste (MSW) landfills in the United States, and collectively they generate the third-largest human-generated source of methane emissions in the United States—a potent greenhouse gas contributing to global climate change (U.S. EPA). Landfill gas (LFG) energy projects, present in some capacity at 16 Kentucky MSW landfills—representing about 66 percent of solid waste tonnage in the state—provide numerous benefits, such as reducing greenhouse gas emissions, reducing air pollution by offsetting the use of nonrenewable resources, creating health and safety benefits, providing community and economic benefits through job creation, and reducing environmental compliance costs. Kentucky trails the competitor states (73.0%) and U.S. (76.6%) averages in the use of LFG projects.

**Solid Waste Landfills with a Gas Energy Project,
Kentucky, Competitor States, and the U.S., 2024**

(percentage of total landfill solid waste tonnage)



Source: Author's analysis of EPA Landfill Methane Outreach Program (LMOP) data (posted September 2024).

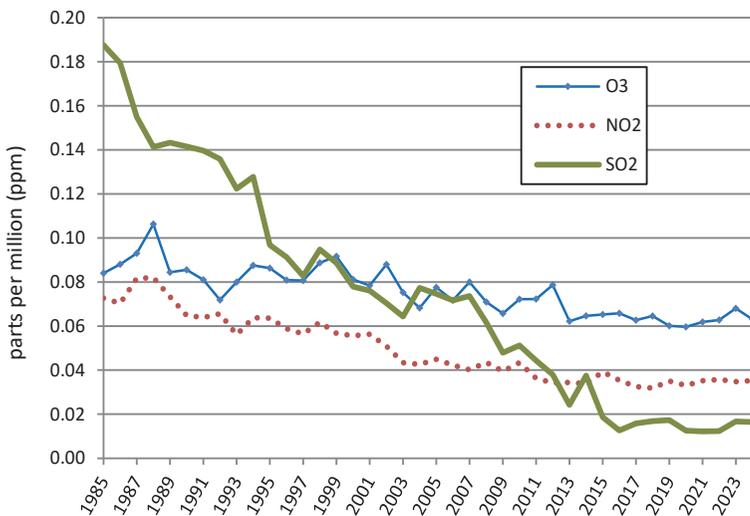
AIR QUALITY

The Kentucky Division for Air Quality reports that Kentuckians are breathing cleaner, healthier air. The Division points out that “this improvement is a direct result of reduced air pollution. For example, emissions of sulfur dioxide (SO₂) from Kentucky coal-fired power plants totaled 1.5 million tons in 1976. In 2015, those emissions had dropped to 131,696 tons – a remarkable 91 percent reduction.” The Division notes that the “decrease is all the more dramatic considering Kentucky’s population and economy have grown significantly during that same time period. New air pollution control technologies, improved vehicle fuel economy, and a growing emphasis on energy efficiency have all contributed to cleaner air.” The pollutants shown in the figure below are Ozone (O₃), Sulfur Dioxide (SO₂), and Nitrogen Dioxide (NO₂). While individual pollutants oscillate from year to year, overall the trend shows a decline in pollution levels from 1985 to 2024. The pollutants are shown in terms of parts per million (ppm). Other important air pollutants, expressed in both parts per million and micrograms per cubic meter (μ/m³) are shown on the facing page. This graph shows generalized pollution trends through time. It does not show trends for specific sites nor does it demonstrate attainment for any particular area. While individual pollutants may spike in certain years, overall trends show declines in pollution levels.

Environment

Kentucky Air Quality Trends, 1985 to 2024

(O₃, SO₂, NO₂)



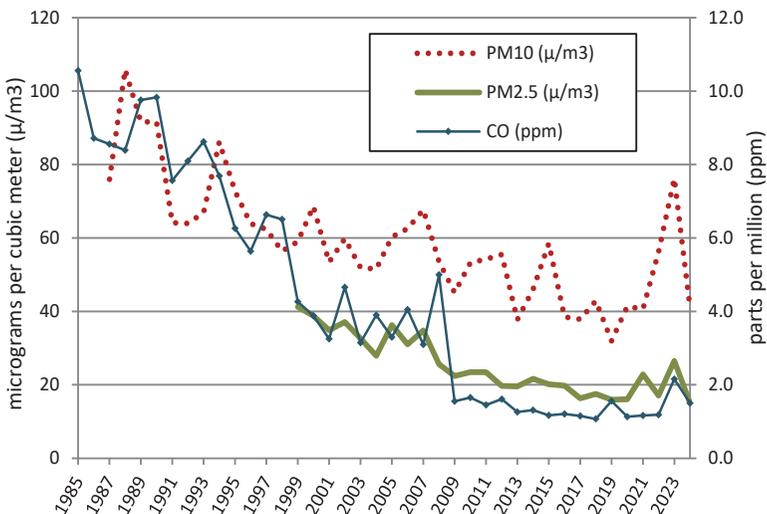
Source: Kentucky Energy and Environment Cabinet, Division for Air Quality

AIR QUALITY

As noted on the facing page, the Kentucky Division for Air Quality reports that Kentucky’s air is getting cleaner. The pollutants shown in the figure below are Carbon Monoxide (CO), Particulate Matter (PM₁₀), Fine Particulate Matter (PM_{2.5}). And, just like with Ozone (O₃), Sulfur Dioxide (SO₂), and Nitrogen Dioxide (NO₂) shown on the previous page, the pollutants in the graph below have been declining gradually over the time, with an increase in the last few years. This graph shows generalized pollution trends through time. It does not show trends for specific sites nor does it demonstrate attainment for any particular area. While individual pollutants may spike in certain years, overall trends show declines in pollution levels.

Kentucky Air Quality Trends, 1985 to 2024

(PM_{2.5}, PM₁₀, CO)

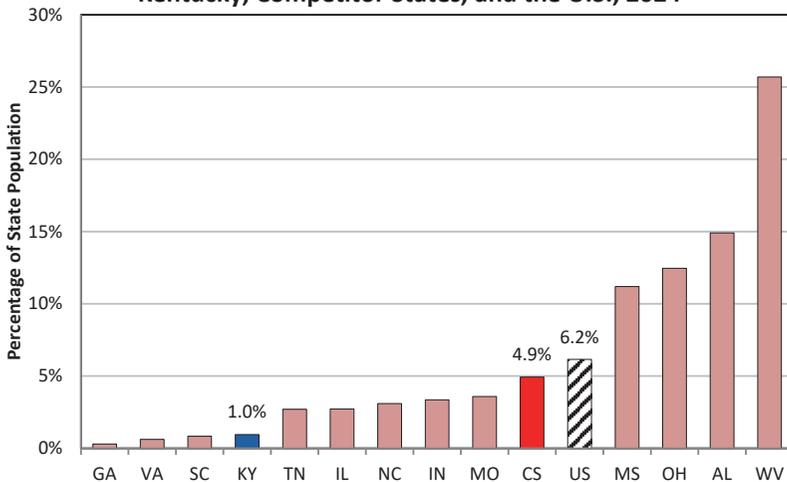


Source: Kentucky Energy and Environment Cabinet, Division for Air Quality

LEAD & COPPER RULE VIOLATIONS

The United States enjoys one of the safest and most reliable supplies of drinking water in the world. Clearly, the Safe Drinking Water Act of 1974 plays an important role in maintaining high standards for quality. While the water supply is generally violation-free, in 2024 there were nearly 105,000 violations of the Safe Drinking Water Act among community water systems that served around 100 million people, affecting 29.5 percent of the population. Of these 105,000 violations, an estimated 8,300 were violations of the Lead and Copper Rule, affecting approximately 21 million people. A violation of the Lead and Copper Rule is considered serious. Lead water pipes have been used for many years, but exposure to lead is extremely serious and can cause life-altering consequences, especially for children. A 2017 NBER Working Paper by Anna Aizer and Janet Currie, *Lead and Juvenile Delinquency: New Evidence from Linked Birth, School, and Juvenile Detention Records*, finds strong connections between childhood lead exposure and antisocial behavior, leading to increased school suspension rates as well as increased incarceration rates later in life. With eight violations of this rule in 2024, Kentucky experienced a relatively small number, affecting an estimated 1 percent of the state population. The competitor state and U.S. averages were higher, at 4.9 and 6.2 percent, respectively.

Population Served by a Community Water System with a Safe Drinking Water Violation of the Lead & Copper Rule, Kentucky, Competitor States, and the U.S., 2024

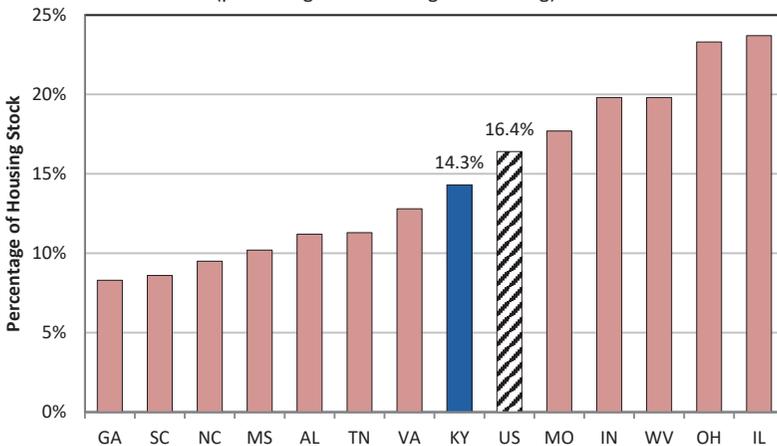


Source: Author's analysis of EPA SDWIS data.

LEAD RISK

Lead poisoning has serious health consequences. According to the Mayo Clinic, “Exposure to even low levels of lead can cause damage over time, especially in children. The greatest risk is to brain development, where irreversible damage may occur. Higher levels can damage the kidneys and nervous system in both children and adults. Very high lead levels may cause seizures, unconsciousness and possibly death.” Using a method that assigns relative risk based on housing age (which predicts the likelihood of lead paint), potential lead exposure risk due to housing stock age are shown below for Kentucky, the competitor states, and the U.S. overall. Housing built before 1978 carries an elevated risk for lead exposure, and housing built before 1950 has the highest risk of lead exposure. Due to a ban on lead-based paint in 1978, housing built after this year carries minimal risk. The environmental health literature finds that kids are more likely to come into contact with lead in older houses and that living in conditions of poverty elevates the risk. Risk levels are not uniform within a state, of course, since there are many factors that determine its potential to harm. The data show, nonetheless, that 14.3 percent of Kentucky’s housing stock, based on its age, presents a potentially elevated risk of lead exposure to its inhabitants; this is slightly lower than the U.S. overall, which is 16.4 percent.

Housing with Potential Elevated Lead Risk, Kentucky, Competitor States, and the U.S.
(percentage based on age of housing)



Source: America’s Health Rankings analysis of U.S. Census Bureau, American Community Survey, 2023 1-Year Dataset, United Health Foundation, AmericasHealthRankings.org, accessed 2025.

Environment

Equity

ROBERT PENN WARREN ONCE observed that America's struggle with race and responsibility remained unresolved. More than six decades later, those issues continue to shape Kentucky's social and economic landscape. Equity is not only a moral ideal but an economic necessity: when groups are excluded from opportunity, the entire Commonwealth bears the cost through lower productivity, weaker consumption, and lost innovation. National analyses—such as the U.S. Treasury Department's *Racial Inequality in the United States* and Citigroup's *Closing the Racial Inequality Gaps*—estimate that racial inequality has cost the nation up to \$16 trillion since 2000, with trillions in potential gains if disparities were narrowed.

Kentucky's demographic makeup highlights both the challenge and the opportunity of inclusion. Roughly 81 percent of Kentuckians identify as white, compared with 60 percent nationally, and minorities make up about one in five residents. These populations are concentrated in urban counties such as Jefferson, Fayette, Boone, Hardin, Kenton, and Warren, underscoring that diversity in Kentucky is largely metropolitan. Hispanics represent only 5.5 percent of the population—well below the national share—but they are among the state's fastest-growing communities. This concentration of diversity in cities can be an advantage: communities that embrace inclusion attract investment, talent, and innovation.

Economic disparities, however, remain pronounced. Minority workers in Kentucky

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face higher unemployment and lower earnings than white workers, even when equally educated. Between 2018 and 2023, median annual earnings for Black Kentuckians aged 25 to 54 averaged about \$38,000 in metro areas, compared to \$52,000 for white non-Hispanics. These wage gaps are mirrored by higher rates of food insecurity and poverty—roughly double those of white residents.

Education remains the most powerful lever of change. Black and Hispanic students consistently score below white students on educational assessments. In 2024, only about one in four Black students achieved proficiency in reading or math compared with half of white students. Postsecondary attainment follows the same pattern: in Kentucky’s metro areas, 32 percent of Black and 26 percent of Hispanic workers hold a bachelor’s degree, compared with nearly 48 percent of white workers. Yet, all groups have made progress, and the state’s higher-education plan—to raise credential attainment to 60 percent by 2030—positions education as both an equity and economic development goal.

Housing and wealth disparities reinforce these educational divides. Black and Hispanic Kentuckians are less likely to own homes and more likely to live in cost-burdened or substandard housing. Roughly 28 percent of Black homeowners spend more than 30 percent of income on housing, compared to 18 percent of white homeowners, while severe housing problems such as overcrowding or inadequate plumbing are more common among minorities. These challenges are closely linked to health outcomes: Black and Hispanic Kentuckians are more likely to be uninsured, experience chronic illness, and report “fair or poor” health. A 2023 *Journal of the American Medical Association* study estimated that racial and educational health inequities cost the U.S. economy more than \$1 trillion annually.

Environmental disparities compound these inequalities. Communities of color are more likely to live near polluted sites or in counties with repeated drinking-water violations. In 2024, minorities comprised 55 percent of residents in U.S. counties with ten or more health-based Safe Drinking Water Act violations, illustrating how environmental risk intersects with economic disadvantage.

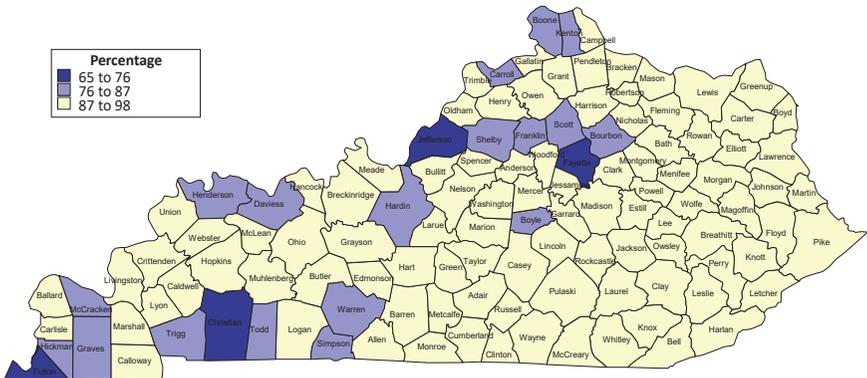
Recognizing these realities, the Kentucky Chamber of Commerce’s *Achieving Equity to Build a Stronger Kentucky* (2021) called for expanding economic opportunities for underrepresented groups. These priorities align with the National Equity Atlas’s Racial Equity Index, where Kentucky ranked 29th in 2022. The index’s focus on inclusion and prosperity underscores that equitable opportunity strengthens competitiveness and resilience.

Ultimately, Kentucky’s future depends on engaging the full potential of its people. Equity is not peripheral to development—it is its foundation. When every Kentuckian can participate fully in the economy, the result is a Commonwealth that is more innovative, competitive, and just.

WHITE, NON-HISPANIC POPULATION

Racial and ethnic diversity is increasingly viewed as a necessary community characteristic for creating a vibrant and robust local economy. An estimated 63 percent of the U.S. population and 84 percent of the Kentucky population is white (alone), non-Hispanic (based on the 2023 5-Year U.S. Census American Community Survey data). Using this as a measure of diversity, Jefferson County—where Louisville is located—is the state’s most diverse county at 65 percent white (alone), non-Hispanic. Christian (Ft. Campbell), Fulton, and Fayette Counties are second, third, and fourth at 67.7, 69.6, and 69.9 percent, respectively. The state’s least diverse counties are clustered mainly in the east, with several counties at or above 95 percent white (alone), non-Hispanic. The averages for Kentucky’s metropolitan, somewhat rural, and mostly rural counties are 78.6, 90.2, and 93.3 percent, respectively (using the 2023 rural-urban continuum codes).

White Alone (non-Hispanic) Population, 2019-2023
(percentage of total county population)



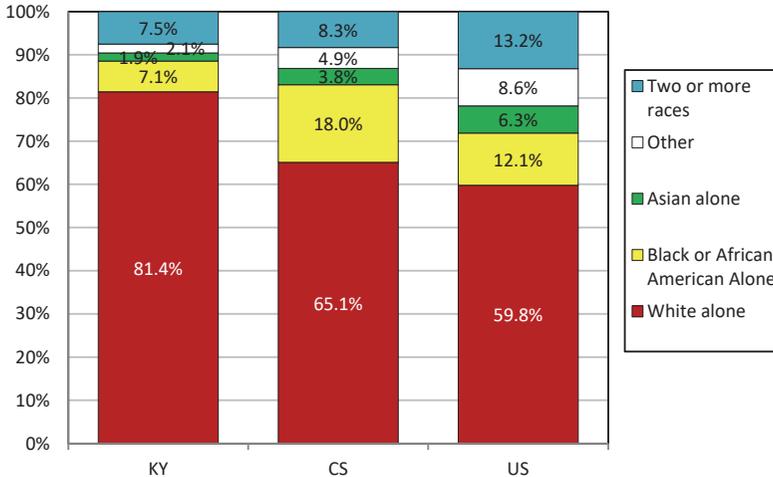
Source: U.S. Census, American Community Survey, 2023 5-Year estimate, Table DP05

POPULATION BY RACE

Diversity is increasingly important and recognized as a community asset in today’s global economy. Kentucky, however, is not a racially diverse state. In 2024, racial minorities comprised about 40 and 35 percent of U.S. and competitor state populations, respectively, and around 19 percent of the Kentucky population. Kentucky’s racial composition breaks down like this: white (81.4%), Black or African American (7.1%), Asian (1.9%), and other (9.6%). Kentucky’s racial minority population is concentrated in the state’s metropolitan areas; in 2023 (based on the U.S. Census 5-year estimate), four of every five (81.2%) racial minorities in Kentucky lived in metropolitan areas. Just over 66 percent of Kentucky racial minorities live in one of seven metropolitan counties—Boone, Christian, Fayette, Hardin, Jefferson, Kenton, or Warren. Overall, racial minorities comprise over 21 percent of the population in the state’s 39 metropolitan counties, nearly 10 percent in the 21 somewhat rural counties, and almost 7 percent in Kentucky’s 60 mostly rural counties.

Equity

**Population by Race, 2024,
Kentucky, Competitor States, and the U.S.**
(percent of individuals)

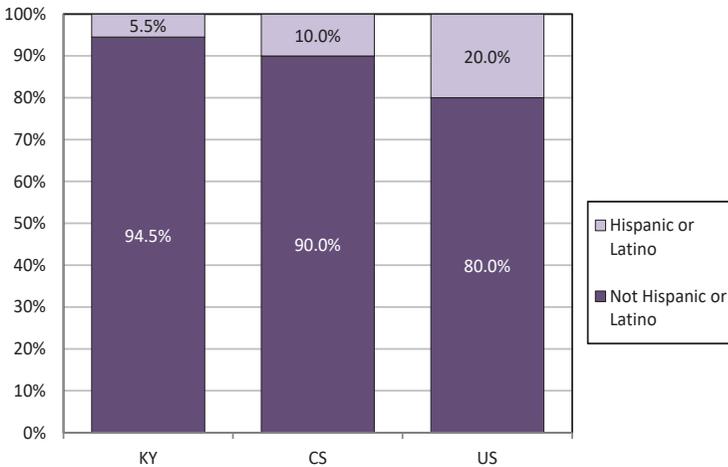


Source: U.S. Census Bureau, ACS 2024 1-Year Estimate, Table DP05

HISPANIC POPULATION

There are about 253,000 Kentuckians who identify as Hispanic or Latino, which is about 5.5 percent of the population. Compared to the U.S. (20%) and competitor states (10%), Kentucky has a relatively small Hispanic population. Almost three-quarters of the state’s Hispanic population live in a metropolitan county, with a majority in Jefferson and Fayette Counties. Still, Hispanics comprise only about 5 percent of the population in the state’s metropolitan counties, 2.4 percent in the somewhat rural counties, and just under 2 percent in Kentucky’s mostly rural counties.

**Population by Hispanic or Latino Ethnicity, 2024,
Kentucky, Competitor States, and the U.S.**
(percent of individuals)



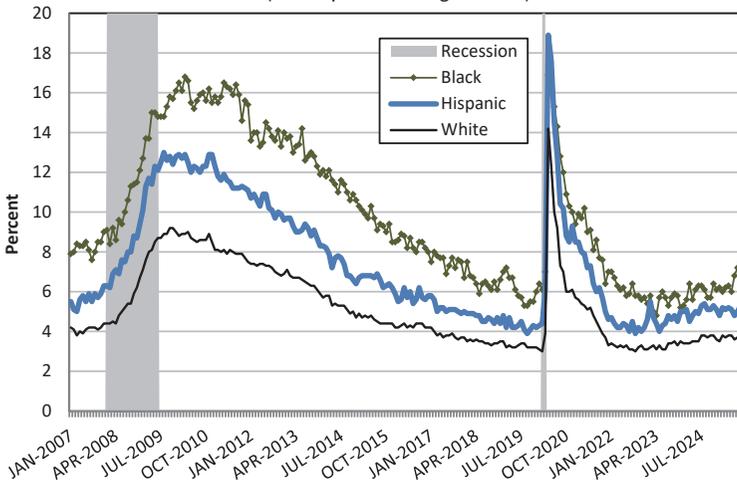
Source: U.S. Census Bureau, U.S. Census Bureau, ACS 2024 1-Year Estimate, Table DP05

UNEMPLOYMENT RATE

The national unemployment rate is perhaps the most widely known labor market indicator; it reflects the number of unemployed people as a percentage of the labor force. However, therein lies its fundamental weakness—it does not include individuals who have dropped out of the labor force. Nonetheless, the unemployment rate is a useful indicator of the relative labor market experiences of various racial and ethnic groups. The graph below, for example, illustrates the differences between white, Black, and Hispanic persons in the U.S. from January 2007 to August 2025, covering the Great Recession as well as the Pandemic Recession. As one can see, there are notable differences between the three groups, with much higher unemployment rates experienced, on average, by Black and Hispanic persons, compared to white persons. At the height of the Pandemic Recession in April of 2020, the unemployment rates were 14.1, 16.7, and 18.9, respectively, for white, Black, and Hispanic persons. In August 2025, the respective percentages were 3.7, 7.5, and 5.3. The roots of these differences run deep and include the varying economic and educational opportunities that have been systemically afforded or withheld over the decades based on race, ethnicity, creed, gender, and geography.

Equity

U.S. Unemployment Rate, by Race and Ethnicity
(January 2007 to August 2025)



Source: Bureau of Labor Statistics, Current Population Survey

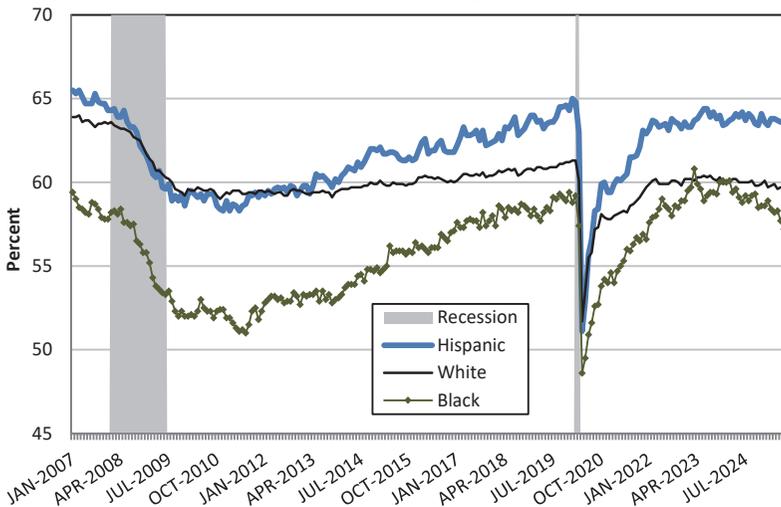
EMPLOYMENT-POPULATION RATIO

Many economists believe the employment-population ratio is a better labor market indicator than the more frequently referenced unemployment rate. This ratio is the proportion of the civilian non-institutional population that is employed, and it shows a somewhat different picture of the labor market than the unemployment rate. Hispanic persons have demonstrated a higher employment-population ratio than white persons and Black persons during much of the time period shown in the graph below. Indeed, in February of 2020, just before the labor market plummeted as a result of COVID-19, the ratio for Hispanic individuals was 65 percent, compared to 61.3 for white persons and 59.3 for Black persons. In August 2025 the ratio for white, Black, and Hispanic persons was, respectively, 59.5, 57.9, and 63.4. Both the unemployment rate and the employment-population ratio reflect the civilian noninstitutional population 16 years and over. Aaronson, *et al.*, suggest numerous proposals to mitigate the “racial and ethnic unemployment rate gaps that have been remarkably persistent over the decades.” In their September 2021 Brookings piece, *A hot labor market won’t eliminate racial and ethnic unemployment gaps*, they mention several options, from reducing barriers to minorities in the innovation and entrepreneurial arena, to a more coherent workforce development system.

Equity

U.S. Employment-Population Ratio, by Race and Ethnicity

(January 2007 to August 2025)



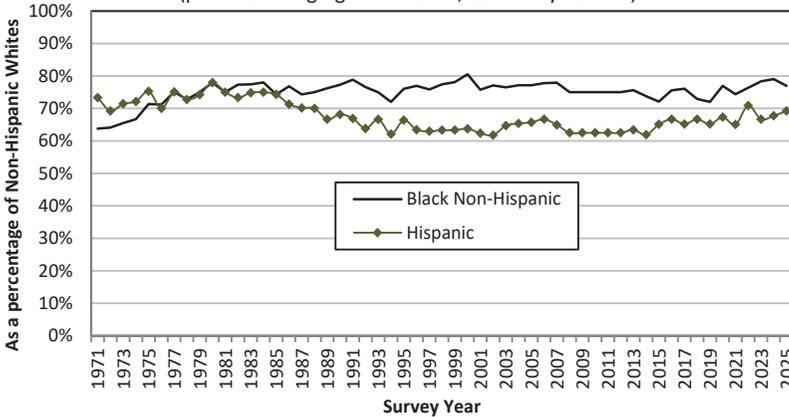
Source: Bureau of Labor Statistics, Current Population Survey

MINORITY EARNINGS GAP

The minority earnings gap has been persistent for at least the last 40 years, despite increases in educational attainment among minorities throughout that time period. Compared to white non-Hispanic prime working-age (25 to 54 years old) adults in the U.S. who are currently working, Hispanic as well as Black non-Hispanic persons in a similar group (i.e., prime working age and currently working) earn between 69 and 77 percent as much, respectively. These percentages are calculated using the median earnings of wages, salaries, and self-employed income. And, as the graph illustrates, the earnings gap between white and Black persons has not changed much since about 1980, while Hispanic persons have lost some ground relative to whites. Yet, during the same time period, both Black and Hispanic persons have steadily moved closer to white persons with respect to college degree attainment. Economists who have studied this persistent pay gap point to several factors, including, but not limited to, the economic sectors where many minorities work, such as manufacturing, the way in which globalization and automation have affected those sectors, as well as the underlying systemic disadvantages faced by minorities in the labor market.

Equity

Earnings of Working Non-Hispanic Blacks & Hispanics Compared to a Similar Group of Non-Hispanic Whites
(prime working-age U.S. adults, 25 to 54 years old)



Source: Author's analysis of U.S. Census CPS data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC various years]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

Note: Survey year asks about earnings for the previous year, so 2025 survey year reflects 2024 earnings.

EARNINGS BY RACE, ETHNICITY, & METRO STATUS

As we indicate on the previous page, there has been a persistent minority earnings gap in the U.S., and the same is true in Kentucky. The table below presents median earnings by race, ethnicity, and metro status for prime working-age adults who are currently employed. White non-Hispanic persons consistently earn more than Black non-Hispanic and Hispanic persons. Moreover, the table illustrates that individuals living in a metro area earn more than those not in a metro area for all race and ethnic groups. The metro area earnings boost is especially pronounced for white non-Hispanic persons. White non-Hispanic workers between the ages of 25 and 54 living in non-Metro areas have earnings, on average, about 20 percent higher than a similar category of Black non-Hispanic persons. Similarly, the earnings gap between Black and white individuals is more significant in Kentucky’s metro areas, reaching nearly 37 percent.

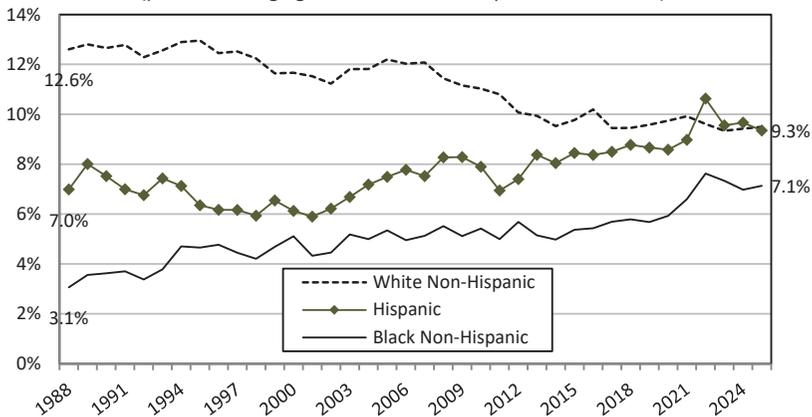
Median Earnings in Kentucky by Race, Ethnicity, & Metro Status, 2018-2023				
(total annual personal earned income, prime working-age, working adults)				
Adults, 25 to 54 years old	Black Non-Hispanic	Hispanic	White Non-Hispanic	Total
Not in Metro Area	\$32,839	\$30,196	\$39,393	\$38,936
Metro Area	\$38,000	\$35,000	\$52,063	\$48,225
Metro status indeterminable	\$36,000	\$40,000	\$45,326	\$45,000
<i>Source: Authors’ analysis of data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 5YR 2022 & 2023]. Minneapolis, MN: IPUMS, 2025. https://doi.org/10.18128/D010.V16.0</i>				

SELF-EMPLOYED BY RACE & ETHNICITY

White non-Hispanic prime working-age (25 to 54 years old) persons in the U.S. are more likely to be self-employed than Black non-Hispanic persons, but are statistically tied with Hispanic persons. The self-employed include a diverse and broad range of occupations, from farmers to landscapers to doctors. One characteristic the self-employed share is the willingness to chart their own economic path. Either out of necessity or opportunity, these individuals demonstrate the spirit needed to create an entrepreneurial economy. Overall, around 9 percent of part- and full-time working prime working-age adults in the United States are self-employed. Nationally, over the last thirty years, these percentages have been trending slightly downward for white non-Hispanic persons. This downward trend is evident in the chart below showing the decline from 12.6 percent in 1988 to 9.3 percent in 2025. At the same time, self-employed Black non-Hispanics and Hispanics have been increasing. The differences between white non-Hispanics and Black non-Hispanics are statistically significant in every year from 1988 to 2025. The same is true for the differences between white non-Hispanics and Hispanics except for five years—2018, 2022 to 2025. Improving the economic empowerment and independence of all people, with a focus on historically disadvantaged populations, would benefit the entire Commonwealth.

Equity

**U.S. Self-Employment Rates
by Race & Ethnicity, 1988-2025**
(prime working age, 25 to 54, full- and part-time workers)



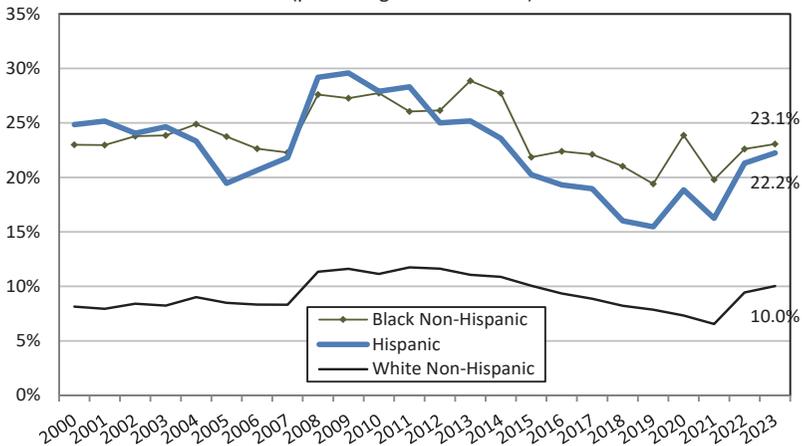
Source: Estimates generated by the author using data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC 1988 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

FOOD INSECURITY BY RACE & ETHNICITY

While the Pandemic Recession revealed that many Americans, regardless of race, ethnicity, or neighborhood, were much closer to food insecurity than they realized, minorities experience higher rates of food insecurity both before, during, and after the pandemic. Food security is defined as having “access at all times to enough food for an active, healthy life for all household members,” while food insecurity means “that the food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food.” As shown in the figure below, food *insecurity* has generally been higher for Black non-Hispanic and Hispanic persons than white non-Hispanic persons. In 2023, the percentage of food insecure individuals was 10 percent for white non-Hispanic persons, about 22 percent for Hispanic and around 23 percent for Black non-Hispanic persons.

Equity

U.S. Food Insecurity, by Race and Ethnicity, 2000 to 2023
(percentage of individuals)



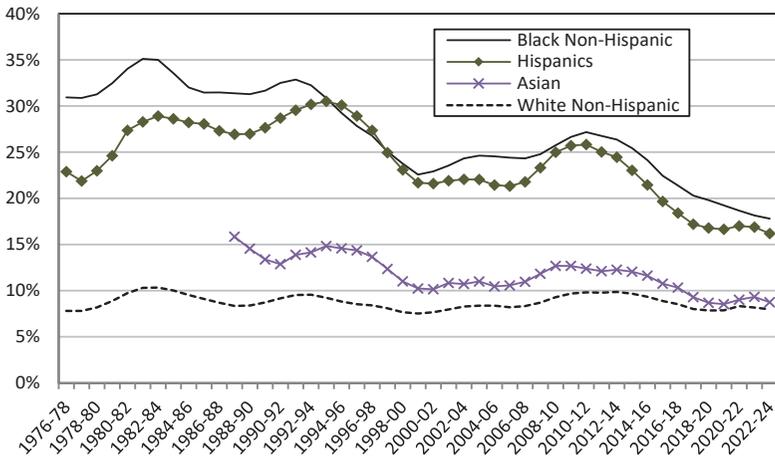
Source: Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Food Security Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

POVERTY RATE BY RACE & ETHNICITY

Living in poverty can have far-reaching economic, social, and cultural consequences for families and can stretch across generations. Studies reveal that those who grow up in poverty not only experience a lack of basic needs, but that this scarcity can shape their lives and families for generations. The U.S. poverty rate increased during the Great Recession as well as during the Pandemic Recession, and currently stands at around 12.5, depending on the data source. And, as the chart below shows, there are notable differences between race and ethnic groups, with Black non-Hispanic persons experiencing poverty rates at least twice the level as white Non-Hispanic persons. For instance, the poverty rate from 2023 to 2025 (3-year average) is 8 percent for white non-Hispanic individuals and 17.8 percent for Black non-Hispanic individuals. A June 2021 report by researchers from the American Enterprise Institute and Brookings, *Long Shadows: The Black-White Gap in Multigenerational Poverty*, finds that poverty persists much longer in Black families than in white families, and that Black families are overrepresented among the persistently poor. They report that Black families not only have higher poverty rates, they also “are over 16 times more likely than white families to experience three generations of poverty.”

Equity

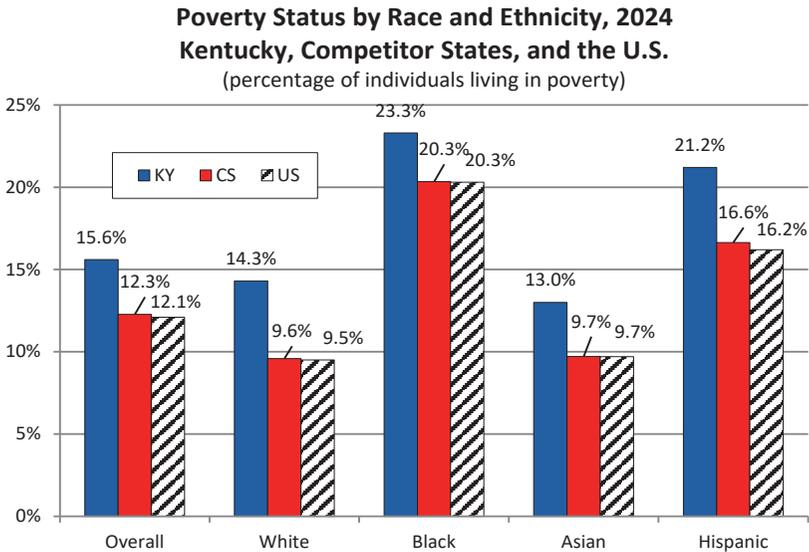
U.S. Poverty Rates by Race & Ethnicity, 1976 to 2024
(percent of individuals in poverty, 3-year average)



Source: Author's analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

POVERTY RATE BY RACE & ETHNICITY

Kentucky’s poverty rate is consistently higher than the U.S. and the competitor states for white persons, Black persons, Asians, and Hispanics. Moreover, the same pattern presented for the U.S. on the facing page is evident for Kentucky. White individuals experience poverty at much lower rates than Black and Hispanic individuals.



Source: U.S. Census, American Community Survey, Table S1701, 2024 1-Year Estimate.

DISCONNECTED YOUNG ADULTS BY RACE & ETHNICITY

These young adults are not enrolled in school, are not currently employed, and have no degree beyond a high school diploma or GED. Collectively these factors could indicate that a young person is having difficulty making a successful transition to adulthood. Non-Hispanic Black and Hispanic young adults are more likely to be disconnected from educational or work environments compared to non-Hispanic white young adults. The table below shows the percentage of young adults (18 to 24 years old) who are “disconnected.” Statistically significant differences include Kentucky’s higher percentage of disconnected white non-Hispanic persons (13.6%) compared to the U.S. (9.3%) and competitor states (10.0%). Other significant differences are non-Hispanic Black young adults compared to white non-Hispanic young adults in Kentucky, the U.S., and competitor states. Hispanic persons evidence statistically significant differences compared to white non-Hispanic persons in the U.S. and competitor states but are statistically no different within Kentucky. Understanding and recognizing these race and ethnic differences could provide insights on developing tailored approaches to engage young adults in ways that will connect them to educational or employment opportunities.

Equity

Disconnected Young Adults, 2024 Kentucky, Competitor States, and the U.S. (percentage point estimates with 95-percent confidence intervals)				
Area	All	White non-Hispanic	Black non-Hispanic	Hispanic
US	11.7♦ (11.6-11.9)	9.3♦ (9.2-9.5)	18.6* (18.1-19.0)	14.2* (13.9-14.4)
CS	12.0♦ (11.7-12.2)	10.0♦ (9.7-10.2)	18.3* (17.6-19.1)	12.7* (12.1-13.4)
KY	14.7 (13.6-15.8)	13.6 (12.4-14.8)	23.6* (18.6-28.7)	12.1 (8.4-15.9)

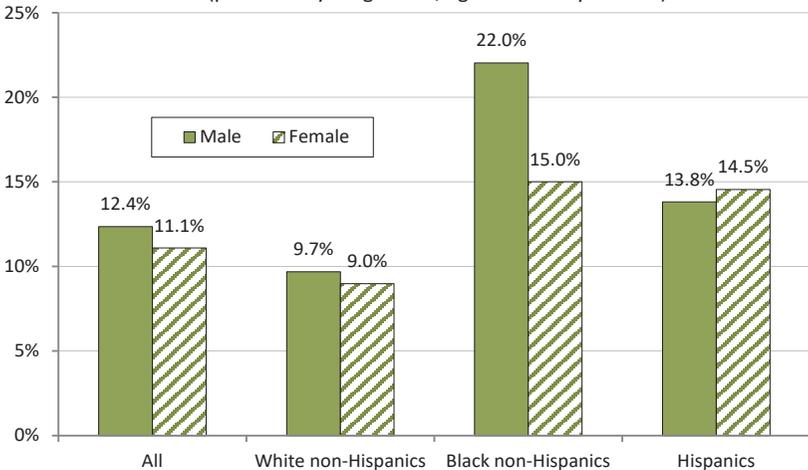
*Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS.
*Indicates an estimate is statistically significant using a 95 percent confidence interval when compared to white non-Hispanics within a specific geographic grouping, e.g., within the U.S.
♦Indicates an estimate is statistically different from Kentucky’s estimate within a specific race or ethnic category, e.g., white non-Hispanics in the US and CS have significant differences from KY.*

DISCONNECTED YOUNG ADULTS BY RACE, ETHNICITY & GENDER

As described on the facing page, disconnected young adults are 18 to 24 years old, not enrolled in school, not currently employed, and have no degree beyond a high school diploma or GED. These characteristics collectively indicate that a young person is having difficulty making a successful transition to adulthood. The prevalence of disconnected youth not only varies between racial and ethnic groups but between genders as well. In the U.S., for example, Black non-Hispanic males exhibit the highest rates of disconnection from educational and employment experiences (22.0%); this percentage is statistically different from all other percentages shown in the chart, including Black non-Hispanic females (15.0%). Some key takeaways from a recent RAND report on the underlying reasons for young adults becoming disconnected include: “they are more likely to report symptoms of depression, use substances, engage in delinquent activities, and have weaker social support structures.” Moreover, “suspension in school is a risk factor for later disconnection for males, even after accounting for other observed family and school characteristics,” and “early pregnancy (before age 18) is a risk factor for disconnection for females, even after accounting for other observed family and school characteristics.” See Stephanie Bonds and Jennie W. Wenger, *What Predicts Disconnection Among American Youth?*, Oct. 2025.

U.S. Disconnected Young Adults, 2024
by Race, Ethnicity, and Gender

(percent of young adults, ages 18 to 24 years old)

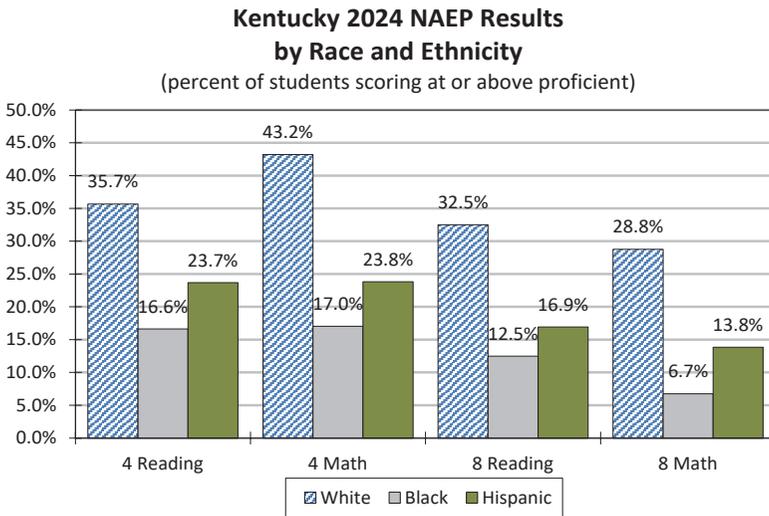


Source: Estimated by the author using data from the 2024 1-Year U.S. Census ACS PUMS

EDUCATIONAL ACHIEVEMENT GAP: NAEP

There is a minority educational achievement gap nationally and in Kentucky, but it can be bridged with time, resources, and attention. The National Assessment of Educational Progress (NAEP), commonly known as the “Nation’s Report Card,” gauges student progress in a variety of subject areas. Here we present the 2024 reading and math test results by race and ethnicity for 4th and 8th graders. Before the pandemic, Kentucky 4th graders experienced large gains in math and more modest gains in reading. At the 8th grade level, Kentucky students have demonstrated modest gains in math, but have consistently trailed the national performance. Reading proficiency for Kentucky 8th graders rose to levels that were significantly higher than the national percentages in 2011 and 2013, but have since fallen to a level similar to 2007. In 2024, Kentucky students were statistically no different from the national public students in 4th grade math, 4th grade reading, and 8th grade reading, and 8th grade math. Earlier gains were made possible because of meaningful investments. Yet, Kentucky’s Black and Hispanic students consistently score at lower levels than white students. Research shows that all students can perform at a high level, regardless of race or ethnicity, when nurtured and provided the necessary time, energy, and resources essential for them to perform at a high level.

Equity



Source: <https://www.nationsreportcard.gov/ndecore/xplore/NDE>, downloaded on 10/20/2025

EDUCATIONAL ACHIEVEMENT GAP: KSA

Similar to student performance on the NAEP examination (see the facing page), there is a minority achievement gap on the Kentucky Summative Assessment (KSA). Kentucky students take the KSA to meet federal and state testing requirements. Previously, these tests were called Kentucky Performance Rating for Educational Progress (K-PREP). They are developed by Kentucky teachers and align with the Kentucky Academic Standards in each content area. Across the board, regardless of subject or grade, there is a wide proficiency gap between white, Black, and Hispanic students. All students, regardless of race or ethnicity, can perform at a high level, when nurtured and provided the necessary time, energy, and resources needed for them to perform at a high level.

Kentucky Summative Assessment (KSA) by School Level, Subject, Race, and Ethnicity Students Scoring Proficient or Higher in Reading & Math (2024-2025 academic year)				
School Level	Subject	White (%)	Black (%)	Hispanic (%)
Elementary	Reading	54	28	34
	Math	48	21	31
Middle	Reading	52	26	34
	Math	46	19	28
High	Reading	51	25	33
	Math	45	19	27

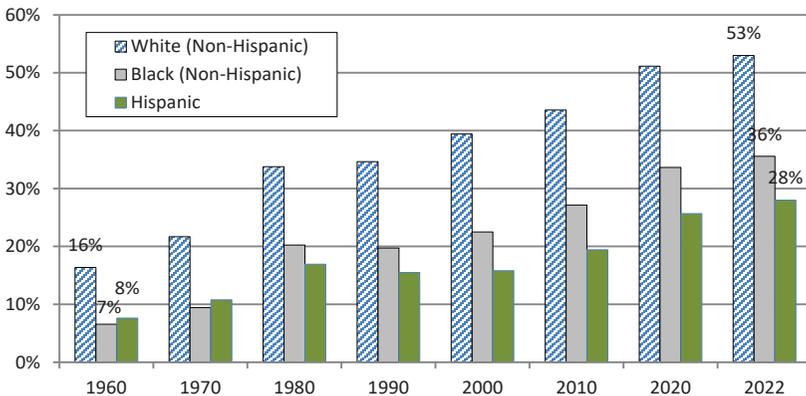
Source: Kentucky Department of Education, Assessment and Accountability Datasets 2024-2025, downloaded 11/23/2025, available at: https://www.education.ky.gov/Open-House/data/Pages/Assessment_Accountability_Datasets_2024-2025.aspx

POST-SECONDARY EDUCATION BY RACE & ETHNICITY

There are marked differences nationally in the percentages of prime working-age white, Black, and Hispanic individuals with at least two years of post-secondary education. This is important because the percentage of jobs requiring some education, training, or credentials beyond high school has increased over time, and the U.S. Bureau of Labor Statistics (BLS) estimates that around 50 percent of the *new* occupational positions created nationally from 2020 to 2030, and about 40 percent of the *total* jobs in 2030, will require at least some college (BLS, Employment Projections, Table 1.7 Occupational Projections 2020-30). Moreover, the Kentucky Council on Postsecondary Education 2022-2030 State Plan for Higher Education, released in February 2022, sets the goal of increasing the percentage of Kentuckians with a postsecondary degree or certificate to 60 percent by the year 2030. All racial and ethnic groups have increased their educational attainment over the last fifty years, but there are large differences in attainment among groups. This is evidenced, for example, by the differences between white (53%), Black (36%), and Hispanic individuals (28%) in the percentage of prime-working age adults who have attained at least two years of post-secondary education (2022). Finally, while these data reflect national trends, the pattern is evident in Kentucky too.

Equity

**Two or More Years of Post-Secondary Education,
Whites, Blacks, and Hispanics**
(prime working-age adults, 25 to 54 years old)

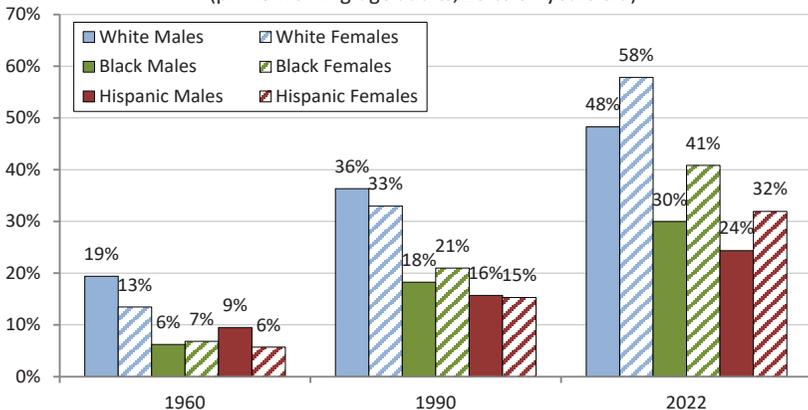


Source: Author's analysis of U.S. Census Bureau data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [1960 5% sample; 1970 Form 1 State 1%; 1980, 1990, & 2000 5% samples; 2010, 2020, & 2022 ACS 5-Year]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

POST-SECONDARY EDUCATION BY RACE, ETHNICITY & GENDER

As described on the facing page, to become economically successful now and in the future, it will increasingly require some education and training beyond high school. And, while educational attainment levels have increased dramatically for every race and ethnic group over the last fifty years, there are, nevertheless, persistently large gaps in attainment between groups. However, a more complex picture emerges when examining gender differences within race and ethnic groups. This is evidenced, for instance, by the differences between Black non-Hispanic (36%) and Hispanic persons (28%) in the percentage of prime-working age adults who have attained at least two years of post-secondary education (see the graph on the facing page, data for 2022). Illustrating gender differences, the chart below shows that in 2022 Hispanic *females* (32%) have about the same attainment level as Black non-Hispanic *males* (30%), and Black non-Hispanic *females* (41%) have much higher attainment levels than Black non-Hispanic *males* (30%). As shown in the graph, the group with the highest post-secondary educational attainment level using the threshold of two or more years is white non-Hispanic *females*, who outperform white non-Hispanic *males* 58 to 48 percent.

**Two or More Years of Post-Secondary Education,
Whites, Blacks, and Hispanics, by Gender**
(prime working-age adults, 25 to 54 years old)



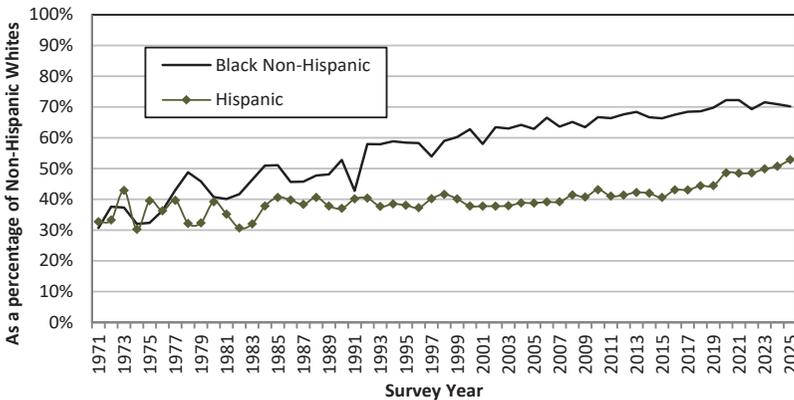
Source: Author's analysis of U.S. Census Bureau data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [1960 5% sample; 1990 5% sample; 2022 ACS 5-Year]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

COLLEGE DEGREES BY RACE & ETHNICITY

The gap in bachelor’s degree attainment between minorities and whites has narrowed over the last 40 years, but is still wide. Compared to white non-Hispanic prime working-age (25 to 54 years old) adults in the U.S. who are currently employed, Hispanic as well as Black non-Hispanic persons in a similar group (i.e., prime working age and currently working) earn 4-year degrees at about half and three-fourths the percentages, respectively. Workers face growing competition for low-wage, low-skill jobs, and increasingly for high-skill jobs. Today, any “routine” job and a growing number of high-skill jobs can be automated and outsourced. Competition in such an environment requires providing something that others cannot. That “something” will come from workers who have high levels of education and skill. Essentially, the rigors of the global economy require creative, highly-skilled, college-educated workers. While a college degree, or commensurate skill at a trade, does not guarantee a high-paying job, it does help facilitate access to jobs paying higher wages.

Equity

**Bachelor's Degree or Higher,
Employed Blacks & Hispanics as a % of Employed Whites**
(percentage of prime working-age U.S. adults, 25 to 54 years old)



Source: Author's analysis of U.S. Census CPS data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC various years]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

Note: Survey year asks about earnings for the previous year, so 2025 survey year reflects 2024 earnings.

COLLEGE DEGREES BY RACE, ETHNICITY, & METRO STATUS

As we show on the facing page, there has been a persistent minority bachelor’s degree attainment gap in the U.S., and the same is true in Kentucky. The table below presents the attainment of a bachelor’s degree or higher by race, ethnicity, and metro status for prime working-age adults who are currently employed. White non-Hispanic workers consistently have higher attainment of 4-year degrees than Black non-Hispanic and Hispanic workers. This degree difference is especially pronounced in metro areas where non-Hispanic white individuals have markedly higher attainment rates (47.6%) than non-Hispanic Black (28.7%) or Hispanic individuals (25.9%).

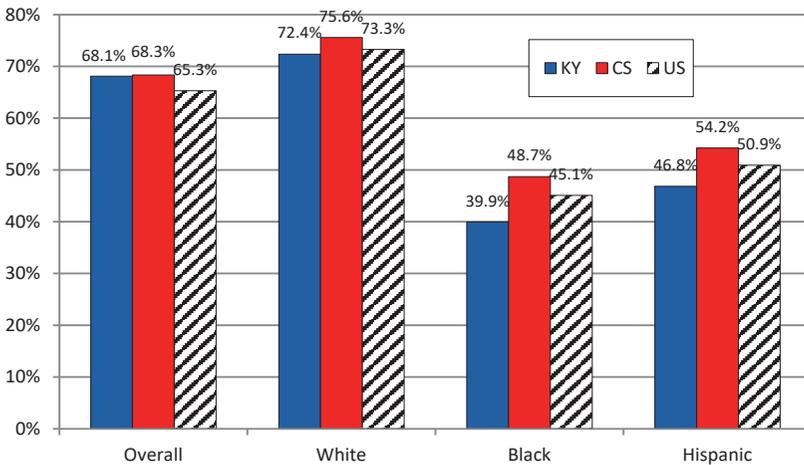
Bachelor’s Degree or Higher, Kentucky Race & Ethnicity by Metro Status, 2018-2023 (percentage of prime working-age, working adults)				
Adults, 25 to 54 years old	Black Non- Hispanic	Hispanic	White Non- Hispanic	Total
Not in Metro Area	32.1	20.9*	26.9	27.2
Metro Area	28.7*	25.9*	47.6	44.1
Metro status indeterminable	23.9*	18.9*	30.2	29.7
<i>Source: Authors’ analysis of data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 5YR 2022 & 2023]. Minneapolis, MN: IPUMS, 2025. https://doi.org/10.18128/D010.V16.0</i>				
<i>*These percentages are statistically different from the white non-Hispanic percentages (alpha=.05).</i>				

HOME OWNERSHIP RATES BY RACE & ETHNICITY

The chart below shows the home ownership rate by race and ethnicity in 2024, revealing a wide gap between white, Black, and Hispanic persons, both nationally and in Kentucky. According to a September 2020 report from the Board of Governors of the Federal Reserve System, *FEDS Notes*, “Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances,” Bhutta, *et al.*, report that housing is the biggest component of wealth for many families. They note that there are significant gaps in home values between racial and ethnic groups that are “caused both by gaps in purchase prices and housing appreciation, which are a reflection of a combination of factors including resource gaps (e.g., income and down payments), residential segregation, and age of entry into homeownership.” In a more pointed analysis released in February 2021, researchers at the Federal Reserve Bank of Minneapolis state that “generations of discriminatory policies and practices created and reinforce racial disparities in homeownership.” They note that “For generations, while government and private financial institutions have actively subsidized homeownership for White households, these institutions have erected barriers that exclude Black households, other households of color, and Native American households from the same opportunities.”

Equity

Home Ownership Rates by Race and Ethnicity, Kentucky, Competitor States, and the U.S., 2024



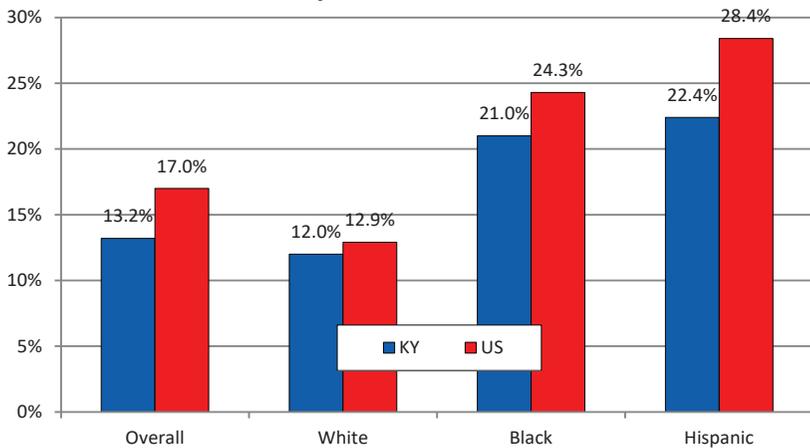
Source: Estimated by the author using data from the U.S. Census, American Community Survey (ACS), 2024 1-year estimates, tables DP04, B25003H, B25003B, and B25003I.

SEVERE HOUSING PROBLEMS BY RACE & ETHNICITY

An estimated 17 percent of the occupied housing units in the U.S. have at least one severe housing problem, as defined by the U.S. Department of Housing and Urban Development, based on its Comprehensive Housing Affordability Strategy (CHAS, 2015-2019). The Kentucky percentage is lower (13.2%). An occupied housing unit is considered to have a severe problem with at least one of the following: lack of complete kitchen facilities, lack of plumbing facilities, overcrowding or severely cost-burdened occupants. Importantly, there are notable race and ethnicity differences, as shown in the chart below. Minorities are more likely to occupy housing units with severe problems than whites. Housing quality matters for many quality-of-life reasons. As noted by *America’s Health Rankings*, “Housing influences health and well-being. Poor quality of housing can cause disease and injury as well as affect development in children. Other housing-related factors such as neighborhood environment and overcrowding can affect mental and physical health. A recent study found that having substandard housing is associated with being uninsured.”

Equity

**Severe Housing Problems by Race and Ethnicity
Kentucky and the U.S., 2015 to 2019**



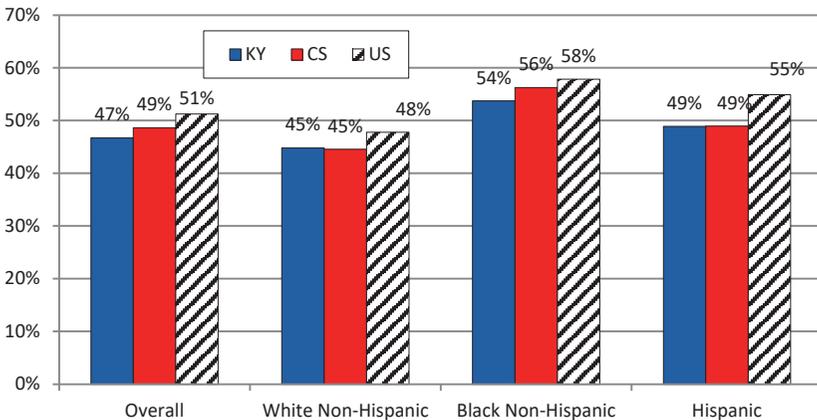
Source: America’s Health Rankings analysis of U.S. Department of Housing and Urban Development, Comprehensive Housing Affordability Strategy (CHAS), United Health Foundation, AmericasHealthRankings.org, Accessed October 30, 2023.

COST-BURDENED RENTERS

According to the U.S. Census Bureau, “over 21 million renter households spent more than 30% of their income on housing costs in 2023, representing nearly half (49.7%) of the 42.5 million renter households in the United States for whom rent burden is calculated” (Sept. 12, 2024 press release). The U.S. Department of Housing and Urban Development (HUD) uses a 30 percent share of income threshold to measure whether a renter is cost burdened. If the annual cost of rent exceeds a 30 percent share of the annual median household income, rental cost is considered a financial burden. On the other hand, if the annual cost of rent is below a 30 percent share of the annual median household income, rental cost is considered affordable and not a burden. Using this same threshold, but focusing on pooled 2022 and 2023 American Community Survey data, we estimate that 46.7 percent of Kentucky’s renters are cost burdened. Nationally there is a marked difference based on race and ethnicity. In Kentucky, this is demonstrated by the differences between cost-burdened white Non-Hispanics (45%) and Black non-Hispanics (54%).

Equity

Cost-Burdened Renter-Occupied Households, by Race and Ethnicity, 2022-23, Kentucky, Competitor States, and the U.S.

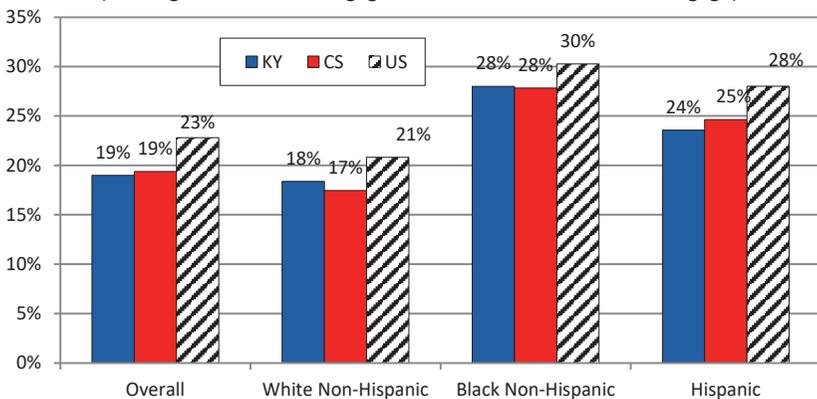


Source: Author’s analysis of data provided by Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 2022 & 2023 1-year estimates pooled]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>.

COST-BURDENED OWNERS

Owning a home is expensive, and for over a fifth of owners nationally (22.8%) the annual cost exceeds 30 percent of their annual household income. This threshold is used by HUD (see the previous page) to measure whether a home owner is cost burdened. The chart below includes those with a mortgage as well as those without a mortgage. Even if a home is fully paid off, there are still costs associated with ownership, such as taxes, insurance, and utilities. An estimated 19.0 percent of owners in Kentucky are cost burdened, meaning that their annual costs of ownership exceed 30 percent of their annual total household income. This percentage is statistically the same as the competitor state average (19.4%), but statistically lower than the U.S. average (22.8%). The figure also illustrates striking differences between white Non-Hispanic, Black non-Hispanic, and Hispanic owners. Whether it is Kentucky, the competitor states, or the U.S. overall, minority owners are more likely to be cost-burdened.

**Cost-Burdened Owner-Occupied Households,
by Race and Ethnicity, 2022-23,
Kentucky, Competitor States, and the U.S.**
(housing units with a mortgage as well as those without a mortgage)



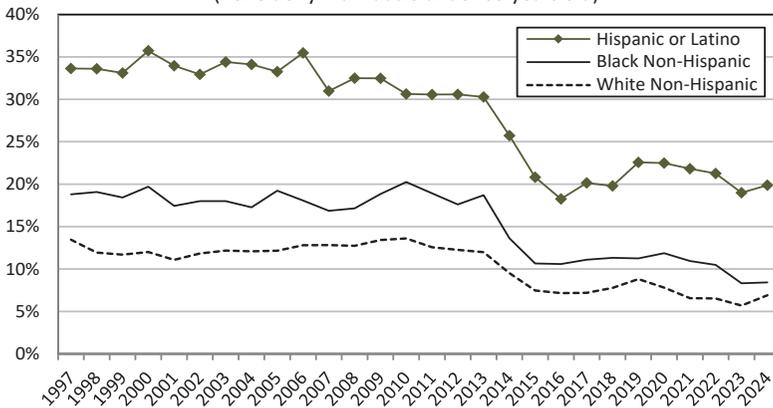
Source: Author's analysis of data provided by Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 2022 & 2023 1-year estimates pooled]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/DO10.V16.0>.

HEALTH INSURANCE BY RACE & ETHNICITY

An estimated 27.5 million Americans were without health insurance in 2024, with the percentage of uninsured people declining slightly since 2019. In Kentucky, 308,800, or 6.8 percent of the total state population, did not have health insurance in 2024. Medicaid has historically played a key role in providing health coverage for disproportionately poor Kentuckians, insuring an estimated 31 percent of the population here in 2024, compared to about 22 percent in the competitor states and 24 in the U.S. The implementation of the Affordable Care Act (ACA) has increased the number of individuals on Medicaid over the past few years. Prior to the ACA, minorities were more likely to be uninsured compared to whites. And while the uninsured rate among nonelderly minorities has trended down since 2010, Black non-Hispanic and Hispanic persons remain uninsured at higher rates compared to white non-Hispanic persons. Generally, the higher uninsured rates among minorities reflect more limited access to affordable health coverage options, including employer provided coverage. Access to health insurance is fundamentally important for millions of Americans’ quality-of-life. The Commonwealth Fund, a foundation that supports independent research on health care issues, notes that “while insurance alone does not ensure access to care, evidence shows it protects people from illness and death.”

Equity

**U.S. Health Uninsured Rates, Nonelderly Population
by Race & Ethnicity, 1997 to 2024**
(nonelderly individuals under 65 years old)



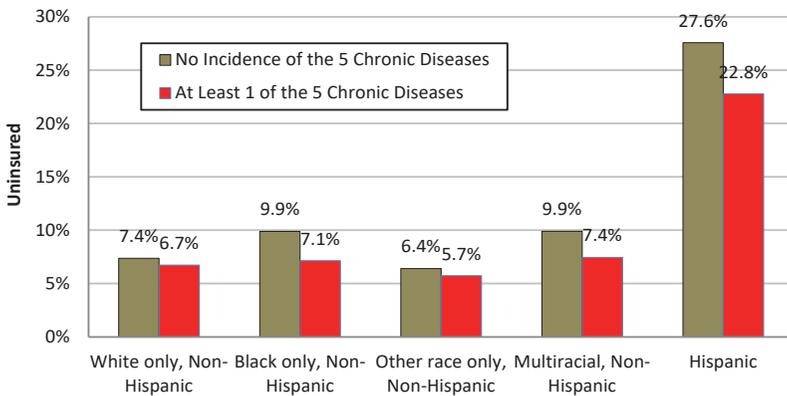
Source: Author’s analysis of IPUMS-NHIS data, courtesy of Lynn A. Blewett, Julia A. Rivera Drew, Andrew Fenelon, Miriam L. King, Kari C.W. Williams, Daniel Backman, Etienne Breton, Grace Cooper, and Stephanie Richards. IPUMS Health Surveys: National Health Interview Survey, Version 8.1 [NHIS, 1997-2024]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D071.V8.1>, available at: <http://www.nhis.ipums.org>

HEALTH INSURANCE BY CHRONIC DISEASE, RACE & ETHNICITY

Among prime working-age Americans (25 to 54 years old), there are notable differences between racial and ethnic groups in health insurance status and the incidence of chronic disease. The CDC notes that chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States, and they are also leading drivers of the nation’s \$3.8 trillion in annual health care costs. Research published in 2018 concluded that more than two thirds of all deaths are caused by one or more of these five chronic diseases: heart disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes. The incidence of chronic disease is also linked to higher absenteeism and employer costs. Research published in 2016 found that “Absenteeism costs associated with chronic diseases and health risk factors can be substantial. Employers may incur these costs through lower productivity, and employees could incur costs through lower wages.” White non-Hispanic persons with a chronic disease are statistically less likely to be uninsured (6.7%) than Hispanic persons (27.6%), but there is not a statistical difference between white non-Hispanics and Black non-Hispanics (7.1%). Individuals with a higher incidence of chronic disease, as well as lacking health insurance, are less likely to seek preventive or ongoing care for a potentially costly, debilitating, and/or deadly chronic condition.

Equity

Health Insurance and the Incidence of Chronic Disease, Heart Disease, Cancer, Stroke, COPD, or Diabetes, by Race & Ethnicity, 2020 to 2024
(U.S. prime working-age, 25 to 54 years old)

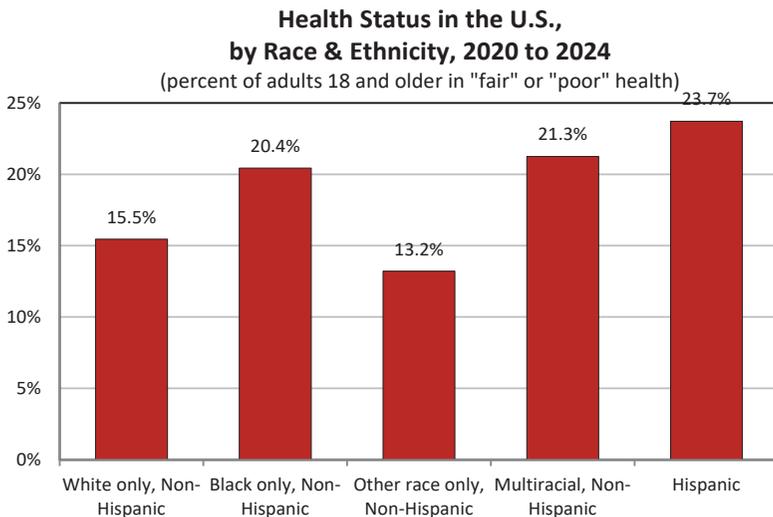


Source: Author's analysis of data from the Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020-2024 pooled data.

HEALTH STATUS BY RACE & ETHNICITY

Minorities are more likely to report higher rates of “fair” or “poor” health. A core question on the Centers for Disease Control (CDC) and Prevention, Behavioral Risk Factor Surveillance System annual survey is: “Would you say that in general your health is: (pick one) excellent, very good, good, fair, poor (or don’t know)?” An estimated 15.5 percent of white Non-Hispanic adults say “fair” or “poor,” compared to 20.4 percent of Black non-Hispanic adults and 23.7 percent of Hispanic adults. A recent study published in the *Journal of the American Medical Association* (JAMA), “The Economic Burden of Racial, Ethnic, and Educational Health Inequalities in the US,” (May 2023, LaVeist, Thomas A., et al.), concluded that in 2018, “the overall economic burden of failing to achieve the health equity goals was \$1.03 trillion.” This total reflects the cost of premature death, excess medical care, and lost labor market productivity. The researchers conclude that the “economic burden of health inequities is unacceptably high and warrants investments in policies and interventions to promote health equity for racial and ethnic minorities and adults with less than a 4-year college degree.”

Equity



Source: Author's analysis of data from the Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020-2024 pooled data.

LEADING CAUSES OF DEATH

Health disparities exist across many dimensions, including, but not limited to, gender, geography, socioeconomic, race, and ethnicity. The Pandemic brought many of these disparities to the forefront, evidenced by the risk of death from COVID-19 being much higher for American Indian or Alaska Native, non-Hispanic persons, Black or African American, non-Hispanic persons, and Hispanic or Latino persons, compared to white, non-Hispanic persons (CDC NCHS, as of 9/9/2021). By 2023, however, COVID-19 was no longer among the top ten leading causes of death in the United States. In 2023, Black non-Hispanic persons continue to experienced higher death rates than white non-Hispanic or Hispanic persons for most, but not all, of the leading causes of death. The leading cause of death in the U.S. is heart disease, and the rate for Black persons (205.9 per 100,000 population) far exceeds both white (169.1) and Hispanic persons (108.7). The same is true for cancer, the second leading cause of death. The rate for Black persons is 161.7, which is also higher than the rate for white (149.3) and Hispanic persons (102.6). Accidents is the third leading cause of death for the overall population, 62.3 per 100,000 for the entire population. The causes of death in the table are the ten leading causes of death in the United States in 2023.

Leading Causes of Death in the U.S., by Race & Ethnicity, 2022 (Age-adjusted rate per 100,000 population)				
Cause of Death	Overall	White, Non- Hispanic	Black, Non- Hispanic	Hispanic
Heart disease	167.2	173.1	216.9	114.6
Cancer (malignant neoplasms)	142.3	149.0	165.0	104.3
Accidents (unintentional injuries)	64.0	67.9	80.7	48.9
COVID-19	44.5	43.9	53.9	47.2
Stroke (cerebrovascular diseases)	39.5	38.3	57.2	35.3
Chronic lower respiratory diseases	34.3	39.6	26.7	14.3
Alzheimer’s disease	28.9	30.4	26.9	27.0
Diabetes mellitus	24.1	21.3	42.9	28.3
Chronic liver disease and cirrhosis	13.8	14.7	8.9	17.0
Kidney disease (nephritis)	13.8	12.5	26.9	12.4

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 2018-2022 on CDC WONDER Online Database, released in 2024. Data are from the Multiple Cause of Death Files, 2018-2022, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10-expanded.html> on Dec 7, 2024 11:39:28 AM.

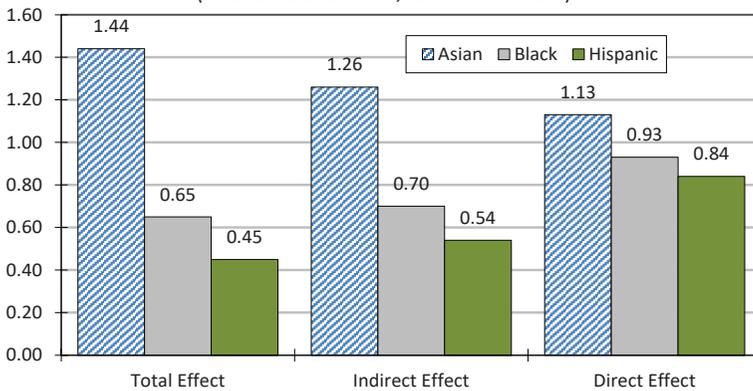
RACIAL & ETHNIC TELEWORKING DISPARITIES

Numerous studies have found racial and ethnic disparities in teleworking among workers. See, for example, Abay Asfaw, “Racial and Ethnic Disparities in Teleworking Due to the COVID-19 Pandemic in the United States: A Mediation Analysis,” *International Journal of Environmental Research and Public Health*, 2022, 19, 4680. Asfaw estimated racial disparities in teleworking due to the COVID-19 pandemic and the extent to which these disparities were mediated by four-year college education and occupation. Some of the key results are illustrated by the logistic regression odds ratios in the graph shown below. The total effect model shows the adjusted odds ratios for race while controlling for several factors (e.g., sex, age, income, marital, employment, and metro status). The results showed that in the reduced model (total effect), the odds for Black and Hispanic workers to telework were 35 and 55 percent lower, respectively, and for Asian workers 44 percent higher than for white workers. The full model (direct effect) shows the adjusted odds ratios when also controlling for education and occupation, with the odds for Black and Hispanic workers to telework 7 and 16 percent lower, respectively, and 13 percent higher for Asian workers compared to white workers. The indirect effect is the difference between the total and the direct effects, measuring the effect of race through the education and occupation variables.

Equity

Total, Direct, and Indirect Effects of Race on Teleworking, by Race and Ethnicity

(estimated odds ratio, relative to White)



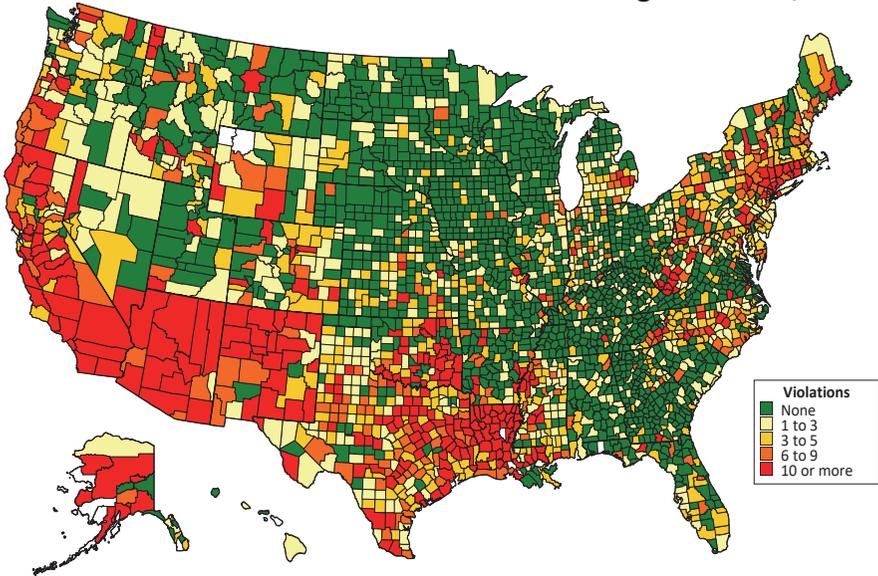
Source: Abay Asfaw, “Racial and Ethnic Disparities in Teleworking Due to the COVID-19 Pandemic in the United States: A Mediation Analysis,” *International Journal of Environmental Research and Public Health*, 2022, 19, 4680. <https://doi.org/10.3390/ijerph19084680>

ENVIRONMENTAL DISPARITIES

Minorities are more likely to live in areas with adverse environmental characteristics, such as poorer air or water quality. Indeed, recognizing these disparities, the Environment Protection Agency (EPA) created the Office of Environmental Justice in 1992. According to Spencer Banzhaf, Lala Ma, and Christopher Timmins, “Environmental Justice: The Economics of Race, Place, and Pollution,” *Journal of Economic Perspectives* (2019), there is a burgeoning body of research from multiple disciplines “documenting the correlation between pollution and race and poverty.” The White House *Fact Sheet on the Bipartisan Infrastructure Deal* notes “26% of Black Americans and 29% of Hispanic Americans live within 3 miles of a Superfund site, a higher percentage than for Americans overall.” The map shows the 1,626 counties where at least *one* health-based violation of the Safe Drinking Water Act occurred in 2024. Minorities constitute around 42 percent of the population nationwide, but, at about 55 percent, are overrepresented in counties with 10 or more violations. This is consistent with the analysis done by the National Resources Defense Council, *Watered Down Justice* (2019), where they report that “communities of color, low-income communities, and communities that lack transportation and/or live under crowded housing conditions had higher rates of drinking water violations than other communities.”

Equity

Health-Based Violations of the Safe Drinking Water Act, 2024

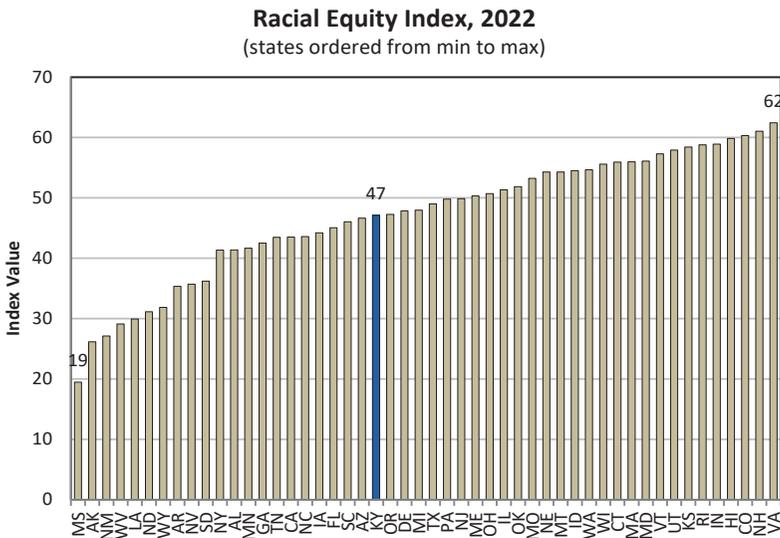


Source: Author's analysis of EPA SDWIS data.

RACIAL EQUITY INDEX

Kentucky ranks 29th out of 50 on the Racial Equity Index (REI) at the state level. In 2022, Virginia was ranked first with the highest Racial Equity Index value of 62 and Mississippi had the lowest value of 19. The Racial Equity Index value is based on the Inclusion score and the Prosperity score. The Racial Equity Index is a data tool designed to help communities identify priority areas for advancing racial equity, track progress over time, and set specific goals for closing racial gaps. It provides a snapshot of overall equity outcomes for cities, counties, regions, and states. The Index is based on nine indicators scored separately for inclusion and prosperity. The inclusion score measures racial disparities, where a higher score indicates smaller racial gaps. The prosperity score measures outcomes for the total population, where a higher score indicates better results overall. The nine factors used to assess the scores are: median wage, unemployment, poverty, educational attainment, disconnected youth, school poverty, air pollution, commute time, and rent burden. Kentucky ranks in the middle of the pack nationally where it has been in prior versions of the REI (2000 & 2010).

Equity



Source: National Equity Atlas, released 12/4/2024, downloaded 10/20/2025 <<https://nationalequityatlas.org>>

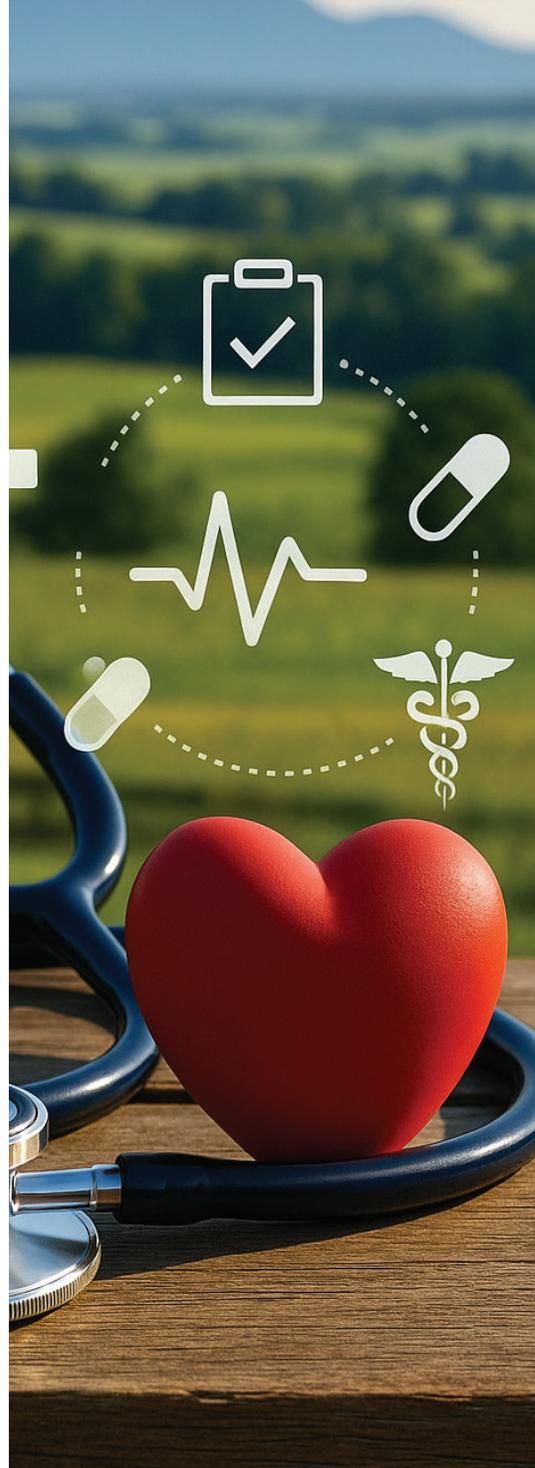
Health

HEALTH AND THE ECONOMY ARE tightly interwoven, with the state's persistent health challenges exerting a measurable drag on growth, productivity, and workforce participation. Poor health outcomes—ranging from chronic disease and addiction to mental health struggles—reduce labor supply and earnings while raising public expenditures. Improving Kentuckians' health, therefore, represents one of the most direct ways to strengthen the state's economic foundation.

Kentucky's health landscape reflects both individual behaviors and broader community conditions. The *Healthy People 2030* framework identifies five social determinants of health—economic stability, education, social context, health care access, and the built environment—that explain much of the state's geographic disparity. Using county-level data, we find that Central and Western Kentucky perform best on these measures, while Eastern Kentucky lags. Poorer health aligns closely with poverty, weak educational outcomes, and limited health infrastructure, conditions that depress labor force participation and regional economic vitality.

America's Health Rankings 2024 places Kentucky 41st among states, citing high rates of chronic disease, disability, and drug overdoses. The Commonwealth Fund's *2025 Scorecard* ranks it 37th for health system performance. These rankings mirror weak productivity and lower average incomes. Healthier counties—mainly in the Urban Triangle—tend to enjoy stronger job growth and

continued on the next page



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higher per-capita income, while less healthy counties face economic hardship.

Substance abuse remains a central health and economic challenge. Although overdose deaths declined by nearly 28 percent in 2024, Kentucky still ranks tenth nationally, with 33.5 deaths per 100,000 residents. Reducing addiction can have an immediate economic payoff by restoring workforce capacity.

Mental health concerns have deepened the strain. Nearly one-third of Kentucky youth exhibit a mental, emotional, developmental, or behavioral disorder, and over 40 percent of high-schoolers report persistent sadness or hopelessness. Roughly one in three adults report having been diagnosed with depression, a rate significantly above the U.S. average. These conditions reduce productivity, increase absenteeism, and contribute to higher disability claims—costs that ripple through the economy.

Chronic physical conditions amplify these effects. Kentucky's working-age adult smoking rate (21.3%) is among the nation's highest and costs the state up to billions in earnings and millions in tax revenue lost. Obesity affects 40.8 percent of prime working-age adults, compared to 36.3 percent nationally, contributing to higher rates of diabetes and cardiovascular disease. Diabetes alone costs Kentucky more than \$550 million in lost wages and over \$30 million in foregone tax revenue each year. In total, about two-thirds of Kentuckians exhibit at least one chronic-disease-causing behavior—smoking, inactivity, poor diet, or heavy drinking—pushing up health-care spending and lowering workforce productivity.

High disability rates further constrain economic potential. Kentucky's disability rate of 18.2 percent ranks among the nation's highest, limiting labor availability and raising employer and Medicaid costs. Yet preventive investments can yield strong returns.

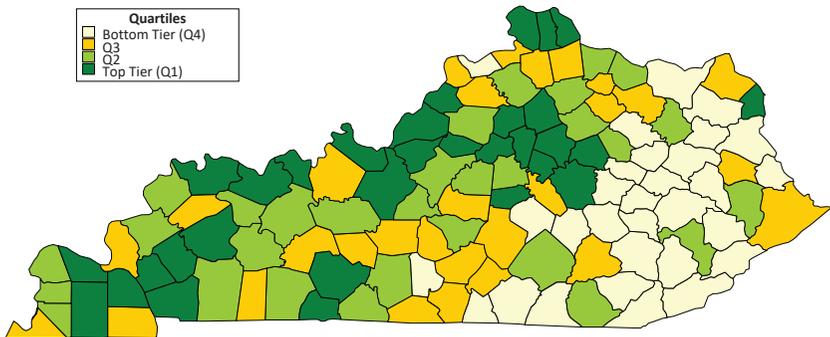
Education and health reinforce one another across generations. Healthier students perform better academically and are more likely to become productive workers. However, Kentucky's high-school students are less physically active and have poorer diets than their national peers, increasing the likelihood of future health and economic burdens. Similarly, poor oral health—common among working-age adults—reduces employability and confidence, perpetuating income gaps and limiting upward mobility.

Taken together, these patterns show that health is not merely a social indicator but a core driver of Kentucky's economic capacity. Chronic illness, addiction, mental distress, and preventable disease collectively erode the labor force, weaken productivity, and increase public spending. Investing in prevention, youth mental health, and community wellness could yield some of the highest economic returns available to the Commonwealth, improving both well-being and long-term growth.

SOCIAL DETERMINANTS OF HEALTH

The health of individuals is affected by many factors, including, of course, individual behaviors regarding diet and exercise, but also including community characteristics. The U.S. Department of Health and Human Services advances a “place-based” framework under the auspices of the *Healthy People 2030* initiative to explain and understand the factors affecting health outcomes. This framework includes five principal areas that constitute the *social determinants of health*: economic stability; education; social and community context; health and health care; and neighborhood and built environment. Using 24 separate factors organized into these five categories, we estimate the strength of the social determinants of health at the county level. Using a technique known as principal component analysis, we rank Kentucky’s 120 counties into quartiles, or four equal groups, by analyzing variables that include, but are not limited to, the poverty rate, the rate of successful transition to adult life after high school graduation, the number of community associations, the number of various types of health care providers, and environmental conditions such as air and water quality. Together, these factors reflect critical elements in our social and physical environments that affect individual health. Counties in Central and Western Kentucky show the best outcomes, with less favorable outcomes in Eastern Kentucky.

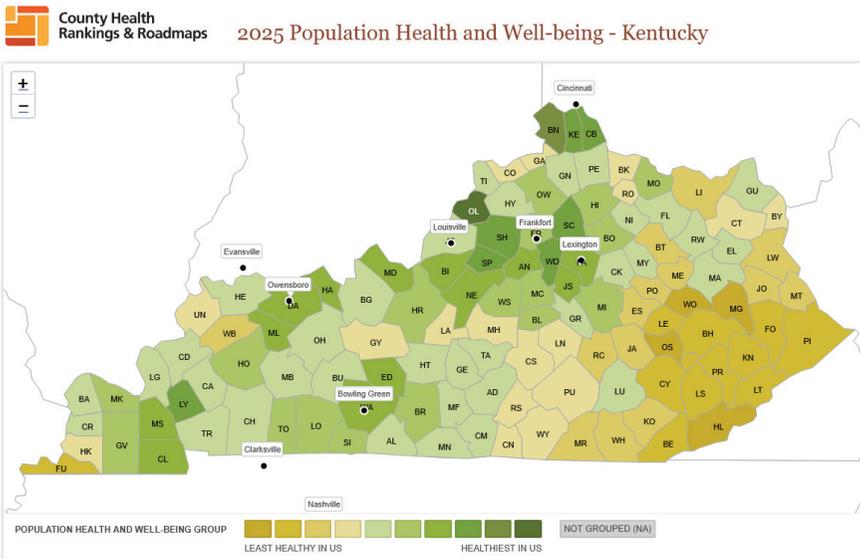
Social Determinants of Health by Kentucky County



Source: Calculated by the author from multiple data sources. Refer to the Notes & Sources.

HEALTH OUTCOMES

Kentucky’s health short-comings are well-known—*America’s Health Rankings 2024*, for example, delineates the state’s relatively high rates of drug overdose deaths, chronic disease, and disability, by ranking the state 41st overall. The United Health Foundation, which produces the report, uses 88 measures that span five categories of health and well-being to assess the health rankings of every state. A different group of researchers use nearly 30 measures to produce the *2025 County Health Rankings* (see the map below). They assess the health status of individuals and generate county-level ranks, state-by-state, to “help communities understand how healthy their residents are today (health outcomes) and what will impact their health in the future (health factors).” The map below shows the county-level ranks for Kentucky’s population health and well-being. The researchers measure *length of life* and *quality of life* to estimate the health outcomes among Kentucky’s counties. The counties where people have longer life spans, better physical and mental health, and higher life satisfaction are sprinkled throughout the state, but concentrated in the Urban Triangle. Meanwhile, the counties with lower population health and well-being are mainly concentrated in Eastern Kentucky.

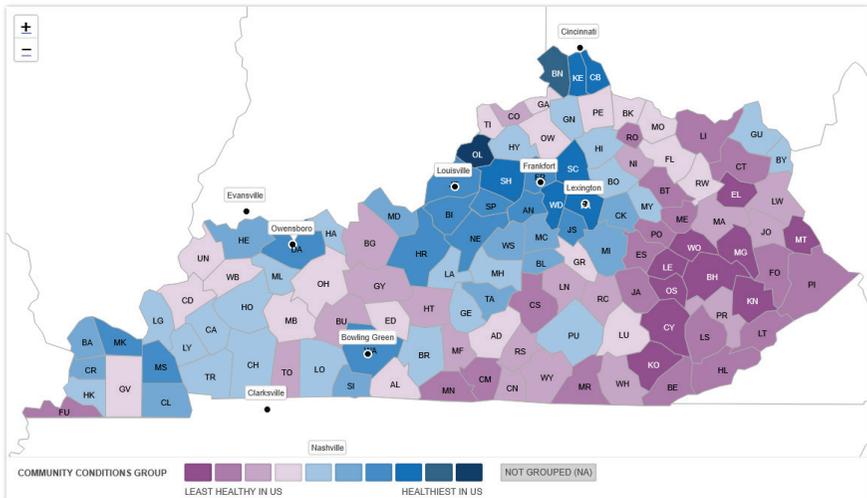


COMMUNITY CONDITIONS

The Commonwealth Fund’s *2025 Scorecard on State Health System Performance* “uses the most recent available data to assess how well the health care system is working for people in every state.” The 2025 edition of the Scorecard, which places Kentucky 37th among the states and DC, uses 50 measures of health care access and affordability, prevention and treatment, avoidable hospital use and costs, health outcomes and healthy behaviors, and equity. This map of community conditions, also part of the *2025 County Health Rankings* (see the opposite page), shows Kentucky’s 120 counties grouped according to community conditions. The researchers note that community conditions include the social and economic factors, physical environment and health infrastructure in which people are born, live, learn, work, play, worship and age. Community conditions are also referred to as the social determinants of health. Similar to the health outcomes on the facing page, the counties with better community conditions are mostly found in the Urban Triangle, with most of the counties in the lowest group found in Eastern Kentucky.



2025 Community Conditions - Kentucky

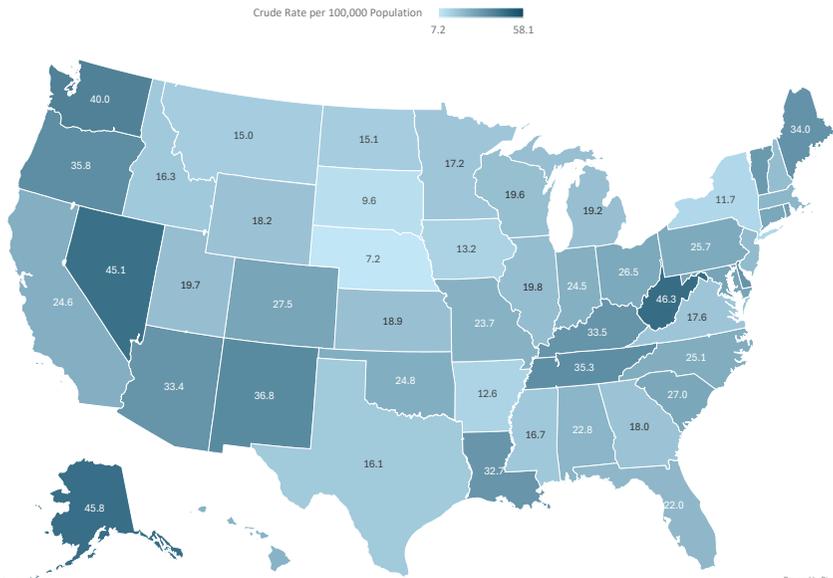


DRUG OVERDOSE DEATH RATE

Drug overdose deaths, which have been largely fueled by the illegal use of the opioid fentanyl, declined significantly in 2024. While over 80,850 Americans died from a drug overdose in 2024, this represents a 24.3 percent *decline* from 106,880 in 2023. With 1,538 deaths in 2024 compared to 2,131 in 2023, Kentucky experienced an even larger decline over the same time period—27.8 percent. Unfortunately, Kentucky still has one of the highest drug overdose death rates in the country. An estimated 33.5 individuals per 100,000 population died from a drug overdose in 2024. As shown in the map below, Kentucky is among the states in the highest quintile, ranking tenth nationally. West Virginia, at 46.3 deaths per 100,000 population, has the highest overdose death rate among the states, but DC is the highest overall (58.1). The impact of the opioid epidemic continues to exert significant economic and social consequences on the country, individual states, local communities, and extended families. The costs include, but are not limited to, reduced labor force participation, lost wages, lower productivity, lost tax revenue, higher government expenditures, and emotional distress.

Health

Drug Overdose Death Rate, 2024



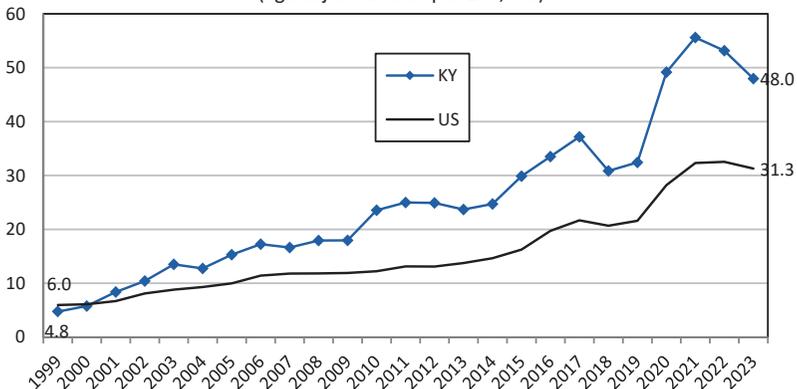
Source: Calculated by CBER using CDC National Center for Health Statistics, Vital Statistics Rapid Release, Monthly Provisional Drug Overdose Death Counts, released May 2024, and U.S. Census, ACS 2024 1-Year population estimates.

DRUG OVERDOSE DEATH RATE

The number of Kentuckians, and Americans, dying from a drug overdose remains high, but the upward trend is slowing. The primary culprit in drug overdose deaths is opioid abuse, especially heroin and fentanyl. According to CDC estimates, there were 2,077 drug overdose deaths in Kentucky during 2023, down from 2,270 in 2022. The U.S. drug overdose death rate (age adjusted) increased by a factor of 5.2 from 1999 to 2023, but in Kentucky it increased by a factor of 10.1. The Kentucky Office of Drug Control Policy reports in the *2024 Overdose Fatality Report* that the five Kentucky counties with the highest death rates in 2024 were Lee (156 deaths per 100,000 residents), Knott (134.6), Breathitt (129.6), Powell (109.8), and Estill (85.4). These drug overdose death rates put significant financial stress on local governments and exert an economic impact on communities. For example, despite the considerable uncertainty regarding the extent to which opioids reduce labor force participation, our 2019 analyses suggested that opioid abuse reduced Kentucky’s labor force participation rate by 1.3 to 3.1 percentage points. This translates to a loss of 23,100 to 55,200 workers, \$1.0 to \$2.8 billion in earnings, and \$63 to \$169 million in state tax revenues—a considerable economic toll.

**Drug Overdose Death Rates,
Kentucky and the U.S., 1999-2023**

(age adjusted rates per 100,000)



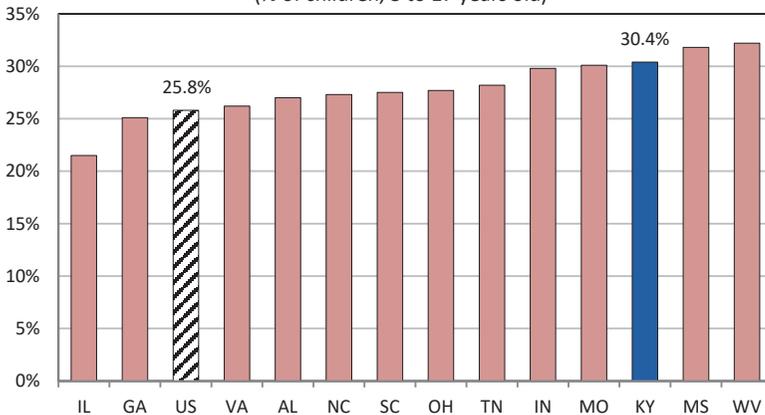
Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 2018-2023 on CDC WONDER Online Database, released in 2024. Data are from the Multiple Cause of Death Files, 2018-2023, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/mcd-icd10-expanded.html> on Oct 8, 2025 3:03:39 PM

CHILDREN WITH MEDB PROBLEMS

Even before the pandemic delivered its blow to the collective psyche of America’s youth (ages 3 to 17), the baseline of mental, emotional, developmental, or behavioral (MEDB) problems was at troubling levels. This is evidenced by over one-fifth of youth nationally (22.6%) and more than one-quarter of Kentucky youth (25.8%) showing at least one MEDB problem in 2019-2020. Unsurprisingly, the mental health of many young people worsened during the pandemic (2020-2021), reflected by MEDB increases in Kentucky (28.8%) and the U.S. (23.3%). The numbers continue to rise, as illustrated in the chart below. Kentucky’s percentage, for example, increased to 30.4 percent in 2022-2023. This measure, which is based on ten conditions, reflects the percentage of youth having at least one of the following: Tourette Syndrome; anxiety problems; depression; behavioral and conduct problem; developmental delay; intellectual disability; speech or other language disorder; learning disability; Autism or Autism Spectrum Disorder (ASD); and Attention Deficit Disorder or Attention-Deficit/Hyperactivity Disorder (ADD or ADHD). Maine has the highest percentage of youth with at least one MEDB problem (35.3%), and Hawaii the lowest (18.8%).

Health

Children with Mental, Emotional, Developmental or Behavioral Problems
 (% of children, 3 to 17 years old)



Source: Child and Adolescent Health Measurement Initiative. 2022-2023 National Survey of Children’s Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved [7/18/25] from [www.childhealthdata.org].

TEENS' MENTAL HEALTH

There is a growing percentage of American youth facing mental health challenges. It will take years to fully understand the consequences of the pandemic on the mental health and well-being of our youth, but the individual isolation resulting from widespread school closures likely exacerbated existing mental health challenges. The Centers for Disease Control and Prevention Youth Risk Behavior Surveillance System (YRBSS), which is a system of surveys—not just a single survey—monitors six categories of health-related behaviors that contribute to the leading causes of death and disability among youth. These include, but are not limited to, mental health and well-being. The data shown in the table below are estimated from the 2023 Combined High School Youth Risk Behavior Survey, focusing on students in grades 9 through 12, mostly 15 to 18 years old. The percentage of youth facing serious mental health challenges has been growing at an alarming rate for the mental health and suicide indicators tracked by the CDC. Kentucky tracks the national trends for many mental health indicators for adolescents. Research published in *JAMA Pediatrics*, as described in *The New York Times* in October 2023, found that about 20 percent of adolescents had symptoms of major depressive disorder in 2021, but less than half who needed treatment received it.

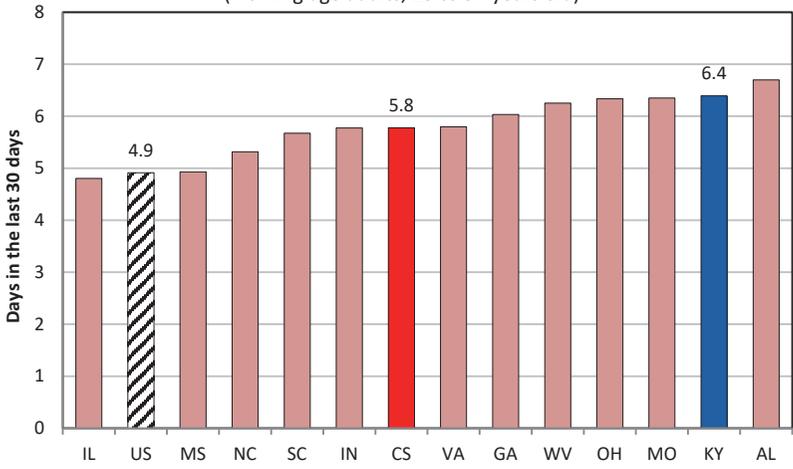
Mental Health and Suicide Indicators among High School Students U.S., Selected Nearby States, and Kentucky, 2023 (High school youth, 9 th through 12 th grades)			
Survey questions	US (%)	Nearby States (%)	KY (%)
Experienced persistent sadness or hopelessness	39.7	40.0	41.6
Seriously considered suicide	20.4	20.6	18.6
Made a suicide plan	16.4*	16.8*	14.1
Attempted suicide	9.5	11.1*	8.6
Injured in a suicide attempt requiring medical treatment	2.3	2.8	2.9
<small>Source: Author's analysis of data from Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2023. Note: The selected nearby states are IL, IN, MO, MS, NC, TN, & VA. See Notes & Sources at the end of this report for more information about each of the survey questions. *This percentage is statistically different from the Kentucky's percentage (alpha=.05).</small>			

POOR MENTAL HEALTH DAYS

To gauge the mental health status of American adults, the Centers for Disease Control (CDC) posed this question on its 2024 Behavioral Risk Factor Surveillance System Survey: *Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?* Limiting our focus to prime working age adults, 25 to 54 years old, Kentucky shows a statistically significant higher value (6.4 days) than both the U.S. (4.9) and competitor states (5.8). There are 25 states and the District of Columbia that have statistically significant lower values than Kentucky, while 22 states are statistically the same as Kentucky. Only one state, West Virginia, is statistically higher than Kentucky. Overall, Kentucky performs about average, ranking 25th, on a recent national assessment of state-level mental health. Mental Health America (MHA) uses 17 different measures that reflect the mental health status of adults and children, as well as measures of the mental health care infrastructure. *The State of Mental Health in America 2025* finds that Kentucky is a state where adult mental health access is relatively stronger than average, but youth mental health remains a significant area of concern, with high levels of unmet needs and low indicators of well-being.

Health

Number of Poor Mental Health Days, 2024
Kentucky, Competitor States and the U.S.
 (working age adults, 25 to 54 years old)

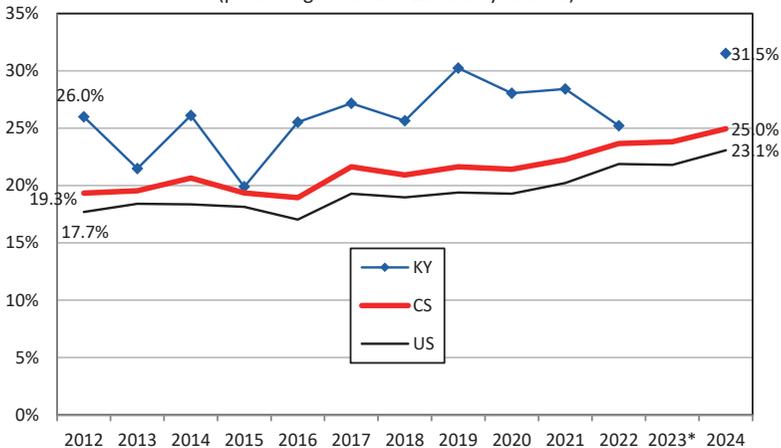


Source: Author's analysis of CDC Behavioral Risk Factor Surveillance System data, Ques: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" TN not shown since it did not participate in the 2024 BRFSS.

DEPRESSION

The economic costs of depression for individuals and businesses are estimated to be high. According to a 2021 study published in *Pharmacoeconomics*, “the economic burden of major depressive disorder among U.S. adults was an estimated \$236 billion in 2018, an increase of more than 35% since 2010 (year 2020 values).” These include: *direct costs*, such as medical services and medications; *workplace costs*, including absenteeism and reduced productivity; and *suicide-related costs*. Responses to the CDC’s Behavioral Risk Factor Surveillance System Survey question about depression [i.e., *Ever told you had a depressive disorder (including depression, major depression, dysthymia, or minor depression)?*], show that from 2012 to 2024 Kentucky consistently exhibits higher rates of depression among prime working age adults 25 to 54 years old than the U.S. or competitor states. Kentucky’s percentages are statistically significantly higher than the U.S. and competitor states in nearly every year, and especially in 2024 (31.5%). Kentucky’s relatively high self-reported rates of depression, shown in the graph below, belie its middle-tier ranking of 25th nationally on the Mental Health America, *The State of Mental Health in America 2025*. The report finds that Kentucky is a state where adult mental health access is relatively stronger than average, but youth mental health remains a significant area of concern.

Depression Diagnosis Among Prime Working-Age Adults, Kentucky, Competitor States, and the U.S., 2012-2024
(percentage of adults 25 to 54 years old)



Source: Author’s analysis of CDC Behavioral Risk Factor Surveillance System data, various years.

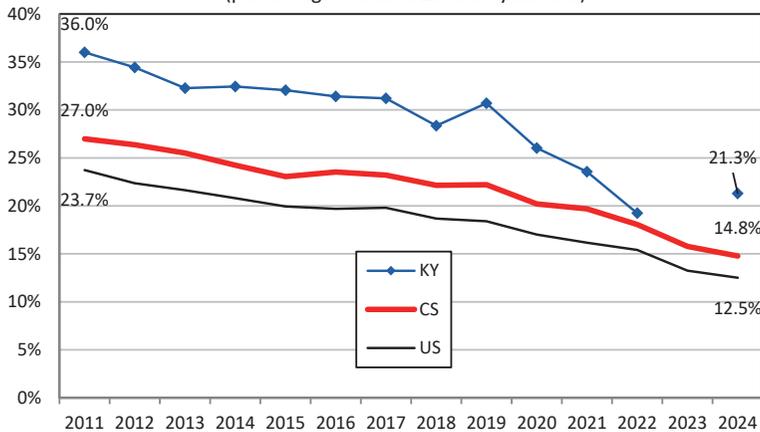
*Kentucky did not participate in the 2023 BRFSS.

ADULT SMOKERS

Despite a steady decline in smoking over the last decade, Kentucky still has one of the highest adult smoking rates in the nation. Consequently, smoking-related causes of death, including lung cancer and heart disease, exert a disproportionately high cost in the state. With a smoking rate among prime working-age adults (25 to 54 years old) of 21.3 percent, Kentucky is statistically well above the national (12.5%) and competitor state (14.8%) averages. Kentucky is statistically tied with four states, and West Virginia is statistically higher. Meanwhile the other 43 states and DC are statistically lower. The economic costs associated with smoking are high. A 2019 report from the Center for Business and Economic Research (CBER), *The Effect of Smoking on Kentucky’s Workforce*, finds that smoking leads to poorer labor market outcomes. Smokers are more likely to be unemployed, earn lower wages, and die prematurely than non-smokers. These negative labor market effects reduce economic activity and lower tax revenues, adding to the social costs and fiscal impact that smoking imposes. Combined, these three effects—reduced wages for smokers who work, reduced employment among smokers, and increased premature deaths for smokers—reduce Kentucky’s total earnings by \$1.8 billion to \$2.9 billion annually and its state tax revenues by \$111 million to \$176 million annually.

Health

Prime Working-Age Adults Who are Current Smokers, Kentucky, Competitor States, and the U.S., 2011-2024
(percentage of adults 25 to 54 years old)

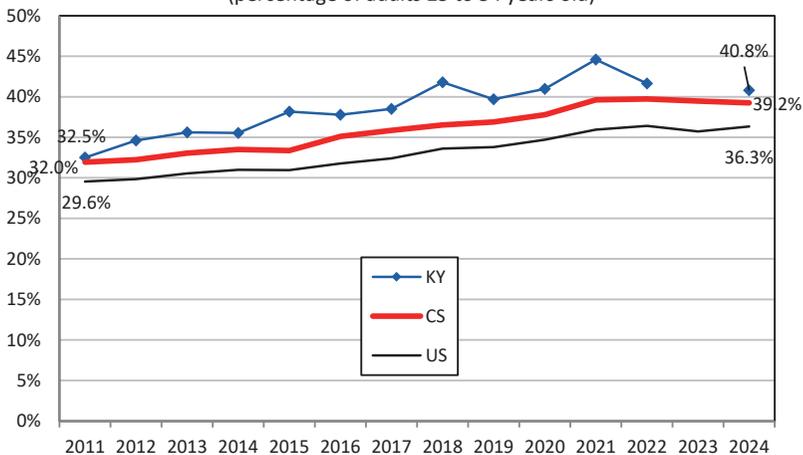


Source: Author’s analysis of CDC Behavioral Risk Factor Surveillance System (BRFSS) data, various years.
Note: Kentucky did not participate in the BRFSS in 2023, and Tennessee did not participate in 2024 so it is not included in the competitor state (CS) average in 2024.

ADULT OBESITY

Obesity can lead to heart disease, stroke, type 2 diabetes, and certain types of cancer. The Centers for Disease Control and Prevention (CDC) notes that the medical care costs of obesity in the United States are in the billions of dollars. One consequence of obesity—diabetes—is addressed in a 2019 Center for Business and Economic Research (CBER) report, *The Economic Impact of Diabetes in Kentucky*. It notes that the percentage of Kentucky adults diagnosed with diabetes has increased from 9.9 percent in 2007 to 12.8 percent in 2017. Currently, approximately 450,000 Kentuckians have diabetes. Research shows that diabetes is associated with lower employment and earnings. In Kentucky, diabetes reduces employment by approximately 15,700 workers, representing a loss of \$551.3 million in earnings and \$33.1 million in state tax revenue annually. With the number of obese adults in Kentucky at or near an all-time high, the economic impact of diabetes in Kentucky will likely increase. Currently, an estimated 40.8 percent of prime working-age adults (25 to 54 years old) in Kentucky are obese, about 4.5 percentage points above the national average of 36.3 percent. The competitor state average and 21 states are statistically no different from Kentucky. There are 24 states, DC, and the U.S. that are statistically lower. Three states are statistically higher than Kentucky (i.e., AR, MS, & WV).

**Obesity Among Prime Working-Age Adults,
Kentucky, Competitor States, and the U.S., 2011-2024**
(percentage of adults 25 to 54 years old)



Source: Author's analysis of CDC Behavioral Risk Factor Surveillance System (BRFSS) data, various years.
 Note: Kentucky did not participate in the BRFSS in 2023, and Tennessee did not participate in 2024 so it is not included in the competitor state (CS) average in 2024.

RISK BEHAVIORS AND CHRONIC DISEASE

According to the Centers for Disease Control and Prevention (CDC), more than 75 percent of health care costs are due to chronic conditions such as heart disease, cancer, stroke, diabetes, and arthritis. Many patients have multiple chronic conditions and their care costs up to seven times as much as those with one chronic condition. Much of the chronic disease is caused by four *preventable* health risk behaviors—lack of exercise, poor nutrition, smoking, and heavy alcohol consumption. When compared to the U.S. as well as states that are widely considered to be Kentucky’s competitors for economic development prospects, *prime working-age* (25 to 54 years old) Kentuckians are *more* likely to smoke, be obese, and not engage in regular physical activity, but are *less* likely to be heavy drinkers.

Health

Four Risk Behaviors that Contribute to Chronic Disease, U.S., Competitor States, and Kentucky, 2024 (prime working-age adults)

Adults, 25 to 54 years old	US (%)	CS (%)	KY (%)
Current Smoker	12.5*	14.8*	21.3
Obese	36.3*	39.2	40.8
Lack of Physical Activity	20.5*	20.3*	23.3
Heavy Alcohol Consumption	6.3	6.4	5.9

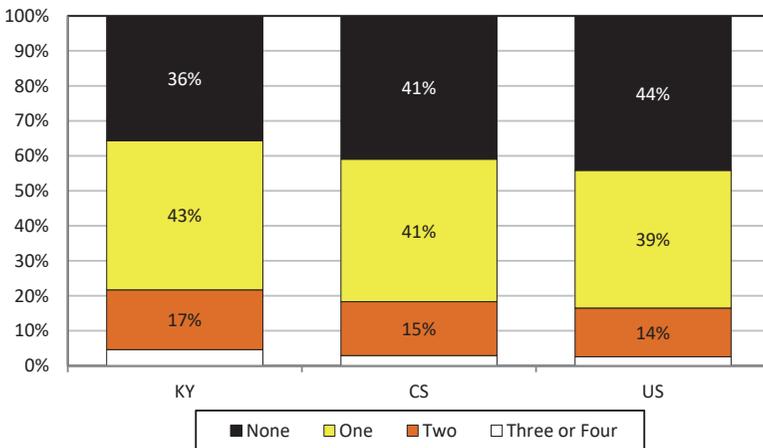
Source: Authors’ analysis of data from Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2024.
Note: The competitor states are AL, GA, IL, IN, MO, MS, NC, OH, SC, VA, & WV. (TN is not included.)
**These percentages are statistically different from the Kentucky percentages (alpha=.05).*

NUMBER AT RISK FOR CHRONIC DISEASE

Overall, nearly 22 percent of Kentucky’s prime working-age (25 to 54 years old) adults engage in multiple chronic disease causing behaviors. Just under 36 percent have none of the risk factors of smoking, obesity, inactivity, or heavy drinking, and about 43 percent have one. However, 17 percent have two and over 4 percent exhibit three or four. Much of chronic disease is caused by these four risk factors and it is estimated that 75 percent of health care costs are due to chronic conditions such as heart disease, cancer, stroke, diabetes, and arthritis. Compared to the competitor states and the U.S., prime working-age adults in Kentucky are more likely to have one or more chronic disease risk factors. These risk factors, particularly smoking, physical inactivity, and obesity, are linked to higher absenteeism and employer costs. Research published in 2016 found that “Absenteeism costs associated with chronic diseases and health risk factors can be substantial. Employers may incur these costs through lower productivity, and employees could incur costs through lower wages.” This association brings the health status of the state’s workers to the forefront when considering strategies for improving Kentucky’s economic prospects.

**Number of Key Chronic Disease Causing Behaviors, 2024,
Kentucky, Competitor States, and the U.S.**

(percent of prime working-age adults, 25 to 54 years old)



Source: Author’s analysis of CDC Behavioral Risk Factor Surveillance System (BRFSS) data, various years.
 Note: Tennessee did not participate in 2024 BRFSS so it is not included in the competitor state (CS) average.

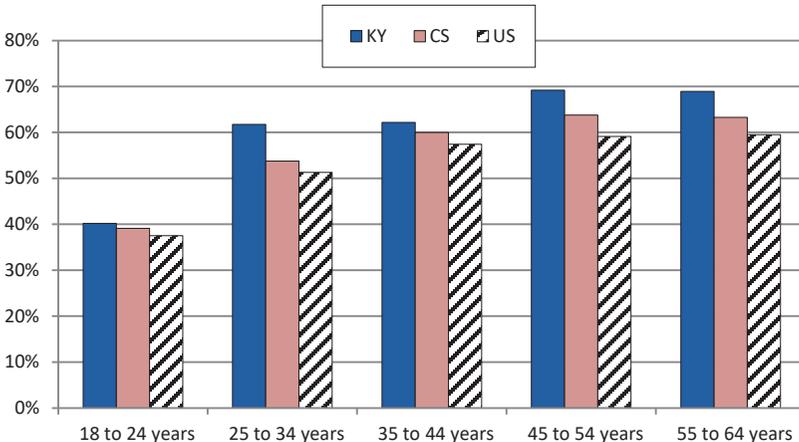
CHRONIC DISEASE RISK BY AGE GROUP

Chronic disease risk increases with age. We base the *risk* of chronic disease on whether any of these conditions exist: smoking, obesity, lack of exercise, or heavy alcohol consumption. An estimated 65 percent of Kentucky adults 25 and older demonstrate at least one of the four behaviors that put them at risk of developing a chronic disease, compared to 59 percent in the competitive states and 56 percent in the United States; Kentucky’s percentage is statistically higher than both. These rates have been consistent and stable within the respective geographic areas for at least the last decade—an indication of how difficult it is to change chronic disease causing activities, not only in Kentucky but across the United States.

Health

**Chronic Disease Risk by Various Age Groups,
Kentucky, Competitor States, and the U.S.**

(percent of individuals at risk for chronic disease, 2024)



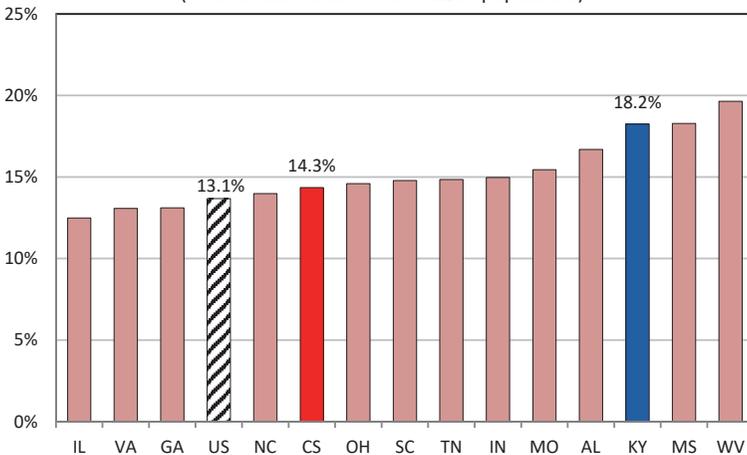
Source: Author's analysis of CDC Behavioral Risk Factor Surveillance System (BRFSS) data, various years.

Note: Tennessee did not participate in 2024 BRFSS so it is not included in the competitor state (CS) average.

DISABILITY

High disability rates can diminish a state’s economic competitiveness by decreasing worker productivity, reducing labor force participation, and increasing business costs. Kentucky’s economic potential is likely hindered since it has one of the highest disability rates in the country (18.2%); the national average is 13.1 percent. The Census Bureau asks six questions to determine the types and prevalence of disabilities. They include the following: *Hearing Disability*—Is this person deaf or does he/she have serious difficulty hearing?; *Visual Disability*—Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?; *Cognitive Disability*—Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions?; *Ambulatory Disability*—Does this person have serious difficulty walking or climbing stairs?; *Self-Care Disability*—Does this person have difficulty dressing or bathing?; and, *Independent Living Disability*—Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor’s office or shopping?

Disabled Individuals, 2024
Kentucky, Competitor States and the U.S.
 (total civilian noninstitutionalized population)



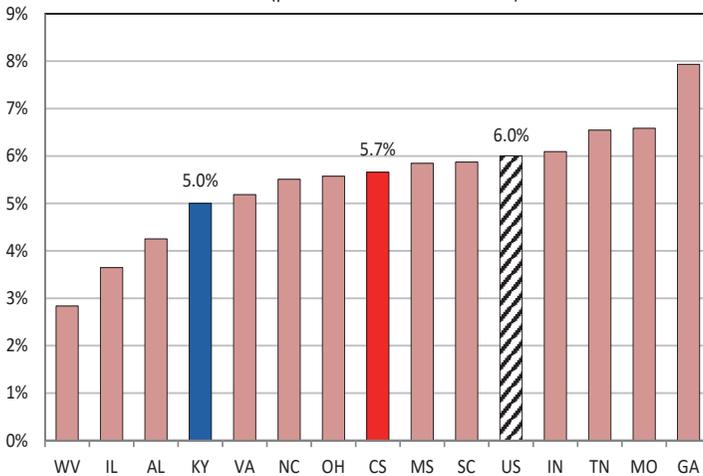
Source: U.S. Census, 2024 American Community Survey 1-Year Estimates, Table S1810

HEALTH INSURANCE COVERAGE: CHILDREN

An estimated 54,000 Kentucky children under 19 years old were not covered by health insurance in 2024, or about 5 percent of children. The percentage of uninsured children, which was around 11 percent in 1999, has been generally declining as children were added to the Kentucky Children’s Health Insurance Program (KCHIP) or Medicaid. The Kentucky Children’s Health Insurance Program is free or low-cost health insurance for children. KCHIP is for children younger than 19 who do not have health insurance and whose family income is at or less than 218 percent of the federal poverty level. For example, a family of four can earn up to \$68,061 a year and qualify for KCHIP. The percentages of uninsured children (under 19) in the competitor states and U.S. are 5.7 percent and 6.0 percent, respectively in 2024. Investments in children’s health insurance can have high long-term payoffs. A 2019 study by Nathaniel Hendren and Ben Sprung-Keyser, *A Unified Welfare Analysis of Government Policies*, found that “direct investments in low-income children’s health and education have historically had the highest Marginal Value of Public Funds (MVPF)” when examining 133 policy changes in the United States over a 50 year period. In short, they find the largest “bang for the buck” when investing in children, particularly in programs that improve the health and education of low-income children.

Health

Children without Health Insurance Coverage, Kentucky, Competitor States and the U.S., 2024
(percent of children under 19)

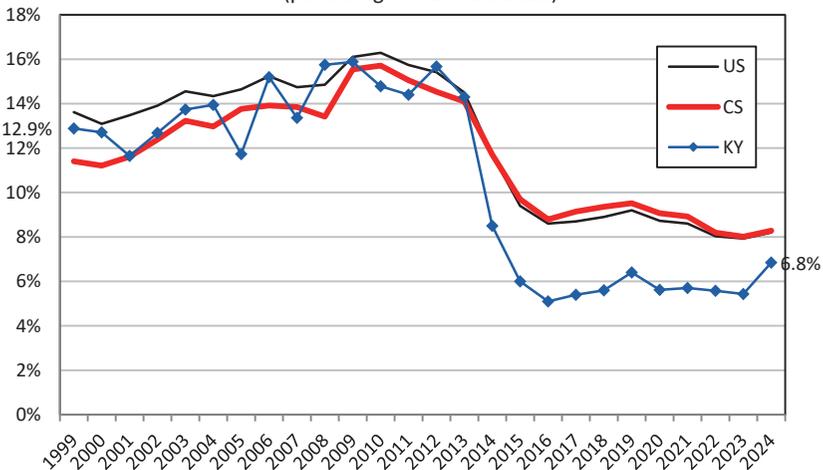


Source: U.S. Census 2024 American Community Survey 1-Year Estimates, Table S2701

HEALTH INSURANCE COVERAGE: EVERYONE

An estimated 27.5 million Americans were without health insurance in 2024, with the percentage of uninsured people declining slightly since 2019. In Kentucky, 309,000, or 6.8 percent of the total state population, did not have health insurance in 2024. Medicaid has historically played a key role in providing health coverage for disproportionately poor Kentuckians, insuring an estimated 31 percent of the population here in 2024, compared to about 22 percent in the competitor states and 24 in the U.S. The implementation of the Affordable Care Act has increased the number of individuals on Medicaid over the past several years.

Individuals without Health Insurance Coverage, Kentucky, Competitor States, and the U.S., 1999-2024
(percentage of all individuals)



Source: U.S. Census, Health Insurance Historical Tables - HIB Series (1999 to 2012) and American Community Survey, 1-Year Estimates (2013-2019, 2021-2024), ACS 5-year estimates used for 2020.

YOUTH HEALTH-RELATED BEHAVIORS

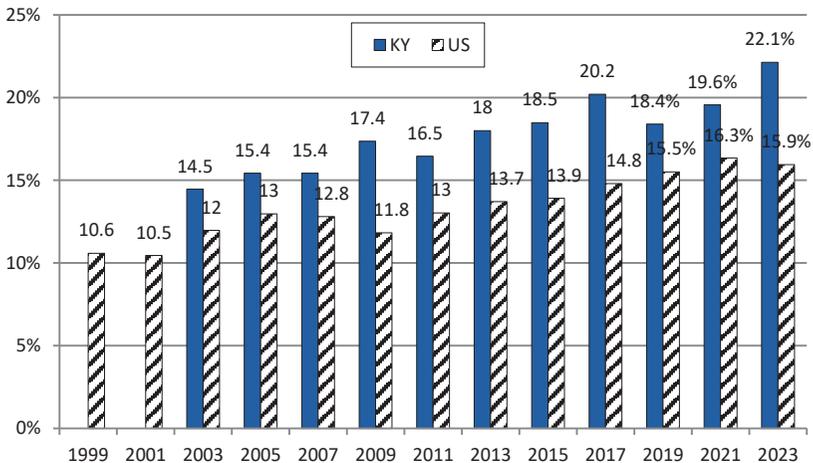
Research shows important links between health-related behaviors and educational outcomes. Specifically, lower academic achievement among high school students is associated with a lack of physical activity and inadequate nutrition. Based on data from the CDC’s Youth Risk Behavior Survey (YRBS), researchers examined the linkages between several dietary, physical activity, sedentary risk behaviors, and students’ grades in school. The findings show that, when compared to students with lower grades (mostly D’s/F’s), students who reported higher grades (mostly A’s) are: more likely to engage in physical activity; play on at least one sports team; eat breakfast; eat fruits and vegetables as well as drink 100% fruit juice; drink milk; and *not* drink soda. Furthermore, the better students were less likely to watch television for extended periods, or play video games, or use a computer 3 or more hours per day. The table below shows how Kentucky high school students compare to the U.S. and selected surrounding states. In general, Kentucky students get less physical activity, evidenced by statistically significant differences. In addition, compared to the U.S., Kentucky students generally have poorer dietary practices. Improving the health of today’s high school students can help create a healthier and better prepared workforce in the future.

Health-Related Behaviors of High School Students, U.S., Selected States, and Kentucky, 2021 & 2023			
9 th through 12 th graders	US (%)	SS (%)	KY (%)
Ate breakfast on all 7 days before the survey (2023)	27.4*	24.4	23.5
Ate fruit or drank 100% fruit juices one or more times per day during the 7 days prior to the survey (2023)	55.5*	50.5	47.9
Ate vegetables one or more times per day during the 7 days before the survey (2023)	57.5*	50.2*	46.2
Drank one or more glasses per day of milk during the 7 days before the survey (2021)	24.2*	33.2*	31.4
Did not drink a can, bottle, or glass of soda or pop during the 7 days before the survey (2023)	30.9*	28.5*	22.9
Physically active at least 60 minutes per day on 5 or more days during the 7 days before the survey (2023)	46.3*	43.5	41.8
Played on at least one sports team during the 12 months before the survey (2023)	51.9*	47.6*	43.6
Spent 3 or more hours per day on screen time (in front of a TV, computer, smart phone, or other electronic device watching shows or videos, playing games, accessing the Internet, or using social media, not counting time spent doing schoolwork, on an average school day) (2021)	75.9	73.6	73.7
<i>Source: Authors’ analysis of data from Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Surveillance System Survey Data, Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2021 & 2023</i> <i>Note: The selected states (SS) are AL, GA, IL, IN, MO, NC, MS, SC, TN, VA, & WV in 2021; they are IL, IN, MO, MS, NC, TN, & VA in 2023. In 2021, IN, NC, SC, & VA did not ask the “milk” question; in 2023, IL, IN, & VA did not ask the “fruit,” “veggie,” or “sports” questions, and IN did not ask the “breakfast” question. Also, none of the states asked the “milk” or “screen” questions in 2023. The percentages reflect the weighted averages of the states with data for the relevant years.</i> <i>*These percentages are statistically different from the Kentucky percentages (alpha=.05).</i>			

YOUTH OBESITY

Some research findings indicate that being significantly overweight or obese can lower a student’s academic achievement. Overweight or obese students, it is argued, are more likely to suffer from adverse health consequences, such as asthma, type 2 diabetes, depression, and sleep apnea, which can then lead to higher absenteeism and negatively affect their academic performance. According to a 2007 study, obesity is a stronger predictor of school absenteeism than race, socioeconomic status, age, or gender. The obesity rate for Kentucky high school students in 2023 was one of the highest in the country. There are no states with a statistically significant higher rate, three states statistically the same as Kentucky (AR, MS, and TX), and 23 states with statistically significant lower rates (out of the 26 states to which we can compare Kentucky). The obesity rate for the seven surrounding states that participated in the survey in 2023 is 15.9 percent (IL, IN, MS, MO, NC, TN, & VA). There is a statistically significant difference between Kentucky’s youth obesity rate and the U.S. rate in every year shown in the graph below. Kentucky’s obesity rate has been trending upward over time. The 2023 rate of 22.1 percent is statistically higher than the rates from 2003 through 2015, and 2019. However, the 2023 rate is statistically no different from the rates in 2017 and 2021.

**Obese High School Students,
Kentucky and the U.S., 1999 to 2023**
(percent of individuals in grades 9 through 12)



Source: Author’s analysis of CDC Youth Risk Behavior Survey data, various years.

YOUTH SMOKING & VAPING

The percentage of high school students who smoke cigarettes has dropped dramatically over the last two decades, as evidenced by the Centers for Disease Control and Prevention, *High School Youth Risk Behavior Survey* results shown in the table below. In Kentucky, for example, the percentage went from almost half (47%) in 1997 to 5.3 percent in 2023—nearly one-tenth the amount. While cigarettes have become somewhat passé, new products have emerged, such as vaping devices, which include e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens. Nearly one-fifth (19.7%) of Kentucky high school students were using electronic vapor products in 2023, and 16.8 percent of high school students nationally. Generally thought to be less harmful than cigarette smoking, the growing use of vaping devices among teens alarms public health officials because it is highly addictive and harmful to one’s respiratory and circulatory systems. Consequently, the federal and state governments have been combating the e-cigarette industry for its marketing practices. In June 2022, the FDA ordered the leading e-cigarette brand in the U.S., Juul Labs Inc., to remove its e-cigarettes from the market. Also, in September 2022, Juul agreed to pay nearly \$440 million in a settlement with 33 states over allegations that it marketed its products to underage users.

Health

Percent of Kentucky & U.S. High School Students [†] Who Smoke Cigarettes or Use Electronic Vapor Products, Selected Years				
Year	Smoke Cigarettes**		Use Electronic Vapor Products***	
	KY	US	KY	US
1997	47.0	36.4 [†]	-	-
2003	32.7	21.9 [†]	-	-
2005	26.2	23.0	-	-
2007	26.0	20.0 [†]	-	-
2009	26.1	19.5 [†]	-	-
2011	24.1	18.1 [†]	-	-
2013	17.9	15.7	-	-
2015	16.9	10.8 [†]	23.4	24.1
2017	14.3	8.8 [†]	14.1	13.2
2019	8.9	6.0 [†]	26.1	32.7 [†]
2021	4.9	3.8	21.9	18.0 [†]
2023	5.3	3.5 [†]	19.7	16.8 [†]

[†] Grades 9-12
^{*} Statistically different from Kentucky (alpha=.05).
^{**} Currently smoke cigarettes (on at least 1 day during the 30 days before the survey)
^{***} Currently used electronic vapor products (including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens on at least 1 day during the 30 days before the survey)
 Source: CBER analysis of data from the Centers for Disease Control and Prevention, *High School Youth Risk Behavior Survey, various years*

YOUTH ALCOHOL AND DRUG USE

A range of behavioral risks can compromise the health and well-being of young people. Here, we illustrate trends of two such behaviors. These numbers are down sharply from recent years. In 2019 roughly one-quarter of Kentucky high school students—23.6 percent of males and 23.1 percent of females—were considered current drinkers (at least 1 drink of alcohol on at least one day during the 30 days before the survey). However, by 2023 these percentages declined to 15.7 and 19.0, respectively, for males and females. Kentucky’s overall percentage in 2023, 17.4 percent, is statistically significantly lower than the U.S. percentage of 22.1 percent (using a 95 percent confidence interval). Twenty-seven states participated in the survey in 2023, and only two are significantly lower than Kentucky—Utah (6.4%) and Nebraska (10.8%). The percentage of Kentucky youth who reported using marijuana one or more times in the past month has also been on a downward trend over the last two decades, but is still in the double digits—13.3 percent of males and 11.3 percent of females. Kentucky’s overall percentage in 2023 is 12.4 percent, which is statistically significantly lower than the U.S. percentage of 17 percent. Three states are statistically lower than Kentucky, 7 the same, and 16 statistically higher (out of the 27 states that participated in the 2023 CDC YRBSS).

Percent of Kentucky High School Students* Who Drank Alcohol** or Used Marijuana*** in Past 30 Days, Selected Years				
Year	Alcohol Use**		Marijuana Use***	
	Male	Female	Male	Female
1997	53.8	44.5	33.5	23.3
2003	46.3	44.2	22.5	19.5
2005	38.0	36.8	18.1	13.4
2007	41.0	40.1	17.4	15.4
2009	40.4	35.2	19.6	12.5
2011	35.6	33.3	20.6	17.4
2013	32.6	28.0	20.0	15.3
2015	25.6	31.2	17.5	16.9
2017	24.4	28.6	14.6	16.7
2019	23.6	23.1	16.9	14.8
2021	14.4	19.8	10.9	12.8
2023	15.7	19.0	13.3	11.3

* Grades 9-12
 ** Currently drank alcohol (at least 1 drink of alcohol, on at least 1 day during the 30 days before the survey)
 *** Currently used marijuana (one or more times during the 30 days before the survey)
 Source: Centers for Disease Control and Prevention, High School Youth Risk Behavior Survey, various years

ORAL HEALTH

The oral health of our citizens is important for several reasons. First, it is important as a quality-of-life issue; healthy teeth and gums can translate into a better appearance, higher self-esteem, and more self-confidence, which are key to a better quality of life. Second, missing and decayed teeth or diseased gums can make it difficult to find employment and perform well on the job, adversely affecting the pocketbooks of individuals and families as well as the state’s capacity to realize economic development and increase prosperity. Third, and perhaps most important, missing teeth, inflamed gums, and cavities often make it difficult to eat a balanced diet, and increasingly research links poor oral health to illness, chronic disease, and even early mortality. While real public health gains have been made in oral health here, Kentucky’s overall status can best be termed as slightly below average. Compared to the competitor states (65.6%) and U.S. overall (66.4%), a statistically significant lower percentage of Kentucky prime working-age adults (61.9%) responded “None,” when asked this question: *Not including teeth lost for injury or orthodontics, how many of your permanent teeth have been removed because of tooth decay or gum disease?*

Health

Oral Health Indicators, U.S., Competitor States, and Kentucky, 2024 (prime working-age adults, 25 to 54 years old)			
Oral Status	US (%)	CS (%)	KY (%)
Missing 1 to 5 permanent teeth	27.2	26.8	26.6
Missing 6 or more teeth, but not all	4.9*	5.5*	7.7
Missing all teeth	1.5*	2.1*	3.8
Visited dentist in last 12 months	62.9*	62.6*	57.6

Source: Author’s analysis of data from Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2024

Note: The competitor states are AL, GA, IL, IN, MO, MS, NC, OH, SC, VA, & WV. TN is not included due to no data.

**These percentages are statistically different from the Kentucky percentages (alpha=.05).*

Infrastructure

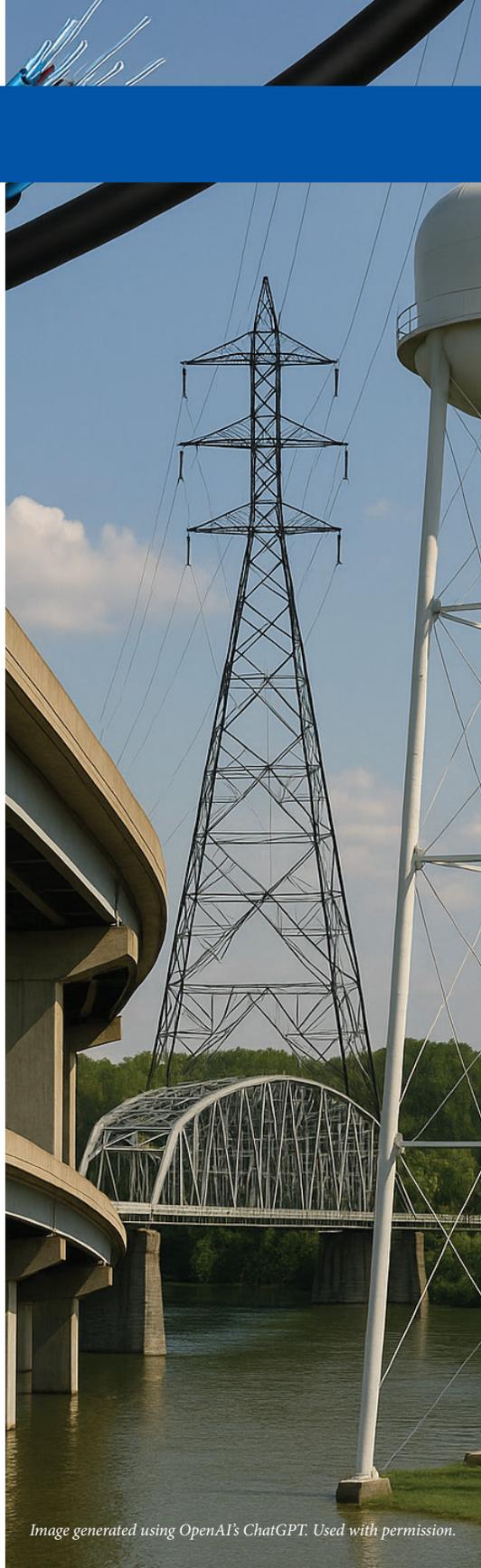
KENTUCKY'S INFRASTRUCTURE underpins its economy and quality of life. Because about a quarter of the Commonwealth's private-sector output comes from goods-producing industries that are highly transportation-dependent, system condition directly influences costs, market access, and community well-being. In this sense, infrastructure is both an economic platform and an environmental safeguard: it moves people and freight, protects water, manages waste, and connects households and firms to the digital economy.

Transportation networks form an economic backbone. Commute times average 24 minutes—shorter than the national figure—reflecting relatively moderate congestion; yet rural workers face longer trips, signaling where better connectivity could widen labor markets.

Bridges tell a similar story of progress with pockets of need. While 92.5 percent of structures are in good or fair condition, only 26.8 percent are rated good, and certain southeastern counties have higher shares in poor condition. Addressing these bottlenecks improves reliability for freight and commuters and cuts the environmental costs of detours and idling.

Water systems are a core competitive asset and important for public health. In 2024, roughly 90 percent of Kentucky's 374 community water systems met all applicable health-based standards, and just 6 percent of residents were served by systems with a health-based violation—better than the U.S. average. Even so, several counties recorded violations,

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underscoring why maintenance and operator capacity matter for public health, industry, and tourism alike.

Digital infrastructure has become equally fundamental. Statewide household broadband access is near national norms, but adoption rates drop in rural counties, where fewer homes have wired connections. Closing this divide enables entrepreneurship, telehealth, remote learning, and modern, data-driven operations across manufacturing, logistics, and rural supply chains.

Dams and solid-waste systems illustrate the infrastructure–environment nexus. Of Kentucky’s 1,074 dams, 272 are high-hazard potential; only 30.9 percent of these are in satisfactory or fair condition—well below national and peer averages—highlighting resilience gaps with potentially large economic and ecological consequences if failures occur. Municipal solid-waste disposal has climbed to 5.3 million tons (with nearly one-fifth imported), pressuring landfill capacity and local budgets and pointing to the value of waste-reduction and materials-recovery strategies.

Corporate decision-makers notice these fundamentals. In Area Development’s *2025 Corporate and Consultants Surveys*, executives and advisors highlight infrastructure-linked factors—energy availability and cost, logistics access, site readiness, and quality of life—as pivotal in location choices. Grid reliability and power costs loom larger for manufacturing and data-intensive projects, while transportation connectivity and community amenities remain enduring differentiators. These findings reinforce Kentucky’s case for sustained investment in roads, bridges, water, broadband, and resilient energy to compete for projects and jobs.

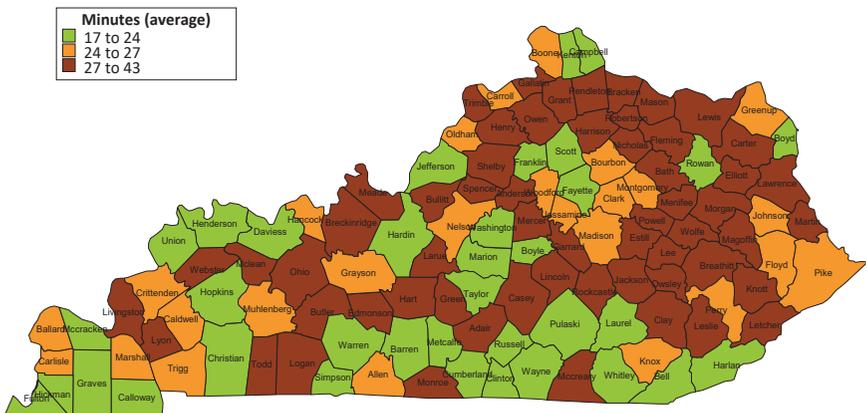
The American Society of Civil Engineers’ *Infrastructure Report Card* for Kentucky calls for a big-picture approach that sequences investments across interconnected networks (e.g., coordinating road resurfacing with underground pipe replacement), sustained funding for multimodal freight assets serving UPS, DHL, and Amazon hubs, and dedicated support for vital infrastructure in rural areas. These recommendations target precisely the choke points that shape costs, reliability, and environmental performance.

Finally, place matters. Kentucky is widely known for natural beauty and abundant outdoor recreation. Infrastructure can turn those assets into everyday advantages—safe bridges to trailheads, clean water at the tap, broadband for remote workers, and reliable roads and energy for employers. That is the throughline of the state’s infrastructure narrative: by modernizing critical systems, Kentucky lowers business costs, protects air and water, expands opportunity to rural communities, and converts its geographic and natural strengths into durable, broad-based growth.

COMMUTING

Since 2010, average commute times have increased by nearly one-and-a-half minutes in Kentucky, from 22.6 to 24.0. On average, from 2019 to 2023, an estimated 77.8 percent of Kentuckians 16 years and older drove to work alone. By comparison, carpooling was around 9.2 percent and public transportation accounted for less than one percent. The rest used some other form of transportation, like biking, or work from home. Average commute times in Kentucky (24.0) are less than the U.S. average of 26.6 minutes (2023 ACS 5-year estimate). There is an economic impact associated with commuting and traffic congestion. The transportation-analytics firm *Inrix* found that “the typical U.S. driver lost 43 hours to traffic congestion, equivalent to a full work week, which resulted in \$771 worth of time lost [in 2024].” They also report “congestion cost the U.S. more than \$74 billion in 2024, a 1.7% increase from 2023.” These findings were included in the firm’s *2024 Global Traffic Scorecard* (released January 2025). They estimate Lexington’s “lost hours in congestion” at 31 per year, and Louisville’s at 23. The longest commute times in Kentucky are in *mostly rural* counties (28.6 minutes)—nearly four minutes longer than in *somewhat rural* (24.6) and two-and-a-half minutes longer than *metro* counties (26.1).

Average Travel Time to Work, 2019-2023
(workers 16 years and older)



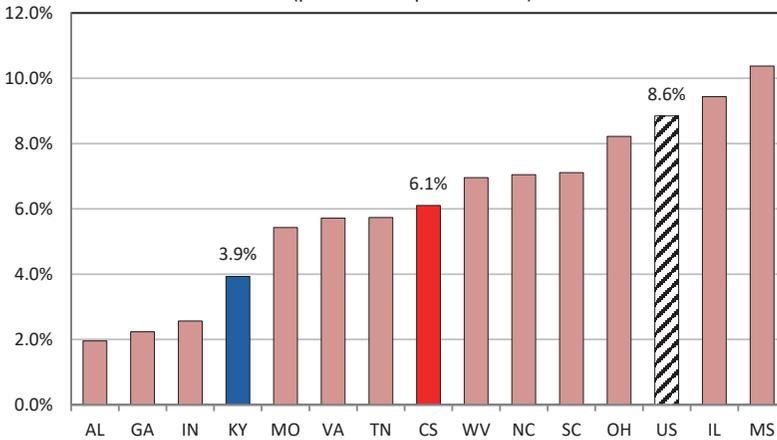
Source: U.S. Census Bureau, 2023 5-Year American Community Survey, Table DP03

ROAD CONDITION

Ideas, innovation, and intellectual capital form the foundation of the evolving knowledge economy. But Kentucky, like most states, is still centered on making and growing things, extracting and transporting raw materials, and moving people and products to markets and workplaces. Thus, the traditional transportation infrastructure—the road system—is still an essential piece of the economic development puzzle. About 26 percent of Kentucky’s private-sector economy is in goods-producing industries that are highly dependent on transportation, compared to about 19 percent in the U.S. And even as the nation’s economy evolves over the next few decades, the movement of freight along the country’s highways, a quintessential “old economy” activity, will continue to grow. An extensive and efficient transportation system, both now and in the future, can facilitate lower industry production costs and consumer prices, widen access to commodities for businesses and consumers, and broaden the pool of workers for business while creating more job opportunities. The bottom line: roads and road quality still matter. In the figure below, road condition depends on pavement roughness, with rougher roads indicating poorer condition; only a small percentage (3.9%) of Kentucky’s roads are in poor condition. The U.S. (8.6%) and competitor state (6.1%) percentages are much higher.

Infrastructure

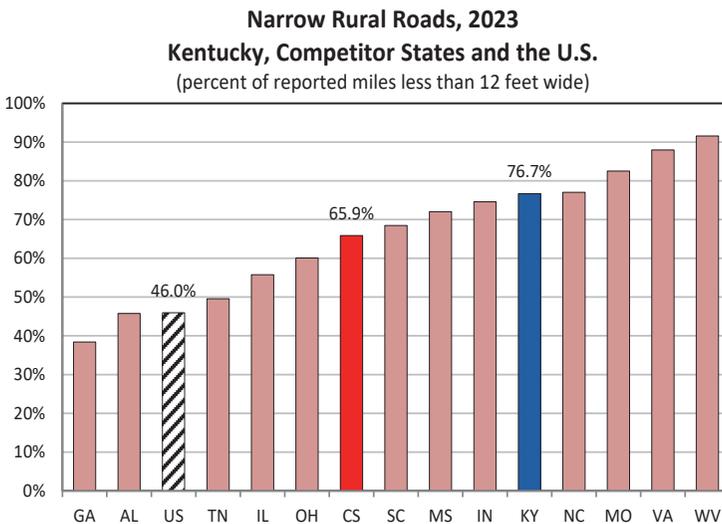
Roads in Poor Condition, 2023
Kentucky, Competitor States and the U.S.
 (percent of reported miles)



Source: Author's calculations based on Table HM-64, Highway Statistics 2023, Federal Highway Administration. CS is the weighted average of the competitor states.

NARROW ROADS

This is a measure of lane width for “other principal arterial” roads, minor arterial, and major collector roads. It does not include interstates, other freeways, or expressways. A narrow lane is one that is less than 12 feet wide. Obviously, the more narrow the lane, the more difficult it is to move products and materials with large trucks. Consequently, the state and condition of the transportation infrastructure can affect economic development decisions. Here we focus on rural roads, not urban. An estimated 76.7 percent of Kentucky’s other principal arterial, minor arterial, and major collector rural roads are narrow, compared to 46 percent nationally and 65.9 percent for the competitor states.



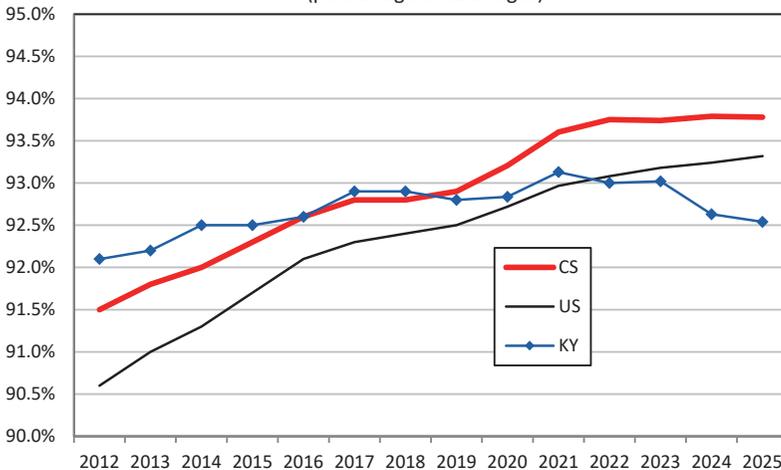
Source: Author’s calculations based on Table HM-53, Highway Statistics 2023, Federal Highway Administration. CS is the weighted average of the competitor states.

BRIDGES

The Federal Highway Administration (FHWA) categorizes the country’s highway bridges using a “Good-Fair-Poor” condition framework, outlined in the *Pavement and Bridge Condition Performance Measures* final rule, which was published in January of 2017. Of the 14,590 highway bridges in Kentucky, 7.5 percent of them are considered to be in poor condition, which is slightly more than the competitor states (6.2%) and the U.S. (6.7%). The real difference between Kentucky, the competitor states, and U.S. lies in the distribution of bridges in the other two categories—good and fair. The percentage of Kentucky bridges deemed to be in good condition (26.8%) is much lower than the competitor states (45.7%) or the U.S. (43.7%); and, is much higher in the “fair” category (65.7%) compared to the competitor states or the U.S., where are 48.1 and 49.6 percent respectively. While 92.5 percent of Kentucky bridges were considered to be in good or fair condition in 2025, Kentucky had only the 34th highest percentage among all the states and DC. Nevada is the highest with 99 percent and Iowa the lowest with 81.4 percent.

Infrastructure

**Bridges in Good or Fair Condition,
Kentucky, Competitor States, and the U.S., 2012-2025**
(percentage of all bridges)

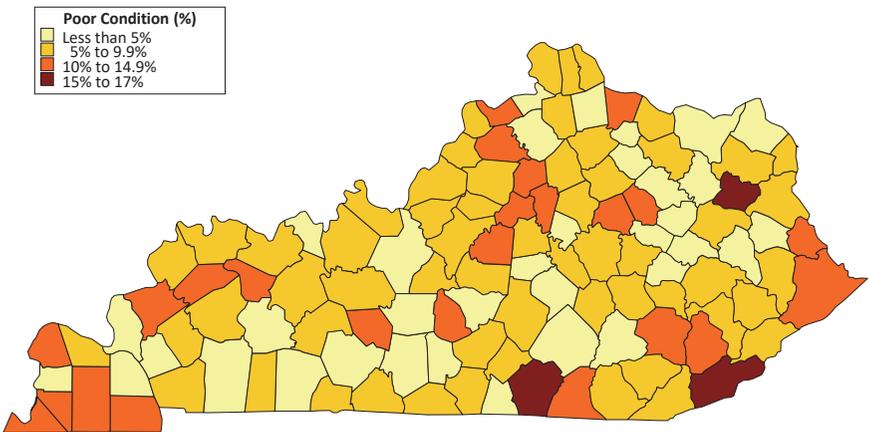


Source: U.S. Department of Transportation, Federal Highway Administration, Office of Bridges and Structures

PROBLEM BRIDGES BY COUNTY

This map shows that the highest concentration of bridges in poor condition are located in the southeastern part of the state, but are found across the Commonwealth. Counties are divided into four groups: less than 5 percent of the bridges are in poor condition (35 counties across the state); 5 to 9.9 percent (58); 10 to 14.9 percent (24); and 15 to 17 percent (3). Elliott County has the highest percentage in the state, with 17 percent of its bridges deemed to be in poor condition.

Highway Bridge Condition by Kentucky County, 2025



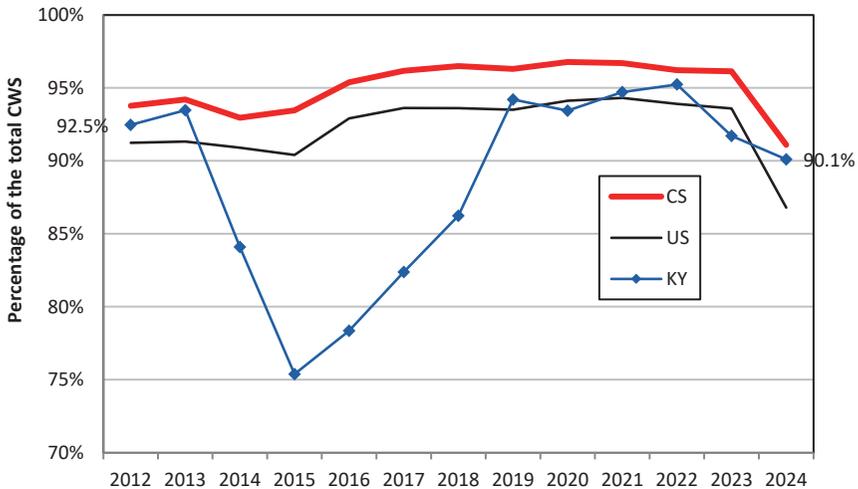
Source: U.S. Department of Transportation, National Bridge Inventory (NBI),

WATER QUALITY

The United States enjoys one of the safest and most reliable supplies of drinking water in the world. The Safe Drinking Water Act of 1974 sought to preserve the nation’s water supply while maintaining high standards for quality. Most Americans get their water from a community water system (CWS), 49,413 of which served approximately 324.6 million people nationally in 2024, according to the Environmental Protection Agency. Around 8.4 percent of the U.S. population received its water from a community water system that reported at least one health-based violation in 2024, while it was about 6.0 percent in Kentucky. Of Kentucky’s 374 community water systems, an estimated 90.1 percent met all applicable health-based standards and were free of violations in 2024. From 2014 to 2018, the percentage of community water systems in Kentucky meeting all applicable health-based standards has been lower than the competitor states and the U.S., as illustrated in the chart. The low point for Kentucky going back the last several years was in 2015, when only about 75 percent of community water systems were violation-free on health-based standards.

Infrastructure

**Community Water Systems (CWS)
Meeting All Applicable Health-Based Standards,
Kentucky, Competitor States & the U.S.**



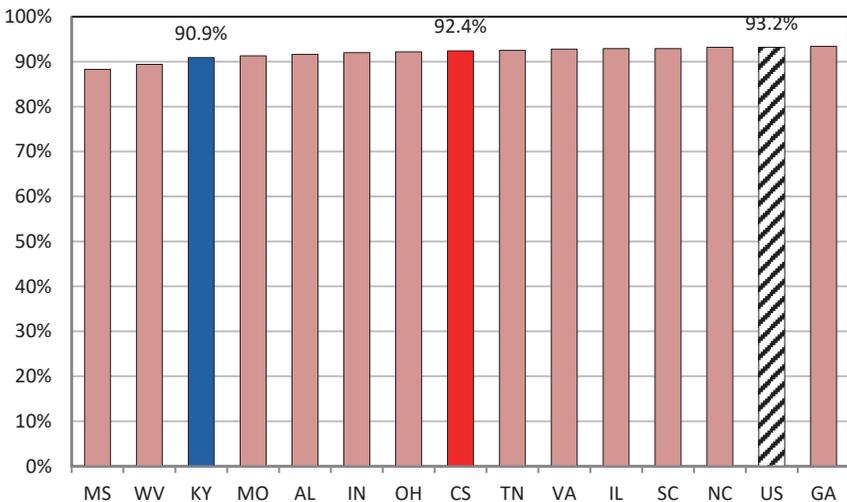
Source: Author's analysis of EPA SDWIS data.

HIGH-SPEED INTERNET

Access to and use of the internet is essential to become politically informed, socially integrated, and economically successful in the Information Age. As illustrated by the figure below, the differences between states are small when comparing the percentages of households that have high-speed broadband of any type. However, there are many differences within states between urban and rural communities. Kentucky is a good example of the urban-rural digital divide (see the next page). Based on the 2024 U.S. Census Bureau Local Estimates of Internet Adoption (LEIA), which are county-level household estimates, and the U.S. Department of Agriculture Economic Research Service 2023 Rural-Urban Continuum Codes, the household internet adoption (unweighted average) for urban counties across the country is 71.5 percent. By comparison, it is 63.6 percent for somewhat rural counties and 60.2 percent for mostly rural counties. Studies suggest that enhancing the nation’s broadband infrastructure can improve innovation, entrepreneurship, and productivity. According to the Federal Communications Commission (FCC), the digital divide between urban and rural areas continues to narrow, but there is still a gap that leaves workers, students, and citizens without adequate connections to the information resources they need for work, school, and health care.

Infrastructure

High-Speed Internet Connections, 2024
(percentage of households)

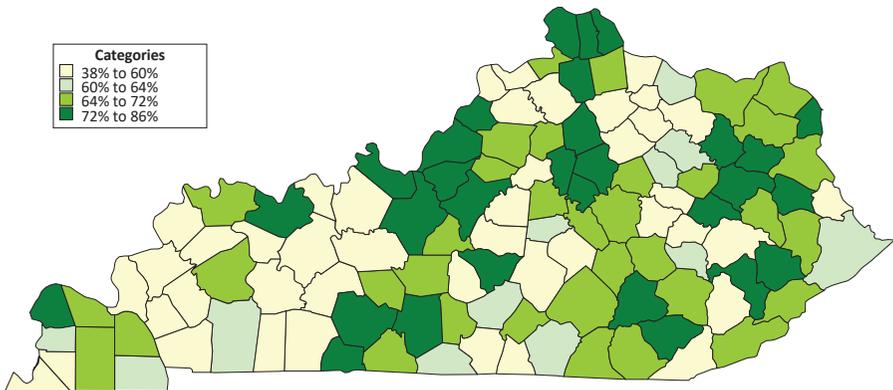


Source: U.S. Census, American Community Survey, 2024 1-Year Estimate, Table S2801

HIGH-SPEED INTERNET BY COUNTY

The urban-rural digital divide has been difficult to bridge. As is evident in the map below, Kentucky’s urban areas tend to have much higher broadband adoption rates. Kentucky’s metro counties have an average percentage (68.6%) that is higher than somewhat rural (63.7%) and mostly rural counties (60.9%) in the state. According to a June 2017 *Wall Street Journal* article, “Rural America is Stranded in the Dial-up Age,” high-speed internet is vital for the economic prospects of rural communities: “Counties without modern internet connections can’t attract new firms, and their isolation discourages the enterprises they have...” Unfortunately, five years later a June 2022 *Wall Street Journal* article, “Why Rural Internet Is Still Terrible, Despite Billions in Federal Spending,” lamented that “many residents are still stuck with service that isn’t fast enough to do video calls or stream movies—speeds that most take for granted.” With low internet speeds in the rural areas of the state, and generally higher speeds in metro areas, there are a number of Kentucky counties that will continue to face significant economic challenges as the urban-rural digital divide persists. Boone County has the highest percentage of households with broadband access (86.2%), while Caldwell County is ranked at the bottom (38.4%).

Kentucky County-Level Estimates Internet Adoption, 2022
(percentage of households with a wired internet connection)



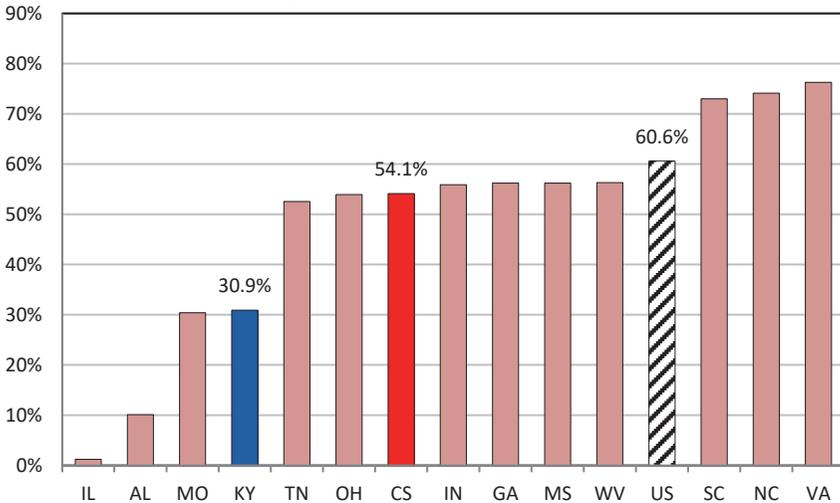
Source: U.S. Census, 2024 release of Local Estimates of Internet Adoption (LEIA), accessed on September 11, 2024 at <<https://www.census.gov/data/experimental-data-products/local-estimates-of-internet-adoption.html>>.

DAMS

The Oroville Dam in Northern California captured the national headlines in February 2017 when the threat of its failure forced the evacuation of almost 200,000 people. Of Kentucky’s 1,074 dams, 272 are classified as “high hazard potential” in 2025. Dams are assigned to one of five categories (high, significant, or low hazard potential—and undetermined or not available are options) by Dam Safety Program engineers based on the likely loss of human life, level of property damage, environmental destruction, and economic loss that would likely ensue *if* the structure failed. A high hazard dam is one that, if it failed, may cause loss of life or serious damage to houses, industrial or commercial buildings, important public utilities, main highways or major roads. Of Kentucky’s 272 high hazard potential dams, 30.9 percent are deemed to be in “satisfactory” or “fair” condition based on a classification scheme that has the following categories: satisfactory, fair, poor, or unsatisfactory (not rated & not available are also options). At 30.9 percent, Kentucky has the 45th highest percentage of dams in satisfactory or fair condition among the states. Kentucky is substantially lower than the competitor state (54.1%) and U.S. averages (60.6%); in Kentucky there are 83 high hazard dams in *poor* condition, 13 in *unsatisfactory* condition, one that is not rated, and 91 not available.

Infrastructure

**High-Hazard Potential Dams
in Satisfactory or Fair Condition, 2025**
(percentage of all high-hazard potential dams)

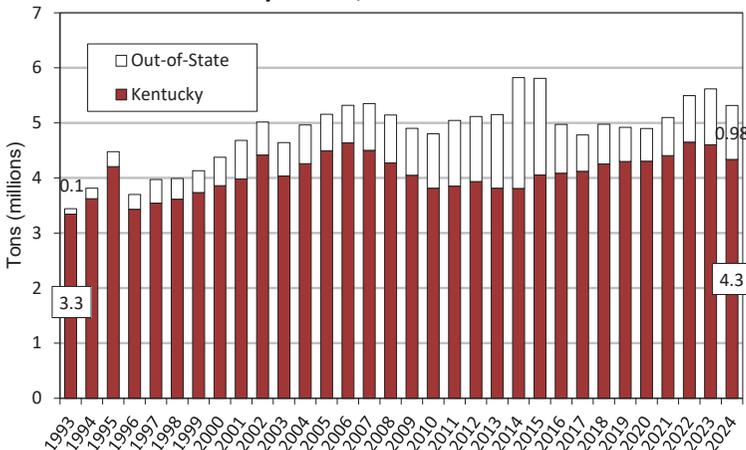


Source: Author’s calculations based on data from the National Inventory of Dams, data downloaded 8/20/2025.

SOLID WASTE DISPOSAL

Thirty years ago (1992) the Kentucky General Assembly set an ambitious goal to reduce the amount of municipal solid waste (MSW) deposited in Kentucky landfills in each subsequent year. However, the amount of MSW has continued to increase. In fact, while the total amount of solid waste deposited in Kentucky landfills has waxed and waned over the years, it is currently at 5.3 million tons—56 percent higher than the 3.4 million tons in 1993. The amounts shown in the graph below do not include industrial or special waste. The increase since 2020 is due, in part, to the softened global demand for recycled material brought on during the COVID-19 pandemic. The percentage of solid waste recycled in Kentucky decreased from almost 39 percent in 2018 to 26 percent in 2021. Consequently, more material was sent to landfills. Moreover, a large amount of waste is from *out-of-state* sources; in 2024 it was just under one million tons (979,810) and constituted 18.4 percent of MSW. Landfills and other specially designated areas for solid waste disposal are expensive to open, maintain, operate, monitor, or close. For example, the Division of Waste Management reports that “a total of 100 historic landfills have been closed...and 521 historic landfills remain to be closed. Total costs associated with the closure projects exceed \$74 million.” Policies, actions, and incentives to reduce waste disposal are economically beneficial.

Solid Waste Disposed in Kentucky Landfills, by Source, 1993-2024



Source: Kentucky Division of Waste Management Annual Reports <<https://eec.ky.gov/Environmental-Protection/resources/Pages/annual-reports.aspx>>, and databases <<https://eec.ky.gov/Environmental-Protection/Waste/Pages/solid-waste-facility-reports.aspx>>.

Innovation

FOR NEARLY THIRTY YEARS, Kentucky's leaders have sought to foster an entrepreneurial economy, beginning with the *1997 Strategic Plan for Economic Development* and the creation of the Office for the New Economy. Despite these efforts, the Kauffman Index shows the state still below average in *creating* early-stage entrepreneurship. Kentucky lags in the rate of new entrepreneurs, the share of startups launched by opportunity, early job creation, and firm survival. This persistent weakness underscores the gap between policy aspirations and actual entrepreneurial outcomes.

Complicating this landscape is the rapid advance of artificial intelligence. Like the uncertainties faced during the Industrial Revolution, AI's future impact is difficult to predict. Some Kentucky jobs, such as radiology or accounting, are highly exposed to automation, while others like nursing or trucking are less so. Because Kentucky has fewer highly educated white-collar occupations, its overall exposure may be less than states such as Virginia or Maryland, but AI will reshape all labor markets. Importantly, AI can displace certain jobs while simultaneously boosting productivity and enabling new kinds of work, suggesting that the disruption carries both risks and rewards.

Kentucky also ranks poorly in broader measures of science and technology capacity. The *Milken Institute's State Technology and Science Index* places the state 45th, with especially weak scores in human capital, research, and workforce measures. These rankings matter because research intensity and education have

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driven most U.S. economic growth since 1950. Without stronger investment, Kentucky risks continued stagnation in living standards.

Innovation capacity is uneven within the state. The *Innovation Intelligence Index* shows higher activity clustered in Louisville, Northern Kentucky, and Lexington, reflecting the role of universities, while sixty counties fall in the nation's bottom quartile. Patent generation is similarly concentrated in Jefferson and Fayette counties, leaving much of the state with little innovative output. Overall, Kentucky's patent rate remains about one-third the national level.

Policy measures have aimed to fill these gaps. The *Kentucky Innovation Act of 2000* and later legislation created matching funds for federal small business research grants. While helpful, Kentucky's SBIR and STTR funding lags both competitor states and the U.S. overall. Virginia, for instance, secures \$350 per \$1 million of GDP in federal research awards, compared with Kentucky's \$86. Similarly, academic research and development expenditures once kept pace nationally but have stagnated since the Great Recession. Today, Kentucky invests less in university-based research relative to its economy than most states, reducing opportunities for technology transfer and startup formation.

STEM jobs provide another measure of competitiveness. Nationally, they represent 6.7 percent of employment, compared to just 4.2 percent in Kentucky, ranking the state 46th. These are high-wage positions, nearly double the non-STEM average salary, yet Kentucky's under representation means fewer high-value career opportunities. The state also trails in high-technology establishments, where only 8.2 percent of firms qualify, versus more than 10 percent nationally. Venture capital tells a similar story: in 2023, Kentucky recorded \$512 per \$1 million of GDP, about one-fifth the competitor state average and far below the U.S.

Nonetheless, Kentucky demonstrates some resilience. Self-employment among prime working-age adults stands at 8.8 percent, close to national levels and trending upward since 2015. This reflects a spirit of self-reliance, though incomes for the self-employed remain below national averages. The number of high-tech nonemployer establishments is also low, ranking near the bottom nationally, highlighting how entrepreneurial energy often fails to scale into high-growth enterprises.

Policies to promote innovation have laid important groundwork, but outcomes remain uneven, with strengths concentrated in a few metropolitan areas and weaknesses evident in research spending, patents, venture funding, and STEM jobs. Kentucky's future prosperity will depend on sustained investment in education, research, and technology that transforms individual initiative into innovation-driven growth. Without such foundations, the state risks continuing to trail both its competitor states and the nation.

EARLY-STAGE ENTREPRENEURSHIP

State leaders have been intentional about creating an innovative and entrepreneurial economy for at least the last twenty-five years. An early version of the *Kentucky Strategic Plan for Economic Development*, released in 1997 by the Kentucky Economic Development Partnership Board, included language to “promote entrepreneurial activities,” and “fund and implement the Commonwealth Venture Fund.” Shortly thereafter the Office for the New Economy was created to advance a knowledge-based economy through education, research, innovation, and commercialization. The goal to create an innovative and entrepreneurial economy continues today. Unfortunately, the Kauffman Foundation Index of Early-Stage Entrepreneurship, which is based on four factors, shows Kentucky as below average. This is based on: 1) the *rate of new entrepreneurs*, reflecting the percent of adults becoming entrepreneurs in a given month, as a year average; 2) the *opportunity share of new entrepreneurs*, which shows the percent of entrepreneurs driven by opportunity (instead of necessity); 3) the *startup early job creation*, reflecting the jobs created by startups per 1,000 people; and 4) the *startup early survival rate*, the percentage of firms surviving one year after founding. The last column below is the *Kauffman Early-Stage Entrepreneurship (KESE) Index*, showing the state below average (-1.8).

Indicators of Entrepreneurship, 2021					
Area	New Entrepreneurs	Opportunity Entrepreneurs	Startup Early Job Creation	Startup Early Survival	KESE Index (AVG 4)
US	0.36%	80.9%	4.7	81.7%	2.2
AL	0.26%	77.2%	3.5	77.9%	-2.6
GA	0.47%	81.6%	5.7	79.8%	4.4
IL	0.27%	73.7%	4.3	84.8%	0.2
IN	0.23%	76.3%	3.8	83.6%	-1.0
KY	0.29%	72.3%	3.2	80.1%	-1.8
MO	0.37%	81.7%	4.7	77.1%	0.8
MS	0.37%	81.9%	3.4	82.4%	2.2
NC	0.34%	76.5%	5.8	82.7%	1.9
OH	0.28%	73.8%	3.7	81.4%	-1.4
SC	0.29%	84.0%	3.9	82.3%	1.0
TN	0.35%	81.1%	4.6	80.7%	1.4
VA	0.26%	79.9%	4.6	79.5%	-1.2
WV	0.17%	82.3%	3.4	81.1%	-2.8

Source: Kauffman Indicators of Entrepreneurship, 2021 National & State Reports on Early-Stage Entrepreneurship, April 2022.

AI IMPACT ON SELECTED OCCUPATIONS

Early 19th Century English workers began protesting the introduction of machinery in the textile mills—a movement that became known as the Luddite Rebellion—because they could sense an emerging threat to their economic livelihoods. Yet, few individuals, if any, could envision the economic transformations that the ensuing Industrial Revolution would produce throughout the 19th Century. Likewise, we can sense an emerging economic shift catalyzed and propelled by artificial intelligence (AI), but its economic outlines are too blurry for analysts to ascertain its future shape with certainty. We do know, however, that AI will affect jobs, some more than others, and their respective tasks, both positively and negatively. Innovations often increase productivity, create new jobs, and lead to new tasks. Because occupations are amalgamations of tasks and abilities, AI is best thought of, at least in its current state, as a technology that affects tasks and abilities—especially those involving language modeling and image generation. For example, a radiologist performs tasks that AI will impact deeply, such as reading images and identifying patterns. But there are other tasks likely to remain firmly in human hands, at least for the near future, like understanding the subtleties of images and communicating with patients. Indeed, while AI will surely displace some jobs entirely, it will simultaneously help workers perform certain

continued on the next page

Estimated Impact of Artificial Intelligence (AI) on Selected Occupations (purple indicates higher AI impact, green indicates lower AI impact)			
Occupation	Language Model	Image Generation	Employment (KY)
Interior Designers	0.822	2.421	180
Chemical Engineers	0.906	2.256	180
Art Directors	0.727	2.249	200
Accountants and Auditors	1.214	1.572	11,840
Computer Programmers	1.025	1.673	1,330
Registered Nurses	0.272	-0.048	44,970
Cashiers	-0.107	-0.855	46,490
Heavy and Tractor-Trailer Truck Drivers	-1.400	-0.288	28,210
Cooks, Fast Food	-0.391	-1.511	42,480
Stockers and Order Fillers	-1.193	-2.101	50,090
Dishwashers	-1.561	-1.787	3,570
Landscaping & Grounds Keeping Workers	-1.656	-1.702	9,250
Slaughterers and Meat Packers	-1.543	-2.529	1,830
Dining Room and Cafeteria Attendants and Bartender Helpers	-1.433	-2.709	3,140
Exercise Trainers and Group	-1.257	-3.308	2,130

Source: Estimates based on work by Felten, Edward W. and Raj, Manav and Seamans, Robert, Occupational Heterogeneity in Exposure to Generative AI (April 10, 2023). Available at SSRN: <https://ssrn.com/abstract=4414065> or <http://dx.doi.org/10.2139/ssrn.4414065>, and BLS OES state estimates of jobs in Kentucky.

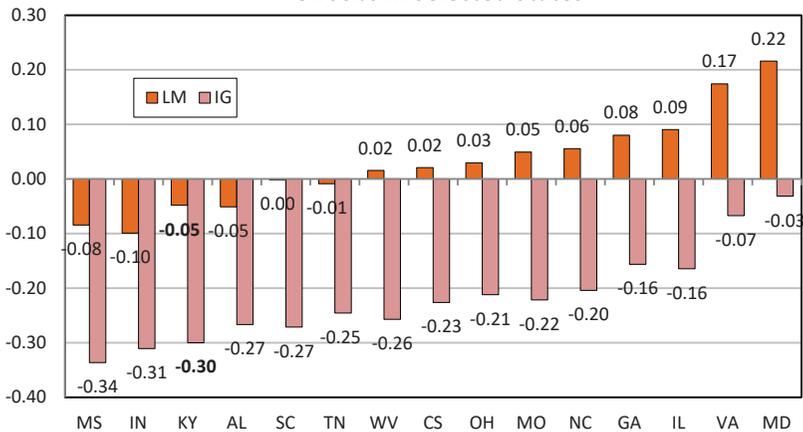
Innovation

AI IMPACT ON STATE ECONOMIES

continued from the previous page

job functions better and create new jobs not yet envisioned. The Felten et al. methodology, selected results of which are shown here, links ten AI applications (e.g., image generation, language modeling, abstract strategy games, etc.) to 52 human abilities (e.g., oral comprehension, oral expression, inductive reasoning, arm-hand steadiness, etc.), and applies it to over 800 occupations using the Occupational Information Network database developed by the United States Department of Labor. The table on the facing page shows five jobs that will be highly affected by AI (positive numbers) as well as minimally affected (negative number); the estimated number of these jobs in Kentucky is presented in the last column. The five jobs listed in the middle of the table, such as registered nurses, are common jobs in Kentucky. We apply the occupation-level results from Felton to the mix of jobs in Kentucky and selected states. States with more “highly-educated, highly-paid, white-collar occupations” will be impacted more deeply and broadly by generative AI. Our analysis shows that states like Maryland and Virginia have more of these occupations, while states like Mississippi, as well as Kentucky, have fewer of these occupations. AI is changing fast however, and these estimates are *relative* impacts. Virginia might be affected more than Kentucky, but our state will be affected, of course, and perhaps in ways not yet imagined.

Estimated Impact of Artificial Intelligence, Language Model (LM) and Image Generation (IG), on Jobs in Selected States

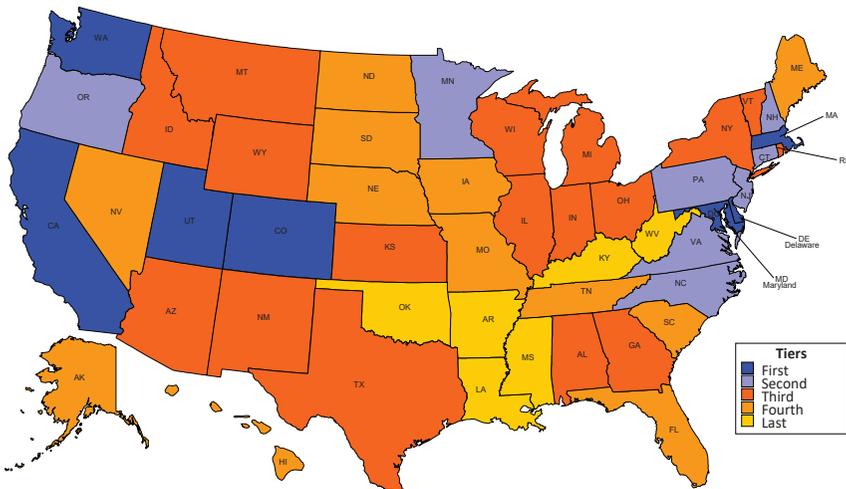


Source: Estimates based on work by Felten, Edward W. and Raj, Manav and Seamans, Robert, *Occupational Heterogeneity in Exposure to Generative AI* (April 10, 2023). Available at SSRN: <https://ssrn.com/abstract=4414065> or <http://dx.doi.org/10.2139/ssrn.4414065>, and BLS OES state estimates of jobs.

SCIENCE & TECHNOLOGY INDEX

Combining several indicators organized around five subindex components that reflect a state’s research and development inputs (RDI), risk capital and entrepreneurial infrastructure (RCI), human capital investments (HCI), technology and science workforce (TSW), and technology concentration and dynamism (TCD), the Milken Institute has ranked the states according to their science and technology prowess in a 2022 report, *State Technology and Science Index*. Kentucky is ranked 45th, in the bottom tier of states. The top state is Massachusetts, followed by California, Colorado, Maryland, Utah, Washington, and Delaware. These seven states represent the top tier in the Index. Kentucky’s highest ranking (34th) is on the RCI grouping; it ranges between 42nd and 45th on the other four subindex components. Why should anyone care about startups, innovations, and the funding for research and development that powers them? The answer is simple: in the long term, our collective standard of living will depend on it. Economists have found that around three-fourths of U.S. economic growth since 1950 was fueled by just two factors—rising educational attainment and research intensity—with the latter accounting for nearly 60 percent of the growth.

State Technology and Science Index 2022

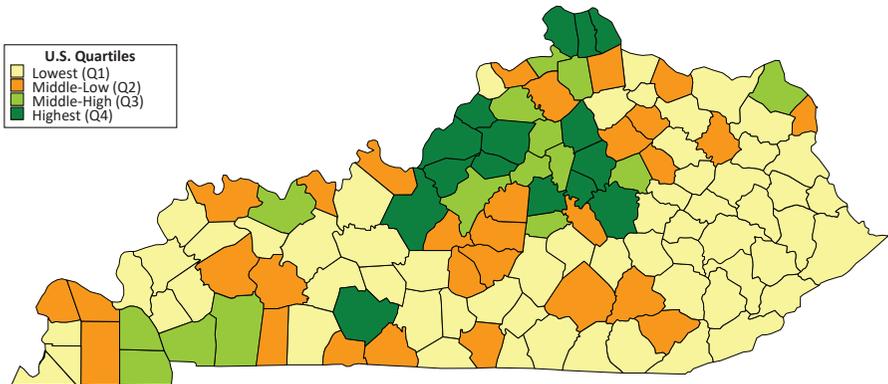


Source: Milken Institute 2022 State Technology and Science Index

COUNTY-LEVEL INNOVATION INDEX

The *Innovation Intelligence Index (I13)* helps users explore regional characteristics related to innovation and entrepreneurship in order to advance economic development strategies. Kentucky’s county-level results from the *I13* are illustrated on the map below, with the highest innovation index values anchoring the three corners of the urban triangle (i.e., the Louisville area, Northern Kentucky, and the Fayette County area) and extending west to Hardin and Warren Counties. These regions, of course, are the locations of the state’s major universities. The index is based on five broad categories and includes 56 different measures. The five broad categories include Human Capital and Knowledge Creation, Business Dynamics, Business Profile, Employment and Productivity, and Economic Well-Being. Some of the variables include educational attainment, high-technology employment, broadband adoption, venture capital investments, patent creation, worker productivity, proprietor income, the poverty rate, and per capita income. The map below shows Kentucky’s counties distributed within categories representing the national quartiles, or four equal categories. That is, by taking all counties in the U.S. and ranking them lowest to highest, 15 Kentucky counties are in the top quartile or upper 25 percent of counties nationally. There are 60 Kentucky counties in the bottom national quartile.

Innovation Intelligence Index, by Kentucky County



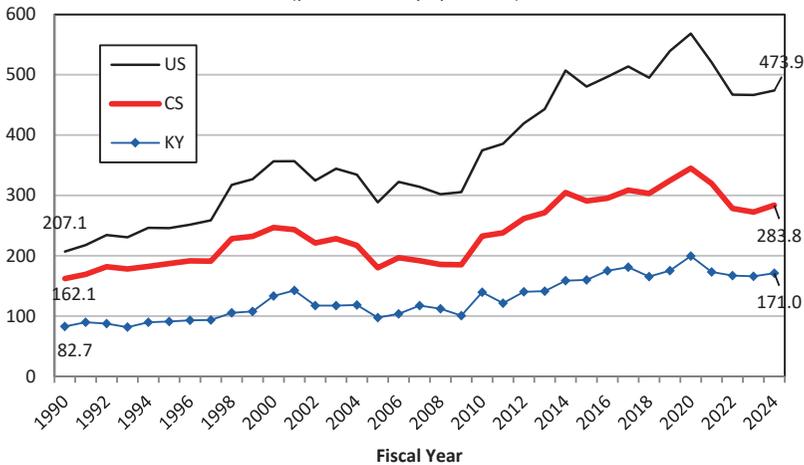
Source: The Innovation Intelligence Index (I13) is produced by the Indiana Business Research Center. I13 explores regional characteristics related to innovation and entrepreneurship to help advance economic development strategies. These data were downloaded on 10/16/2022, and are available here: <https://www.statsamerica.org/downloads/default.aspx>

PATENTS

Innovation, as measured by the number of patents issued, is widely regarded as a measure of a state’s entrepreneurial energy. Research finds that innovation, along with education, has a significant impact on a state’s per capita income. A study by the Federal Reserve Bank of Cleveland shows that states which generate innovation, as measured by patents, can reap economic rewards that endure for generations. The authors conclude, “A state’s knowledge stocks (as measured by patents and education levels) are the main factors explaining a state’s relative per capita income.” In other words, Kentucky’s much lower-than-average patent stock—which has trailed the U.S. as well as the competitor states for the last 50 years—along with lagging educational attainment rates, are why the state’s per capita income has languished at just over 80 percent of the U.S. average for the last several decades. Overall, the number of patents has increased significantly since 2009, but there is a markedly lower prevalence of patents in Kentucky (171.0 per million population) compared to the U.S. (473.9 per million population) and competitor states (283.8 per million population). Not surprisingly, the trends tilted downward during the COVID-19 pandemic.

Innovation

**Number of Patents,
Kentucky, Competitor States, and the U.S., 1990-2024**
(per 1 million population)

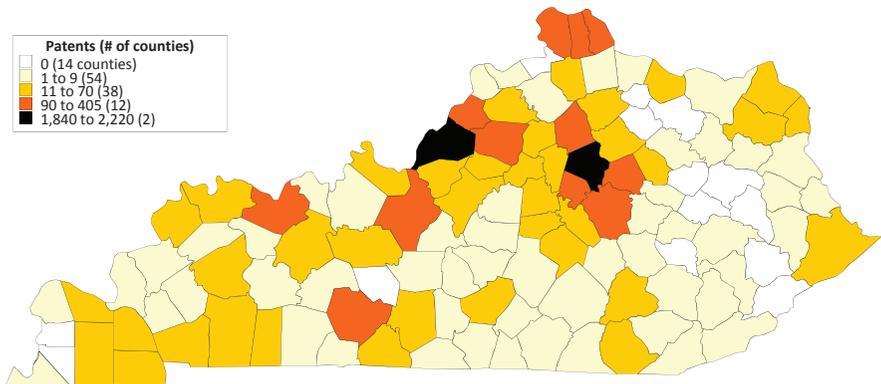


Source: Calculated by the author using US Patent and Trademark Office and U.S. Census Bureau data.
Note: Data include utility, design, plant, and reissue patents.

PATENTS BY COUNTY

From 2000 to 2015, Kentucky businesses and individuals acquired 7,639 utility patents, which are patents for invention. Of this total, 4,066 or 53 percent were from two counties: Fayette and Jefferson. The next 12 counties account for 2,310 or 30 percent. The county-level map illustrates the concentrated nature of patent generation in Kentucky. Our state needs innovative ideas, adequate finances, and energetic human capital to create and support high-growth enterprises—but it also might need some help to make this happen. Researchers at the Brookings Institution, for example, have called for “a massive federal effort to transform a short list of ‘heartland’ metro areas into self-sustaining ‘growth centers’ that will benefit entire regions.” Indeed, changes in our economy and our society are redefining how we create economic opportunities and build successful enterprises. Given the importance of young high-growth firms for wage and job growth, it is vital for states, regions, communities, and universities to effectively leverage their assets toward the development of entrepreneurs, creation of startups, and sustainment of high-growth enterprises.

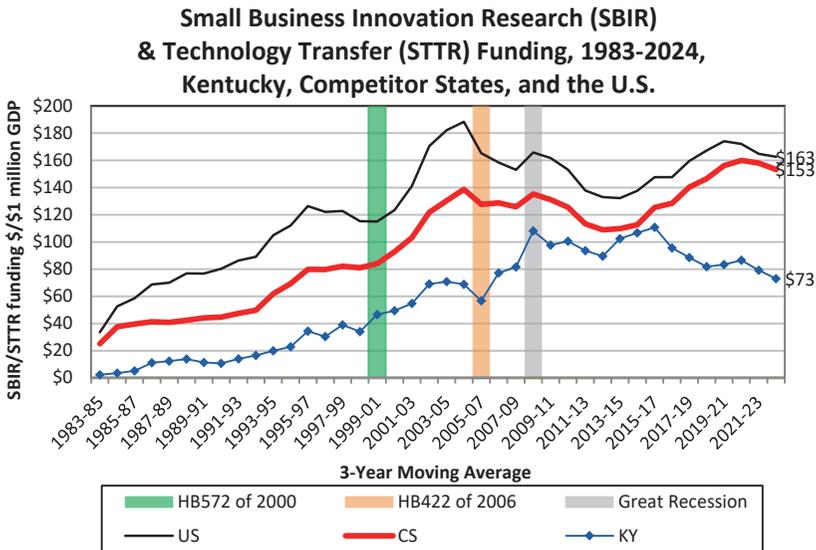
Utility Patents by County, 2000-2015



Source: U.S. Patent and Trademark Office, U.S. State Patenting, Breakout by Regional Component, Count of 2000-2015 Utility Patent Grants

SMALL BUSINESS INNOVATION RESEARCH

Small Business Innovation Research (SBIR) and Technology Transfer (STTR) funding is available to companies with 500 or fewer employees; it is designed to stimulate high-technology innovation and facilitate the commercialization of scientific and technological discoveries. According to the National Science Foundation, “a high value indicates that small business firms in a state are doing cutting-edge development work that attracts federal support.” Two key legislative acts in Kentucky since 2000 have been crafted to create an entrepreneurial and innovative economy led by high-growth firms: the Kentucky Innovation Act of 2000 (HB572) and House Bill 422 in 2006. The latter was aimed specifically at obtaining federal SBIR/STTR funds by creating a state-supported matching fund. As shown in the figure below, HB422 in 2006 marked a turning point in Kentucky’s SBIR/STTR funding. The rise was short-lived, however, due to the Great Recession, which placed enormous pressure on state government budgets. The Great Recession affected the competitor states and the U.S. too, of course, but their SBIR/STTR funding levels began to rise around 2015, whereas Kentucky’s began a downward trend. As a result, as the figure shows, Kentucky’s \$73 per \$1 million in state gross domestic product during the 2022-2024 period is considerably lower than the U.S. (\$163) and competitor states (\$153).

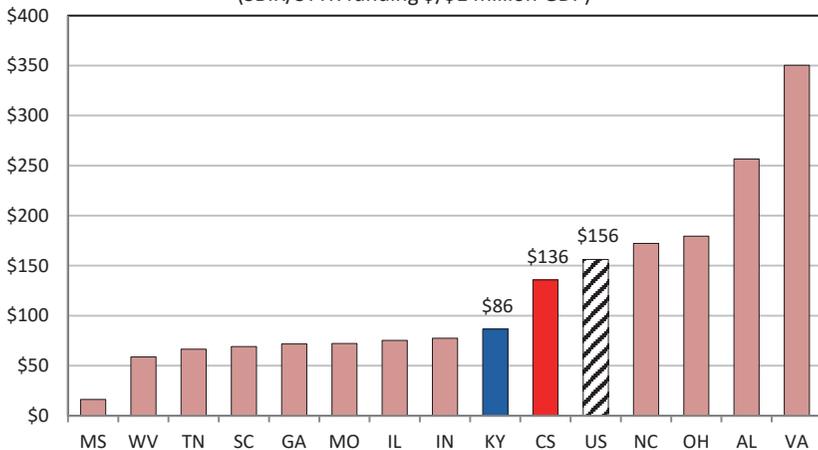


Source: CBER analysis of U.S. Small Business Administration (SBIR - STTR data) award data: available at <https://www.sbir.gov/awards>, downloaded Mar 20, 2025.

SMALL BUSINESS INNOVATION RESEARCH

The Kentucky General Assembly passed legislation in the 2006 regular session (HB422) that was designed to maximize the impact of federal SBIR/STTR awards by creating a state-supported matching fund. In its latest annual report (FY 2022-2023), the Cabinet for Economic Development Office of Entrepreneurship and Small Business Innovation notes that: “Since 2007, Kentucky has leveraged \$2.29 billion in federal awards for every dollar awarded in state matching awards. The 43 companies that relocated to Kentucky have attracted federal funds from six federal agencies for a total investment of \$46.5 million – funding that would have gone to other states if not for Kentucky’s program.” When compared to a state’s gross domestic product (GDP), Virginia boasts an enviable \$350 per \$1 million GDP in SBIR/STTR funding since 2006, when HB422 was passed. Kentucky (\$86) trails both the competitor state average (\$136) and the U.S. (\$156).

**Small Business Innovation Research (SBIR)
& Technology Transfer (STTR) Funding, 2006-2024,
Kentucky, Competitor States, and the U.S.**
(SBIR/STTR funding \$/\$1 million GDP)



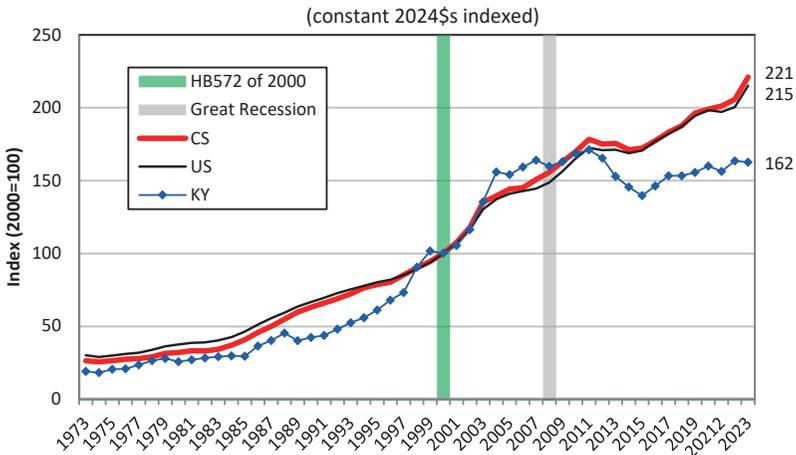
Source: CBER analysis of U.S. Small Business Administration (SBIR - STTR data) award data: available at <https://www.sbir.gov/awards>, downloaded Mar 20, 2025.

ACADEMIC RESEARCH & DEVELOPMENT

A legislative act in Kentucky two-and-a-half decades ago laid the foundation for innovation and economic change—the Kentucky Innovation Act of 2000 (House Bill 572). There were several facets to this bill, many of which outlined important roles by the state’s universities. Policymakers, academics, and the business community envisioned that universities would commercialize their research and development (R&D) prowess by creating intellectual property that would facilitate the development of business start-ups. Research supports the notion that technology transfer and commercialization of intellectual property are key factors for creating an innovative and entrepreneurial economy. Indeed, a variety of state-level indices and reports include university-based research and development expenditures as a factor in assessing a state’s entrepreneurial potential and innovative energy (e.g., *State Technology and Science Index*, 2022; *Innovation Intelligence*, 2023; *State New Economy Index*, 2020). The figure shows that Kentucky’s R&D expenditures kept pace and briefly surpassed the U.S. and competitor states, from 2000 until the onset of the Great Recession. Since around 2008, however, Kentucky’s expenditures have languished while our competitors have continued to invest in the capacity of their universities. Academic R&D accounts for about 15 percent of all R&D in the United States (NSF, 2024).

Innovation

Academic Research & Development Expenditures, Kentucky, Competitor States, and the U.S., 1973-2023

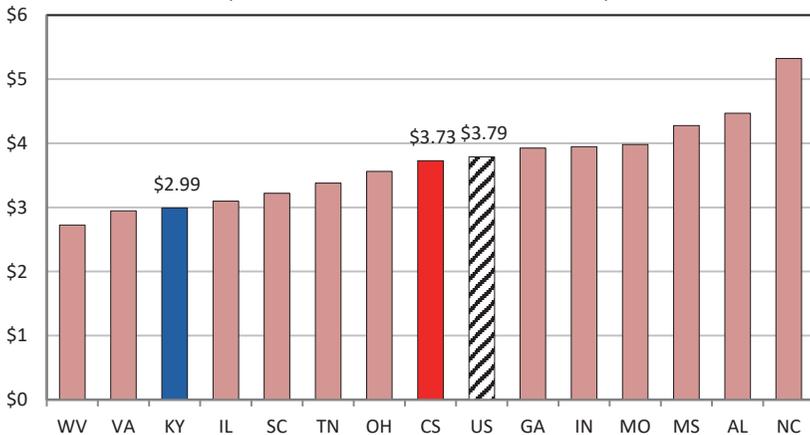


Source: CBER analysis of National Center for Science and Engineering Statistics, Higher Education Research and Development Survey (HERD) data, available at: <https://nces.nsf.gov/surveys/higher-education-research-development/2023#data>, downloaded Wed Mar 12 2025 08:05:18 GMT-0400 (Eastern Daylight Time).

ACADEMIC RESEARCH & DEVELOPMENT

The figure below illustrates the amount of college and university R&D expenditures relative to the size of the state’s economy (gross domestic product or GDP). At \$2.99 per \$1,000 of GDP, Kentucky trails the U.S. (\$3.79), competitor states’ average (\$3.73), and most of the nearby or competitor states. These numbers represent the aggregate amounts of R&D expenditures and GDP (in current dollars) from 2000, when the Kentucky Innovation Act was passed, to 2023. According to the National Science Foundation, academic institutions are the largest performers of *basic* research but account for a relatively small share of total R&D in the United States. Research done by colleges and universities is funded by a variety of sources, including federal, industrial, and academic sources. Nonetheless, more than 60 percent of R&D funding at universities originates from the federal government. Academic spending represents around 15 percent of national R&D expenditures. As described on the facing page, academic R&D can play a significant role in a state’s economic development, and many institutions of higher education across the country view regional economic development as a core part of their mission.

Academic Research & Development, per \$1,000 of GDP
Kentucky, Competitor States and the U.S.
 (total current dollars from 2000 to 2023)

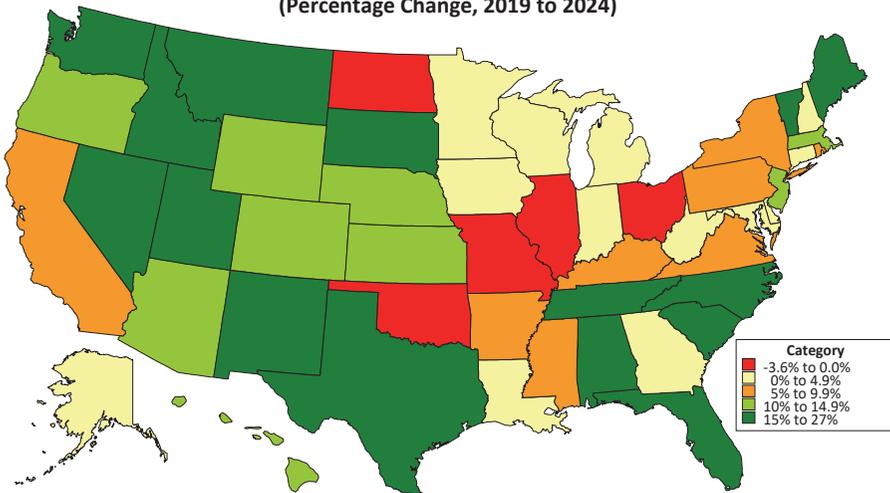


Source: CBER analysis of National Center for Science and Engineering Statistics, Higher Education Research and Development Survey (HERD) data, available at: <https://nces.nsf.gov/surveys/higher-education-research-development/2023#data>, downloaded Wed Mar 12 2025 08:05:18 GMT-0400 (Eastern Daylight Time). Gross Domestic Product (GDP) data from BEA, SAGDP1 State annual gross domestic product (GDP) summary.

STEM OCCUPATIONS BY STATE

Science, technology, engineering, and mathematics (STEM) occupations accounted for 6.7 percent of the jobs in the U.S. in 2024, compared to 4.2 percent in Kentucky. The presence of STEM occupations can be viewed as the successful outcome of an entrepreneurial ecosystem that supports innovation. Over half of the STEM jobs nationally are in two broad areas: computers and engineering. According to the Bureau of Labor Statistics, computer occupations make up about 45 percent of STEM employment, while engineers make up around 20 percent. Wages are generally higher for STEM occupations. The national average wage for all STEM occupations in 2024 was \$116,830, nearly double the national average wage for non-STEM occupations (\$64,430). Nationally, STEM occupations increased by 8.8 percent from 2019 to 2024, while non-STEM occupations went up by 4.6 percent. STEM occupations also fared better in Kentucky during this five-year period; STEM jobs increased by 6.1 percent, while non-STEM occupations rose by 5.1 percent. At 26.1 percent, Florida had the largest increase in STEM occupations from 2019 to 2024, followed closely by North Carolina at 25.6 percent.

Employment in STEM Occupations
(Percentage Change, 2019 to 2024)

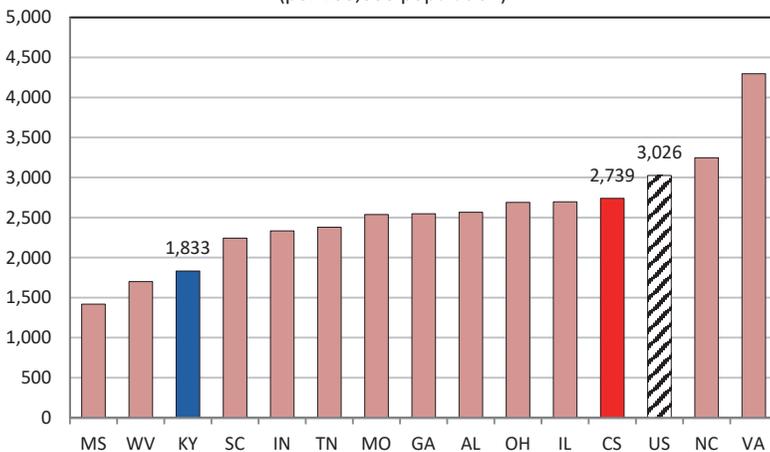


Source: U.S. Bureau of Labor Statistics, OES, May 2019 & May 2024, <https://www.bls.gov/oes/additional.htm>

STEM JOBS

There has been widespread agreement among policy makers nationally for the last few decades regarding the desirability of increasing the numbers of science, technology, engineering, and mathematics (STEM) occupations. These are high-wage jobs in economic sectors that are highly coveted by economic development professionals, community leaders, and individual workers. In 2024, an estimated 4.2 percent of occupations in Kentucky are in the STEM area, which translates to about 1,833 jobs per 100,000 population. This number is significantly lower than both the competitor states (2,739) and U.S. (3,026) averages. DC (10,592) and Massachusetts (5,069) are ranked first and second, while Mississippi (1,419) is ranked last. Among the 50 states and DC, Kentucky is ranked 46th. Women offer an area of potential growth, both in Kentucky and nationally. The U.S. Census Bureau reports that “In 1970, women made up 38% of all U.S. workers and 8% of STEM workers. By 2019, the STEM proportion had increased to 27% and women made up 48% of all workers.” In short, men are overrepresented in STEM jobs, accounting for 73 percent of all STEM workers nationally, while women comprise the remaining 27 percent.

STEM Jobs in 2024
Kentucky, Competitor States, and the U.S.
 (per 100,000 population)

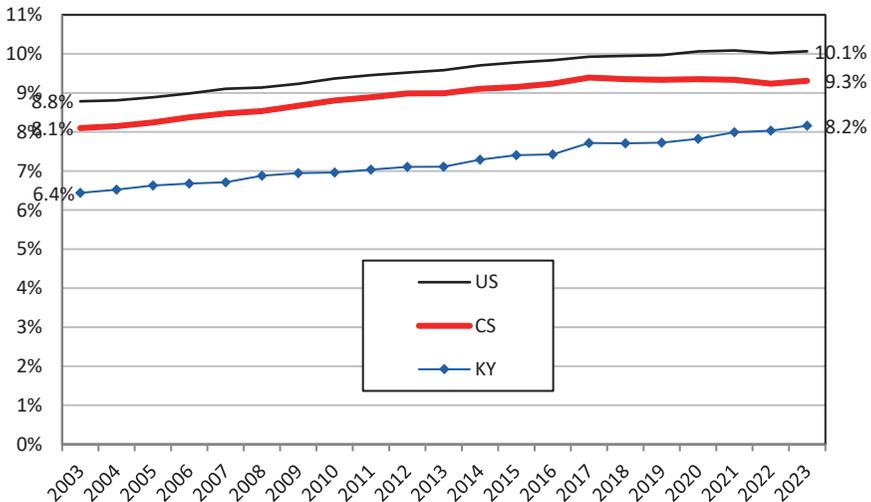


Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2024 OES Data
 Note: CS is the competitor state weighted average

HIGH-TECHNOLOGY ESTABLISHMENTS

According to the National Science Foundation (NSF), high-technology industries have at least twice the number of scientific, engineering, and technical occupations compared to the average for all industries. These workers have extensive education and training in the sciences, mathematics, and engineering. We use 50 different industries (at the 4-digit NAICS level) to identify high-technology establishments. Using the 46 sectors identified by NSF and four additional identified by the Milken Institute, we calculate the number of high-technology establishments as a percentage of total establishments. Dating back to 2003 Kentucky has consistently trailed the competitor states and the U.S. In 2023, 9.3 percent of establishments in competitor states and 10.1 percent in the U.S. are considered “high-tech.” In the same year 8.2 percent of Kentucky establishments are considered “high-tech,” ranking it 36th nationally (including DC with the states). The top ranked state is Delaware with 17 percent (DC is higher at 17.9%), and Mississippi is ranked last with 6.6 percent.

**High-Technology Establishments,
Kentucky, Competitor States, and the U.S., 2003-2023**
(as a percent of total establishments)



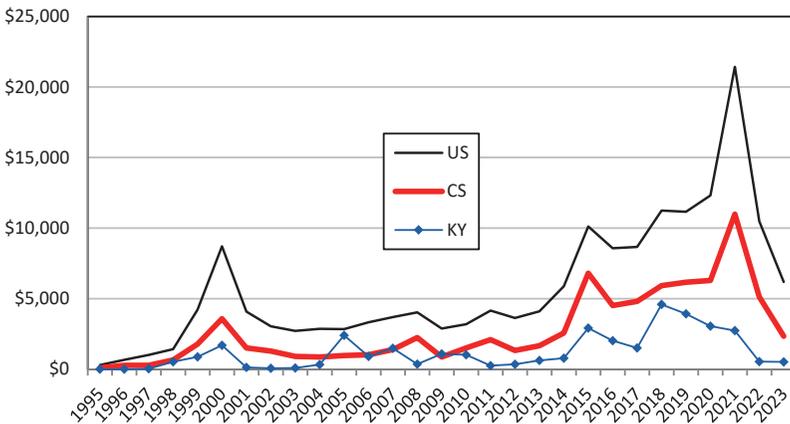
Source: Author's analysis of County Business Patterns, U.S. Census Bureau, various years

Innovation

VENTURE CAPITAL

According to the Kauffman Foundation, most young companies are started from the savings of their founders and then sustained by positive cash flow. The next largest source of capital for young companies is credit cards, followed by borrowed money from family and friends, banks, and then venture capital. Research also shows that less than 20 percent of the fastest growing companies in the United States took any venture money. Moreover, venture capital investments are typically concentrated in a just few states, such as California, New York, and Massachusetts. In 2023, for instance, these three states accounted for nearly 68 percent of all venture capital funding. Nevertheless, the level of venture capital in a state’s economy is frequently used as an indicator of innovation capacity and entrepreneurial energy. In 2023, venture capital investments in Kentucky were \$512 per \$1 million of state gross domestic product (in constant 2024 dollars), which is slightly more than one-fifth of the competitor states (\$2,332) and substantially below the U.S. average (\$6,185). Since the year 2000, when the Kentucky Innovation Act was passed by the Kentucky General Assembly and signed into law by the governor, the aggregate value of venture capital invested in Kentucky equals 0.12 percent of its gross domestic product. The U.S. (0.60%) and competitor states (0.29%) are higher. Massachusetts is ranked first at 1.93 percent.

**Venture Capital Investments,
Kentucky, Competitor States, and the U.S., 1995-2023**
(Constant 2024 dollars, per \$1 million/state GDP)



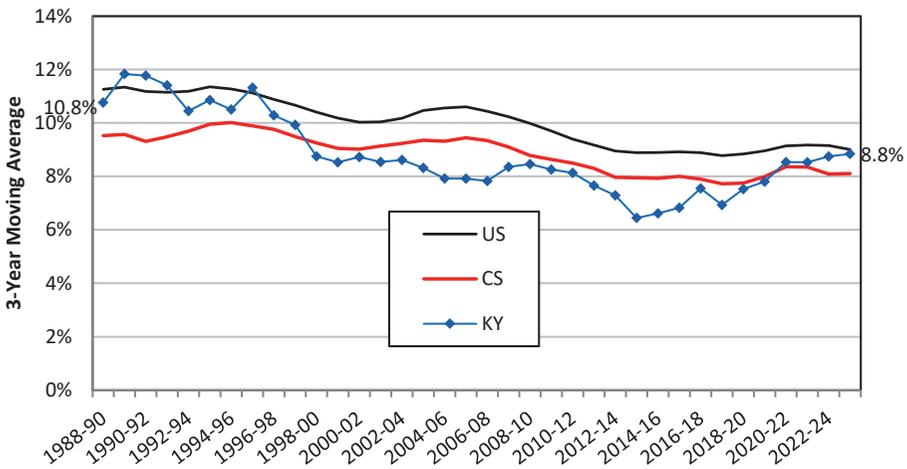
Source: National Science Board. "Venture Capital Disbursed per \$1 Million of Gross Domestic Product." *Science and Engineering Indicators: State Indicators*. Alexandria, VA: National Science Foundation.
<https://nces.nsf.gov/indicators/states/indicator/venture-capital-per-1-million-state-gdp>. Accessed on 3/10/25.

SELF-EMPLOYED

The self-employed include a diverse and broad range of occupations, from farmers to landscapers to doctors. One characteristic that can be attributed to each of them, is the willingness to chart their own economic path. Either out of necessity or opportunity, these individuals demonstrate the spirit needed to create an entrepreneurial economy. Around 8.8 percent of part- and full-time working prime working age adults (25 to 54 years old) in Kentucky are self-employed, which is statistically no different from the competitor states (8.4%) or the U.S. (9.2%). Nationally, over the last thirty years, these percentages have been trending slightly downward. However, in Kentucky the percentage of self-employed workers has been trending upward since 2015. Around 121,000 *prime working age* individuals are self-employed in Kentucky—compared to over 1.3 million prime working age Kentuckians who work for a wage or salary earned at a business, a nonprofit, or in government. There are six states with statistically higher self-employment rates, led by Montana at 13.9 percent. Most states—forty-two—are statistically no different from Kentucky. Washington D.C. (5.1%) and West Virginia (5.6%) are statistically lower than Kentucky.

Innovation

**Self-Employed,
Kentucky, Competitor States, and the U.S., 1988-2025**
(prime working age, 25 to 54, full- and part-time workers)

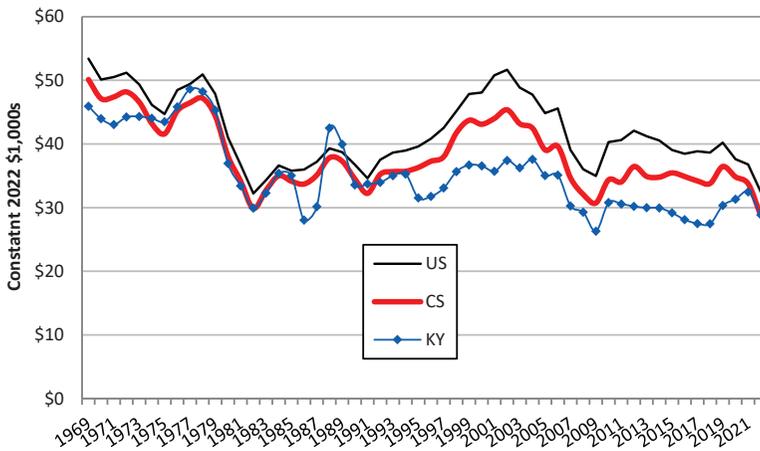


Source: Estimates generated by the author using data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC 1988 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

ENTREPRENEURIAL DEPTH

Entrepreneurship is a particularly promising vehicle for economic development, as reflected in the January 2012 update of the Kentucky Cabinet for Economic Development *Strategic Economic Development Plan*. Entrepreneurs help create new jobs, and generate wealth and new growth. They are innovative users of assets and resources and appear to be a critical mechanism for bringing new ideas and innovations to the marketplace. The depth of entrepreneurship can be gauged by examining the value created by entrepreneurs in a region as measured by the ratio of self-employment income to the number of self-employed workers in an economy. Unlike breadth, which measures the number of entrepreneurs in a region, depth examines the value. High-value entrepreneurs clearly earn more, add more value, and enhance regional growth and prosperity more than other entrepreneurs. Kentucky has generally trailed the United States and competitor states in entrepreneurial depth. However, in 2022, Kentucky and the competitor states both had average proprietor incomes of around \$29,000. Each lags the U.S. by approximately \$3,600 given its average of nearly \$32,500. The chart below shows average proprietor incomes in constant 2022 dollars, so the downward trend from 1969 to 2022 is an inflation adjusted real decrease in average proprietor incomes for each of the three geographies, e.g., U.S., KY, and CS.

**Average Self-Employment Income,
Kentucky, Competitor States, and the U.S., 1969-2022**
(nonfarm proprietor income/nonfarm proprietor employment)

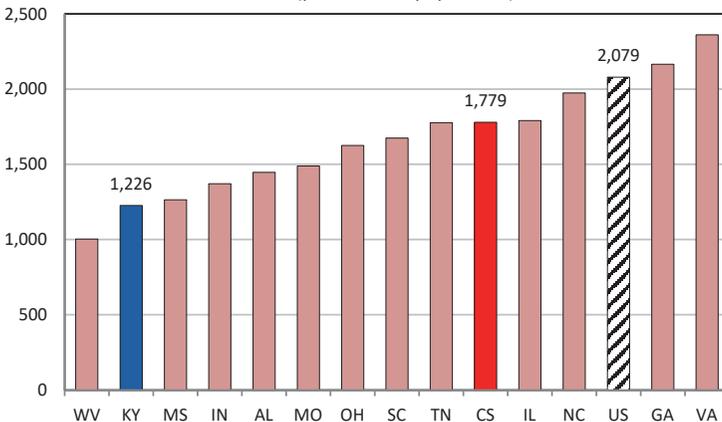


Source: U.S. Department of Commerce, Bureau of Economic Analysis

NONEMPLOYER ESTABLISHMENTS

Another measure of self-employment related to innovation is the number of nonemployer establishments. According to the Census Bureau, “A nonemployer business is one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the Construction industry), and is subject to federal income taxes.” Some examples of these businesses are beauty salons, child-care providers, landscaping services, barber shops, real estate agents, tax preparers, and electricians—just to name a few. These types of small enterprises are important components of the economic landscape, but they are typically not viewed as part of the dynamic high-technology sector. Leveraging research done by others in the high-technology area (Economic Innovation Group, 2023), we focus on five categories of businesses considered high-tech: Data Processing, Hosting, and Related Services (NAICS 5182); Other Information Services (5191); Architectural, Engineering, and Related Services (5413); Computer Systems Design and Related Services (5415); and Scientific Research and Development Services (5417). In 2023, Kentucky had just over 5,550 of these high-technology nonemployer establishments, which is 1,226 per million population (ranked 48th). This is significantly lower than most of the competitor states and the U.S. overall. The state with the highest value is Delaware (3,710 per million population).

**Nonemployer Establishments in High Technology
Kentucky, Competitor States, and the U.S., 2023**
(per 1 million population)



Source: Source: Author's analysis of data from the U.S. Census Bureau, using the EIG method we define "high technology" as establishments in 11 NAICS codes, but only 5 of them are evident in these data (i.e., 5182, 5191, 5413, 5415, & 5417). Note: CS is the competitor state weighted average

Population

KENTUCKY'S POPULATION HAS grown over the past several decades, though at a slower pace than the nation and most competitor states. By 2024, the Commonwealth's population reached 4.6 million, with most recent gains driven by international migration rather than natural increase.

Despite gradual urbanization, Kentucky remains far more rural than the nation. In 2020, 41 percent of residents lived in rural areas, compared to 28 percent in competitor states and just 20 percent nationwide. This rural concentration is both an asset and a challenge. Natural amenities support tourism and lifestyle appeal, yet limited infrastructure and narrower economies constrain growth. The state's rural share today mirrors the national average in 1940, showing how slowly Kentucky has urbanized.

Population growth since the Great Recession highlights these dynamics. Between 2007 and 2024, the U.S. population rose nearly 13 percent, while competitor states averaged 10 percent. Kentucky added only 7.8 percent, ranking 34th nationally. Regional variation is stark: the Urban Triangle and South Central Kentucky grew more than 13 percent, while Western Kentucky stagnated and Eastern Kentucky declined nearly seven percent. This divergence underscores widening divides between metropolitan areas and struggling rural regions.

At the county level, nearly half of Kentucky's counties lost population from 2007 to 2024. Eastern Kentucky suffered the steepest declines, with Knott, Bell, Harlan, Martin, and Breathitt

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each shrinking by about 20 percent or more. Severe flooding in 2022 further accelerated out-migration in Knott, Breathitt, and Perry counties. In contrast, counties near growing cities thrived. Scott and Warren each expanded by more than 40 percent, while Boone, Oldham, and Jessamine posted strong double-digit gains, supported by jobs, universities, and transportation links.

Immigration has also become a key contributor to growth. Only 5.2 percent of Kentuckians are foreign-born, far below the U.S. average of nearly 15 percent, but immigrants cluster in Fayette, Warren, and Jefferson Counties, where they approach 10 percent of the population. Their economic impact is notable: they are more likely than native-born Kentuckians to hold a bachelor's degree, and they strengthen both high-skill sectors and small business formation. Even in rural areas, immigrants often play critical roles in health care and entrepreneurship.

The state is also aging. Kentucky's median age rose from 35.9 in 2000 to 39.3 in 2024, essentially matching the national average. Roughly 18 percent of residents are now 65 or older, up sharply in many counties. Woodford County, for example, saw its senior share rise from 12 percent in 2010 to 20 percent in 2023. Aging affects Medicaid enrollment, workforce participation, and demand for elder services. With more seniors lacking close family ties, communities face mounting pressure to provide support systems.

Migration trends help offset these challenges. While national mobility has fallen sharply since the 1980s, Kentucky continues to attract more residents than it loses. In 2023, about 107,000 people moved in and 93,000 left, for a net gain of 14,200. Over the longer term, the state's migration ratio has averaged 1.13, meaning more in-migrants than out-migrants, placing Kentucky in the top half of states. South Carolina leads the region with stronger gains, but Kentucky's consistent inflows remain encouraging.

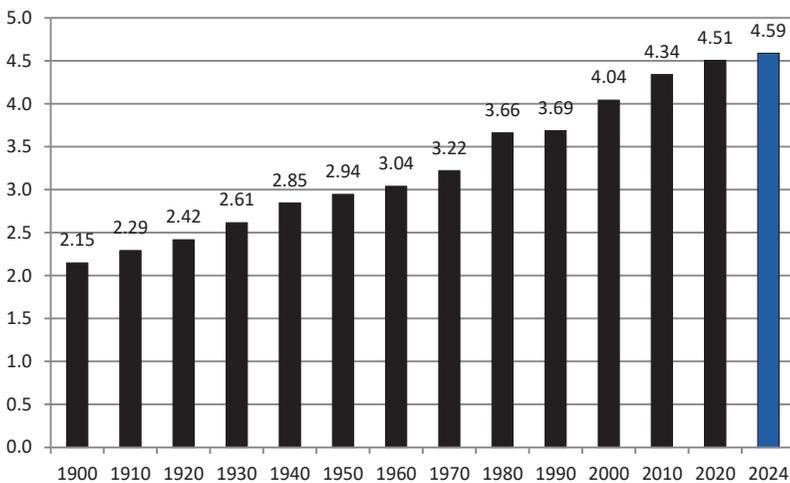
Declining fertility complicates the outlook. Birth rates have fallen nationwide since the Great Recession, and Kentucky has followed the same path. In 2023, the state recorded 60.3 births per 1,000 women of childbearing age, its lowest level in modern times, though still above national and competitor state averages. With deaths now exceeding births, Kentucky recorded a negative natural change in 2024. Yet both domestic and international migration more than offset this shortfall, producing a net gain of nearly 38,000 people and sustaining overall growth.

Together, these patterns capture a state in transition. Kentucky's modest gains conceal sharp regional disparities, aging pressures, and declining fertility, even as immigration and interstate migration supply new vitality. The balance of these forces will shape the Commonwealth's economic and demographic trajectory in the years ahead.

POPULATION TOTALS

Kentucky’s population in the 2020 Decennial Census was 4,505,836, representing a 3.8 percent increase from the 2010 Decennial Census population of 4,339,367, maintaining its rank as the 26th most populous state. With 3.8 percent growth over that decade, the state grew at about half the rate it experienced from 2000 to 2010 (7.4 %). Kentucky’s population was essentially flat from 1940 to 1970, growing by just over 13 percent while the U.S. population increased by over 55 percent. However, from 1990 to 2010, Kentucky’s population has been increasing at a steady rate, evidenced by 22.2 percent growth over the 30 year period. However, this is still lower than the competitor states (29.2 percent) and the United States (33.2 percent) over the same time period. Among Kentucky’s competitor states, Georgia grew the most over this 30 year period, a blistering 65.4 percent, followed closely by North Carolina with a 57.4 percent growth rate. West Virginia’s population, on the other hand, has experienced the most anemic growth among the competitor states—zero growth from 1990 to 2020. Kentucky estimated population in 2023—4,588,372—is slightly more than the 2020 Decennial Census. Interestingly, Kentucky’s population increase from 2023 to 2024 of just under 37,800 people was mostly driven by the net increase of *international* migration of just over 31,430 people.

Population Totals, Kentucky, 1900-2024
(millions)

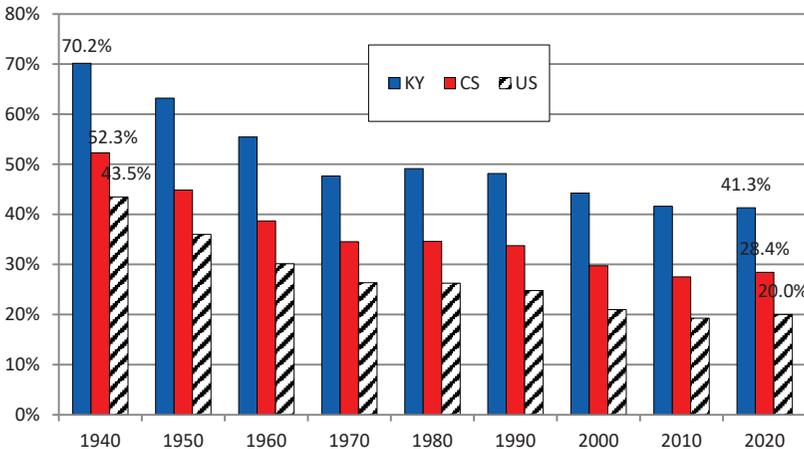


Source: U.S. Census Bureau, Decennial Census counts 1900 to 2020, ACS 2024 1-Year estimate.

RURAL POPULATION

While Kentucky has become increasingly urban over the years, a significant portion of Kentucky’s population live in rural areas—especially compared to its competitor states and the U.S. In the 2020 Census, an estimated 41.3 percent of Kentucky’s population resided in rural areas (the balance of 58.7 percent live in urban areas), compared to about 28.4 percent in the competitor states and around 20 percent in the U.S. Rural communities can have many unique and appealing assets that provide a foundation for economic development activities. For example, natural amenities such as mountains, lakes, streams, forests, and wildlife can be used to leverage economic development and attract individuals hoping to find more idyllic surroundings. At the same time, there are many development challenges associated with building diverse economies and providing an adequate infrastructure in rural areas. It is interesting to see that in 2020 Kentucky’s population residing in rural areas was essentially the same as the U.S. average in 1940 when the national proportion was 43.5 percent.

**Population Living in Rural Areas,
Kentucky, Competitor States, and the U.S.**
(percent of individuals)



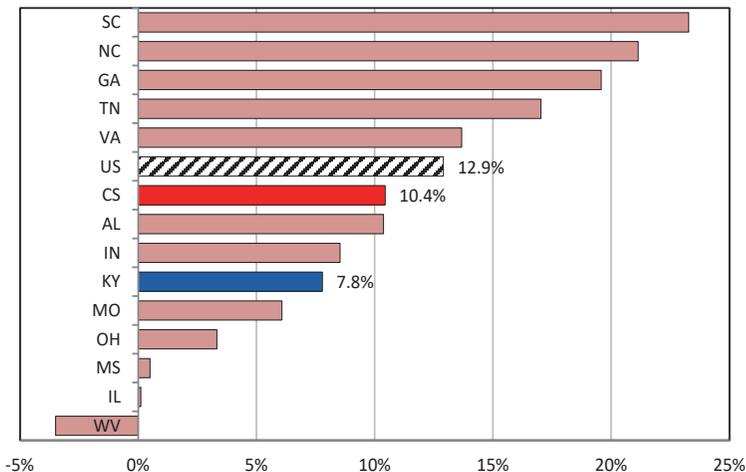
Source: U.S. Census Bureau

Population

POPULATION CHANGE

A state’s population growth rate is indicative of its economic energy. There is a consistency between population growth rates and total *private* employment growth during the same time period. Here we present state growth rates between the peak of the economic expansion before the Great Recession, which was during the fourth quarter of 2007, and the “present” (2024). By 2024, the U.S. population was 12.9 percent higher than the peak of the economic expansion ended by the Great Recession (or in 2007). As evidenced in the chart below, Kentucky experienced slower population growth (7.8%) than the U.S. or the competitor state average (10.4%). Generally, there is a consistency between these population growth rates and total *private* employment growth during the same time period. The populations of South Carolina, North Carolina, Georgia, Virginia, and Tennessee grew at a faster rate than the U.S.; Kentucky, however, grew at about 60 percent of the U.S. rate. At 34.9 percent, Utah has the highest growth rate during this period, and West Virginia has the lowest (-3.5%); Kentucky has the 34th highest growth rate among the states and DC.

**Percentage Change in Population 2007-2024,
Kentucky, Competitor States, & the U.S.**

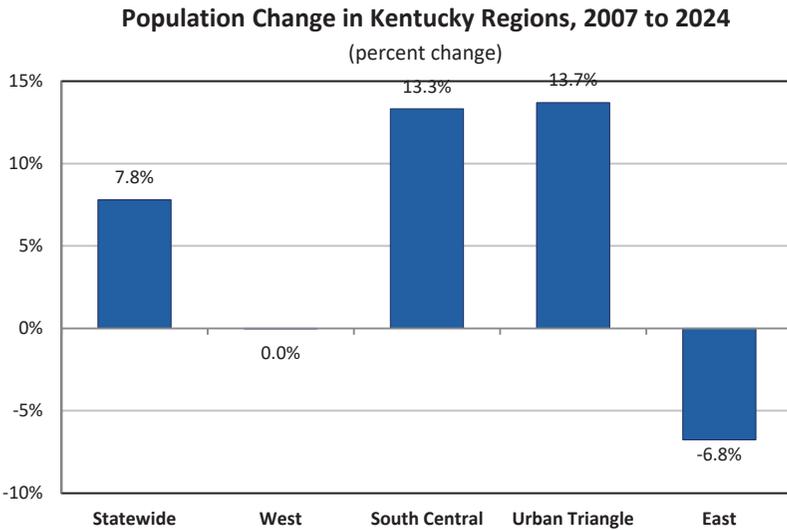


Source: U.S. Census Bureau, 2007 & 2024 ACS 1-year estimates

REGIONAL POPULATION CHANGES

Population growth rates within a state can serve as an indicator of economic trends. The population growth rate of Kentucky and its regions from the peak of the last economic expansion just before the Great Recession in 2007, to the present (2024) is shown below (a county-level map of these four regions is available in the glossary). Kentucky’s Urban Triangle experienced a 13.7 percent increase, and South Central Kentucky is at 13.3 percent. However, the population in Western Kentucky has remained flat, and in Eastern Kentucky it *declined* by 6.8 percent. For comparison purposes, Kentucky’s overall population increased 7.8 percent over the same time period.

Population

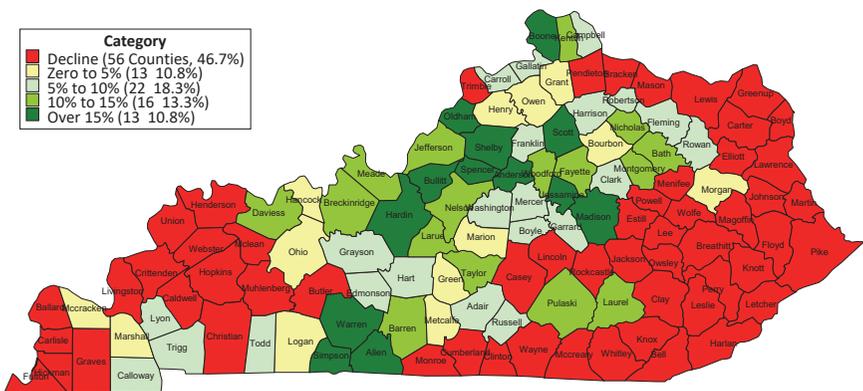


Source: Author's calculations using data from the U.S. Census Bureau, county-level estimates at: <https://www2.census.gov/programs-surveys/popest/datasets/>. See glossary for map of Kentucky regions by county.

COUNTY POPULATION CHANGES

From the peak of the last economic expansion just before the Great Recession in 2007 to the present (2024), there have been some significant county-level population changes in Kentucky. As illustrated in the map below, the population in several counties was lower in 2024 compared to 2007. Overall, in fact, 56 counties, largely in Eastern Kentucky, but several in the western part of the state, lost population during this time period, which is 46.7 percent of the Commonwealth’s counties. The five largest declines were in Knott (-21.4%), Bell (-20.6%), Harlan (-19.4%), Martin (-19.3), and Breathitt Counties (-17.9%). The July 2022 floods that killed 45 people and displaced many families surely exacerbated living conditions in Knott, Breathitt, and Perry counties, thereby contributing to out-migration. On the other hand, population growth in much of Northern and Central Kentucky has been strong. The five fastest growing counties all experienced double-digit increases, and include Scott (43.4%), Warren (41.6%), Boone (27.8%), Oldham (24.6%), and Jessamine Counties (24%). By comparison, Kentucky’s population increased by 7.8 percent during this sixteen year period.

Kentucky County Population Change
(population change from 2007 to 2024)

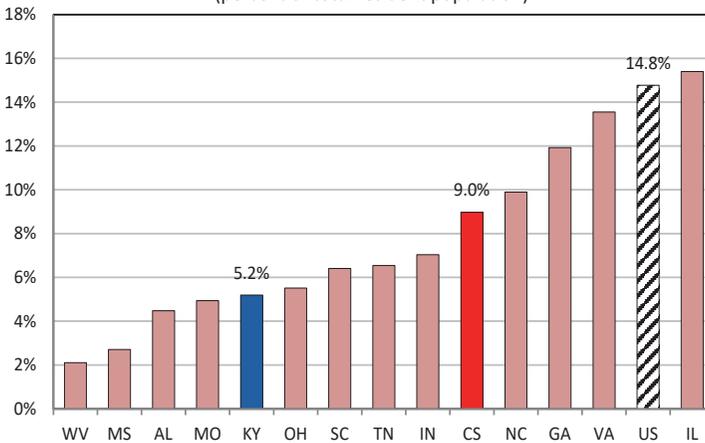


Source: U.S. Census, annual county-level estimates.

FOREIGN-BORN POPULATION

Immigrants strengthen our communities and bolster our economy. In a September 2017 paper, *Immigrants Benefit the Community and Economy*, authored by economist Dr. Jenny Minier, she notes that “more than 40% of Fortune 500 companies, including American icons like Apple, Budweiser, Google, and McDonald’s, were founded by immigrants or the children of immigrants.” Moreover, Minier cites a study which finds that “over half of the 87 technology startups valued at over \$1 billion were co-founded by immigrants, and on average, these companies had created 760 new jobs.” The economic contribution of immigrants extends, of course, across the entire range of jobs in the labor force, from those who harvest agricultural products to those occupying Fortune 500 CEO suites. Moreover, a 2024 NBER Working Paper by Caiumi and Peri reports that “immigration, thanks to native-immigrant complementarity and college skill content of immigrants, had a positive and significant effect between +1.7 to +2.6% on wages of less educated native workers, over the period 2000-2019 and no significant wage effect on college educated natives. We also calculate a positive employment rate effect for most native workers.” The percentage of foreign-born individuals in Kentucky is 5.2 percent, just over half of the competitor state average (9.0%) and about a third of the U.S. average (14.8%).

**Foreign-Born Population, 2024,
Kentucky, Competitor States and the U.S.**
(percent of total resident population)

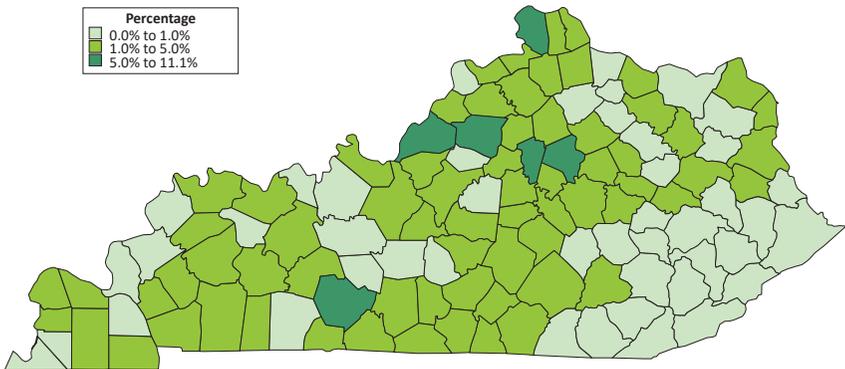


Source: American Community Survey, Table B05002 2024 1-Year Estimate
Note: "CS" is the weighted average of the competitor states.

FOREIGN-BORN POPULATION BY COUNTY

Kentucky’s percentage of foreign-born population is relatively low, but it is approaching or just above ten percent in a few areas, such as Fayette (11%), Warren (9.9%), and Jefferson Counties (9.5%). As one can see on the map below, the Kentucky counties with the highest percentages of foreign-born individuals are disproportionately located in the urban triangle, the area of the state’s economic engine. Nonetheless, even in counties with a small number of foreign-born individuals, these immigrants frequently play an outsized role in their local communities as business owners, entrepreneurs, and health care providers. Indeed, many are serving in medically underserved areas of rural Kentucky. One telling statistic, that is indicative of their impact, is this: the percentage of U.S. or native-born Kentuckians with a Bachelor’s degree or higher is about 23 percent, while the percentage of foreign-born Kentuckians with a Bachelor’s or higher is around 34 percent—one out of three. The percentage of foreign-born in Kentucky overall is about 4.4 percent, much lower than the U.S. average of 13.9 percent.

Foreign-Born Population, by Kentucky County, 2019-2023

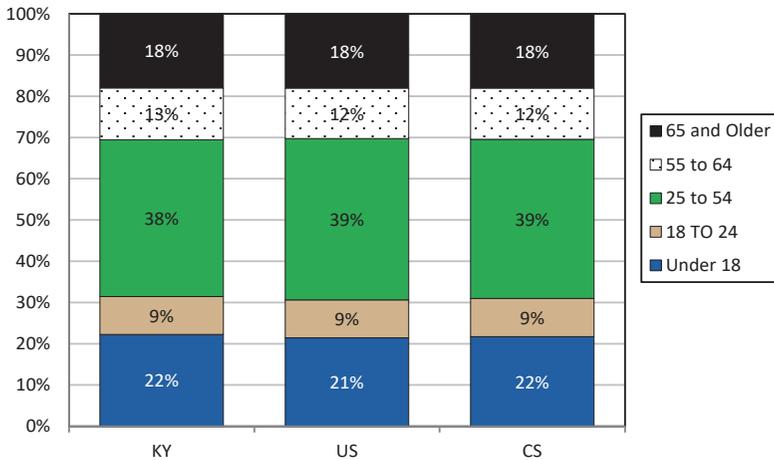


Source: U.S. Census, American Community Survey, 2023 5-Year Estimate, Table B05002

POPULATION BY AGE GROUP

Kentucky’s population is aging, evidenced, in part, by the median age increasing from 35.9 years in 2000 to 38.1 in 2010—and on to 39.3 in 2024. The U.S. median age in 2023 was also 39.2 years. As the Boomers age, it will be felt, for example, as they leave the workforce, rely increasingly on pensions and other forms of public assistance, and join the nation’s cadre of volunteers. The number of persons in Kentucky aged 65 and above is estimated at 825,850 in 2024. At 18 percent of Kentucky’s total population, it represents about the same proportion as in the U.S. and the competitor states. The same is true for the other age groups—the distribution of age groups in Kentucky is more or less consistent with the U.S. percentages. For example, the prime working age group, 25 to 54, comprises 38 percent of Kentucky’s total population, compared to 39 percent in the U.S.

Population Distribution by Age, 2024
Kentucky, Competitor States, and the U.S.
 (percent of total state population)



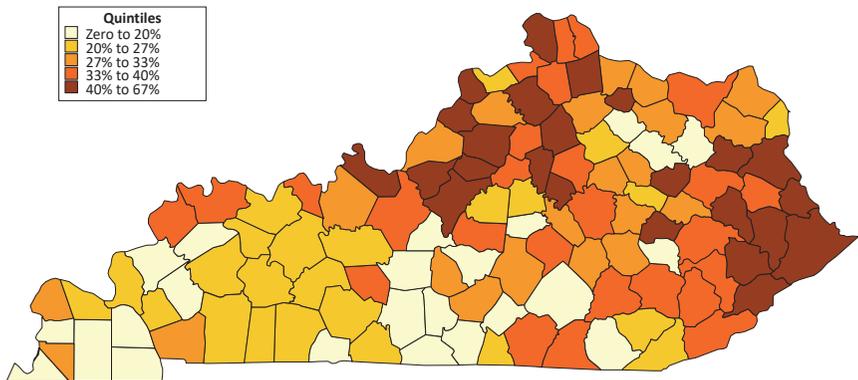
Source: U.S. Census Bureau, ACS 2024 1-Year estimate, Table S0101

Population

AGING POPULATION

The age composition of the population, as well as how quickly it ages, can have important implications for government policy and business practices. The types of programs and services, from schools to senior centers to health care to housing, is affected by the age distribution. There are, for example, nearly 1.6 million Kentuckians on Medicaid, with about 109,000 seniors (aged 65 or older), or 7 percent of the total Medicaid population. A *New York Times* article in December of 2022, “Who Will Care for ‘Kinless’ Seniors?,” highlighted a growing trend of older Americans, currently estimated at about 1 million, who have no immediate family members to provide assistance if needed. This could have important implications for governments, nonprofits, and the faith communities, as the kinless senior population grows. Business and commerce is also affected since labor force participation, disability rates, health care costs, consumer spending, the tax base, and a number of other factors are affected as the population ages. The county map shows the changes in the proportion of the population 65 and older. For example, Woodford County’s 65 and older population increased from 12.1 percent of the county’s total population in 2010 to 20.1 percent in 2023, a 66 percent increase in the proportion of the county’s total population 65 or older. This was the largest increase of any county, placing it in the highest quintile.

Kentucky's Aging Population
(rate of change from 2010 to 2023 in 65 and older)

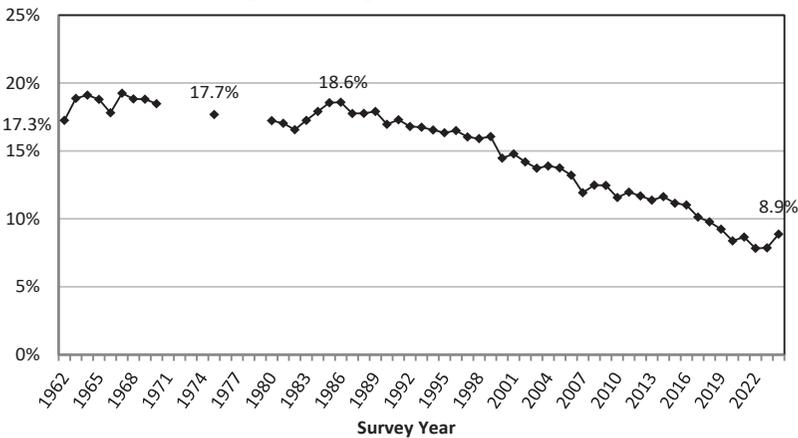


Source: U.S. Census, American Community Survey, 2010 and 2023, Table S0101

POPULATION MOBILITY

U.S. migration trends have been in steady decline since the late-1980s. For several decades prior, going back to the late-1940s, nearly one-fifth of Americans changed their residence each year. By 2024, it had decreased to under 10 percent (8.9%). This time period, from the late-1980s to the present, coincides with the digital economy or the Internet Age, when it became increasingly possible for individuals to work remotely, to live in one area while working for an enterprise based in another, and to experience the loosening of a place-based economic imperative. These trends have many workers asking themselves, “*Why move to another geographic location—possibly with higher housing costs, more traffic, and more crime—for economic opportunity if technology allows me to live almost anywhere?*” The broader economic transition to a service-based economy, along with the pandemic, with its renewed emphasis on work from home, appears to be providing geographic locations with lower cost-of-living, less traffic congestion, and more outdoor natural amenities, with an increased comparative advantage to attract individuals who enjoy the flexibility of this option. As an October 2021 *Wall Street Journal* article teases with its title, “Remote Workers Can Live Anywhere,” so cities and small towns are luring them with perks to boost populations with “offers of cash, free coffee and grandparent stand-ins.”

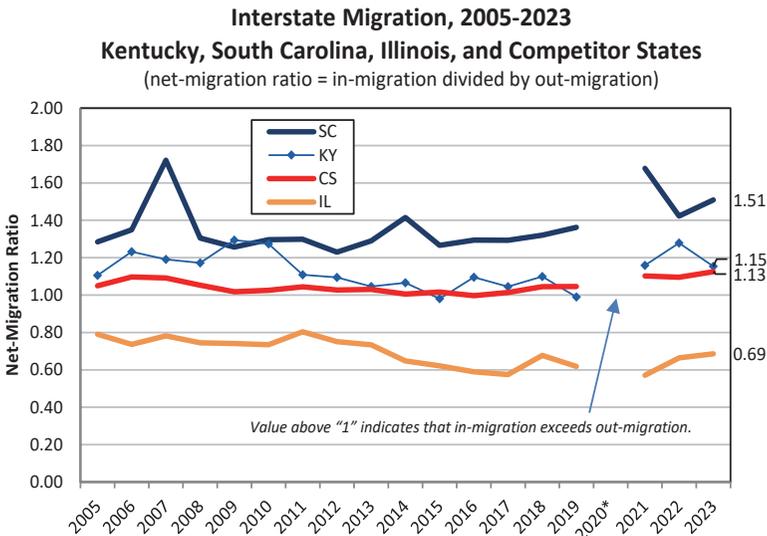
Geographic Mobility in the U.S., 1962-2024
(percentage who changed residence in the past year)



Source: Author's calculations based on data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1963-2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

INTERSTATE MIGRATION

There are many reasons why individuals move from one state to another, including but not limited to employment opportunities or job-related moves, more affordable housing, cost-of-living differences, family, and changing lifestyle priorities. In every case, however, the mover expresses a preference for one state over another. The Census Bureau asks survey respondents aged 1 year and over whether they lived in the same residence 1 year ago (American Community Survey). In 2023, there were approximately 106,800 people who moved into Kentucky and about 92,600 who moved out, for a net gain of around 14,200 people. The net-migration ratio for Kentucky in 2023, in-migration divided by out-migration, is shown below (1.15). The average net-migration ratio from 2005 to 2023 is greater than one for Kentucky and thirty-two other states, meaning that more people moved in over these years than out. Kentucky's average ratio over these 18 years is 1.13, ranking it 20th among the states and DC. Within the group of competitor states, South Carolina enjoys the highest ratio, 1.37 during the entire period and 1.51 in 2023. Meanwhile, seventeen states and DC experienced net out-migration during this period with ratios below one. Kentucky's ratio is generally over one going back to 2005, and in recent years has been well above it, which bodes well for the state.

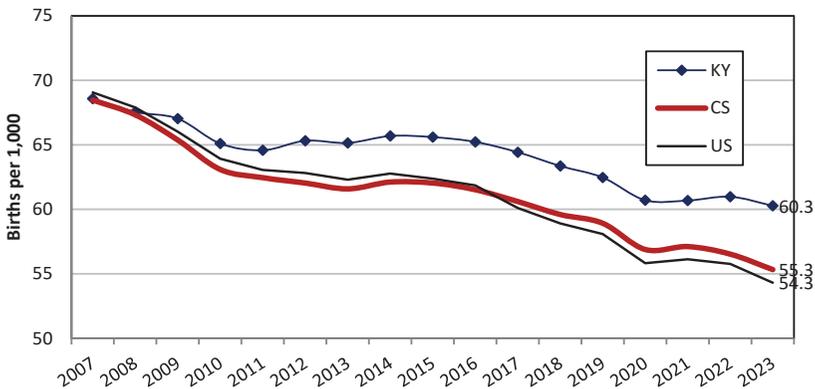


Source: Author's analysis of U.S. Census Bureau state-to-state migration data, various years.
 Note: *No data are available for interstate migration in 2020.

FERTILITY RATES

Fertility rates have been in steady decline since the Great Recession. The figure below shows the fertility rate for Kentucky, the competitor states, and the U.S.; these rates show the number of births per 1,000 mothers, ages 15 to 44. As one can see in the graph, each had fertility rates just below 70 births per 1,000 in 2007, and they have declined steadily since. The Kentucky fertility rate, for example, was 60.3 births per 1,000 in 2023, the lowest in modern times. We should note, however, that Kentucky’s rate has declined less than the U.S. or competitor states. The Pew Research Center released an analysis in July of 2025, *How Record-Low Fertility Rates Foreshadow Budget Strain*, in which they frame these declines in the context of future taxpayers who will not be there to provide needed revenue of government programs and services. They state that “In 2023, 41 states and Washington, D.C. experienced their lowest fertility rates—the number of children born per 1,000 women ages 15 to 44—in more than 30 years, in line with a decades-long downward trend. In addition, 2023 marked a record low for the national fertility rate.” There might be future budgetary implications, as Pew suggests, but in 2024, Kentucky’s natural change (i.e., births minus deaths) of a -892 was more than offset by domestic (7,294) and international (31,430) migration, resulting in a net increase of around 37,800 people.

Fertility Rates, 2007 to 2023
Kentucky, Competitor States, and the U.S.,
 (mothers 15 to 44 years old)



Source: Estimated by the author using data from the Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Natality on CDC WONDER Online Database. Data are from the Natality Records 2007-2023, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/natality-current.html> on Aug 29, 2025 7:27:56 PM

Public Finance

KENTUCKY'S PUBLIC FINANCES reveal heavy dependence on federal support, exceeding that of most states. In 2023, federal transfers made up 34.9 percent of total state revenue, compared with 26.2 percent for competitor states and 25.5 percent nationwide. These funds heavily support Medicaid and food assistance, covering nearly 80 percent of Kentucky's Medicaid spending in fiscal year 2024. However, the One Big Beautiful Bill Act of 2025 is expected to gradually shift more funding responsibilities to states. Although back loaded, its cuts to Medicaid and SNAP will remove billions nationally, potentially forcing difficult trade-offs for Kentucky during late-2020s budget cycles.

Revenue trends illustrate the state's challenges. Historically, sales and use taxes dominated receipts, but since the 1980s income tax has played an equal role. Today, both provide about 37 percent of general fund revenue. Yet with plans to phase out the income tax by 2032, Kentucky risks narrowing its base.

Compared with peer states, Kentucky relies less on property taxes but more on income-based taxation, particularly through local occupational license taxes. Revenue collection is centralized, with 71 percent of state and local own-source revenue raised at the state level, versus 60 percent nationally. Despite this, Kentucky's tax collections as a share of personal income declined from 8.4 percent in 1995 to 6.5 percent in 2024, showing a weakening revenue structure.

While revenue has been declining relative to total personal income,

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expenditures have been rising as a portion of gross domestic product (GDP). State and local spending rose from 13.9 percent of GDP in 1977 to 23.6 percent in 2023, largely due to social services, which grew from 2.4 percent to 8.6 percent of GDP. Education also increased, while community development and public protection remained flatter. Per capita, Kentucky spends more than average on social services—reflecting high poverty and low educational attainment—but less on public protection and community development. Infrastructure, however, has grown strongly and now slightly exceeds national averages relative to GDP.

Within social services, Medicaid expansion in 2014 caused dramatic per capita increases. From 1977 to 2023, Kentucky’s social services expenditures rose 448 percent, outpacing both competitor states and the nation. Education investments also climbed, helping the state improve its human capital, though per capita spending still falls in the middle tier nationally. In contrast, community development spending lags well behind, raising concerns about Kentucky’s competitiveness in quality-of-life factors important to businesses.

Other spending categories show mixed results. Public protection expenditures are among the lowest in the nation, likely tied to relatively low crime rates. Infrastructure investments are comparatively strong, boosted by federal initiatives such as the 2021 infrastructure bill. Insurance trust spending, covering pensions and unemployment, rose sharply during the pandemic but has since normalized. Administrative costs have grown slowly compared to other states but still claim a larger share of GDP over the last several decades.

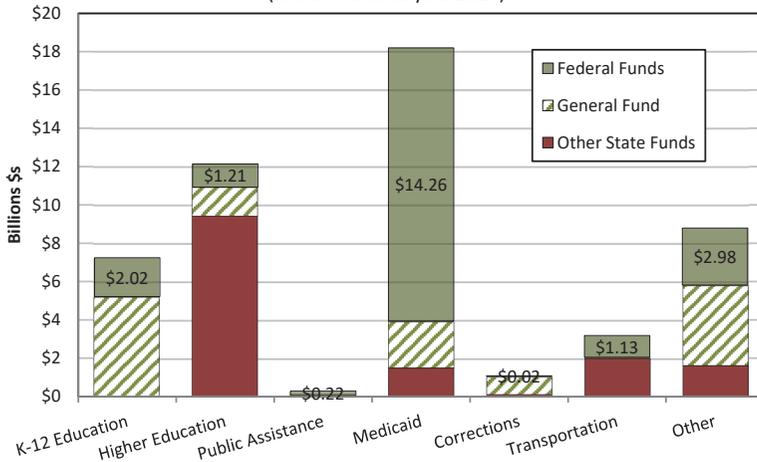
Debt and pensions highlight long-term strains. Kentucky’s per capita debt, \$7,158, is near competitor state averages but below the U.S. overall. Far more serious is the public pension system, covering teachers, state employees, and others. These funds are only half funded, among the worst in the nation. In 2024 the funded ratio was 52.2 percent, leaving an unfunded liability of about \$40.5 billion. Pension contributions already consume over 10 percent of general revenue from own sources, far above national averages. Without reforms, pensions will continue to crowd out other budget priorities.

Overall, Kentucky’s fiscal position is marked by reliance on federal transfers, a narrowing tax base, rising social service costs, and a deeply underfunded pension system. While investments in education and infrastructure provide some promise for long-term growth, the state faces mounting pressure to balance limited revenue against growing expenditure demands. As federal supports recede, the coming decade will be a critical test of Kentucky’s ability to sustain fiscal stability and invest in its future.

FEDERAL FUNDS & KENTUCKY EXPENDITURES

Kentucky’s government finances are deeply tied to federal funding, more so than most states. In 2023, federal transfers made up 34.9 percent of the state’s total revenue, compared to 26.2 percent for competitor states and 25.5 percent nationwide. This reliance is particularly evident in health care and food assistance programs. For example, nearly 80 percent of Kentucky’s Medicaid spending in fiscal year 2024 was covered by federal funds. However, the One Big Beautiful Bill Act of 2025 (H.R.1) introduces provisions that will gradually shift greater funding responsibility to the states. The bill’s “backloaded” structure means the most significant impacts will unfold in the late 2020s and beyond, according to the National Conference of State Legislators (NCSL). Reductions in federal support for Medicaid and the Supplemental Nutrition Assistance Program (SNAP) will shift millions to state budgets over the next decade. Medicaid alone faces cuts nearing \$1 trillion nationally, representing roughly 7 percent of the combined state budgets over ten years. States should expect difficult budgetary decisions in the future, particularly during 2028–2032 budget cycles. Moreover, analysts warn that penalties tied to administrative errors could increase fiscal stress by billions of dollars. For Kentucky, upcoming biennial budgets will be crucial in determining how the state adapts to these federal funding shifts.

**Kentucky State Government Expenditures
by Selected Categories and Major Funding Sources**
(estimated fiscal year 2024)

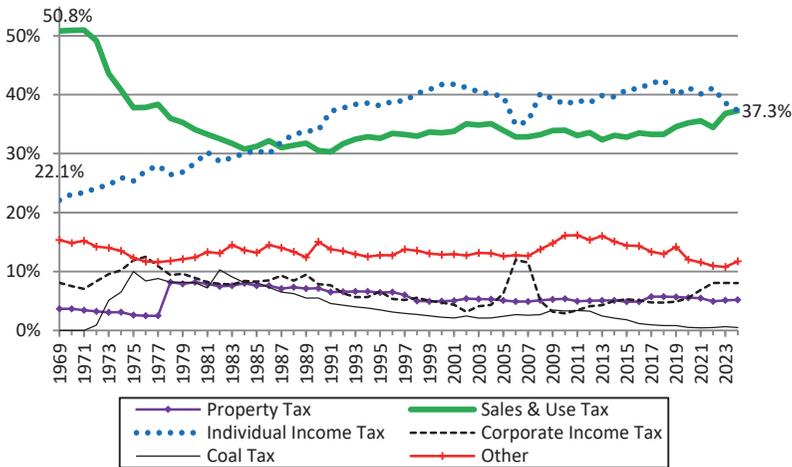


Source: National Association of State Budget Officers (NASBO), 2024 State Expenditure Report, FY 2022-2024

GENERAL FUND RECEIPTS BY SOURCE

Two sources of revenue—the individual income tax and the sales and use tax—account for 74.6 percent of Kentucky general fund revenue (FY2024). This figure illustrates how Kentucky’s revenue system has fundamentally changed since 1969. Fifty-six years ago, the sales and use tax comprised about 51 percent of Kentucky’s general fund receipts, while income tax collections accounted for around 22 percent. However, by the mid-1980s, the income tax accounted for more general fund revenue than the sales and use tax. Now, however, each accounts for 37.3 percent. The changing distribution of tax receipts reflects fundamental changes in the economy—the gradual shift away from making products and toward providing services. Most states, including Kentucky, tend to apply a *broad-based* sales tax to goods but not services. Consequently, the state’s tax base has gradually become more narrow and lost some elasticity—a measure of whether revenue is keeping pace with the economy. Over the last few years Kentucky has made a policy decision to move away from a state income tax. During the 2022 Session of the General Assembly, House Bill 8 was passed, which is designed to eliminate the state income tax by 2032. Currently the state’s top income tax rate is 4 percent, with an expected cut to 3.5 percent in 2026. These changes will likely place more emphasis on other sources of revenue.

Kentucky's General Fund Receipts by Major Sources, Fiscal Year 1969 to Fiscal Year 2024
(percentage of general fund receipts)

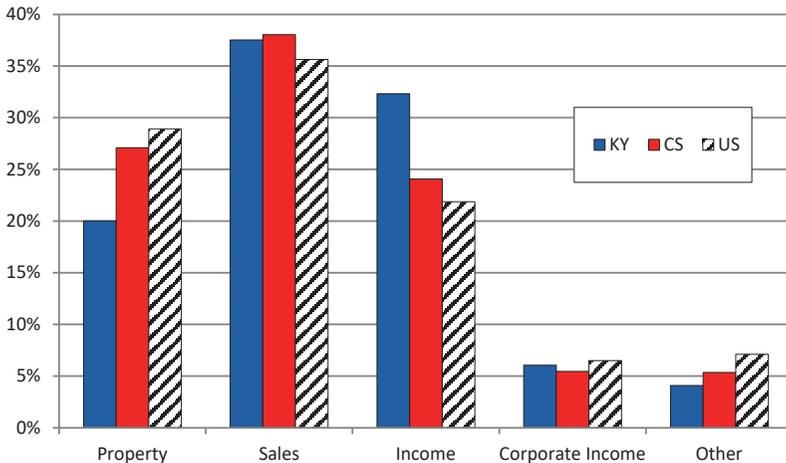


Source: Authors' calculations based on data from the Kentucky Finance and Administration Cabinet, the Kentucky Revenue Cabinet, and the Office of the State Budget Director.

STATE AND LOCAL TAX REVENUE BY SOURCE

This figure shows the percentage of revenue collected by each reported tax source for Kentucky and a weighted-average of its competitor states and the U.S. (i.e., the average of all states and DC). Kentucky is significantly less reliant on property taxes than its competitors (and the U.S.), who raise a much larger share of local tax revenue from the property tax, and particularly those states to the north of Kentucky. Kentucky has no general sales tax option for any local governments, something a number of its competitor states (and 38 states in the U.S.) allow. Unlike many of its competitors, Kentucky allows local individual income (occupation license) taxation. According to the Tax Foundation in a 2023 report, “Although the majority of U.S. cities and counties do not impose a local income tax, they are imposed by 5,055 jurisdictions (encompassing counties, cities, school districts, and special taxing districts) in 16 states.” Not surprisingly, then, Kentucky collects a larger share of combined state and local tax revenues from income taxation.

State and Local Tax Revenue by Source, 2023
Kentucky, Competitor States, and the U.S.
 (percent of total tax revenue)

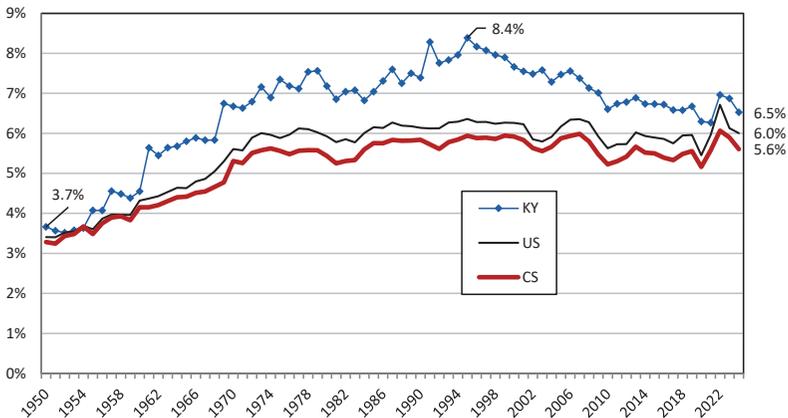


Source: U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances

TAX COLLECTIONS AND PERSONAL INCOME

Kentucky is a more centralized state with regard to revenue collection, with the relative balance tilted toward state government revenue collection instead of local government revenue collection. For example, in 2023, Kentucky’s state-level own-source revenue constituted 71 percent of total state and local own-source revenue, ranking Kentucky 9th highest among the states. This state-level percentage of 71 percent is much higher than both the national (60%) and competitor state (59%) averages. The higher reliance upon state government for revenue collection in Kentucky, compared to most other states, is reflected in the chart below with a consistently higher percentage of state-level tax collections as a percentage of personal income. Moreover, Kentucky’s recurring revenue problems are due, in part, to the long-term decline in revenue elasticity. There are several economic, demographic, and political factors contributing to the gradual reduction in elasticity. Regardless of how we assess the adequacy of the revenue structure, Kentucky’s main revenue sources are growing slower than its economy. This point is illustrated by examining Kentucky’s total tax collections as a percentage of personal income, which declined from its peak of 8.4 percent in 1995 to 6.5 percent in 2024.

Total State-Level Tax Collections as a % of Total Personal Income, Kentucky, Competitor States, and the U.S., 1950 to 2024

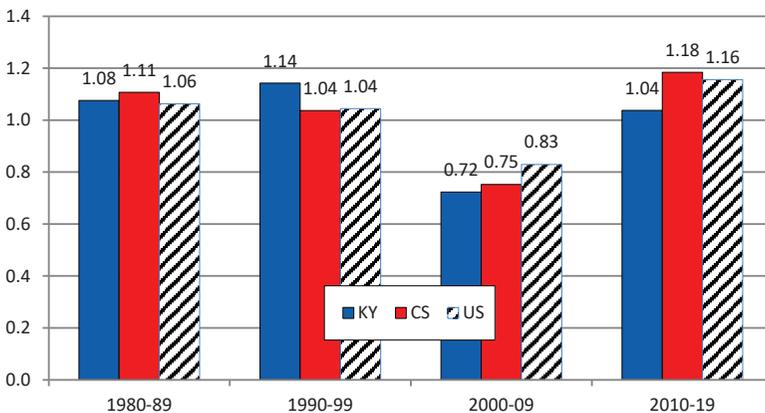


Source: Author’s calculations based on data from the U.S. Department of Commerce, Bureau of Economic Analysis (Table SAINC4), and U.S. Census Bureau, State Government Tax Collections, various years

GROWTH RATES, TAXES AND INCOME

Kentucky’s revenue growth kept pace with the economy from 2010 to 2019—the last year before the COVID-19 pandemic and its attendant aftereffects altered the course of personal incomes and state tax collections—thus making it difficult to compare trends from 2020 onward to earlier years. Federal stimulus packages, the growth of remote work, and shifting shopping routines had huge effects on personal income and tax collections. Revenue growth rates are affected by both changes in the revenue base and tax rates. The revenue systems in most states failed to keep pace with overall economic growth during the decade from 2000 to 2009 due to one or both of these factors. The Great Recession had a significant impact on both taxes and income during this period. Using the ratio between the compound annual growth rates (CAGR) of revenue and personal income, we compare Kentucky to the competitor states and the U.S. during four time periods. A ratio of 1.0 indicates that the revenue is growing at the same rate as the economy—a desirable outcome. In Kentucky, as well as in many of the competitor states, the growth in total tax revenue slowed relative to the economy in the 2000s. However, since 2010 the ratios have increased to around 1.18 and 1.16 among the competitor states and in the U.S., respectively; in Kentucky, the ratio is close behind at 1.04.

Ratio Between Compound Annual Growth Rates of Total Taxes and Personal Income, Various Periods, Kentucky, Competitor States, and the U.S.

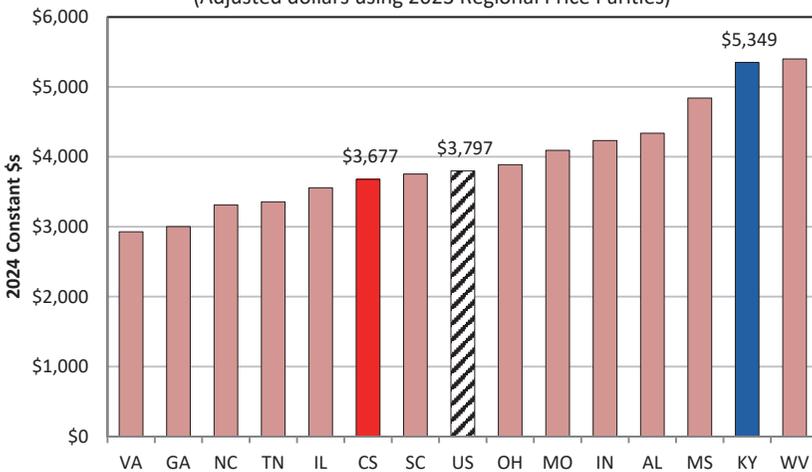


Source: U.S. Census Bureau, Bureau of Economic Analysis & State Government Tax Collections
 Note: Total taxes are not adjusted for sales tax increases. Adjustments will produce slightly different results.

REVENUE FROM FEDERAL TRANSFERS

Kentucky receives a significant amount of its total revenue from federal intergovernmental transfers. In 2023, this amounted to 34.9 percent of Kentucky’s total revenue. The competitor state average was about 26.2 percent and the U.S. average was about 25.5 percent. Traditionally, these transfers are mainly for health care (Medicaid), education, transportation, and public safety. On per capita basis, Kentucky received about \$5,349 in revenue from federal transfers, compared to around \$3,677 and \$3,797 for the competitor states and U.S., respectively. Wyoming had the highest amount at \$8,012 and New Hampshire the lowest at \$2,599. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.

State and Local Revenue From Federal Transfers, Per Capita, 2023, Kentucky, Competitor States, & the U.S.
 (Adjusted dollars using 2023 Regional Price Parities)

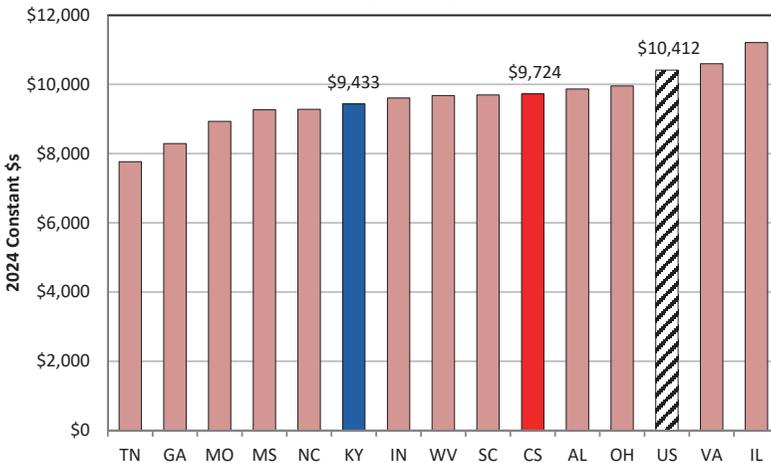


Source: U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances

STATE AND LOCAL OWN SOURCE REVENUE

Since states differ in the relative distribution of tax burdens between state and local governments, any comparison of revenue burdens among states requires a consideration of combined state and local revenue burdens. Here we report state and local own revenue burdens for Kentucky and its competitor states in 2023. On a per capita basis, Kentucky’s per capita own-source state and local revenue was \$9,433 in 2023 (in constant 2024 dollars), lower than the competitor state average of \$9,724 as well as the U.S. average of \$10,412. New Mexico had the highest amount at \$17,955 and Arizona the lowest at \$7,012. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.

**State and Local Own Source Revenue, Per Capita, 2023,
Kentucky, Competitor States, and the U.S.**
(Adjusted dollars using 2023 Regional Price Parities)



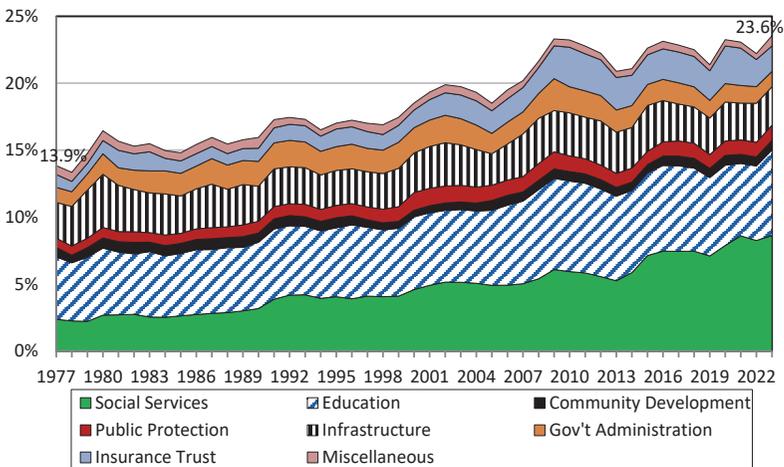
Source: U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances

STATE AND LOCAL EXPENDITURES, KENTUCKY

Total state and local government expenditures as a percentage of Kentucky’s gross domestic product (GDP) have increased significantly over the last 46 years, from 13.9 to 23.6 percent. The spending categories shown below are: *Social Services*, which includes public welfare, public assistance, and Medicaid; *Education*, which includes elementary and secondary education and higher education; *Community Development*, which includes libraries, natural resources, parks and recreation, and housing and community development; *Public Protection*, which includes police, fire, corrections, as well as protective inspection and regulation; *Infrastructure*, which includes highways, water, sewers, utilities, and solid waste. The remaining categories include *Government Administration* (which includes interest paid on debt), *Insurance Trust* (e.g., workers’ compensation, unemployment, retirement), and miscellaneous expenditures. The overall percentage increase is driven primarily by growth in social services, which more than tripled in its share of GDP, from 2.4 to 8.6 percent. The insurance trust category doubled, from 1 to 1.9 percent of GDP. Public protection increased by a factor of 1.6 (0.7% to 1.1%), education rose by a factor of 1.4 (4.7% to 6.4%), and the remaining categories experienced smaller increases.

**Kentucky State & Local Government Expenditures,
by Major Category, 1977 to 2023**

(as a percentage of state gross domestic product)

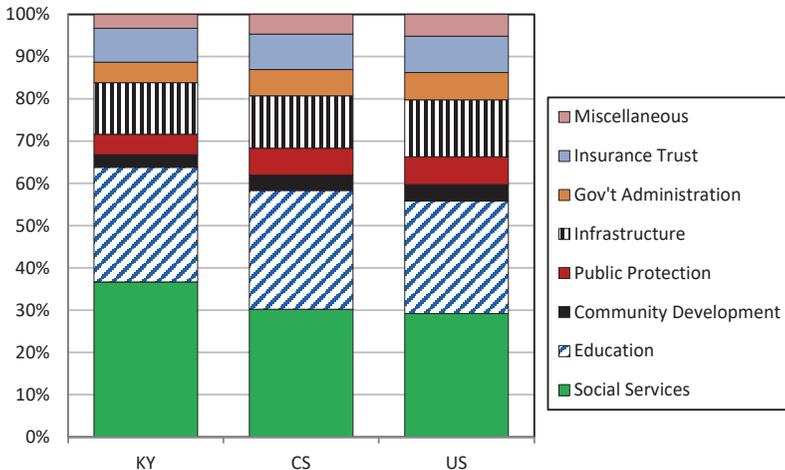


Source: U.S. Census Bureau, Annual Surveys of State and Local Government Finances, various years

STATE AND LOCAL EXPENDITURES

For Kentucky, the competitor states, and the U.S., five categories—Social Services, Education, Community Development, Public Protection, and Infrastructure—account for around 80 to 84 percent of state and local government expenditures (2023). As a percentage of total state and local government expenditures, Kentucky spends about the same on education and infrastructure, more on social services, and less on public protection and community development compared to the U.S. overall. Kentucky’s expenditures on government administration are lower than the U.S. overall, and higher in the insurance trust category—which includes worker’s compensation, unemployment, and retirement. However, as the figures on the following pages show, when comparing per capita expenditures, a slightly different picture emerges. On a per capita basis, Kentucky expenditures are generally lower than the U.S. for every category except social services, where they have been about the same, but exceeded the U.S. since 2015.

**Distribution of Selected State and Local Expenditures,
2023, Kentucky, Competitor States, and the U.S.**
(percent of total state and local expenditures)

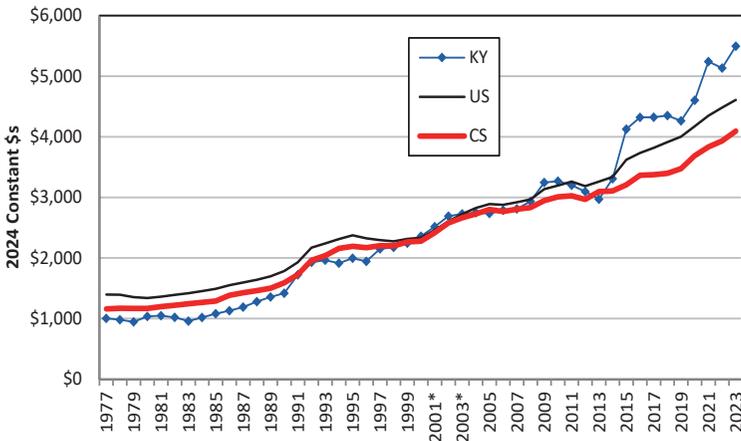


Source: U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances

SOCIAL SERVICES EXPENDITURES

We combine five categories—public welfare, hospitals, health, social insurance, and veteran’s services—into a single category called social services; this covers expenditures associated with three Federal programs—Supplemental Security Income (SSI), Temporary Assistance for Needy Families (TANF), and Medicaid. State and local expenditures for social services increased steadily on a per capita basis (in constant 2024 dollars) from 1977 to 2023 in Kentucky, among the competitor states, and in the U.S. overall. Kentucky’s large increase in 2014 reflects the effect of Medicaid expansion under the Affordable Care Act of 2010. The Act’s Medicaid expansion provision became optional for states with a U.S. Supreme Court ruling in 2012. In 2014, the state formerly expanded Medicaid to include more people. When viewed over this 47-year period, Kentucky has a higher percentage increase (448%) in social service expenditures than the competitor states (253%) or the U.S. (230%). Also, Kentucky expended more of its cumulative gross domestic product on social services during this time period (5.7%) than either the competitor states (4.4%) or the U.S. (4.4%). Kentucky’s lower-than-average educational attainment rate and higher-than-average poverty rate are important factors driving the higher-than-average social service expenditure growth over the last several decades.

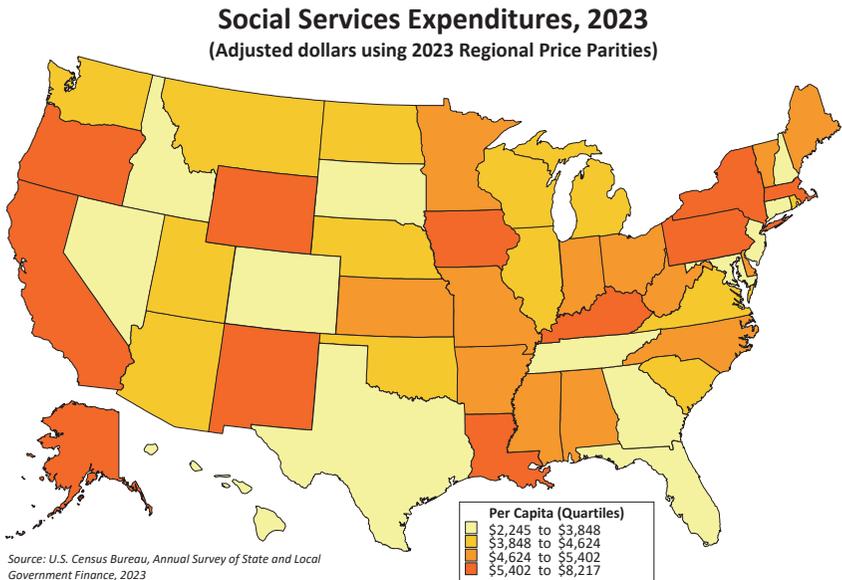
State and Local Social Services Expenditures,
Per Capita, 1977-2023,
Kentucky, Competitor States, and the U.S.



Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
Note: KY and CS data for 2001 and 2003 are interpolated.

SOCIAL SERVICES EXPENDITURES IN THE U.S.

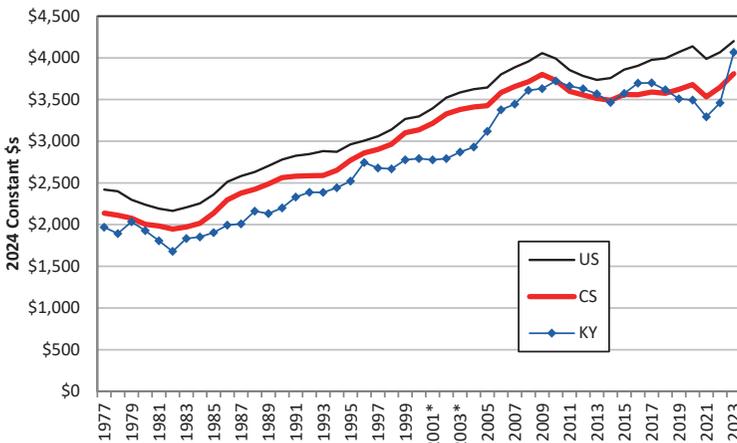
Kentucky exhibits high per capita social services expenditures. With per capita spending of \$6,075, Kentucky’s state and local expenditures for social services in 2023 are in the fourth or top quartile. New Mexico is the highest state at \$8,216 and Connecticut is the lowest at \$2,245. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.



EDUCATION EXPENDITURES

Education expenditures include elementary and secondary education, higher education, and other education such as adult, technical, or vocational education equal to or less than two years of college. State and local expenditures for education steadily increased on a per capita basis (in constant 2024 dollars) from the early 1980s until the Great Recession. Since then however, with the exception of the last few years, Kentucky’s expenditures were essentially flat years. When viewed over the 47-year period from 1977 to 2023, Kentucky has a higher percentage increase (107%) than the competitor states (78%) or the U.S. overall (74%). Also, Kentucky has expended more of its cumulative gross domestic product on education during this time period (5.8%) than either the competitor states (5.2%) or the U.S. (5.1%). These investments, along with some important reforms, enabled Kentucky to improve its educational standing relative to other states. Research shows that investments in human capital—education—are vital for a state’s economic success. The “availability of skilled labor” ranks as the fifth most important factor for corporate respondents to the *2025 Annual Survey of Corporate Executive and Consultants on Site Selection*, with 89.6 percent ranking it as either “important” or “very important.” Moreover, our research on the returns to state investments in postsecondary education shows large positive impacts.

State and Local Education Expenditures, Per Capita, 1977-2023, Kentucky, Competitor States, and the U.S.

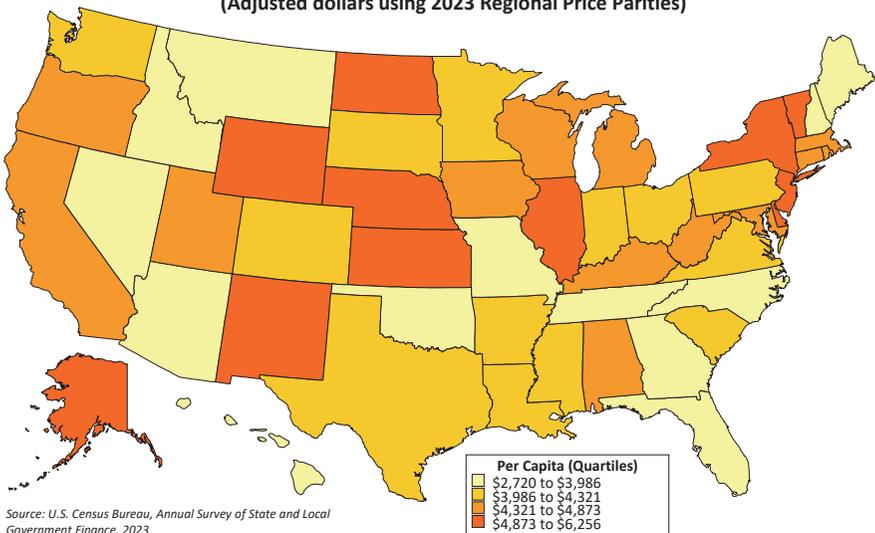


Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
 Note: KY and CS data for 2001 and 2003 are interpolated.

EDUCATION EXPENDITURES IN THE U.S.

One way to reasonably assess a state’s position relative to other states is by ranking the states and placing them into four more or less equal groups, or quartiles. Kentucky’s per capita state and local expenditures for education in 2023 are in the third quartile of states. Vermont is the highest at \$6,255 and Florida is the lowest at \$2,720. Kentucky’s per capita spending is \$4,495. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis. The relationship between educational spending and student outcomes has been extensively studied. Higher spending can lead to better academic achievement, but it is a complex relationship affected by many factors, including where funds are expended. A September 2025 Brookings report, *A state-level perspective on school spending and educational outcomes*, makes three key points: “school spending in some states is more than twice that in others, yet average per-pupil spending is only weakly related to test scores and graduation rates; economically disadvantaged students in higher-spending states don’t achieve better outcomes compared to their counterparts in lower-spending states; and to improve outcomes, policymakers need to identify and address constraints that prevent efficient resource allocation.”

Education Expenditures, 2023
(Adjusted dollars using 2023 Regional Price Parities)

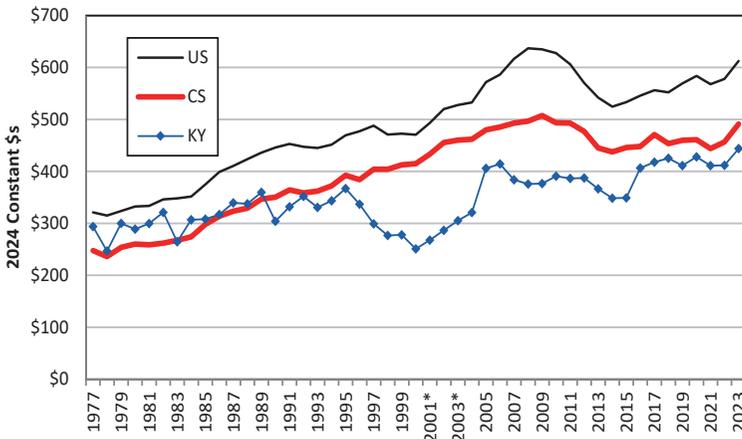


Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance, 2023

COMMUNITY DEVELOPMENT EXPENDITURES

We combine four broad areas—libraries, natural resources, parks & recreation, and housing & community development—into a single category called community development. State and local expenditures for community development in Kentucky increased on a per capita basis (in constant 2024 dollars) from 1977 to 2023, but have been consistently lower than the competitor states and the U.S. overall for the last three decades. When viewed over the 47-year period from 1977 to 2023, Kentucky has a substantially lower percentage increase (51%) than the competitor states (98%) or the U.S. overall (91%). Kentucky has expended slightly less of its cumulative gross domestic product on community development during this time period (0.7%) than the U.S. (0.8%), but about the same as the competitor states (0.7%). Quality of life factors, which can include social amenities like libraries, parks, and natural open spaces, rank relatively high with respect to their importance for corporate respondents to the *2025 Annual Survey of Corporate Executive and Consultants on Site Selection*, evidenced by 90.2 percent ranking it as either “important” or “very important.” It is ranked second overall, only behind labor costs (92%), in an assessment of thirty different site selection factors.

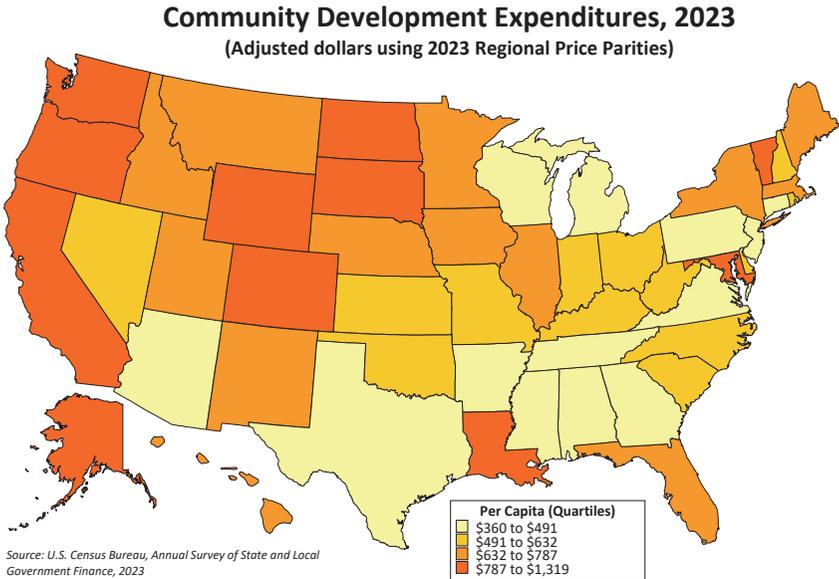
State and Local Community Development Expenditures, Per Capita, 1977-2023, Kentucky, Competitor States, and the U.S.



Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
 Note: KY and CS data for 2001 and 2003 are interpolated.

COMMUNITY DEVELOPMENT EXPENDITURES IN THE U.S.

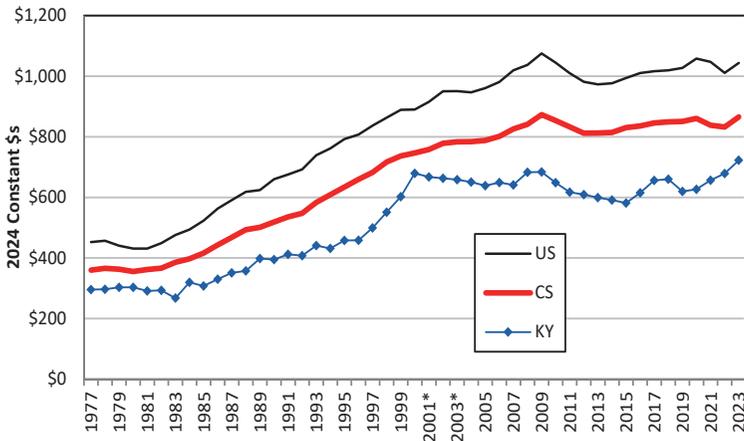
Here we see a wide range of values in community development expenditures. With per capita spending of \$491, Kentucky's state and local expenditures for community development in 2023 are in the second quartile. Alaska is the highest state at \$1,318 and New Jersey is the lowest at \$360. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.



PUBLIC PROTECTION EXPENDITURES

We combine four categories—police protection, fire protection, corrections (e.g., prisons and jails), and protective inspection (e.g., building & construction inspections and licensing)—into a single category called public protection. Kentucky’s state and local expenditures for public protection increased steadily on a per capita basis (in constant 2024 dollars) from 1977 to 2003, but have remained more or less unchanged for the last few decades. In contrast, public protection expenditures by the competitor states and the U.S. overall increased steadily until the Great Recession era in 2009, and then flattened. When viewed over this 47-year time span, Kentucky (144%) has increased at about the same rate as the competitor states (140%) and the U.S. overall (131%). Kentucky expended a slightly lower percentage of its cumulative gross domestic product on public protection during this time period (1.1%) compared to the competitor states (1.2%) and the U.S. (1.3%).

State and Local Public Protection Expenditures,
Per Capita, 1977-2023,
Kentucky, Competitor States, and the U.S.

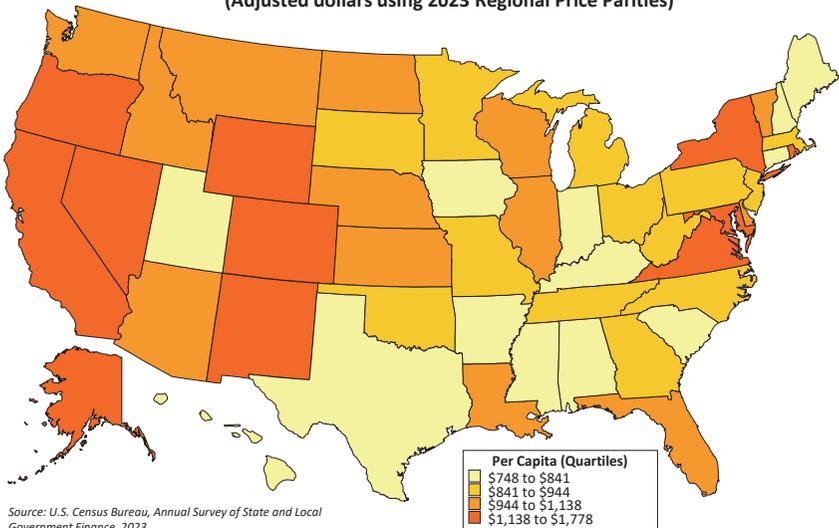


Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
Note: KY and CS data for 2001 and 2003 are interpolated.

PUBLIC PROTECTION EXPENDITURES IN THE U.S.

Perhaps due to the relatively low crime rates in Kentucky—both property and violent crime—per capita public protection expenditures are relatively low here. See the Community section for more information on the state’s crime rate. With per capita spending of \$799, Kentucky’s state and local expenditures for public protection in 2023 are in the first or lowest quartile. In fact, Kentucky has one of the lowest per capital expenditure value of any state and was the lowest in 2020. Iowa is the lowest with \$748, and Alaska is the highest state at \$1,777. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.

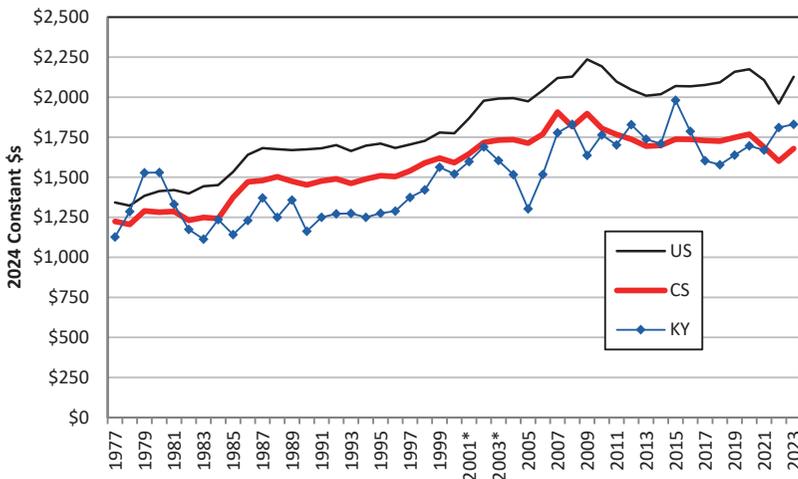
Public Protection Expenditures, 2023
(Adjusted dollars using 2023 Regional Price Parities)



INFRASTRUCTURE EXPENDITURES

We combine several expenditure categories into a single catchall to estimate infrastructure expenditures; this includes highways, air transportation, sea & inland ports, parking facilities, sewerage, solid waste management, and utilities like water supply, electric power, gas supply & transit. State and local expenditures for infrastructure have steadily increased on a per capita basis (in constant 2024 dollars). When viewed over the 47-year period from 1977 to 2023, Kentucky has a larger increase (62%) than the competitor states (37%), but is about the same as the U.S. overall (58%). Kentucky has expended slightly more of its cumulative gross domestic product on infrastructure (2.9%) than the competitor states (2.6%) or the U.S. (2.8%). Numerous infrastructure factors are ranked in the 2025 *Annual Survey of Corporate Executive and Consultants on Site Selection*, led by “ICT, Broadband,” which is listed as the seventh most important site selection factor with nearly 88 percent of corporate respondents indicating it is either “important” or “very important.” A more traditional infrastructure consideration, “highway accessibility,” is ranked eleventh, garnering 80 percentage points on the ranking of importance.

State and Local Infrastructure Expenditures, Per Capita, 1977-2023, Kentucky, Competitor States, and the U.S.

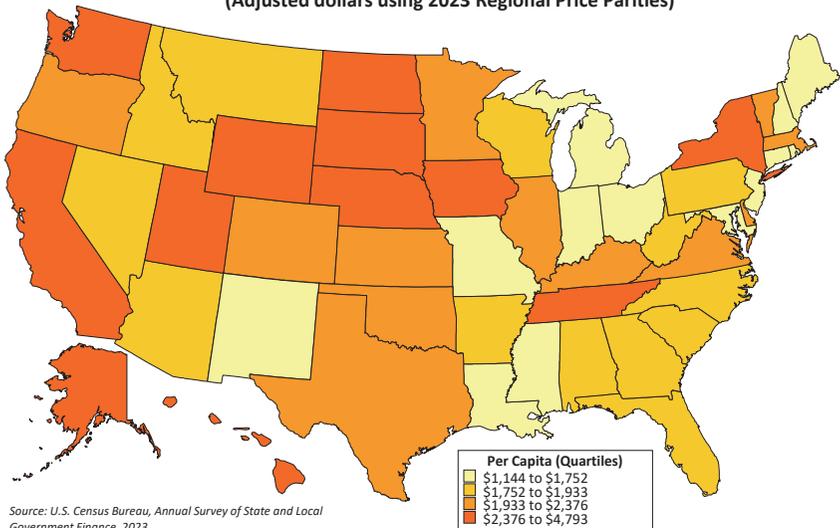


Source: U.S. Census Bureau, *Annual Survey of State and Local Government Finance*
 Note: KY and CS data for 2001 and 2003 are interpolated.

INFRASTRUCTURE EXPENDITURES IN THE U.S.

With per capita spending of \$2,024, Kentucky’s state and local expenditures for infrastructure in 2023 are in the third quartile. Nebraska is the highest state at \$4,792 and New Hampshire is the lowest at \$1,144. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis. In November of 2021, President Biden signed a \$1 trillion infrastructure bill into law that funneled billions to states and local governments to upgrade and construct roads, bridges, transit systems, and broadband networks.

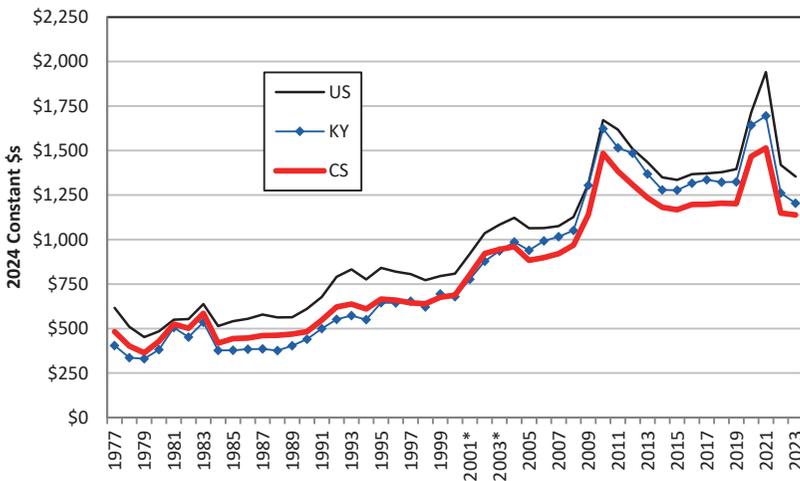
Infrastructure Expenditures, 2023
(Adjusted dollars using 2023 Regional Price Parities)



INSURANCE TRUST EXPENDITURES

We combine several expenditure categories into a single grouping to estimate insurance trust expenditures; this includes workers’ compensation, unemployment, retirement, and miscellaneous expenditures. In 2021, two of these categories constituted nearly all of Kentucky’s \$6.6 billion insurance trust expenditures: retirement (71%) and unemployment (27%). Obviously, the pandemic drove unemployment expenditures upward. By 2022, the state’s insurance trust expenditures declined to \$5.3 billion and unemployment constituted only 6.4 percent of the total. Nonetheless, state and local expenditures in the insurance trust grouping have steadily increased on a per capita basis (in constant 2024 dollars), but have decreased from the pandemic high points and are now back to pre-pandemic levels. When viewed over the 47-year period from 1977 to 2023, Kentucky has a higher percentage increase (198%) than the competitor states (136%) or the U.S. (120%). Kentucky has expended slightly more of its cumulative gross domestic product on insurance trust (1.9%) than the competitor states (1.6%) or the U.S. (1.7%).

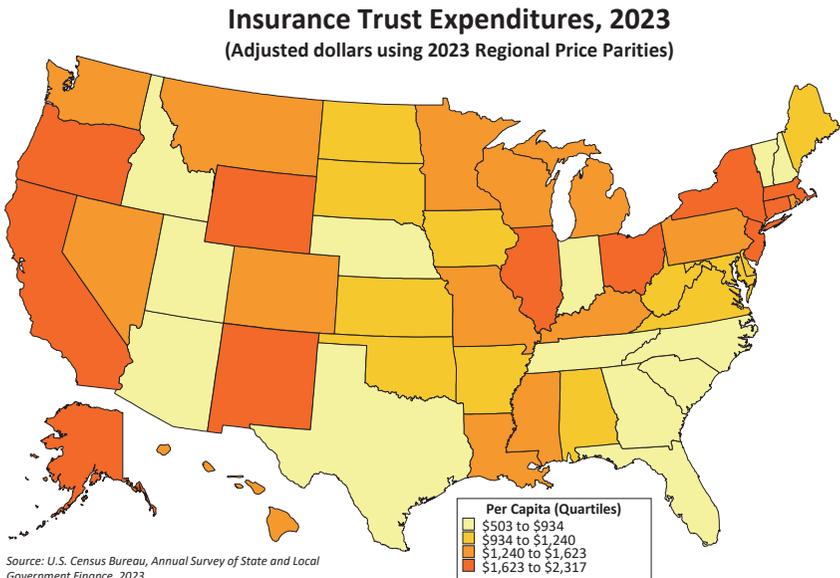
State and Local Insurance Trust Expenditures, Per Capita, 1977-2023, Kentucky, Competitor States, and the U.S.



Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
 Note: KY and CS data for 2001 and 2003 are interpolated.

INSURANCE TRUST EXPENDITURES IN THE U.S.

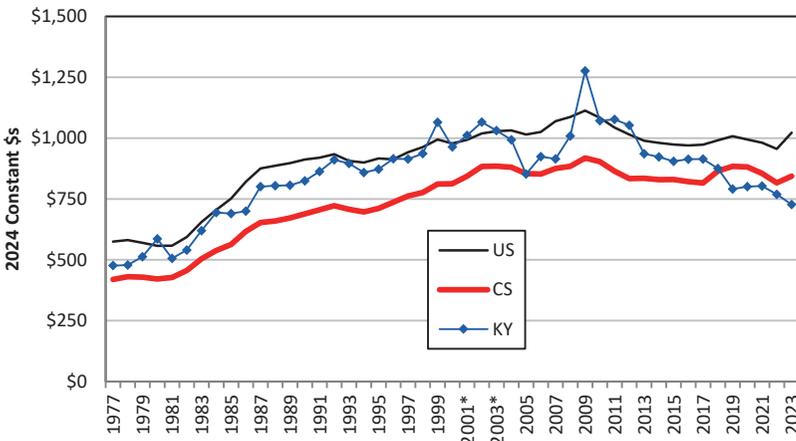
With per capita spending of \$1,331, Kentucky's state and local expenditures for insurance trust in 2023 are in the third quartile. Alaska is the highest state at \$2,316 and Indiana is the lowest at \$503. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.



GOVERNMENT ADMINISTRATION EXPENDITURES

A variety of expenditure categories are included in governmental administration: *financial administration* (i.e., officials and central staff agencies concerned with tax assessment and collection, accounting, auditing, budgeting, purchasing, custody of funds, and other finance activities); *judicial and legal* (i.e., courts, both criminal and civil, and activities associated with courts, legal services, and legal counseling of indigent or other needy persons); *general public buildings* (i.e., construction, equipping, maintenance, and operation of general public buildings not related to specific functions or agencies); *interest on general debt* (i.e., amounts paid for use of borrowed monies, except those on utility debt, paid by all funds of the government); and *other governmental administration*. In 2022, interest on the general debt was the largest portion of Kentucky’s governmental administration expenditures, constituting 31.3 percent of the \$3.2 billion total. State and local governmental administration expenditures have steadily increased on a per capita basis (in constant 2024 dollars). When viewed over the 47-year period from 1977 to 2023, Kentucky has a lower percentage increase (53%) than the competitor states (101%) or the U.S. (78%). However, Kentucky has expended more of its cumulative gross domestic product on government administration (1.7%) than the competitor states (1.3%) or the U.S. (1.4%).

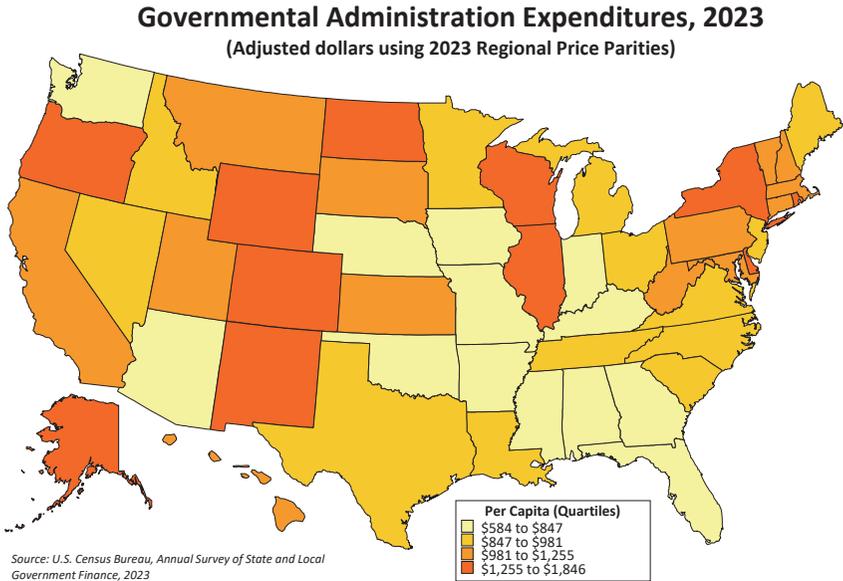
State and Local Government Administration Expenditures, Per Capita, 1977-2023, Kentucky, Competitor States, and the U.S.



Source: U.S. Census Bureau, Annual Survey of State and Local Government Finance
 Note: KY and CS data for 2001 and 2003 are interpolated.

GOVERNMENT ADMINISTRATION EXPENDITURES IN THE U.S.

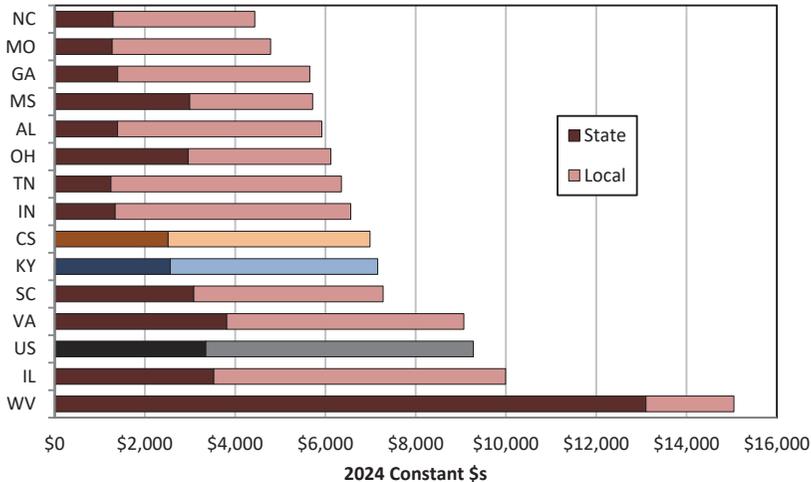
With per capita spending of \$804, Kentucky’s state and local expenditures for insurance trust in 2023 are in the first or lowest quartile. New York is the highest state at \$1,845, and Arizona is the lowest at \$584. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.



DEBT

State and local government debt is defined as “all interest-bearing short-term credit obligations and all long-term obligations incurred in the name of the government and all its dependent agencies, whether used for public or private purposes.” Governments issue bonds and incur debt for big-ticket items like roads or large construction projects. Nationally, state and local governments had over \$3.3 trillion in outstanding debt in 2023, with about 64 percent at the local government level and 36 percent at the state government level. The figure shows combined state and local debt per capita, with Kentucky (\$7,158) similar to the competitor states. Nearly 36 percent of Kentucky’s debt is held by state government. The U.S. per capita debt for state and local governments is \$9,277. These dollars have been adjusted to reflect state-level cost-of-living differences using regional price parity estimates from the U.S. Bureau of Economic Analysis.

Debt Outstanding, Per Capita, 2023
Kentucky, Competitor States, and the U.S.
 (state and local debt, by total, RPP adjusted \$s)

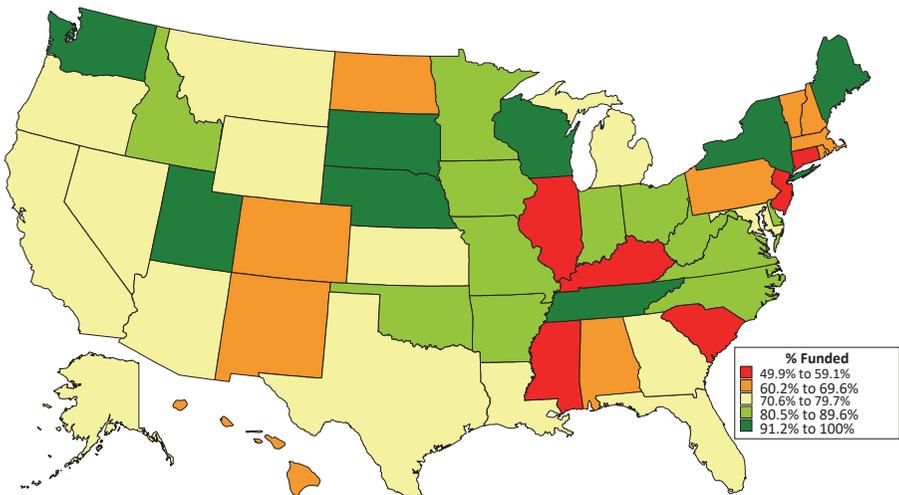


Source: U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances

PUBLIC PENSION FUNDING GAPS

Despite a renewed commitment from state government to provide badly needed funding, Kentucky’s public pension programs are in dire financial shape, evidenced by an estimated unfunded liability that remains in the billions of dollars. By multiple measures, Kentucky’s public pension system ranks as one of the most financially troubled among the 50 states. There are eight public pension programs: County Employees’ Retirement System (Hazardous & Non-Hazardous); Kentucky Employees’ Retirement System (Hazardous & Non-Hazardous); State Police Retirement System; Judicial Retirement Fund; Legislators’ Retirement Fund; and the Teachers’ Retirement System. In 2023, these pension funds were funded at approximately half the amount needed to be fully funded—one of the lowest funded ratios in the country. The map below, which is produced from the Public Plans Data (PPD) from the Center for Retirement Research at Boston College in partnership with the MissionSquare Research Institute and the National Association of State Retirement Administrators, shows Kentucky’s position relative to other states, and it is not good. The state’s ability to improve the finances supporting these public pension programs is tightly linked to the state’s overall financial health, as discussed on the preceding pages.

State & Local Public Pension Funded Ratios, FY2023



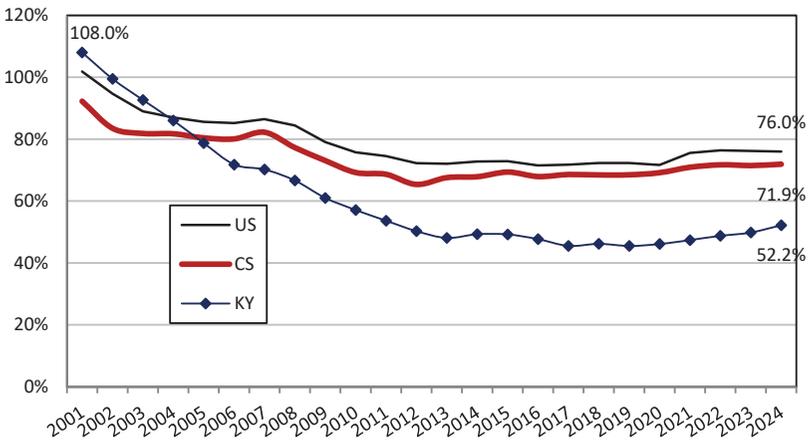
Source: Estimated by the author using Public Plans Data, 2001-2024. Center for Retirement Research at Boston College, MissionSquare Research Institute, National Association of State Retirement Administrators, and Government Finance Officers Association. Data downloaded on 8/26/25.

PENSION FUNDED RATIO

The funded ratios of major public sector pension plans have decreased over the last two decades. The chart below reflects the funded ratios for 252 public pension plans administered by state and local governments from 2001 to 2024. These plans cover 95 percent of public pension membership and assets nationwide. Kentucky’s funded ratio dropped precipitously from over 100 percent in 2001 to 52.2 percent in 2024, a steeper decline than the competitor states or the U.S. as a whole experienced. This ratio reflects traditional GASB 25 standards and is equal to actuarial assets divided by actuarial liabilities. The Center for Retirement Research at Boston College, which produces this database, includes three Kentucky state pension plans and one local public pension plan: the County Employees Retirement System (CERS); the Kentucky Employees Retirement System (KERS); the Teachers’ Retirement System of Kentucky (TRS); and the Lexington-Fayette County Policemen’s and Firefighters’ Retirement Fund. In 2024, the assets for these four plans equaled about \$44.3 billion while liabilities equaled around \$84.8 billion. The unfunded actuarial accrued liability (UAAL) equaled \$40.5 billion. Kentucky’s funded ratio consistently places it among the lowest states. Improving the funded ratio will require substantial future financial commitments to the state’s public pension systems.

Funded Ratio of Major Public Sector Pension Plans, 2001 to 2024

(actuarial assets divided by actuarial liability)

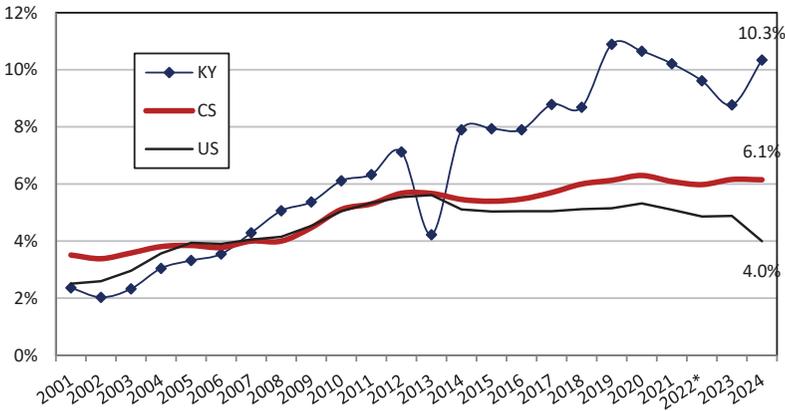


Source: Estimated by the author using Public Plans Data, 2001-2023. Center for Retirement Research at Boston College, MissionSquare Research Institute, National Association of State Retirement Administrators, and Government Finance Officers Association. Data downloaded on August 26, 2025.

PENSION FUNDING

Improving the funded ratio of Kentucky’s major public sector pension plans will likely require difficult decisions on spending priorities within the state budget. Kentucky’s required annual contribution to its public pension programs is equal to over 10 percent of state and local general revenue from own sources, one of the highest percentages in the nation. If the portion of state and local revenue going to pension funding continues to grow, it will either claim a larger portion of the budget and/or create pressure for increasing revenue to fund vital state programs and services. By comparison, the U.S. and competitor state averages are around 4 percent and 6 percent, respectively, as illustrated in the figure below.

Annual Required Contribution to Major Public Sector Pension Plans as a Percentage of State & Local General Revenue from Own Sources, 2001 to 2024



Source: Estimated by the author using Public Plans Data, 2001-2024. Center for Retirement Research at Boston College, MissionSquare Research Institute, National Association of State Retirement Administrators, and Government Finance Officers Association. Data downloaded on August 26, 2025.

*2024 General Revenue from Own Sources forecasted from 2001 to 2023 values.

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Air Quality (part 2)—See the endnote above for detailed information on the source. Notes about specific pollutants: CO—Based upon annual statewide averages of all valid second highest daily maximum 1-hour concentrations [3 sites used for 2023 average (ppm)]; PM_{2.5}—Based upon annual statewide averages of all valid 98th percentile 24-hour concentrations [17 sites used for 2023 average (µg/m³)]; and PM₁₀—Based upon annual statewide averages of all valid first maximum 24-hour concentrations [5 sites used for 2023 average (µg/m³)].

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year. The amount should equal the sum of all household members' individual incomes, as recorded in the person-record variable INCTOT. The persons included were those present in the household at the time of the census or survey. People who lived in the household during the previous year but who were no longer present at census time are not included, and members who did not live in the household during the previous year but who had joined the household by the time of the census or survey, are included.

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Energy Consumption per GDP—U.S. Energy Information Administration and U.S. Department of Commerce, Bureau of Economic Analysis.

Energy Efficiency—U.S. Energy Information Administration.

Energy Introduction—SEI, Climate Analytics, E3G, IISD, and UNEP. (2023). *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises*. Stockholm Environment Institute, Climate Analytics, E3G, International Institute for Sustainable Development and United Nations Environment Programme. <https://doi.org/10.51414/sei2023.050>. Also see Hiroko Tabuchi, “Nations That Vowed to Halt Warming Are Expanding Fossil Fuels, Report Finds,” *New York Times*, November 8, 2023.

Entrepreneurial Depth—U.S. Department of Commerce, Bureau of Economic Analysis, SA4 Personal Income and Employment by Major Component and SA30 Economic Profile.

Environmental Disparities—United States, Environmental Protection Agency, Safe Drinking Water Information System data, various years. These estimates are generated

by the author using a method employed by the Natural Resources Defense Council and described in a May 2017 report, *Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections* <<https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure>>. Our assessment of the county-level minority population is derived from U.S. Census data. We define minority as someone other than white alone (not Hispanic or Latino). The total population is from ACS 5-Year 2023, Table DP05, and the white alone (not Hispanic or Latino) population is from ACS 5-Year 2023, Table B01001H. Subtracting this total from the total gives us the minority population.

Excellence Gap Schools—Unless otherwise noted, these school met two conditions: the entire school performed above expectations for the subject tested (i.e., a positive residual at was at least 2.0 studentized residuals) and the gap between male-female or economically disadvantaged-advantaged was relatively small (i.e., in the single digits). Of the 32 schools, 27 met both criteria. For the other 5, we included them despite the residual not exceeding 2.0 for purposes of geographic, subject, or grade level diversity.

Exemplar School Districts—*Kentucky School Districts as Educational Bright Spots*, Center for Business and Economic Research, <<http://cber.uky.edu/brightspots>>.

Exports—U.S. Department of Commerce, International Trade Administration, <<https://www.trade.gov/report/tradestats-express-national-and-state-trade-data>>.

Family Income by Education—Estimated by the author using data courtesy Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [ACS 1-year 2021 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>. To estimate the effect of education on family income, we used a multiple regression model that utilized mostly dummy variables on family income (FTOTINC). The independent variables include: AGE, MARRIED, GENDER, WHTNONHISP, BLKNONHISP, HISPANIC, NOHS_D, HS_D, SC_D, AA_D, BACH_D, GRAD_D, [location of residence variables MIXED, NOTMETRO, METROCITY, METRONOTCITY, and METROMIXED], and YEAR. The omitted variables are less than high school education, and metropolitan status indeterminable (MIXED). We limited the analysis to PERNUM=1 and individuals from 18 to 64 years old.

Family Income by Ethnicity—Using the same data and model described in FAMILY INCOME BY EDUCATION (see above), except focusing on the independent effect of HISPANIC.

Family Income by Race—Using the same data and model described in FAMILY INCOME BY EDUCATION (see above), except focusing on the independent effect of WHITEONLY.

Farm Commodities—United States Department of Agriculture, Economic Research Service, U.S. and State Farm Income and Wealth Statistics <www.ers.usda.gov/data-products/farm-income-and-wealth-statistics.aspx>.

Farm Employment—U.S. Department of Commerce, Bureau of Economic Analysis, SA25N Total full-time and part-time employment by NAICS industry.

Farms—These data come from various sources, including the Kentucky Department of Agriculture’s annual report, *Kentucky Agricultural Statistics* and the United States Department of Agriculture, *Farms and Land in Farms*, various years. There are differing estimates on the number of farms in Kentucky depending on the data source. The USDA 2022 Census of Agriculture, which is conducted every five years, reports that Kentucky had 75,966 farms in 2017 and 69,425 in 2022.

Farms, Indexed—Data on farms and acres farmed are from the U.S. Department of Agriculture (USDA), <https://www.nass.usda.gov/Statistics_by_State/Kentucky/index.php>. National data going back 1850 is available online from the USDA <<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/farming-and-farm-income>>. The imported fruit and vegetable statistics cited in the text is from the USDA, Charts of Note, U.S. fresh fruit and vegetable supplies continue to rely on imports, <<https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=110713>>.

Favors for Neighbors—Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>.

Federal Funds & Kentucky Expenditures—Estimated by the author using data from the *2024 State Expenditure Report*, National Association of State Budget Officers (NASBO), available online at <<https://www.nasbo.org/reports-data/state-expenditure-report>>.

Fertility Rates—The PEW analysis, *How Record-Low Fertility Rates Foreshadow Budget Strain*, by Joanna Biernacka-Lievestro, Ph.D., Alexandre Fall, and Page Forrest, is available at <<https://www.pew.org/en/research-and-analysis/articles/2025/07/08/how-record-low-fertility-rates-foreshadow-budget-strain>>. The data for our figure is estimated by CBER using data from the Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Natality on CDC WONDER Online Database. Data are from the Natality Records 2007-2023, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/natality-current.html> on Aug 29, 2025 7:27:56 PM.

Financial Impact by Educational Attainment—Refer to the CBER report on the returns from higher education for more details <<https://cber.uky.edu/publications>>.

Food Insecurity—Author’s analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [CPS Food Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. The data for the 2021-2023 period cited in the text are from Rabbitt, M.P., Reed-Jones, M., Hales, L.J., & Burke, M.P. (2024). *Household food security in the United States in 2023* (Report No. ERR-337). U.S. Department of Agriculture, Economic Research Service.

Food Insecurity by Educational Attainment—Model-based estimates are produced

by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [CPS Food Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. To estimate the independent effect of education on food insecurity, we used a multiple regression model that utilized mostly dummy variables (i.e., LESSHS, SOMECOL, BA, FINCQ2, FINCQ3, FINCQ4, WORKING (in the labor force & employed), MARRIED, GENDER, AGE3554, AGE5564, AGE65PLUS, WHTNONHISP, BLKNONHISP, HISPANIC, NOTMETRO, OUTCC, METROUNK, and YEAR); the omitted variables are high school education, lowest income group (FINCQ1), aged 25 to 34, and metropolitan status as “metro” or “central city” (CENCITY). The analysis is limited to individuals at least 25 years old.

Food Insecurity by Race & Ethnicity—Author’s analysis of data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Food Security Supplement, various years]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>.

Food Stamp Participation—University of Kentucky Center for Poverty Research. 2025. “UKCPR National Welfare Data, 1980-2023.” URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 SNAP recipients <<https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>>.

Foreign-Born Population (by County)—U.S. Census, American Community Survey, 2024 1-Year and 2023 5-Year Estimates (Table B05002). The citation for the NBER paper is “Immigration’s Effect on US Wages and Employment Redux,” by Alessandro Caiumi & Giovanni Peri, Working Paper 32389, DOI 10.3386/w32389, Issue Date April 2024.

Free or Reduced-Price Lunch Eligibility—U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 2023, Table 204.10. Number and percentage of public school students eligible for free or reduced-price lunch, by state: Selected school years, 2000-01 through 2022-23. Data were downloaded 6/3/2024.

General Fund Receipts by Source—Kentucky Finance and Administration Cabinet and the Kentucky Revenue Cabinet, Annual Reports, various years. Kentucky Department of Revenue Annual Reports available online <<https://revenue.ky.gov/News/Publications/Pages/default.aspx>>.

General Fund Tax Receipts—Kentucky Office of the State Budget Director, Monthly Tax Receipts, various press releases <<https://osbd.ky.gov/Publications/Pages/Monthly-Tax-Receipts.aspx>>.

Gini Index (by State and County)—U.S. Census Bureau, American Community Survey, various years.

Government Administration Expenditures—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. A variety of expenditure categories are included in governmental administration: financial

administration (i.e., officials and central staff agencies concerned with tax assessment and collection, accounting, auditing, budgeting, purchasing, custody of funds, and other finance activities); judicial and legal (i.e., courts, both criminal and civil, and activities associated with courts, legal services, and legal counseling of indigent or other needy persons); general public buildings (i.e., construction, equipping, maintenance, and operation of general public buildings not related to specific functions or agencies); interest on general debt (i.e., amounts paid for use of borrowed monies, except those on utility debt, paid by all funds of the government); and other governmental administration.

Grand Parents as Caregivers (by State and County)—U.S. Census Bureau, American Community Survey, various years, Table DP02. Additional information is available from the Census Bureau at <<https://www.census.gov/acs/www/about/why-we-ask-each-question/grandparents/>>.

Growth Rates, Taxes and Income—U.S. Census Bureau, Bureau of Economic Analysis & State Government Tax Collections.

Health by Education—Estimated using multiple regression analysis on CDC BRFSS data, pooled 5 years of data (2018-2022). Other model variables include education, income, gender, age and race. The results shown in the graph reflect the net effect of education on health while holding other factors (i.e., income, gender, age and race) constant. The net percentages are the model-based estimates, and the gross percentages are the simple averages for the education category.

Health-Based Violations—United States, Environmental Protection Agency, Safe Drinking Water Information System data, various years.

Health Insurance Coverage: Children—U.S. Census Bureau, Health Insurance Historical Tables, H1B Series, HIB-5. Health Insurance Coverage Status and Type of Coverage by State—Children Under 18: 1999 to 2012 <www.census.gov/hhes/www/hlthins/data/historical/files/hihist5B.xls> and American Community Survey (various years, 1-Year estimates, Table S2701).

Health Insurance Coverage: Everyone—U.S. Census Bureau, Health Insurance Historical Tables, H1B Series, HIB-4. Health Insurance Coverage Status and Type of Coverage by State--All Persons: 1999 to 2012 <www.census.gov/hhes/www/hlthins/data/historical/files/hihist4B.xls> and American Community Survey (various years, 1-Year Estimates, Table S2701). The estimates of the Medicaid population are available from the ACS, 1-Year estimates, Table B27007, but we estimate the percentages using data from the Kaiser Family Foundation.

Health Insurance, by Race & Ethnicity—Author's analysis of IPUMS-NHIS data, courtesy of Lynn A. Blewett, Julia A. Rivera Drew, Andrew Fenelon, Miriam L. King, Kari C.W. Williams, Daniel Backman, Etienne Breton, Grace Cooper, and Stephanie Richards. IPUMS Health Surveys: National Health Interview Survey, Version 8.1 [NHIS, 1997-2024]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D071.V8.1>, available at: <http://www.nhis.ipums.org>.

Health Insurance, by Race & Ethnicity and Chronic Disease—Author's analysis of

data from the Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020-2024 pooled data.

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Health Status, by Race & Ethnicity—Author’s analysis of data from the Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020-2024 pooled data. See also LaVeist TA, Pérez-Stable EJ, Richard P, et al. The Economic Burden of Racial, Ethnic, and Educational Health Inequities in the US. *JAMA*. 2023;329(19):1682–1692. doi:10.1001/jama.2023.5965.

High-Growth Firm Employment—Hathaway, I., (2018, February 5). *High-growth firms and cities in the US: An analysis of the inc. 5000*. Brookings. <https://www.brookings.edu/articles/high-growth-firms-and-cities-in-the-us-an-analysis-of-the-inc-5000/>; Haltiwanger, J., Jarmin, R., Kulick, R., and Miranda, J. (2017). “High Growth Young Firms: Contribution to Job, Output, and Productivity Growth,” *Measuring Entrepreneurial Businesses: Current Knowledge and Challenges*.

High-Growth Firms—Motoyama, Y., Henderson, C., Clevenger, M., Desai, S., Oh, S., & Van Maasackers, T. (2024). Reflections on high growth firms. *Local Economy: The Journal of the Local Economy Policy Unit*, 38(6), 617–628. <https://doi.org/10.1177/02690942241246725>; Kim, J. Daniel, Joonkyu Choi, Nathan Goldschlag, and John Haltiwanger (2024). “High-Growth Firms in the United States: Key Trends and New Data Opportunities,” *Finance and Economics Discussion Series* 2024-074. Washington: Board of Governors of the Federal Reserve System, <https://doi.org/10.17016/FEDS.2024.074>; Inc. 5000 2024: Meet the Companies Building the Future. (n.d.). <https://www.inc.com/inc5000/2024>.

High-Growth Firms, Indexed (KY, CS, US)—Motoyama, Y., Henderson, C., Clevenger, M., Desai, S., Oh, S., & Van Maasackers, T. (2024). Reflections on high growth firms. *Local Economy: The Journal of the Local Economy Policy Unit*, 38(6), 617–628. <https://doi.org/10.1177/02690942241246725>; the Kentucky Science and Technology Corporation, <https://www.kstc.org/kentucky-innovation-hubs>. The Kentucky Innovation Hubs are a network of six regional centers across the state with the purpose of driving economic development through entrepreneurship and innovation. Each Hub acts as their region’s “front door” to deliver services — while leveraging local partnerships and regional organizations — and assists entrepreneurs across industries and stages of development as they advance their businesses. The Hubs’ goal is to increase the likelihood that scalable, venture-backable businesses can be started in Kentucky and can obtain both public and private investments to develop and grow; The Kentucky Innovation Act of 2000 <<https://ssti.org/blog/kentucky-innovation-act-calls-53-million-st-investment>>.

High-Growth Firms, Indexed (KY, GA, NC)—Hathaway, I., (2018, February 5). *High-*

growth firms and cities in the US: An analysis of the inc. 5000. Brookings. <https://www.brookings.edu/articles/high-growth-firms-and-cities-in-the-us-an-analysis-of-the-inc-5000/>; Kim, J. Daniel, Joonkyu Choi, Nathan Goldschlag, and John Haltiwanger (2024). “High-Growth Firms in the United States: Key Trends and New Data Opportunities,” *Finance and Economics Discussion Series* 2024-074. Washington: Board of Governors of the Federal Reserve System, <https://doi.org/10.17016/FEDS.2024.074>.

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High Hazard Potential Dams—National Inventory of Dams <<http://nid.usace.army.mil/>>, data were accessed 8/20/2025.

High-Propensity Business Formations—U.S. Census Bureau, Business Formation Statistics, available at <<https://www.census.gov/econ/bfs/index.html>>.

High School Attainment—Estimated by the author using American Community Survey, 2024 1-Year Estimate, Public Use Microdata Sample (PUMS) data.

High School Graduation Rate—U.S. Department of Education, EDData Express, 695, School year 2021–2022 <<https://eddataexpress.ed.gov/>>.

High-Speed Internet (by County)—These estimates are from the American Community Survey, 2024 1-Year estimate, Table S2801. The county-level estimates are from the U.S. Census September 2024 release of the 2022 Local Estimates of Internet Adoption (LEIA), available at <https://www.census.gov/data/experimental-data-products/local-estimates-of-internet-adoption.html>.

High-Technology Establishments—Using the National Science Foundation and Milken Institute designations of 4-digit NAICS codes and County Business Patterns data on number of establishments, we calculate the percentage that are considered high-tech establishments. Here are the 50 NAICS codes used: 1131, 1132, 2111, 2211, 3241, 3251, 3252, 3253, 3254, 3255, 3259, 3332, 3333, 3336, 3339, 3341, 3342, 3343, 3344, 3345, 3346, 3353, 3364, 3369, 4234, 4861, 4862, 4869, 5112, 5161, 5171, 5172, 5173, 5174, 5179, 5181, 5182, 5211, 5232, 5413, 5415, 5416, 5417, 5511, 5612, 8112, 3391, 5121, 5191, 6215.

Hispanic Population—U.S. Census Bureau, ACS 2024 1-Year estimates.

Home Ownership Affordability Index—The Federal Reserve Bank of Atlanta’s Home Ownership Affordability Monitor (HOAM), <https://www.atlantafed.org/research/data-and-tools/home-ownership-affordability-monitor#Tab5>.

Home Ownership Rates by Race & Ethnicity—Our analysis is inspired by *America’s Health Rankings 2021*, United Health Foundation, AmericasHealthRankings.org, Accessed October 30, 2023 <<https://www.americashealthrankings.org/api/v1/downloads/210>>. We have updated the data by pulling U.S. Census, American Community Survey (ACS) 2024 1-year data and calculating percentages for selected race and ethnic groups by using tables DP04 (all), B25003H (white), B25003B (Black), and B25003I (Hispanic).

Household Income Growth—Author’s analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

Household Income Ratio—See Household Income Growth above for data source information.

Household Income—See Household Income Growth above for data source information. Household income includes income of the householder and all other people 15 years and older in the household, whether or not they are related to the householder. The median is the point that divides the household income distribution into halves, one half with income above the median and the other with income below the median. The median is based on the income distribution of all households, including those with no income. The distributional data is a one-year (2024) estimate from the American Community Survey (Table B19001).

Housing (severe) Problems by Race and Ethnicity—America’s Health Rankings analysis of U.S. Department of Housing and Urban Development, Comprehensive Housing Affordability Strategy (CHAS), United Health Foundation, AmericasHealthRankings.org, Accessed 2021. Data available at <<https://www.americashealthrankings.org/api/v1/downloads/210>>, with descriptive information at <https://www.americashealthrankings.org/explore/annual/measure/severe_housing_problems/state/ALL>.

Housing Starts—U.S. Census Bureau, Building Permits Survey, Permits by State <<https://www.census.gov/construction/bps/statemonthly.html>>. Here is the source of the Pew report referenced in the text: Sharon Cornelissen and Adam Staveski, “Rural Homeownership Support Requires Home Construction, Repairs, and Small Mortgage Financing,” Pew, June 3, 2025 <<https://www.pew.org/en/research-and-analysis/articles/2025/06/03/rural-homeownership-support-requires-home-construction-repairs-and-small-mortgage-financing>>.

Imports—U.S. Department of Commerce, International Trade Administration, <<https://www.trade.gov/report/tradestats-express-national-and-state-trade-data>>. Also see Nadia Evangelou, *Which States Rely Most on Exports and Imports? A Closer Look at the Numbers Behind Trade*, National Association of Realtors, April 14, 2025, online at <<https://www.nar.realtor/blogs/economists-outlook/which-states-rely-most-on-exports-and-imports-a-closer-look-at-the-numbers-behind-trade>>.

Incarceration Rate—See Prisoners in 2022 – Statistical Tables <<https://bjs.ojp.gov/library/publications/prisoners-2022-statistical-tables>>.

Income Sources by Location—U.S. Department of Commerce, Bureau of Economic Analysis, and the 2013 Urban-Rural Continuum Code, available at <www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx#.UqR_ZeLs2HY>.

Index of Deep Disadvantage—More information, including the geographic data, is available here: <https://poverty.umich.edu/projects/understanding-communities-of>

deep-disadvantage/>. There is also a published volume about the research, see Edin, K., Shafer, H. L., & Nelson, T. J. (2023). *The injustice of place: uncovering the legacy of poverty in America*. First edition. New York, Mariner Books.

Industrial Electricity Costs—U.S. Energy Information Administration <www.eia.gov/beta/state/data.cfm?sid=KY#Prices>.

Infrastructure Expenditures (in the U.S.)—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. We use the following Census Bureau Item Codes to create this category: E44, F44, G44, E45, F45, G45, E94, F94, G94, I94, E01, F01, G01, E87, F87, G87, E91, F91, G91, I91, E80, F80, G80, E60, F60, G60, E92, F92, G92, I92, E93, F93, G93, I93, E81, F81, and G81.

Innovation Introduction—The Brookings Institution report quote is from Atkinson, et al., *The case for growth centers: How to spread tech innovation across America*, Brookings, December 9, 2019.

Insurance Trust Expenditures—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. We combine several expenditure categories into a single grouping to estimate insurance trust expenditures; this includes workers' compensation, unemployment, retirement, and miscellaneous expenditures.

Interstate Migration—The American Community Survey (ACS) and the Puerto Rico Community Survey (PRCS) ask respondents aged 1 year and over whether they lived in the same residence 1 year ago. For people who lived in a different residence, the location of their previous residence is collected. ACS uses a series of monthly samples to produce estimates. The state-to-state migration flows are created from tabulations of the state of current residence crossed by state of residence 1 year ago (including the District of Columbia and Puerto Rico). State-to-state migration flows are available starting with the 2005 ACS and are available here <<https://www.census.gov/data/tables/time-series/demo/geographic-mobility/state-to-state-migration.html>>.

Job Growth—U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics, total private, all employees, seasonally adjusted <www.bls.gov/>.

Jobless Claims—U.S. Employment and Training Administration, Initial Claims in Kentucky [KYICLAIMS], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/KYICLAIMS>, November 17, 2023.

Jobs Gained & Lost by Firm Type—These jobs represent employment for both full- and part-time employees who are on the establishment's payroll, including salaried officers and executives of corporations, during the pay period that includes March 12th. This also includes employees on paid sick leave, holidays, and vacations but excludes proprietors and partners of unincorporated businesses. Kim, et al., places firms into one of nine growth categories, ranging from those that "exit" the economy (-2, or what we label as Very High Decline) to those that "enter" the economy (2, or what we label as Very High Growth). Most of the firms are in the middle category (i.e., Minimal Change), which Kim et al., label as between -0.01 and 0.01 growth. High-growth firms as in the upper two

categories, and represent any firm with a growth rate of 0.8 or higher. The nine categories using by Kim et al. (i.e., a) [-2, b) [-2 to -0.8], c) [-0.8 to -0.2], d) [-0.2 to -0.01], e) [-0.01 to 0.01], f) [0.01 to 0.2], g) [0.2 to 0.8], h) [0.8 to 2], and i) 2), correspond to the nine categories in the figure which range from Very High Decline to Very High Growth. More information is available at Kim, J. Daniel, Joonkyu Choi, Nathan Goldschlag, and John Haltiwanger (2024). “High-Growth Firms in the United States: Key Trends and New Data Opportunities,” *Finance and Economics Discussion Series* 2024-074. Washington: Board of Governors of the Federal Reserve System, <https://doi.org/10.17016/FEDS.2024.074>.

Kentucky Coal Distribution—*Annual Coal Distribution Report 2024*, U.S. Energy Information Administration, <www.eia.gov/coal/distribution/annual/archive.cfm>.

Kindergarten Readiness—Kentucky Department of Education (KDE), Kindergarten Screen Data, <https://education.ky.gov/AA/Assessments/Pages/K-Screen.aspx>.

Labor Force Participation (by County and State)—American Community Survey, U.S. Census Bureau, 2024 1-year estimate (Table S2301). The county-level data are from the 2023 ACS 5-Year estimate (Table S2301).

Labor Force Participation by Education—LABFORCE is a dichotomous variable indicating whether the respondent participated in the labor force during the preceding week. See EMPSTAT for a more detailed employment status variable. Those coded as “yes” in LABFORCE were either: were at work; held a job but were temporarily absent from work due to factors like vacation or illness; were seeking work; or were temporarily laid off from a job during the reference period. The estimates reflect the independent effect of education using a multiple regression model while holding other variables constant (i.e., MARRIED, GENDER, WHTNONHISP, BLKNONHISP, HISPANIC, URBAN, LESSHS, [HS omitted] SOMECOL, AA, BA, GRAD, AGE_25_34, AGE_35_44, [AGE_45_54 omitted], [FAMINCQ1 omitted] FAMINCQ2, FAMINCQ3, and FAMINCQ4). Estimated by the author using data courtesy Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 11.0 [CPS, Basic Monthly, Jan.-Dec. 2023]. Minneapolis, MN: IPUMS, 2023. <https://doi.org/10.18128/D030.V11.0> The net percentages are the model-based estimates, and the gross percentages are the simple averages for the education category.

Labor Force Participation Relative to Expectations—We use a state fixed-effect multiple regression model to estimate 2023 labor force participation rates. The independent variables are the county classification on the urban-rural continuum scale (i.e., 1 to 9), the percentage of the population 65 and older, the percentage disabled, the percentage of jobs in the goods producing sector (as opposed to service providing or government), the percentage of the population that is female, the percentage that is Hispanic, the percentage with a bachelor’s degree or higher, the percentage of households with an internet connection, and the county’s value on the Index of Deep Disadvantage. For most years, our data is from 2023. The r-squared is 0.79, and all coefficients are statistically significant and in the expected direction. However, Kentucky’s state level coefficient

is not statistically significant ($t = -1.36$), since it is only slightly lower than the control state (Tennessee). The only Kentucky county with a statistically significant studentized residual ($SR \geq 2.0$) is Taylor County; its 2023 labor force participation rate is 62.6, which is 7.5 points higher than its model-based estimate of 55.1 percent ($SR = 2.1$). Four other Kentucky counties have high positive residuals, and might be interesting to examine more closely in a qualitative analysis: Pendleton ($SR = 1.90$), Kenton (1.84), Owen (1.80), and Monroe (1.57).

Landfill Gas Energy Projects—The LMOP Landfill and Landfill Gas Energy Database (LMOP Database) is a data repository for more than 2,600 MSW landfills that are either accepting MSW or closed in the past few decades. This represents a majority of MSW landfills, but the LMOP Database does not include data for every MSW landfill in the United States, nor data for industrial landfills or hazardous waste landfills. The U.S. Environmental Protection Agency (EPA) lists thirty-nine municipal solid waste (MSW) Kentucky landfills in its Liquid Methane Outreach Program (LMOP) database (as of September 2024). EPA tracks key data for a majority of municipal solid waste (MSW) landfills in the United States. We consider the landfill gas project to be “present” in some capacity if its current project status is in one of four categories: operational (11), planned (3), under construction (1), or shutdown (1). The numbers in parentheses indicate the operation status of Kentucky’s 16 landfills that are part of the LMOP database. More information is available from the U.S. Environmental Protection Agency (EPA), see <https://www.epa.gov/lmop/about-landfill-methane-outreach-program>.

Lead & Copper Rule—United States, Environmental Protection Agency, Safe Drinking Water Information System data, various years. These estimates are generated by the author using a method employed by the Natural Resources Defense Council and described in a May 2017 report, *Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections* <<https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure>>.

Lead Risk—America’s Health Rankings analysis of U.S. Census Bureau, American Community Survey, 2023 1-Year Dataset, United Health Foundation, AmericasHealthRankings.org, accessed 2025.

Leading Causes of Death—Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 2018–2023 on CDC WONDER Online Database, released in 2024. Data are from the Multiple Cause of Death Files, 2018–2023, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/mcd-icd10-expanded.html> on Oct 8, 2025 7:26:09 PM..

Lifetime Earnings by Educational Attainment—Refer to the CBER report on the returns from higher education for more details <<https://cber.uky.edu/publications>>.

Local Food Suppliers—U.S. Department of Agriculture, *2022 Census of Agriculture* (Table 2, pages 292–296, Market Value of Agricultural Products Sold Including Food Marketing Practices and Value-Added Products: 2022 and 2017). Personnel with the

Kentucky Department of Agriculture provided data on CSA and farmers' markets that is discussed in the narrative, and also Kentucky Department of Agriculture <<https://www.kyagr.com/marketing/farmers-market.html>>.

Loneliness—Author's analysis of U.S. Census, Household Pulse Survey Public Use File (PUF), Cycles 1 through 9, conducted from January 9 through September 16. Responses to the question "How often do you feel lonely? (SOCIAL2, Frequency of Loneliness), available online at: <<https://www.census.gov/programs-surveys/household-pulse-survey/data/datasets.html>>. Also, see Andrew Van Dam, "The loneliest people (and places) in America," *The Washington Post*, March 21, 2025 (online) <https://www.washingtonpost.com/business/2025/03/21/loneliness-epidemic-young-adults/>.

Main Reason for not Working—Using CPS-IPUMS, we pool monthly CPS data from November 2020 to August 2025 (excluding May 2023) for the analysis and limit the sample to prime working-age adults, 25 to 54 years old. There are two variables of interest: LABFORCE and WNLOOK. LABFORCE is a dichotomous variable indicating whether the respondent participated in the labor force during the preceding week. See EMPSTAT for a more detailed employment status variable <online: <https://cps.ipums.org/cps/>>. Those coded as "yes" in LABFORCE were either: were at work; held a job but were temporarily absent from work due to factors like vacation or illness; were seeking work; or were temporarily laid off from a job during the reference period. Those coded "no" were none of these things—and this is where we focused. The second key variable, WNLOOK, identifies the main reason persons who want a job were not looking for work during the previous four weeks. The items in the table show the most common responses.

Marital Status—Additional information about trends in marital status and its implications is available at the following sources: U.S. Census Bureau (2024, December 18). *Marital status / marital history*. Census.gov. <https://www.census.gov/acs/www/about/why-we-ask-each-question/marital/>; Fry, R. (2023, June 28). *A record-high share of 40-year-olds in the U.S. have never been married*. Pew Research Center. <https://www.pewresearch.org/short-reads/2023/06/28/a-record-high-share-of-40-year-olds-in-the-us-have-never-been-married/>; Kearney, M. S. (2023). *Two-parent privilege: How Americans stopped getting married and started falling behind*. UNIV OF CHICAGO PRESS; Kristof, N. (2024, March 30). The case for saying "I Do." *New York Times*. Retrieved from <https://www.nytimes.com/2024/03/30/opinion/marriage-wealth-happiness.html>; Thompson, D. (2025, February 3). America's 'marriage material' shortage. *The Atlantic*. Retrieved from <https://www.theatlantic.com/ideas/archive/2025/02/america-marriage-decline>; Wolfe, R. (2025, March 21). American women are giving up on marriage. *Wall Street Journal*. Retrieved from <https://www.wsj.com/lifestyle/relationships/american-women-are-giving-up-on-marriage>; and Lerman, Robert I. (July 2002). Marriage and the Economic Well-Being of Families with Children: A Review of the Literature. Retrieved from https://aspe.hhs.gov/sites/default/files/migrated_legacy_files/40831/LitReview.pdf.

Medicaid Beneficiaries—Kaiser Family Foundation, derived from CMS, Medicaid & CHIP Monthly Applications, Eligibility Determinations, and Enrollment Reports: January

2014 - June 2025 (preliminary), as of September 28, 2025.

Minority Earnings Gap—Author’s analysis of U.S. Census CPS data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC various years]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>. Note: Survey year asks about earnings for the previous year, so 2025 survey year reflects 2024 earnings.

Mortgage Default Rate—American Enterprise Institute (AEI), State and County Housing Market Indicators: Update for 2024, <<https://www.aei.org/the-state-of-the-housing-market/>>, data downloaded 11/8/2025. The AEI methodology is described here: <<https://www.aei.org/wp-content/uploads/2018/03/Housing-Risk-NMRI-methodology-March-2018-FINAL.pdf?x91208&x91208>>.

Motor Gasoline Expenditures—U.S. Energy Information Administration, State Energy Data System.

Narrow Roads—Federal Highway Administration, Highway Statistics 2023, Table HM-53 <www.fhwa.dot.gov/policyinformation/statistics.cfm>.

Natural Gas Supplanting Coal—U.S. Energy Information Administration, Electricity Net Generation Total (All Sectors). Data downloaded December 9, 2024, at: <<https://www.eia.gov/totalenergy/data/annual/index.php>>.

Neighborhood Quality—Child and Adolescent Health Measurement Initiative. 2022-2023 National Survey of Children’s Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved [7/9/25] from [www.childhealthdata.org].

Net Earnings per Capita (by County)—U.S. Department of Commerce, Bureau of Economic Analysis, Table SAINC4 Personal income and employment by major component.

Net Earnings—U.S. Department of Commerce, Bureau of Economic Analysis.

New Employers—2021 New Employer Business Indicators in the United States: National and State Trends, Kauffman Indicators of Entrepreneurship, May 2022.

Nonemployer Establishments—U.S. Census Bureau, Nonemployer Statistics <www.census.gov/econ/nonemployer/historical.htm>. For more information about research on high-technology businesses, see “Like the Broader Economy, the High Tech Sector is Becoming Less Dynamic,” Economic Innovation Group, June 22, 2023 <<https://eig.org/high-tech-dynamism/>>. While the researchers have identified 11 relevant 4-digit NAICS categories, only 5 are applicable (NAICS 5182, 5191, 5413, 5415, and 5417) in the nonemployer establishment Census data.

Nonprofits—Internal Revenue Service, Exempt Organizations Business Master File (2025, March). File downloaded on May 13, 2025, <<https://www.irs.gov/charities-nonprofits/exempt-organizations-business-master-file-extract-eo-bmf>>.

Number At Risk for Risk Behaviors—Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department

of Health and Human Services, Centers for Disease Control and Prevention, 2022.

Oral Health—Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2022 <https://www.cdc.gov/brfss/annual_data/annual_2022.html>.

Organic Farming—USDA *2022 Census of Agriculture*.

Participation in Artistic Activities—The percentages are estimated by CBER using the 2020 and 2022 CPS Public Arts Supplements courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Public Arts Supplements, 2020 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. The nine IPUMS variables used to estimate this measure are: PCRWRT, PPAINT, PPHOTO, PPOTTERY, PWEAVE, PWRTLYR, PAAPRLYR, PMUSLYR, & PVISLYR.

Participation in Local Groups—Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>.

Patents (by County)—The county-level data are from the U.S. Patent and Trademark Office, Utility Patents <www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utlh.htm>. The state-level data are from the USPTO Annual Reports, Workload Tables (USPTOFY22WorkloadTables.xlsx, tab 8) available at <www.uspto.gov/about-us/performance-and-planning/uspto-annual-reports>. Population data are from the U.S. Census Bureau <www.census.gov>. The competitor states is a weighted average of AL, GA, IL, IN, MS, MO, NC, OH, SC, TN, VA, and WV.

Pension Funded Ratio—Center for Retirement Research at Boston College, State and Local Public Plans Database <<https://publicplansdata.org/public-plans-database/download-full-data-set/>>.

Pension Funding—Center for Retirement Research at Boston College, State and Local Public Plans Database <<https://publicplansdata.org/public-plans-database/download-full-data-set/>>. Estimates of state and local general revenue from own sources are based on U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. The 2024 estimate is forecasted using the Excel forecasting tool on data from 2000 to 2023.

Per Capita Personal Income—U.S. Department of Commerce, Bureau of Economic Analysis, SA1-3 Personal income summary, and CAINC1 County and MSA personal income summary: personal income, population, per capita personal income, for the numbers in the text for urban, somewhat rural, and mostly rural counties (2023 Urban-Rural Continuum Codes).

Performance on Standardized Tests (NAEP & KSA)—U.S. Department of Education,

Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various assessments, <nces.ed.gov/nationsreportcard/naepdata/>. The Kentucky Summative Assessment (KSA) data are from the Kentucky Department of Education, Assessment and Accountability Datasets 2023-2024, downloaded 10/23/2024, available at: https://www.education.ky.gov/OpenHouse/data/Pages/Assessment_Accountability_Datasets_2023-2024.aspx.

Personal Bankruptcies—The Administrative Office of the U.S. Courts <www.uscourts.gov/Statistics/BankruptcyStatistics/quarterly-filings-3-month-chapter-district.aspx>. The population data are from the U.S. Census.

Poor Mental Health Days—Author’s analysis of CDC 2024 Behavioral Risk Factor Surveillance System data, Ques: “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” We use the CDC’s recoded variable, MENDAZE [‘NUMBER OF DAYS MENTAL HEALTH NOT GOOD (Recode)’] for our analysis. Here is the full citation for the report mentioned in the text: Reinert, M, Nguyen, T & Fritze, D. (October 2025). “The State of Mental Health in America 2025.” Mental Health America, Alexandria VA.

Population by Age Group—U.S. Census, American Community Survey, 2024 1-Year Estimates, Table S0101.

Population Change—U.S. Census Bureau, Decennial Census, 2000 and the American Community Survey 2007 and 2024 1-year estimates.

Population Mobility—Author’s calculations based on data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1963-2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>. The CPS ASEC survey year refers to the previous calendar year. So the March 2025 CPS ASEC survey asks about the 2024 calendar year.

Population by Race—U.S. Census Bureau, 2024 1-year American Community Survey.

Population Totals—U.S. Census Bureau, Urban and Rural Population: 1900 to 1990 <www.census.gov/population/www/censusdata/files/urpop0090.txt>. The 2000 and 2010 population totals were obtained from the Census totals available at <www.census.gov>. The components of state population change are available at <<https://www.census.gov/newsroom/press-kits/2024/national-state-population-estimates.html>>. The 2024 data show that the state’s population increase by an estimated 37,777, from 4,550,595 in 2023 to 4,588,372 in 2024. There was a net decrease of 892 due to deaths (53,140) exceeding births (52,248), but net domestic migration was 7,294 and net international migration was 31,430. These data are available for all states, 2020 to 2024, in file NST-EST2024-ALLDATA.xlsx.

Post-Secondary Education (by Race, Ethnicity & Gender)—Author’s analysis of U.S. Census Bureau data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman,

Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [1960 5% sample; 1970 Form 1 State 1%; 1980, 1990, & 2000 5% samples; 2010, 2020, & 2022 ACS 5-Year]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

Poverty Rate by County—U.S. Census Bureau, American Community Survey, 2023 5-Year Estimates, Table S1701.

Poverty Rate—Author’s analysis of IPUMS-CPS data, courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC, 1976 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0>

Poverty Rate by Race & Ethnicity—See Poverty Rate, as well as U.S. Census, American Community Survey, Table S1701, 2024 1-Year estimate.

Productivity— This work is informed by Mark Staples, Charles Atkins, et al., *Rekindling US Productivity for a New Era*, McKinsey Global Institute, February 2023, as well as Lida R. Weinstock, *Introduction to U.S. Economy: Productivity*, Congressional Research Service, In Focus, January 3, 2023. Using the McKinsey method and approach, we used more current productivity data (released in May 2025) available at the Bureau of Labor Statistics (BLS), Office of Productivity and Technology: <<https://www.bls.gov/productivity/tables/>>.

Public Assistance by Education—CBER analysis of data from Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [ACS 2021 & 2022]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>. Using multiple regression analysis, we estimate the relationship between education and whether one has received public assistance while holding other variables constant, like sex, income, race, ethnicity, marital status, and age. The net percentages are the model-based estimates, and the gross percentages are the simple averages for the education category. Research done, for example, by the College Board and RAND shows a robust relationship across several public assistance programs, such as the National School Lunch Program, Unemployment Insurance, and various housing programs. The savings for government can be significant. A study published in 2008 estimated that the public assistance savings for state and local governments (i.e., various public assistance programs, Medicaid, unemployment benefits) are \$32,500 for an individual over a lifetime who completes college compared to a high school diploma (Trostel, P. A. (2008). *The Fiscal Impacts of College Attainment*. New England Public Policy Center. Boston: Federal Reserve Bank of Boston. Retrieved from Federal Reserve Bank of Boston: <https://www.bostonfed.org/pdf/neppcwp0702.pdf>).

Public Assistance Recipients—Estimated by the author using data courtesy of Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [ACS 1-year estimates, 2008 to 2023]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>. The public assistance variables we use are

INCSUPP, INCWELFR, FOODSTMP, & HINSCAID.

Public Pension Funding Gaps—The PEW Charitable Trusts, Public Sector Retirement Systems <www.pewtrusts.org/en/projects/public-sector-retirement-systems>.

Public Pre-K Enrollment—*The State of Preschool 2024: State Preschool Yearbook*, The National Institute for Early Education Research, estimates derived from Table 4 <nieer.org/yearbook>.

Public Protection Expenditures (in the U.S.)—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. We use the following Census Bureau Item Codes to create this category: E04, F04, G04, E05, F05, G05, E62, F62, G62, E24, F24, G24, E66, F66, and G66.

Quarterly Percentage Change in Real GDP, U.S.—U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Account Tables, Section 1 <www.bea.gov/national/nipaweb/DownSS2.asp>.

Racial & Ethnic Teleworking Disparities—Abay Asfaw, “Racial and Ethnic Disparities in Teleworking Due to the COVID-19 Pandemic in the United States: A Mediation Analysis, *International Journal of Environmental Research and Public Health*, 2022, 19, 4680. <https://doi.org/10.3390/ijerph19084680>.

Racial Equity Index—National Equity Atlas, released 12/4/2024, downloaded 10/20/2024 <<https://nationalequityatlas.org>>.

Reactions to Lack of Child Care—Author’s analysis of U.S. Census, Household Pulse Survey Public Use File (PUF), Cycles 1 through 9, conducted from January 9 through September 16, 2024. An estimated 17.9% (17.6-18.1% 95%CI) of individuals with children in the household said “yes” to the filtering question: *How many people under 18 years-old currently live in your household?* Of those who answer yes, they were then asked: *At any time in the last 4 weeks, were any children in the household unable to attend daycare or another childcare arrangement as a result of child care being closed, unavailable, unaffordable, or because you are concerned about your child’s safety in care? Please include before school care, after school care, and all other forms of childcare that were unavailable. Select only one answer.*

Recycling—Kentucky Energy and Environment Cabinet, Division of Waste Management, *Annual Report—Fiscal Year 2023* <waste.ky.gov>, and the United States Environmental Protection Agency (EPA), National Overview: Facts and Figures on Materials, Wastes, and Recycling <<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#recycling>>.

Regional Population Change—Author’s calculations using data from the U.S. Census Bureau, county-level estimates at: <https://www2.census.gov/programs-surveys/popest/datasets/>. See glossary for map of Kentucky regions by county.

Renewable Energy Production—U.S. Energy Information Administration, State Energy Data Production, State Energy Data System (SEDS), 1960-2023 estimates <www.eia.gov/state/seds/>. In October 2023, the U.S. EIA updated the way they calculate primary energy consumption of electricity generation from noncombustible renewable energy sources

(solar, wind, hydroelectric, and geothermal). See this link for more information: <https://www.eia.gov/state/seds/seds-change/index.php/>.

Residential Electricity Costs—U.S. Energy Information Administration, *Electricity* <www.eia.gov/electricity/sales_revenue_price/xls/table5_a.xls>.

Revenue from Federal Transfers—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. These per capita estimates have been adjusted to reflect cost-of-living differences across the states using the 2023 regional price parity estimates from the Bureau of Economic Analysis.

Risk Behaviors and Chronic Disease—Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2024.

Road Condition—Federal Highway Administration, Highway Statistics 2023, Table HM-64 <www.fhwa.dot.gov/policyinformation/statistics.cfm>.

Rural Population—U.S. Census Bureau, Urban and Rural Population: 1900 to 1990 <www.census.gov/population/www/censusdata/files/urpop0090.txt>. The 2000 and 2010 population totals were obtained from the Census totals available at <factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. The 2020 estimates are available at: <<https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2020-ua-facts.html>>. The competitor state average is a weighted average of the 12 competitor states.

Science & Technology Index—Milken Institute, *2022 State Technology and Science Index* <www.milkeninstitute.org>.

Science and Engineering Graduates—Calculated from the Integrated Postsecondary Education Data System (IPEDS) using 2013 STEM-designed CIP codes. Note that the STEM degrees are normalized using the number of individuals in the population 20 to 24 years old, but this does not mean that all of these degrees were conferred upon individuals in this age range.

Selected Educational Indicators—Refer to Michael T. Childress, “Kentucky’s Educational Performance & Points of Leverage,” CBER Issue Brief, December 2015 <cber.uky.edu/>.

Selected Factors Affecting Household Income—This analysis is based on data from the Census Bureau’s Annual Social and Economic Supplement (ASEC) survey, which is conducted as part of the Current Population Survey (CPS) that provides data on income, poverty, and health insurance coverage, serving as the official source for national poverty estimates. It is based on data from 1962 to 2024 (survey years), with missing data for Kentucky from 1973 to 1976. The dependent variable, HHINCOME, reports the total money income during the previous calendar year of all adult household members. The independent variables are derived from the CPS-IPUMS extracts and include SEX, MARST, EDUC RACE, HISPAN, AGE, and YEAR. The household income data are in current dollars.

Selected Obstacles to Education—Refer to Michael T. Childress, “Kentucky’s Educational Performance & Points of Leverage,” CBER Issue Brief, December 2015 <cber.uky.edu/>.

Self Employed (by Race & Ethnicity)—BLS Current Employment Statistics survey for

wage and salary worker employment. Self-employment estimates generated by the author using data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Etienne Breton, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, David Van Riper, and Kari C.W. Williams. IPUMS CPS: Version 13.0 [CPS ASEC 1988 to 2025]. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D030.V13.0> We use the variable CLASSWKR, work status, last *week* (as opposed to last *year*).

Severe Housing Problems—U.S. Department of Housing and Urban Development, Comprehensive Housing Affordability Strategy (CHAS) 2017-2021 survey, accessed December 1, 2024 <<https://www.huduser.gov/portal/datasets/cp.html>>.

Small Business Innovation Research—Small Business Innovation Research, Small Business Technology Transfer <www.sbir.gov/awards>. The Cabinet for Economic Development, Office of Entrepreneurship and Small Business Innovation, *Annual Report FY2022-2023* <https://cedky.com/cdn/141_OOE_Annual_Report_2023.pdf>.

Social Capital Index—Using principal component analysis, we generate county-level scores based on: associational density data from 2020 County Business Patterns (NAICS 713910, 713940, 713950, 713990, 813110, 813410, 813910, 813920, 813930, and 813940); voter turnout for the 2020 general election data from the MIT Election Data and Science Lab <<https://electionlab.mit.edu/>> and the Election Advisory Commission; the county-level response rate to the 2020 U.S. decennial census (U.S. Census Bureau); and the number of tax-exempt non-profit organizations (Business Master File, March 2022) from the National Center for Charitable Statistics. We follow a method outlined in A. Rupasingha et al., “The production of social capital in US counties,” *The Journal of Socio-Economics* 35 (2006) 83-101. Also see A. Rupasingha et al., “Social Capital and Economic Growth: A County-Level Analysis,” *Journal of Agricultural and Applied Economics*, 33 (2000) 565-572.

Social Determinants of Health—We use 24 variables organized around five broad thematic areas used in the U.S. Department for Health and Human Services, Healthy People 2020 framework: HEALTH (using data from the 2020 *County Health Rankings*, we use the number of Dentists, Mental Health Providers, and Primary Care Physicians (per capita), as well as the percentage of the population with health insurance); EDUCATION (high school graduation is obtained from the Kentucky Department of Education (KDE), using the four-year cohort numbers for the 2018-2019 academic year, successful transition to adulthood using higher education, work, and military, enrollment in higher education, also derived from the same data source, language and literacy data using the ACT Reading Benchmark numbers, and early childhood education and development data on kindergarten readiness); ECONOMIC STABILITY (poverty rate from the U.S. Census ACS, unemployment rate from BLS, food insecurity from Feeding America [Gundersen, C., A. Dewey, E. Engelhard, M. Strayer & L. Lapinski. *Map the Meal Gap 2020: A Report on County and Congressional District Food Insecurity and County Food Cost in the United States in 2018*. Feeding America, 2020.], housing stability using U.S. Census estimates of the number of households paying over 30 percent of income on rent, and Gini Index

values from the Census ACS); SOCIAL (associational density data from 2018 County Business Patterns (NAICS 713910, 713940, 713950, 713990, 813110, 813410, 813910, 813920, 813930, and 813940), voter turnout for the 2016 general election data from the Kentucky State Board of Elections, the county-level response rate to the 2010 U.S. decennial census (U.S. Census Bureau), and the number of tax-exempt non-profit organizations (Business Master File, July 2020) from the National Center for Charitable Statistics.); NEIGHBORHOOD & BUILT ENVIRONMENT (ESHE Index on the availability of health food, severe housing problems using data from County Health Rankings, specified as the number of households experiencing overcrowding, high housing costs, or lack of kitchen or plumbing facilities. These data come from the Census Bureau and HUD's Comprehensive Housing Affordability Strategy, crime rate data from the Kentucky State Police, a lead risk index generated from housing age and poverty, air pollution data from EPA, and water quality data from County Health Rankings which uses EPA data on health-based violations). We perform a principal component analysis on each of the five thematic areas and average the results at the county-level to generate a county score. All data are transformed and ordered so that a high positive number is considered "good" for health outcomes.

Social Services Expenditures (in the U.S.)—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. We use the following Census Bureau Item Codes to create this category: J67, J68, E74, E75, E77, F77, G77, E79, F79, G79, E73, E67, E36, F36, G36, E32, F32, G32, E22, F22, G22, E85, F85, G85, and J85.

Solid Waste (Disposal)—Kentucky Energy and Environment Cabinet, Division of Waste Management, *Annual Report—Fiscal Year 2014 to 2024* <<https://eec.ky.gov/Environmental-Protection/Waste/Pages/division-reports.aspx>>, and selected *Waste Quantity Reports* available here <<https://eec.ky.gov/Environmental-Protection/Waste/Pages/solid-waste-facility-reports.aspx>>.

Some College or Associate's Degrees—Estimated by the author using American Community Survey, 2024 1-Year Estimate, Public Use Microdata Sample (PUMS) data.

Sources of Personal Income—U.S. Department of Commerce, Bureau of Economic Analysis, SA04 State income and employment summary.

State and Local Expenditures (Kentucky)—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. The Kentucky data are from all years 1977 to 2023. The denominator, total expenditures (Expenditures, line 54), has included *Insurance trust expenditure*, line 120, in all data releases *except* in 2022 & 2023. To ensure the time series comparisons are appropriate, we add insurance trust expenditures to the total expenditures (line 120 + line 54) to create a denominator that is consistent across the years shown in the graph.

State and Local Own Source Revenue—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>. More information about the BEA Regional Price Parities is available at <<https://www.bea.gov/>>

data/prices-inflation/regional-price-parities-state-and-metro-area>.

State and Local Tax Revenue by Source—U.S. Census Bureau, 2023 Annual Surveys of State and Local Government Finances <www.census.gov/govs/estimate/>.

STEM Jobs—Occupational Employment Statistics (OES) Survey, Bureau of Labor Statistics, Department of Labor, <www.bls.gov/oes/>.

Students Feeling Unsafe at School—Centers for Disease Control and Prevention (CDC). 1991-2023 High School Youth Risk Behavior Survey Data. Available at <http://yrbs-explorer.services.cdc.gov/>. Accessed on [7/12/2025], as well as author’s analysis of Centers for Disease Control and Prevention. 2023 Youth Risk Behavior Survey Microdata. Note: SS indicates 7 surrounding states (IL, IN, MO, MS, NC, TN, & VA).

Supplemental Security Income (SSI)—University of Kentucky Center for Poverty Research. 2025. “UKCPR National Welfare Data, 1980-2023.” URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 SSI recipients, Table 10 <https://www.ssa.gov/policy/docs/statcomps/ssi_asr/2024/sect02.pdf>.

Talk with Neighbors—CBER analysis of data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren and Michael Westberry. Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [Civic engagement and Volunteering Supplement, various years]. Minneapolis, MN: IPUMS, 2022. <https://doi.org/10.18128/D030.V10.0>.

Tax Collections and Personal Income—U.S. Department of Commerce, Bureau of Economic Analysis, and U.S. Census Bureau, State Government Tax Collections, various years <www.census.gov/govs/statetax/>.

Technology Use by Education—Estimated using Current Population Survey Computer and Internet Use Supplement, November 2019. This is a measure of Internet use from any location and is constructed using these variables, where PEINHOME=1 OR PEINWORK=1 OR PEINSCHL=1 OR PEINCAFE=1 OR PEINTRAV=1 OR PEINLICO=1 OR PEINELHO=1 OR PEINOTHR=1. More information available at the U.S. Department of Commerce, NTIA, Digital Nation Data Explorer <www.ntia.doc.gov/other-publication/2016/digital-nation-data-explorer>.

Teens’ Mental Health—Author’s analysis of data from Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2023. For additional information on the *JAMA Pediatrics* article, see Matt Richtel, “Teen Depression Rose Sharply During the Pandemic, but Treatment Didn’t Follow,” *The New York Times*, October 9, 2023.

Temporary Assistance for Needy Families—University of Kentucky Center for Poverty Research. 2025. “UKCPR National Welfare Data, 1980-2023.” URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 TANF recipients <<https://www.acf.hhs.gov/ofa/data/tanf-caseload-data-2024>>.

Toxic Releases—United States Environmental Protection Agency. (2025). TRI Explorer (2024 Dataset (released September 2025)) [Internet database]. Retrieved from <https://>

enviro.epa.gov/triexplorer/, (October 11, 2025).

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Transfer Payments by County—Bureau of Economic Analysis, Table CAINC30.

Unemployment Rate—Bureau of Labor Statistics (BLS), Current Population Survey <<https://www.bls.gov/cps/data.htm>>, Series IDs LNS14000003, LNS14000006, & LNS14000009.

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Volunteer Hours—Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. The AmeriCorp information is available at: <https://www.americorps.gov/newsroom/press-release/more-757-million-people-volunteered-america-americorps-reports>.

Volunteer Rate by Educational Attainment—Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2002 to 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. To estimate the effect of education, we used a multiple regression model that utilized mostly dummy variables (i.e., LESSHS, SOMECOL, BA, FINCQ2, FINCQ3, FINCQ4, INLF (in the labor force), MARRIED, GENDER, AGE2534, AGE3554, AGE5564, WHTNONHISP, BLKNONHISP, NOTMETRO, OUTCC, METROUNK, and YEAR); the omitted variables are high school education, lowest income group (FINCQ1), aged 16 to 24, and metropolitan status as “metro” or “central city” (CENCITY). The analysis is limited to individuals between 18 and 64. The net percentages are the model-based estimates, and the gross percentages are the simple averages for the education category.

Volunteer Rate—Estimated by the author using data courtesy of Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS

CPS: Version 12.0 [Civic Engagement and Volunteering Supplement, 2023]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>. Volunteers are considered individuals who performed unpaid volunteer activities through or for an organization at any point during the 12-month period, from September 1 of the prior year through the survey week in September of the survey year. The information about the decline of volunteer fire fighting is from by Caitlin Randall, “Calls are up, volunteers are down,” *Daily Yonder*, October 5, 2023, online <https://dailyyonder.com/calls-are-up-volunteers-are-down-a-crisis-looms-for-vermonts-fire-departments/2023/10/05/?utm_medium=email>.

Voting by Education—Estimated by the author using data from Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 11.0 [Voting and Registration Supplement, 1982 to 2022]. The estimates in the graph reflect the expected voting rate, using multiple regression, by educational attainment while holding other variables constant, such as age, marital status, sex, race, ethnicity, family income, location of residence (e.g., metro or non-metro), and year. The net percentages are the model-based estimates, and the gross percentages are the simple averages for the education category.

Wage & Salary Growth by Kentucky Region—U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages, private, all industries, all establishment sizes, <www.bls.gov/cew/>.

Wage & Salary Growth by State—U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages, private, all industries, all establishment sizes, <www.bls.gov/cew/>.

Water Quality—United States, Environmental Protection Agency, Safe Drinking Water Information System data, various years. These estimates are generated by the author using a method employed by the Natural Resources Defense Council and described in a May 2017 report, *Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections* <<https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure>>.

White, Non-Hispanic Population—U.S. Census Bureau, American Community Survey, 2023 5-Year estimate, Table DP05.

Women, Infants, and Children (WIC)—University of Kentucky Center for Poverty Research. 2025. “UKCPR National Welfare Data, 1980-2023.” URL: <http://ukcpr.org/resources/national-welfare-data> (accessed <11/10/2025>). The FY2024 WIC recipients available here: <<https://www.fns.usda.gov/pd/wic-program>>.

Workforce by Education—Estimated by the author using U.S. Census, LED Extraction Tool, Quarterly Workforce Indicators (QWI), <<https://ledextract.ces.census.gov/qwi/all>>.

Youth Alcohol and Drug Abuse—Centers for Disease Control and Prevention, *Youth Risk Behavior Surveillance System (YRBSS)*, <www.cdc.gov/healthyyouth/yrbs/index.htm>.

Youth Health-Related Behaviors—Centers for Disease Control and Prevention, *Youth Risk Behavior Surveillance System (YRBSS)*, <www.cdc.gov/healthyyouth/yrbs/index>.

htm>. See Rasberry CN, Tiu GF, Kann L, et al. Health-Related Behaviors and Academic Achievement Among High School Students — United States, 2015. *MMWR Morb Mortal Wkly Rep* 2017;66:921–927. DOI: <http://dx.doi.org/10.15585/mmwr.mm6635a1>.

Youth Obesity—Centers for Disease Control and Prevention, *Youth Risk Behavior Surveillance System (YRBSS)*, various years <www.cdc.gov/healthyyouth/data/yrbs/data.htm>. The 15.9% obesity rate for the surrounding states in 2023 includes seven nearby states: IL, IN, MS, MO, NC, TN, and VA.

Youth Smoking and Vaping—Centers for Disease Control and Prevention, *Youth Risk Behavior Surveillance System (YRBSS)*, various years <www.cdc.gov/healthyyouth/data/yrbs/data.htm>.

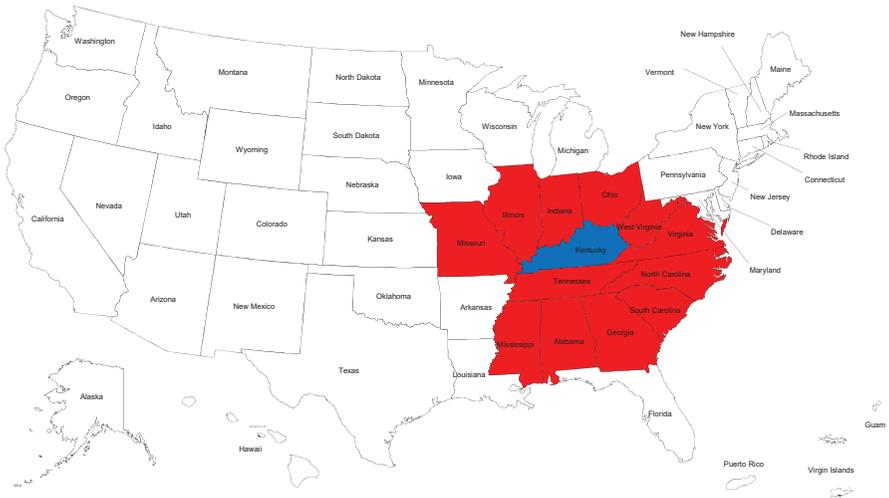
Glossary

Bankruptcy—A legal proceeding involving a person or business that is unable to repay outstanding debts.

Commodity—A product, either raw or manufactured, that can be purchased or traded.

Competitor States—States that are similar to Kentucky in terms of economic and demographic characteristics which are viewed as the main competitors to Kentucky for industrial development. There are twelve states: Alabama, Georgia, Illinois, Indiana, Mississippi, Missouri, North Carolina, Ohio, South Carolina, Tennessee, Virginia, West Virginia.

Kentucky's Principal Competitor States



Compound Annual Growth Rate (CAGR)—The rate of increase in the value of a quantity that is compounded over several years.

Constant dollars—Nominal or current dollar amounts that are adjusted to remove the effect of inflation.

Consumer Price Index (CPI)—The U.S. Department of Labor, Bureau of Labor Statistics, defines the CPI as a “measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.”

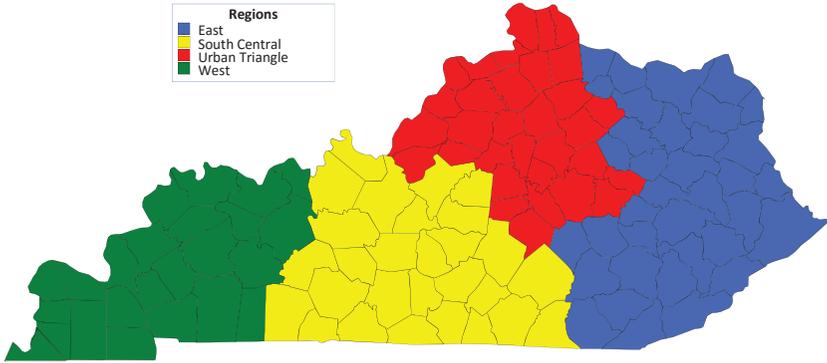
Current dollars—Also called nominal dollars, these dollar amounts are not adjusted to remove the effect of inflation and represent the current value of the dollar during a given year.

Dividends—The portion of the profits generated by a corporation that is dispersed to its shareholders.

Eastern Kentucky—Counties in Kentucky located in the eastern most Area Development Districts (ADDs), including Bath, Bell, Boyd, Bracken, Breathitt, Carter, Clay, Elliott, Fleming,

Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Magoffin, Martin, Mason, Menifee, Montgomery, Morgan, Owsley, Perry, Pike, Robertson, Rockcastle, Rowan, Whitley, and Wolfe Counties.

Kentucky Regions



Export—Goods and/or services generated in one country and sold in another.

Functionally Obsolete (FO) (Bridges) —“A bridge is considered ‘functionally obsolete’ when it does not meet current design standards (for criteria such as lane width), either because the volume of traffic carried by the bridge exceeds the level anticipated when the bridge was constructed and/or the relevant design standards have been revised.” See “2010 Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance.”

Gini (coefficient) Index—A measure of income dispersion, ranging from zero, which indicates perfect equality, to one, which indicates absolute inequality. A higher number indicates more concentration of income in fewer hands, with a value of one indicating that one person holds all the income.

Globalization—An adjective describing the interdependent relationship between national economies that has both positive and negative impacts on international markets.

Great Recession—The period of decline in annual real world gross domestic product per capita experienced in the U.S. from December of 2007 until June of 2009, leading to a decrease international trade, a notable rise in unemployment, and deflated commodity prices.

Gross Domestic Product (GDP)—The total value of a country’s goods and services. This includes private consumption, investment, government spending, and exports (subtracting imports from this value).

Inflation—The phenomenon where the price of goods and services increases, while the value of the currency used to purchase those items remains stagnant; getting less “bang for your buck.”

Interest—The rate lenders charge borrowers to compensate for risk attributed to making funds available to borrowers, also known as the cost of borrowing

Mean (syn Average)—The sum of all values divided by the total number of values.

Median—The most central number in a data set; the number separating the upper half of the sample/population from the lower half.

Middle-class—The Census Bureau has no official definition of middle-class. See U.S. Census Bureau; “Middle Class in America,” (2010) U.S. Department of Commerce, Economics and Statistics Administration. However, there are many definitions of “middle class” and opinions on what should be included when categorizing households (e.g., income, net worth, government transfers, etc.).

Nominal dollars—An unadjusted dollar value that reflects the historical value; it has not been adjusted to remove the effect of inflation.

Outsourcing—Transferring business activities outside of a firm in order to reduce costs.

Patent—A property right granted by the government of the United States of America to an inventor “to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States” for a limited time in exchange for public disclosure of the invention when the patent is granted.

Per Capita—An adjustment made to reflect the size of the population. For example, per capita income represents the level of income for every child, woman, and man in the base population.

Personal Income—Income received by persons from all sources. It includes income received from participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors’ income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance.

Poverty Rate—The percentage of people (or families) living below the poverty line (\$14,880 for individuals; \$29,950 for a family of four, 2022 thresholds). Thresholds are updated annually by the U.S. Census Bureau <<https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>>.

Poverty—The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than the family’s threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps)..

Property Crimes—In the FBI’s Uniform Crime Reporting (UCR) Program, property crime includes the offenses of burglary, larceny-theft, motor vehicle theft, and arson.

The object of the theft-type offenses is the taking of money or property, but there is no force or threat of force against the victims.

Real dollars—Analogous to constant dollars, it reflects the nominal dollar that has been adjusted to remove, for example, the effect of inflation over a period of time.

Real Growth—Represents growth in real or constant dollars.

Recession—In general usage, the word recession connotes a marked slippage in economic activity. The National Bureau of Economic Research (NBER) is charged with officially marking the beginning and ending of a recession. The NBER recession is a monthly concept that takes account of a number of monthly indicators—such as employment, personal income, and industrial production—as well as quarterly GDP growth.

Return on Investment (ROI)—ROI measures the amount the return on an investment relative to the cost of the investment.

Rural—The 2013 Rural-Urban Continuum Codes form a classification scheme that distinguishes metropolitan counties by the population size of their metro area, and nonmetropolitan counties by degree of urbanization and adjacency to a metro area. The official Office of Management and Budget (OMB) metro and nonmetro categories have been subdivided into three metro and six nonmetro categories. Each county in the U.S. is assigned one of the 9 codes.

Social Capital—The networks of relationships among people who live and work in a particular society, enabling that society to function effectively.

South Central Kentucky—Counties in Kentucky located in the Area Development Districts (ADDs) to the south of the Bluegrass District (greater Fayette County), including Adair, Allen, Barren, Breckinridge, Butler, Casey, Clinton, Cumberland, Edmonson, Grayson, Green, Hardin, Hart, Larue, Logan, Marion, McCreary, Meade, Metcalfe, Monroe, Nelson, Pulaski, Russell, Simpson, Taylor, Warren, Washington, and Wayne Counties.

Structurally Deficient (SD) (Bridges)—A bridge that is characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity. See “2010 Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance.”

Urban (syn Metropolitan)—The 2013 Rural-Urban Continuum Codes form a classification scheme that distinguishes metropolitan counties by the population size of their metro area, and nonmetropolitan counties by degree of urbanization and adjacency to a metro area. The official Office of Management and Budget (OMB) metro and nonmetro categories have been subdivided into three metro and six nonmetro categories. Each county in the U.S. is assigned one of the 9 codes.

Urban Triangle—Counties in Kentucky located in the Area Development Districts (ADDs) encompassing Louisville, Lexington, and the Cincinnati area of Northern Kentucky, including Anderson, Boone, Bourbon, Boyle, Bullitt, Campbell, Carroll, Clark, Estill, Fayette, Franklin, Gallatin, Garrard, Grant, Harrison, Henry, Jefferson, Jessamine, Kenton, Lincoln, Madison, Mercer, Nicholas, Oldham, Owen, Pendleton, Powell, Scott, Shelby, Spencer, Trimble, and Woodford Counties.

Value Added—The gross output of an industry or a sector less its intermediate inputs; the contribution of an industry or sector to gross domestic product (GDP). Value added by industry can also be measured as the sum of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.

Venture Capital Investments—Capital invested in a project in which there is a substantial element of risk, typically a new or expanding business.

Violent Crimes—In the FBI’s Uniform Crime Reporting (UCR) Program, violent crime is composed of four offenses: murder and nonnegligent manslaughter, rape, robbery, and aggravated assault. Violent crimes are defined in the UCR Program as those offenses which involve force or threat of force.

Western Kentucky—Counties in Kentucky located in the western most Area Development Districts (ADDs), including Ballard, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Todd, Trigg, Union, and Webster Counties.

Subject Index

- ACADEMIC RESEARCH & DEVELOPMENT 270-271
 - university R&D trends 270
 - innovation inputs 271
- ACCESS TO CAPITAL 268-270, 275
 - entrepreneurial ecosystems 264-278
 - regional disparities xv-xvi, 93
- AGING POPULATION 288-289
 - labor supply implications xv-xvi
 - regional population aging patterns 285-289
- AIR QUALITY 184-185
- ALCOHOL AND DRUG USE 226-227, 242-243
 - youth substance use 243
 - overdose mortality 226-227
- AGRICULTURE 11-24
 - commodities 21
 - outlook 16-17
- AMENITIES, NATURAL 179
- ARTISTIC AND CULTURAL PARTICIPATION 52-53
- ARTIFICIAL INTELLIGENCE (AI)
 - impact on occupations 262
 - impact on state economies 263
 - use in report production xvii
- ATTENDANCE (SCHOOL SAFETY-RELATED) 45
- BANKS 92-93
- BANKRUPTCIES
 - business 113
 - personal 112
- BEEF AND LIVESTOCK PRODUCTION 21
- BRIDGES 250-251
 - structural condition 250
 - county-level deficiencies 251
- BROADBAND / INTERNET ACCESS 254-255
- BOURBON INDUSTRY 12, 20, 87
- BUSINESS CLIMATE xv-xvi, 59-94
 - competitiveness factors xv-xvi
 - tax environment 293-301
 - infrastructure quality 245-258
 - workforce availability 80-85
- CHILD CARE 41-43
 - labor force constraints 26
 - county child care gaps 42-43
- CHILD POVERTY 116
- CHILDRENS HEALTH 228-229, 238, 240-243
 - youth mental health 228-229
- youth obesity 241
- youth smoking and vaping 242
- youth alcohol and drug use 243
- CIVIC ENGAGEMENT 52-56
 - volunteerism 30-31, 138
 - community participation 32-34
- CLIMATE AND ENVIRONMENT, see ENVIRONMENT
- COAL 168-171
- COLLEGE ATTAINMENT 129-131, 156-159
- COLLEGE READINESS 152
- COMMODITY RECEIPTS 21
- COMMUNITY 25-56
 - economic connectedness 27
 - social capital 28-29
 - family structure 38-40
 - crime 48-50
 - loneliness 56
- COMPETITIVENESS, STATE ECONOMIC xv-xvi, 59-75, 259-278
 - productivity 68-69
 - wages and salaries 70-75
 - innovation and STEM capacity 259-275
- CONNECTEDNESS, ECONOMIC 27
- COST BURDEN (HOUSING) 106-108
- CRIME 48-50
 - property crime 48
 - violent crime 49
 - incarceration 50
- CROSS-CLASS FRIENDSHIPS 27
- DAMS 256-257
 - high-hazard dams 257
- DEMOGRAPHIC CHANGE 279-292
 - population totals 281
 - regional change 284
 - migration 291
 - fertility 292
- DISABILITY 123, 237
- DISCONNECTED YOUTH 51, 202-203
- DRUG OVERDOSES 226-227
- ECONOMIC DEVELOPMENT xv-xvi
 - industry competitiveness xv-xvi
 - business formation 59-61
 - high-growth firms 62-67
- ECONOMIC DISADVANTAGE 95-126
 - Index of Deep Disadvantage 97

362 • KENTUCKY ANNUAL ECONOMIC REPORT 2026

poverty	114-117	direct-to-consumer sales	22
income inequality	102-105	FERTILITY	292
ECONOMIC MOBILITY	27, 104	FOOD INSECURITY	118-119, 199
ECONOMIC OUTLOOK (FORECAST)	1-9	FOOD MANUFACTURING	20
ECONOMIC OUTPUT	3-4	FOOD PRODUCTION, VALUE-ADDED	20
ECONOMIC RESILIENCE	xv-xvi, 95-126, 293-321	FORECAST (See ECONOMIC OUTLOOK)	1-9
public finance stability	293-321	FOREIGN-BORN POPULATION	286-287
health and social vulnerabilities	221-244	GDP	
by race & ethnicity	194-218	agriculture	18
ECONOMY (STATEWIDE INDICATORS)		forecast	9
employment change	72-75	GENERAL FUND	296
income	76-79	GRANDPARENTS AS CAREGIVERS	40
wages and salaries	70-71	GROSS DOMESTIC PRODUCT (See GDP)	
EDUCATION	127-162	HEALTH	221-244
attainment	129-131, 143, 150, 156-159	social determinants	223
earnings by education	132-134	chronic conditions	234-236
labor force participation	135	health insurance (children)	238
health by education	136	health insurance (all people)	239
public assistance by education	137	youth health behaviors	240-243
achievement gaps (KSA and NAEP)	148-149	oral health	244
ranking (Education Index)	142-143	HEALTH VIOLATIONS (WATER SYSTEMS)	252-3
standardized tests (NAEP and KSA)	154-155	HEMP INDUSTRY	24
ELECTRICITY COSTS	174-175	HIGH-GROWTH FIRMS	62-67
ENTREPRENEURSHIP	259-278	HIGH-SPEED INTERNET	254-255
early-stage entrepreneurship	261	HOUSING	90-91, 106-110
SBIR awards	268-269	starts	90
venture capital	275	homeownership affordability	91
nonemployer firms	278	cost-burdened renters	106
ENVIRONMENT	177-187	cost-burdened owners	107-108
recycling	180	severe housing problems	110
toxic releases	181	INCOME	76-79
solid waste	182	household income growth	104
landfill gas projects	183	income inequality (Gini)	102-103
lead exposure risk	186-187	INFLATION	2-3
EQUITY (RACE AND ETHNICITY)	189-220	INFRASTRUCTURE	245-258
employment and unemployment	194-195	commuting patterns	247
earnings gaps	196-197	roads and bridges	248-251
education disparities	204-209	water systems	252-253
housing disparities	210-213	broadband and internet	254-255
health and insurance	214-216	dams	256-257
EXPENDITURES, PUBLIC	302-317	INNOVATION	259-275
FAMILY STRUCTURE	38-40	technology and science index	264
single-parent families	38-39	county innovation index	265
grandparents as caregivers	40	patents	266-267
FARMS	13-15	INTERSTATE MIGRATION	291
decline in farm numbers	13	JOB CREATION AND DESTRUCTION	262-263
farm size trends	13	LABOR FORCE	80-85
indexed trends	14-15	employment-population ratio	80-81
organic agriculture	23	labor force participation	82-85
		reasons for nonparticipation	84

LABOR MARKET	5-8		
LABOR SHORTAGES (WORKFORCE TIGHTNESS)			
child care constraints	41-43		
health barriers	223-237		
nonparticipation reasons	84		
LANDFILL GAS PROJECTS	183		
LEAD CONTAMINATION	186-187		
LOCAL FOOD SYSTEMS	22		
LONELINESS	56		
MANUFACTURING (STATE ROLE)		xv-xvi	
MENTAL HEALTH	228-231		
MIGRATION	291		
MORTALITY (LEADING CAUSES)		217	
NATURAL AMENITIES	179		
NATURAL GAS TRANSITION	169		
NEIGHBORHOOD QUALITY	44		
NEW EMPLOYERS	59		
NONEMPLOYER ESTABLISHMENTS		278	
NONPROFITS	28-29, 35		
OBESITY	233, 241		
ORGANIC AGRICULTURE	23		
OVERDOSE DEATHS	226-227		
PATENTS	266-267		
PENSION FUNDING	319-321		
PERSONAL BANKRUPTCIES	112		
PESTICIDE AND CHEMICAL RELEASES		see	
TOXIC RELEASES			
POVERTY	114-117		
child poverty	116		
elder poverty	117		
PRODUCTIVITY	68-69		
PRODUCTIVITY DRIVERS		xv-xvi, 68-69	
technology and innovation	259-275		
education and skills	129-162		
business formation	59-67		
PUBLIC ASSISTANCE	119-126		
PUBLIC FINANCE	293-321		
federal funds	295, 300		
General Fund receipts	296		
tax revenues and collections		296-301	
state and local revenue	301		
expenditures by function	302-317		
debt and pensions	318-321		
PUBLIC SAFETY	48-50		
RECYCLING	180		
REGIONAL DISPARITIES		xv-xvi, 25-26, 29, 39, 43, 71, 73-75, 79, 83, 85, 97, 101, 103, 115, 157, 223-225, 265, 284-285	
			urban-rural differences xv-xvi
			health and education variation maps
RESEARCH AND DEVELOPMENT		270-271	
ROADS	248-249		
RURAL POPULATION		282	
SCHOOLS			
achievement gaps	148-149		
standardized tests (NAEP and KSA)	154-155		
kindergarten readiness	147		
college readiness	152		
high school graduation rate		151	
SCIENCE AND ENGINEERING GRADUATES		158	
SELF-EMPLOYMENT		198, 276-277	
SINGLE-PARENT FAMILIES		38-39	
SITE SELECTION FACTORS		xvi	
infrastructure reliability		xvi	
energy costs	174-176		
workforce availability		80-85	
tax structure	296-301		
SMALL BUSINESS INNOVATION RESEARCH (SBIR)		268-269	
SMOKING		232, 242	
SOCIAL CAPITAL		28-29	
SOCIAL CONNECTEDNESS		27	
SOCIAL SERVICES EXPENDITURES		304-305	
SOLID WASTE		182	
STEM OCCUPATIONS		272-273	
SUBSTANCE USE		226-227, 234, 243	
SUPPLY CHAINS		12, 20, 89	
agriculture-manufacturing linkages		20	
logistics and trade exposure		89	
TALENT ATTRACTION & RETENTION		284-287	
interstate migration		291	
education and workforce pipeline		129-131	
TAXES		296-301	
TECHNOLOGY ADOPTION (DIGITAL ECONOMY)			
AI workforce effects		262-263	
broadband access		254-255	
STEM labor markets		272-273	
TELEWORK		141, 218	
TOBACCO	13-15, 21		
TOXIC RELEASES		181	
TRADE		86-89	
TRANSFER PAYMENTS		100-101	
TRANSPORTATION AND LOGISTICS			xv-xvi,

247-251	
commuting patterns	247
road network quality	248-249
UNEMPLOYMENT (RACIAL AND ETHNIC PATTERNS)	194
UPWARD MOBILITY	27-29
URBAN-RURAL DISPARITIES	xv-xvi, 25-26, 79, 94
VALUE-ADDED FOOD PRODUCTION	20
VENTURE CAPITAL	275
VIOLENT CRIME	49
VOLUNTEERISM	30-31, 138
WATER SYSTEMS	252-253
health-based violations	253
lead contamination	186-187
WEALTH INEQUALITY	106-110, 189-220
homeownership disparities	210
housing cost burdens	106-108
WIC (WOMEN, INFANTS, AND CHILDREN)	124
WORKFORCE	80-85
labor force participation	82-85
productivity	68-69
WORKFORCE DEVELOPMENT	129-162
education-to-workforce pipeline	129-131
workforce readiness indicators	152
barriers to employment	84-85
YOUTH OUTCOMES	202-203, 229-231, 240-243
disconnected youth	202-203
health behaviors	240-243
mental health	229-231
obesity	241
substance use	243



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