



Industry Spotlight

CLEX - Biopharma and Life Sciences

Greater Lexington Bluegrass Alliance Region



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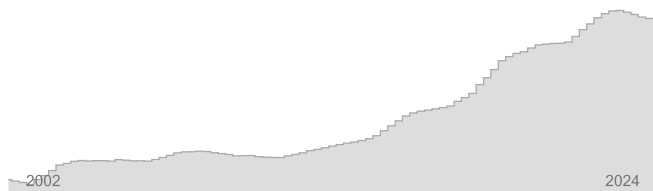
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Spotlight Summary

CLEX - Biopharma and Life Sciences
Greater Lexington Bluegrass Alliance Region – 2024Q1

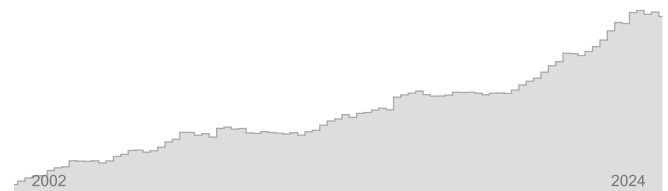
EMPLOYMENT



1,827

Regional employment / **1,241,559** in the nation

WAGES



\$104,121

Avg Wages per Worker / **\$157,787** in the nation

6.3% ↑

Avg Ann % Change Last 10 Years / **+3.5%** in the U.S.



0.5%

% of Total Employment / **0.8%** in the U.S.

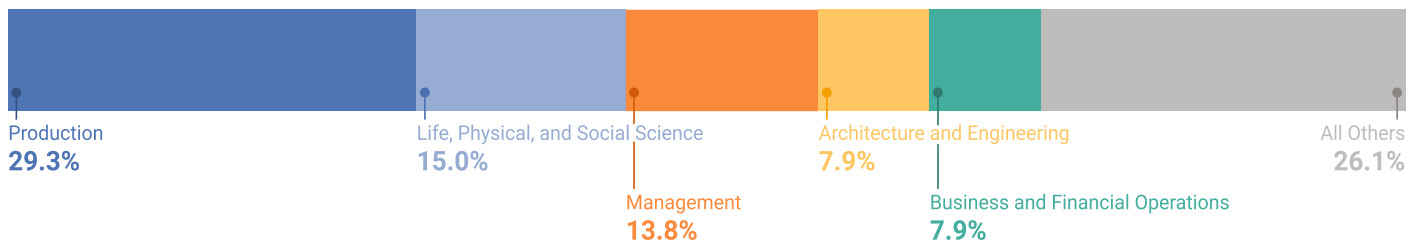


3.5% ↑

Avg Ann % Change Last 10 Years / **+3.0%** in the U.S.



TOP OCCUPATION GROUPS



TOP INDUSTRIES

Avg Ann % Change in Employment, Last 10 Years

7.6% ↑



Pharmaceutical Preparation Manufacturing

10.6% ↑



Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

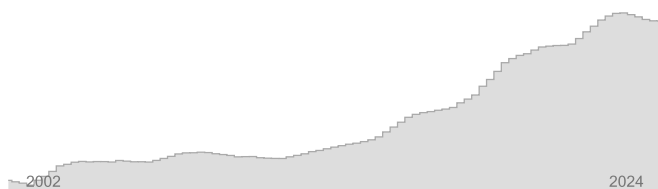
5.8% ↑



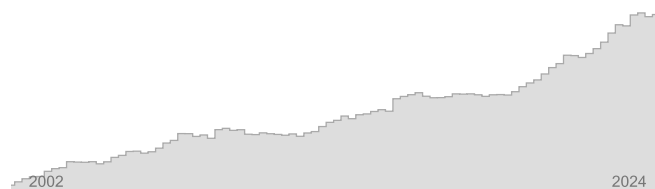
In-Vitro Diagnostic Substance Manufacturing

Industry Snapshot

EMPLOYMENT



WAGES

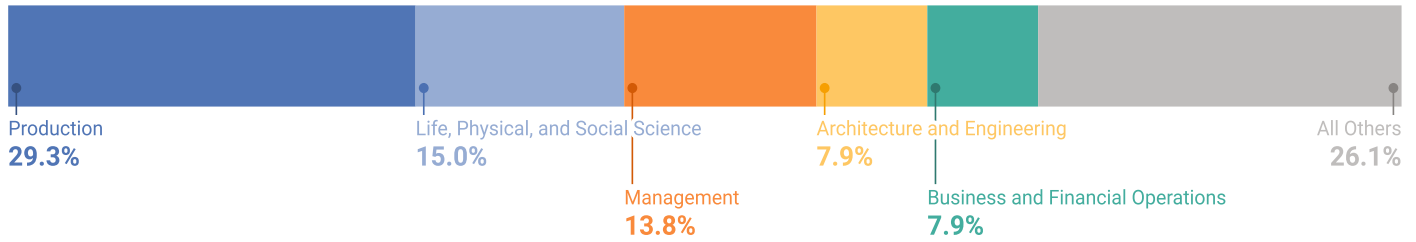


6-Digit Industry	Empl	Avg Ann Wages	LQ	5yr History	Annual Demand	Forecast Ann Growth
Pharmaceutical Preparation Manufacturing	935	\$106,649	1.75		90	0.4%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	448	\$111,216	0.34		37	0.7%
In-Vitro Diagnostic Substance Manufacturing	219	\$85,190	3.00		20	0.2%
Research and Development in Biotechnology (except Nanobiotechnology)	102	\$99,219	0.15		8	0.5%
Medicinal and Botanical Manufacturing	76	\$98,960	0.75		7	0.5%
Research and Development in Nanotechnology	24	\$90,644	0.35		2	0.5%
Biological Product (except Diagnostic) Manufacturing	23	\$96,269	0.22		2	0.4%
CLEX - Biopharma and Life Sciences	1,827	\$104,121	0.63		166	0.5%


Employment is one of the broadest and most timely measures of a region's economy. Fluctuations in the number of jobs shed light on the health of an industry. A growing employment base creates more opportunities for regional residents and helps a region grow its population.

Since wages and salaries generally compose the majority of a household's income, the annual average wages of a region affect its average household income, housing market, quality of life, and other socioeconomic indicators.

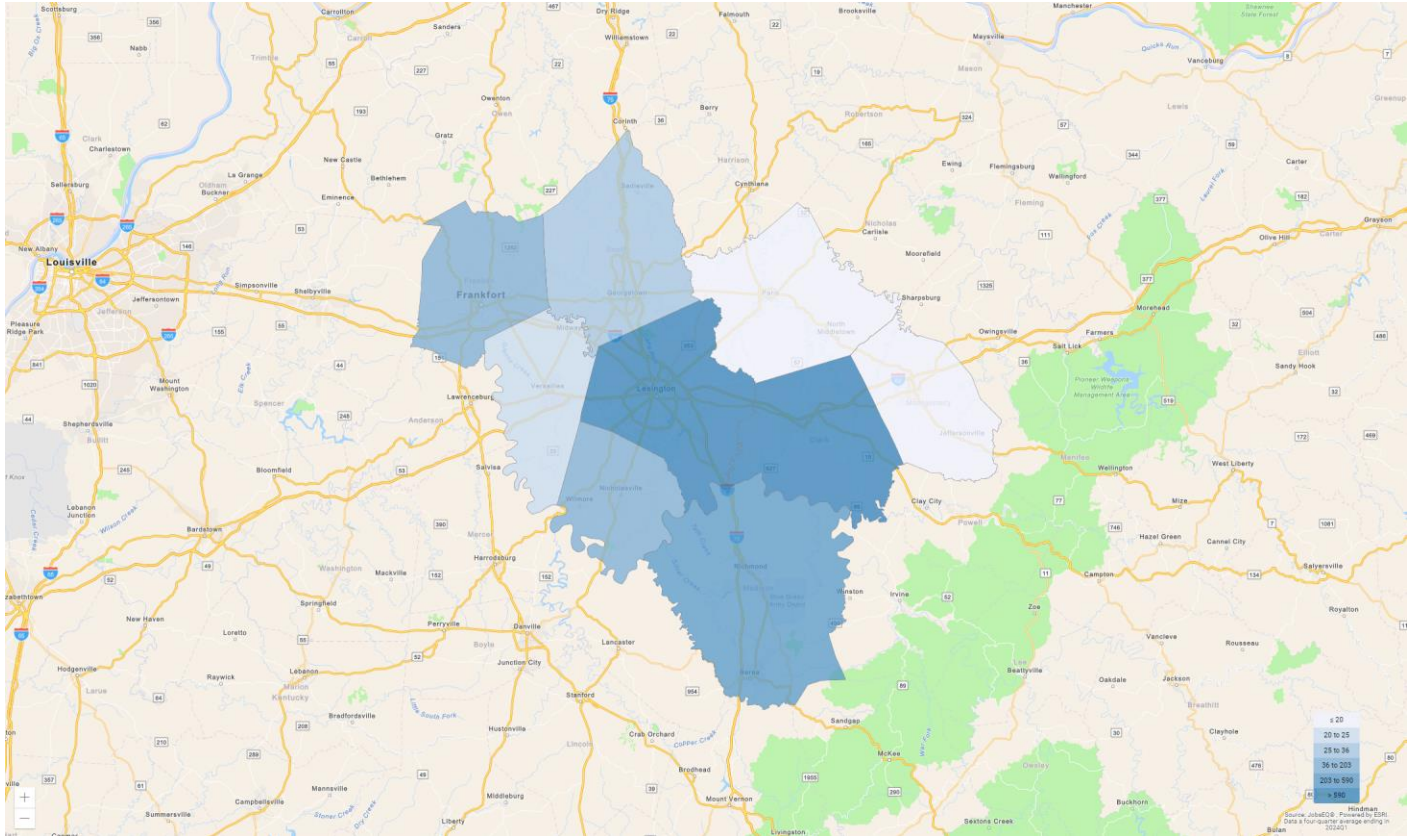
Staffing Pattern



6-digit Occupation	Empl	Avg Ann Wages	Annual Demand
Packaging and Filling Machine Operators and Tenders	165	\$41,600	19
Chemical Equipment Operators and Tenders	134	\$51,300	12
Inspectors, Testers, Sorters, Samplers, and Weighers	70	\$58,500	8
General and Operations Managers	57	\$155,500	5
First-Line Supervisors of Production and Operating Workers	52	\$88,900	5
Industrial Engineers	44	\$106,400	3
Chemists	42	\$80,900	4
Managers, All Other	35	\$165,500	3
Industrial Production Managers	33	\$137,000	2
Life, Physical, and Social Science Technicians, All Other	33	\$72,200	4
Remaining Component Occupations	1,135	\$82,400	106
Total	1,800		

 The mix of occupations points to the ability of a region to support an industry and its flexibility to adapt to future demand. Industry wages are a component of the cost of labor for regional employers.

Geographic Distribution



Region	Empl	Region	Empl
Fayette County, Kentucky	894	Scott County, Kentucky	25
Clark County, Kentucky	591	Woodford County, Kentucky	21
Madison County, Kentucky	203	Montgomery County, Kentucky	4
Jessamine County, Kentucky	51	Bourbon County, Kentucky	1
Franklin County, Kentucky	36		

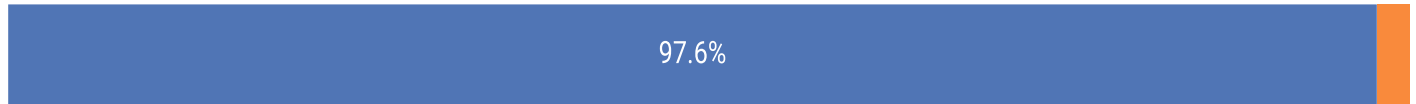
Source: JobsEQ®



 The geographic distribution of industry employment by place of work illustrates the impact on labor force demand and commuting patterns.

Employment Distribution by Type

The table below shows the employment mix by ownership type for CLEX - Biopharma and Life Sciences for the Greater Lexington Bluegrass Alliance Region. Four of these ownership types — federal, state, and local government and the private sector — together constitute “Covered Employment” (employment covered by the Unemployment Insurance programs of the United States and reported via the Quarterly Census of Employment and Wages).

“Self-Employment” refers to unincorporated self-employment and represents workers whose primary job is self-employment (that is, these data do not include workers whose primary job is a wage-and-salary position that is supplemented with self-employment).



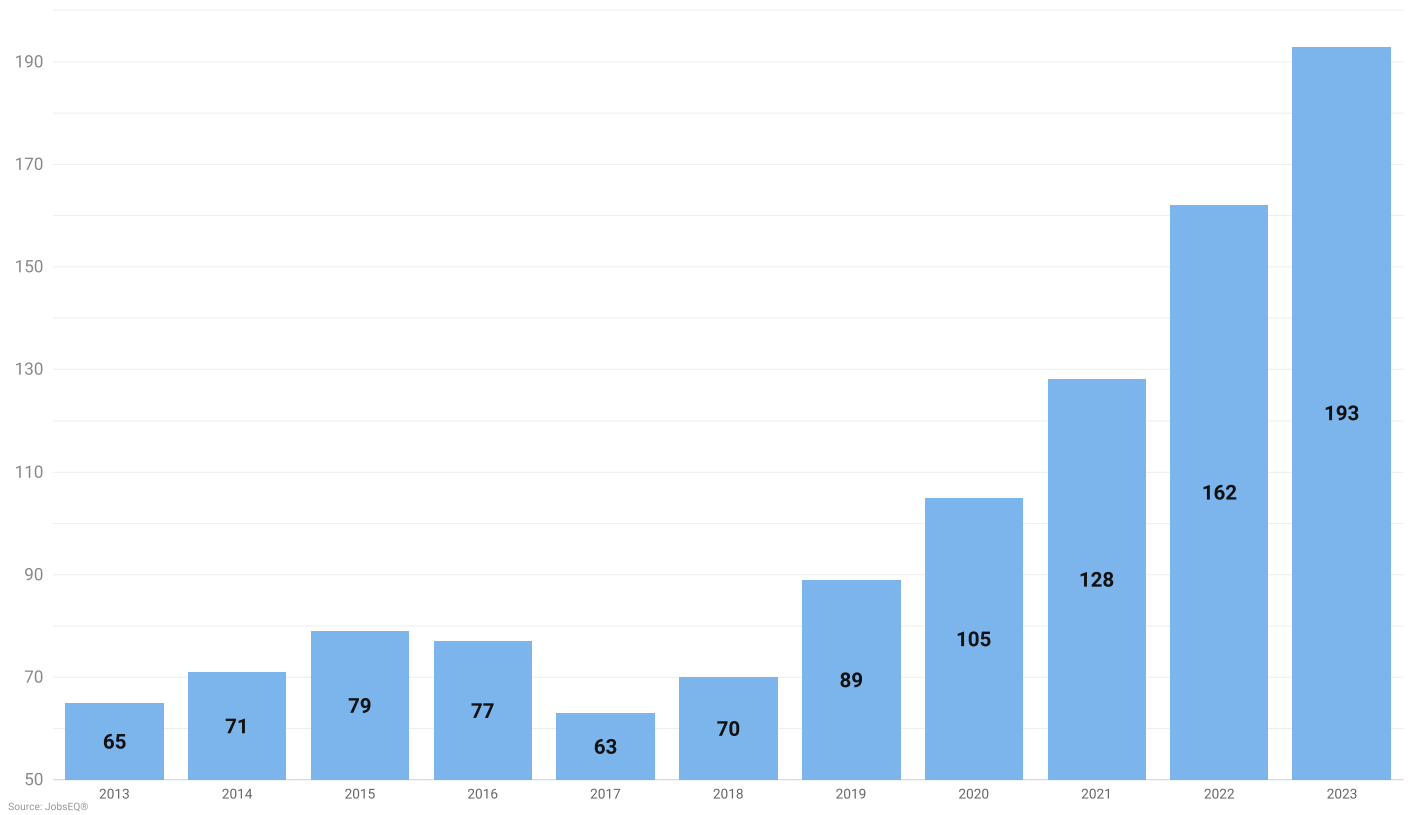
	Empl	%
 Private	1,784	97.6%
 Self-Employment	43	2.4%


Source: JobsEQ®

 Strong entrepreneurial activity is indicative of growing industries. Using self-employment as a proxy for entrepreneurs, a higher share of self-employed individuals within a regional industry points to future growth.

Establishments

In 2023, there were 193 CLEX - Biopharma and Life Sciences establishments in the Greater Lexington Bluegrass Alliance Region (per covered employment establishment counts), an increase from 65 establishments ten years earlier in 2013.

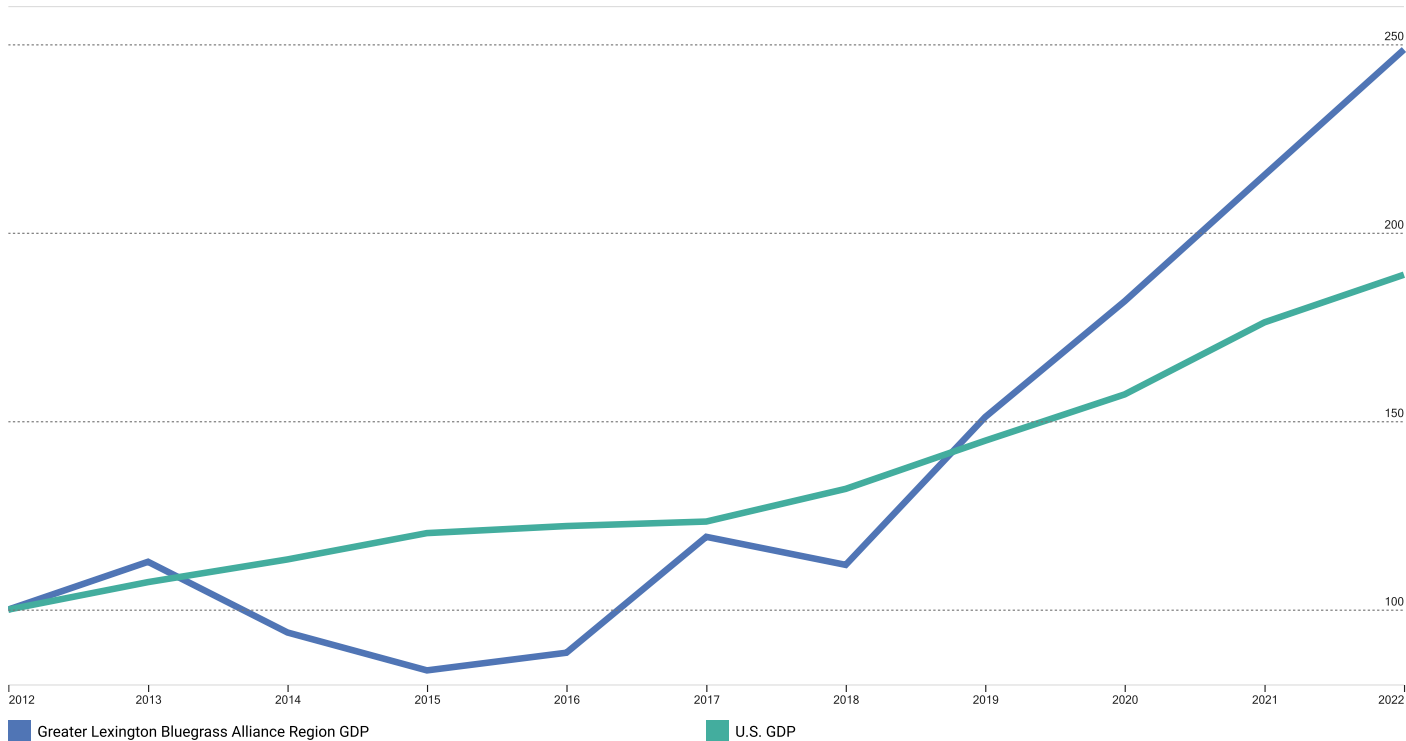


 New business formations are an important source of job creation in a regional economy, spurring innovation and competition, and driving productivity growth. Establishment data can provide an indicator of growth in businesses by counting each single location (such as a factory or a store) where business activity takes place, and with at least one employee.

GDP & Productivity

In 2022, CLEX - Biopharma and Life Sciences produced \$0.6 billion in GDP for the Greater Lexington Bluegrass Alliance Region.

GDP: Indexed 2012 = 100



1.2 %

Industry Share of Total GDP /
1.7 % in the nation



9.5 % ↑

Avg Ann % Change Last 10 Yrs /
6.6 % in the nation



\$476k

Output per Worker /
\$502k in the nation



💡 Gross domestic product (GDP) is the most comprehensive measure of regional economic activity, and an industry's contribution to GDP is an important indicator of regional industry strength. It is a measure of total value-added to a regional economy in the form of labor income, proprietor's income, and business profits, among others. GDP values shown on this page are nominal GDP data.

💡 Growth in productivity (output per worker) leads to increases in wealth and higher average standards of living in a region.

Supply Chain: Top Suppliers

As of 2024Q1, CLEX - Biopharma and Life Sciences in the Greater Lexington Bluegrass Alliance Region are estimated to make \$251.4 million in annual purchases from suppliers in the United States with about 40% or \$99.9 million of these purchases being made from businesses located in the Greater Lexington Bluegrass Alliance Region.



6-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Medicinal and Botanical Manufacturing	\$17.3	\$17.6
Biological Product (except Diagnostic) Manufacturing	\$1.0	\$27.0
Corporate, Subsidiary, and Regional Managing Offices	\$7.9	\$6.8
Pharmaceutical Preparation Manufacturing	\$11.4	\$0.2
Offices of Lawyers	\$3.9	\$4.1
Remaining Supplier Industries	\$58.3	\$95.8
Total	\$99.9	\$151.5

 Supplier-buyer networks can indicate local linkages between industries, regional capacity to support growth in an industry, and potential leakage of sales out of the region.

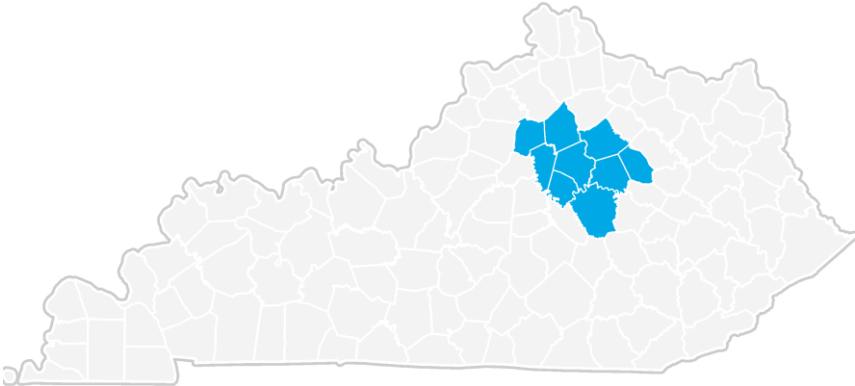
Postsecondary Programs Linked to CLEX - Biopharma and Life Sciences

Program	Awards
Bluegrass Community and Technical College	
Industrial Mechanics and Maintenance Technology/Technician	333
Eastern Kentucky University	
Biomedical Sciences, General	53
Forensic Chemistry	30
Industrial Safety Technology/Technician	120
University of Kentucky	
Biology/Biological Sciences, General	184
Chemistry, General	58
Mechanical Engineering	196
Neuroscience	97
Pharmaceutics and Drug Design	18
Zymology/Fermentation Science	62

Source: [JobsEQ®](#)

-  The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.
-  Among postsecondary programs at schools located in the Greater Lexington Bluegrass Alliance Region, the sampling above identifies those most linked to occupations relevant to CLEX - Biopharma and Life Sciences. For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>

Greater Lexington Bluegrass Alliance Region Regional Map



Data Notes

- Industry employment and wages (including total regional employment and wages) are as of 2024Q1 and are based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts.
- Occupation employment is as of 2024Q1 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Wages by occupation are as of 2024, utilizing BLS OEWS data and imputed by Chmura.
- GDP is derived from BEA data and imputations by Chmura. Productivity (output per worker) is calculated by Chmura using industry employment and wages as well as GDP and BLS output data. Supply chain modeling including purchases by industry are developed by Chmura.
- Postsecondary awards are per the NCES and are for the 2021-2022 academic year.
- Establishment counts are per the BLS QCEW data.
- Figures may not sum due to rounding.

Industry Definition

CLEX - Biopharma and Life Sciences is defined as the following NAICS industries:

Code	Description
325411	Medicinal and Botanical Manufacturing
325412	Pharmaceutical Preparation Manufacturing
325413	In-Vitro Diagnostic Substance Manufacturing
325414	Biological Product (except Diagnostic) Manufacturing
541713	Research and Development in Nanotechnology
541714	Research and Development in Biotechnology (except Nanobiotechnology)
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

Region Definition

Greater Lexington Bluegrass Alliance Region is defined as the following counties:

Bourbon County, Kentucky

Clark County, Kentucky

Fayette County, Kentucky

Franklin County, Kentucky

Jessamine County, Kentucky

Madison County, Kentucky

Montgomery County, Kentucky

Scott County, Kentucky

Woodford County, Kentucky

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.

What is the difference between industry wages and occupation wages?

Industry wages and occupation wages are estimated via separate data sets, often the time periods being reported do not align, and wages are defined slightly differently in the two systems (for example, certain bonuses are included in the industry wages but not the occupation wages). It is therefore common that estimates of the average industry wages and average occupation wages in a region do not match exactly.