



# Compendium of key analyses for Kentucky

Collaborative Blueprint created by and for Kentucky's Economic Developers

December 2023



# Overview of this document

## **This document contains the following from the Collaborative Blueprint deliverables:**

- Economic overview of Kentucky, focusing on 5 parts: Sectors & Firms, Talent & Human capital, Capital & Innovation, Infrastructure, Business climate, and Economic Development Operating Capabilities
- The Sectors & Firms section provides an overview of employment specialization by industry.
- Where applicable, the levers are analyzed through multiple lenses: state-wide, geographic breakdown, and by demographic group
- Data as of Dec 2023

# Analyses were completed against a 6 part framework



- 1 Sectors & Firms**
- 2 Talent & Human capital**
- 3 Capital & Innovation**
- 4 Infrastructure**
- 5 Business climate**
- 6 Economic Development Operating Capabilities**

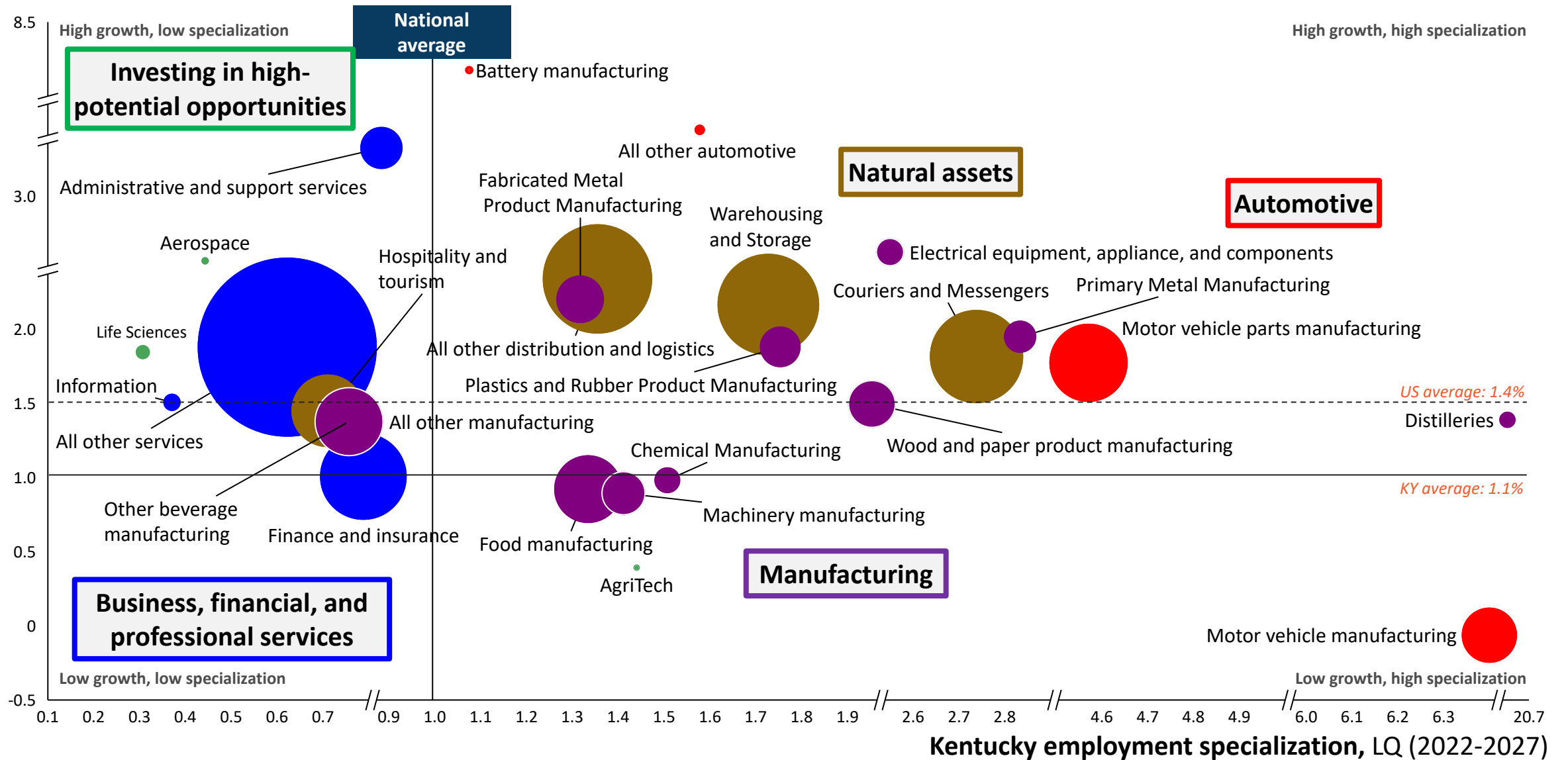
Where applicable, the levers are analyzed through multiple lenses: **state-wide, geographic breakdown, and by demographic group**

# 1. Sectors and firms

# Kentucky has a mix of tradable sectors that are specialized and growing

Kentucky employment growth, CAGR (2022-2027)

○ 10,000 employment, 2022








Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole

Source: Lightcast, accessed 7/31/2023

Data as of Dec 2023

# Kentucky has earned the “right to win” and has “opportunities to win” across priority sectors

Least differentiated  Most differentiated

Priority sectors	Where Kentucky has “earned right to win”										Where Kentucky could see “opportunities to win”						
	Share of total employment in KY (2022, %)	KY employment specialization (2022, location quotient)	Historical employment growth in KY relative to U.S. (2022-27)	Projected employment growth in KY relative to U.S. (2022-27)	KY Research & Development spend <sup>1</sup> (2021, \$M)	KY patents <sup>3</sup> (2016-21, #)	KY share of U.S. venture capital (VC) investment <sup>4</sup> (2017-2022, %)	KY share of U.S. foreign direct investment (FDI) (2017-2022, %)	KY exports <sup>6</sup> (2017-2022, \$M)	U.S. projected employment growth (2022-27, %)	U.S. projected employment size (2022-2027, K)	KY average yearly wage (2022, \$ thousand)	U.S. average yearly wage (2022, \$ thousand)	Employment multiplier (2022)	Total U.S. VC investment <sup>4</sup> (2017-2022, \$B)	Total U.S. FDI (2017-2022, \$B)	Stakeholder engagement (% ranked as top 3 most important industry)
 Traditional automotive/electric vehicles	60.9	4.3	-1.8	-0.5	101	342	0.4	12	30,172	1.9	105	68.5	72.7	2.7	140.1	90.6	72
 Materials	61.3	1.7	0.4	0.7	275	658	n/a <sup>5</sup>	3.3	26,706	1.2	172	71.0	74.7	2.3	n/a <sup>5</sup>	78.4	16
Food/beverage processing	38.6	1.5	0.5	0.5	75	170	0.02	9.2	5,025	1.6	167	66.2	57.7	2.9	36.6	28.1	18
Other manufacturing	79.6	1.2	-0.5	0.9	151	1960	0.2	2.1	34,318	0.6	146	65.8	81.4	2.1	125.6	88.0	66
 Distribution and logistics	127.7	1.8	-0.9	-0.1	3	920	0.2	2.0	n/a	2.3	665	62.7	60.2	1.8	135.1	9.8	49
Hospitality and tourism	30.4	0.7	1.8	0.3	n/a	595	n/a <sup>5</sup>	0	n/a	2.6	447	36.9	53.9	1.6	n/a <sup>5</sup>	8.8	75
 Business, financial, and professional services	136.4	0.7	-0.4	-0.2	157	440	0.01	0.1	n/a	2.1	1,703	87.9	135.5	2.2	170.5	47.9	82
 Aerospace	2.9	0.4	-0.2	4.6	<1	97	0.03	2.2	64,889 <sup>7</sup>	0.6	14	81.1	113.2	2.2	18.4	4.3	18
AgriTech	1.6	1.4	-1.8	-1.3	<0.5	11	1.3	0	0	1.7	8	56.1 <sup>8</sup>	67.7	1.8	20.8	0.5	26
Life Sciences	5.9	0.3	0.9	1.4	498 <sup>2</sup>	467	0.2	0.1	16,513	2.3	176	96.0	140.7	2.2	272.6	31.1	23

1. NSF R&D categories are not directly aligned to sector definitions by 6-digit NAICS codes; R&D funding is directional, not comprehensive  
 2. Life Sciences R&D spend is 2021 academic R&D; data for remaining sectors are 2020 corporate R&D spend  
 3. USPTO patents granted 2017-2021, based on assignee location, patents can be assigned to multiple industries  
 4. PitchBook data technology verticals are not directly aligned to sector definitions by 6-digit NAICS codes; VC funding is directional, not comprehensive  
 5. PitchBook data technology verticals did not directly align to Materials or Hospitality & Tourism sectors; VC funding may be present at a more granular level for those sectors

6. Exports of goods only, does not include services  
 7. Includes aerospace parts not manufactured in Kentucky that are repackaged and shipped out of Kentucky from the GE Erlanger Parts Warehouse at the Cincinnati/Northern Kentucky Air  
 8. Wage data is at the NAICS code level; wages for AgriTech may be higher based on occupation type within the sector (e.g., software engineer, project manager)

# Kentucky's regions have different strengths

LQ ≥ 0.7  LQ ≥ 1  LQ ≥ 2  LQ ≥ 3  LQ ≥ 4

Priority sectors	KY LQ <sup>1</sup>	West KY employment specialization (LQ)			South-Central KY employment specialization (LQ)			Central KY employment specialization (LQ)			East KY employment specialization (LQ)					
		Green River	Penny-rile	Purchase	Barren River	Lake Cumberland	Lincoln Trail	Blue-grass	KIPDA	Northern KY	Big Sandy	Buffalo Trace	Cumberland Valley	FIVCO	Gateway	KY River
 Traditional automotive and electric vehicles	4.3	2.0	4.0	1.9	9.9	5.8	8.7	4.9	4.8	1.4	0.5	3.5	3.7	0.0	4.0	0.0
 Materials	1.7	4.5	1.3	2.1	3.4	1.1	2.5	1.3	1.2	2.0	0.2	1.3	1.0	1.5	2.7	0.3
Food and beverage processing	1.2	1.4	0.8	1.0	1.4	1.9	1.7	1.2	1.3	1.1	0.2	2.5	1.0	0.8	1.7	0.2
Other manufacturing	1.5	4.4	1.2	1.6	2.0	1.8	2.5	1.0	1.0	1.7	0.6	1.5	2.2	0.9	3.9	0.2
 Distribution and logistics	1.8	0.7	1.3	2.1	0.9	0.6	0.7	0.9	2.6	4.0	0.5	0.9	1.2	1.1	0.8	0.8
Hospitality and tourism	0.7	0.4	0.6	0.6	0.8	0.5	0.4	0.8	0.8	0.9	0.2	0.4	0.6	0.4	0.3	0.3
 Business, financial, and professional services	0.7	0.2	0.2	0.5	0.4	0.2	0.4	0.6	1.0	0.8	0.2	0.3	0.5	0.3	0.3	0.3
 Aerospace	0.4	0.8	0.9	0.0	0.3	0.2	1.1	0.7	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
AgriTech	1.4	1.5	7.8	1.3	3.1	14.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Life sciences	0.3	0.2	0.3	0.4	0.3	0.2	0.1	0.5	0.2	0.4	0.0	0.0	0.1	0.1	0.3	0.2

1.Note: Location quotient (LQ) is measured as the ratio of a sector's share of employment in a region to that sector's share of employment in the US

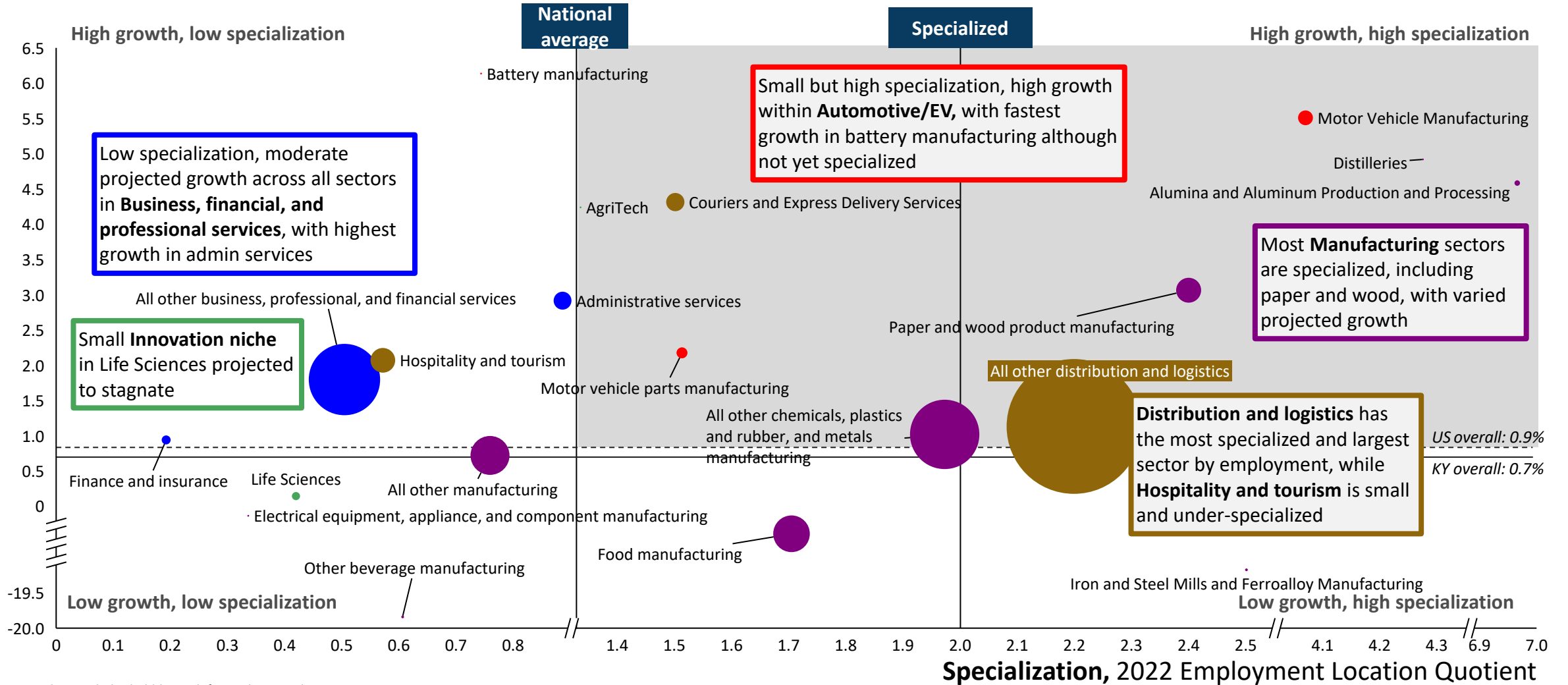
Source: Lightcast, accessed 8/30/2023

Data as of Dec 2023

# West: Purchase ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)

● 1K employment, 2022<sup>1</sup>



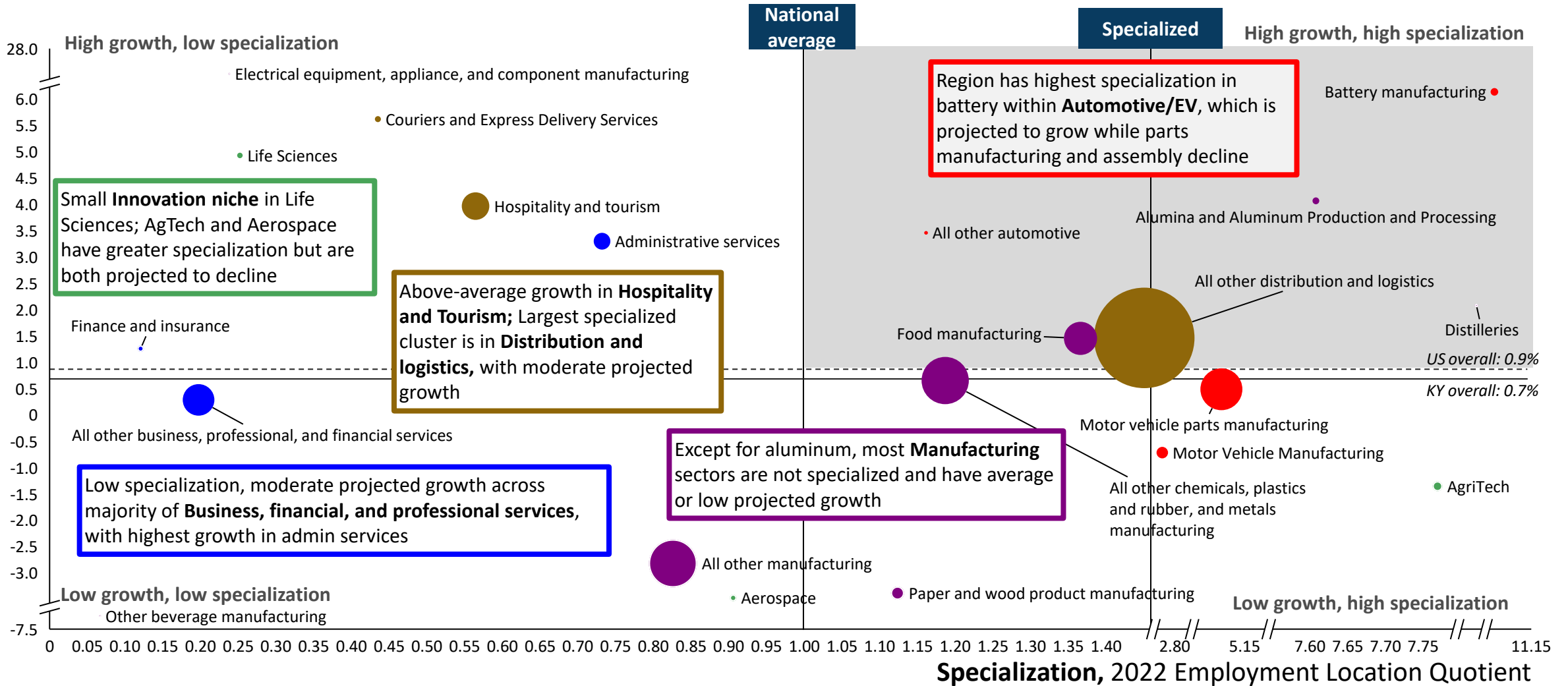
1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023



# West: Pennyrile ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)

● 1K employment, 2022<sup>1</sup>

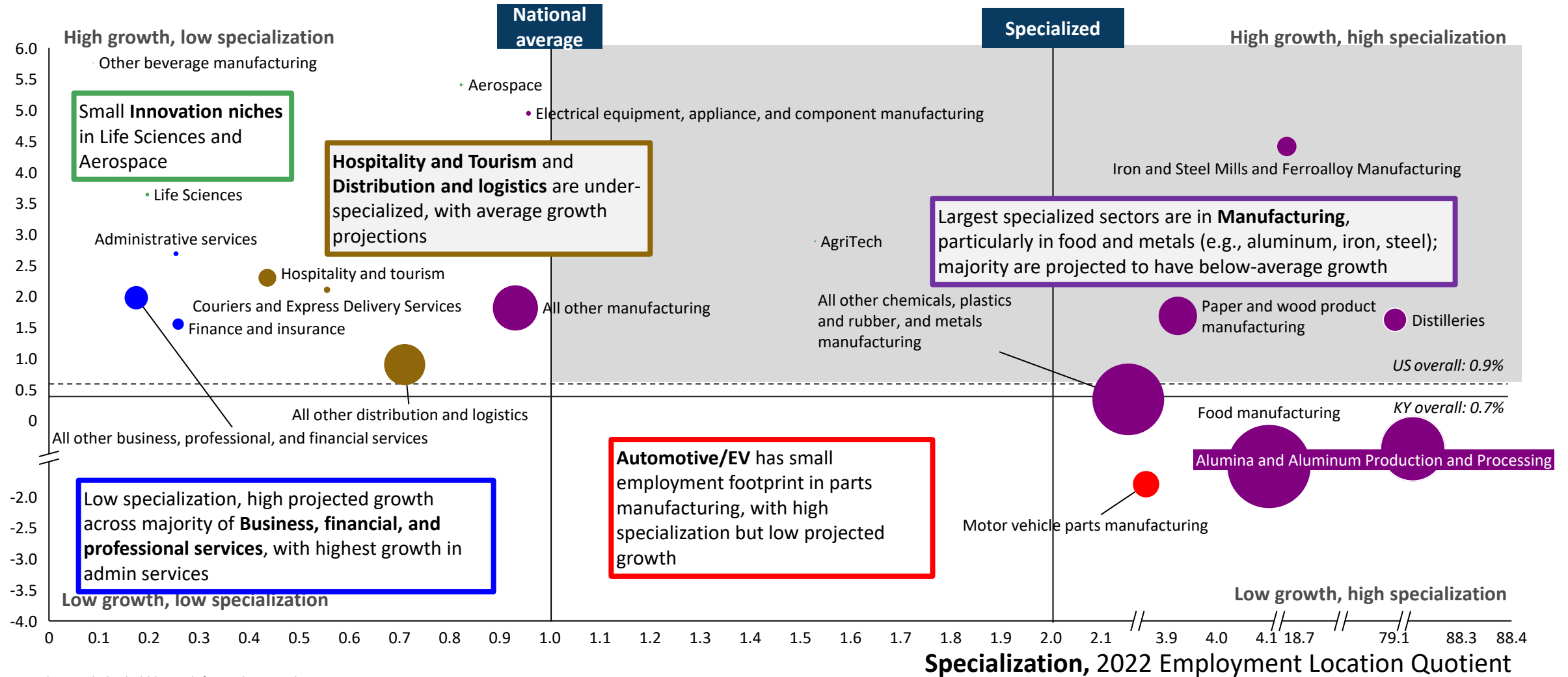


1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# West: Green River ADD “Bubble chart”: “right to win” and “want to win”

## Employment growth, CAGR (2022-2032)

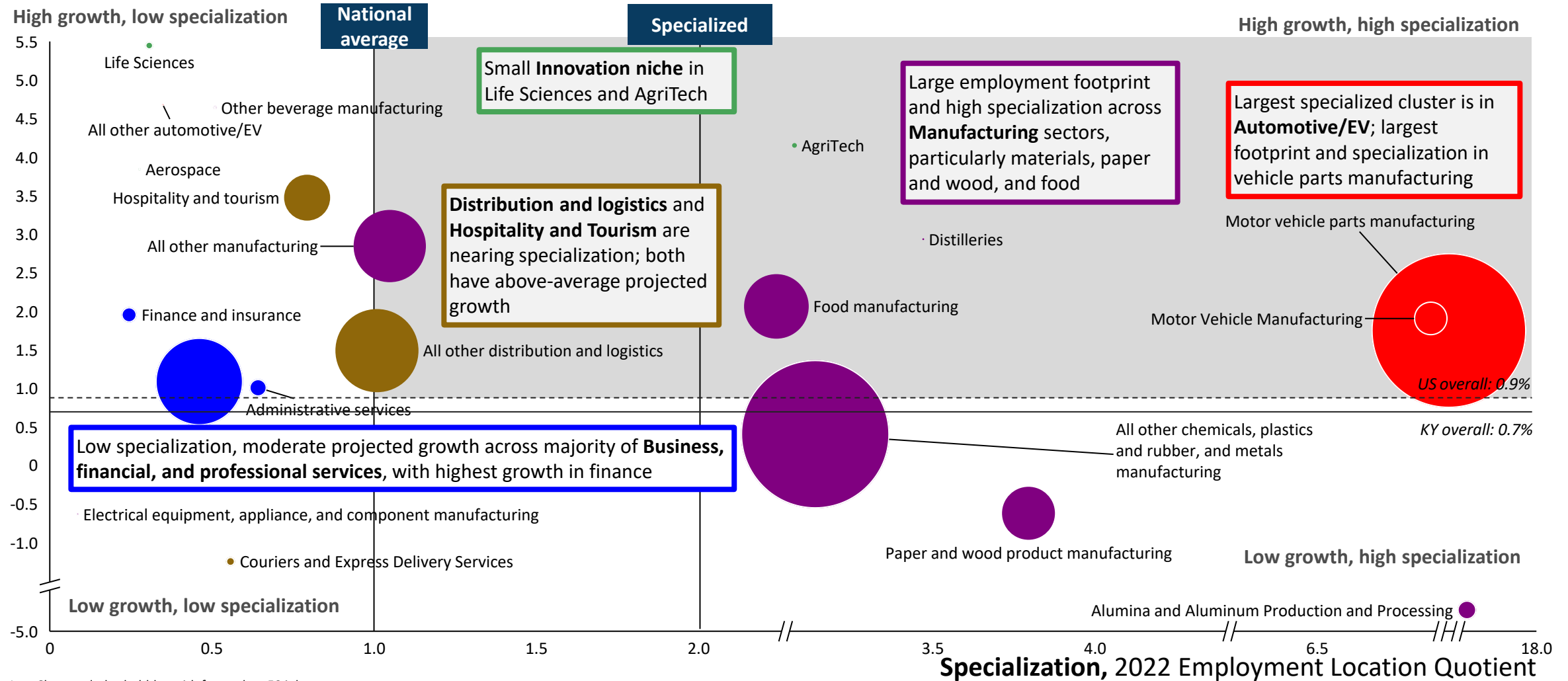
● 1K employment, 2022<sup>1</sup>



1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# South-Central: Barren River ADD “Bubble chart”: “right to win” and “want to win”

## Employment growth, CAGR (2022-2032)



1. Chart excludes bubbles with fewer than 50 jobs

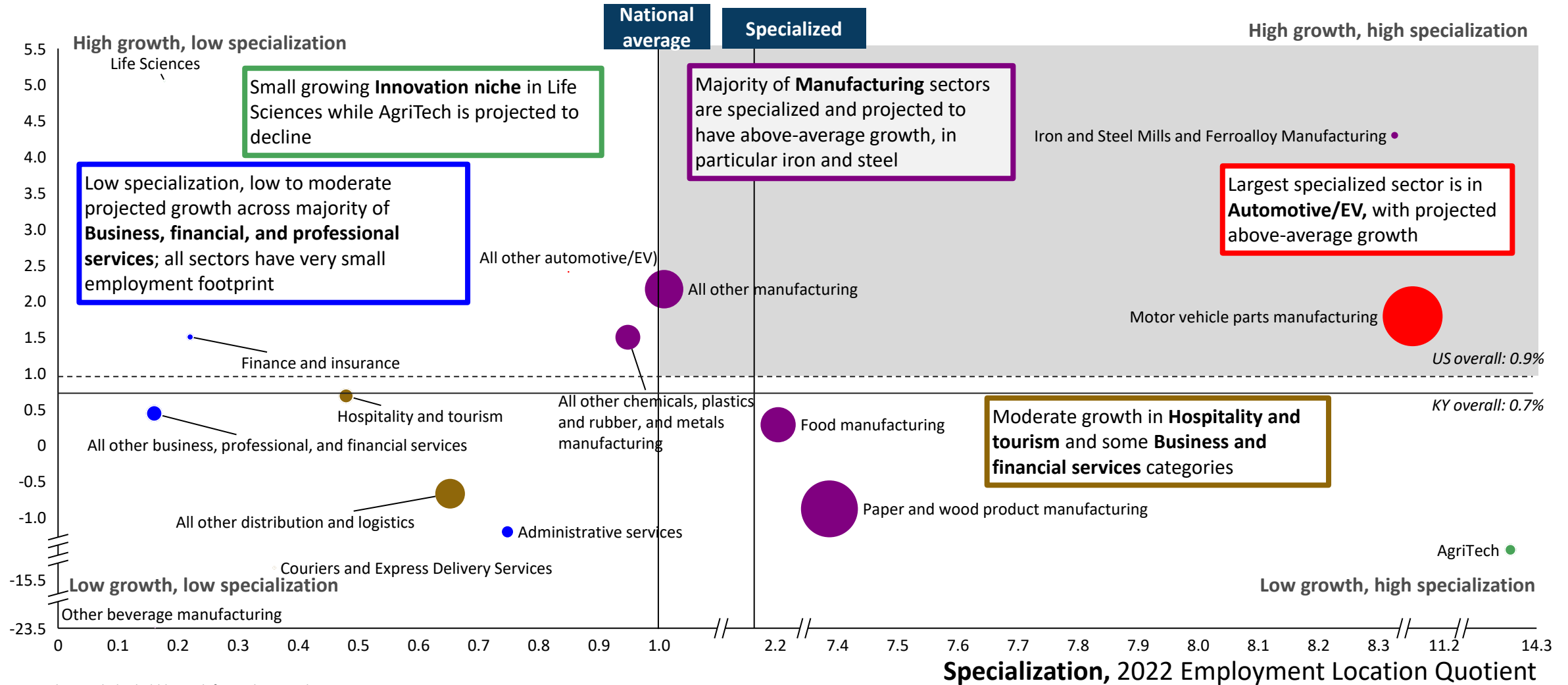
Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole

Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# South-Central: Lake Cumberland ADD “Bubble chart”: “right to win” and “want to win”

## Employment growth, CAGR (2022-2032)

● 1K employment, 2022<sup>1</sup>

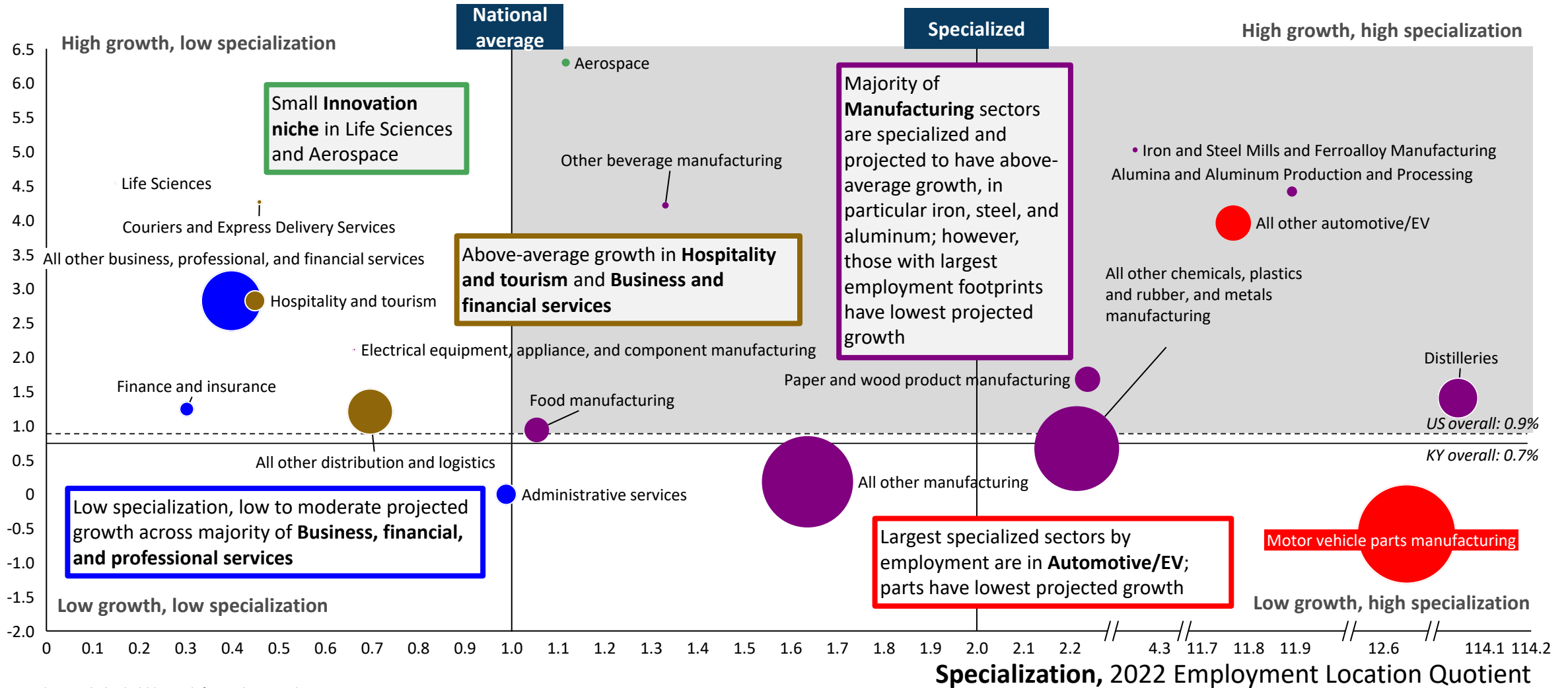


1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# South-Central: Lincoln Trail ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)

● 1K employment, 2022<sup>1</sup>



1. Chart excludes bubbles with fewer than 50 jobs

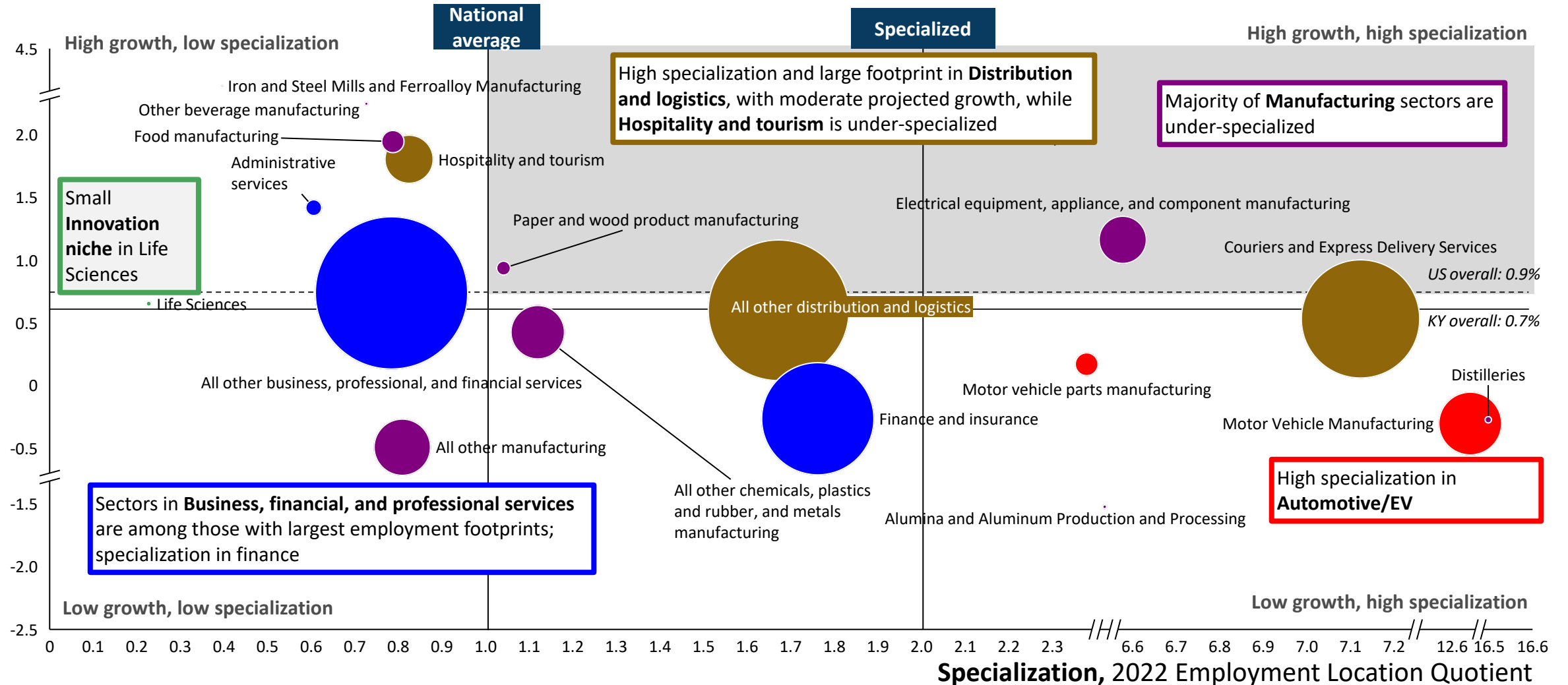
Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole

Source: Lightcast, accessed 9/18/2023

# Central: KIPDA ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)

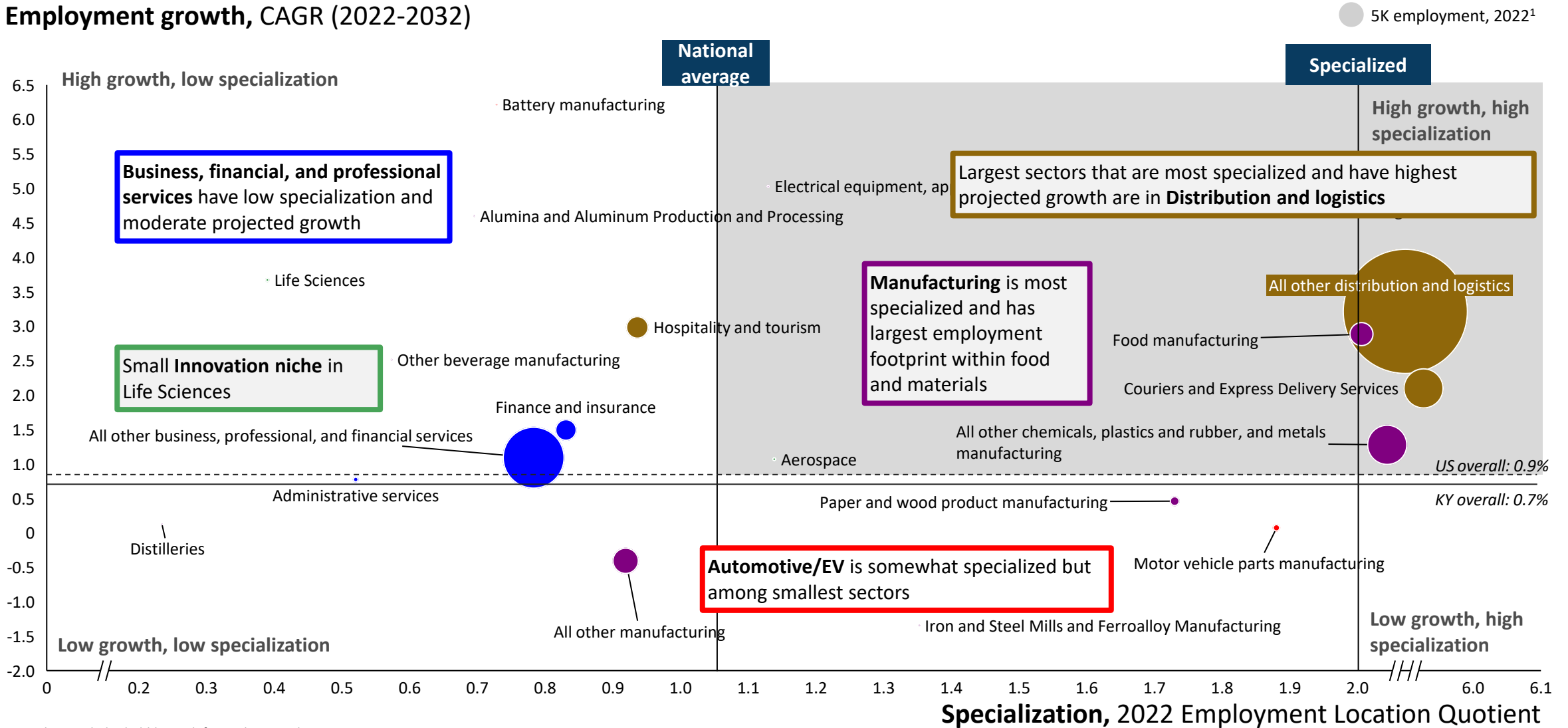
● 5K employment, 2022<sup>1</sup>



1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# Central: Northern Kentucky ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)



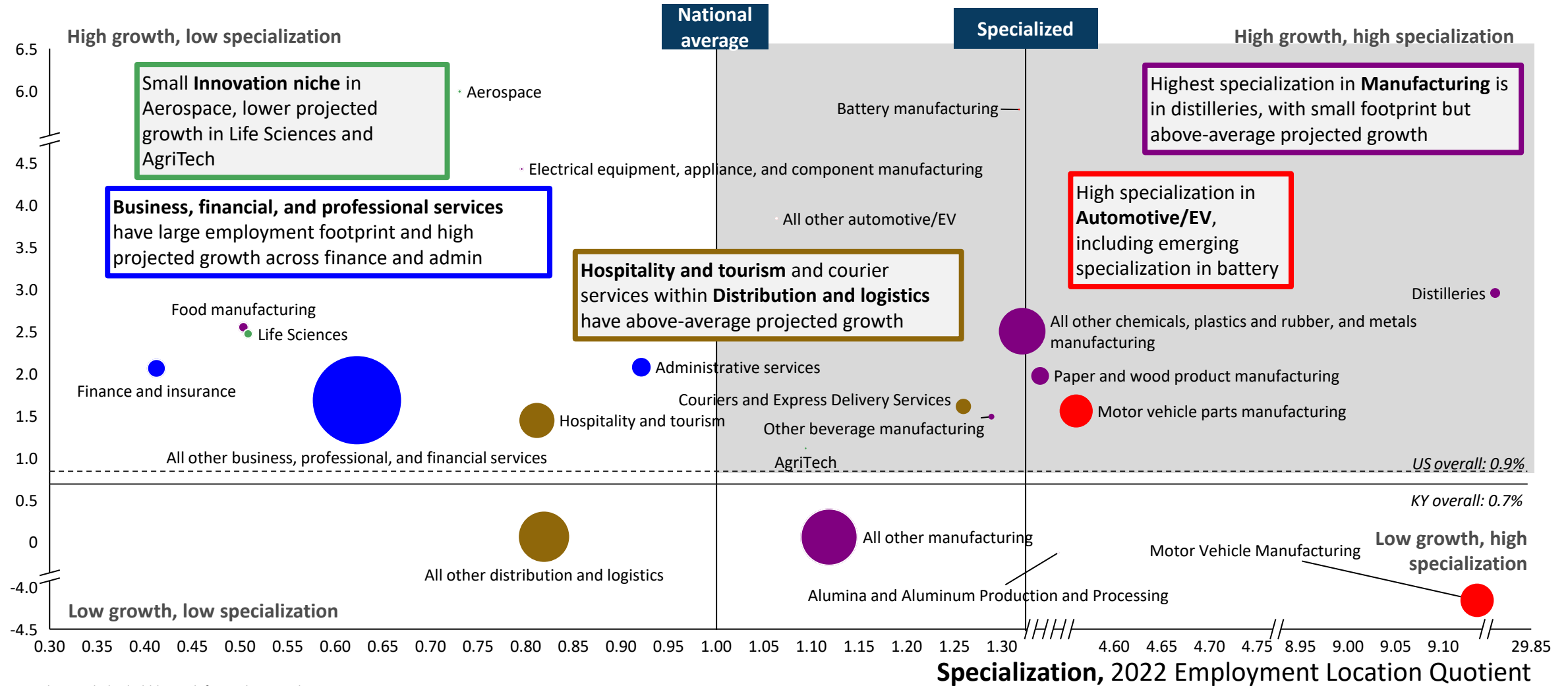
1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023



# Central: Bluegrass ADD “Bubble chart”: “right to win” and “want to win”

Employment growth, CAGR (2022-2032)

● 5K employment, 2022<sup>1</sup>



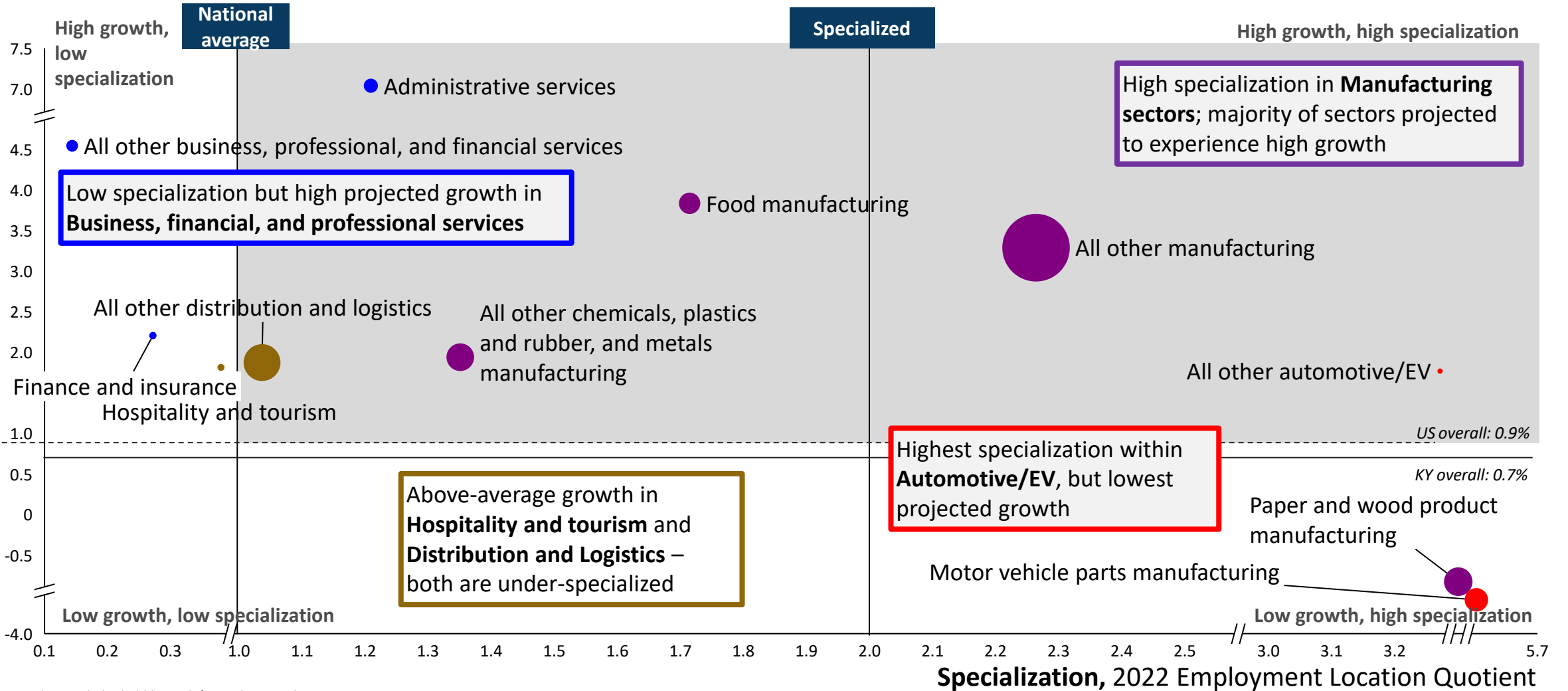
1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023



# East: Buffalo Trace ADD “Bubble chart”: “right to win” and “want to win”

ADD Employment growth, CAGR (2022-2032)

● 150 employment, 2022<sup>1</sup>



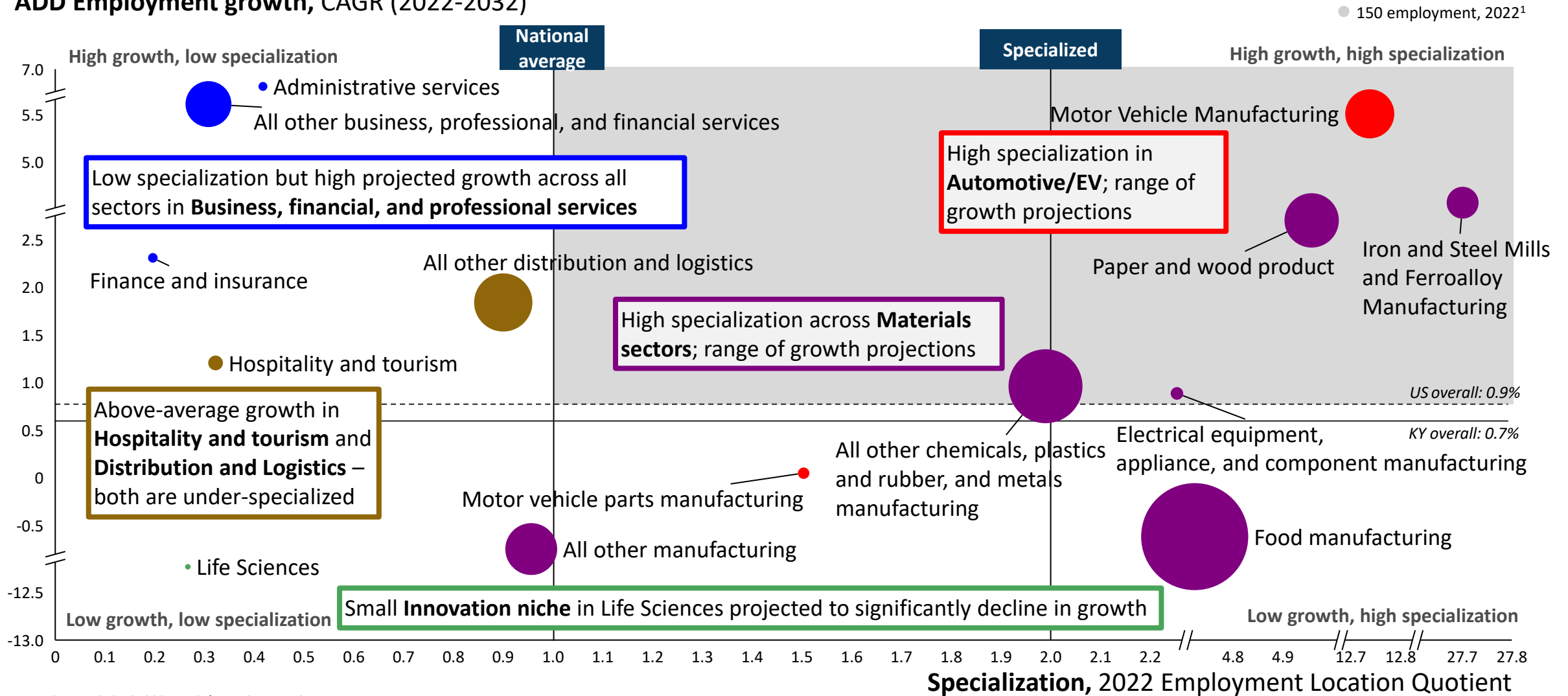
1. Chart excludes bubbles with fewer than 50 jobs

Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole

Source: Lightcast, accessed 9/18/2023

# East: Gateway ADD “Bubble chart”: “right to win” and “want to win”

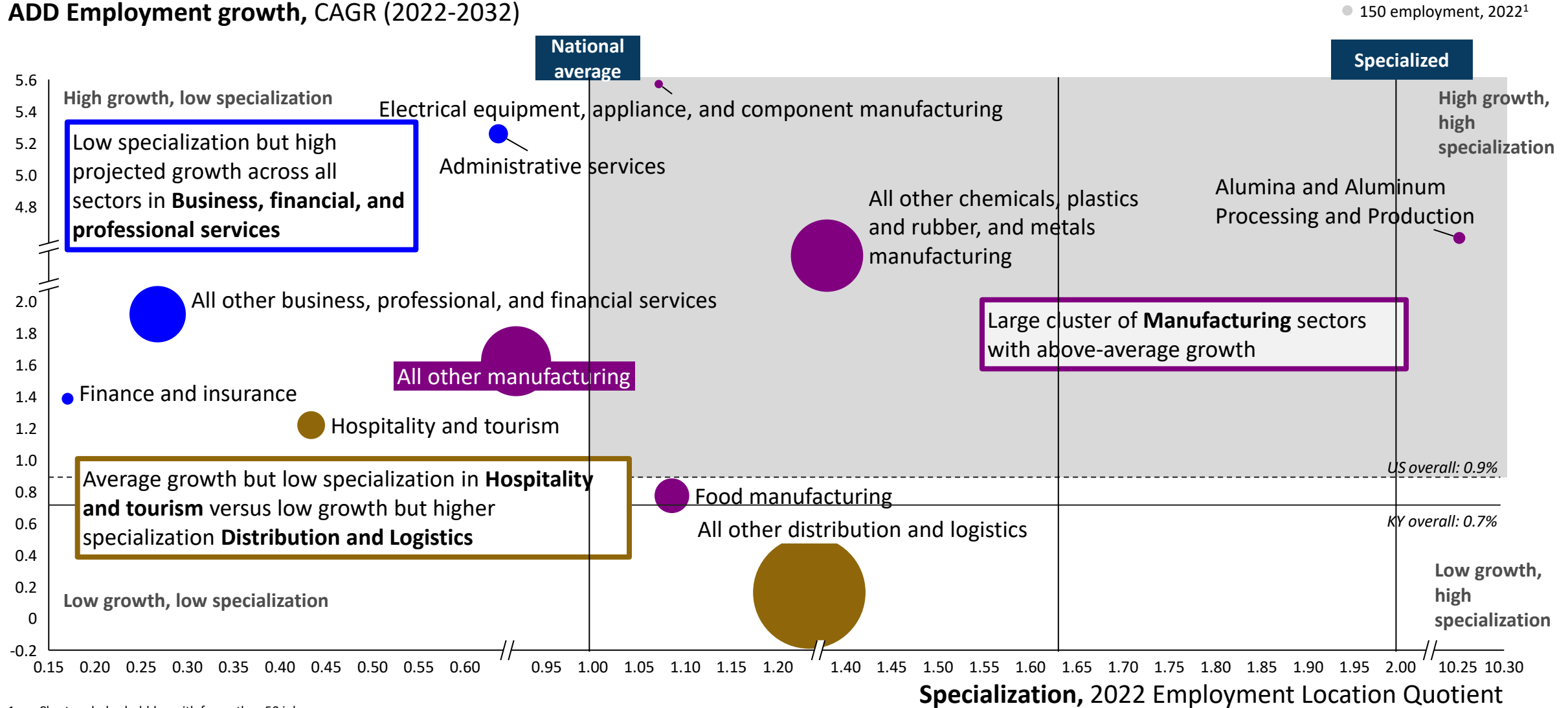
## ADD Employment growth, CAGR (2022-2032)



1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# East: FIVCO ADD “Bubble chart”: “right to win” and “want to win”

ADD Employment growth, CAGR (2022-2032)

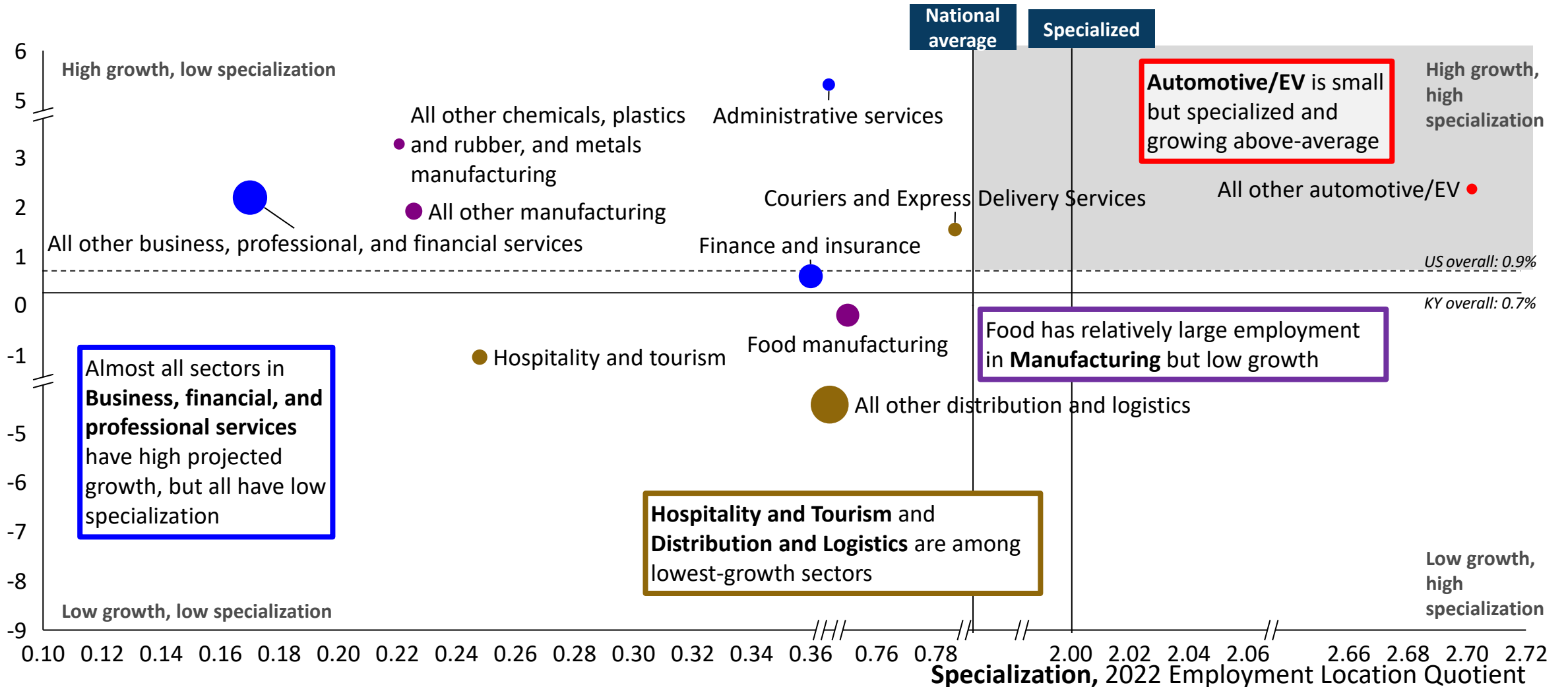


1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023

# East: Big Sandy ADD “Bubble chart”: “right to win” and “want to win”

ADD Employment growth, CAGR (2022-2032)

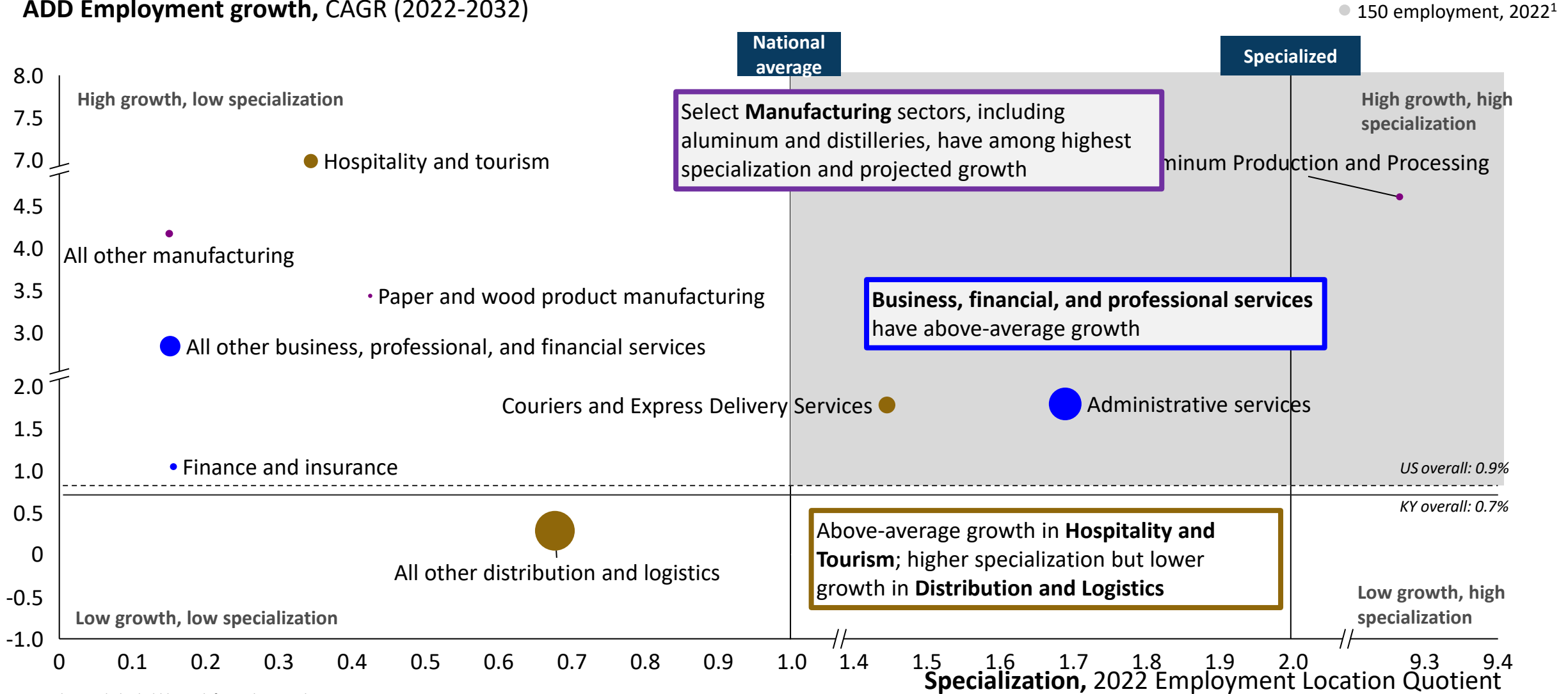
● 150 employment, 2022<sup>1</sup>



1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# East: Kentucky River ADD “Bubble chart”: “right to win” and “want to win”

ADD Employment growth, CAGR (2022-2032)

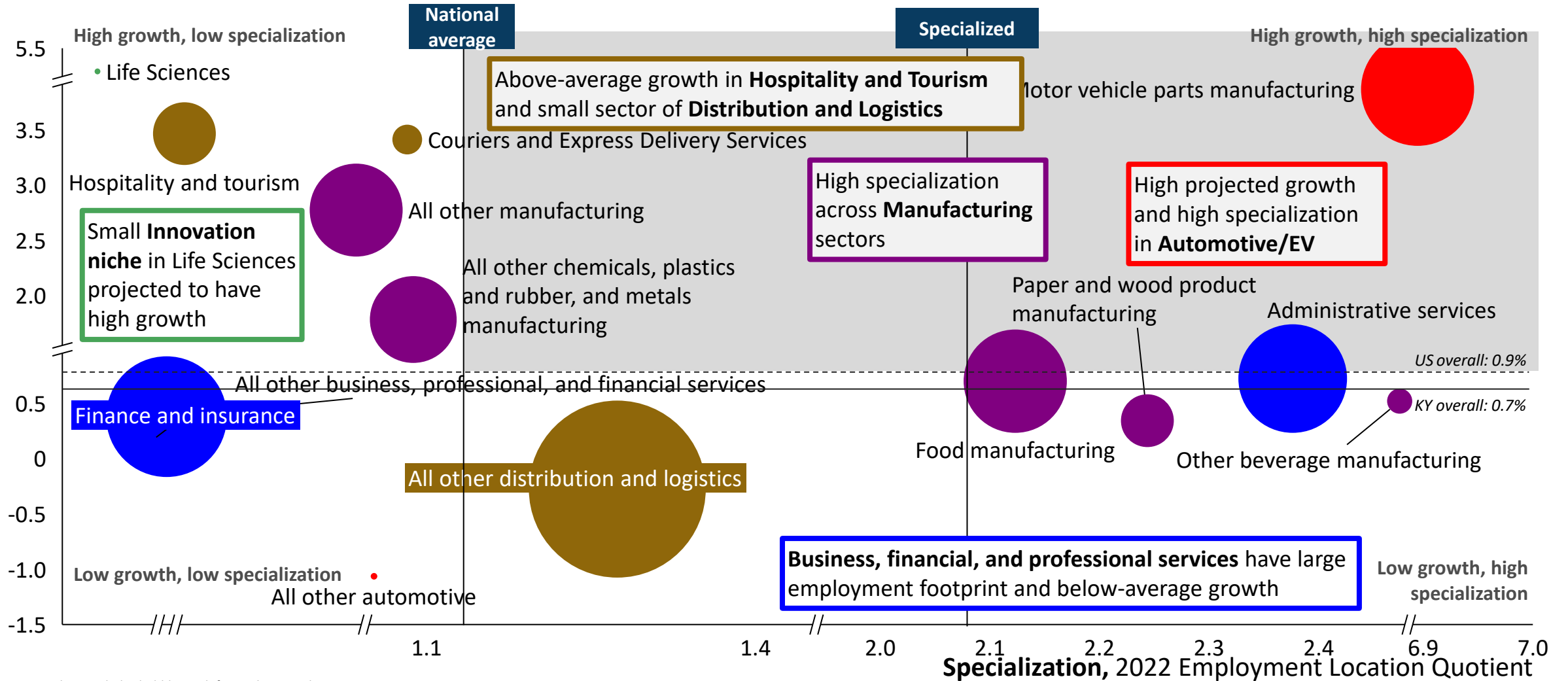


1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023, Data as of Dec 2023

# East: Cumberland Valley ADD “Bubble chart”: “right to win” and “want to win”

ADD Employment growth, CAGR (2022-2032)






● 150 employment, 2022<sup>1</sup>



1. Chart excludes bubbles with fewer than 50 jobs  
 Note: Specialization is measured as the ratio of a sector's share of employment in Kentucky to that occupation's share of employment in the U.S. as a whole  
 Source: Lightcast, accessed 9/18/2023

# Kentucky has lost market share in several sectors in the past 5 years

Historical sector growth

Kentucky priority sectors	US net employment change Ths., 2017-2022	US employment CAGR 2017-2022	Kentucky difference in CAGR relative to US Percentage points, 2017- 2022	Kentucky difference in CAGR relative to peers <sup>2</sup> Percentage points, 2017- 2022	Kentucky net employment change Ths., 2017-2022
 Traditional automotive/electric vehicles	50	0.9%	-1.8	-1.5	-2.7
 Materials	66	0.5%	0.4	0.2	2.7
Food/beverage processing	158	1.7%	0.5	0.9	3.9
Other manufacturing	-42	-0.2%	-0.5	-0.6	-2.5
 Distribution and logistics	1,493	6.4%	-0.9	-0.6	30.0
Hospitality and tourism	-257	-1.5%	1.8	0.6	0.5
 Business, financial, and professional services	1,933	2.6%	-0.4	-0.8	14.5
 Aerospace	14	0.6%	-0.2	1.6	0
AgriTech	10	2.5%	-1.8	-0.6	0.1
Life Sciences	301	4.7%	0.9	1.0	1.4
<b>All priority sectors</b>	<b>3,728</b>	<b>2.1%</b>	<b>-0.2</b>	<b>-0.4</b>	<b>47.9</b>

1. All manufacturing not captured in other sectors






2. Weighted average of peer states: Alabama, Arkansas, Georgia, Indiana, North Carolina, Ohio, South Carolina, and Tennessee

Source: Lightcast, accessed 8/30/2023

Data as of Dec 2023

# Projections suggest U.S. growth will create large potential employment growth pools for Kentucky to win

Forecasted sector growth

Kentucky priority sectors	US net employment change Ths., 2022-2027	US employment CAGR 2022-2027	Kentucky difference in CAGR relative to US Percentage points, 2022-2027	Kentucky difference in CAGR relative to peers <sup>2</sup> Percentage points, 2022-2027	Kentucky employment Ths., 2022	Kentucky net employment change Ths., 2022-2027
 Traditional automotive/electric vehicles	105	1.9%	-0.5	-0.5	60.9	4.4
 Materials	172	1.2%	0.7	0.3	61.3	5.9
Food/beverage processing	167	1.6%	0.5	0.4	38.6	4.2
Other manufacturing	146	0.6%	0.9	0.4	79.6	6.1
 Distribution and logistics	665	2.3%	-0.1	0.1	127.7	14.1
Hospitality and tourism	447	2.6%	0.3	0.2	30.4	4.7
 Business, financial, and professional services	1,703	2.1%	-0.2	-0.3	136.4	12.9
 Aerospace	14	0.6%	4.6	4.2	2.9	0.8
AgriTech	8	1.7%	-1.3	-2.2	1.6	0
Life Sciences	176	2.3%	1.4	1.5	5.9	1.2
<b>All priority sectors</b>	<b>3,602</b>	<b>1.8%</b>	<b>0.1</b>	<b>0</b>	<b>545.3</b>	<b>54.3</b>

1. All manufacturing not captured in other sectors

2. Weighted average of peer states: Alabama, Arkansas, Georgia, Indiana, North Carolina, Ohio, South Carolina, and Tennessee

Source: Lightcast, accessed 8/30/2023

Data as of Dec 2023