



# Foreign Direct Investment & Export Analysis

Collaborative Blueprint created by and for Kentucky's Economic Developers

December 2023



# Foreign direct investment & exports analysis

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**1** Overview of FDI trends

**2** Kentucky FDI sector analysis

# 1 Preliminary findings

## After a slowdown during COVID, FDI into the US is growing from numerous countries

- FDI is recovering rapidly after COVID-19 in the US; since 2020, FDI as a share of GDP in the US has grown by 121% versus 24% globally
- From 2017-2022, Japan leads FDI in the US, with total inbound investment of \$64B; South Korea and Taiwan are second and third largest sources of FDI in the US, respectively
- From 2020-2022, compared to pre-pandemic levels in 2017-2019, FDI from Japan dropped by 15% while South Korea and Taiwan both increased FDI by over 3x

## Kentucky has already developed a strong FDI and export strategy

- From 2017-2022, Japan leads FDI in Kentucky, with total inbound investment of \$7B; South Korea and China are second and third largest sources of FDI in the US, respectively
- Kentucky's FDI incentive packages are smaller on average than peers (\$4.5M per deal vs \$8.5M per deal) but are more efficient in terms of incentives as a % of CAPEX (4.5% vs 9.2%) and incentive per new job (\$38.1k vs \$50.9k)
- As of 2021, Kentucky ranks 4<sup>th</sup> nationally in FDI jobs as a share of total employment
- Aerospace is Kentucky's largest export among priority sectors (over \$26B from 2017-2022)<sup>1</sup>, while Life Sciences has grown fastest (over 11% from 2017-2022), driven by pharmaceutical product exports
- As of 2022, Kentucky ranks 3<sup>rd</sup> nationally for exports as a share of GDP



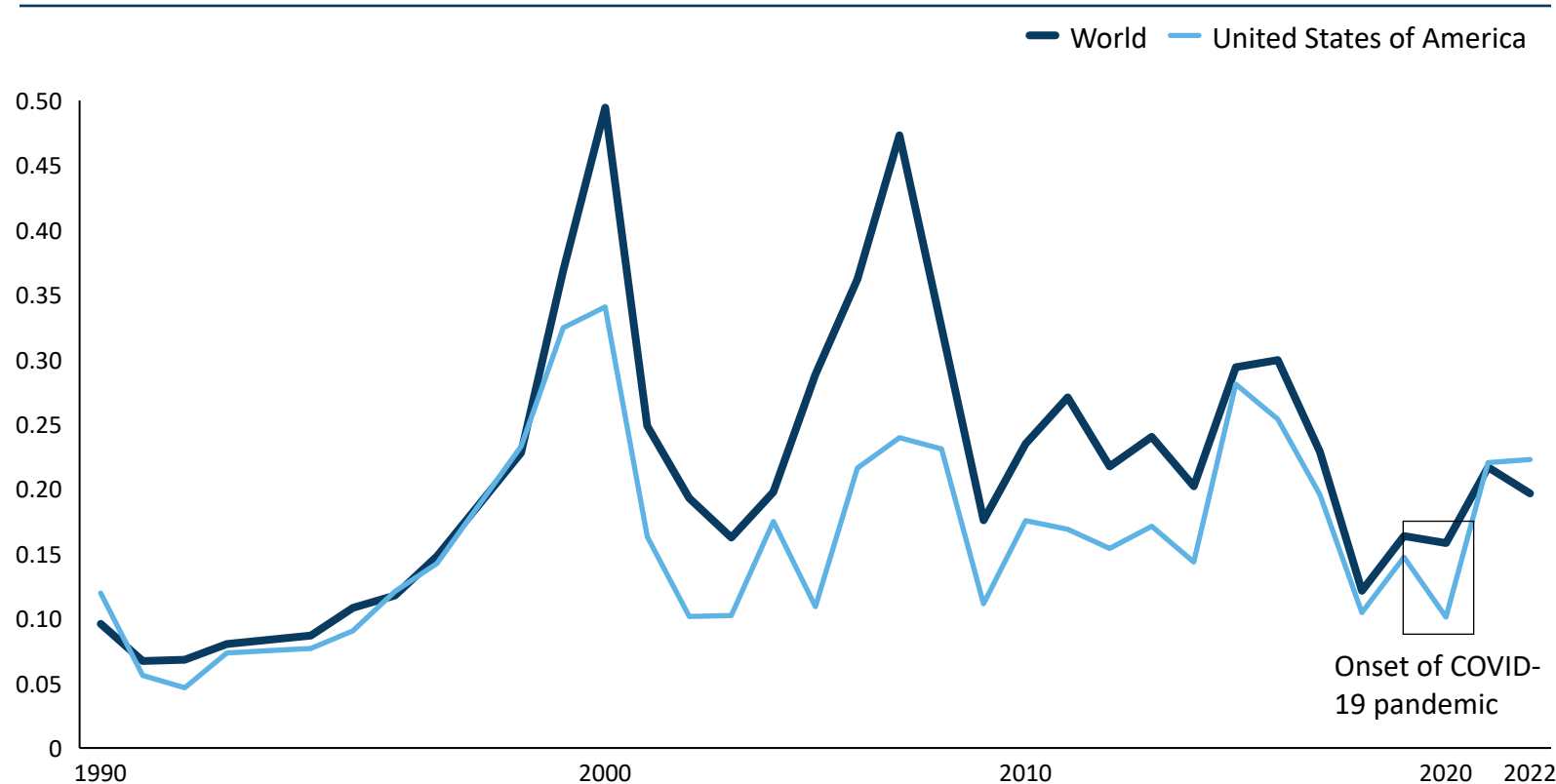
**Kentucky has a strong foundation to build off. To effectively capture FDI opportunities, it will be important to develop targeted strategy to help prioritize resources**

1. 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 Airport, Data as of Dec 2023

# 1. While global foreign direct investment activity is slowing down, domestic inward FDI as a share of GDP has recovered rapidly since 2020

## Foreign direct investment flows as share of GDP

Inward FDI, nominal GDP, %

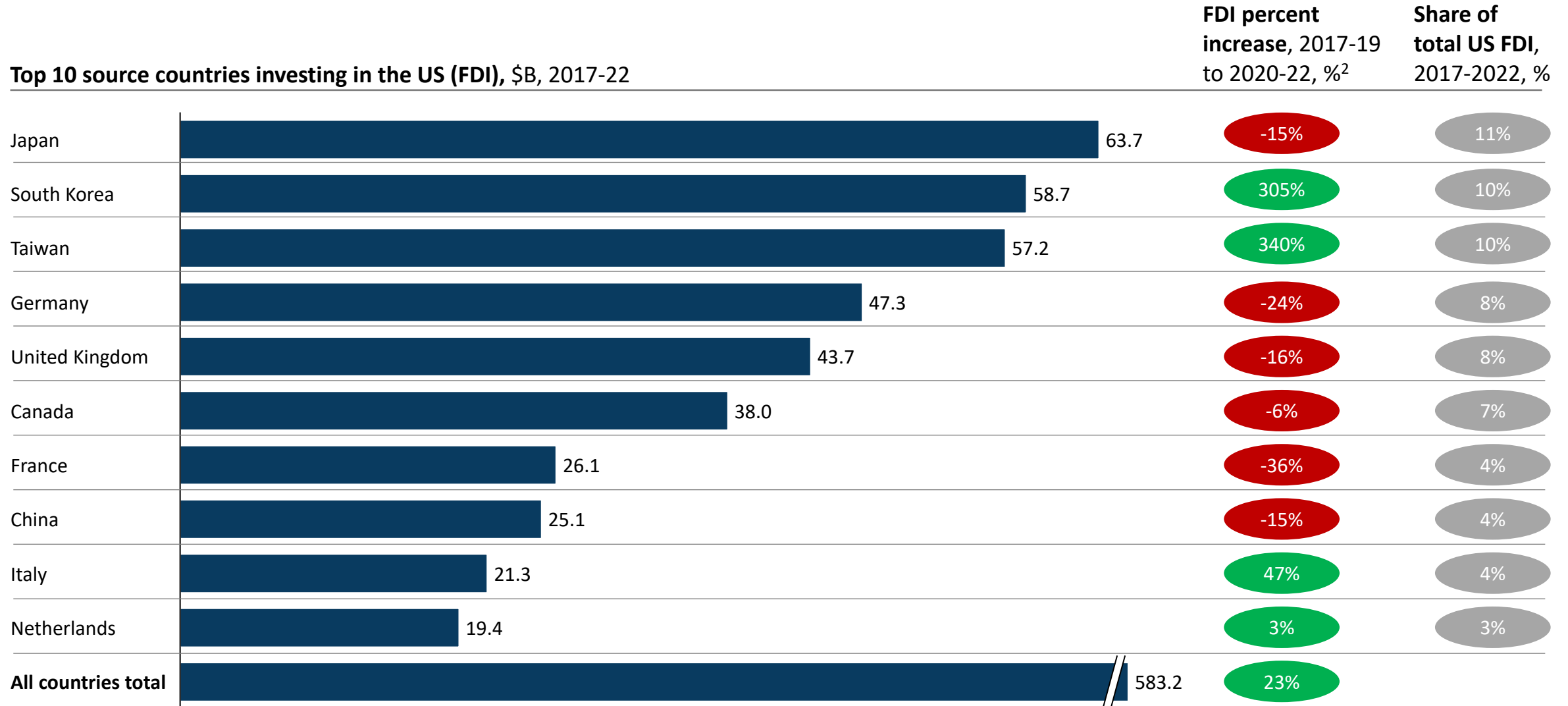


Domestically, the rapid recovery of inward FDI since 2020 is likely spurred by investment incentives in federal legislation such as the Inflation Reduction Act

While global inward FDI activity is on downward trend since 2021, domestic FDI continues to show growth

# 1. Japan is top source of FDI for US; South Korea and Taiwan have increased US investment 3x since before the pandemic

New Foreign Direct Investment in the U.S.<sup>1</sup>



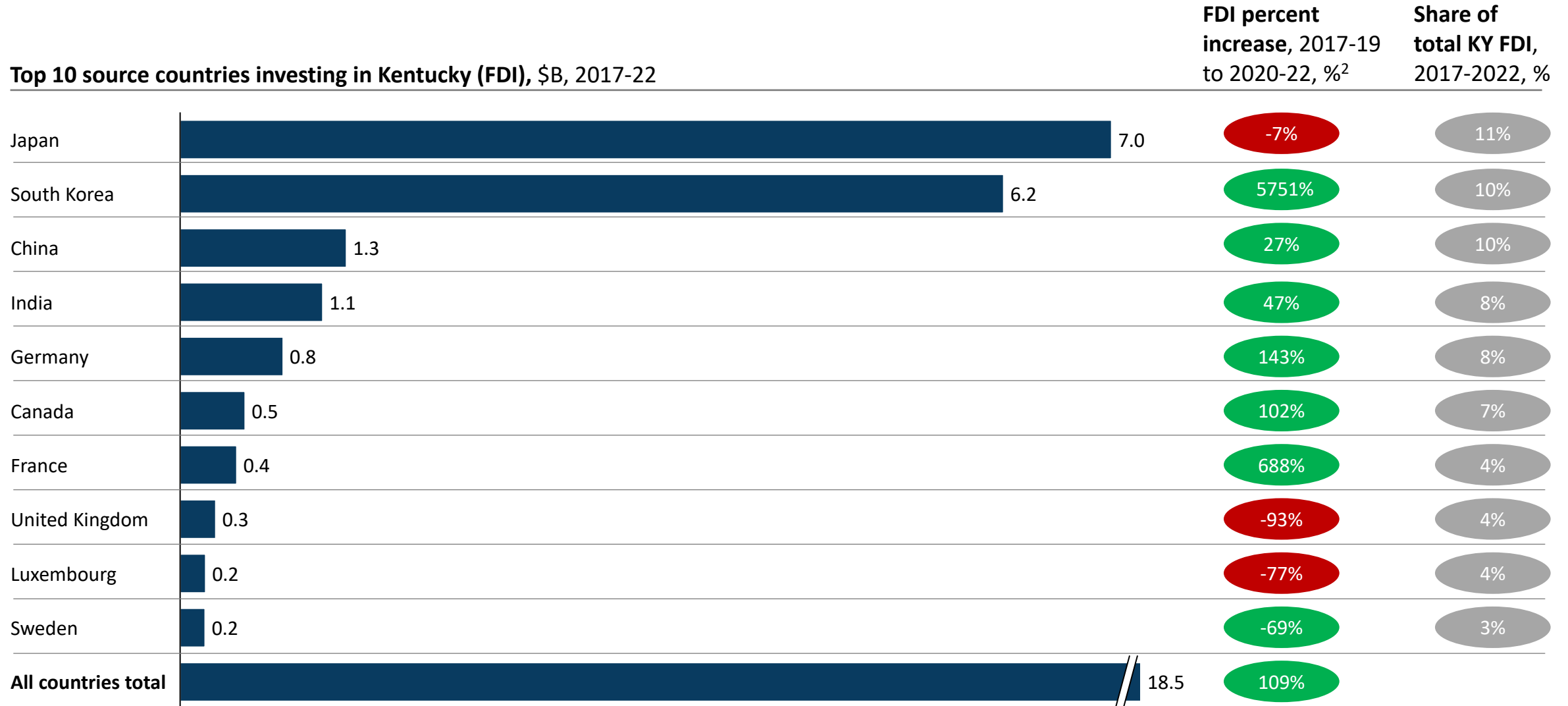
1. Greenfield investment, some deals may be missing as totals are based on publicly announced deals

2. Data shown is the percentage increase from the sum of FDI in 2017-2019 to the sum of FDI in 2020-2022. CAGR unable to be calculated given multiple countries did not invest in the years 2017 or 2022

Source: FDI Intelligence, Data as of Dec 2023

# 1. Japan is top source of FDI for Kentucky; South Korea has increased US investment 50x since before the pandemic

New Foreign Direct Investment in the U.S.<sup>1</sup>



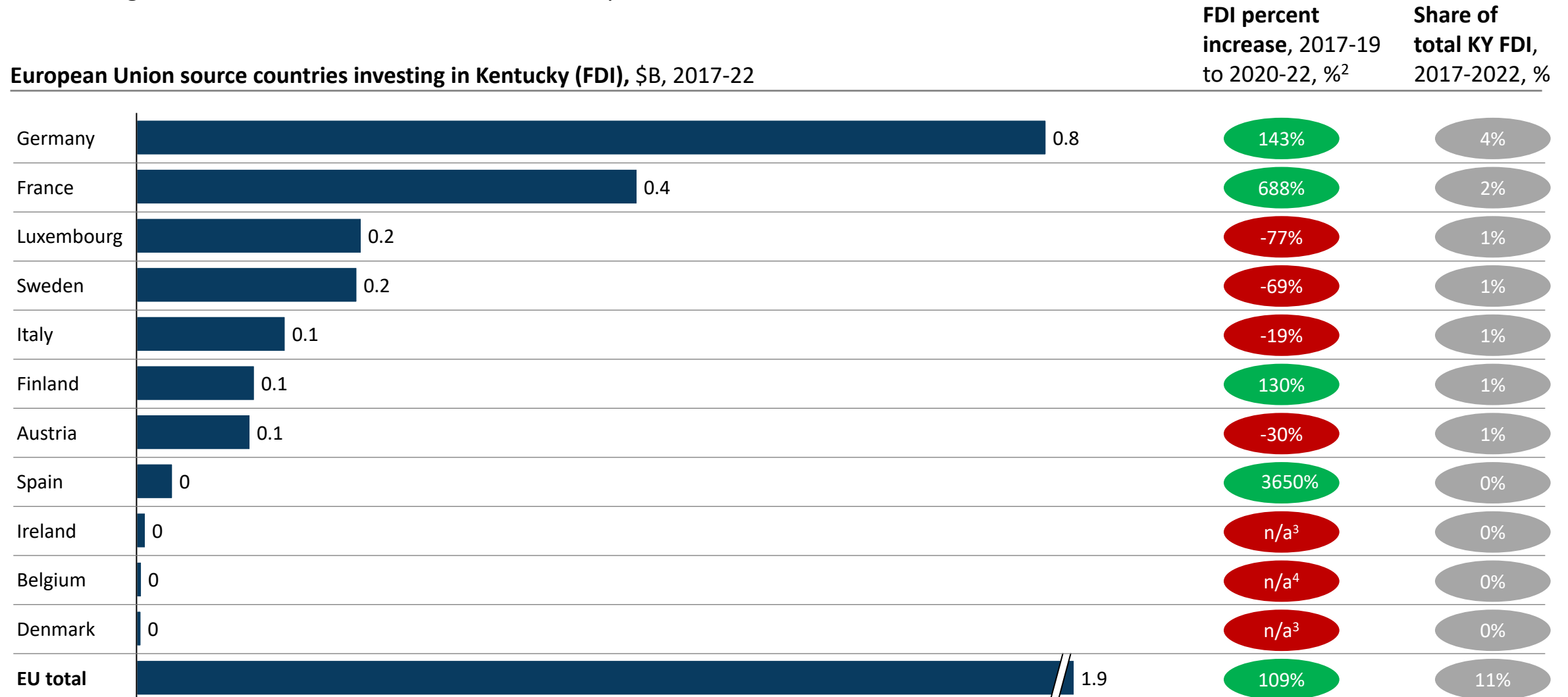
1. Greenfield investment, some deals may be missing as totals are based on publicly announced deals

2. Data shown is the percentage increase from the sum of FDI in 2017-2019 to the sum of FDI in 2020-2022. CAGR unable to be calculated given multiple countries did not invest in the years 2017 or 2022

Source: FDI Intelligence, Data as of Dec 2023

# 1. European Union represents 11% of total FDI for Kentucky, with highest investment from Germany and France

New Foreign Direct Investment in the U.S. from European Union<sup>1</sup>



1. Greenfield investment, some deals may be missing as totals are based on publicly announced deals  
 2. Data shown is the percentage increase from the sum of FDI in 2017-2019 to the sum of FDI in 2020-2022. CAGR unable to be calculated given multiple countries did not invest in the years 2017 or 2022  
 3. No FDI in 2020-2022  
 4. No FDI in 2017-2019  
 Source: FDI Intelligence, Data as of Dec 2023



# 1. Kentucky spends less incentives per FDI deal than peers, but has more efficient FDI deals than peers and US overall

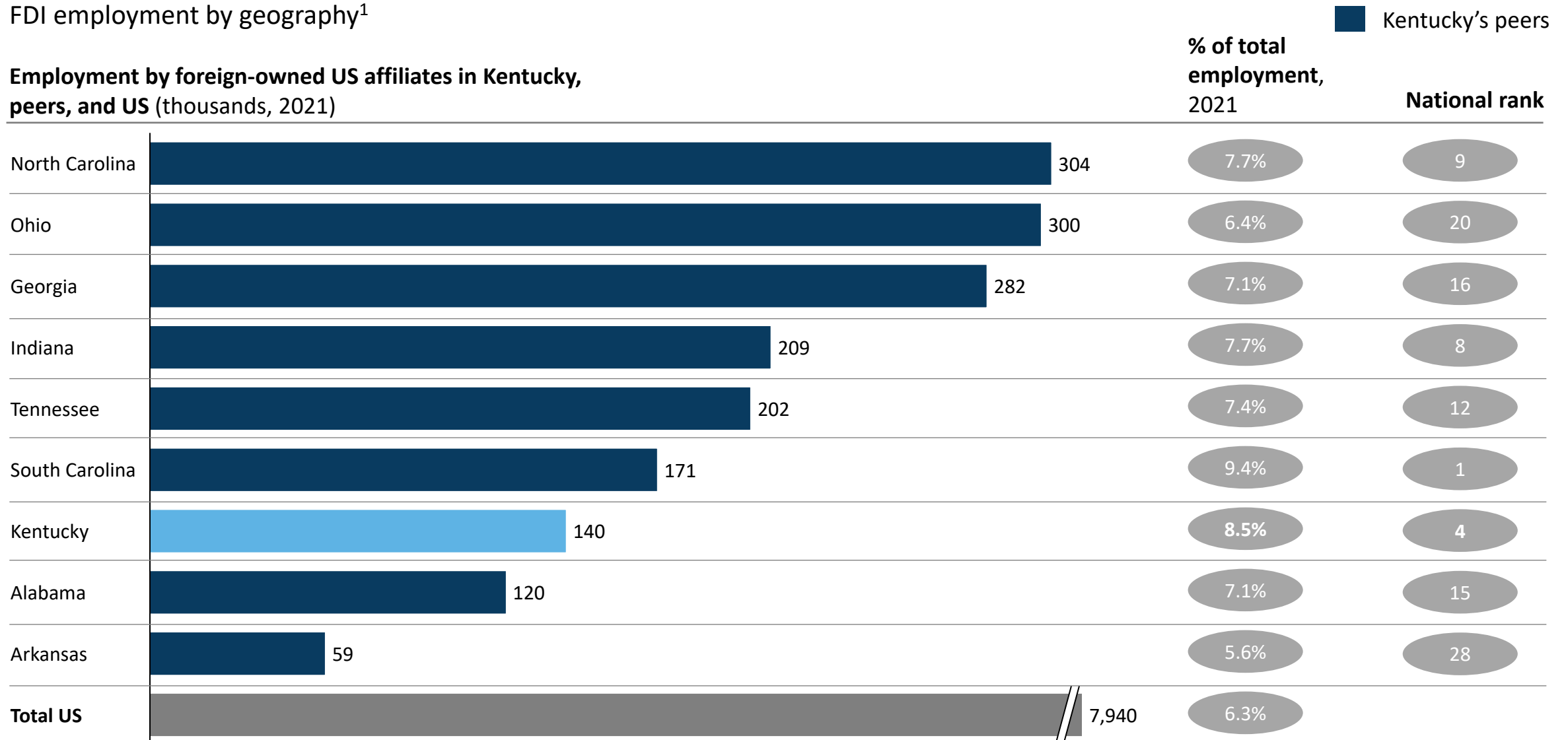
FDI incentive deal analysis, 2017-2022

Geography	Input	Output			Efficiency		
	Incentive amount USD, millions	Number of deals Count	Capex USD, millions	Total new jobs Thousands	Incentive per deal USD, millions	Incentive as % of Capex Percent	Incentive per new job USD, thousands
Kentucky	620.0	137.0	13,742.0	16.3	4.5	4.5	38.1
Peer average <sup>1</sup>	913.0	108.0	9,895.0	17.9	8.5	9.2	50.9
US total	19,835.0	2,428.0	265,150.0	452.5	8.2	7.5	43.8

# 1. Kentucky ranked 4<sup>th</sup> nationally in FDI jobs as a share of total employment in 2021

FDI employment by geography<sup>1</sup>

Employment by foreign-owned US affiliates in Kentucky, peers, and US (thousands, 2021)



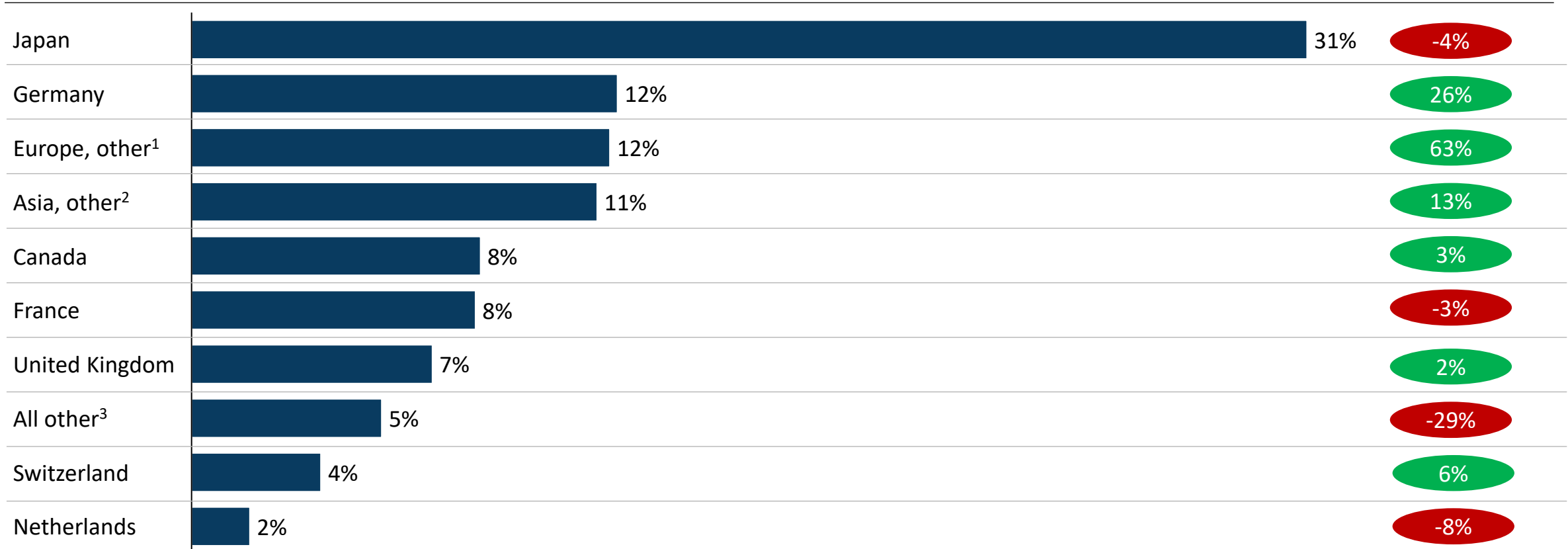
1. Private, non-farm employment

# 1. Japan is a leading source of current FDI jobs, but recently European FDI has grown more rapidly

## Employment by foreign-owned US affiliates in Kentucky, by country

Share of total, %, 2021

Historical growth rate, 2016-21, %



1. Other than France, Germany, Netherlands, Switzerland, United Kingdom
2. Other than Japan; can include South Korea, China
3. Other than Canada, Europe and Asia; can include Latin America, Africa

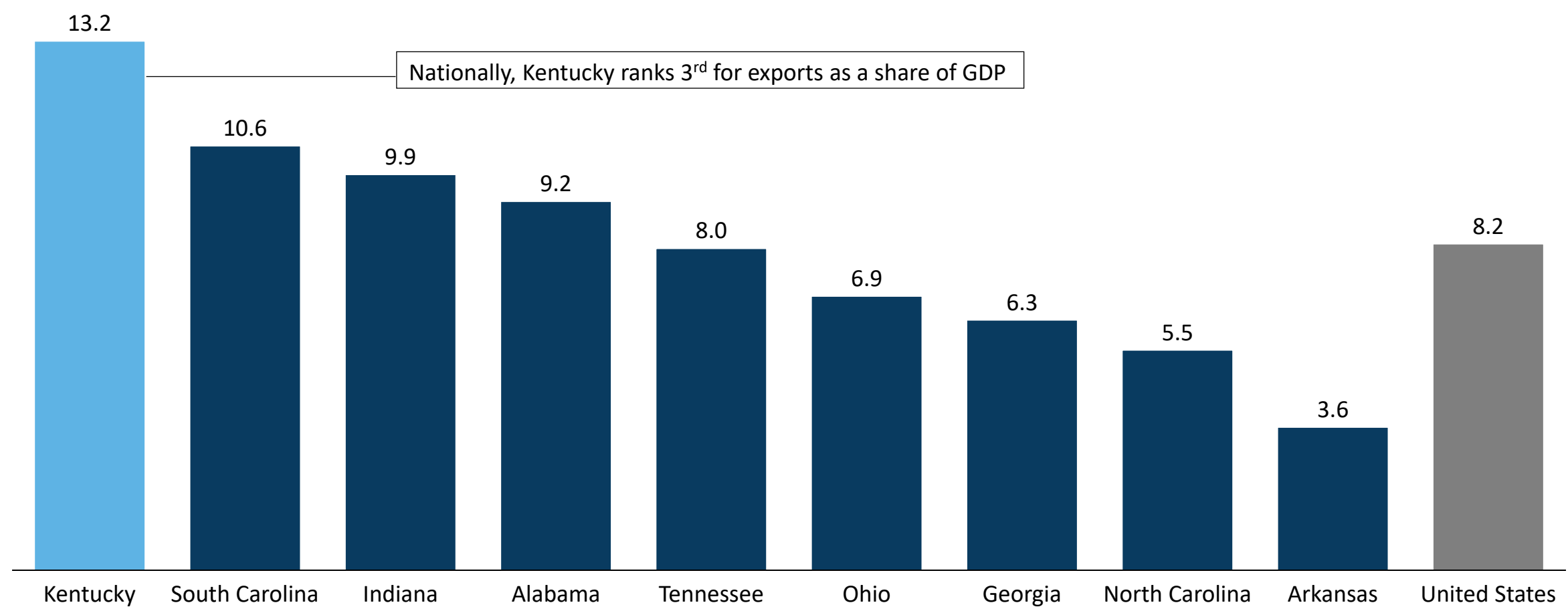
Source: Bureau of Economic Activity (BEA), International Trade and Investment, Data as of Dec 2023

# 1. Kentucky exports make up a larger share of its GDP than the US overall and peers

## Total exports in Kentucky, peers, and US

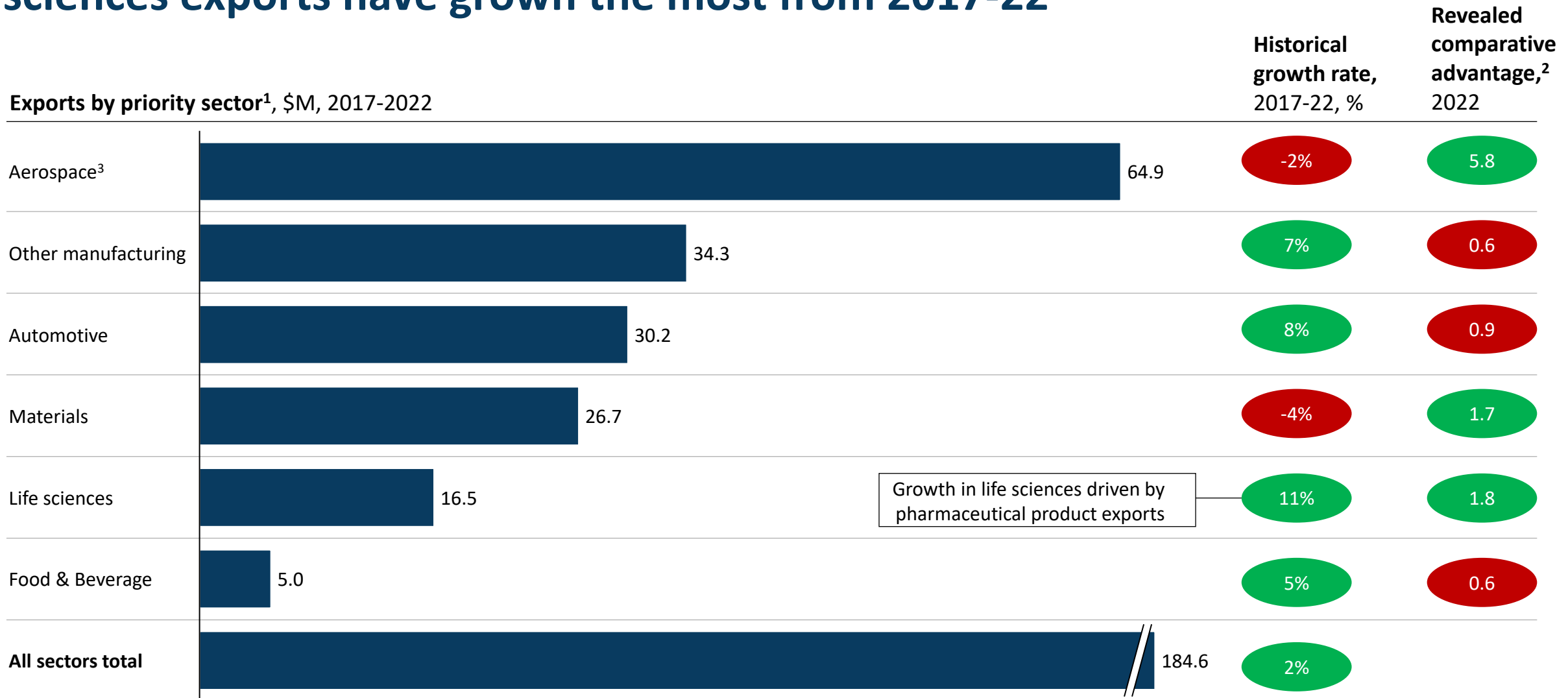
% of GDP, 2022

■ Kentucky's peers



Source: Moody's Analytics, US Census Bureau Foreign Trade Division, Data as of Dec 2023

# 1. Aerospace is Kentucky's largest export among priority sectors, Life sciences exports have grown the most from 2017-22



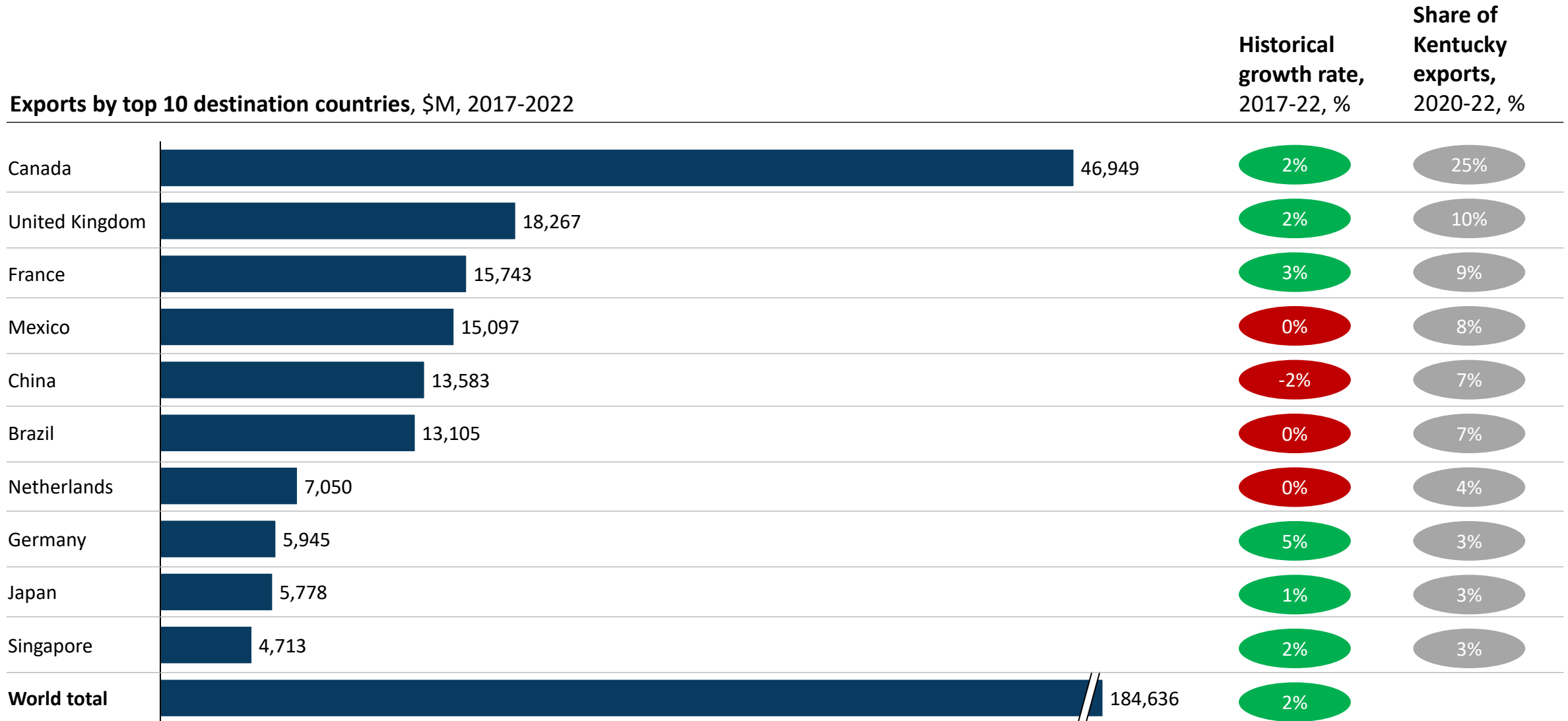
1. US Census Bureau trade data matched to KY priority sectors using 4-digit NAICS industries

2. The revealed comparative advantage (RCA) is an index used for calculating the relative advantage or disadvantage of a certain geography in a certain class of goods or services as evidenced by trade flows, KY is compared here against other US states. RCA>1 means KY has a comparative advantage over other states

3. 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 Airport

Source: US Census Bureau, USA Trade Online, Data as of Dec 2023

# 1. Kentucky exports the most to Canada, Mexico, and the UK; exports to Malaysia have increased most rapidly since 2017



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## 2. Preliminary findings by sector and country

Topic	Preliminary findings
<b>By sector</b>	<ul style="list-style-type: none"><li>• FDI and export “right to win” and “want to win” reinforce Kentucky’s emerging sector themes<ul style="list-style-type: none"><li>○ Traditional automotive/EV has strongest “right to win” and “want to win” among sector themes, and 2 countries have over \$4B in FDI flows from 2017-2022</li><li>○ Materials has strongest “right to win” and “want to win” among manufacturing sectors; 6 countries have over \$100M in FDI flows from 2017-2022</li><li>○ Other manufacturing also has strong “right to win” and “want to win; 3 countries have over \$100M in FDI flows from 2017-2022</li><li>○ Distribution and logistics also has emerging FDI “right to win” and “want to win”</li></ul></li><li>• Export “right to win” is also strong in innovation sector themes (e.g., Life Sciences, aerospace)</li></ul>
<b>By country</b>	<ul style="list-style-type: none"><li>• APAC (e.g., South Korea, Japan), EU (e.g., France, Germany), and Canada have high Kentucky FDI and US FDI, and receive a high share of Kentucky exports in priority sectors (e.g., automotive/EV and manufacturing)</li><li>• Countries either have distinct sector focuses or invest along the value chain<ul style="list-style-type: none"><li>• South Korea activity is concentrated in EV value chain; China and India have highest FDI in other manufacturing and materials, respectively</li><li>• Japan, Germany, and Canada are investing along the automotive and materials value chains</li></ul></li></ul>



## 2. Questions to consider for sector and country strategy

<b>Region</b>	<b>Potential questions to consider</b>
<b>APAC</b>	<p>How can CED adapt approaches to build a deeper presence in priority APAC regions (e.g., South Korea)?</p> <p>How can CED leverage both large OEM opportunities as well as smaller players along supply chains?</p>
<b>Europe</b>	<p>How can CED build on momentum of smaller wins with core partner countries, such as France and Germany?</p> <p>How can CED expand sector focus to other priority sectors in addition to manufacturing, including Business and financial services (e.g., from United Kingdom)?</p>
<b>North America</b>	<p>How can CED capture manufacturing reshoring opportunities from neighbors in Canada, and potentially Mexico?</p>

What is the best operating model for CED and its overseas teams to execute FDI strategy (e.g., dedicated full-time presence, contracted support)?

What type of management approach is necessary to ensure optimal performance from overseas teams (e.g., finalizing KPIs across all offices, management review rhythm)?

## 2. Earned “Right to win” and “opportunities to win” factors for FDI are strongest in automotive and manufacturing sectors

Strategic goals	Potential priority sectors	Where Kentucky has “earned the right to win”			Where Kentucky may “want to win”
		Kentucky FDI <sup>1</sup> (2017-22, \$M)	Share of US FDI <sup>1</sup> (2017-22, %)	Kentucky Exports <sup>2,3</sup> (2017-22, \$M)	US FDI <sup>1</sup> (2017-22, \$M)
Win in the automotive future	Traditional automotive/EV	10,917	12.0	30,172	90,639
Be a leader in the U.S. manufacturing renaissance	Materials	2,600	3.3	26,706	78,421
	Other manufacturing	1,822	2.1	34,318	87,971
	Food and beverage processing	2,582	9.2	5,025	28,068
Capitalize on what makes Kentucky unique	Distribution and logistics	195	2.0	n/a	9,768
	Hospitality and tourism	-	-	n/a	8,838
Capture our “fair share” of tomorrow’s jobs	Business and financial services	35	0.1	n/a	47,873
Cultivate innovation where we can compete and win	Aerospace	96	2.2	64,889 <sup>4</sup>	4,331
	AgriTech	-	-	0	460
	Life Sciences	39	0.1	16,513	31,135

1. Shading by quartile

2. Exports of goods only, does not include services

3. Shading by % of total exports in Kentucky

4. 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 Airport

## 2. Kentucky has strengths and opportunities in FDI and export growth across priority sectors and source countries

Kentucky FDI, \$M, 2017-22

- Top quartile of KY FDI<sup>1</sup> from 2020-2022 by sector
- Kentucky's top 3 export destination countries in 2020-22 by sector
- Top 3 US FDI source country from 2020-2022 by sector

Select source country <sup>2</sup>	Automotive	Materials	Other manufacturing	Food & Beverage	Distribution & Logistics	Hospitality and Tourism	Business and financial services	Aerospace	AgriTech	Life Sciences
Japan	4,586	317	179	1,892	11	-	6	-	-	-
South Korea	5,850	254	50	34	-	-	5	-	-	-
China	98	0	1,147	-	-	-	4	-	-	1
India	-	1,072	-	-	-	-	-	-	-	-
Germany	136	430	43	-	145	-	9	-	-	1
Canada	86	178	199	4	6	-	3	-	-	-
France	-	127	25	261	13	-	-	-	-	-
United Kingdom	-	5	2	131	19	-	-	96	-	-
Luxembourg	-	-	5	150	-	-	-	-	-	37
Switzerland	-	18	-	21	-	-	-	-	-	0
Netherlands	-	-	-	-	-	-	-	-	-	-

*Deep dive to follow*

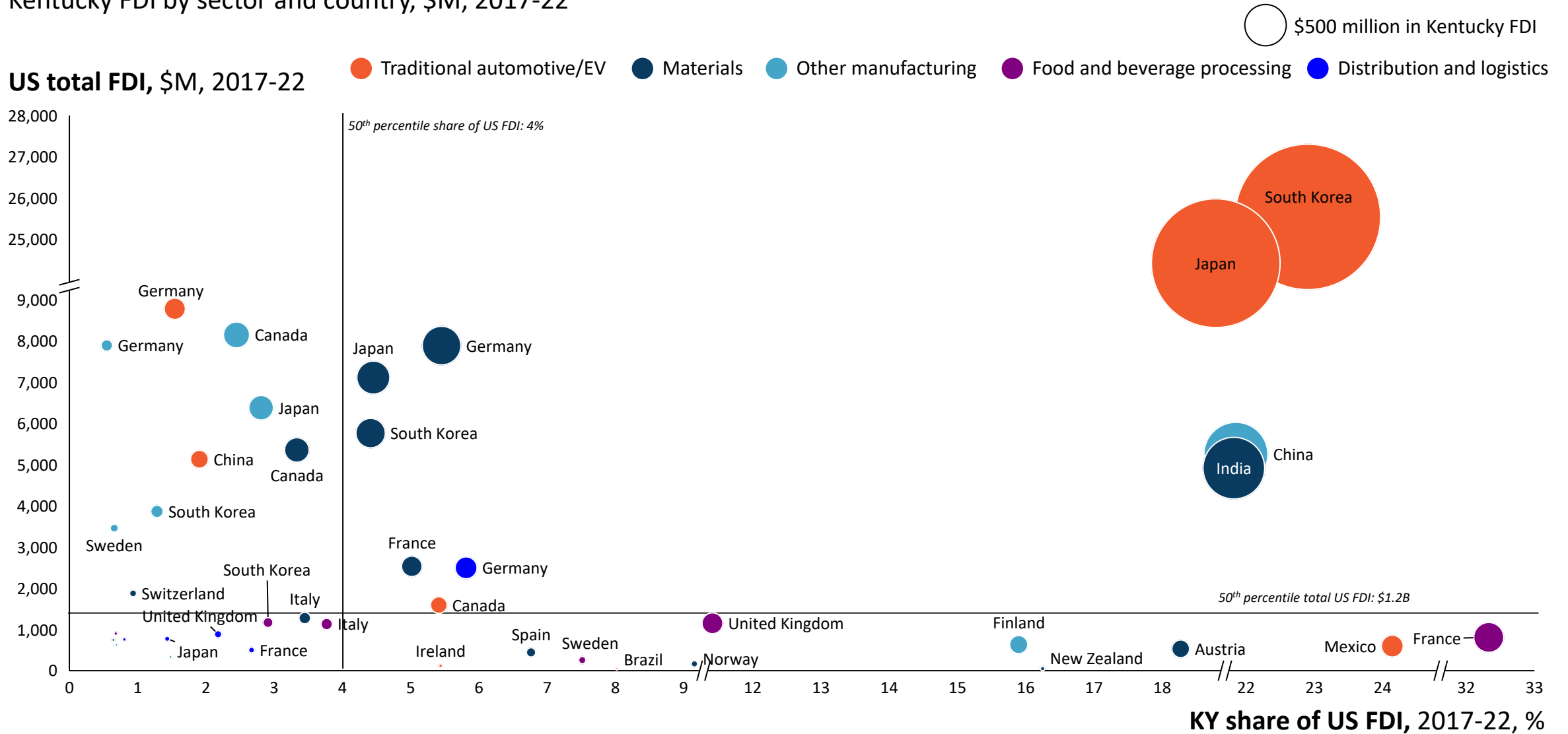
1. Top quartile of countries that have any amount of FDI, excludes countries with \$0 FDI

2. Source countries include those within the top 5 source countries for Kentucky FDI, top 1 Kentucky export destination country, and/or top 3 source countries for US FDI per sector, ranked by highest total FDI in Kentucky

Source: Kentucky Cabinet for Economic Development, New and expanding industry data, accessed 9/19/2023; FDI Intelligence; US Census USA Trade, Data as of Dec 2023

# 2. Kentucky has strengths and opportunities in FDI and export growth across priority sectors and source countries

Kentucky FDI by sector and country, \$M, 2017-22<sup>1</sup>

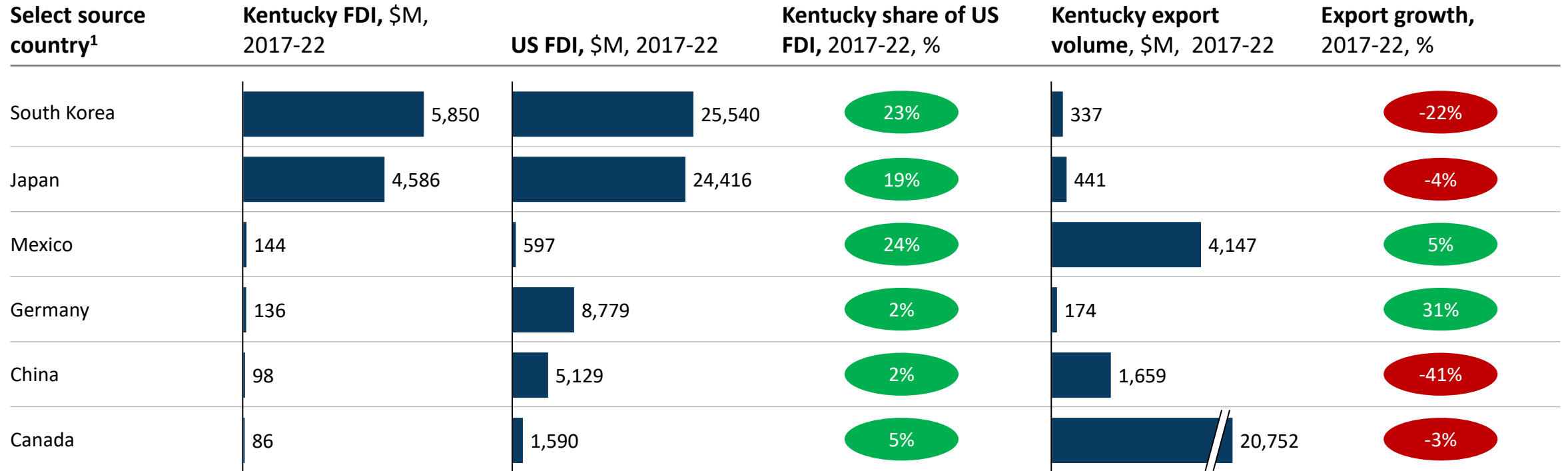


1. Where Kentucky's share of US FDI is above 1%

Source: Kentucky Cabinet for Economic Development, New and expanding industry data, accessed 9/19/2023; FDI Intelligence; US Census USA Trade, Data as of Dec 2023

## 2. For auto/EV, Kentucky received highest FDI from South Korea and Japan, but had slowdown in export activity with both countries

Traditional automotive/EV FDI and exports



1. Countries shown include the top 5 countries for inbound Kentucky FDI, top 3 countries for inbound US FDI, and top 1 country for export growth from Kentucky

Source: FDI Intelligence, US Census USA Trade, Data as of Dec 2023

## 2. Within auto/EV, Battery manufacturing received the most investment, while more countries invest in motor vehicle parts manufacturing

Traditional automotive/EV sub-sector deep dive: Kentucky FDI, \$M, 2017-22

### All FDI source

countries in Kentucky	Battery manufacturing	Motor vehicle body and trailer manufacturing	Motor vehicle manufacturing	Motor vehicle parts manufacturing
Brazil				4
Canada			40	46
China	98			
Germany				136
Ireland				6
Italy				4
Japan	2,000		2,150	436
South Korea	5,800			50
Mexico		114		30
Spain				1
Thailand				2
<b>Total</b>	<b>7,898</b>	<b>114</b>	<b>2,190</b>	<b>665</b>

Source: Kentucky Cabinet for Economic Development, New and expanding industry data, accessed 9/19/2023, Data as of Dec 2023

## 2. For materials, Kentucky received highest FDI from India, Germany, and Japan and had 20%+ growth in export activity with all 3 countries

Materials FDI and exports

Select source country <sup>1</sup>	Kentucky FDI, \$M, 2017-22	US FDI, \$M, 2017-22	Kentucky share of US FDI, 2017-22, %	Kentucky export volume, \$M, 2017-22	Export growth, 2017-22, %
India	1,072	4,913	22%	405	12%
Germany	430	7,885	5%	803	10%
Japan	317	7,111	4%	799	4%
South Korea	254	5,762	4%	783	9%
Canada	178	5,353	3%	9,066	6%
Taiwan	0	10,095	0%	266	3%
Saudi Arabia	0	10,018	0%	225	1%

1. Countries shown include the top 5 countries for inbound Kentucky FDI, top 3 countries for inbound US FDI, and top 1 country for export growth from Kentucky

Source: FDI Intelligence, US Census USA Trade, Data as of Dec 2023

## 2. Within Materials, the highest investment was in primary metal manufacturing, with large investments coming from India and South Korea

Materials sub-sector deep dive: Kentucky FDI, \$M, 2017-22, Data as of Dec 2023

All FDI source

countries in Kentucky	Chemical manufacturing	Fabricated metal manufacturing	Plastics and rubber product manufacturing	Primary metal manufacturing
Australia	0.3			
Austria		39.8	56.9	
Canada	14.9		20.5	143.1
China	0.4			
France	110.6		16.4	
Germany	81.5	3.3	30.9	314.4
India	13.5		7.4	1,051.1
Italy		15.0		29.0
Japan	22.4	146.4	79.3	68.6
South Korea		15.6		238.7
New Zealand			2.2	6.0
Norway				15.0
Spain				30.0
Sweden			4.8	
Switzerland	5.0		12.5	
United Kingdom		2.2	2.4	
<b>Total</b>	<b>248.6</b>	<b>222.2</b>	<b>233.3</b>	<b>1,895.9</b>



## 2. For other manufacturing, Kentucky received highest share of US FDI from China, and had nearly 10% growth in export activity

Other manufacturing FDI and exports

Select source country <sup>1</sup>	Kentucky FDI, \$M, 2017-22	US FDI, \$M, 2017-22	Kentucky share of US FDI, 2017-22, %	Kentucky export volume, \$M, 2017-22	Export growth, 2017-22, %
China	1,147	5,251	22%	2,192	9%
Canada	199	8,144	2%	10,651	7%
Japan	179	6,378	3%	1,487	-9%
Finland	101	632	16%	12	7%
South Korea	50	3,863	1%	334	9%
Germany	43	7,890	1%	1,119	34%
France	25	10,013	0%	749	-11%

1. Countries shown include the top 5 countries for inbound Kentucky FDI, top 3 countries for inbound US FDI, and top 1 country for export growth from Kentucky

Source: FDI Intelligence, US Census USA Trade, Data as of Dec 2023

## 2. Within other manufacturing, the highest investment was in electrical components, with large investments from China and Japan

Other manufacturing sub-sector deep dive: Kentucky FDI, \$M, 2017-22

All FDI source countries in Kentucky	Electrical equipment, appliance, component manufacturing	Nonmetallic mineral product manufacturing	Paper manufacturing	All other manufacturing
Australia				1.0
Belgium				4.3
Canada	5.9	16.0	173.2	1.0
China	792.0	5.5	350.0	4.3
Curacao				2.0
Finland		70.0	27.0	0.2
France		0.9		39.4
Germany	2.2	0.1	0.1	0.2
Italy	3.9			39.4
Japan	129.5	12.9	10.5	3.4
South Korea				9.7
Luxembourg				49.6
Sweden	0.2		22.6	49.6
United Kingdom		2.0		2.0
<b>Total</b>	<b>933.6</b>	<b>105.5</b>	<b>583.5</b>	<b>1,822.2</b>

Source: Kentucky Cabinet for Economic Development, New and expanding industry data, accessed 9/19/2023, Data as of Dec 2023

## 2. For food and beverage, Kentucky received highest share of US FDI from Japan and France, and saw increase in export activity with both countries

Food and beverage processing FDI and exports

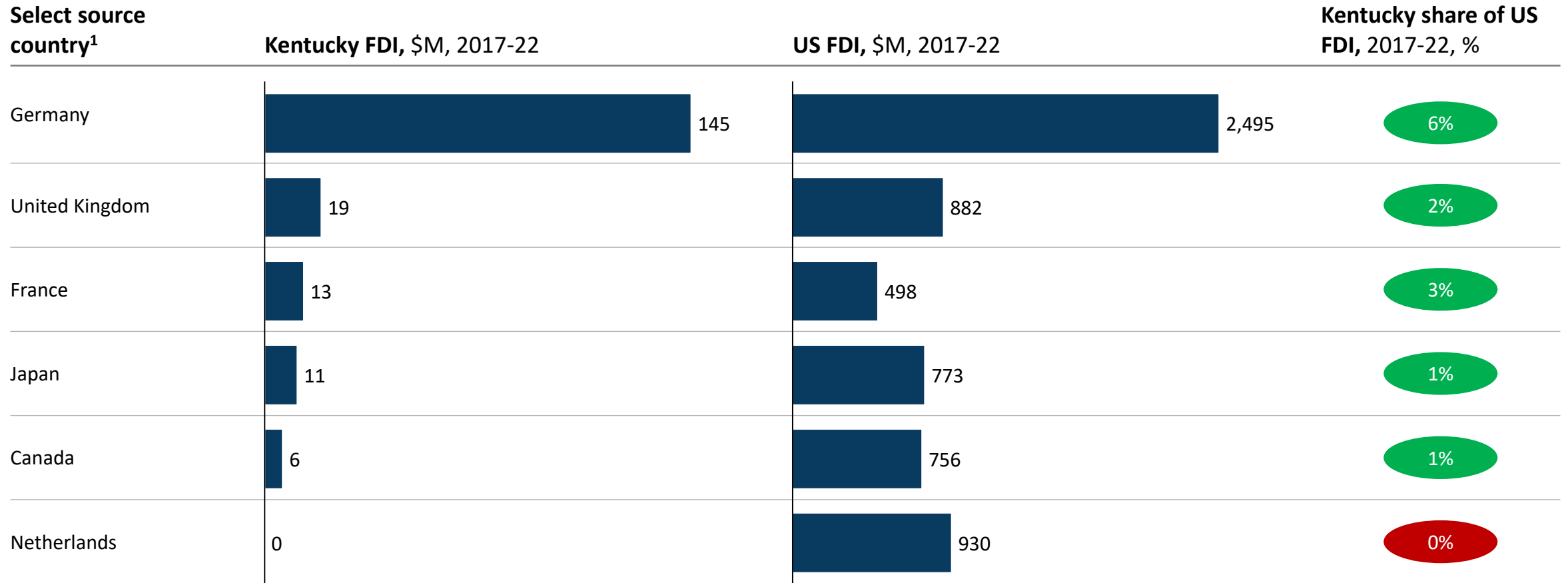
Select source country <sup>1</sup>	Kentucky FDI, \$M, 2017-22	US FDI, \$M, 2017-22	Kentucky share of US FDI, 2017-22, %	Kentucky export volume, \$M, 2017-22	Export growth, 2017-22, %
Japan	1,892	Complete data not available	N/A	478	3%
France	261	807	32%	69	1%
Luxembourg	150	Complete data not available	N/A	0	0%
United Kingdom	131	1,150	11%	366	-3%
Italy	43	1,130	4%	24	-3%
Switzerland	21	5,440	<1%	6	-8%
Canada	4	3,263	<1%	1,219	7%
Germany	0	4,956	0%	249	1%

1. Countries shown include the top 5 countries for inbound Kentucky FDI, top 3 countries for inbound US FDI, and top 1 country for export growth from Kentucky

Source: FDI Intelligence, US Census USA Trade, Data as of Dec 2023

## 2. Kentucky received 10% of Germany's distribution & logistics FDI, the highest investing country in the US







Distribution and logistics FDI



1. Countries shown include the top 5 countries for inbound Kentucky FDI, top 3 countries for inbound US FDI, and top 1 country for export growth from Kentucky

Source: FDI Intelligence, US Census USA Trade, Data as of Dec 2023

## 2. Kentucky can consider can different strategies to promote FDI attraction

Strategy	Description	Case example
 <b>Investment Promotion Agency (IPA)</b>	IPA's targets end-user (e.g., multinational enterprises, MNEs), organizations and intermediaries who advise and influence MNEs on the investment location	Costa Rica's IPA CINDE, has developed a "multiplier strategy <sup>1</sup> " to engage with intermediaries, whereas for most IPAs in the region this is a new approach to attracting FDI. Since 2017, there has been a continuous employment growth of ~13% annual in the 367 companies supported by CINDE
 <b>Digital marketing</b>	Innovation in developing an inward investment website. Survey <sup>2</sup> evidence indicates that a website is the most effective and highest-impact marketing tool for IPA's	Netherlands Foreign Investment Agency website identified as highly innovative and among the best in the world. The IPA was established 40 years ago and has, since then, supported ~4K companies from more than 50 countries in the establishment or expansion of their international activities in the Netherlands.
 <b>Promotion at subnational level</b>	Develop strategies at subnational level for investment promotion	Invest in Canada Bureau supports investment promotion by co-funding in investment promotion capacity building and strategy development at the subnational level, such as the work together done with the Montreal International IPA. The IPA has a strategic focus to double the amount of FDI investment in the next five years. Invest in Canada praised this model and reported that it should become the model followed across Canada.
 <b>Supply chain development and linkages</b>	Supply chain development and linkages can help embed foreign investors into the local economy and create a multiplier impact on additional FDI	Northeast England started the world's first comprehensive supplier development program and was a model for other countries. The CzechInvest case showed how the use of a website and specialized sector databases can help in linkages with local suppliers, increasing the capability of local SMEs to enter supply chains
 <b>Skills and training</b>	Skills and training is critical for investors in many industries, particularly in export-oriented and knowledge-based services and in manufacturing	The "Faststart" program of Louisiana Economic Development focuses on four key issues for investors: understanding a company's skills and training needs; assisting with recruitment; assisting with pre-hiring; and assisting with training.
 <b>Track and measure FDI</b>	Track foreign direct investment and measure performance in attracting it	Dubai developed an innovative approach in real-time tracking of FDI, which enabled it to promote Dubai more effectively as a location, and to provide efficient facilitation and aftercare services to investors.

1. The multiplier strategy consists of support from the beginning of the site selection phase, through installation and during the operational phase in Costa Rica, companies will have specialized investment advice. CINDE offers its complete list of service providers that includes more than 80 companies to support entry into the country. In addition, CINDE provides support to the communication strategy for expansion, reinvestment or other impact programs that the company carries out in the country. 2. Development Counsellors International "Winning Strategies" (2017), based on 331 corporate executives