

Nov 15, 2022 - Economic Webcast

Resources for a World of Economic Uncertainty



In Partnership with



Paul Hart

VP, Product Marketing
Building Product Manufacturers



Spring Economic Webinar

Agenda

- 1 Ken Simonson, AGC
- 2 Kermit Baker, AIA
- 3 Fonda Rosenfeldt, ConstructConnect
- 4 Alex Carrick, ConstructConnect
- 5 Michael Guckes, ConstructConnect

Before We Get Started

- Interact with the presenters anytime! Submit questions throughout today's webcast through the question feature available in the on-screen panel.
- An on-demand version will be provided via email within 72-hours of the event.
- The recording of this webcast will also be posted on our Economic Resources page.
- Quarterly Construction Starts and Put in Place Forecasts available:

www.constructconnect.com/economic-resources

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Course Number: CCAIAEW052022

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LEARNING OBJECTIVES

- Learn details of economic impact on construction projects and labor, AEC firms, and manufacturers, as well as supply chains.
- Assess the impacts of construction inputs, focusing on potential labor implications and on material cost pressures that may arise from the current economic situation.
- Understand risks and opportunities based on forecasts for all segments of U.S. construction activity.
- Determine, based on economists' discussions, industry sectors anticipating economic growth, as well as sectors anticipating decline.

This program is registered with the AIA/CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product. Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

The background features a construction site with workers on a building facade. A blue overlay covers the left side, and a bar chart and line graph are visible on the right. The text is centered in the lower half of the image.

Economic Resources

 **constructconnect**

constructconnect.com/economic-resources

Ken Simonson

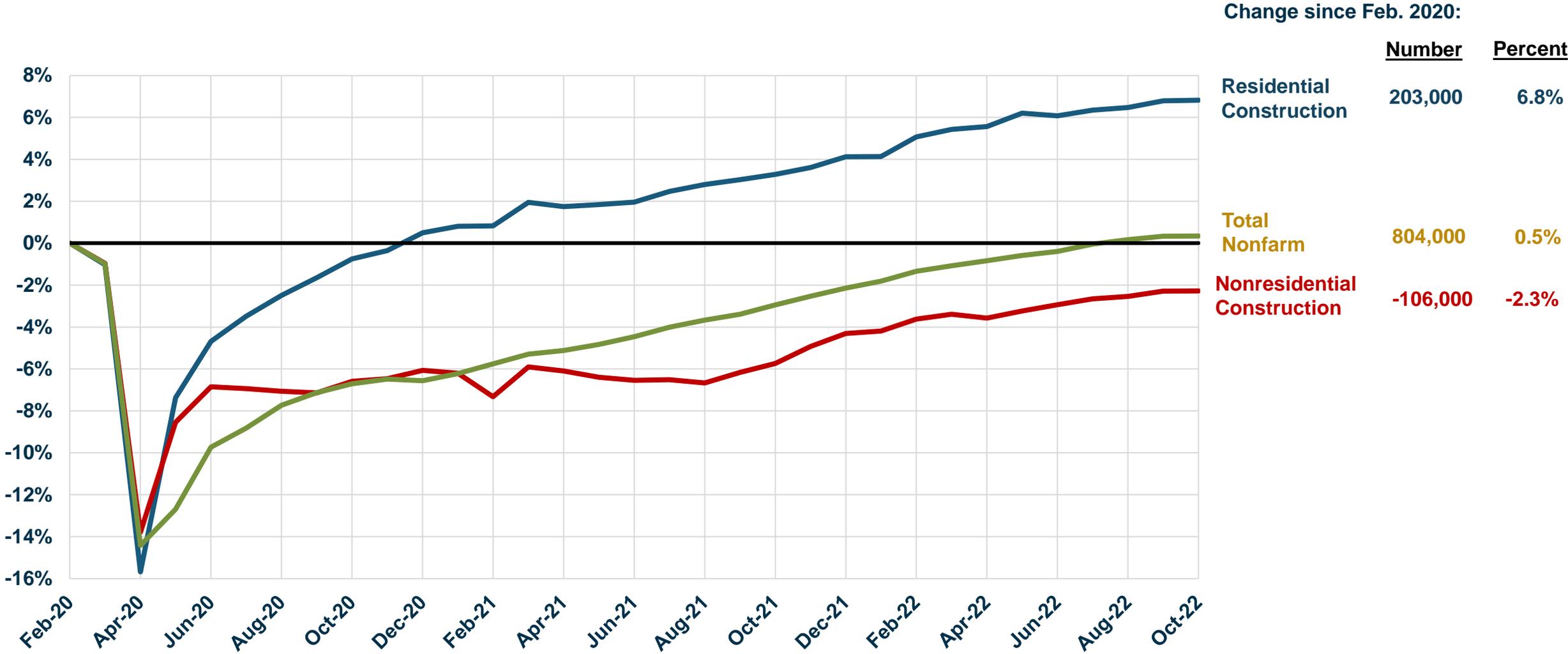
Chief Economist,
Associated General
Contractors of America



Total Nonfarm & Construction Employment, Feb. 2020-Oct. 2022



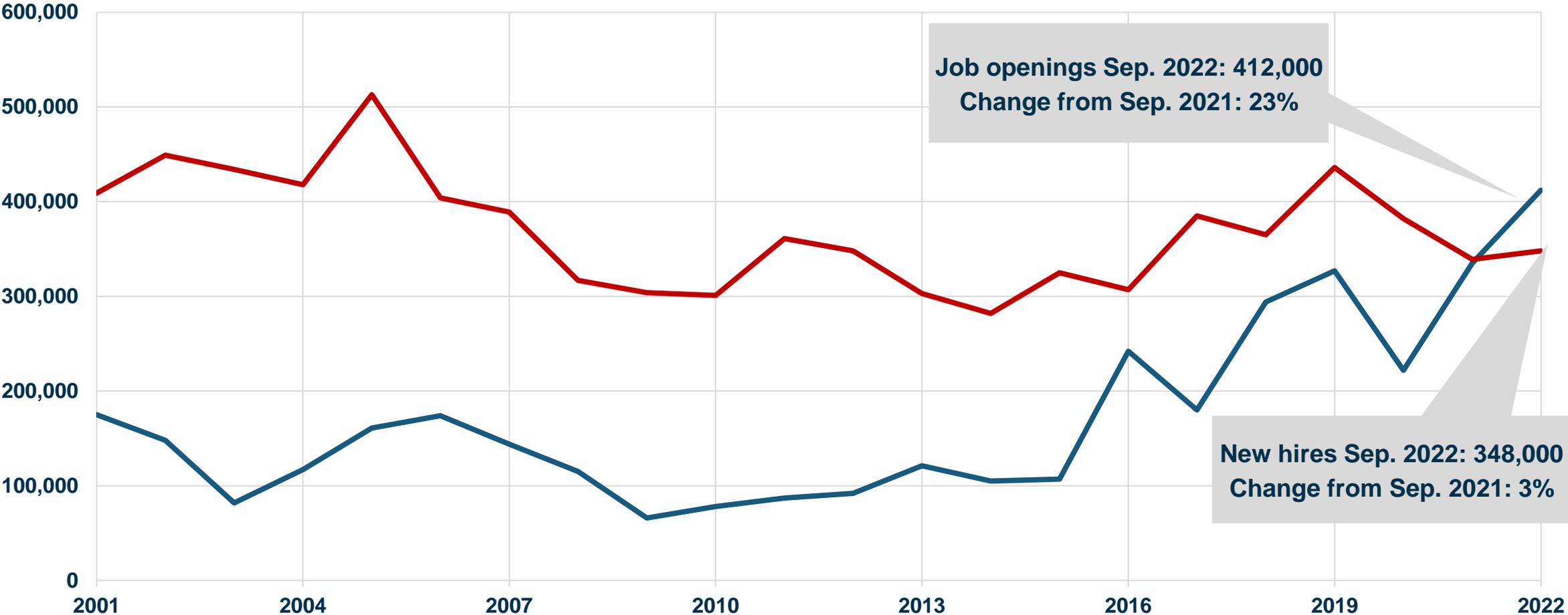
Cumulative change (seasonally adjusted)



Source: BLS current employment statistics, <https://www.bls.gov/ces/>

Construction Job Openings & New Hires

Job openings and hires, Sep. 2001-Sep. 2022, not seasonally adjusted

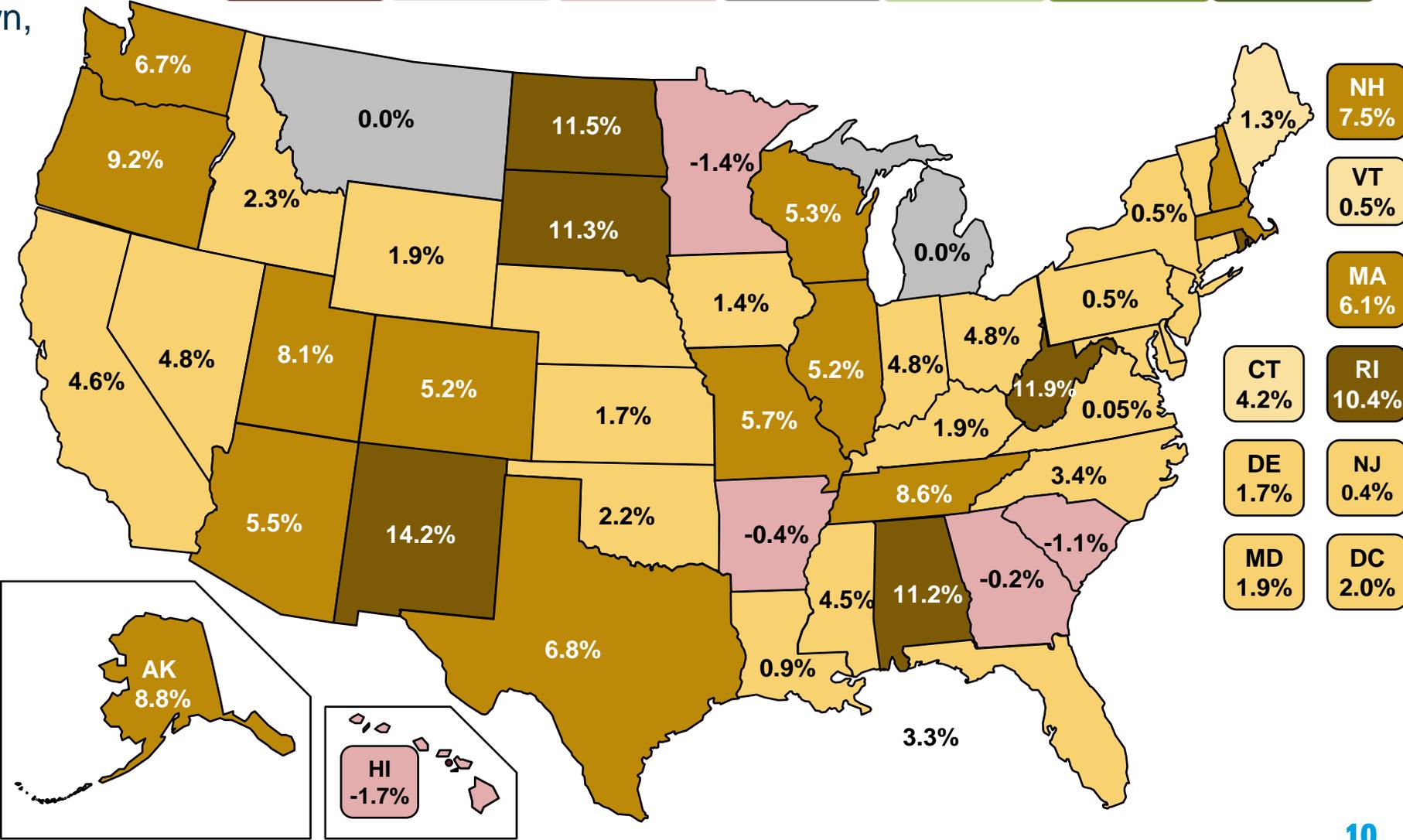


Source: Bureau of Labor Statistics, www.bls.gov/jlt, Job Openings & Labor Turnover Survey (JOLTS)

Construction Employment Change by State

August 2021-August 2022

43 states + DC up, 5 states down, 2 unchanged (U.S.: 4.2%)



Top 5

NM	14.2%
WV	11.9%
ND	11.5%
SD	11.3%
AL	11.2%

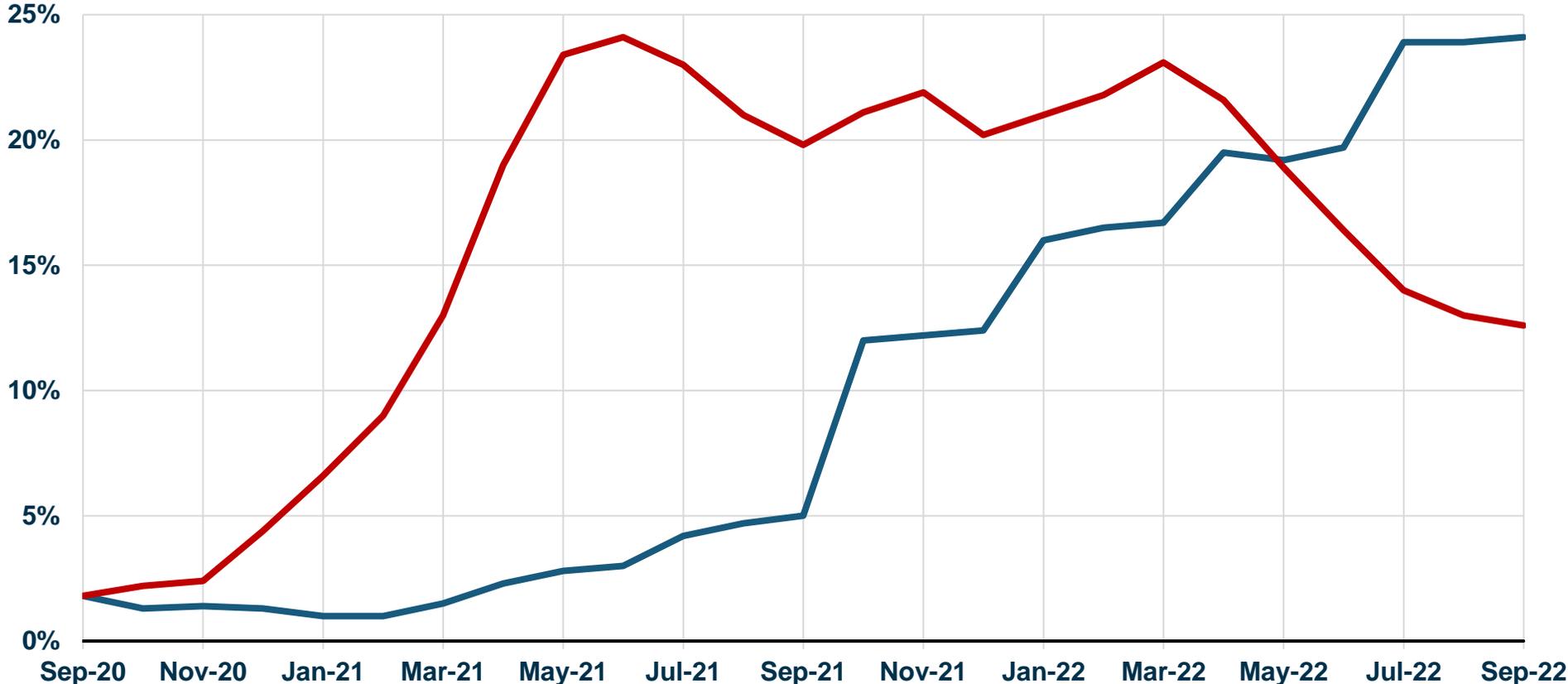
Bottom 5

HI	-1.7%
MN	-1.4%
SC	-1.1%
AR	-0.4%
GA	-0.2%

Source: Bureau of Labor Statistics, state and area employment, www.bls.gov/sae

Costs vs. Bid Prices for New Nonresidential Construction

Year-over-year change in PPIs, Sep 2020 - Sep 2022, not seasonally adjusted

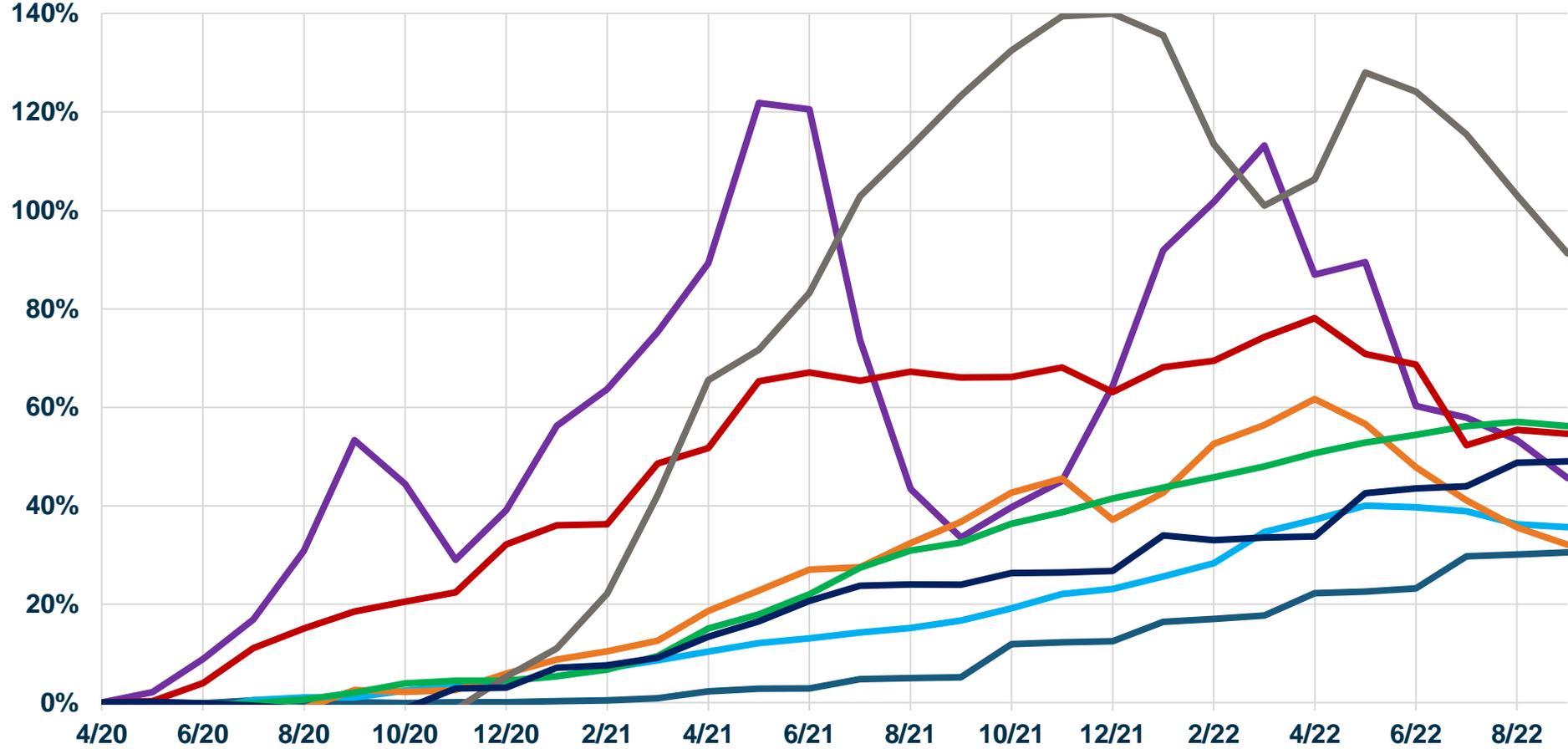


	12 months to:	
	Sep-20	Sep-22
Bid Price PPI	1.8%	24.1%
Inputs PPI	1.8%	12.6%

Source: Bureau of Labor Statistics, producer price indexes, www.bls.gov/ppi

PPIs for Construction Bid Prices and Selected Inputs

Cumulative change in PPIs, April 2020-September 2022 (not seasonally adjusted)

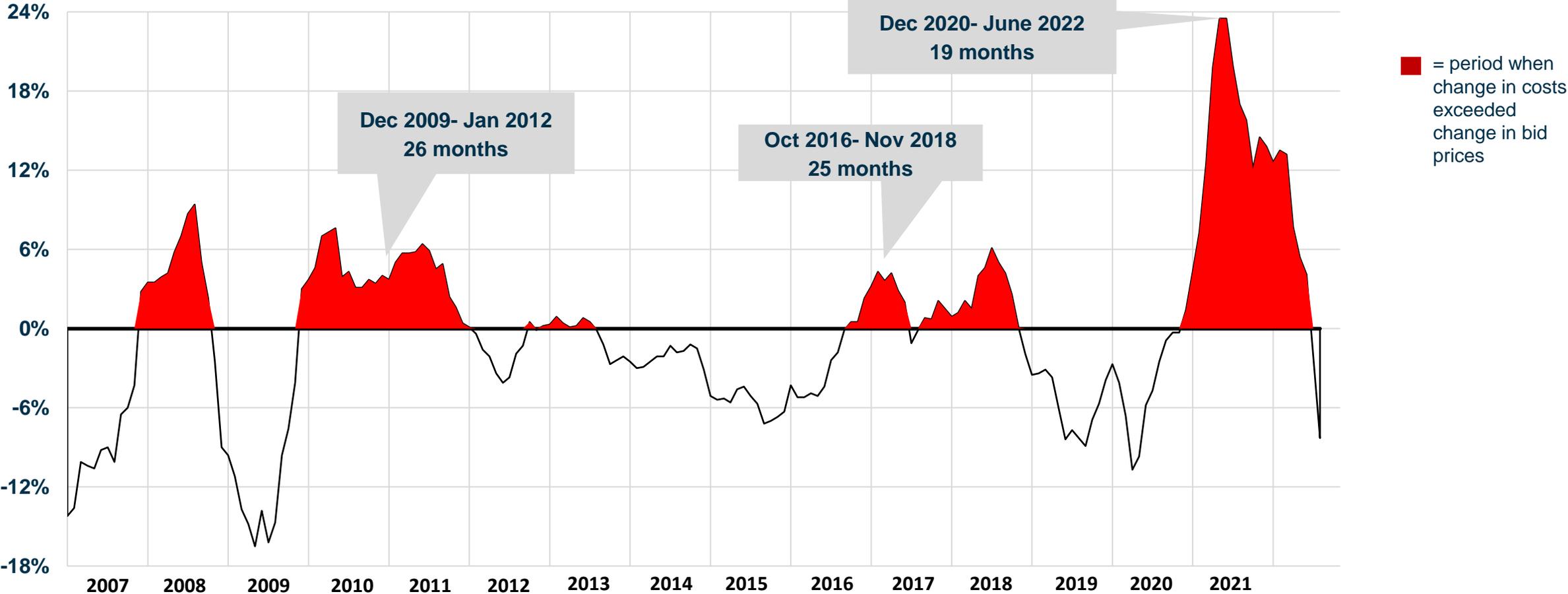


% Change: April 2020 - September 2022		
	Steel Mill Products	91.3%
	Plastic Construction Products	56.2%
	Copper & Brass Mill Shapes	54.6%
	Lumber and Plywood	45.6%
	Gypsum Building Materials	49.0%
	Aluminum Mill Shapes	32.1%
	Truck Transportation	35.7%
	'Bid Price' <i>(new nonresidential building construction)</i>	30.5%

Source: Bureau of Labor Statistics, producer price indexes, www.bls.gov/ppi

Cost Squeeze on Contractors Can Last Two Years or More

Difference between year-over-year change in materials costs vs. bid prices, Jan 2007-Aug 2022



Source: Bureau of Labor Statistics, www.bls.gov/ppi, producer price indexes for goods inputs to nonresidential construction (material costs) and new school building construction (bid prices)

Current (not inflation-adjusted) dollars, seasonally adjusted

- **Total 11%:** private res 13% (single-family -3%; multi 2%; improvements 41%); private nonres 11%; public 7%

Largest Segments (in descending order of Sep. 2022 spending)

- **Commercial 23%** (warehouse 23%; retail 25%; farm 13%)
- **Mfg. 43%** (computer/electronic 320%; chemical -14%; food/beverage/tobacco -6%; transp. equip. 9%)
- **Highway and street 9%**
- **Power -11%** (electric -11%; oil/gas fields & pipelines -12%)
- **Education 1%** (primary/secondary 0.1%; higher ed 5%)
- **Office 1%**
- **Transportation 2%** (air -8%; freight rail/trucking 15%; mass transit 14%)
- **Health care 7%** (hospital 6%; medical building 15%; special care -2%)
- **Sewage and waste disposal 16%**
- **Water supply 26%**

- Economic recovery should continue, but the likelihood of recession remains high.
- Homebuilding will likely fall for several months until prices and interest rates flatten.
- Multifamily, warehouse, retail, office, and lodging are at risk from a slowdown, rising rates.
- Infrastructure Investment & Jobs Act, “Chips+” Act and Inflation Reduction Act will give a major boost to infrastructure, manufacturing, and power construction. BUT...
 - Money will be slow to turn into construction awards and spending.
 - Buy America(n), labor, and environmental strings may tie up project starts for years.
- Materials cost and lead time trends are mixed, no longer all upward.
- Labor availability has resumed being the #1 challenge for many contractors.

Population Change by State, July 2020-July 2021

(U.S.: 0.12%)

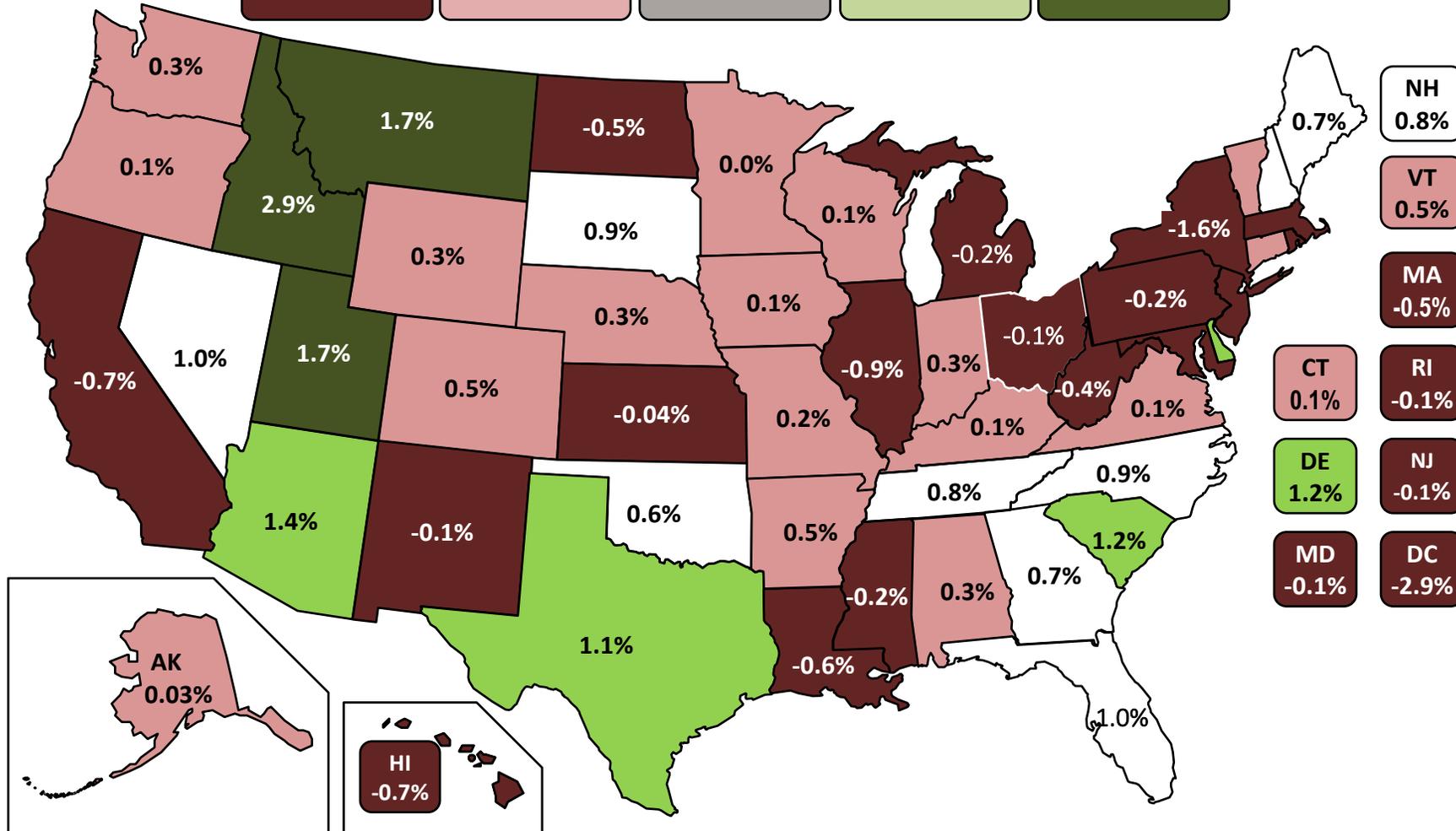


Top 6

ID	2.9%
UT	1.7%
MT	1.7%
AZ	1.4%
SC, DE	1.2%

Bottom 5

DC	-2.9%
NY	-1.6%
IL	-0.9%
HI	-0.7%
CA	-0.7%



Email: ken.simonson@agc.org)

- **The Data DIGest:** weekly 1-page email (subscribe at <http://store.agc.org>)
- **Construction Inflation Alert:**
<https://www.agc.org/learn/construction-data/agc-construction-inflation-alert>
- **ConsensusDocs Price Escalation Resource Center:**
<https://www.consensusdocs.org/price-escalation-clause/>
- **Surveys, State, and Metro Data, Fact Sheets:**
www.agc.org/learn/construction-data
- **Monthly Press Releases:** construction spending; producer price indexes; national, state, metro employment with rankings: <https://www.agc.org/newsroom>



Kermit Baker

Ph.D., Hon. AIA
Chief Economist,
American Institute of Architects



- Growing list of troubling indicators for the broader economy.
- Generally positive business trends at architecture firms point to continued expansion in construction output for 2023.



Major Monthly Leading Economic Indicators...

...are beginning to reflect the magnitude of the downturn.

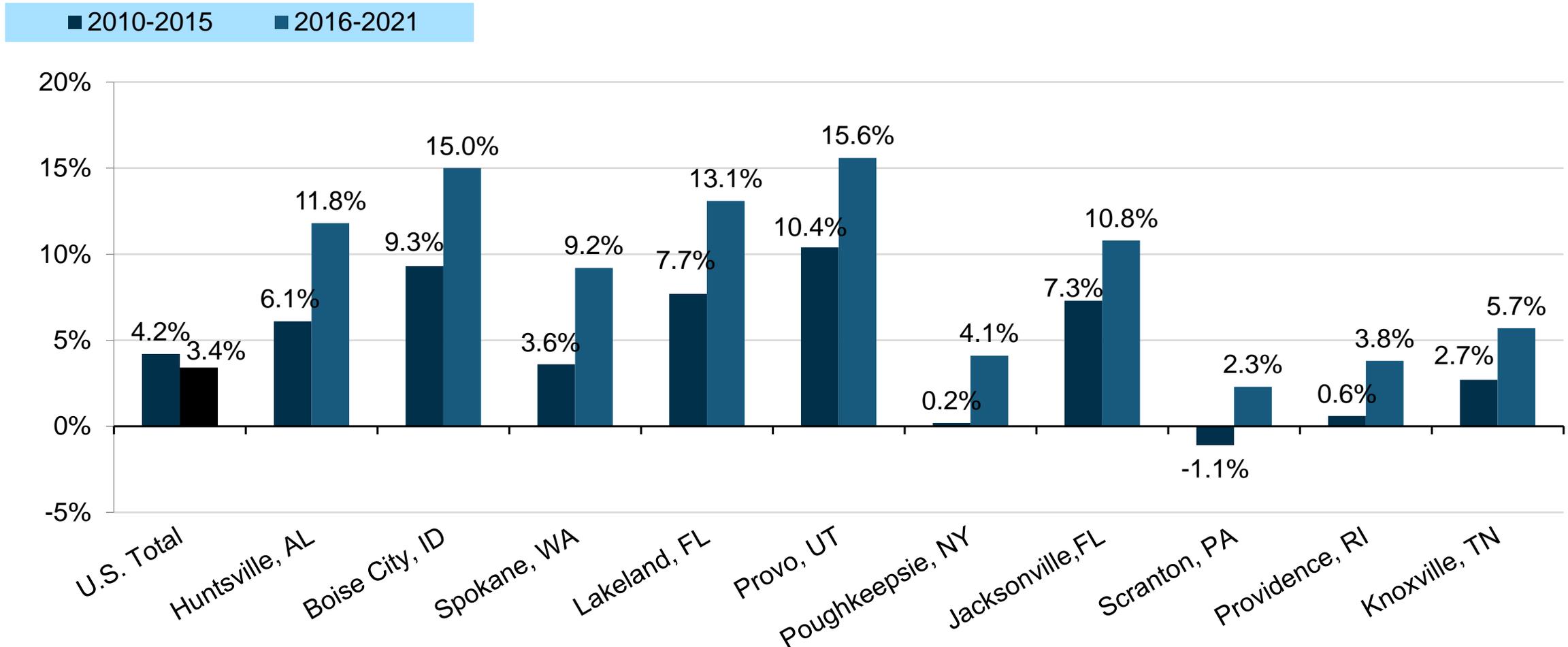
	Jan.	Apr.	Jul.	Aug.	Sep.	Oct.	Change since January
Consumer prices (change from year-ago)	7.5%	8.3%	8.5%	8.3%	8.2%	Not avail.	0.7 pct. points
3-mo. T-bills	0.24%	0.83%	2.34%	2.87%	3.22%	3.99%	3.75 pct. points
30-yr fixed rate mortgage	3.55%	5.10%	5.30%	5.55%	6.70%	7.08%	3.53 pct. points
Consumer sentiment (index: Q1 1966=100)	67.2	65.2	51.5	58.2	58.6	59.9	-7.3 points
Housing starts (SAAR)	1.67M	1.81M	1.38M	1.57M	1.44M	Not avail.	-13.6%
Retail sales (\$B, seasonally adj.)	\$651.6	\$674.7	\$681.1	\$684.0	\$684.0	Not avail.	+5.0%
Nonfarm payrolls (change in number, 000s)	504	368	537	292	315	261	+3,564

- Wall Street Journal survey of 66 economists (October 7-11) forecast: Probability of recession in coming 12 months at 63%.
- Panel expects very modest decline in GDP (0.1%–0.2%) in each of first two quarters of 2023.
- If there is a recession, it is expected to be relatively short-lived at ~8 months.
- Interest rates expected to peak mid-year 2023 at 1.0 to 1.5 percentage points higher than now. Fed expected to begin cutting interest rates by late 2023 or early 2024.



Recent Positive Population Shifts Greater in More Affordable Areas of the Country

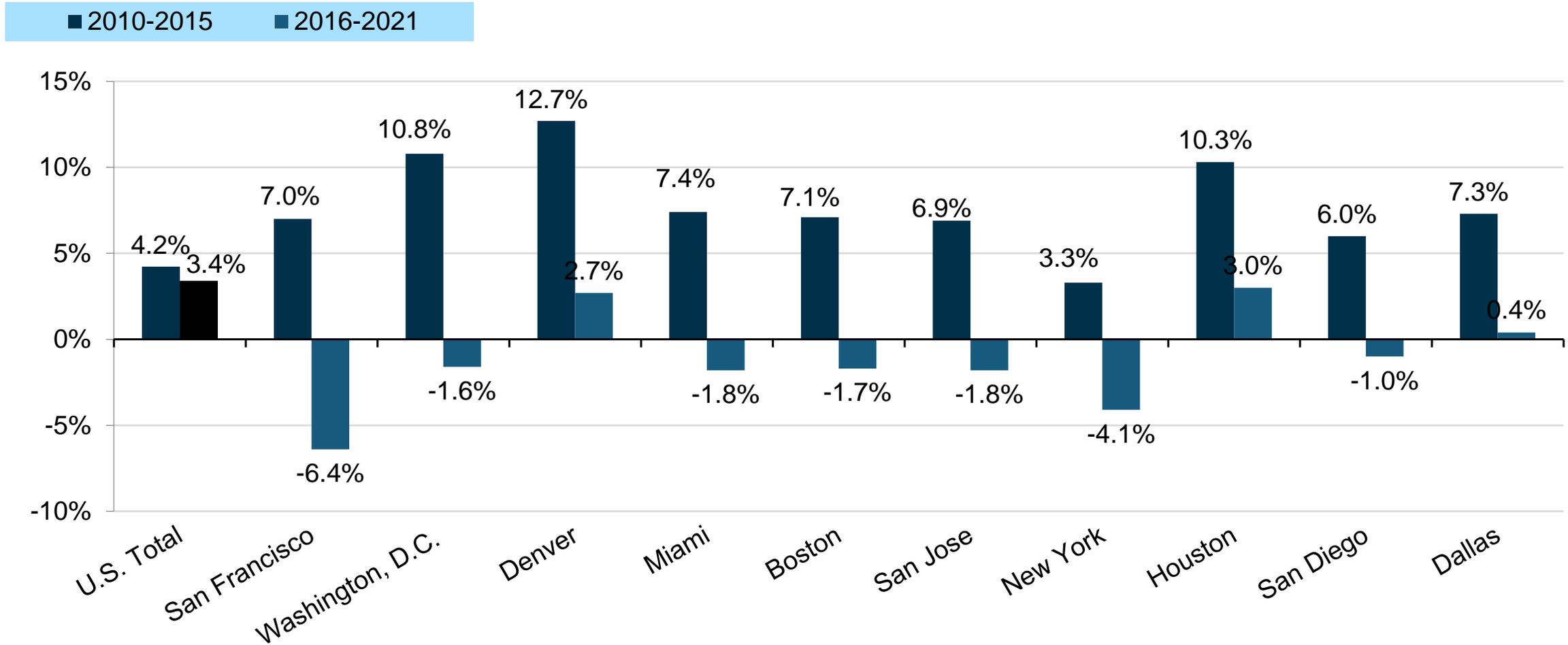
Meto area population growth, metro areas with populations of 500,000 or greater



Source: CBRE from U.S. Census Bureau's Population Estimates Program. Estimates as of July 1

Recent Population Declines in Pace of Growth in Less Affordable Areas of the Country

County population growth, counties with populations of 500,000 or greater



Source: CBRE from U.S. Census Bureau's Population Estimates Program. Estimates as of July 1

Significant elements of program:

- Nation's biggest-ever climate bill (projected to reduce carbon emissions by 40% by 2030)
- Major changes to the Affordable Care Act
- Largest tax hike on corporations in decades



High-efficiency electric home rebates—potential per household:

- \$8,000: heat pumps
- \$1,750: heat pump water heaters
- \$840: appliances
- Plus, over \$8,000 potentially for other efficiency upgrades

Energy-efficient commercial building deduction (179D)

- Threshold for new energy-efficient building lowered to 25% reduction in annual energy costs
- Tax deduction calculated on sliding scale of up to \$5/sq. ft.



After Declining in 2021, Construction Spending on Buildings Making Reasonably Healthy Recovery This Year



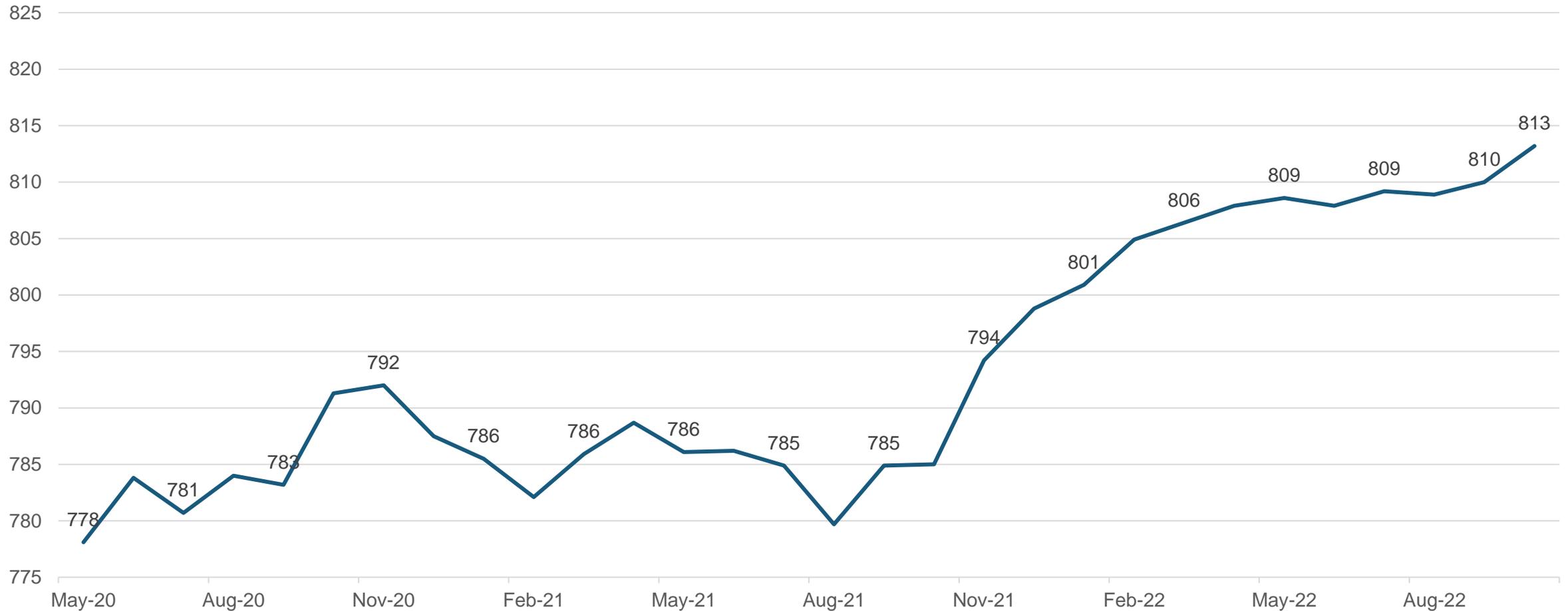
Billions of \$, Jan-Sep 2022 vs. Jan-Sep 2021 totals

	2022	2021	% Change
Total Nonresidential Building Construction	\$434.0	\$409.2	6.0%
Commercial/ Industrial	\$232.2	\$205.9	12.8%
Lodging	\$12.9	\$14.3	-9.8%
Office	\$64.1	\$65.3	-1.9%
Commercial (retail & other)	\$82.2	\$69.4	18.6%
Manufacturing	\$73.0	\$56.9	28.3%
Institutional	\$201.7	\$203.4	-0.8%
Healthcare	\$38.4	\$35.9	6.9%
Education	\$74.6	\$76.2	-2.1%
Religious	\$2.2	\$2.2	-0.7%
Public Safety	\$8.3	\$9.6	-13.8%
Amusement & Recreation	\$19.6	\$18.9	3.9%
Transportation	\$41.2	\$42.7	-3.5%
Communication	\$17.6	\$18.0	-2.2%

Source: U.S. Census Bureau, Value of Construction Put in Place

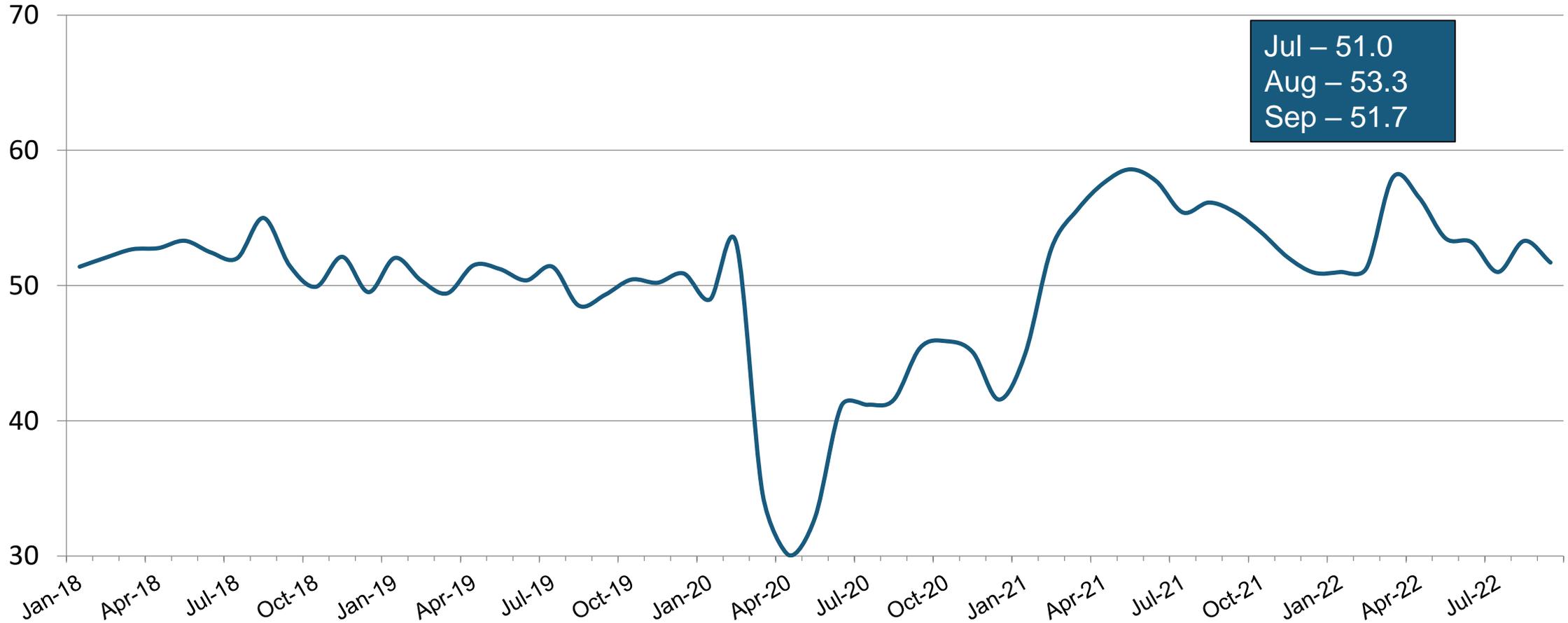
Nonresidential Construction Employment Rose 3.6% Over the Past Year, Indicating Increased Output (not just inflation)

All employees at nonresidential building companies, thousands, seasonally adjusted



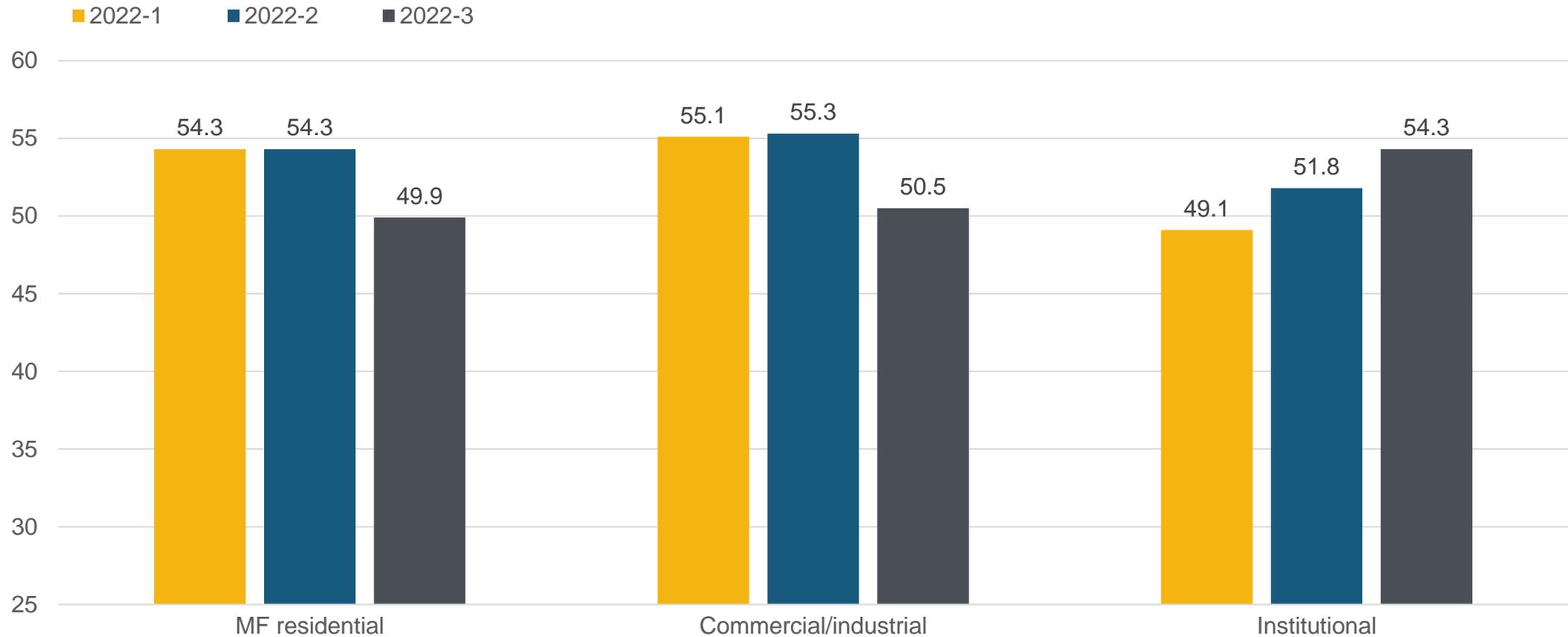
Architecture Firm Billings, While Seeing Slower Growth, Remain Very Healthy

Diffusion index: 50 = no change from previous month, seasonally adjusted



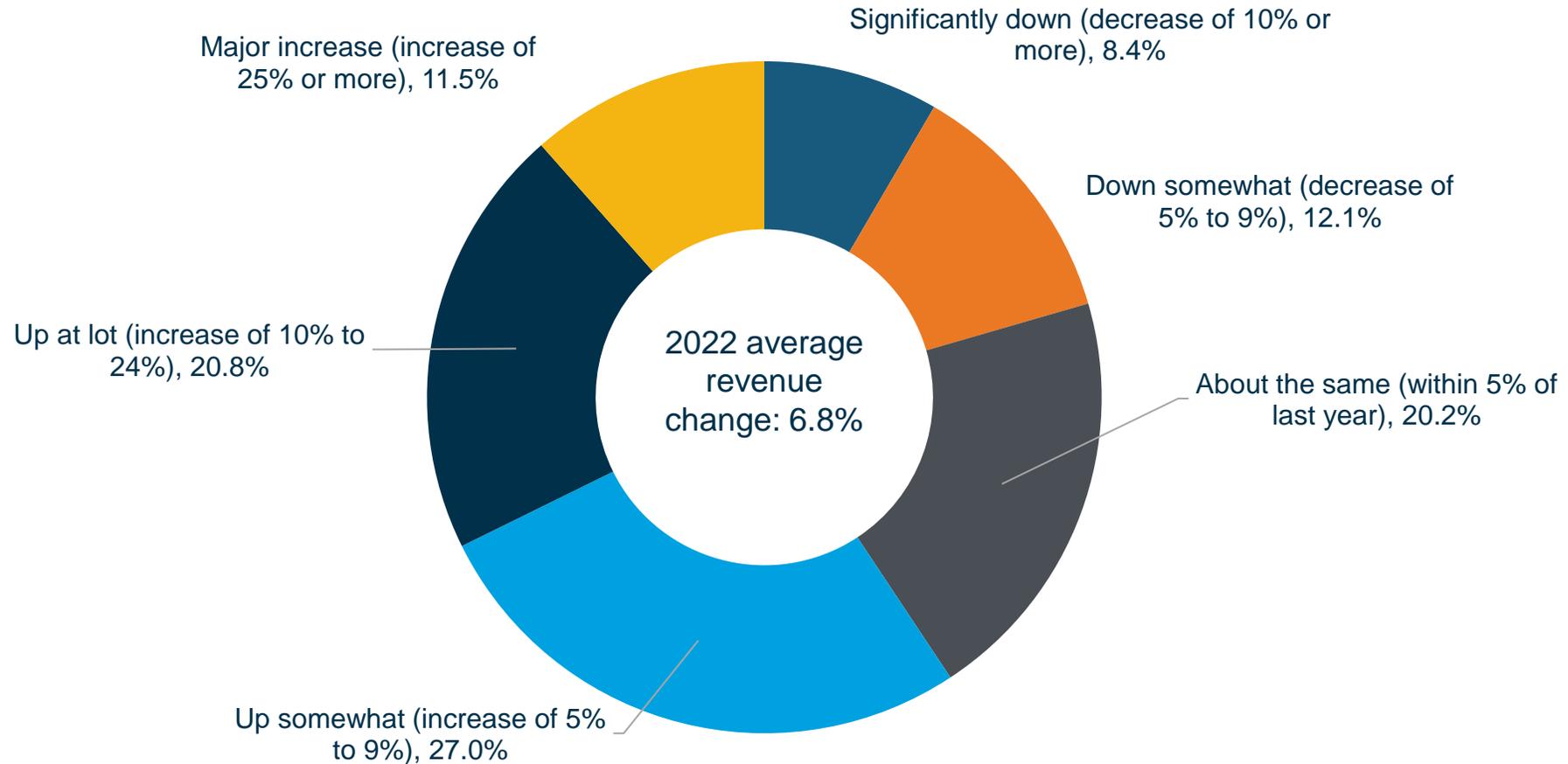
All Construction Sectors Are Positive, and the Institutional Sector Has Recently Shown Some Strength

ABI scores by quarter for 2022



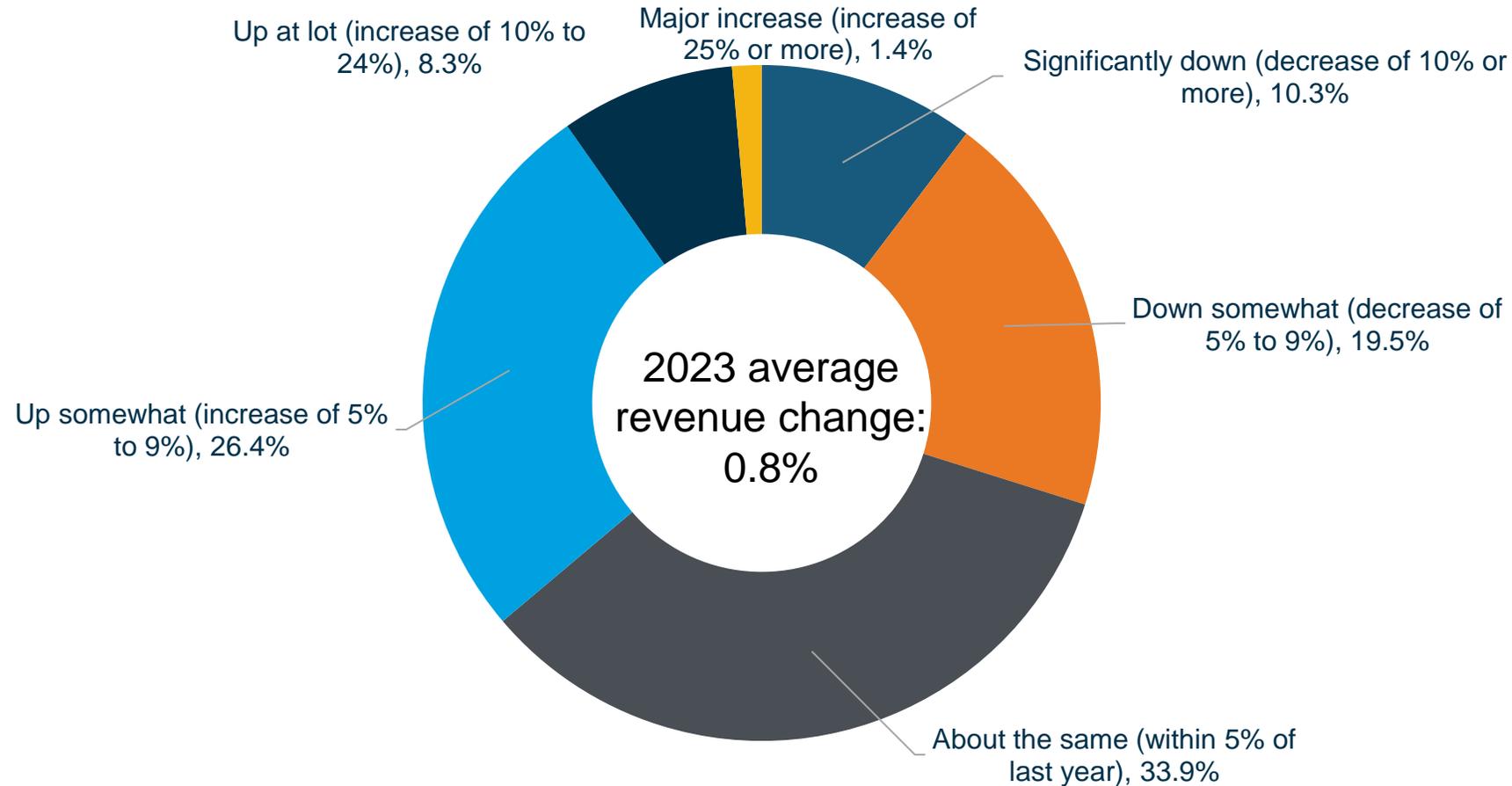
Six in Ten Firms Expect Their Revenue to Increase This Year...

Share of firms reporting their current estimate for revenue growth or decline at their firm this year compared to 2021



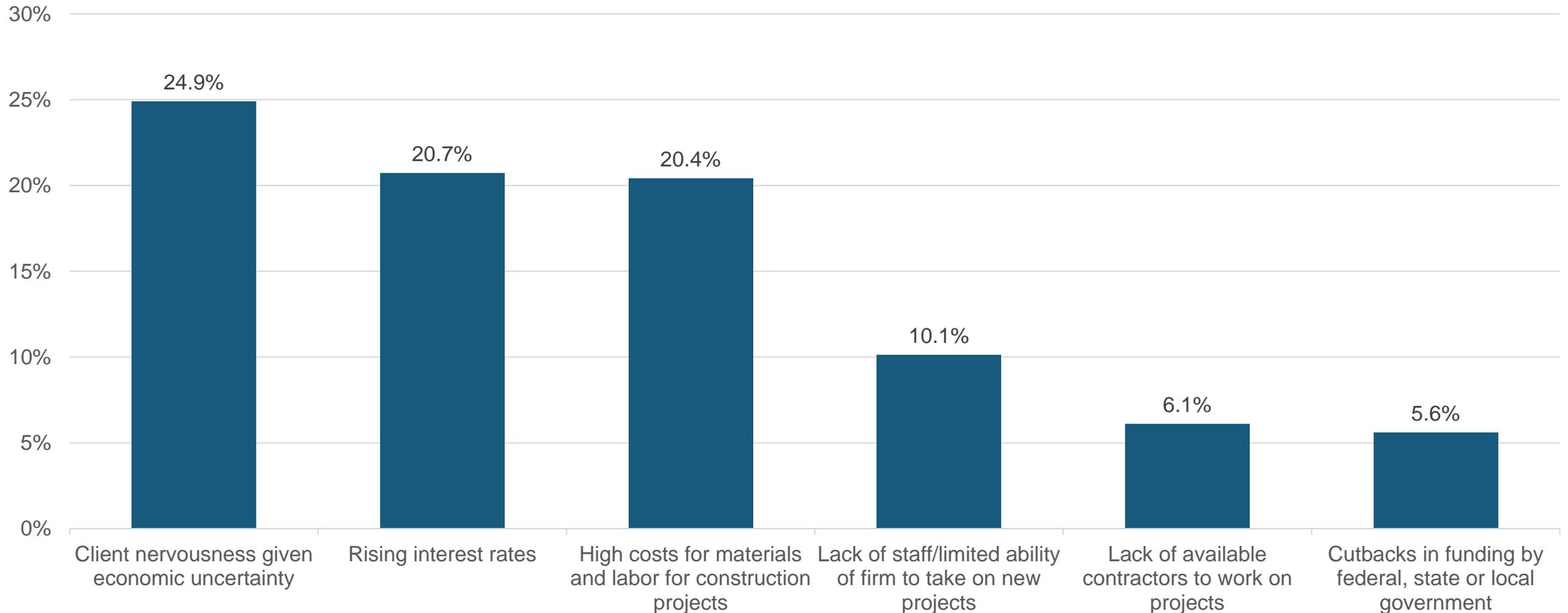
...While Nearly One-Third Expect That Revenue Will Decline in 2023

Share of firms reporting their current projections for revenue growth or decline at their firm for 2023 compared to 2022



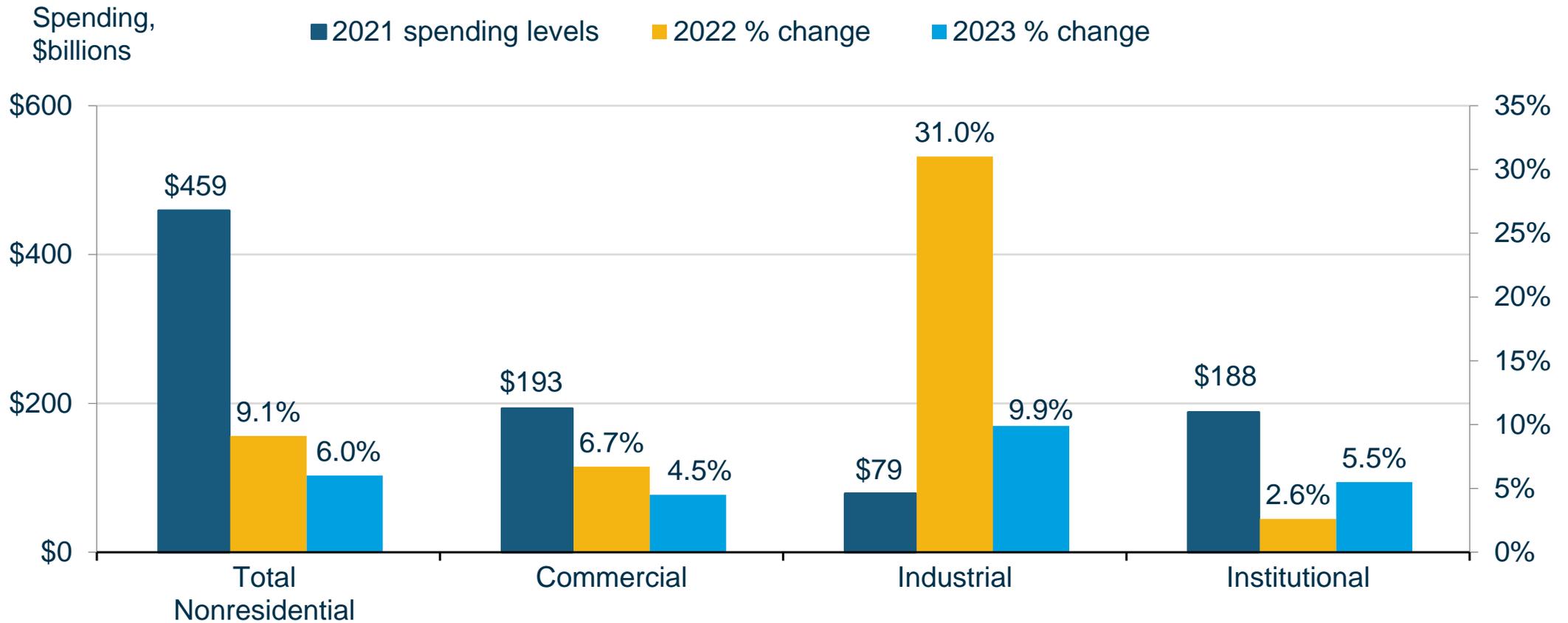
Client Nervousness, Rising Costs Among Expected Contributions to Declining Revenue in 2023

Share of firms reporting which of the following may be major impediments to revenue growth in 2023



Construction Spending Expected to Recover in 2022 and 2023 Across All Major Building Sectors

Billions \$ / % change - construction spending on nonresidential buildings



Fonda Rosenfeldt

Sr. Director of Product Strategy - Data
ConstructConnect

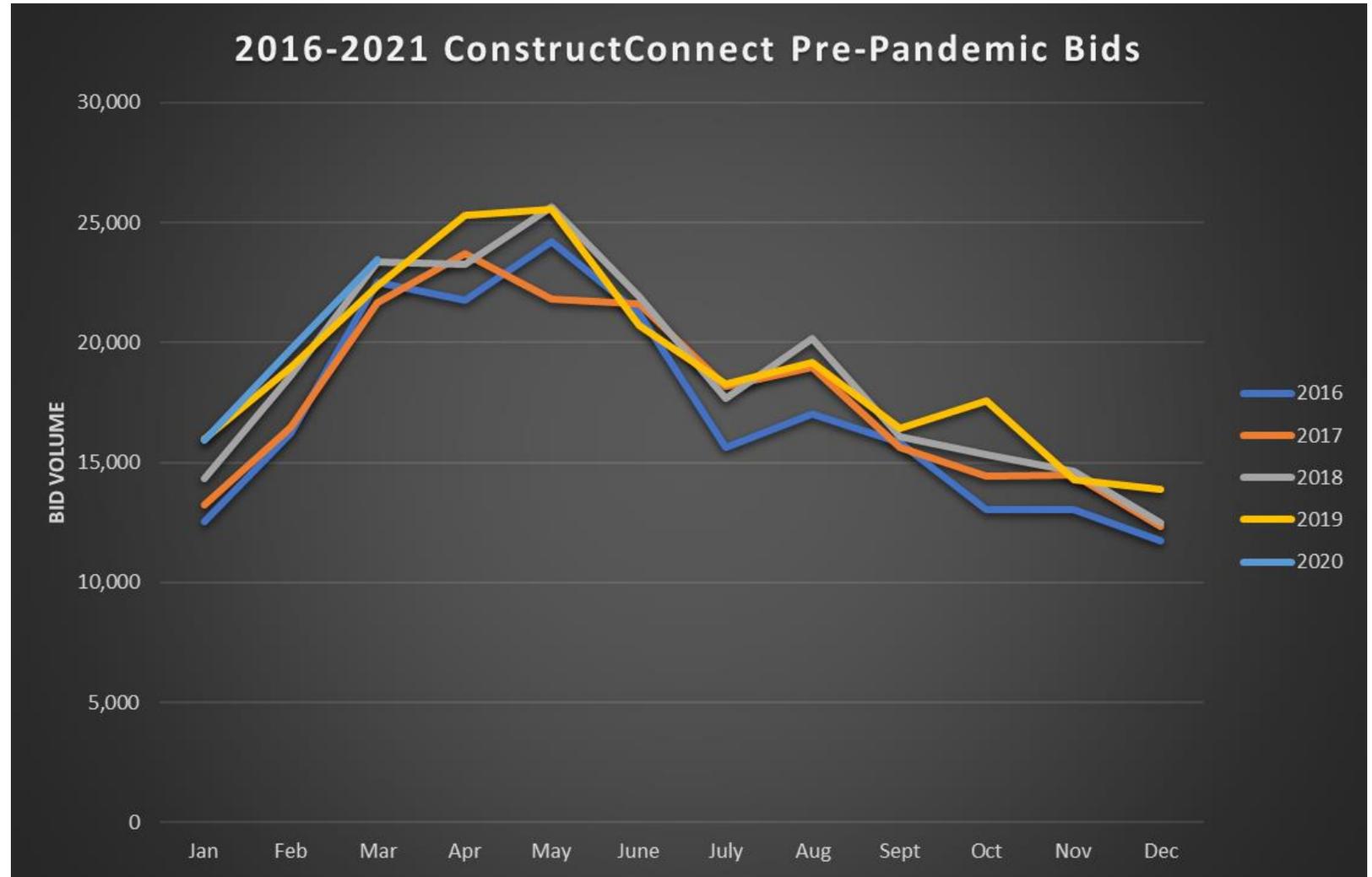


The image features a blue-tinted background of a construction site. On the right, two workers in safety gear are silhouetted against a bright sky as they work on a building's exterior. The left side of the image is dominated by a dark blue gradient with bokeh light effects. In the bottom right corner, there are stylized data graphics, including a bar chart and a line graph.

1,195,667

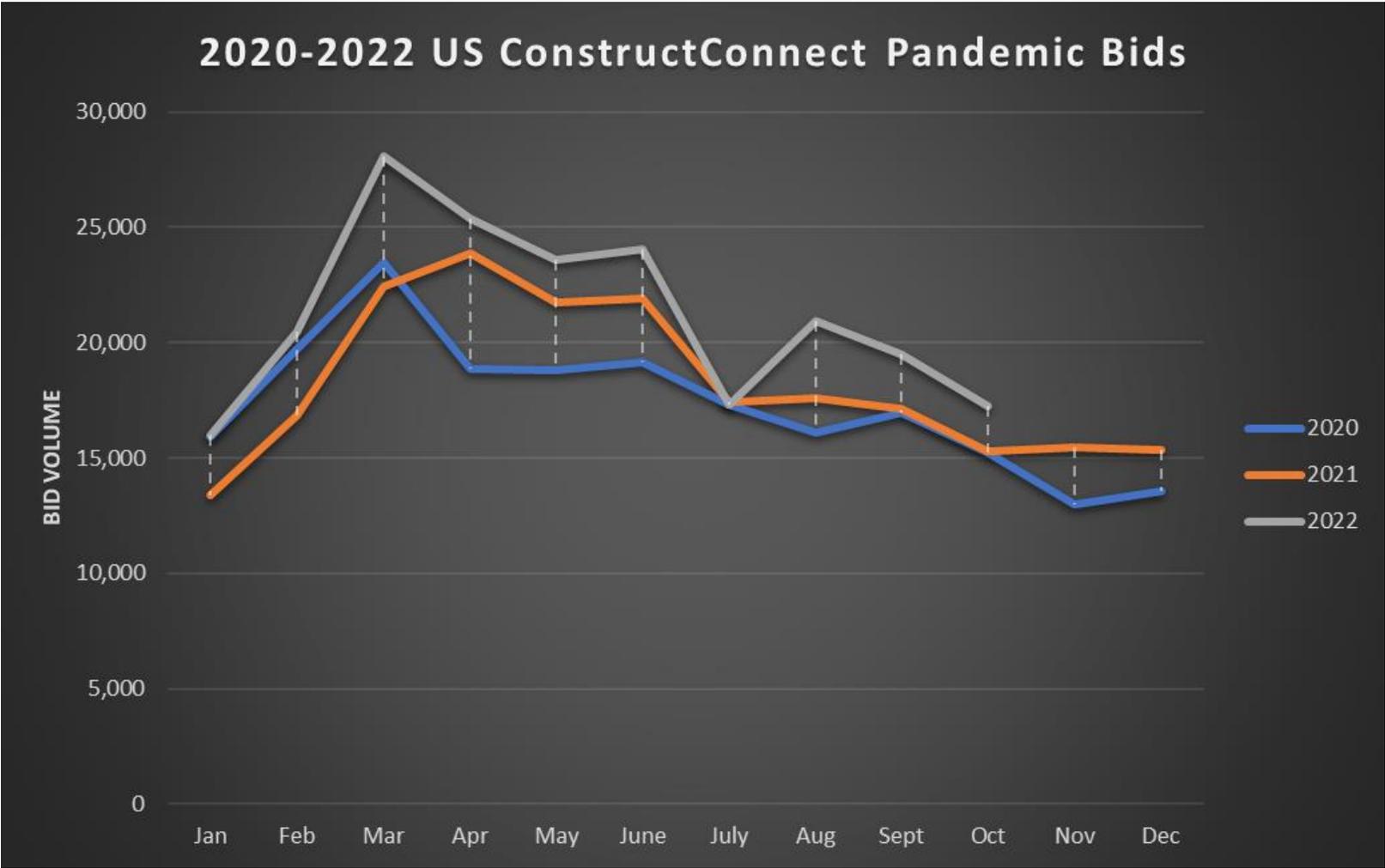
 **constructconnect**

- “Normal,” “Expected” “Predictable” seasonal trends
- Volumes spike, then decline into Q3 & Q4
- Q1 2020 +3.12% vs. 2019
 - Vertical Nonresidential Bid Projects +5%
 - Civil Bid Projects +2%



US Bid Trends

Bid volumes strong through 2022



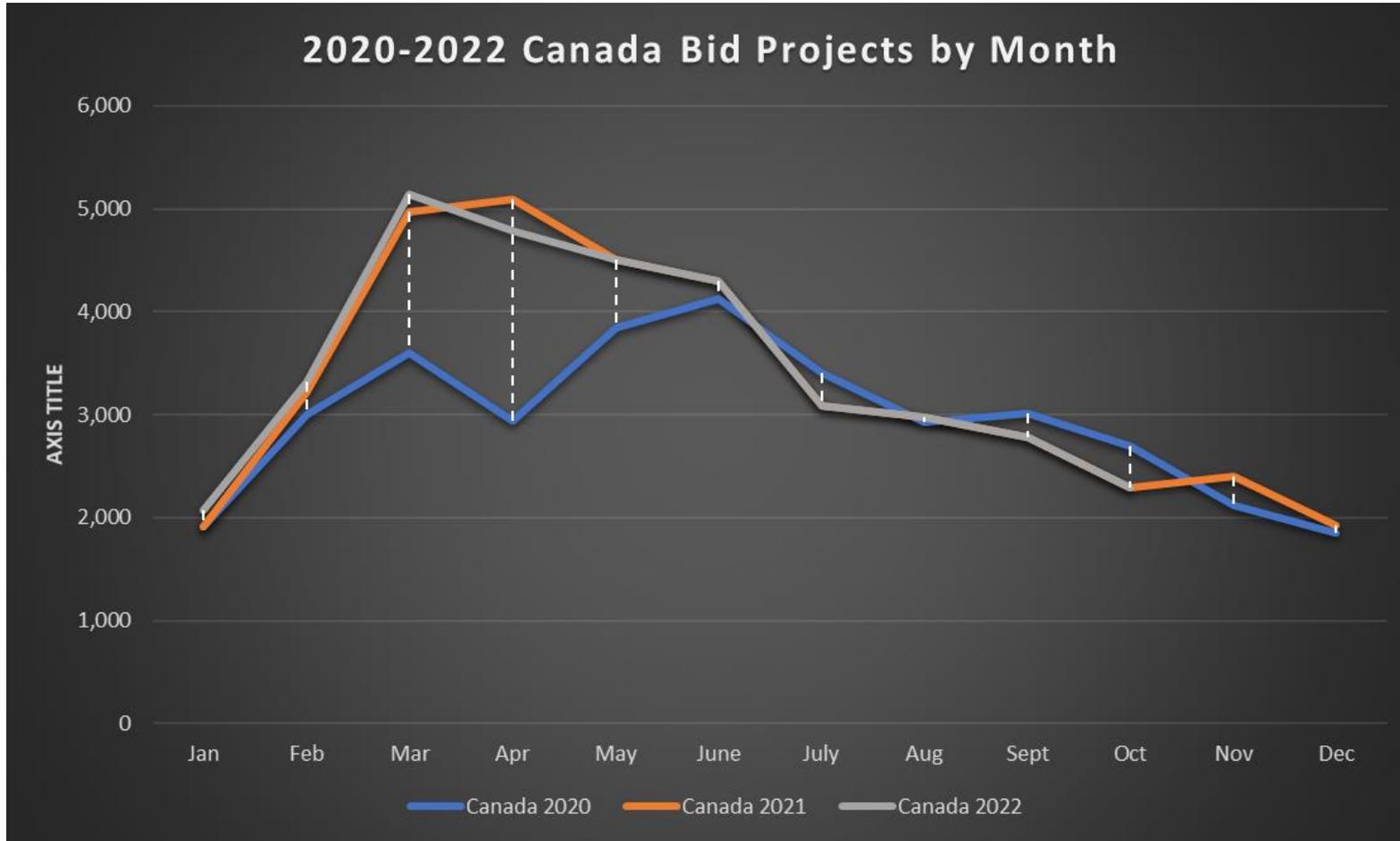
YTD Bids

- +14% vs. 2021
- +18% vs. 2020
- +7% vs. 2019

Source: 2022 ConstructConnect

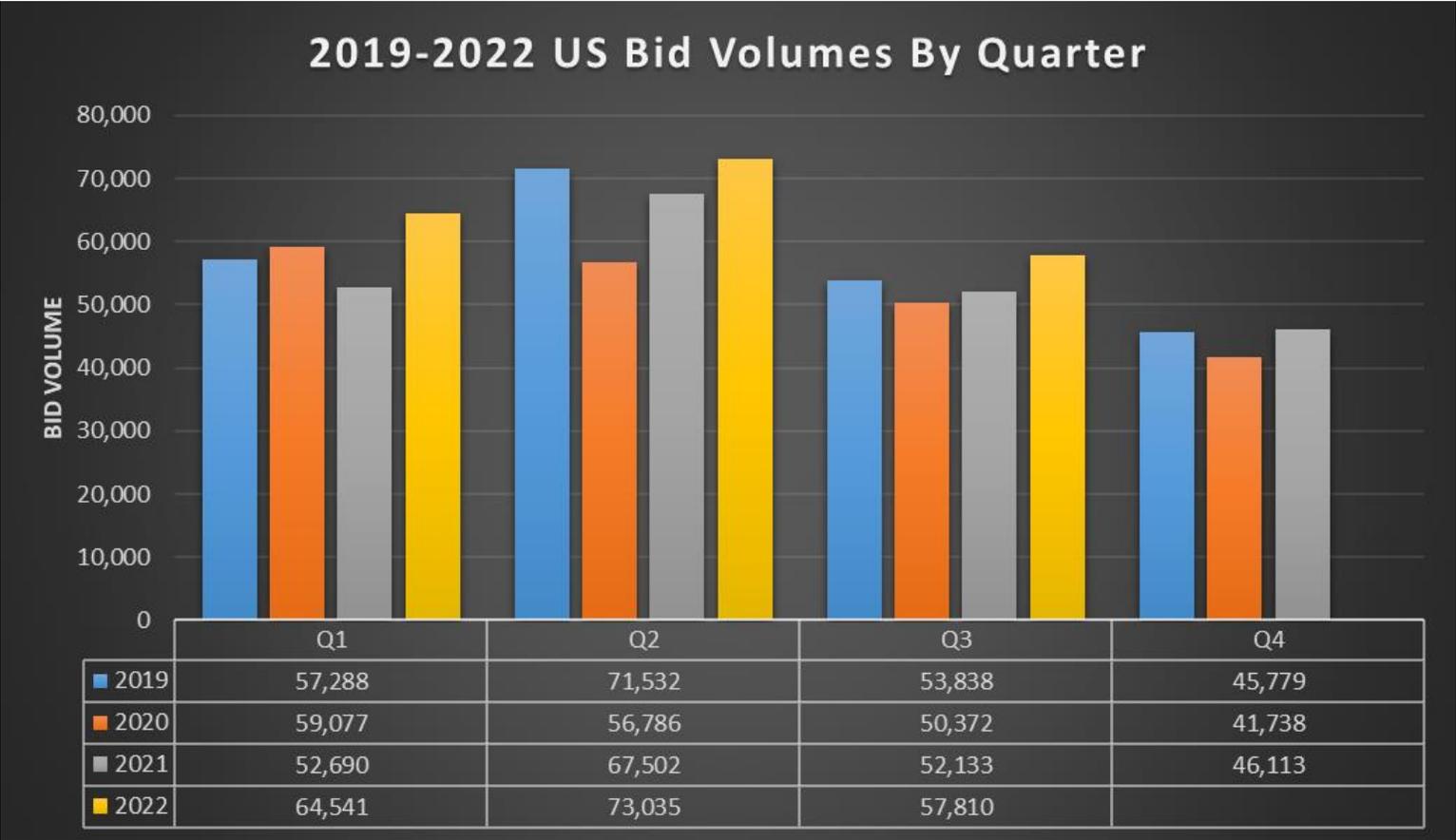
Canada Bid Trends

Bid volumes consistent through 2022



YTD Bids

- = vs. 2021
- +11% vs. 2020



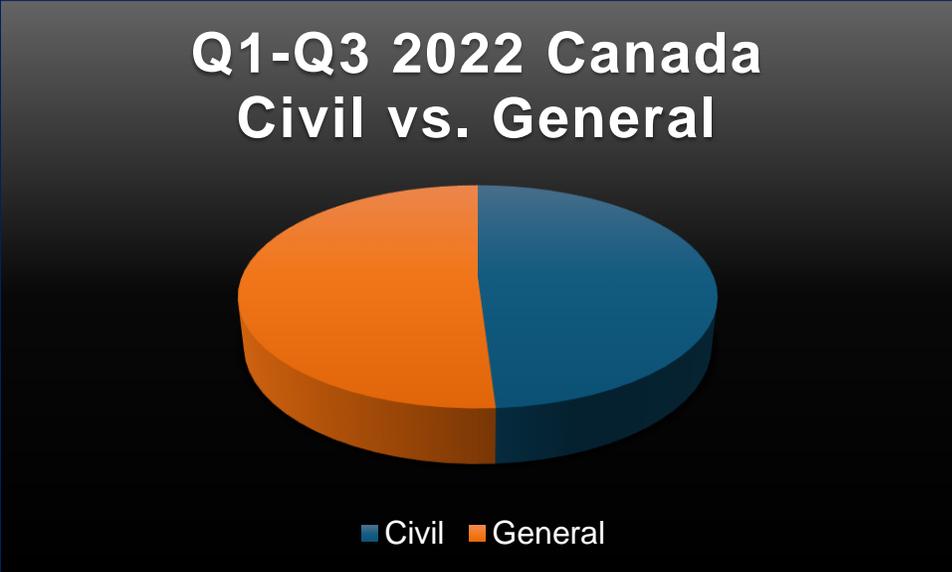
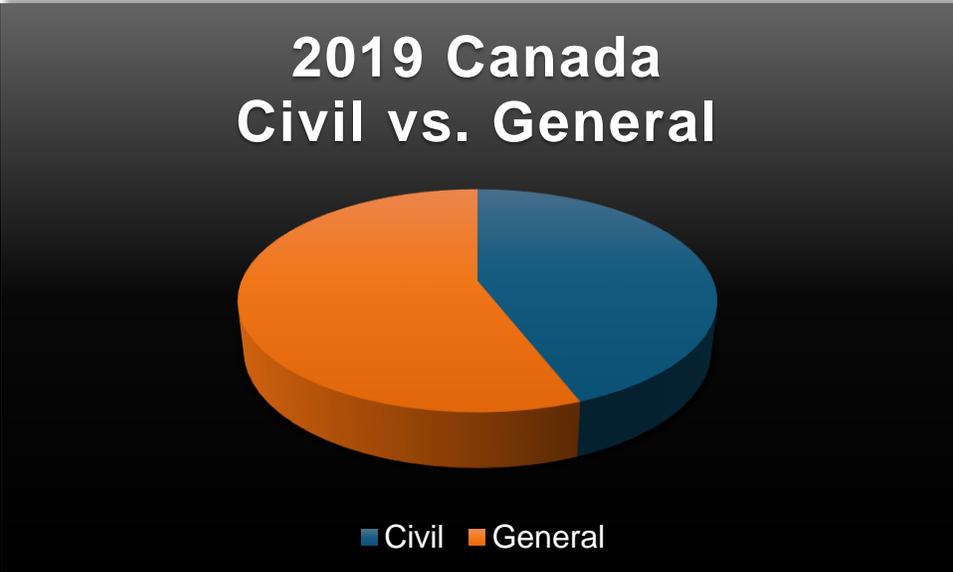
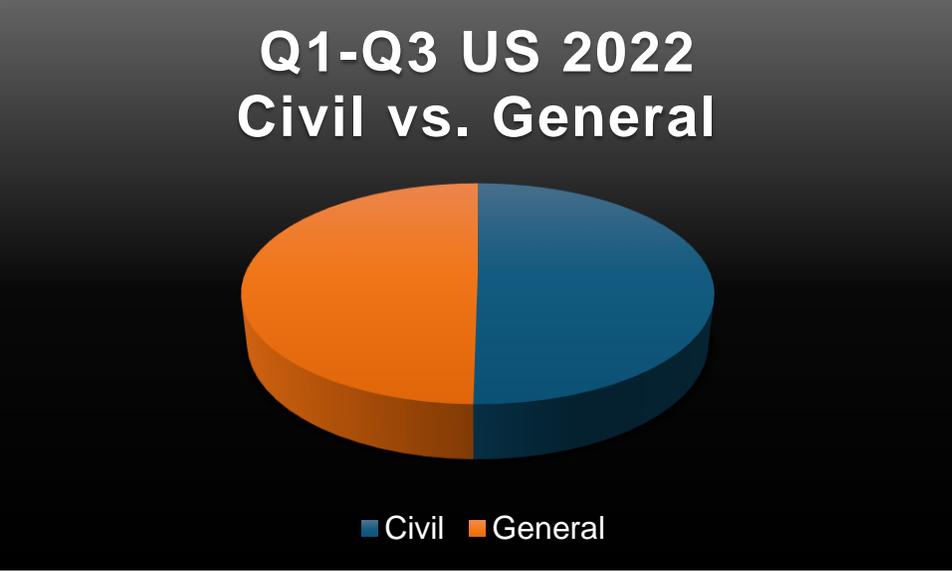
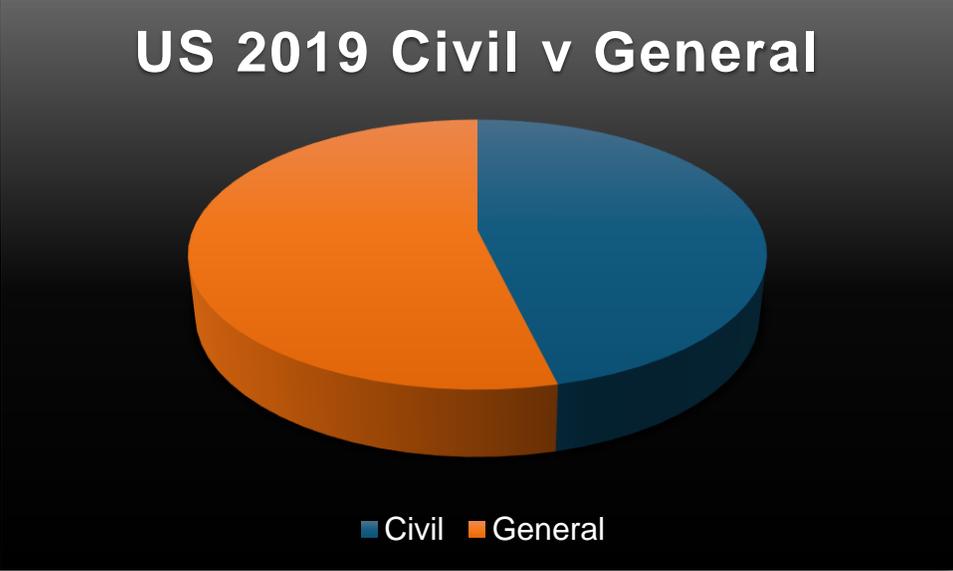
Bid Volumes Trending

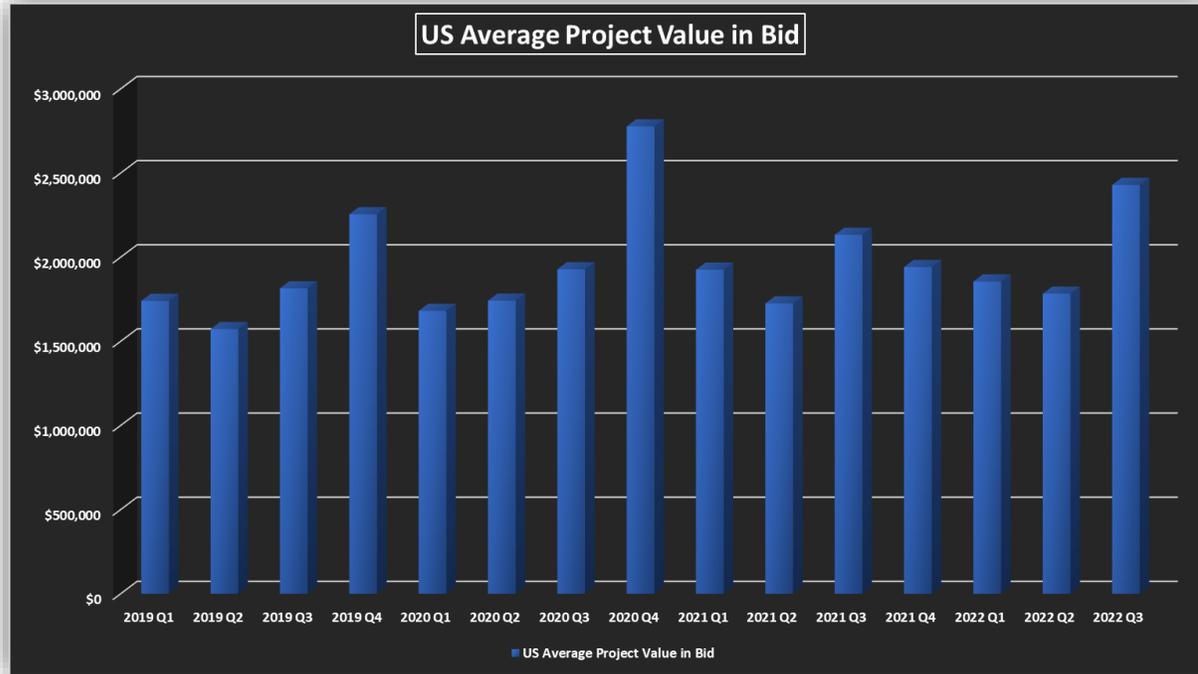
- Q3 2022 +10% vs. Q3 2021
- Q3 2022 +7% vs. Q3 2019



Bid Volumes Up

- Q3 2022 Forecast +4% vs. Q3 2022
- +1% vs. Q3 2019

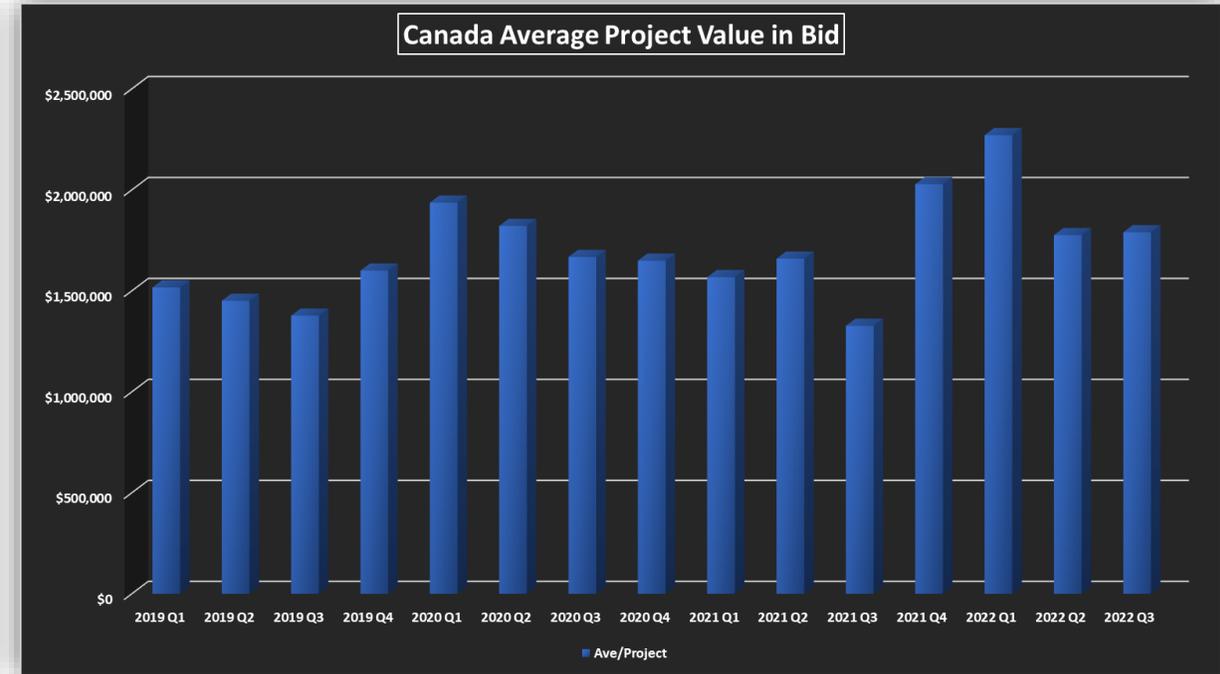




U.S. Average Bid Value

+27% vs. Q2 2022

+25% vs. Q3 2019



Canada Average Bid Value

+1% vs. Q2 2022

+30% vs. Q3 2019



Alex Carrick

Chief Economist,
ConstructConnect



The Achievement of NZE (Net Zero Emissions) by Mid-Century

As significant as the industrial and technological revolutions before it, there's now one primary theme governing world affairs going forward ... NZE by Mid-century.

IMPLICATIONS:

- Greater usage of electric power from various renewable sources will be one key answer, necessitating large utility and at-home (e.g., solar) capacity expansions;
- The shift underway is already apparent in the proliferation of related mega-projects (i.e., the auto firms are all in on carbon elimination targets by 2030-2035);
- In the U.S., the Infrastructure Investment & Jobs Act (IIJA), Inflation Reduction Act (IRA), and the Chips Bill all include massive 'green friendly' capital spending initiatives.
- NZE by mid-century will be worldwide, meaning a new commodities super-cycle is all but inevitable; and
- It will be ultra expensive.

U.S. MEGA PROJECT STARTS HISTORY

Year	Number	\$ Billions	Avg. Value
2017	25	\$54.9	\$2.2
2018	20	\$47.2	\$2.4
2019	35	\$79.1	\$2.3
2020	12	\$21.0	\$1.8
2021	16	\$32.4	\$2.0
2022 (Q1-Q3)	22	\$74.4	\$3.4

Data source and table: ConstructConnect.

The U.S. 2022 Year-to-Date Mega Projects Story



Month	State	City/County	Type	Name	\$s (millions)	
Jan 2022	New York	East Hampton	Engineering/Civil	South Fork Wind Farm	\$2,000	1 for \$2.0 billion
April 2022	Maine	Kittery	Institutional	P-381 Multi-Mission Dry Dock 1, Portsmouth Naval Shipyard	\$1,731	
April 2022	New Jersey	Kearny	Engineering/Civil	Portal North Bridge Project	\$1,560	
April 2022	Louisiana	Sulphur	Industrial	Tellurian Driftwood Liquefied Natural Gas (LNG) Production & Export Facility - Phase 1	\$10,000	
April 2022	California	Cupertino	Residential	The Rise Mixed-Use, Sand Hill Property Co. (3.9 million sf)	\$2,700	
April 2022	California	Sacramento	Institutional	Aggie Square Mixed-Use Project Phase 1 - University of California, GMH Associates	\$1,100	5 for \$17.1 billion
May 2022	New York	New York	Commercial	Terminal 4 (T4) Redevelopment (10 New Gates), JFK Airport	\$1,500	
May 2022	Pennsylvania	Philadelphia	Institutional	New Inpatient Tower - Children's Hospital of Philadelphia (2.5 million sf)	\$1,900	
May 2022	Indiana	Indianapolis	Institutional	IU Health Methodist Hospital - Hospital Consolidation, Indiana University Health (IUH)	\$1,600	
May 2022	Texas	Sherman	Industrial	Texas Instruments Semiconductor Wafer Fabrication Plants (4.7 million sf)	\$15,000	4 for \$20.0 billion
June 2022	Florida	Apopka	Industrial	Apopka 429, Blue Steel Dev LLC (2.5 million sf)	\$1,000	
June 2022	Kentucky	Glendale	Industrial	BlueOvalSK Battery Park - Ford Motor Company (5.0 million sf)	\$5,800	
June 2022	Texas	Beaumont	Engineering/Civil	Arbor Renewable Gas Facility - Spindletop Plant	\$1,000	3 for \$7.8 billion
July 2022	Massachusetts	Boston	Residential	Bunker Hill Housing Redevelopment (fka One Charlestown) (2.8 million sf)	\$1,400	
July 2022	Pennsylvania	Pittsburgh	Institutional	Heart & Transplant Hospital at UPMC Presbyterian - U of Pittsburgh Medical Center	\$1,500	
July 2022	Michigan	Lansing	Industrial	General Motors Battery Cell Manufacturing Plant (2.5 million sf)	\$7,000	
July 2022	Texas	Baytown	Industrial	TGS 500K, Trans-Global Solutions	\$1,420	
July 2022	California	Paramount	Industrial	World Energy Paramount Sustainable Fuel Refinery Upgrades	\$2,000	5 for \$13.3 billion
Sept 2022	Texas	Taylor	Industrial	Samsung Semiconductor Chipmaking Plant (6.0 million sf)	\$9,000	
Sept 2022	Texas	San Antonio	Engineering/Civil	I-35 NEX Central Project (Texas Dept of Transport)	\$3,000	
Sept 2022	Arizona	Litchfield Park	Industrial	Prologis 303 (Loop 303) Industrial Park (1.6 million sf)	\$1,000	
Sept 2022	California	Torrance	Institutional	Harbor-UCLA Medical Center Replacement Program (1.3 million sf)	\$1,200	4 for \$14.2 billion

Data source and table: ConstructConnect.

Through 3 quarters, 22 for \$74.4 billion

A mega-sized project carries an estimated cost of a billion dollars.

There's been extraordinary strength in residential construction over the last several years which is about to subside and give a higher weighting to nonresidential work;

Many of the largest high-profile owners considering the biggest industrial/manufacturing and engineering projects have access to financing that doesn't tie to Federal Reserve or commercial bank interest rates;

There are counterbalancing factors to the now slow rate of population growth that are influential in the residential and educational construction outlooks:

- Heightened mobility within the U.S. from the West Coast inwards & to the south (especially Texas);
- A greater need for learning in a whole array of new job opportunities (EV battery development; AI & VR engineering; companies setting up in the metaverse; social media influencers; climate disaster mitigators).

The impacts of an aging population are becoming more apparent:

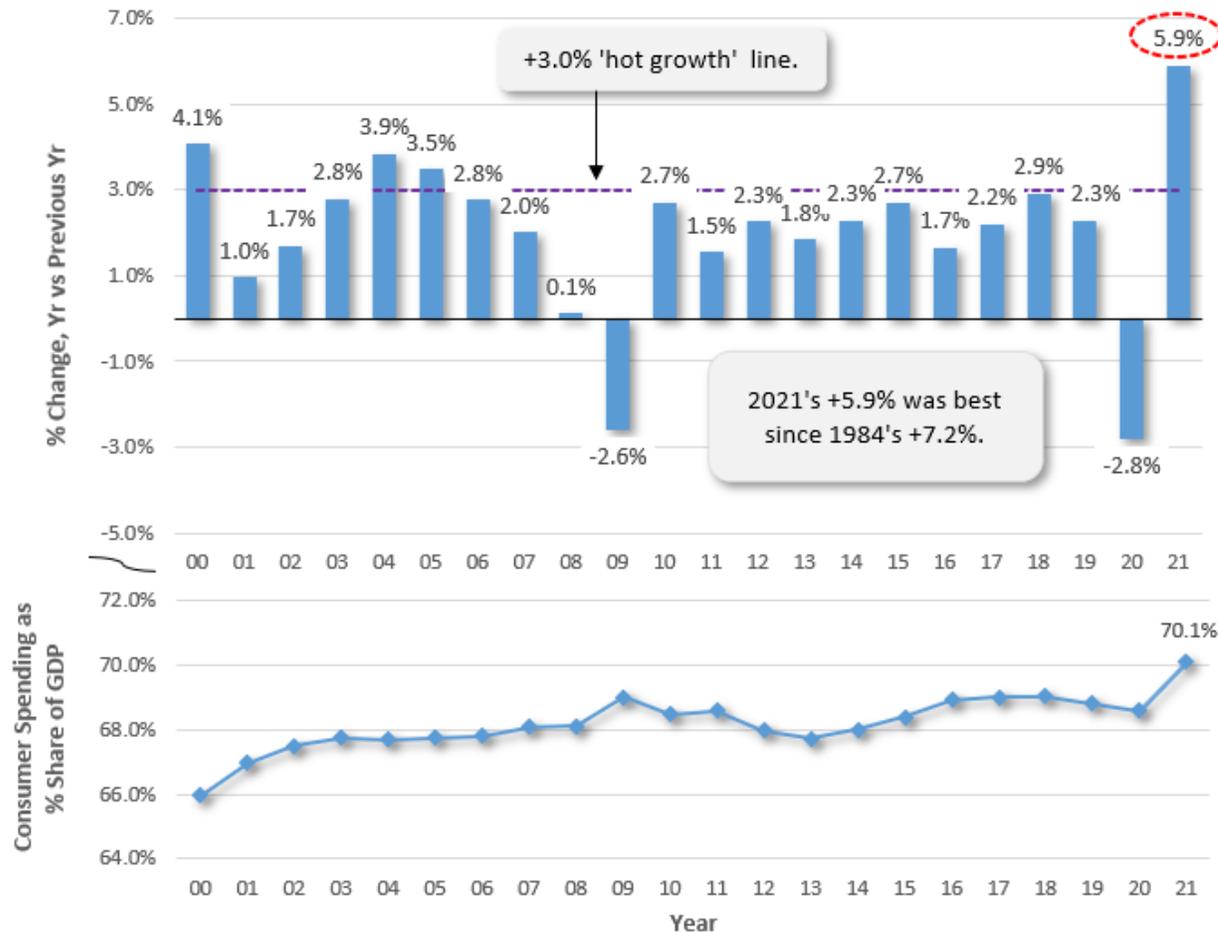
- What do seniors want? Many have 'bucket lists' and plans to travel; a boon to airport construction;
- Retirements are contributing to the worker shortage, with the side effect that labor has regained leverage in negotiations with management. The likely response? More robotics and automation.

For many of the world's deepest thinkers, concerns about inflation and recession are taking a back seat to geopolitical issues (Russia's wayward path in Ukraine and resulting disruptions in energy and food product markets; Xi's autocracy in China and what that will mean for Taiwan and the whole Pacific Region; Saudi Arabia uncooperative on increasing global oil supplies and Iran in the sway of a social uprising).

A huge energy cost differential has opened between lower-paying North America and higher-paying Europe, Japan, China, and many other countries, presenting opportunities in LNG, fertilizer, and petrochemical exporting facilities (and again stimulating mega-projects).

Largely unrecognized, the entertainment industry has become an incredible growth sector, with little sign of the demand for new/fresh products from everywhere around the globe abating (a new billion-dollar studio in New Jersey).

U.S. 'Real' GDP Growth, Y/Y & Q/Q



U.S. 'Real' GDP Growth Q/Q Annualized:

2018	Q3 = +2.9%
	Q4 = +0.7%
2019	Q1 = +2.2%
	Q2 = +2.7%
	Q3 = +3.6%
	Q4 = +1.8%
2020	Q1 = -4.6%
	Q2 = -29.9%
	Q3 = +35.3%
	Q4 = +3.9%
2021	Q1 = +6.3%
	Q2 = +7.0%
	Q3 = +2.7%
	Q4 = +7.0%
2022	Q1 = -1.6%
	Q2 = -0.6%
	Q3 = +2.6%

Shaded blue box numbers are Q/Q annualized (i.e., essentially multiplied by 4). **The -2.8% annual decline in 2020 was the steepest since 1946 (-11.6%)** when weaponry production was winding down after WWII. In 1932, during the Great Depression, GDP fell -12.9%.

'Real' is after adjustment for inflation.

U.S. Type-of-Structure Construction Starts Forecasts (\$ Billions USD) – Winter 2022-2023

Main Categories:	Actuals		Forecasts				
	2020	2021	2022	2023	2024	2025	2026
Residential	301.4	362.2	352.5	351.1	399.8	445.8	479.6
(Yr/yr % change)	1.2%	20.2%	-2.7%	-0.4%	13.9%	11.5%	7.6%
Commercial	102.5	107.4	112.6	117.7	128.2	142.8	153.2
(Yr/yr % change)	-29.2%	4.8%	4.8%	4.5%	8.9%	11.4%	7.3%
Industrial (Manufacturing)	21.7	34.8	81.9	51.5	52.4	55.4	59.2
(Yr/yr % change)	-61.0%	60.0%	135.4%	-37.1%	1.8%	5.7%	6.9%
Institutional	119.3	113.8	126.8	128.3	139.6	150.7	160.8
(Yr/yr % change)	-11.3%	-4.6%	11.4%	1.1%	8.8%	8.0%	6.7%
TOTAL NON-RES BLDG	249.4	262.3	328.5	304.6	327.5	356.5	381.4
(Yr/yr % change)	-27.2%	5.2%	25.2%	-7.3%	7.5%	8.9%	7.0%
Engineering	154.7	156.4	192.1	205.4	219.1	236.6	249.1
(Yr/yr % change)	-18.3%	1.1%	22.8%	6.9%	6.6%	8.0%	5.3%
GRAND TOTAL	705.5	781.0	873.1	861.2	946.4	1,038.9	1,110.2
(Yr/yr % change)	-15.0%	10.7%	11.8%	-1.4%	9.9%	9.8%	6.9%
Some Important Sub-categories:							
Shopping/Retail	12.3	12.9	14.4	14.9	17.0	20.2	23.3
(Yr/yr % change)	-25.6%	4.9%	11.8%	3.8%	14.0%	18.3%	15.4%
Private Offices	25.9	20.8	18.6	21.4	24.5	27.2	29.9
(Yr/yr % change)	-29.2%	-19.6%	-10.8%	15.2%	14.5%	11.2%	9.7%
Warehouses	26.2	28.1	26.5	24.9	26.5	29.0	30.3
(Yr/yr % change)	16.2%	7.3%	-5.9%	-5.8%	6.1%	9.5%	4.7%
Hospitals/Clinics	13.4	18.7	20.2	20.8	22.8	24.0	25.4
(Yr/yr % change)	-38.7%	40.3%	7.7%	3.2%	9.4%	5.4%	5.9%
Educational Facilities	67.5	59.9	70.5	69.7	74.8	79.6	84.0
(Yr/yr % change)	-11.0%	-11.3%	17.7%	-1.2%	7.4%	6.3%	5.6%
Roads	63.7	67.4	85.8	88.3	93.7	99.9	103.7
(Yr/yr % change)	-2.5%	5.9%	27.4%	2.9%	6.1%	6.6%	3.8%
Water & Sewage Treatment	31.2	33.9	40.6	40.2	42.7	45.5	48.0
(Yr/yr % change)	-1.2%	8.5%	19.9%	-1.0%	6.0%	6.6%	5.7%
Misc Civil (Power, etc.)	22.7	23.4	21.7	33.8	37.1	42.7	46.4
(Yr/yr % change)	-50.8%	3.0%	-7.4%	55.7%	9.9%	15.1%	8.8%

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Chart: ConstructConnect.

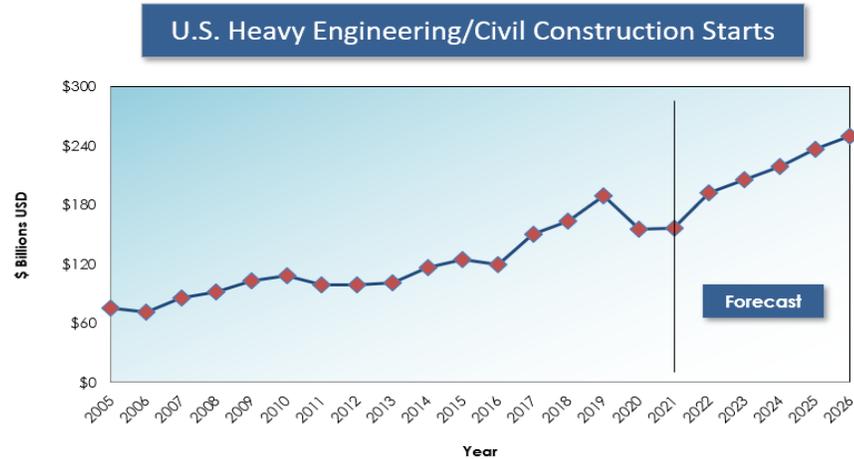
U.S. Construction Starts – Major Sub-Categories



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

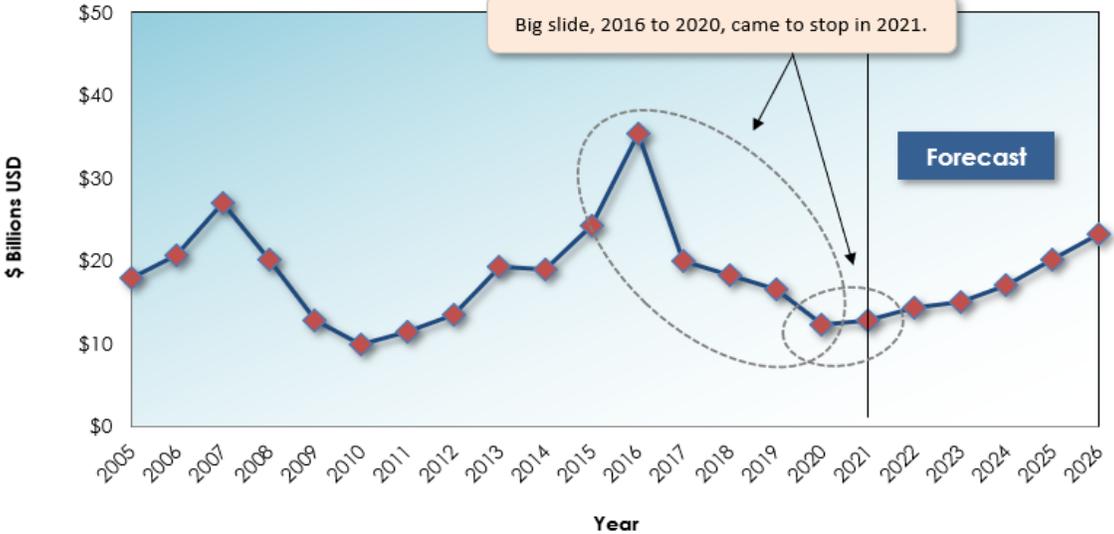


Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect



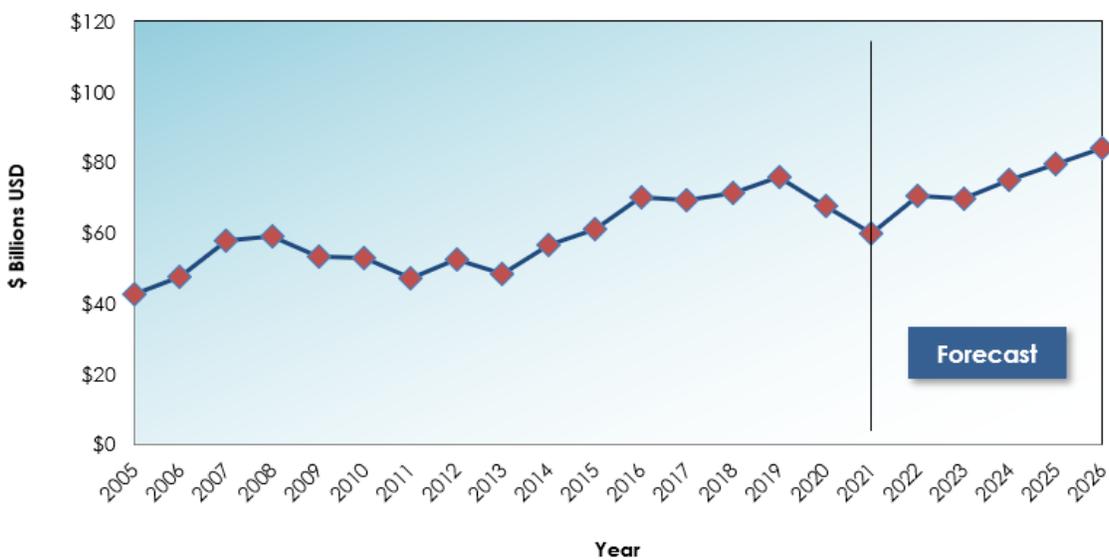
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Retail/Shopping Construction Starts



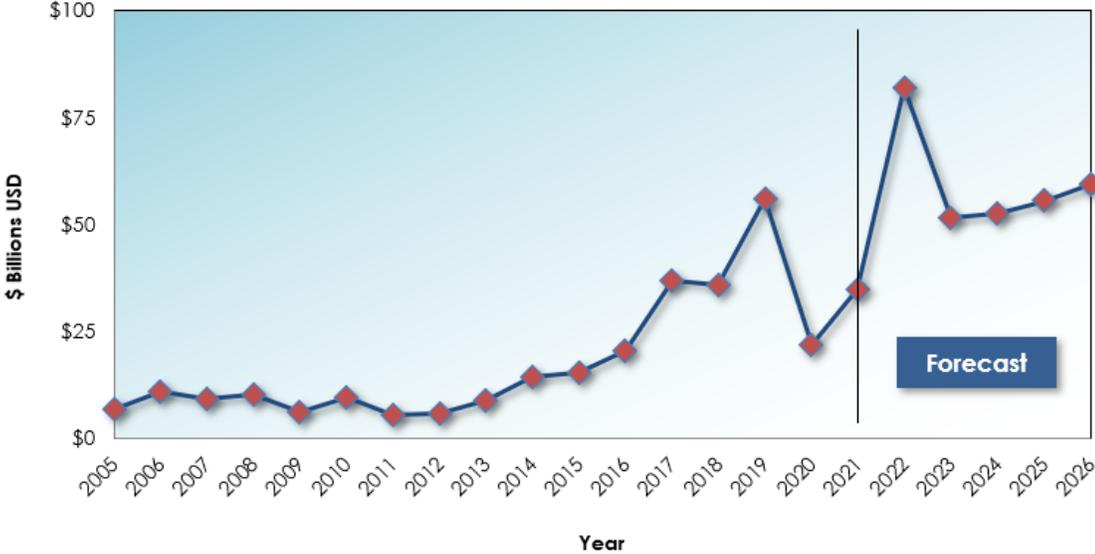
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Educational Facility Construction Starts



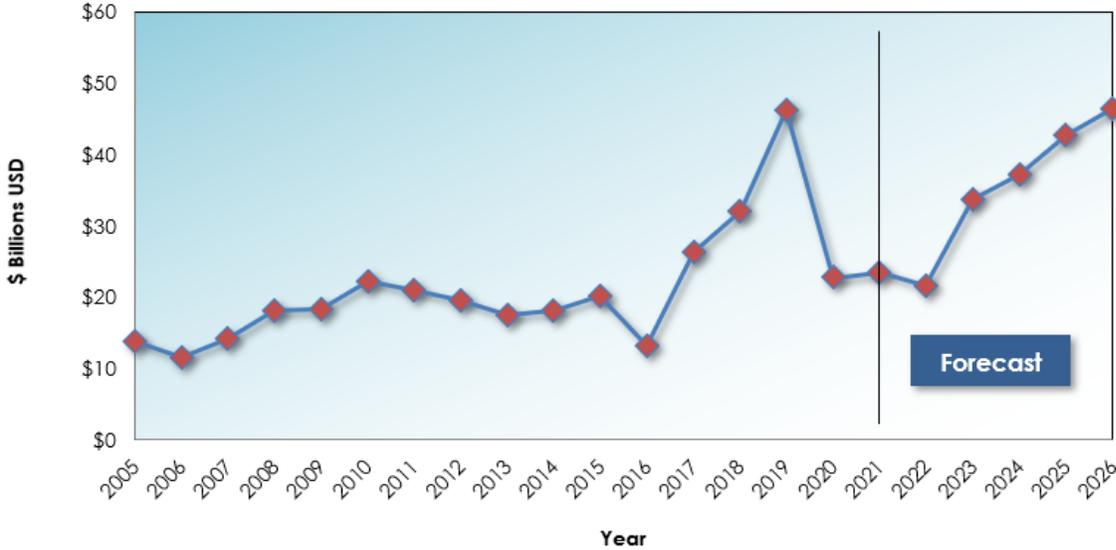
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Industrial/Manufacturing Construction Starts



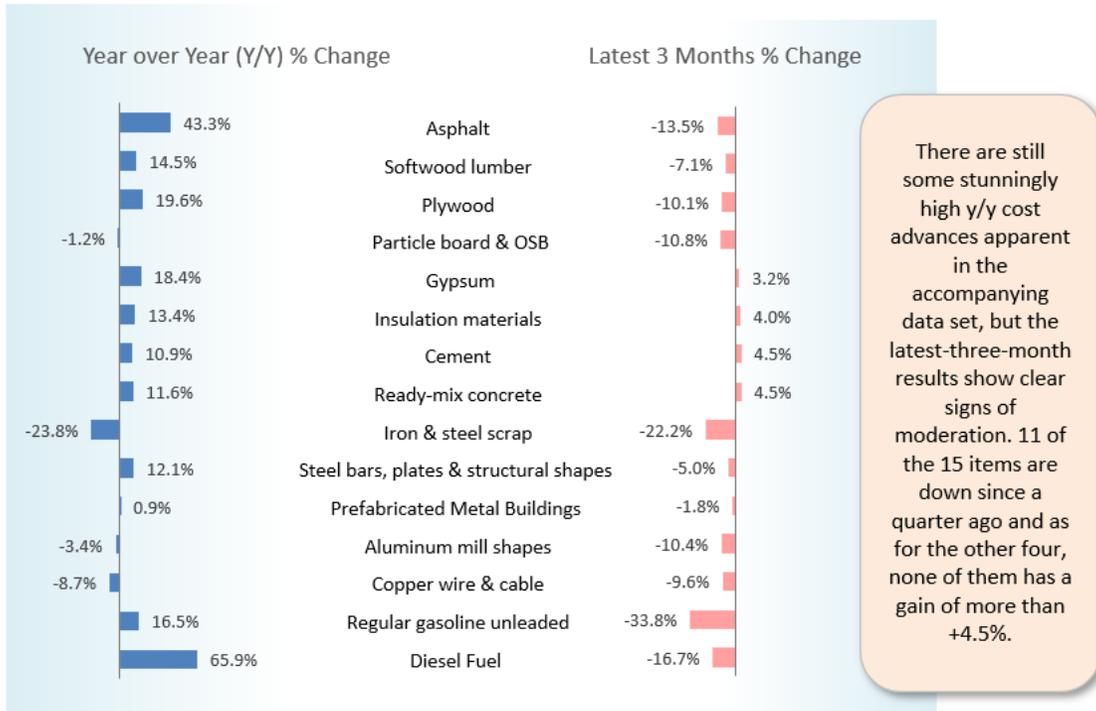
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
 Chart: ConstructConnect

U.S. Miscellaneous Civil Construction Starts



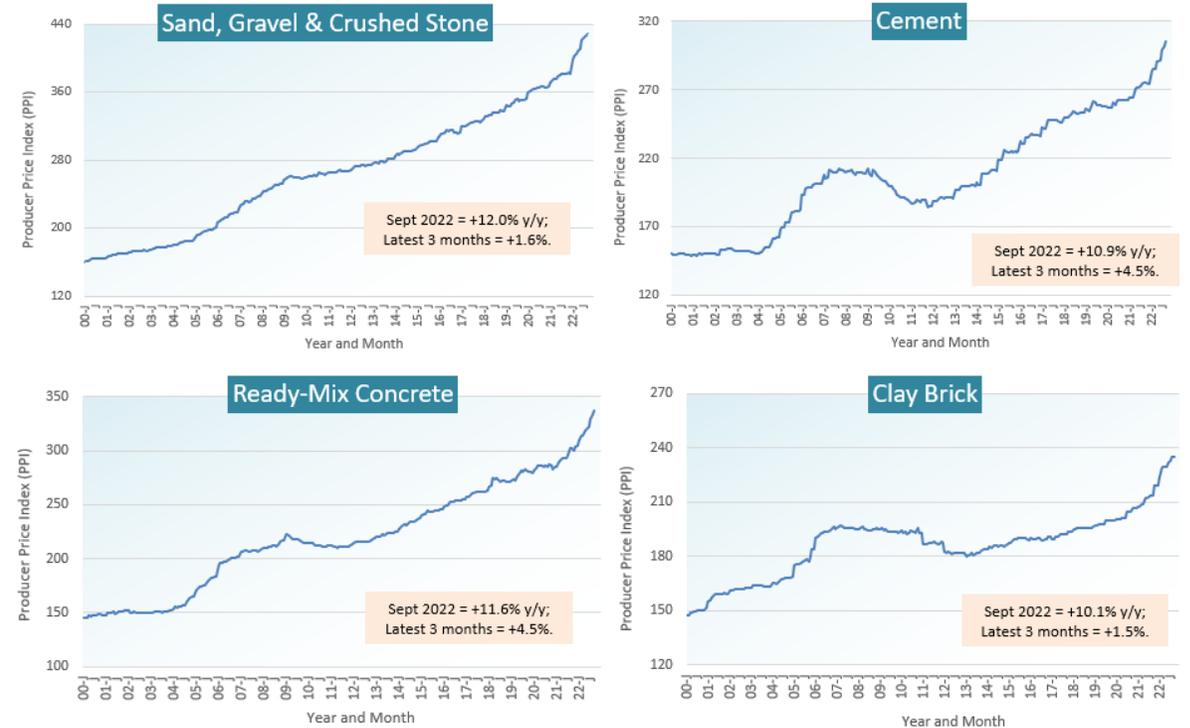
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
 Includes electric power, pipeline, railway, runway & tunnel work.
 Chart: ConstructConnect

U.S. CONSTRUCTION MATERIAL COST CHANGES FROM PRODUCER PRICE INDEX (PPI) SERIES - SEPTEMBER 2022



Data source: Bureau of Labor Statistics (BLS) / Chart: ConstructConnect.

U.S. Construction Material Costs (3) – CEMENT & BRICK From Producer Price Index (PPI) Series



The latest data points are for September, 2022.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-Canada.

Michael Guckes

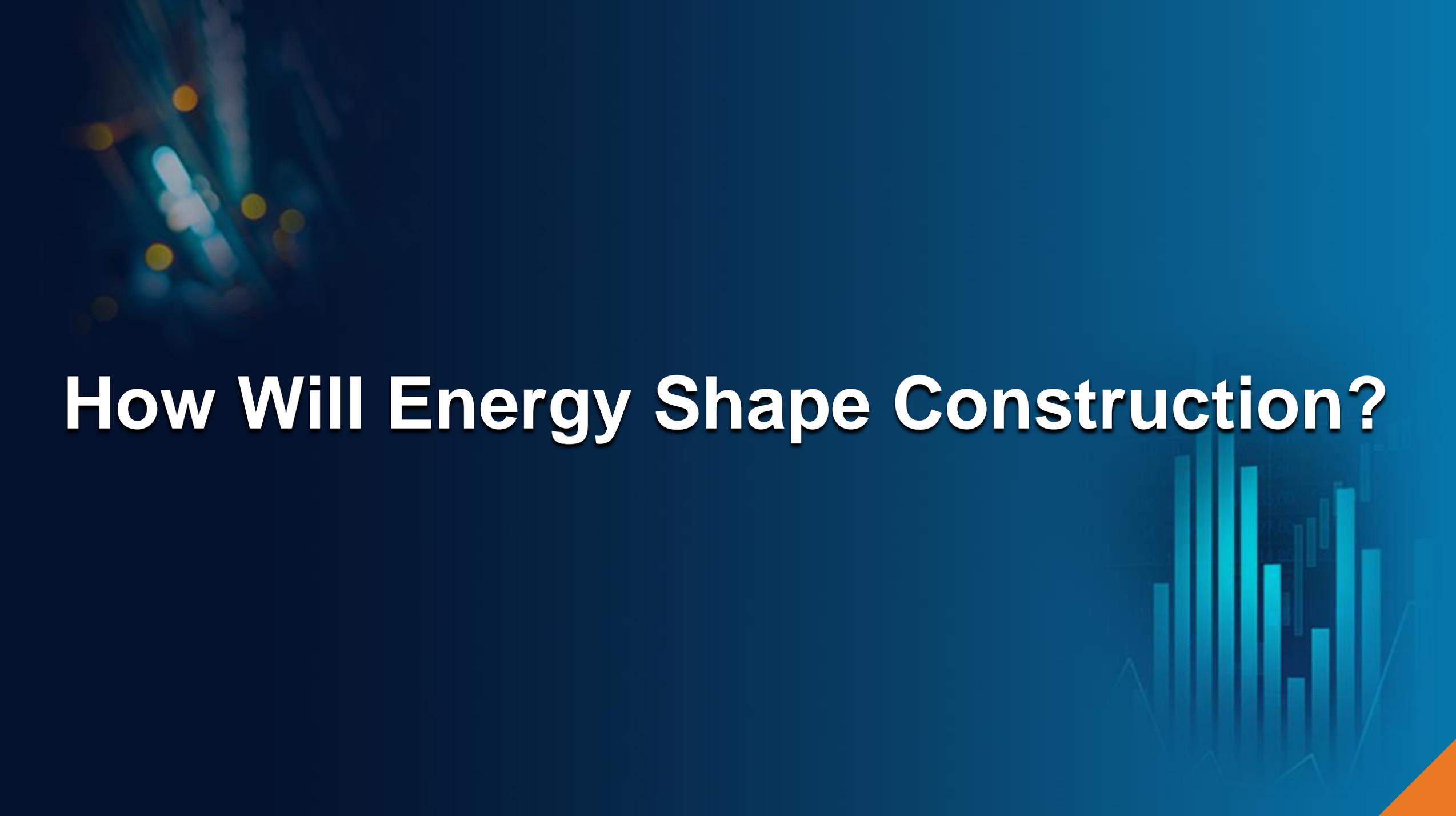
Senior Economist,
ConstructConnect



Applied Economics

How One Can Use Economics to Drive Business Decisions:

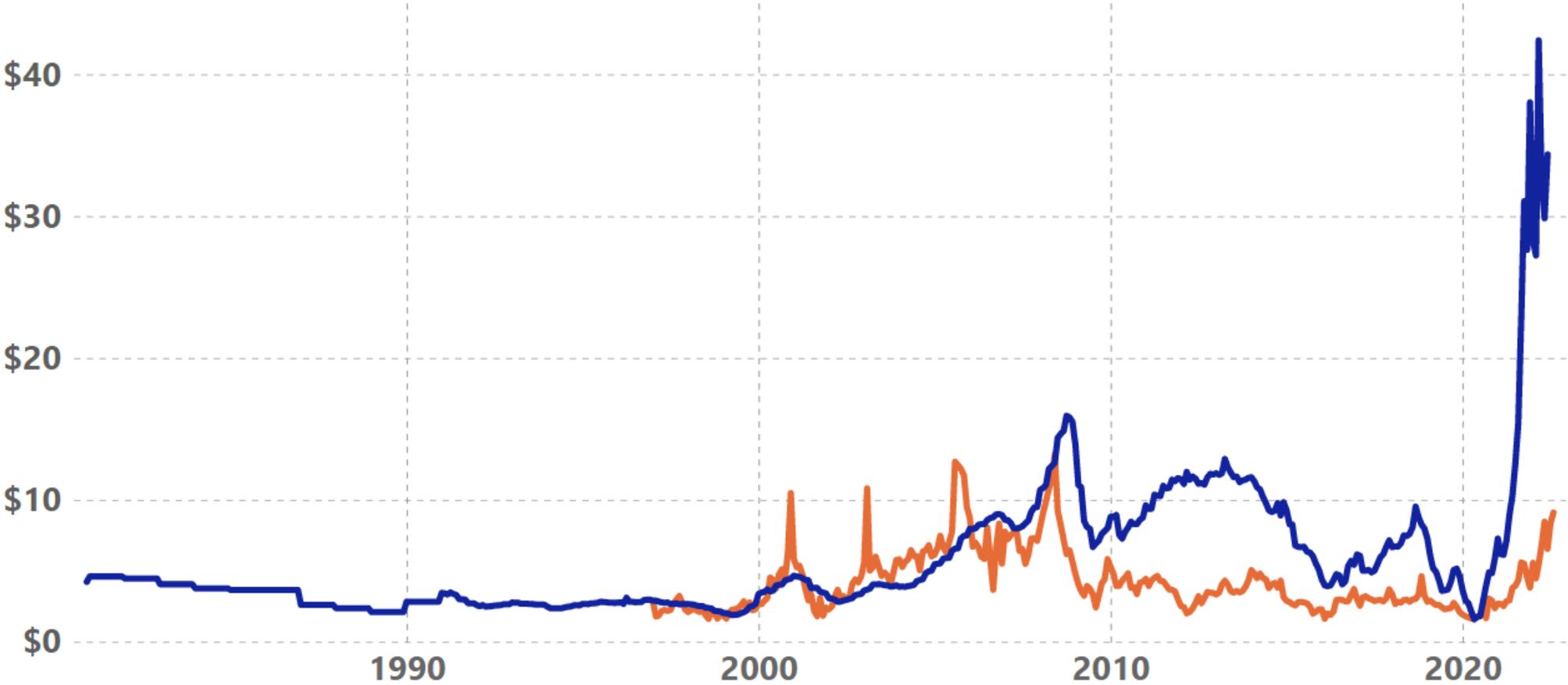
- 1 Energy
- 2 The Future of Supply Chains
- 3 Employment & Productivity

The background is a solid blue gradient. In the top-left corner, there are several diagonal streaks of light in shades of cyan and yellow, creating a bokeh effect. In the bottom-right corner, there is a faint, stylized bar chart with vertical bars of varying heights and a thin line graph overlaid on it. The text is centered horizontally and has a white-to-blue gradient fill with a drop shadow.

How Will Energy Shape Construction?

Worldwide Energy Market Prices Diverging as Russia Manipulates European Market

Energy prices measured in (\$ USD per Million BTU)



● U.S. Henry Hub Natural Gas Spot Price ● European Union Natural Gas Import Price

Substantially higher prices worldwide—and possible outages—will increase demand for:

- Energy-efficient production methods and investments
- Energy-efficient construction products

Europe's relatively higher energy costs may shift “high energy embodied” products to nations with lower energy costs:

- Metals
- Glass

A bifurcated global energy market will require new energy infrastructure.

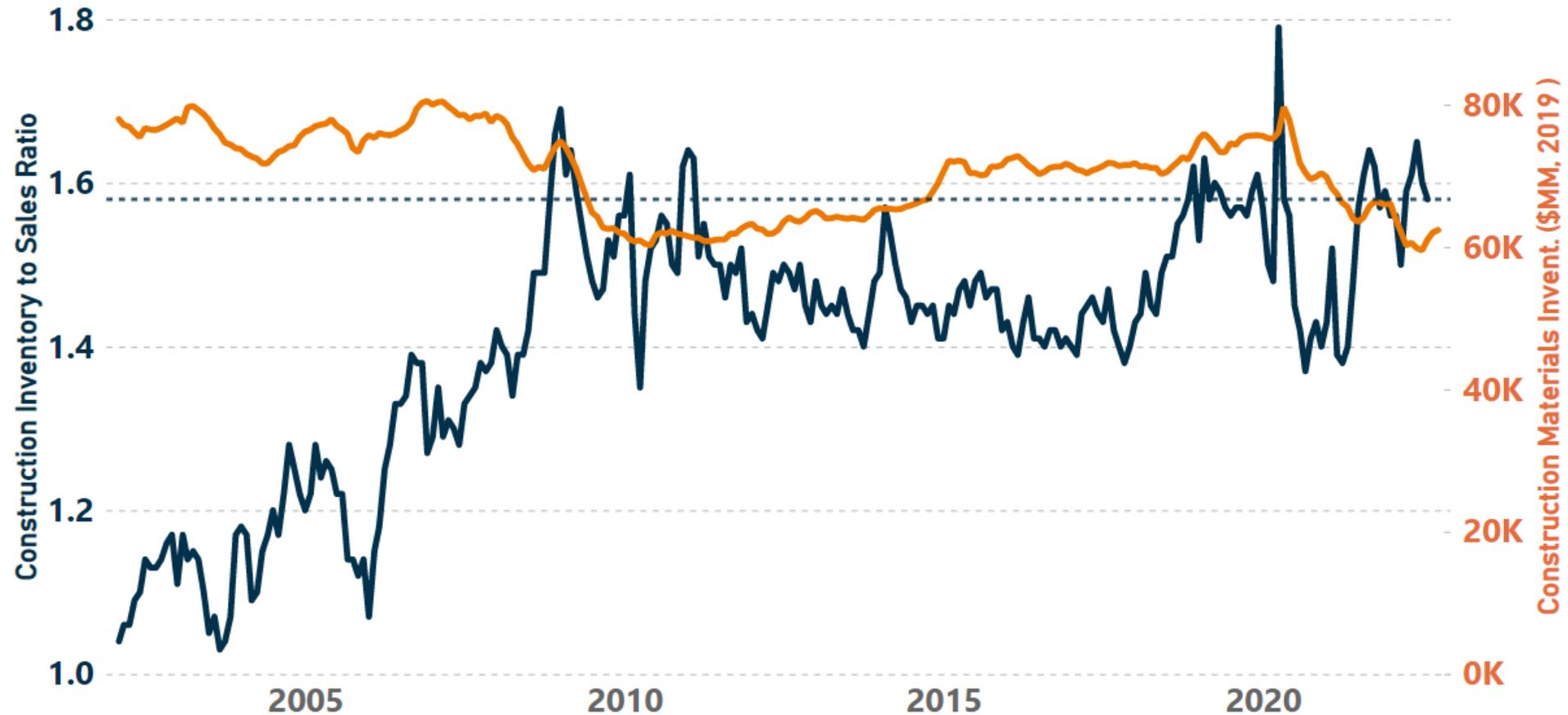




What Will Become of Supply Chains?

Excessive Inventories Pose Threat to Financial Position of Industry

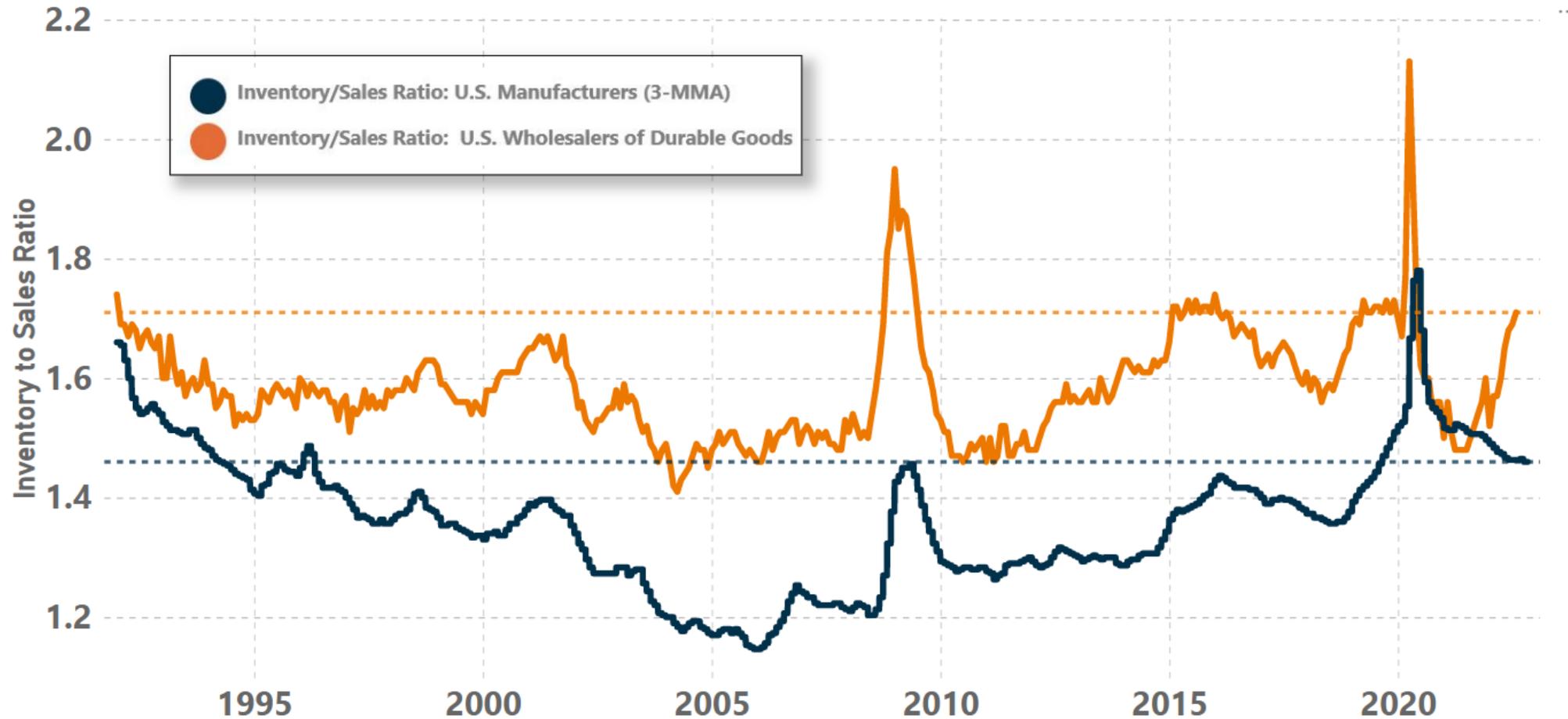
Elevated inventories and looming recession threat could put industry in difficult position



Sources: I/S Ratio, Census Bureau; Inventory, Bureau of Labor Statistics with calculations by ConstructConnect

Inventory/Sales Ratios Signal Need for Manufacturer Discipline

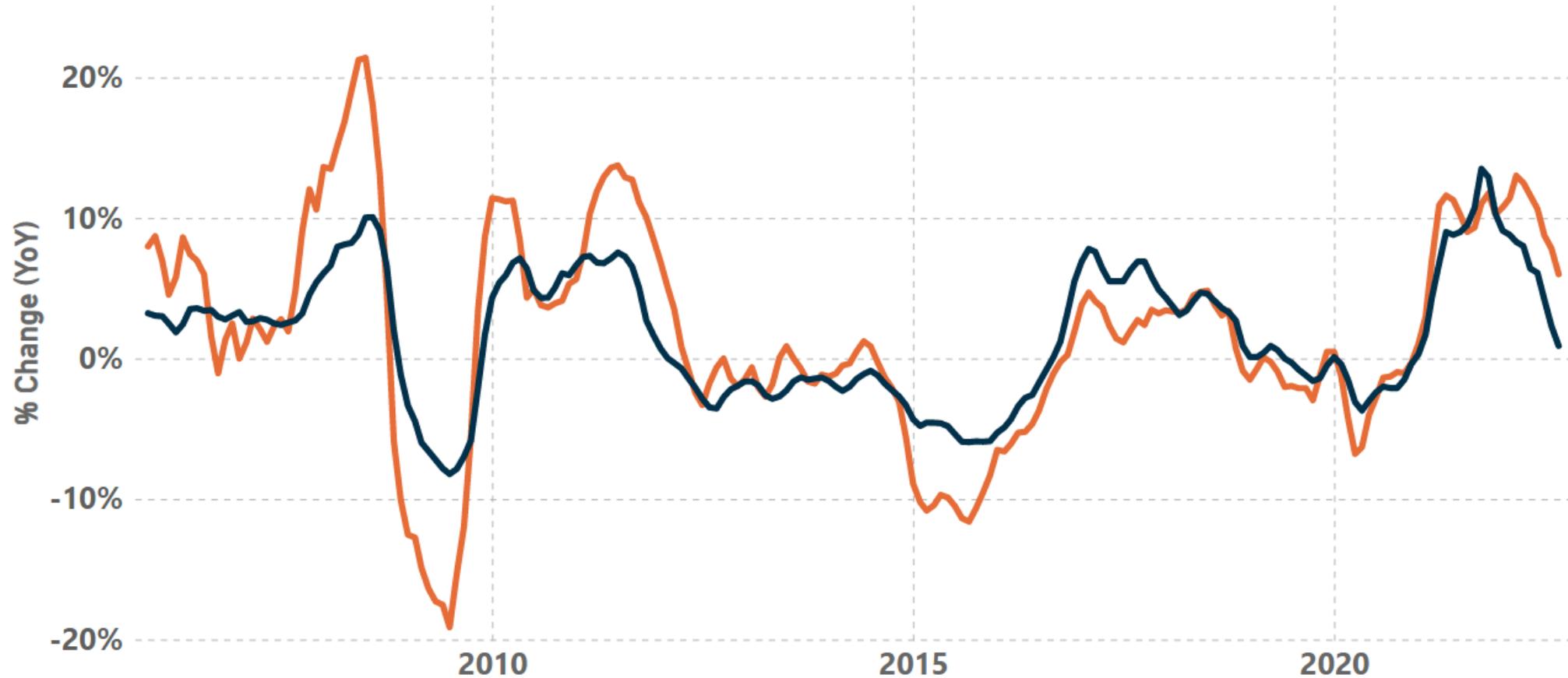
Diverging inventory/sales ratios between wholesalers and manufacturers should signal warning



Source: Census Bureau, Monthly Wholesale Trade Survey

U.S. Import Prices are Highly Sensitive to Chinese Production Cost

The Strong Trade Relationship Between China and the U.S. Affects U.S. Input Production Costs & Prices

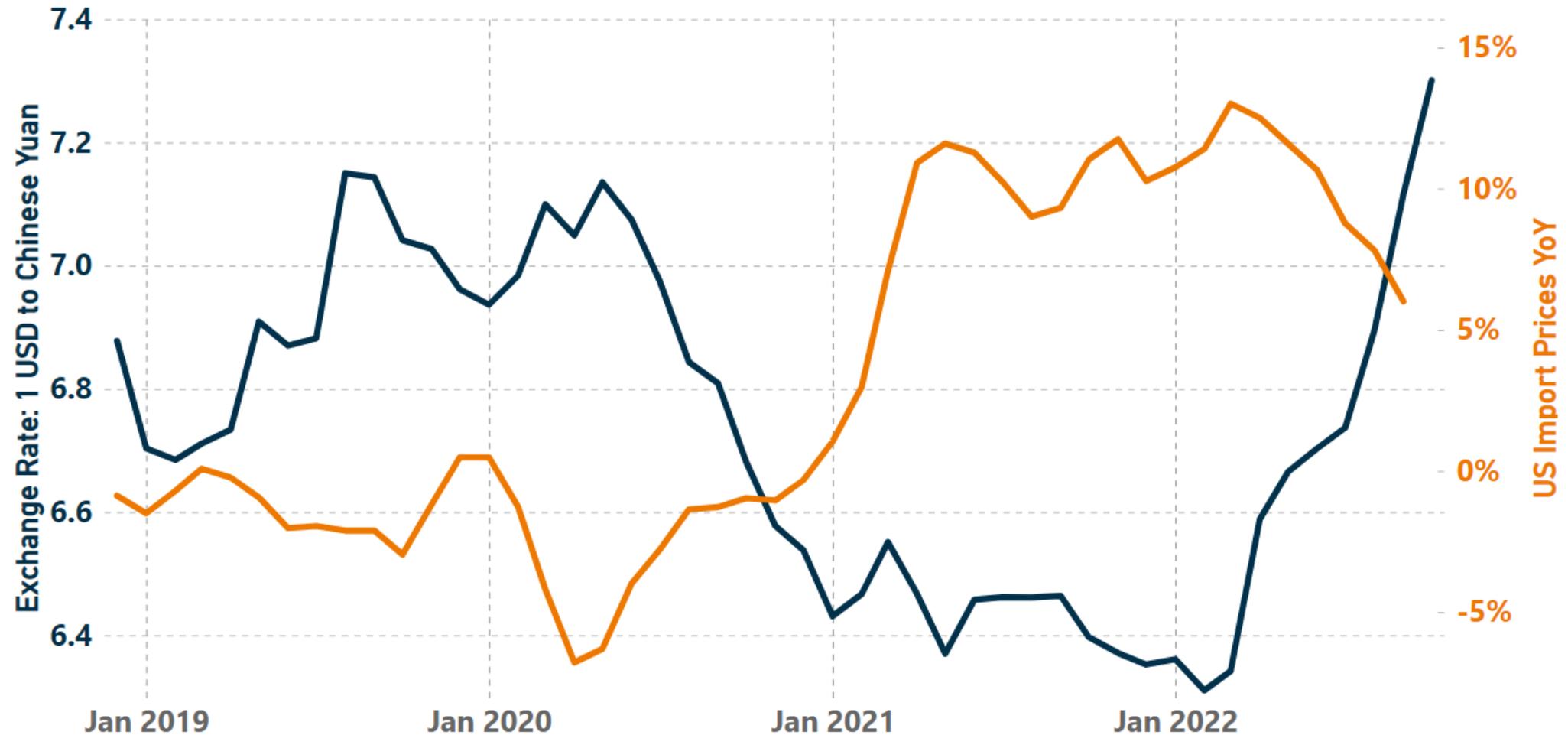


● US Import Prices YoY ● China Producer Price Index YoY

Sources: US Prices, Bureau of Labor Statistics; China Price Index, National Bureau of Statistics of China

China's Currency Weakens to 7.3 Yuan per USD in November

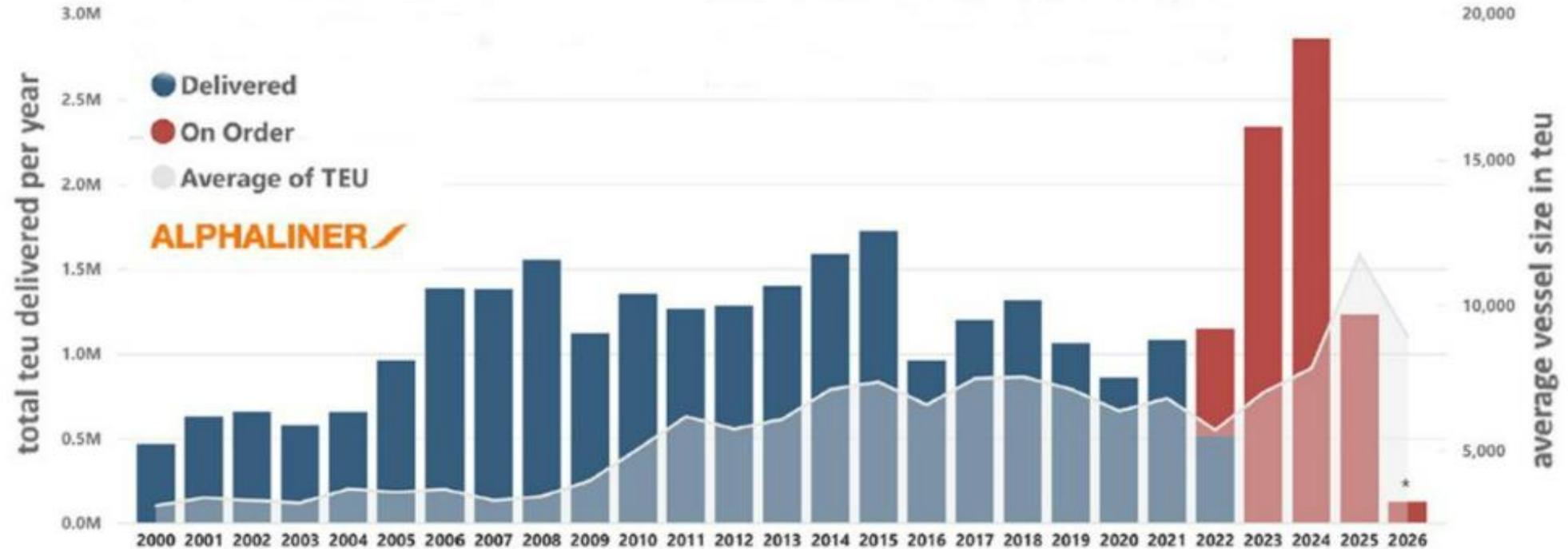
Weakening Yuan and decreasing transportation prices will suppress rising prices in the U.S.



Sources: Exchange Rate, Federal Reserve; Import Prices, Bureau of Labor Statistics

Update picture - blurry

Actual and projected container ship deliveries from 2000 to 2026



Ocean carriers will receive an unprecedented number of ships in 2023 and 2024. (Chart: Alphaliner)

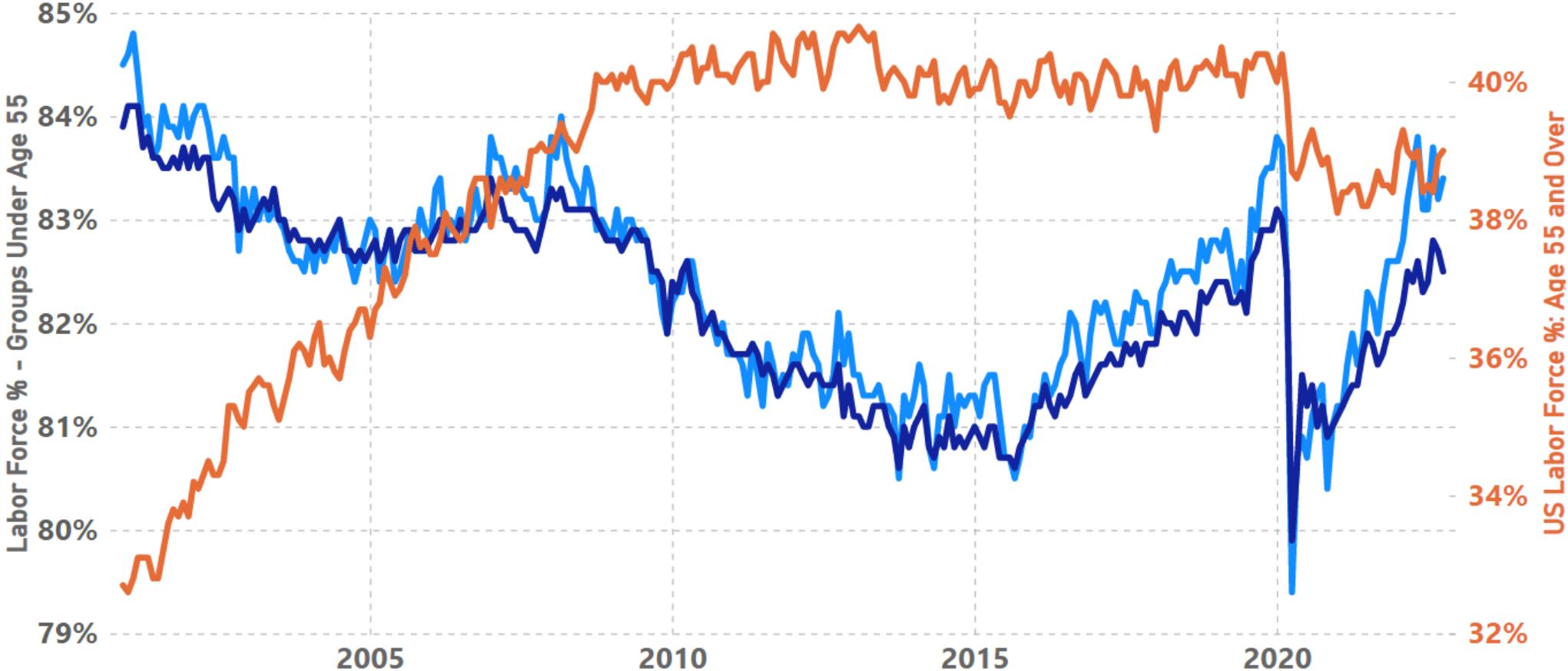
The biggest increase in shipping capacity in the coming years could drive prices to multi-year/multi-decade lows.

The background is a dark blue gradient. In the top-left corner, there are several out-of-focus light spots in shades of yellow, orange, and white, resembling bokeh or light trails. In the bottom-right corner, there is a faint, semi-transparent bar chart with multiple vertical bars of varying heights, rendered in a lighter blue color. The overall aesthetic is modern and data-oriented.

Employment & Productivity

Has COVID Permanently Altered the Shape of the Labor Force?

Labor force participation rate (%) by age groupings

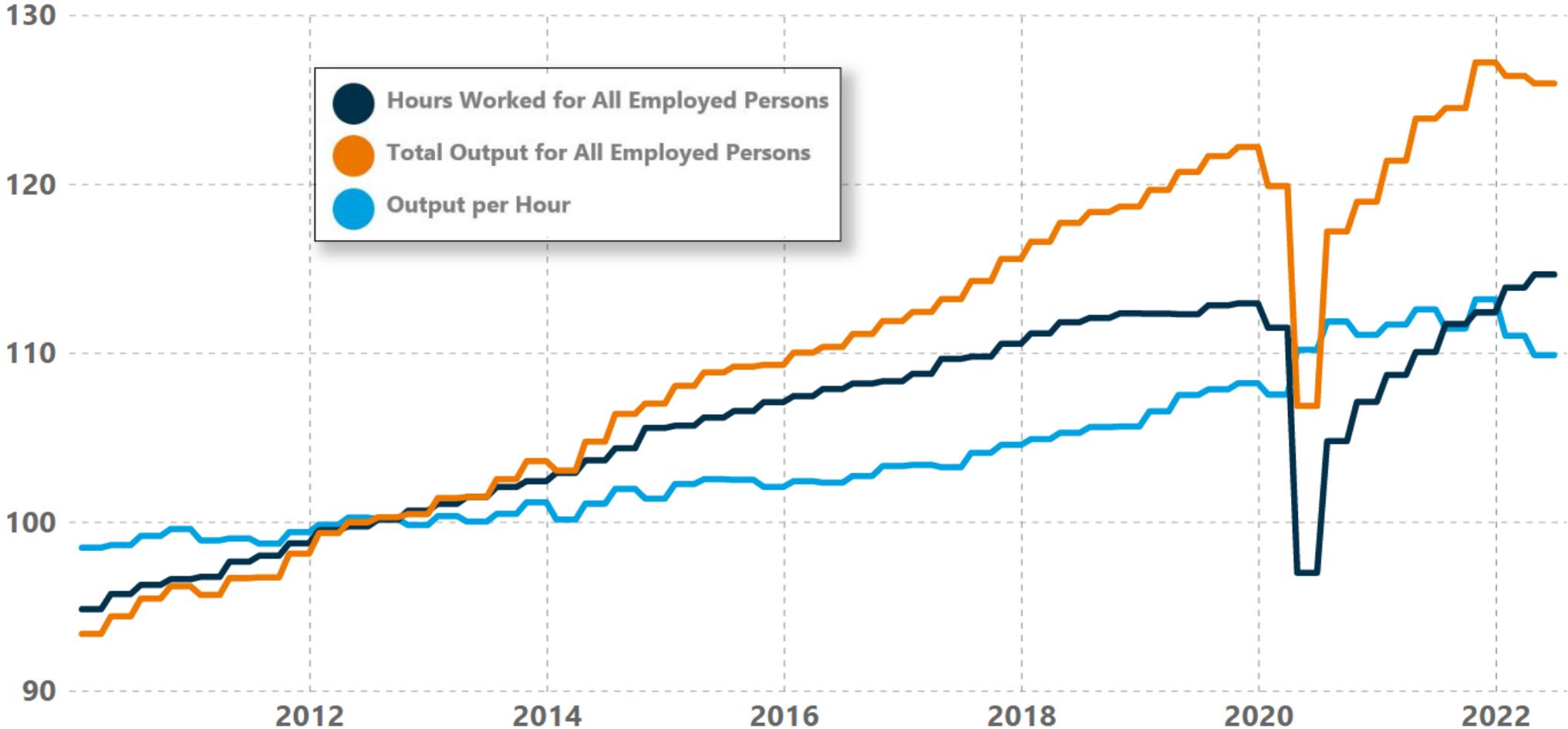


● US Labor Force %: Age 25 to 34 ● US Labor Force %: Age 25 to 54 ● US Labor Force %: Age 55 and Over

Source: Bureau of Labor Statistics (BLS)

U.S. Nonfarm Business Output Declines Despite Rising Hours

Data for nonfarm business sector labor, all employed (Indexed 2012=100, seasonally adjusted)



Source: Bureau of Labor Statistics

- Think of the opportunity(ies) in every challenge.
- Beware of making knee-jerk decisions.
 - Where we ultimately end up is almost always between extremes.
- Monitor markets using “inflation-proof” metrics.
- Make decisions that acknowledge limited long-run labor in the economy:
 - For your firm
 - For your customers



Question & Answer

 **constructconnect**



The image features a blue-tinted background of a construction site. In the upper right, two workers in safety gear are silhouetted against a bright sky as they work on a building's exterior. The scene is overlaid with a semi-transparent blue layer. In the bottom right corner, there are stylized data visualizations, including a bar chart and a line graph. The text 'Thank you' is prominently displayed in the center-left area.

Thank you

 **constructconnect**