



Economic Uncertainty and Continued Headwinds: The Construction Outlook for 2024

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Overview

- Though economic indicators continue to be generally positive, threats to outlook remain.
- Building construction performed surprisingly well last year, although growth was concentrated in a few sectors.
- A slowdown in construction starts and weakness at architecture firms points to a 2024/2025 construction spending slowdown, with particular vulnerability in key commercial sectors.

Major monthly leading economic indicators remain mixed, but in general are improving

	Dec. '22	Dec. '23	Change since Dec. 2022
Consumer prices (change from year ago)	6.4%	3.4%	-3.0 pct. points
3-mo. T-bills	4.30%	5.20%	0.9 pct. points
30-yr fixed rate mortgage	6.42%	6.61%	0.19 pct. points
Consumer sentiment (index: Q1 1966=100)	59.8	69.7	9.9 points
Housing starts (SAAR)*	1.43M	1.56M	9.3%
Retail sales (\$B, seasonally adj.)*	\$678.0	\$705.7	+4.1%
Nonfarm payrolls (change in number, 000s)	239	216	+2,697


*Data for Nov 22 and 23

Sources: Bureau of Labor Statistics; Conference Board; University of Michigan; U.S. Census Bureau



When will the Federal Reserve pivot from tightening to easing?

- The **last Fed hike** of short-term rates was July 2023.
- **Long-term rates** – are set by the market and not the Fed – and have already begun to ease.
- In Fed interest rate cycles since late 1980s, average time between **last Fed hike and first easing was 8 months** That would suggest easing in March.
- However, inflation is still a concern, and a relatively healthy job market suggests that there is **no urgency to begin easing.**



Key factors encouraging optimism in economic outlook

- Inflation has fallen surprisingly quickly and looks to continue to slow.
- Long-term interest rates have begun to ease.
- Housing market looks to have bottomed out.
- Consumer confidence improving and spending is strong.
- Jobs market remains resilient.

While overall economic outlook has improved, several dark clouds remain on the horizon

- Regional banking concerns persists, leading to tighter lending standards.
- Economic fallout from likely future legislative gridlock; ongoing labor issues.
- Potential reacceleration of inflation (rising oil prices; higher labor costs)
- Ongoing geopolitical tensions (Ukraine/Russia; China/Taiwan; Israel/Arab countries).
- The meltdown of the Chinese economy may be felt in the U.S.

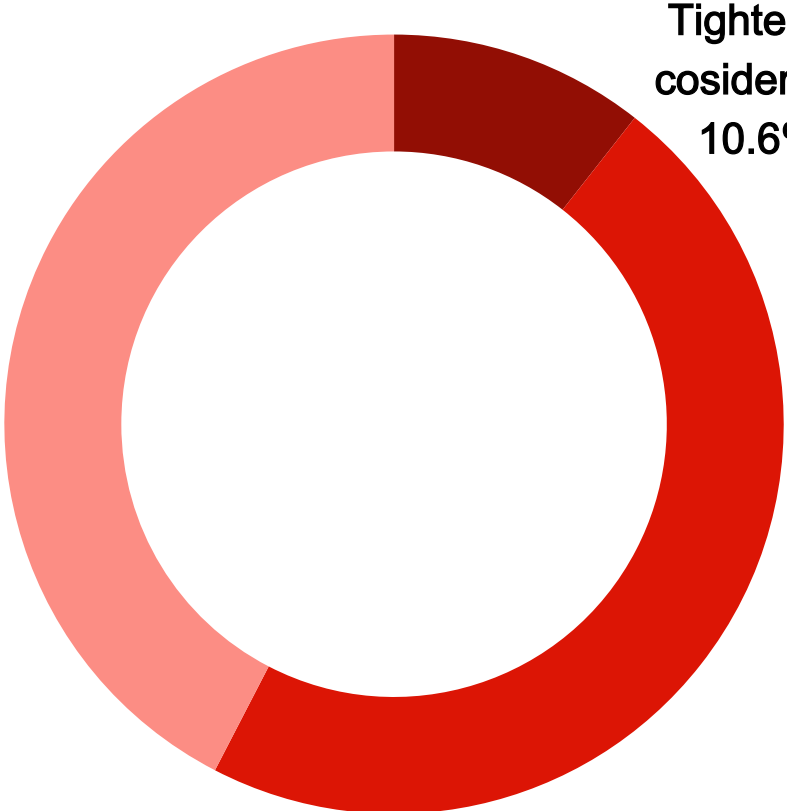


Almost 60% of banks report that credit standards for commercial real estate loans have tightened recently

Change in bank's credit standards over past three months

No banks in survey reported easing

Remain unchanged
42.4%



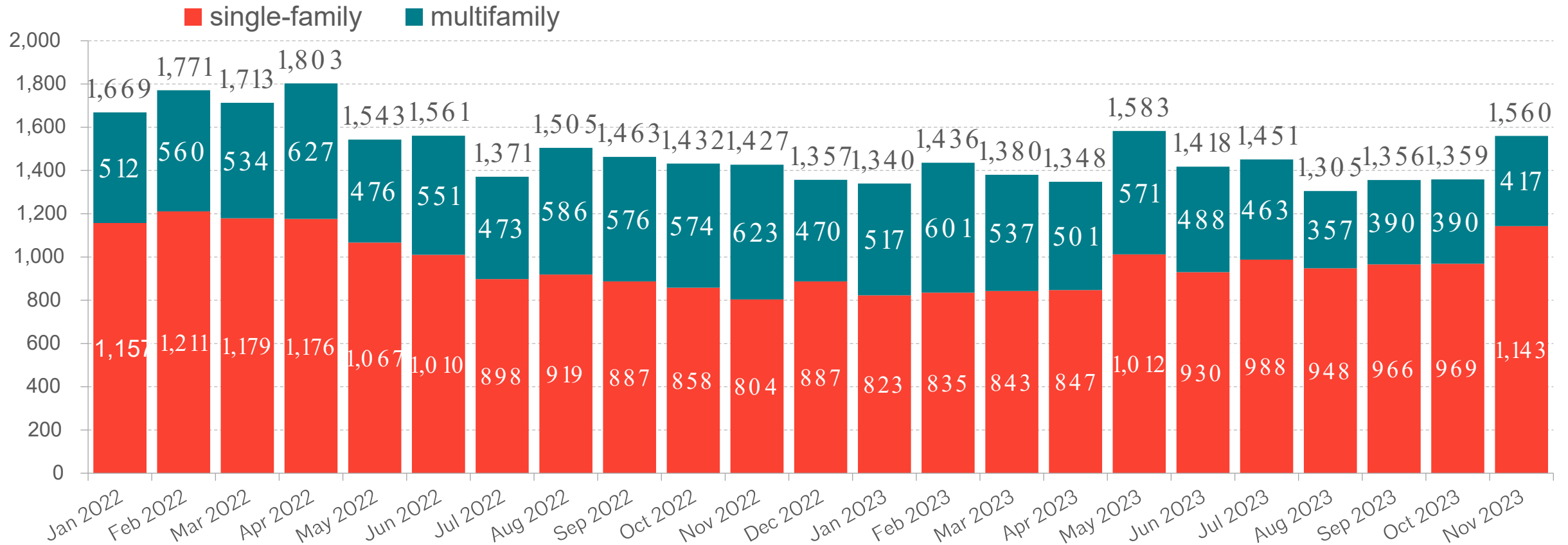
Tightened considerably
10.6%

Tightened somewhat
47.0%

Source: Federal Reserve Board Senior Loan Officer Opinion Survey (Table 1; Q. 7) October 2023.

In spite of high house prices and elevated mortgage rates, housing market is likely near its bottom for this cycle

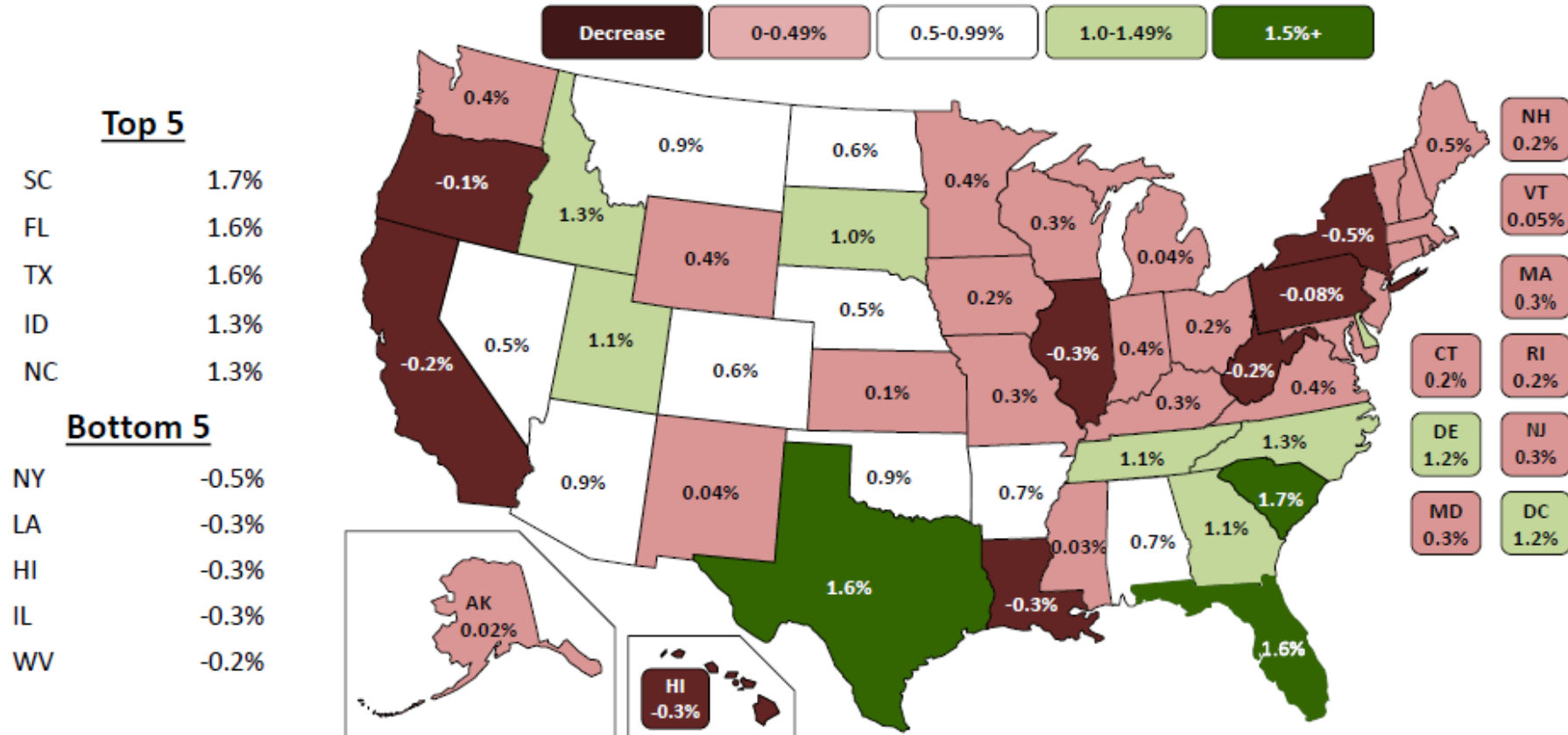
Housing starts (000's), seasonally adjusted and annualized



Source: U. S. Department of Commerce

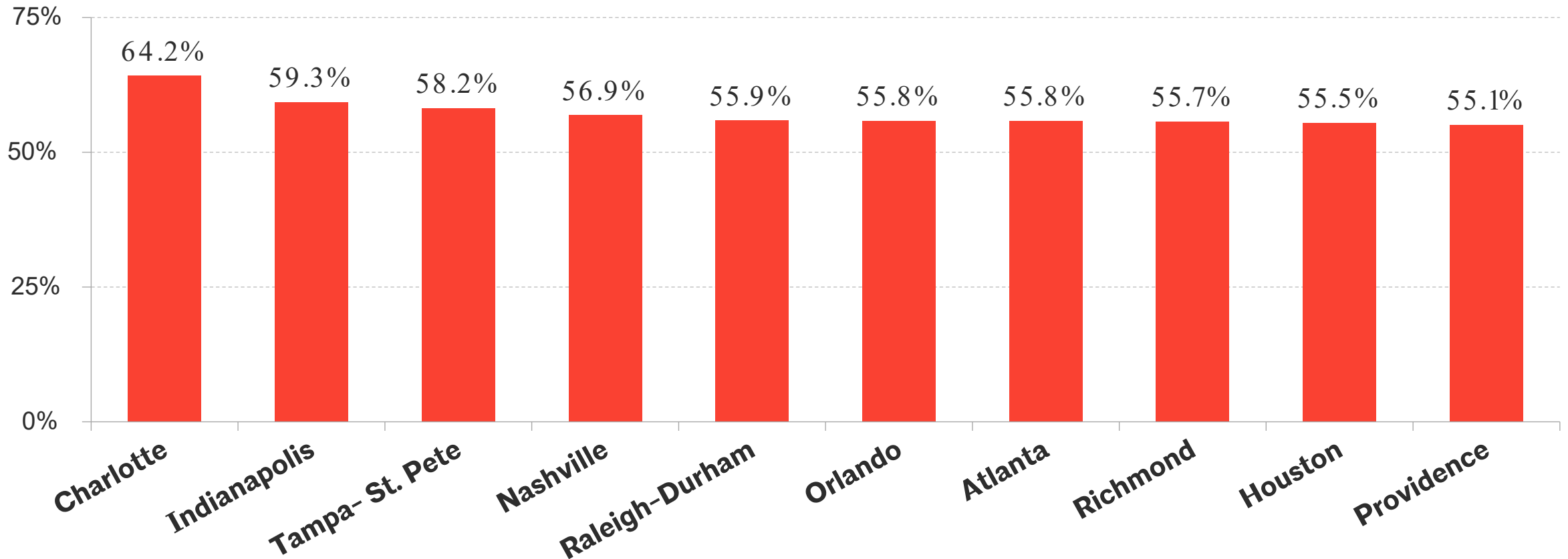
Population growth has slowed nationally, and has stalled in most of the Northeast and Midwest

Population change by state, July 2022-July 2023; US: 0.49%



Metro areas seeing largest share of inbound movers highly concentrated in the south region

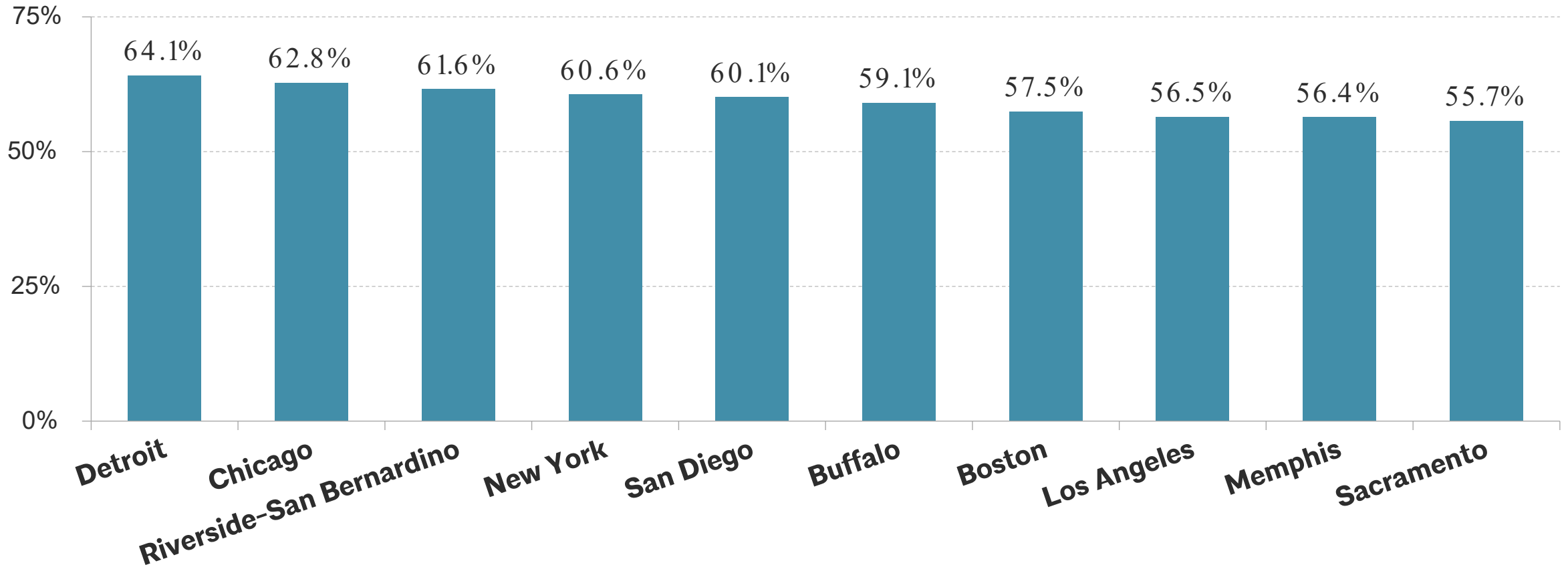
Share of moves that are inbound, top 50 MSA's



Source: 2023 United Van Lines National Movers Study

Metro areas seeing largest share of outbound movers along West Coast and Northeast

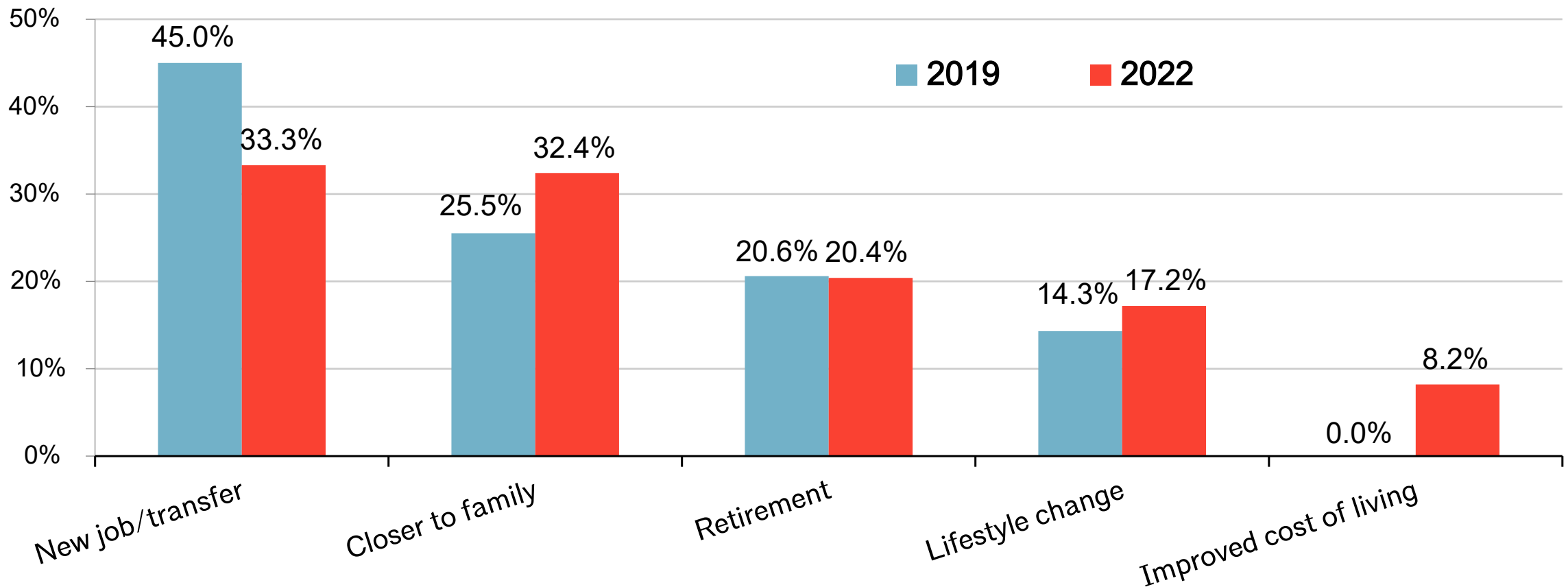
Share of moves that are outbound, top 50 MSA's



Source: 2023 United Van Lines National Movers Study

Pre-pandemic, jobs most important reason for moving; now, proximity to family and affordability more common

Top reasons for moving, 2019 vs. 2022



Source: 2023 United Van Lines National Movers Study

Federal programs will boost construction over coming years

1. **Infrastructure Investment and Jobs Act** (November 2021): \$550B in new spending over coming decade.

Progress to date: Complicated selection process; only small share of funds awarded to date. Impact on buildings will only follow infrastructure investment.

2. **Inflation Reduction Act** (August 2022) : \$260B in spending/tax breaks over coming decade.

Progress to date: Effective in encouraging the electrification of homes and buildings and in encouraging energy efficient upgrades.

3. **CHIPS and Science Act** (August 2022): \$80B in funding for high-tech hubs; semiconductor manuf.

Progress to date: Program has leveraged significant private investment; industry began investing even before funds were distributed.



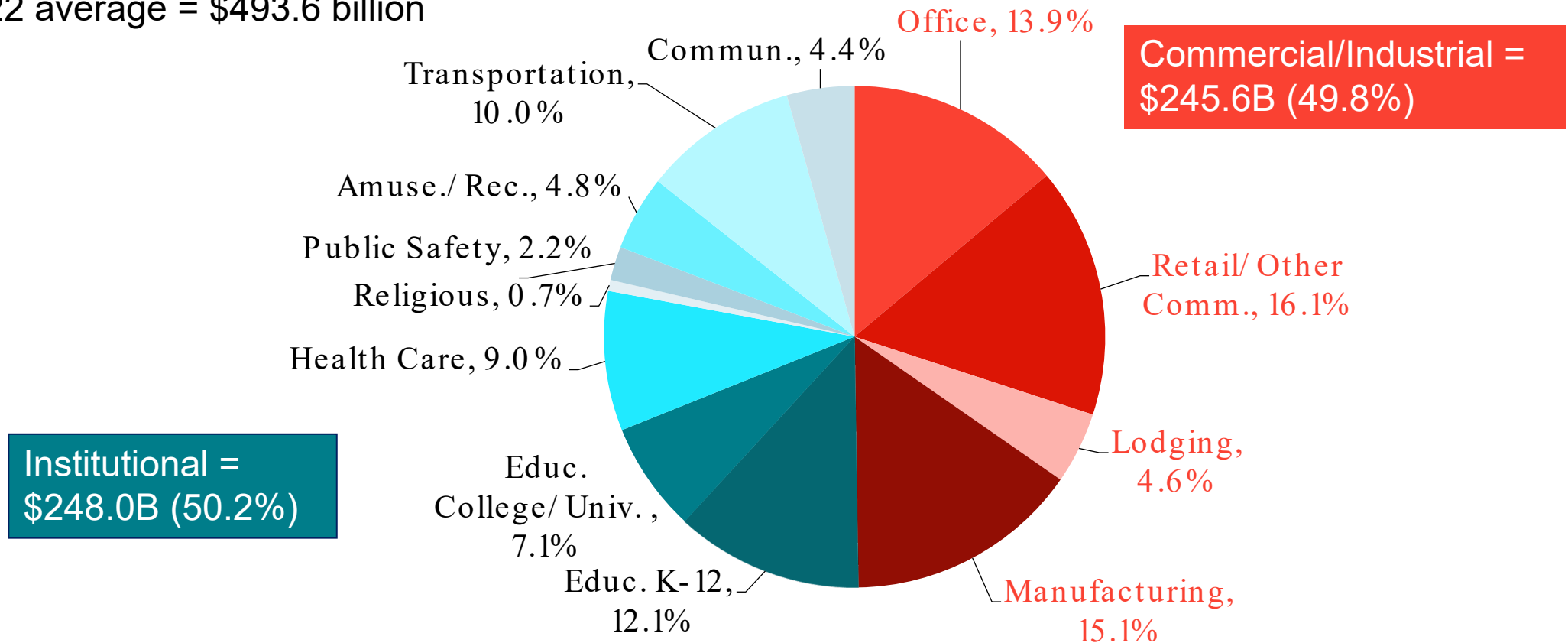
Overview

- Though economic indicators continue to be generally positive, threats to outlook remain.
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- A slowdown in construction starts and weakness at architecture firms points to a 2024/2025 construction spending slowdown, with particular vulnerability in key commercial sectors.

Institutional categories account for over half the spending on nonresidential buildings

Share of U.S. nonresidential building construction spending, 2012-2022

2012-2022 average = \$493.6 billion



Spending on the construction of buildings has been very strong so far in 2023

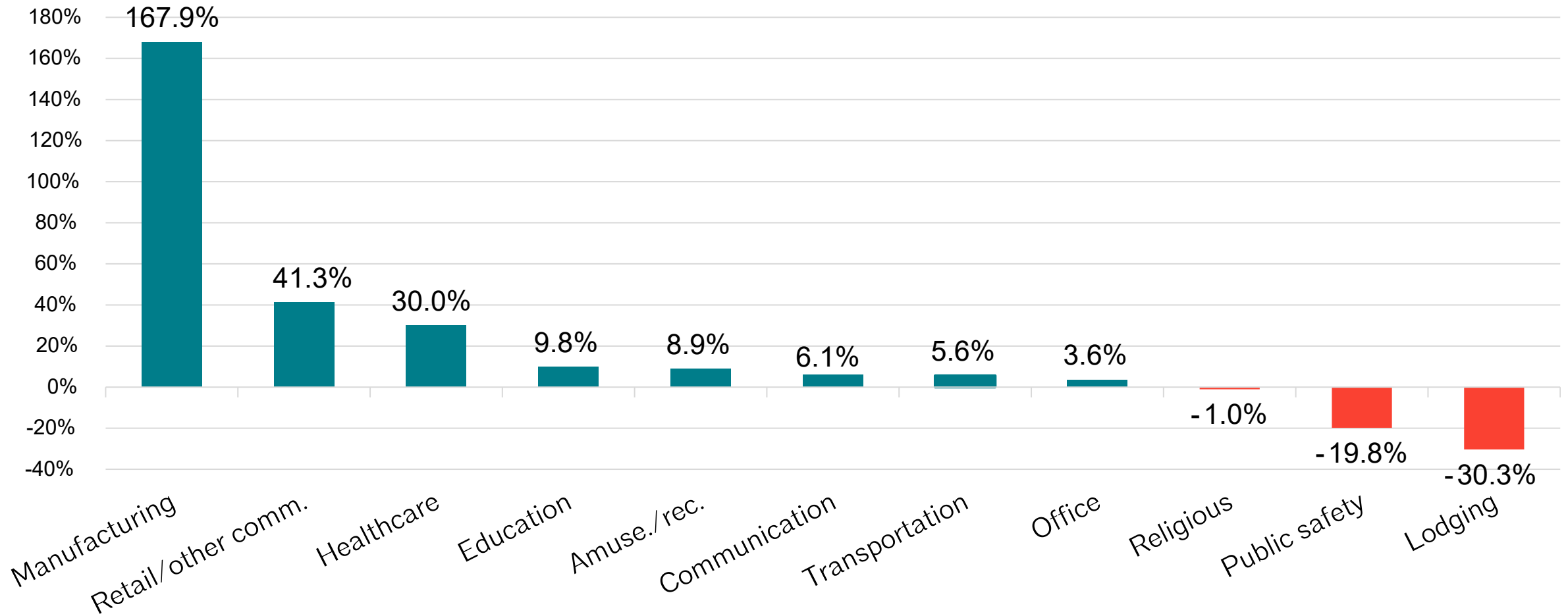
Billions of \$, Jan-Nov 2023 vs. Jan-Nov 2022 totals

	2023	2022	% Change
Total Nonresidential Building Construction	\$699.5	\$577.6	21.1%
Commercial/ Industrial	\$409.8	\$316.3	29.6%
Lodging	\$21.6	\$17.9	20.6%
Office	\$90.6	\$84.0	7.9%
Commercial (retail & other)	\$120.6	\$111.0	8.7%
Manufacturing	\$177.0	\$103.5	71.1%
Institutional	\$289.6	\$261.3	10.8%
Healthcare	\$57.2	\$50.0	14.2%
Education	\$106.6	\$94.4	12.9%
Religious	\$3.1	\$2.7	13.0%
Public Safety	\$12.0	\$10.7	12.1%
Amusement & Recreation	\$29.6	\$27.6	7.5%
Transportation	\$58.7	\$53.9	8.7%
Communication	\$22.6	\$22.0	2.6%

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

Pandemic has slowed construction activity in several sectors, but has lifted it in others

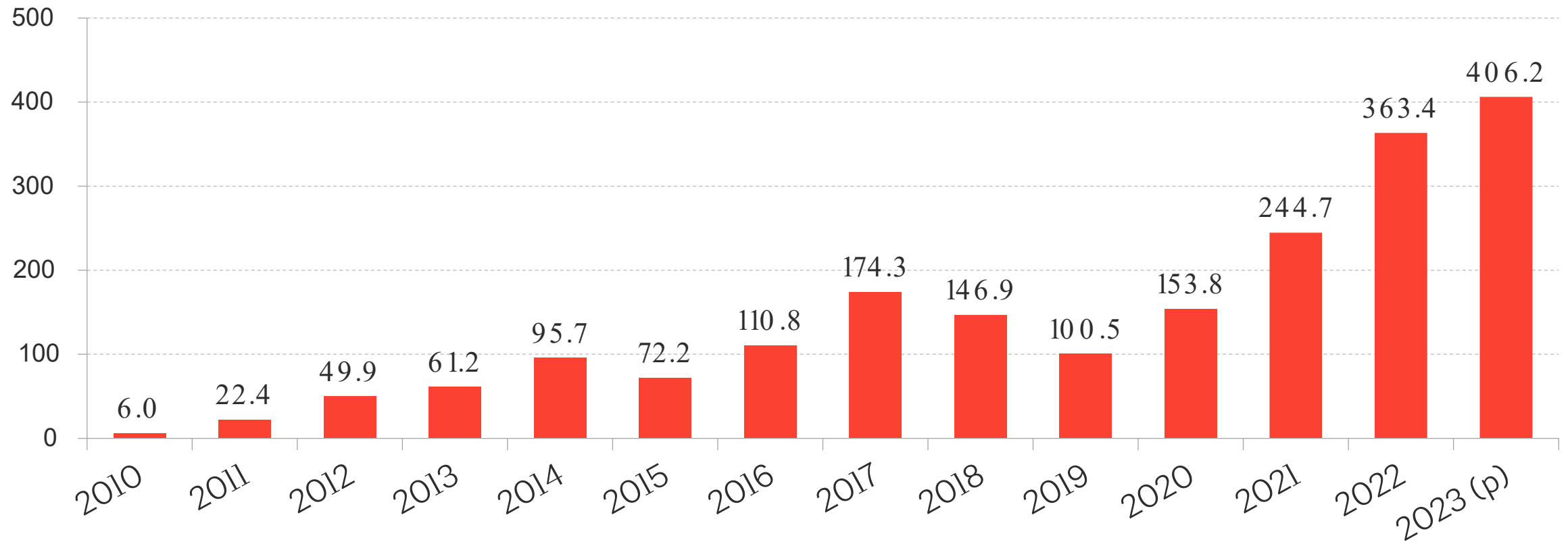
Percentage increase in construction spending between February 2020 and November 2023



Source: U.S. Department of Commerce, construction spending put-in-place

Reshoring and foreign direct investment has produced a recent surge in domestic manufacturing positions

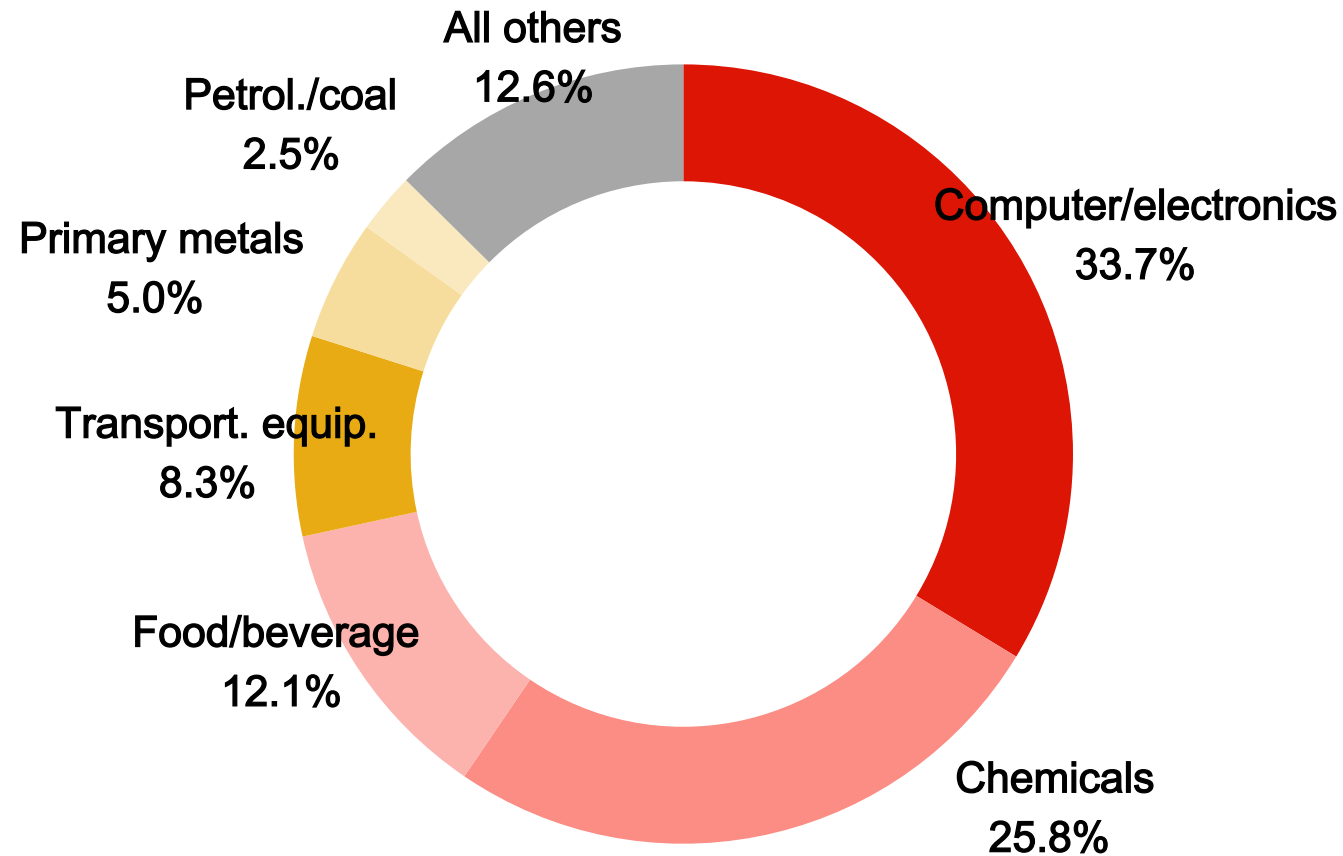
Manufacturing jobs created by reshoring and foreign direct investment (000's)



Note: 2023 projections from the Reshoring Initiative.
Source: Reshoring Initiative.

High-tech products dominated the manufacturing category in 2022

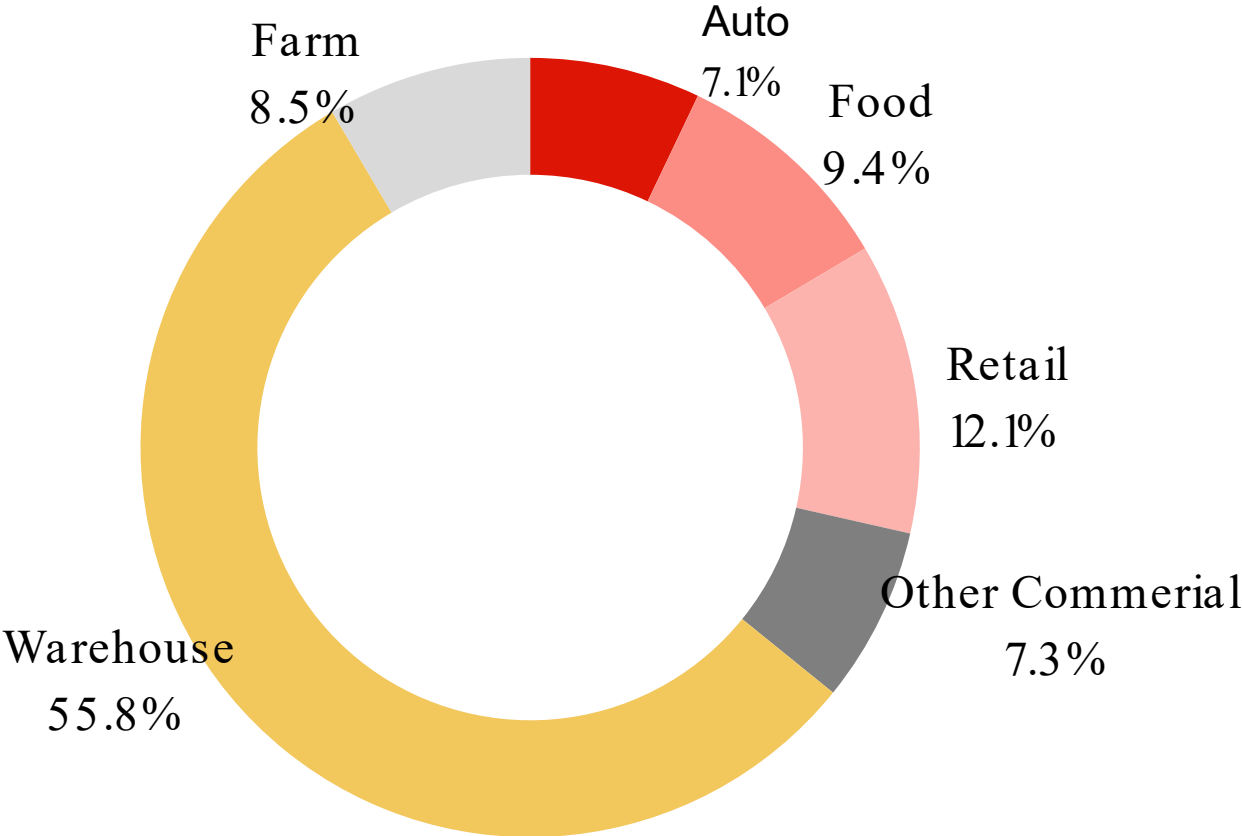
2022 shares of construction within the manufacturing category



Source: U.S. Census Bureau, construction put-in-place

Warehouse construction dominated the retail and other commercial category in 2022

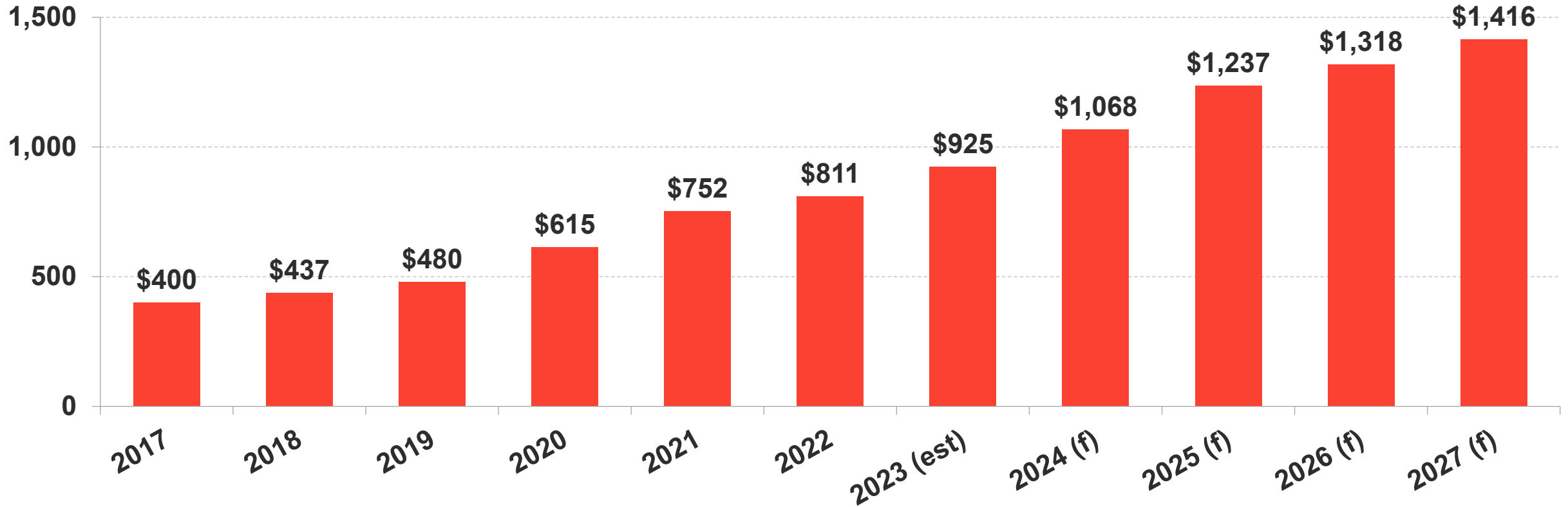
2022 shares of construction within the commercial and other retail category



Source: U.S. Census Bureau, construction put-in-place

E-Commerce in U.S. has been growing at a 15%/year pace, and is projected to surpass \$1 trillion next year

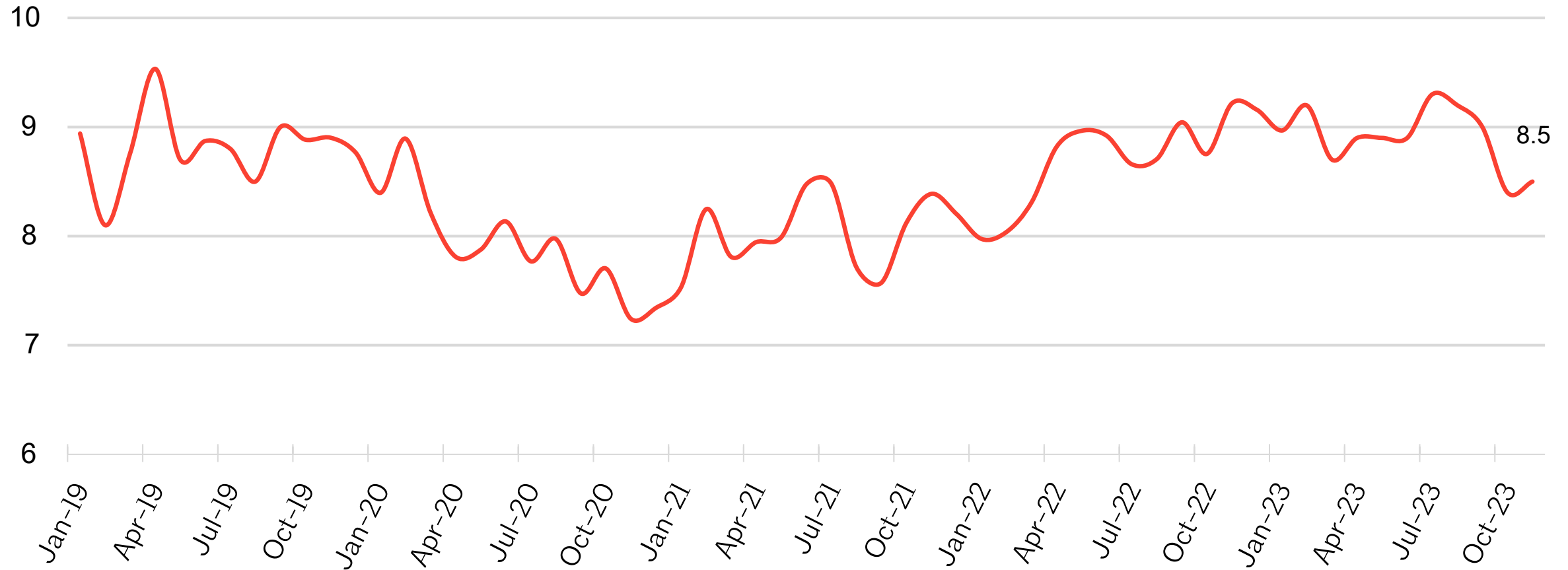
Retail e-commerce revenue in the U.S. (billions of \$)



Source: Statista Market Insights, July 2023

Construction contractor backlogs have dipped recently, currently stand at 8.5 months

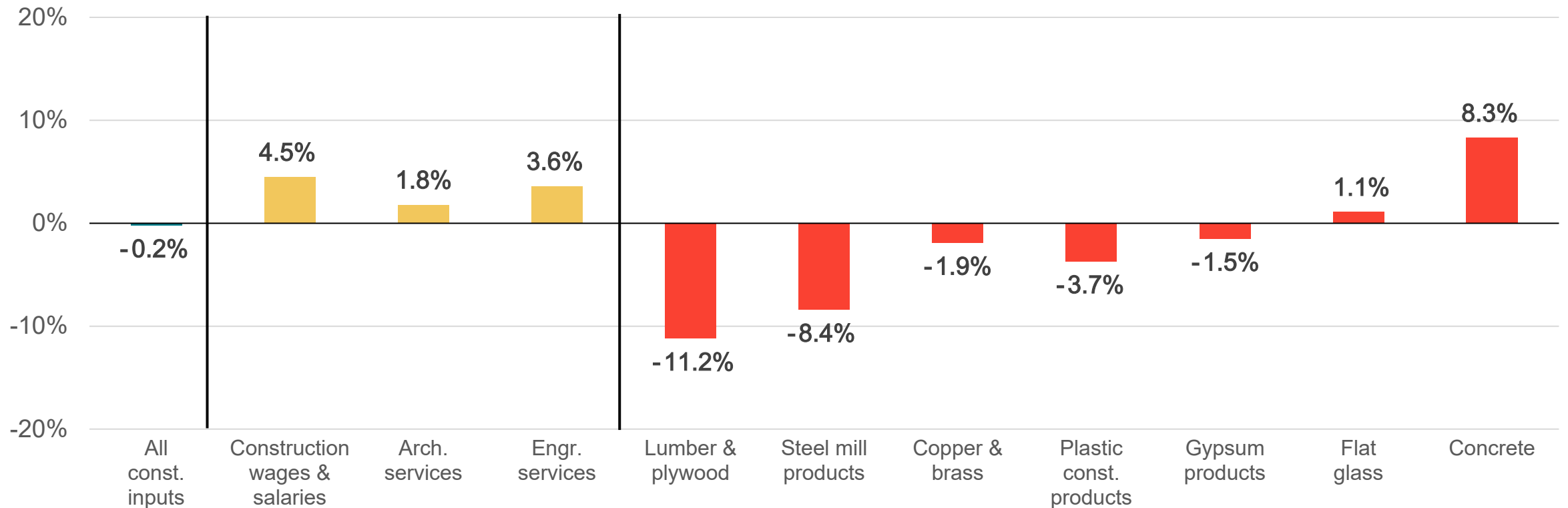
Average backlog at construction firms (months)



Source: ABC Construction Backlog Indicator

Construction costs for key commodities continue to be very volatile

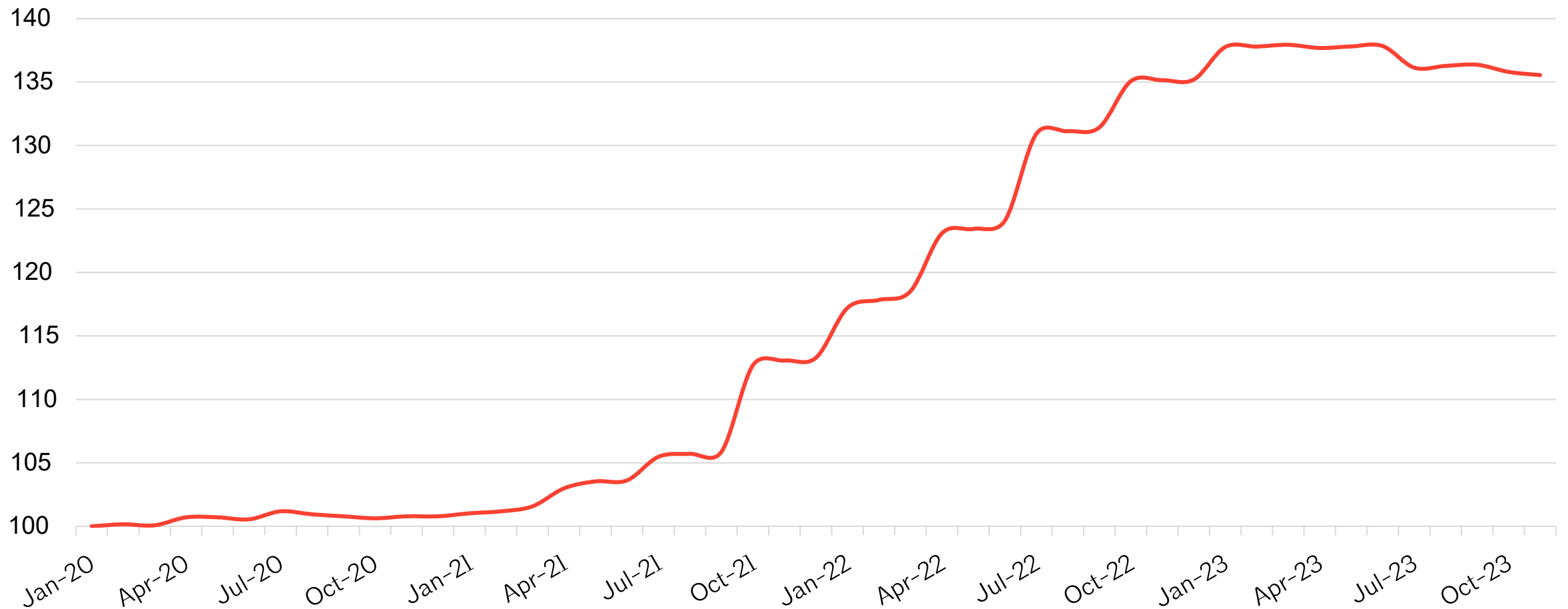
Change in construction costs, Nov 2022 to Nov 2023



Source: Bureau of Labor Statistics

Inputs to building construction have stabilized recently, but are almost 40% above pre-pandemic levels

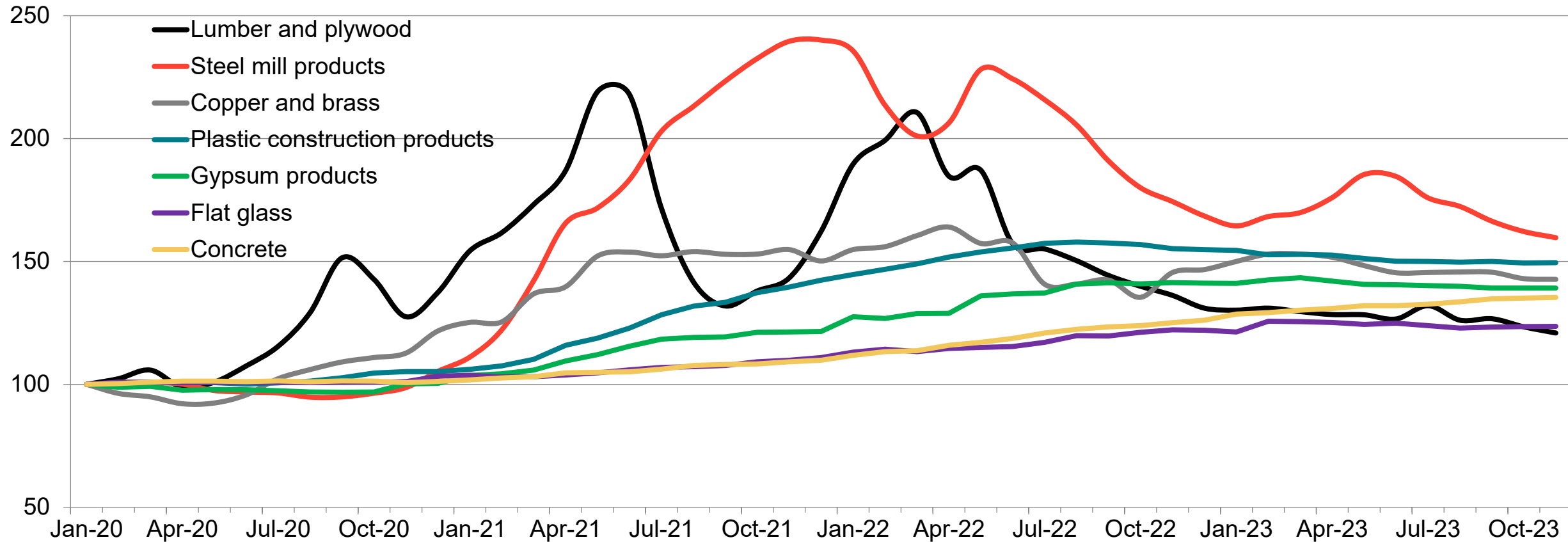
Producer price index for inputs to new nonresidential building construction, January 2020=100, not seasonally adjusted



Source: U.S. Bureau of Labor Statistics

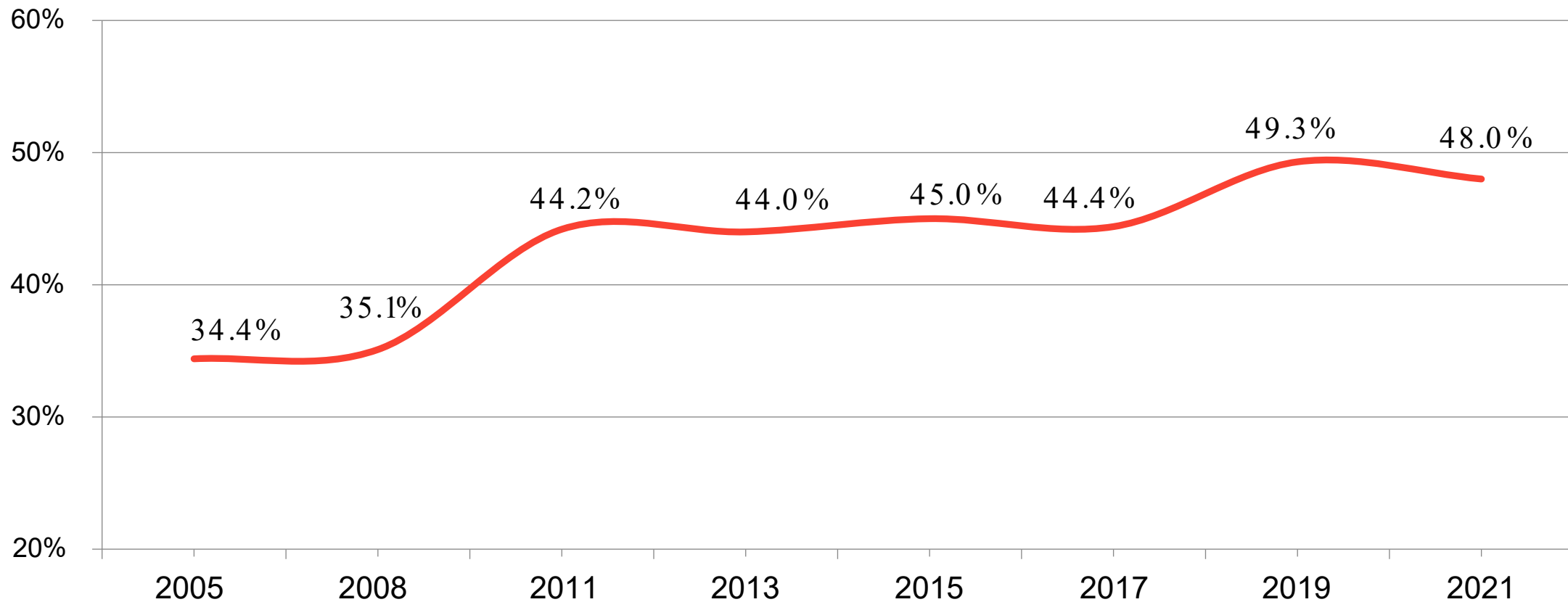
Prices of some commodities used in construction have been very volatile since pandemic hit; others more stable

Producer price index for inputs to construction, January 2020=100, not seasonally adjusted



Work on existing facilities accounts for about half of design activity

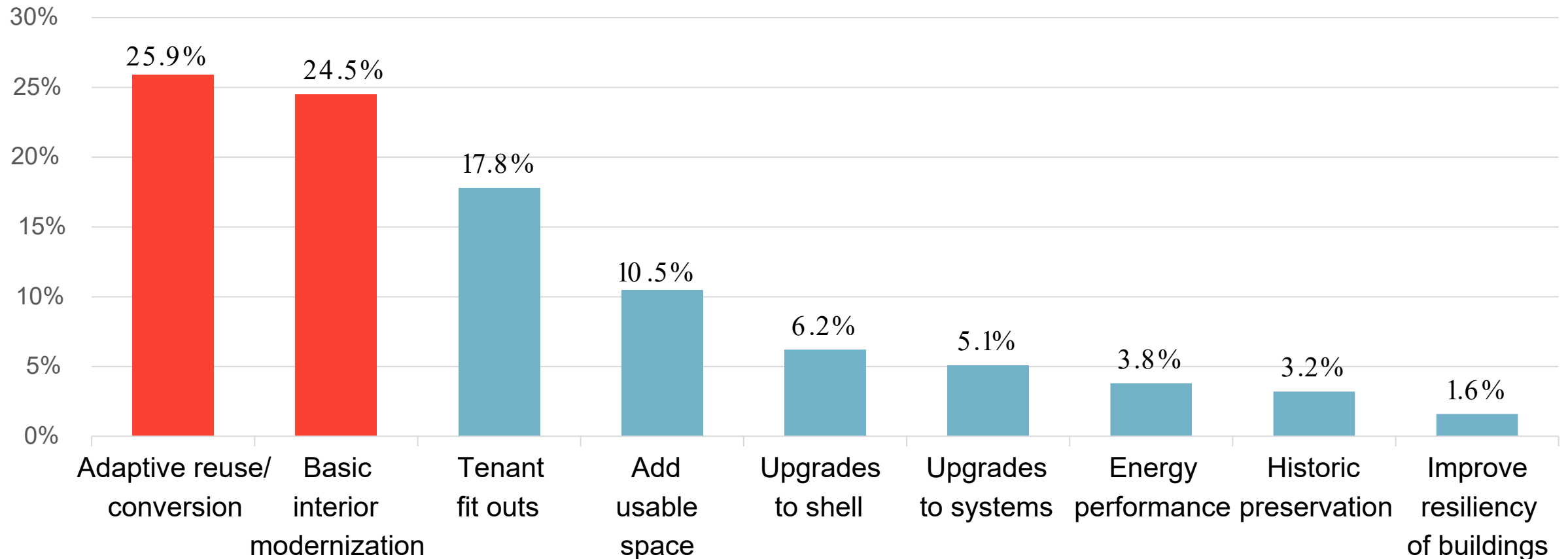
Renovations, rehabilitations, additions, and historic preservation as percent of firm building design billings



Source: AIA Firm Survey Report, The Business of Architecture, various years

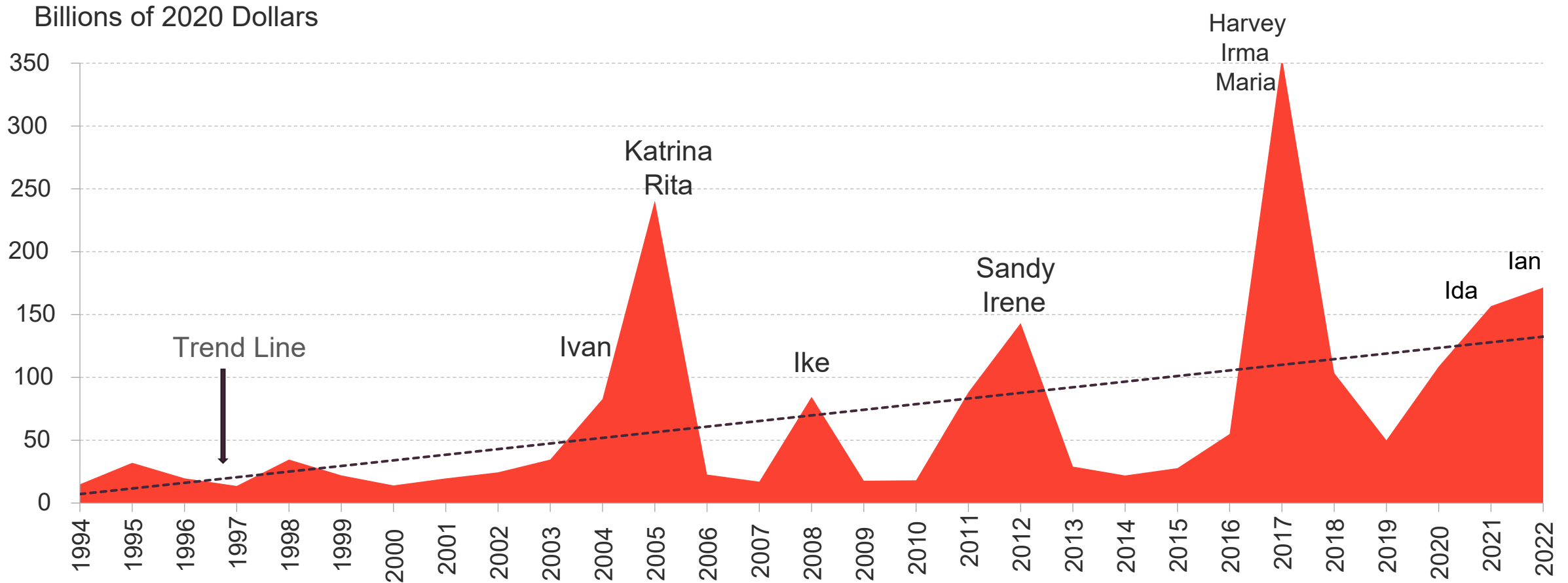
Adaptive reuse and modernization are most common goals of reconstruction projects

% of firms reporting what has been the single most important goal of reconstruction projects that their firm has worked on over the past year



Source: AIA Work on-the-Boards survey, April 2022

Though volatile, natural disaster losses from large-scale events have dramatically increased



Notes: Dollar values are adjusted for inflation using CPI-U. Costs include only natural disaster events that generate over \$1 billion in damages after adjusting for inflation
Source: JCHS tabulations of National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters, <https://www.ncdc.noaa.gov/billions/>

Construction ranks lowest of 10 major industries in perceived tech proficiency

Respondent rankings of industries from most to least technologically proficient

RANK	INDUSTRY
1 (high)	Software
2	Health care
3	Logistics/supply chain/transportation
4	Banking/finance
5	Manufacturing
6	Insurance
7	Hospitality/travel
8	Automotive
9	Restaurants
10 (low)	Construction

Source: 2023 YoozSurvey – Technology in the Workplace

Potential applications of artificial intelligence to construction include scheduling, monitoring safety, and managing costs

- More precise **scheduling** - manage timelines and estimate required labor for tasks.
- Project conformance with **zoning and building codes**.
- Ensuring on-site **worker safety** – identify safety hazards; monitor sites in real time for unsafe practices.
- **Cost controls** – identifying suppliers, timing of material procurement.



Sources: Forbes “Artificial intelligence powers a new era in construction”, July 12, 2023, and Architecture Design “5 ways AI is disrupting the construction industry - for the better”, July 18, 2023

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The AIA/ Deltek Architecture Billings Index

Monthly survey of business conditions at US architecture firms; covers multifamily residential, commercial, industrial, and institutional sectors.

Panel of participating firms is representative of all firms nationally in terms of size, location, and practice specialization.

Almost 30 years of historical information to track previous cyclical patterns.

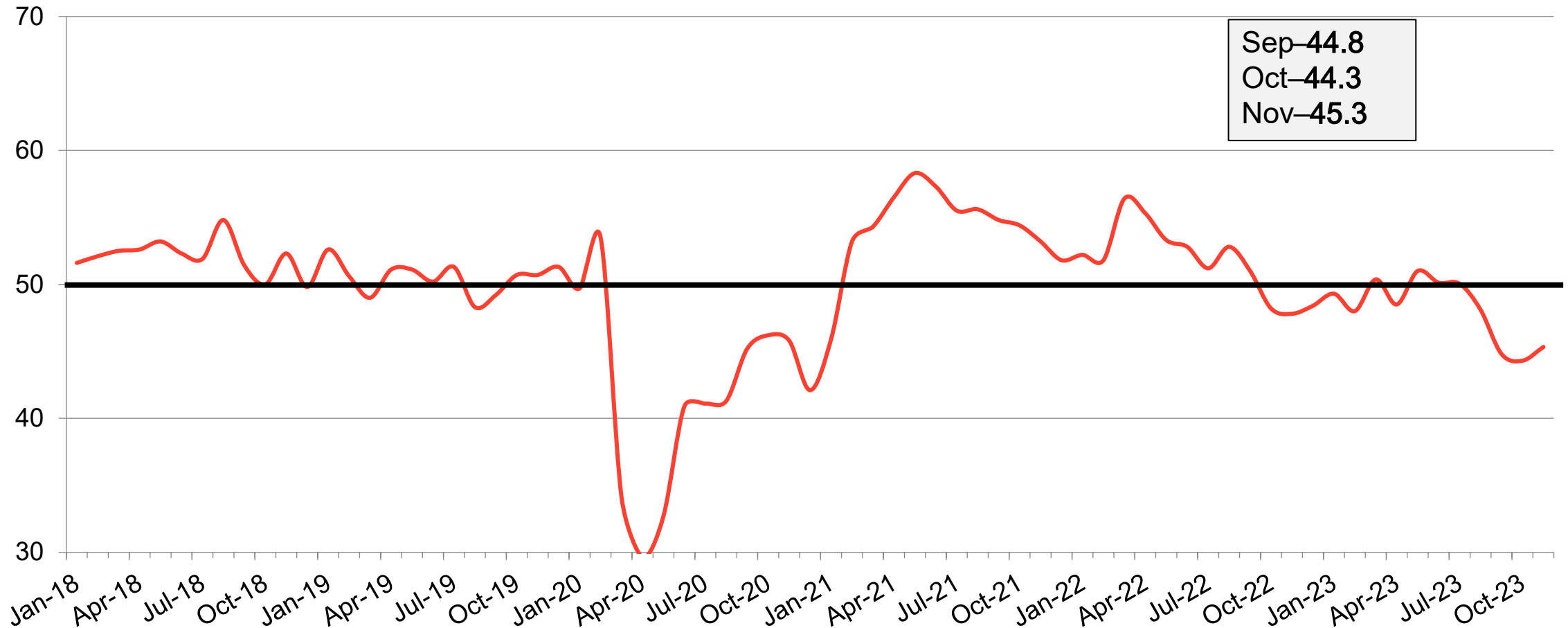
ABI **leads construction spending activity by 9-12 months** with high degree of accuracy.

Index centered around 50; scores above 50 indicate national increase in billings; scores below 50 a decline.



Architecture firm billings have been weak since Q -3 2022, but took a tumble in September

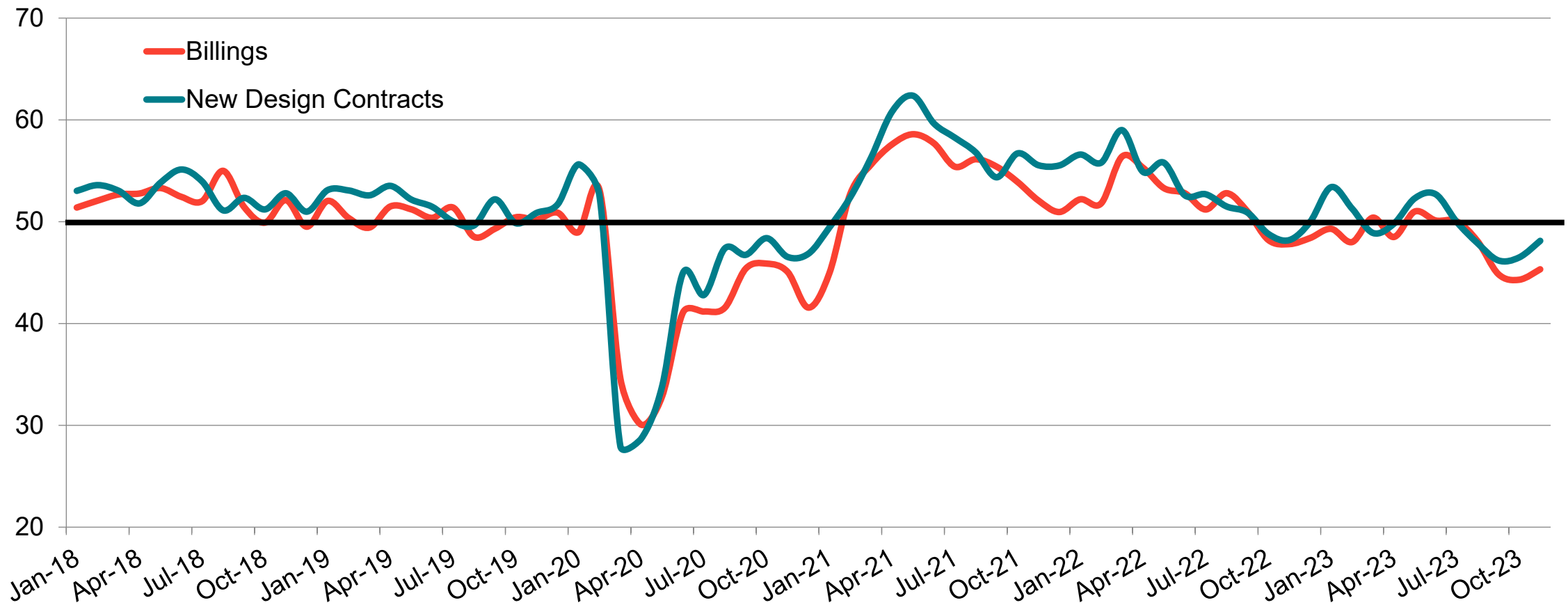
Diffusion index: 50 = no change from previous month, seasonally adjusted



Source: AIA/Deltek Architecture Billings Index

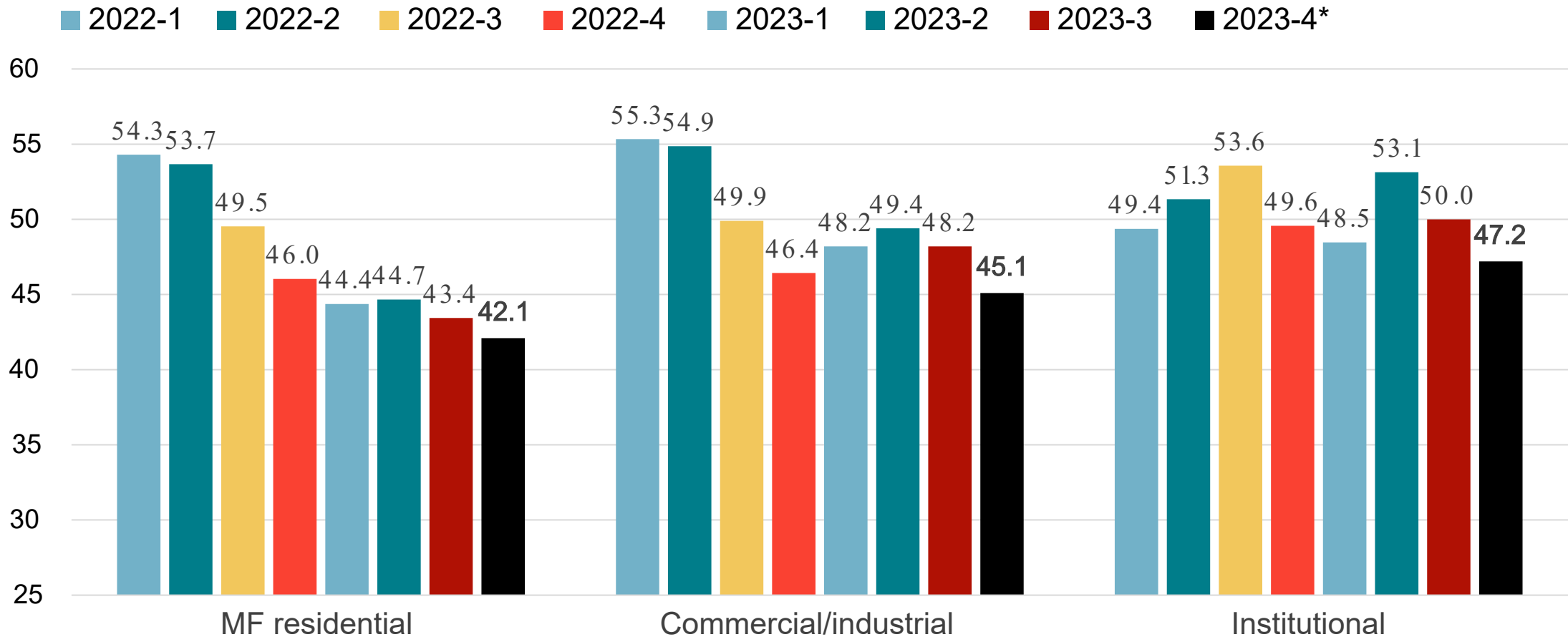
New design contracts have also moved down, suggesting workloads are unlikely to rebound anytime soon

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



MF residential is main sector pulling down scores; institutional sector seems to have most upside potential

ABI scores by quarter for 2022 and 2023

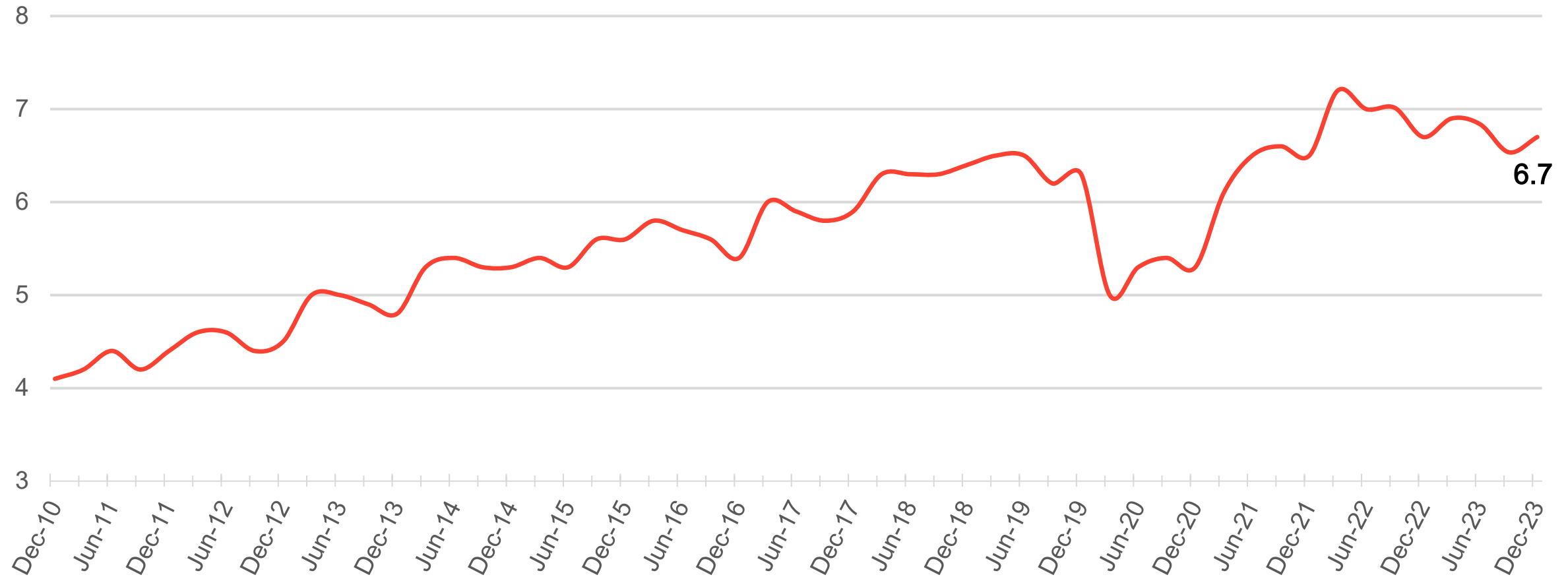


*Data for Oct 23 and Nov 23 only

Source: AIA/Deltek Architecture Billings Index

Architecture firm backlogs – averaging around 6.7 months – have been easing somewhat recently

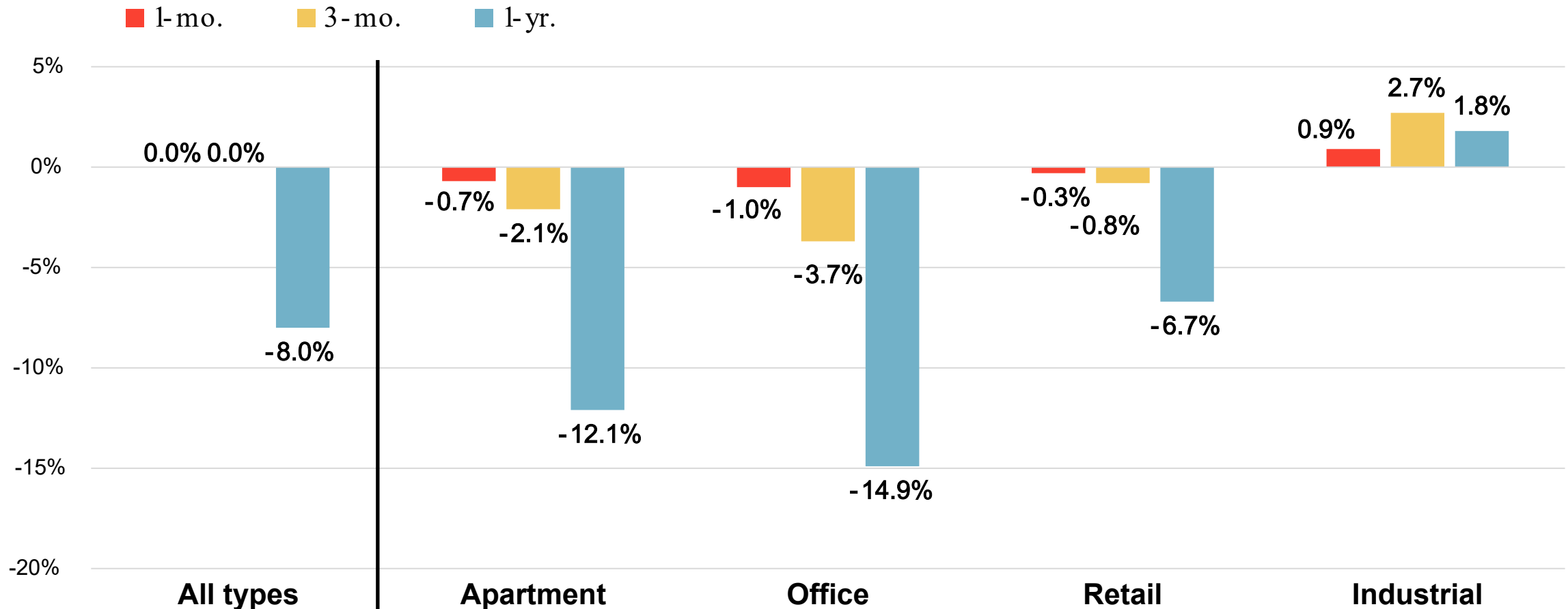
Average backlog at architecture firms (months)



Source: AIA Work-on-the-Boards survey

Commercial property values weak; office declines accelerating, industrial values improving

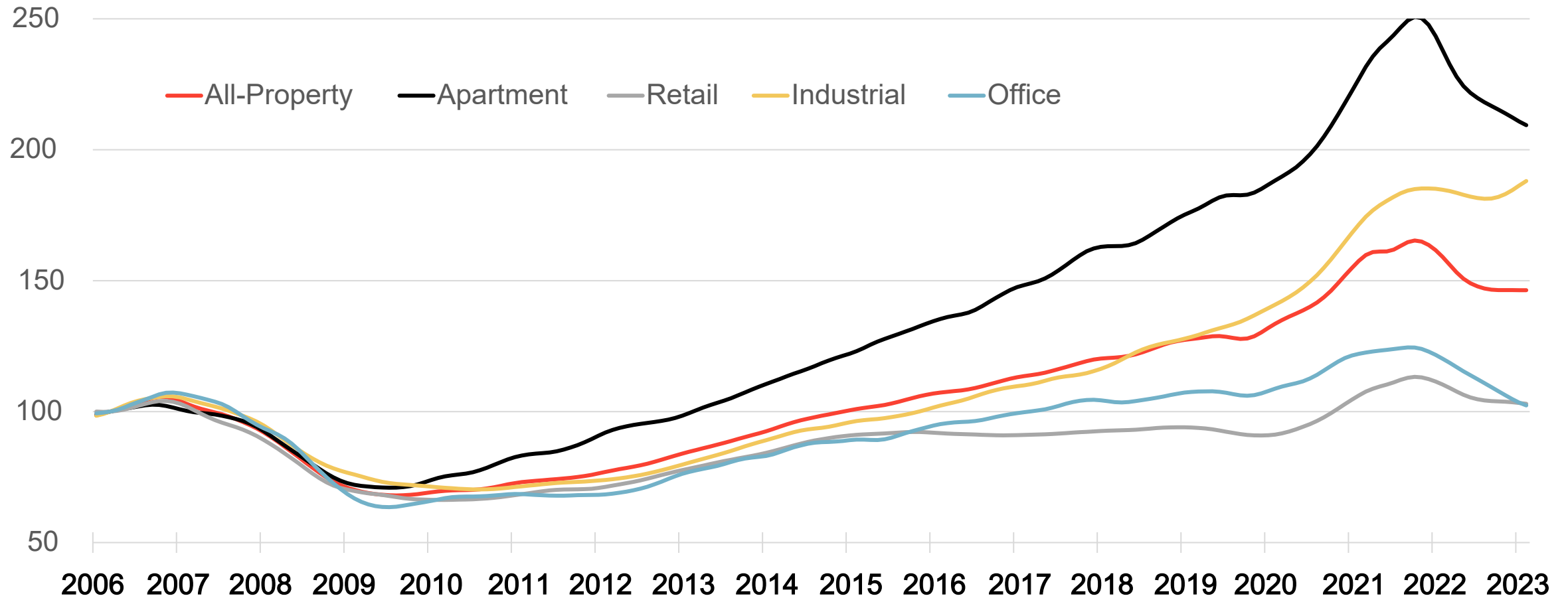
Change in price index for November 2023



Source: RCA Commercial Property Price Indexes

Apartment property value declines from a high base; offices from a low one

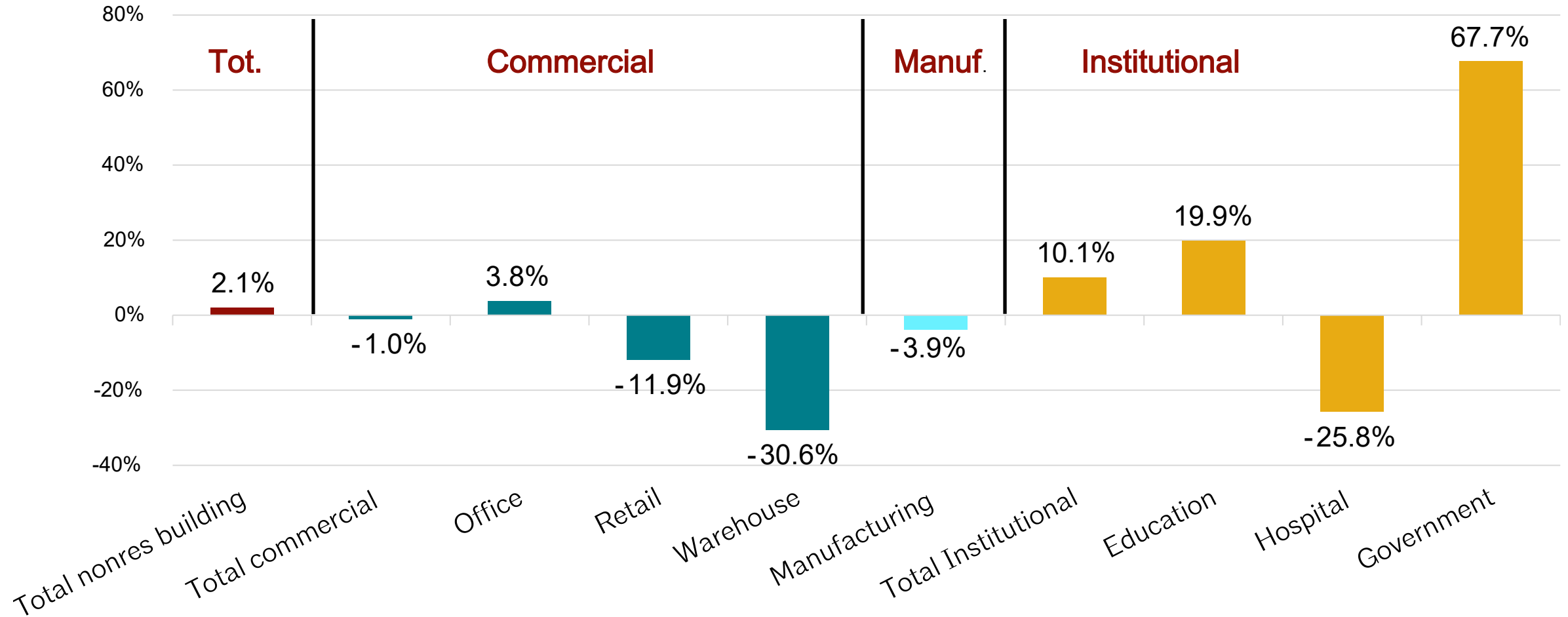
Index of repeat sale property values: 2006:4 = 100



Source: MSCI Commercial Property Price Indexes

While construction spending increased, 2023 starts were weak in commercial/industrial; healthy for institutional

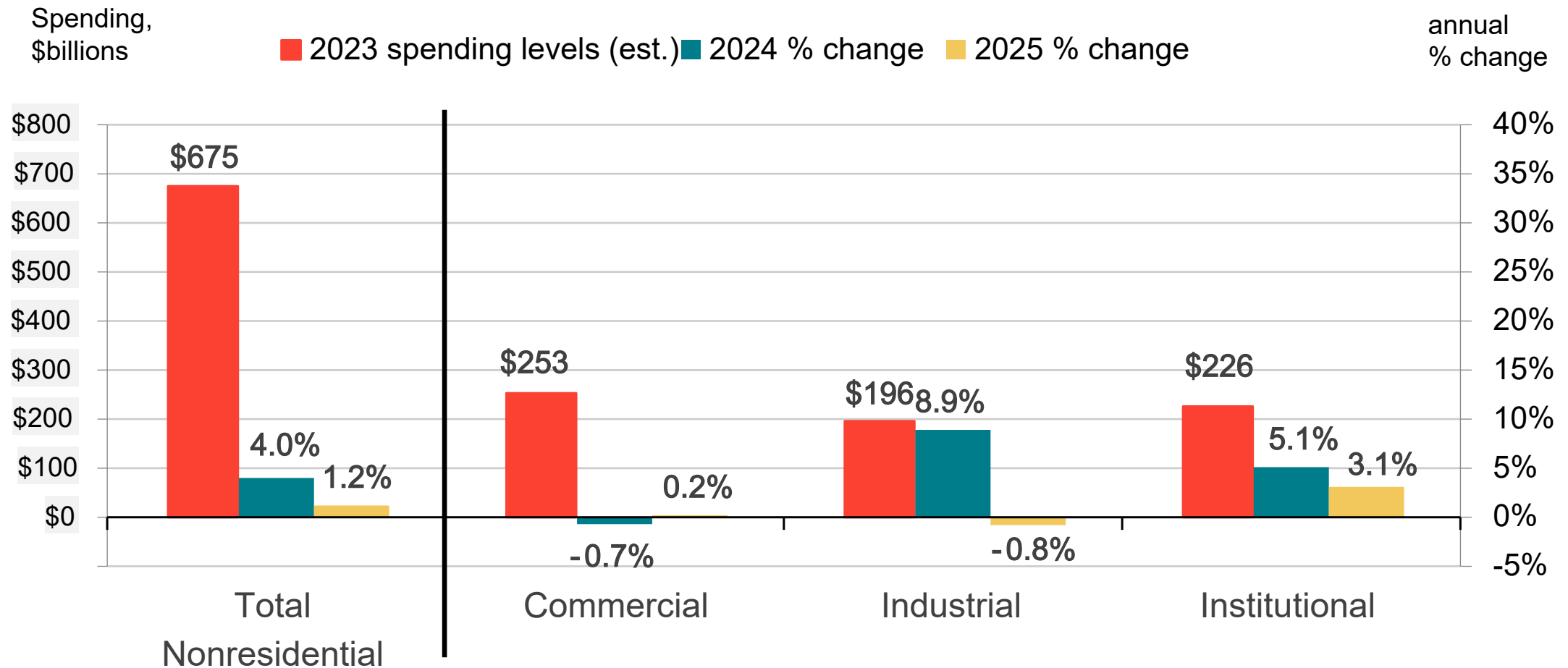
Percentage change in value of nonresidential construction starts, Jan-Nov. 2023 vs. Jan.-Nov. 2022



Source: ConstructConnect December, 2023

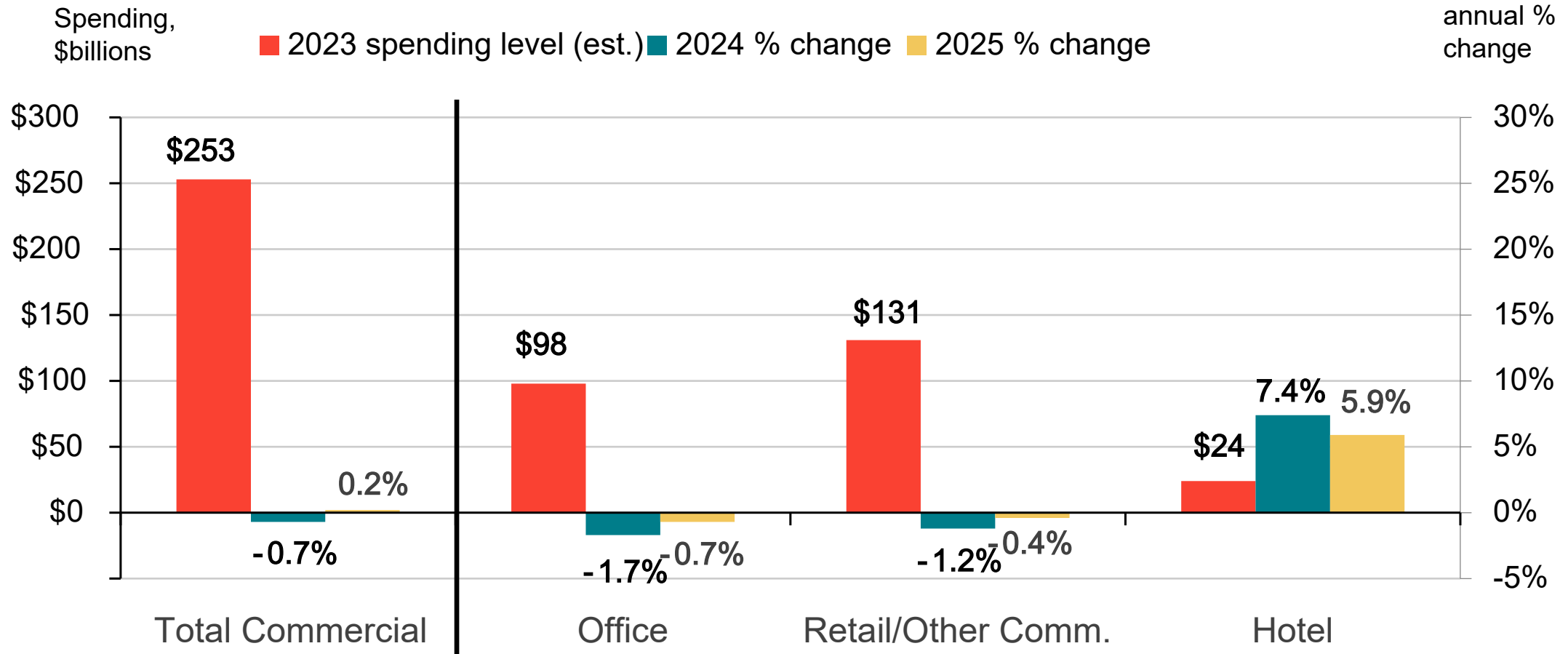
Construction spending expected to see only very moderate growth this year before slowing more in 2025

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



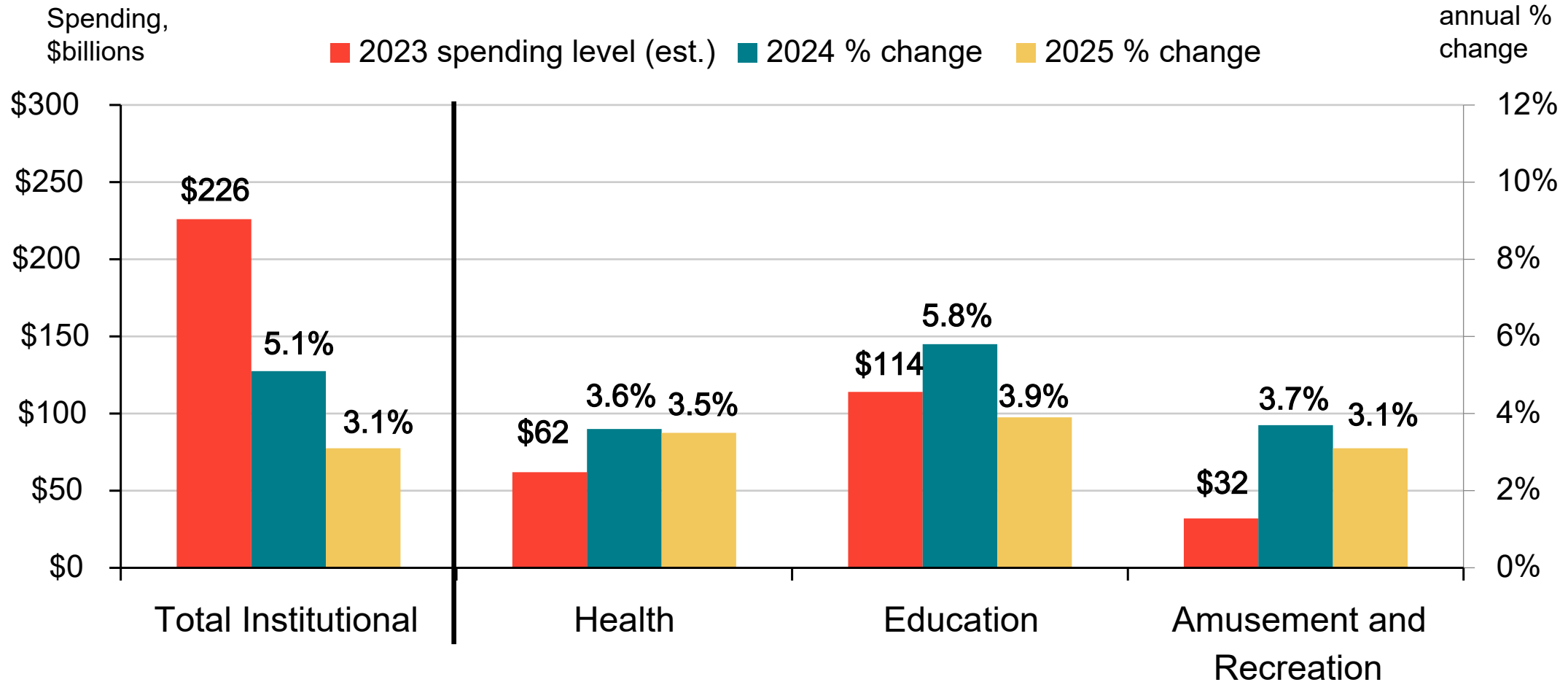
Hotel construction seeing healthy growth this year and next; office and retail expected to slip both years

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



Institutional sector remains relatively healthy both this year and next

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



Source: AIA Consensus Construction Forecast Panel, December 2023