



Economic Resiliency: Is your component prepared for the next downturn?

Michele Russo, Managing Director, Research & Practice
August 8, 2019

Agenda

- Economic Outlook
- What's on the minds of architecture firm leaders?
- Preparing for the future

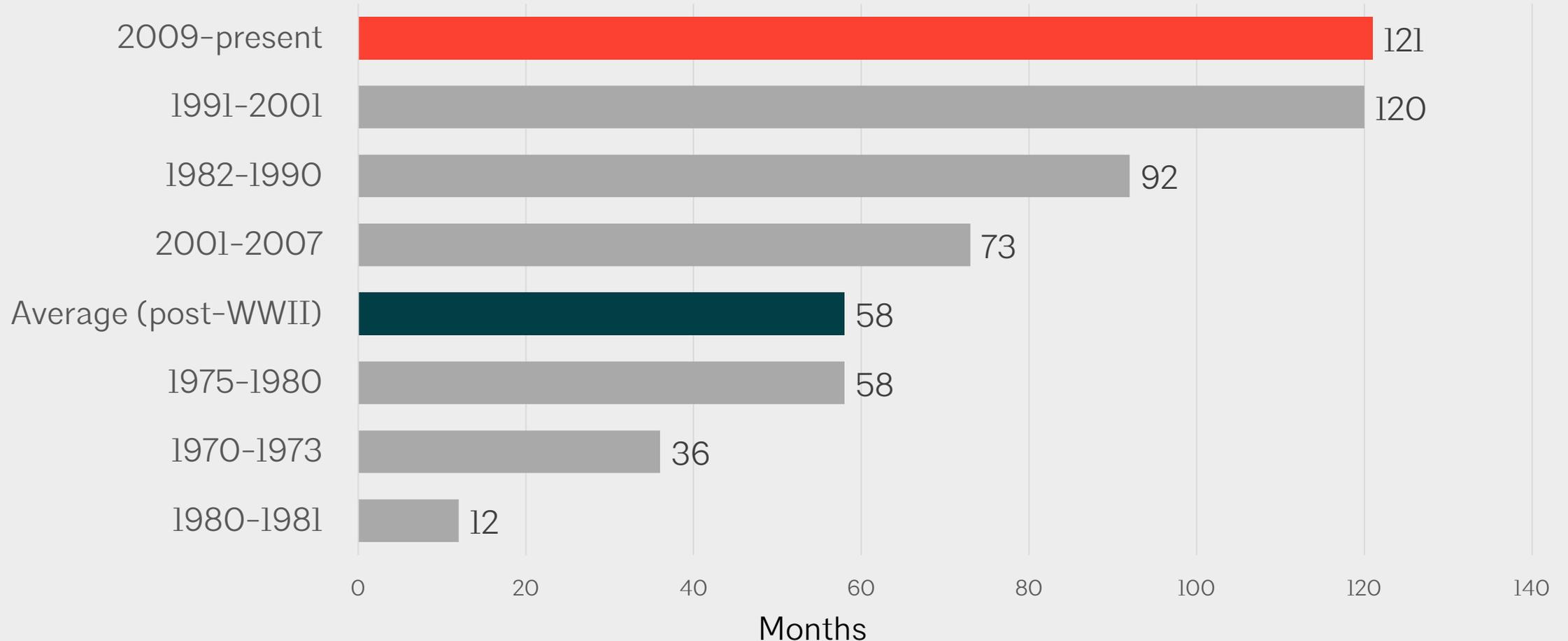
Economic Outlook

How are you feeling about the economy?



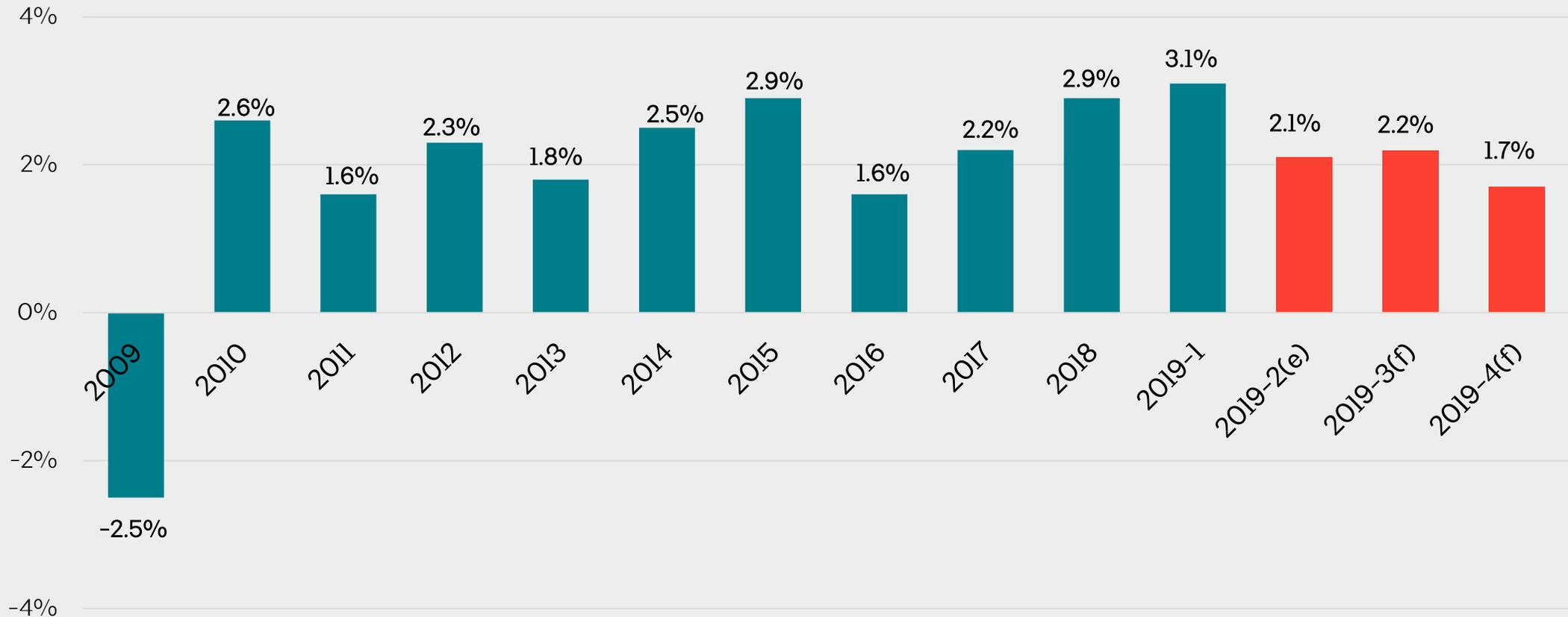
Current economic cycle is at record length; concerns growing over direction of broader economy

Duration of economic cycle in months



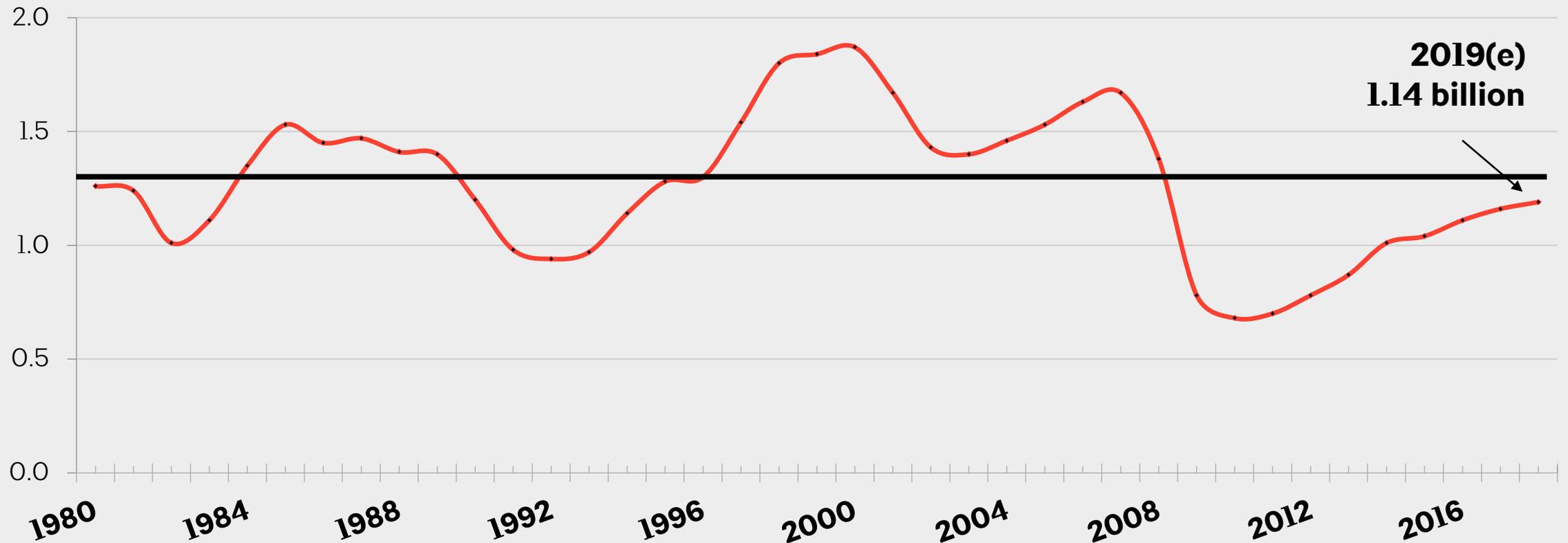
Pace of economic growth has been moderate since last recession; coming quarters expected to be more of the same

Annual rate of change, real GDP



Since 1980, nonresidential building construction has averaged 1.3 billion sq.ft. per year

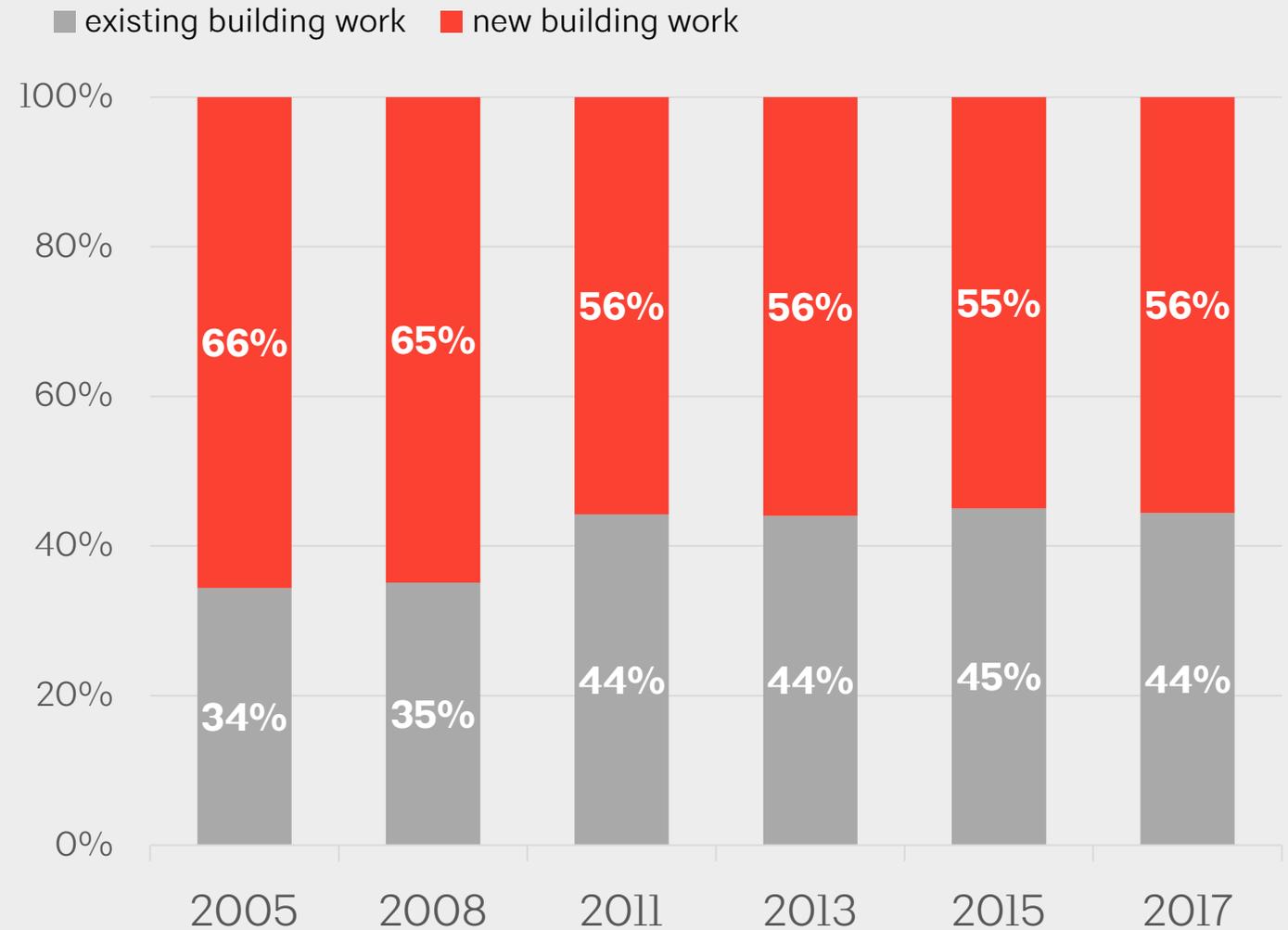
Nonresidential building construction, billions of square feet



Work on existing buildings has remained strong even through the recovery

Pushing out new construction in some sectors

Share of 2017 architecture firm billings



Topics affecting the construction outlook



Housing sector looks to have peaked for this cycle.



Construction industry faces severe labor shortage, and has made little progress addressing this problem.



ABI trends and the 2019/2020 construction outlook.



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Housing starts have been increasing at a healthy pace in recent years, but slowed in the first quarter

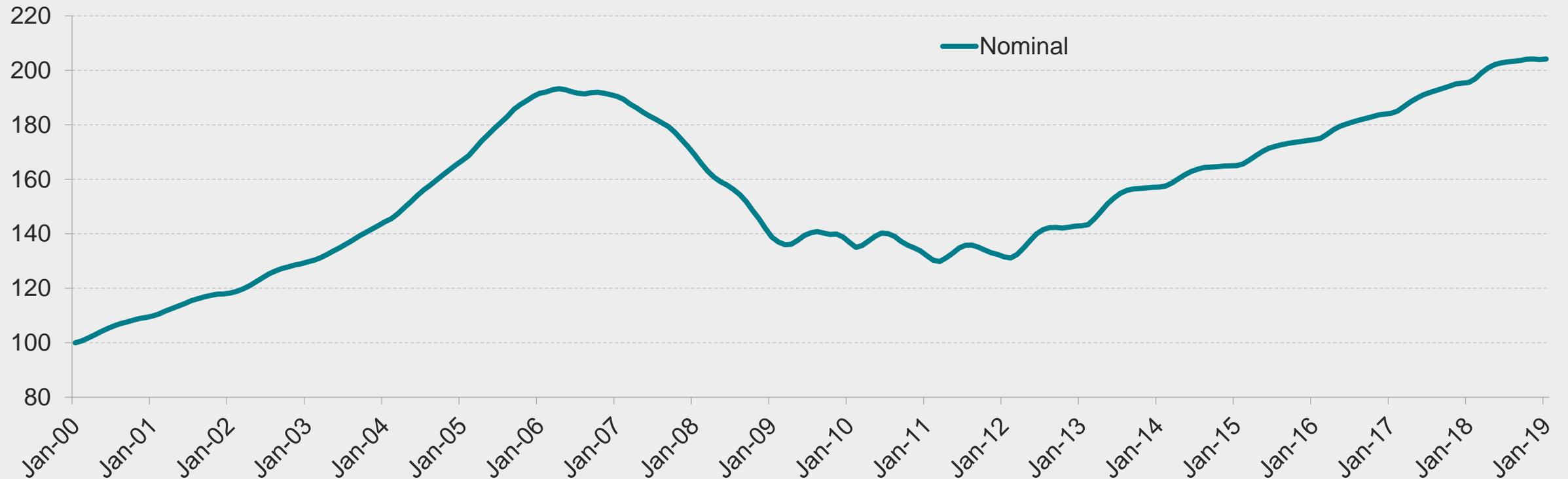
Annual housing starts (000's)

■ single-family
■ multifamily



Nationally housing prices have recovered

CoreLogic national house price index (NSA, Jan. 2000=100)

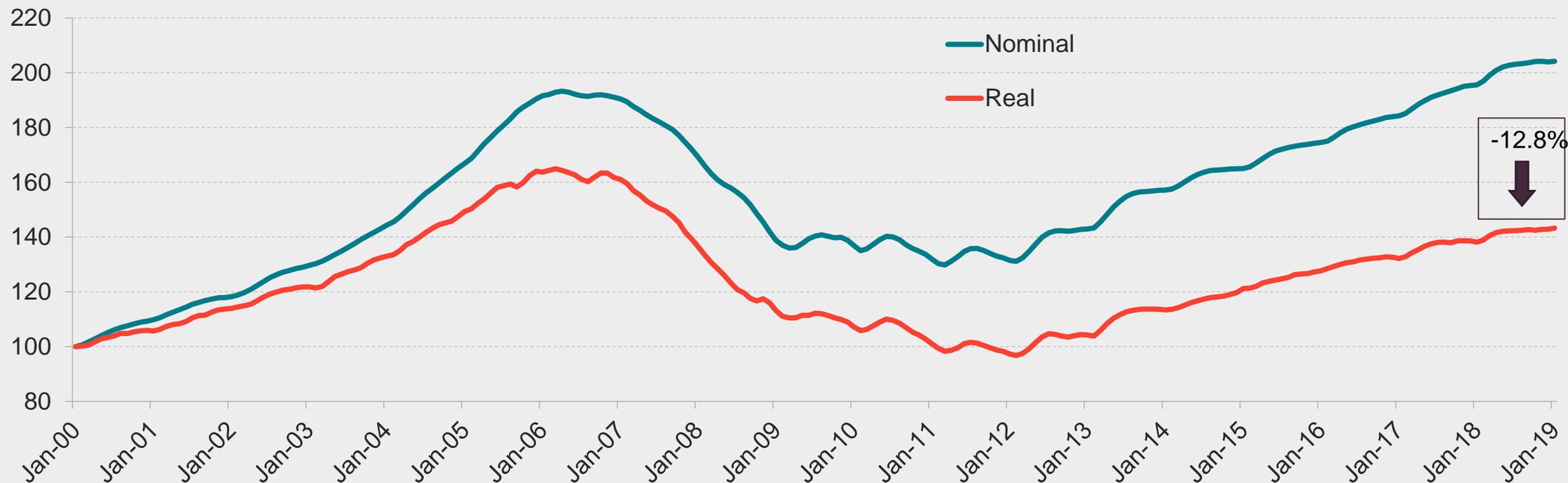


Notes: Index values are adjusted for inflation using the CPI-U for all items less shelter. Index includes single family attached and detached structures. Data accessed on 4/1/19.

Source: CoreLogic, National House Price Index (HPI).

Nationally housing prices have recovered, but factoring in inflation, prices still below the last peak

CoreLogic national house price index (NSA, Jan. 2000=100)

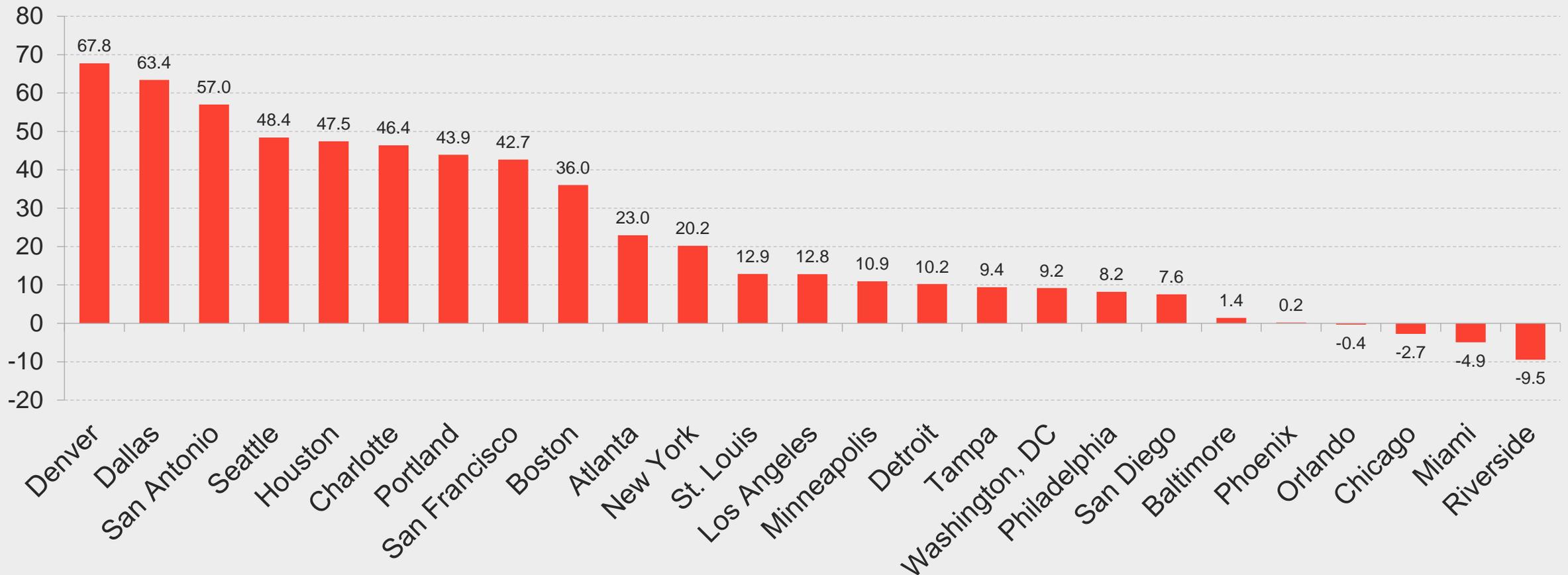


Notes: Index values are adjusted for inflation using the CPI-U for all items less shelter. Index includes single family attached and detached structures. Data accessed on 4/1/19.

Source: CoreLogic, National House Price Index (HPI).

Though house prices have returned to pre-downturn levels nationally, there is considerable metro variation

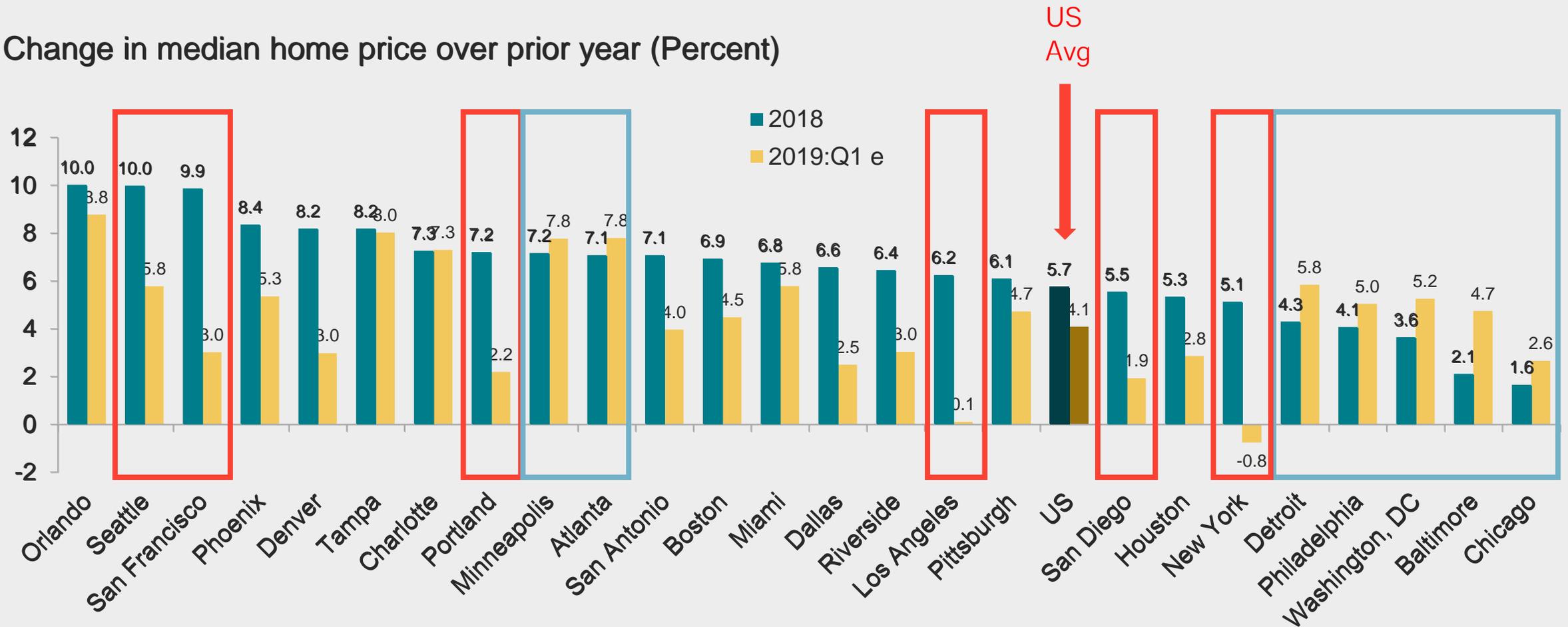
Change in median home price, 2006–2018 (Percent)



Notes: Data are for 25 largest metros by population. Home prices are annual averages of the median sales prices of existing single-family homes.
Source: CoreLogic.

By the first quarter of 2019, prices as a percentage of market in many high-price areas

Change in median home price over prior year (Percent)



Notes: Data are for 25 largest metros by population. Home prices are quarterly and annual averages of the median sales prices of existing single-family homes. 2019:Q1 is estimated using January and February data only. Source: CoreLogic.

Topics affecting the construction outlook



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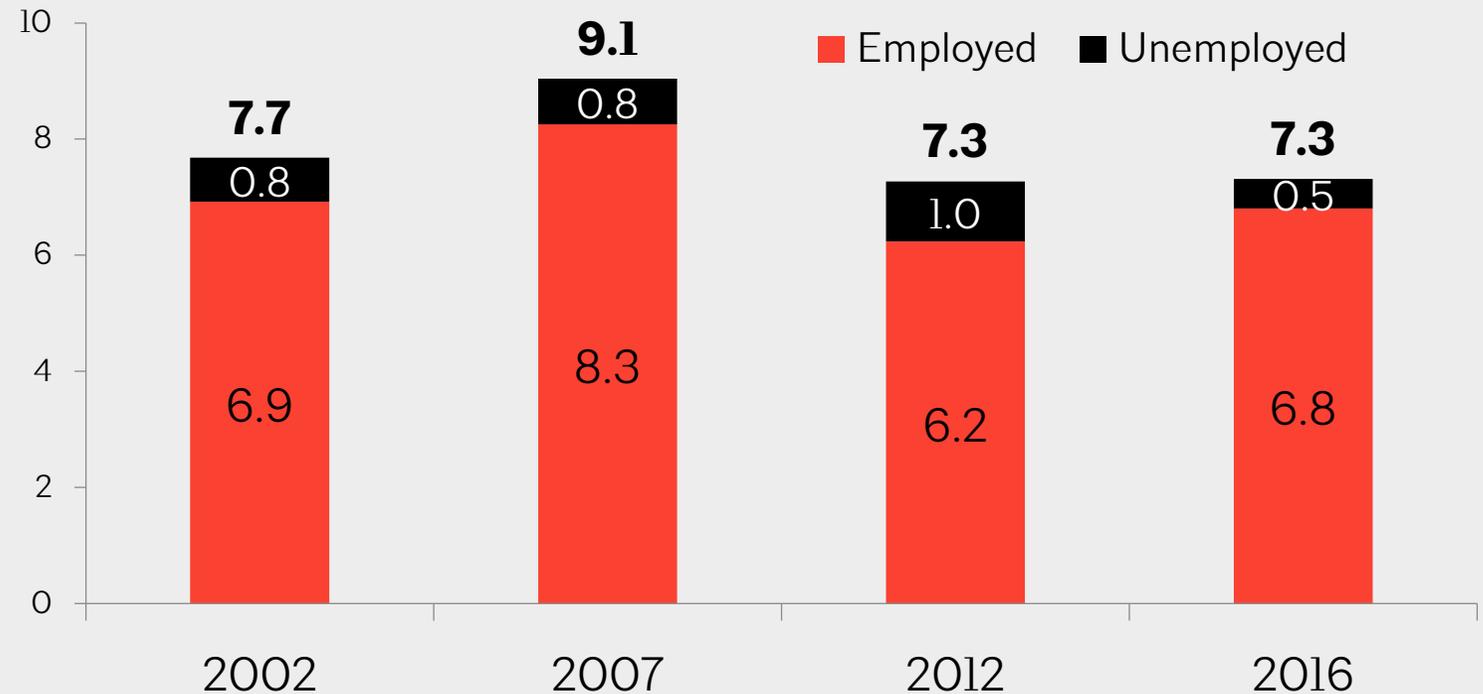


ABI trends and the 2019/2020 construction outlook.



The construction labor force lost almost two million workers in the recession and has gained back only a fraction

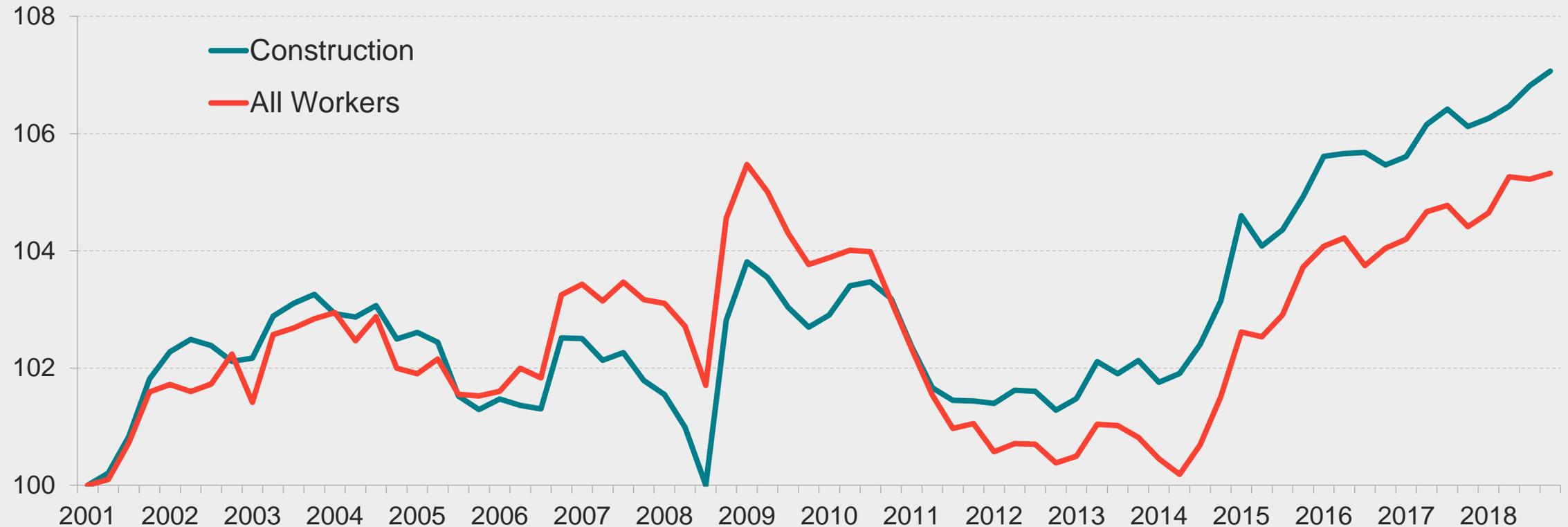
Number of Persons in the Construction Labor Force (Millions)



Notes: Data include workers age 16 and over housed in non-group quarters. The construction labor force includes workers with construction management and trade occupations in the construction industry. Source: JCHS tabulations of US Census Bureau, American Community Survey.

For most of the past decade, construction wages have been rising faster than those in the rest of the economy

Real change in wages since 2001 (2001=100)

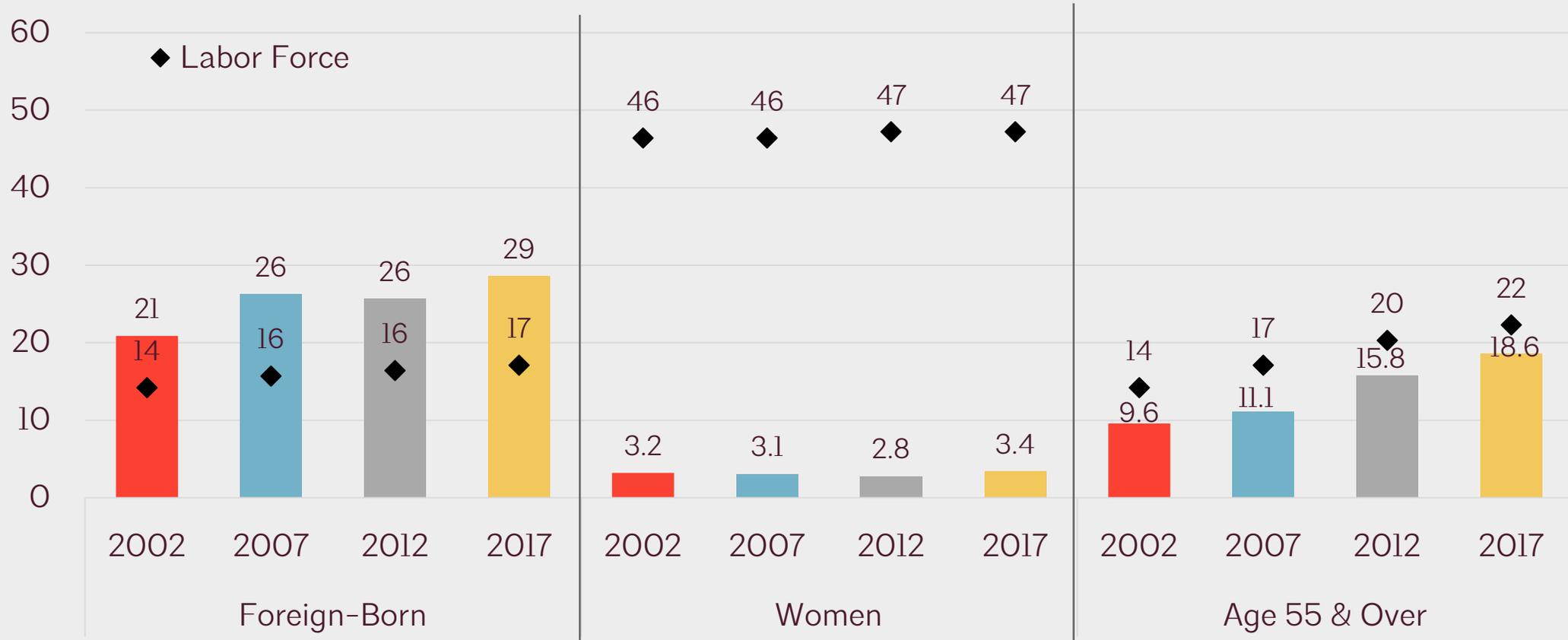


Note: Indexed wage data are for private industry workers adjusted for inflation using the CPI-U for All Items.

Source: JCHS tabulations of U.S. Bureau of Labor Statistics (BLS): Employment Cost Index (ECI) via Moody's economy.com.

Workers in the construction trades differ from the overall labor force in several key measures

Share of Workers (Percent)



Notes: The construction labor force includes workers with construction management and trades occupations in the construction industry. Data include workers housed in non-group quarters that are either employed or unemployed but available for and seeking work. Source: JCHS tabulations of US Census Bureau, American Community Surveys.

Topics affecting the construction outlook



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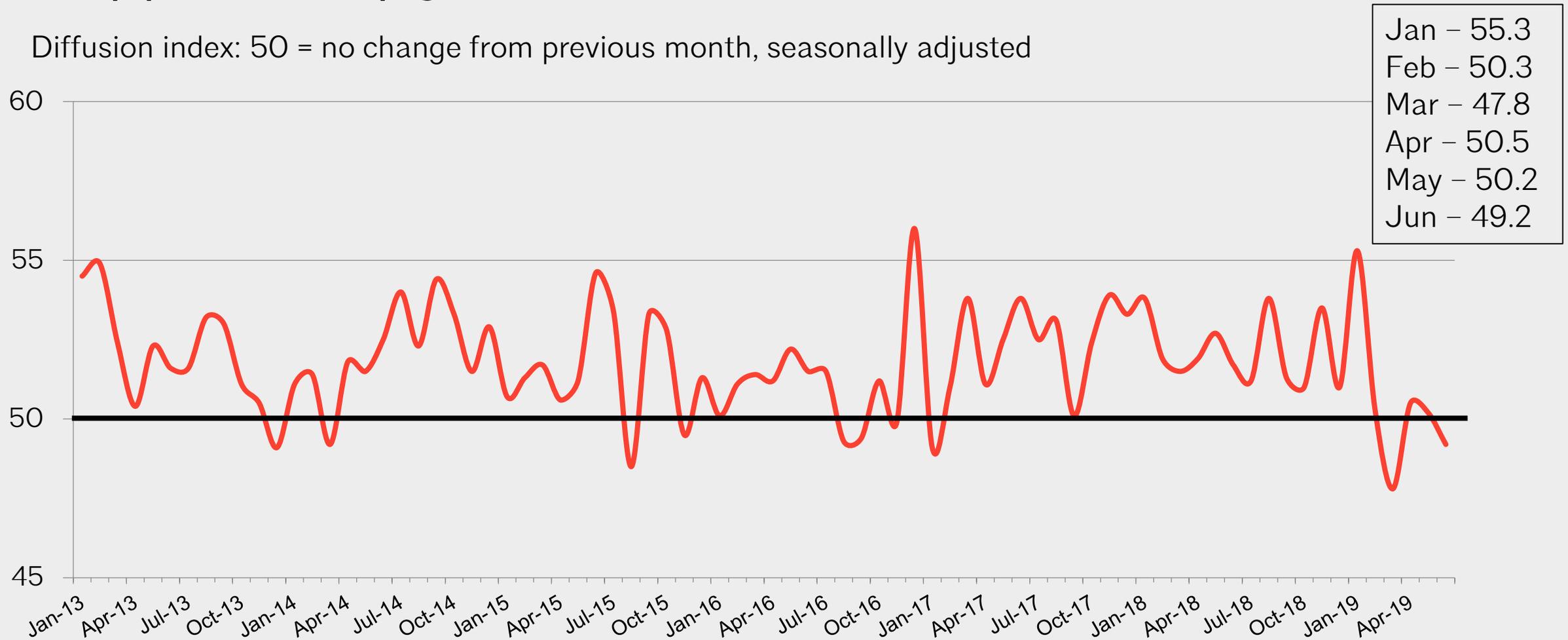


ABI trends and the 2019/2020 construction outlook.



After a strong January reading, architecture billings dropped sharply in March and have been flat ever since

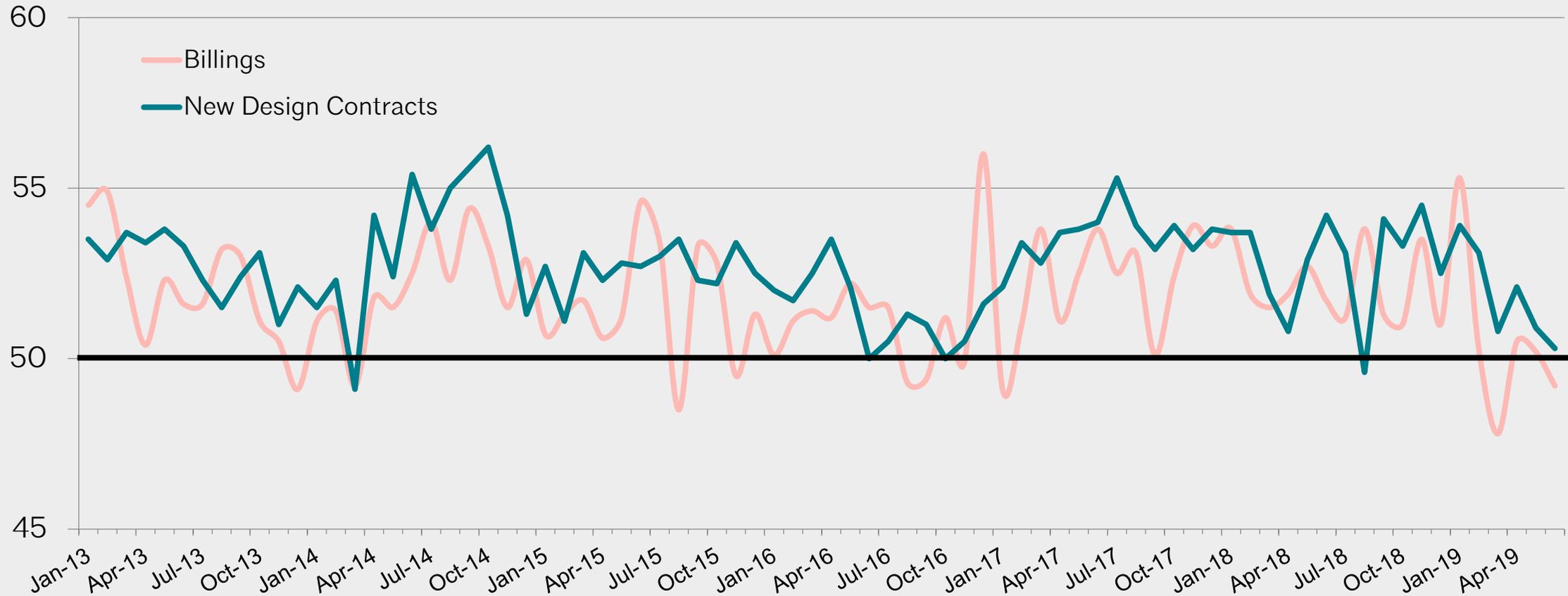
Diffusion index: 50 = no change from previous month, seasonally adjusted



Source: AIA Architecture Billings Index

However, in spite of weak billings in March, new work coming into architecture firms continues to grow

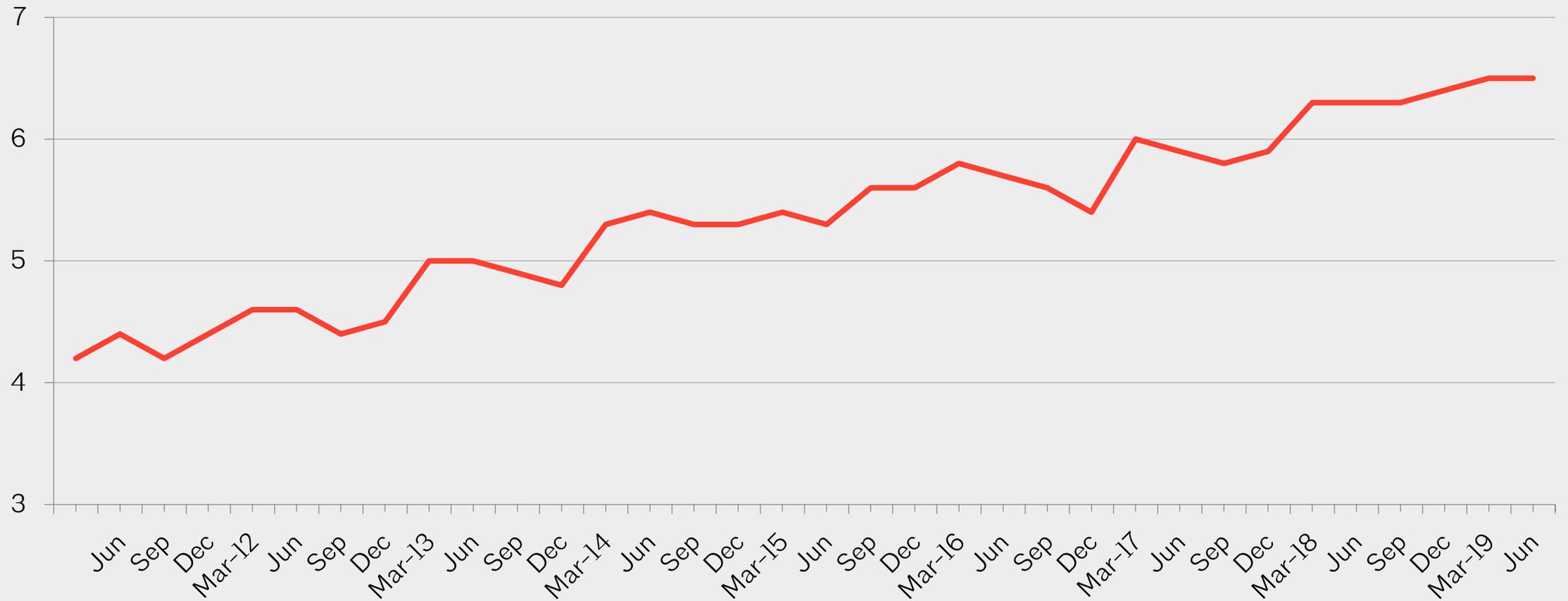
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Source: AIA Architecture Billings Index

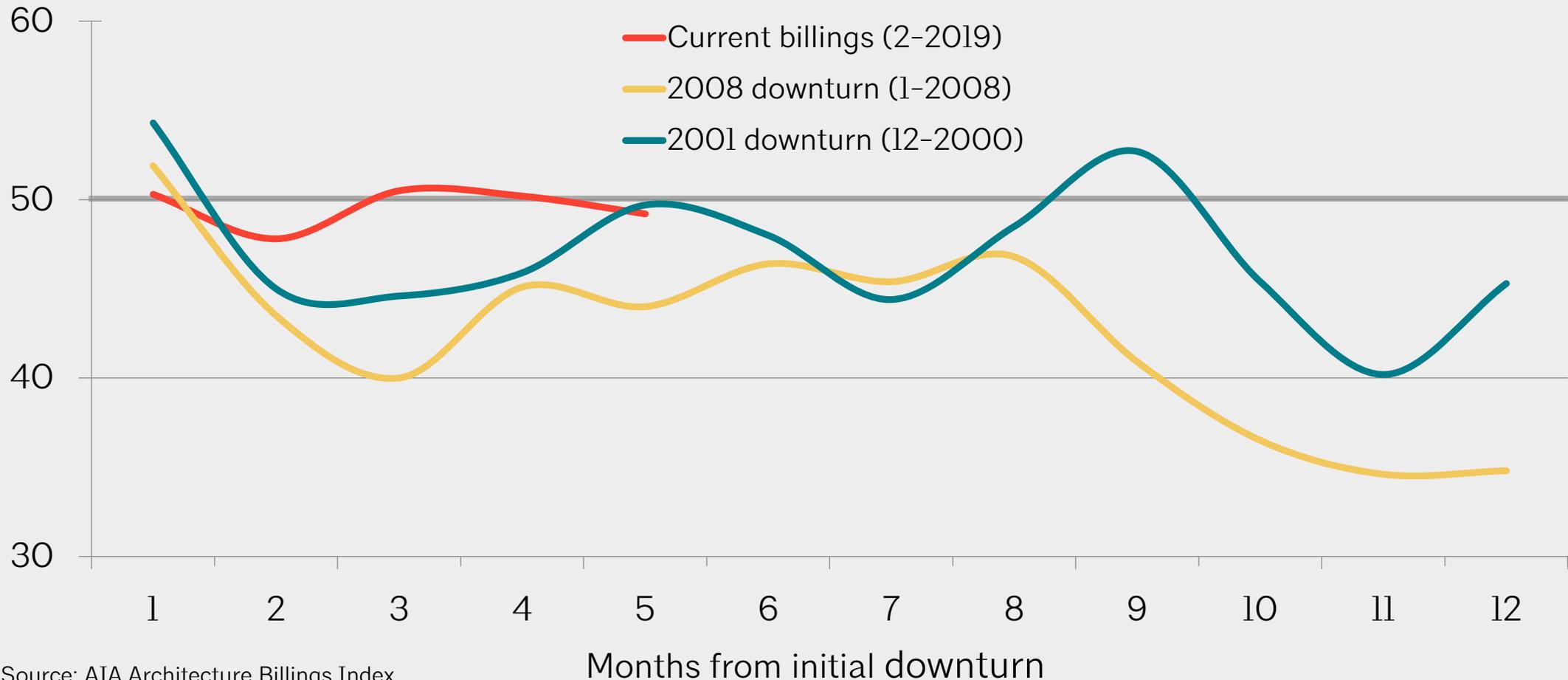
Currently in excess of 6 months, backlogs at architecture firms are still at post-recession highs

Project backlog, months, averages across all firms



In previous two recessions, when ABI heads into a downturn, decline was steep and prolonged

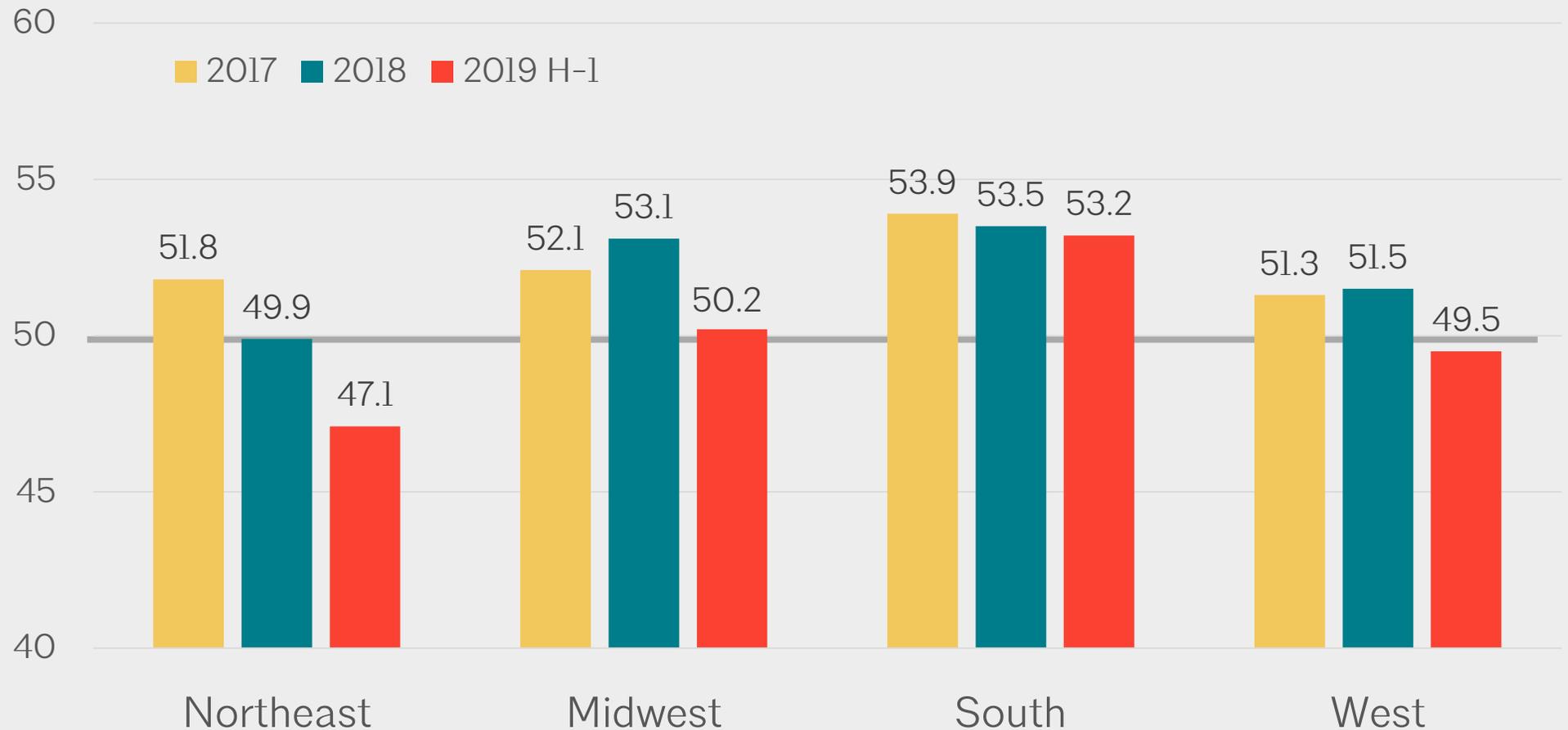
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Source: AIA Architecture Billings Index

So far this year, firms in South reporting healthy conditions, while those in Northeast seeing declines

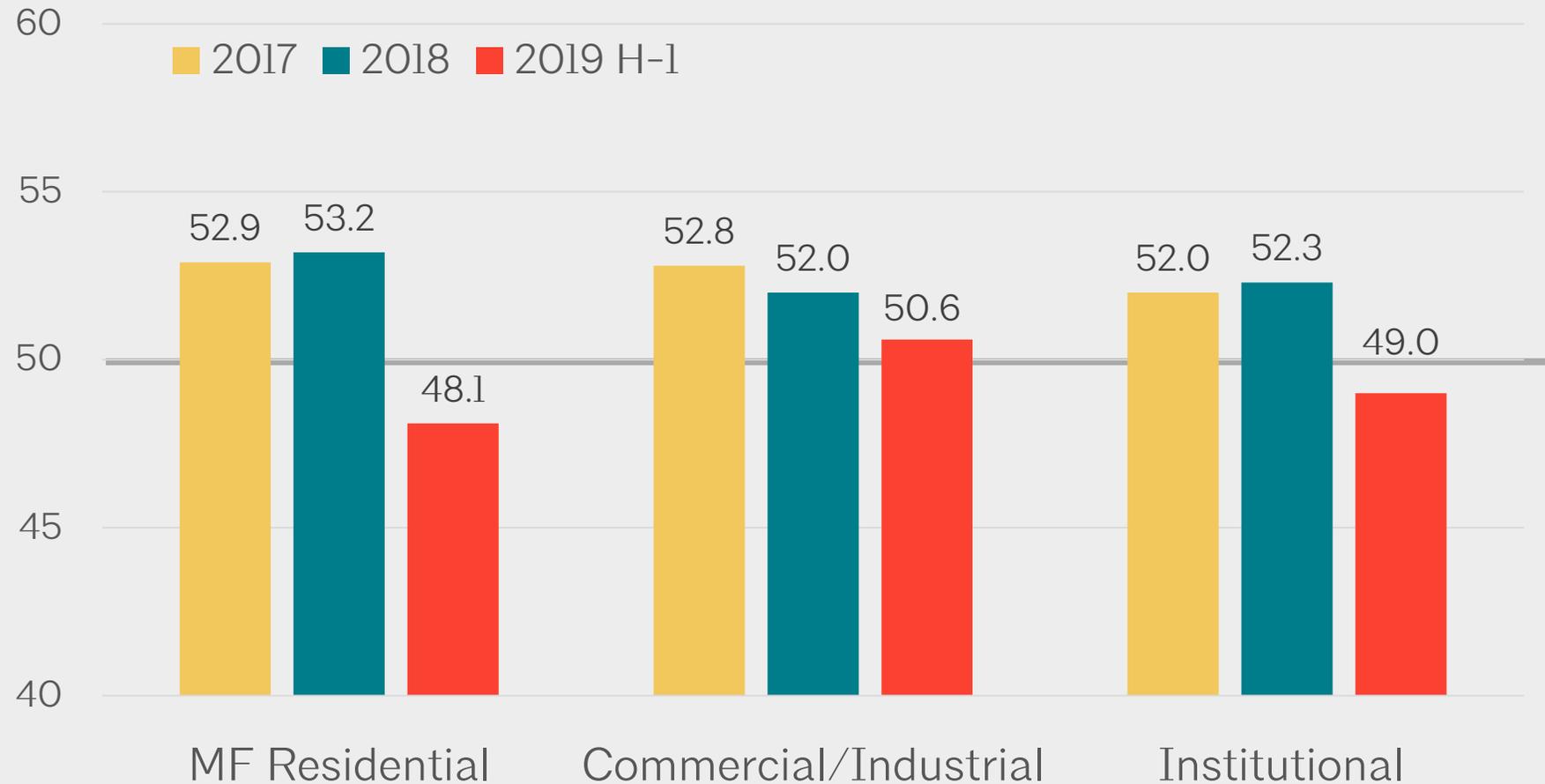
Regional
ABI
scores



Source: The American Institute of Architects ABI survey.

By design specialization, all major sectors are slowing; commercial/industrial only one to see growth this year

Building
Sector
ABI scores

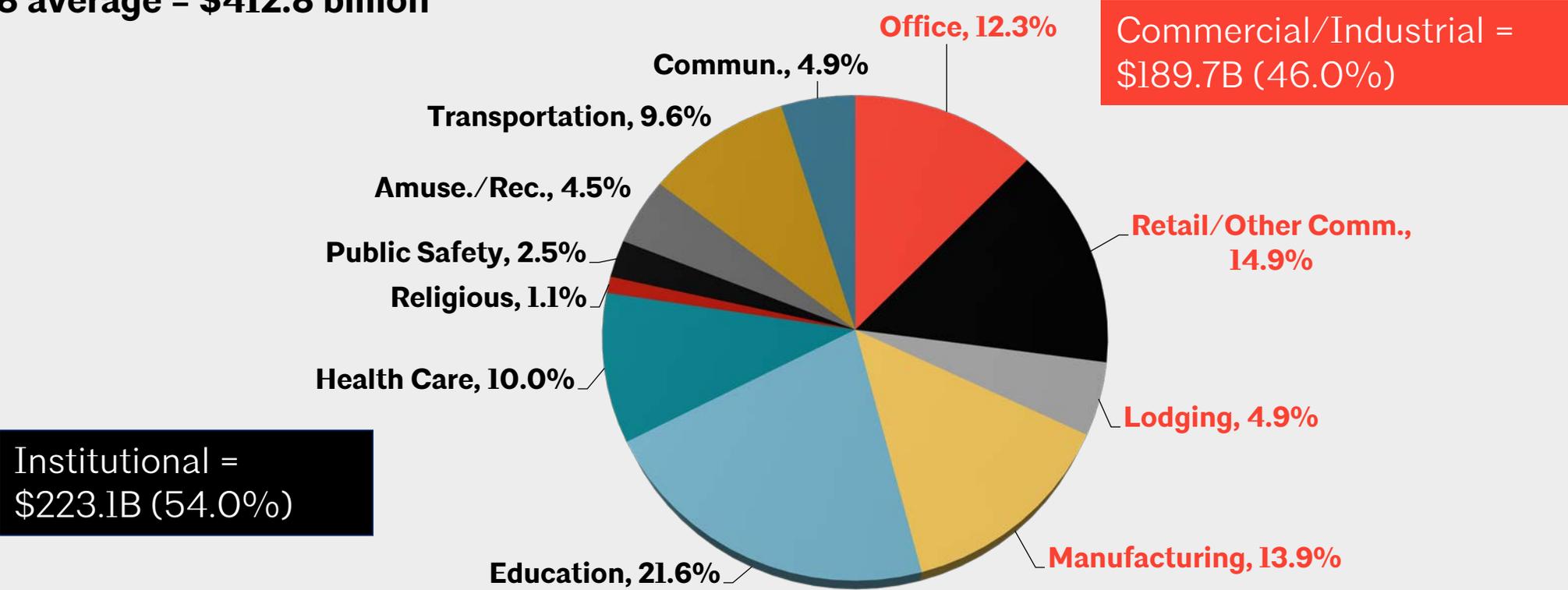


Source: The American Institute of Architects ABI survey.

Institutional Categories Account for Over Half the Spending on Nonresidential Buildings

Share of U.S. nonresidential building construction spending, 2008-2018

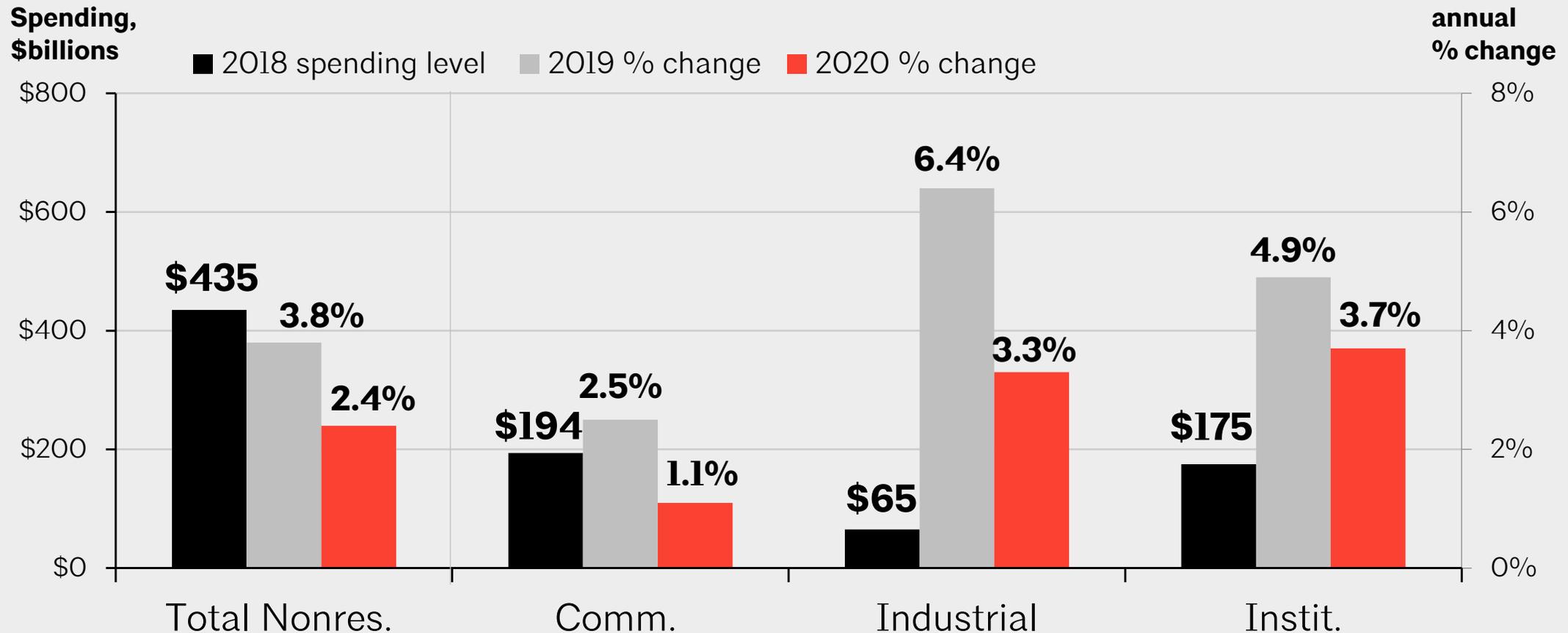
2008-2018 average = \$412.8 billion



Source: Construction Spending Put-in-Place, U.S. Department of Commerce

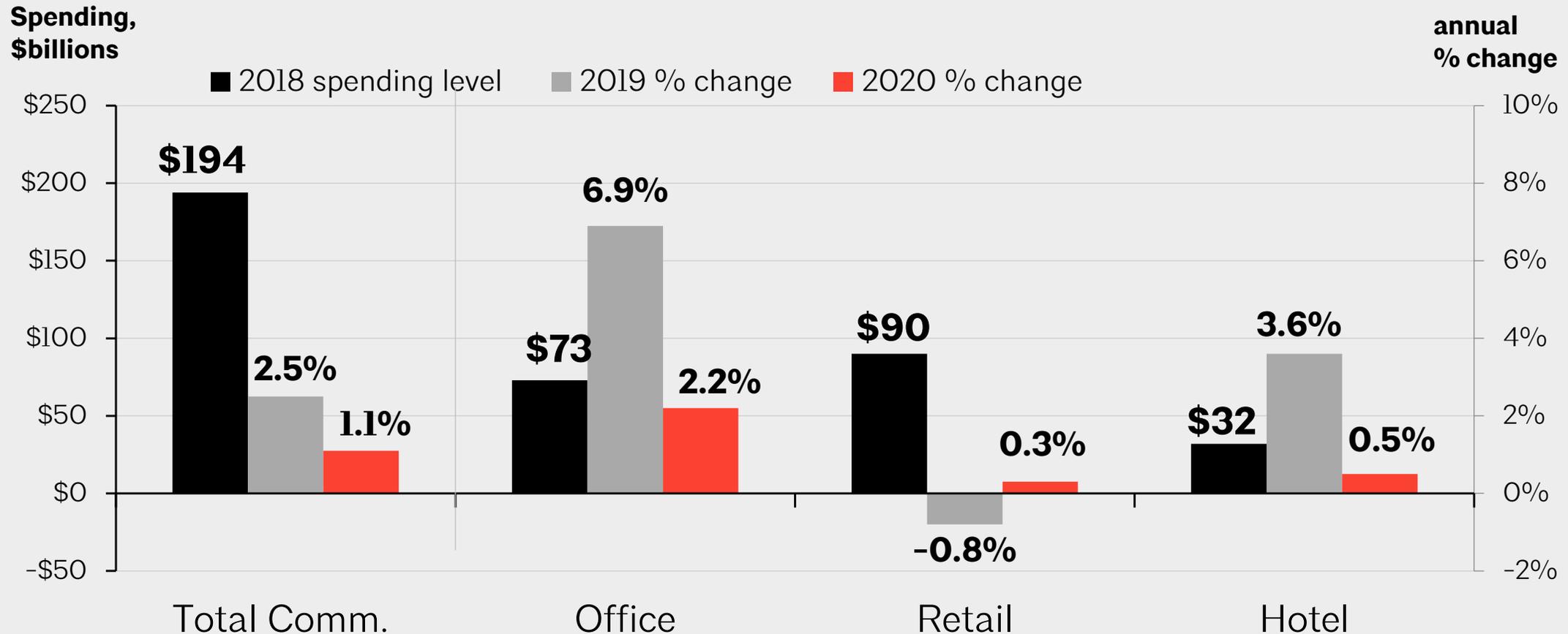
Overall nonresidential building activity projected to remain healthy this year, and then slower growth in 2020

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



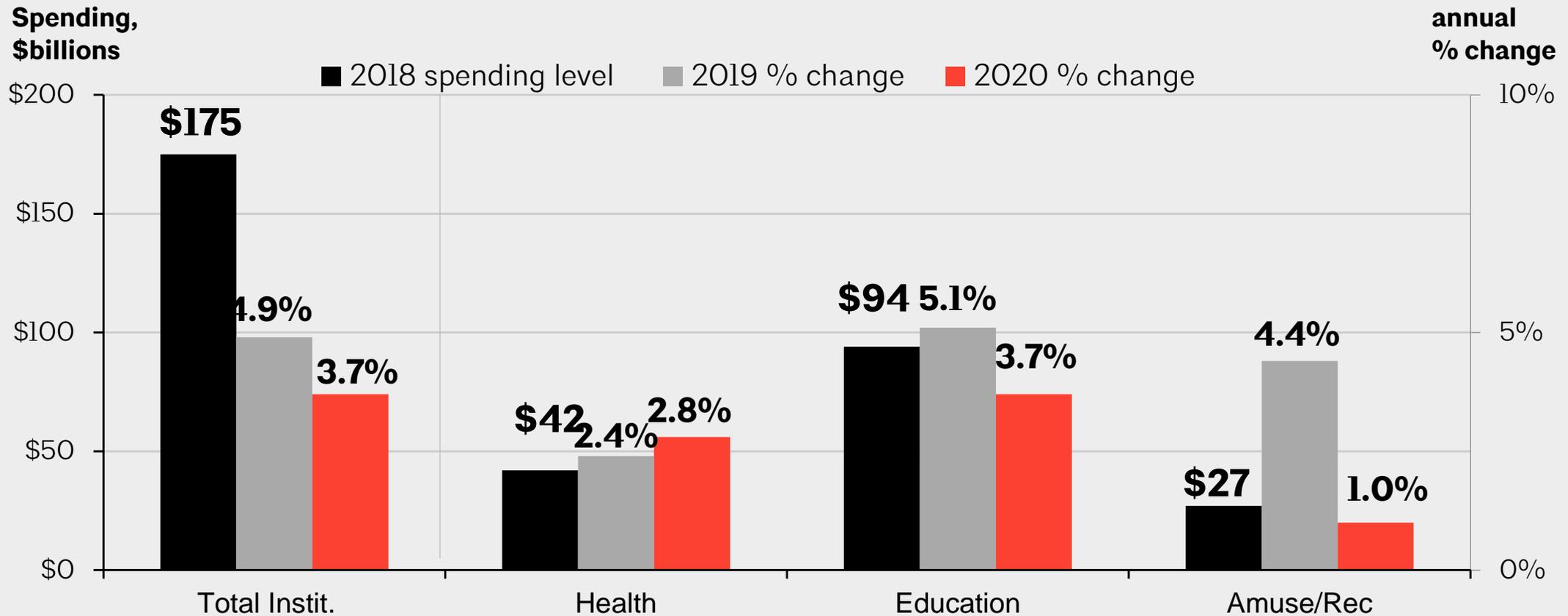
Commercial: Retail softens this year; all sectors projected to see weakness moving into 2020

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



Institutional: Generally, moderate growth this year; slower growth in 2020

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



**What's on the mind of
architecture firm leaders?**

**What are your members
telling you?**



Issues and opportunities facing architecture firms



- Knowing when to act and how to act



- Managing office morale



- Identifying opportunities in a downturn & preparing for the next growth phase

Issues and opportunities facing architecture firms



- Knowing when to act and how to act



- Managing office morale



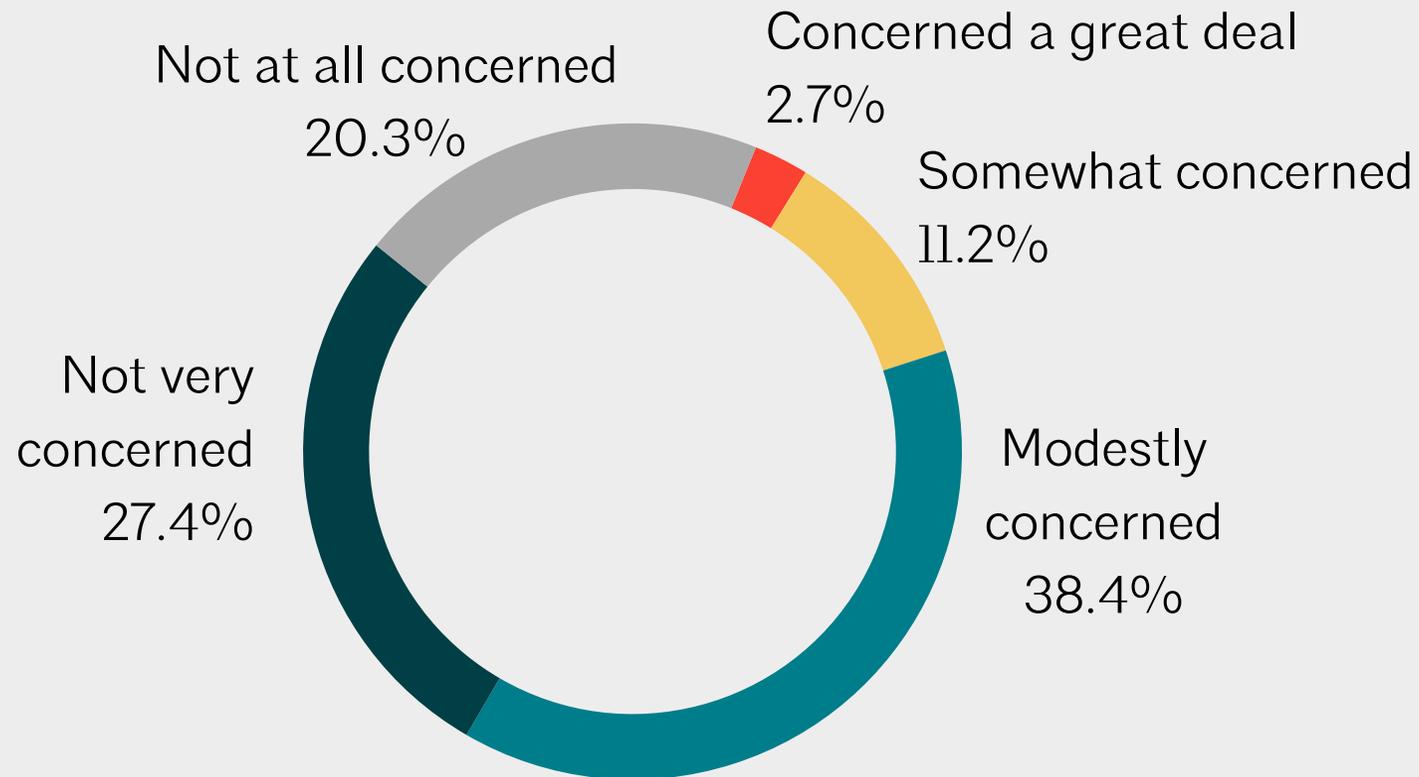
- Identifying opportunities in a downturn & preparing for the next growth phase

Keep your eye on the most useful indicators

- **General business climate indicators**
(e.g. stock prices, interest rates, confidence scores)
- **Design/construction industry indicators**
(e.g. design activity, construction activity, construction costs, building rents and occupancy rates)
- **Business activity at firm**
(e.g. revenue, profits, staff chargeability)

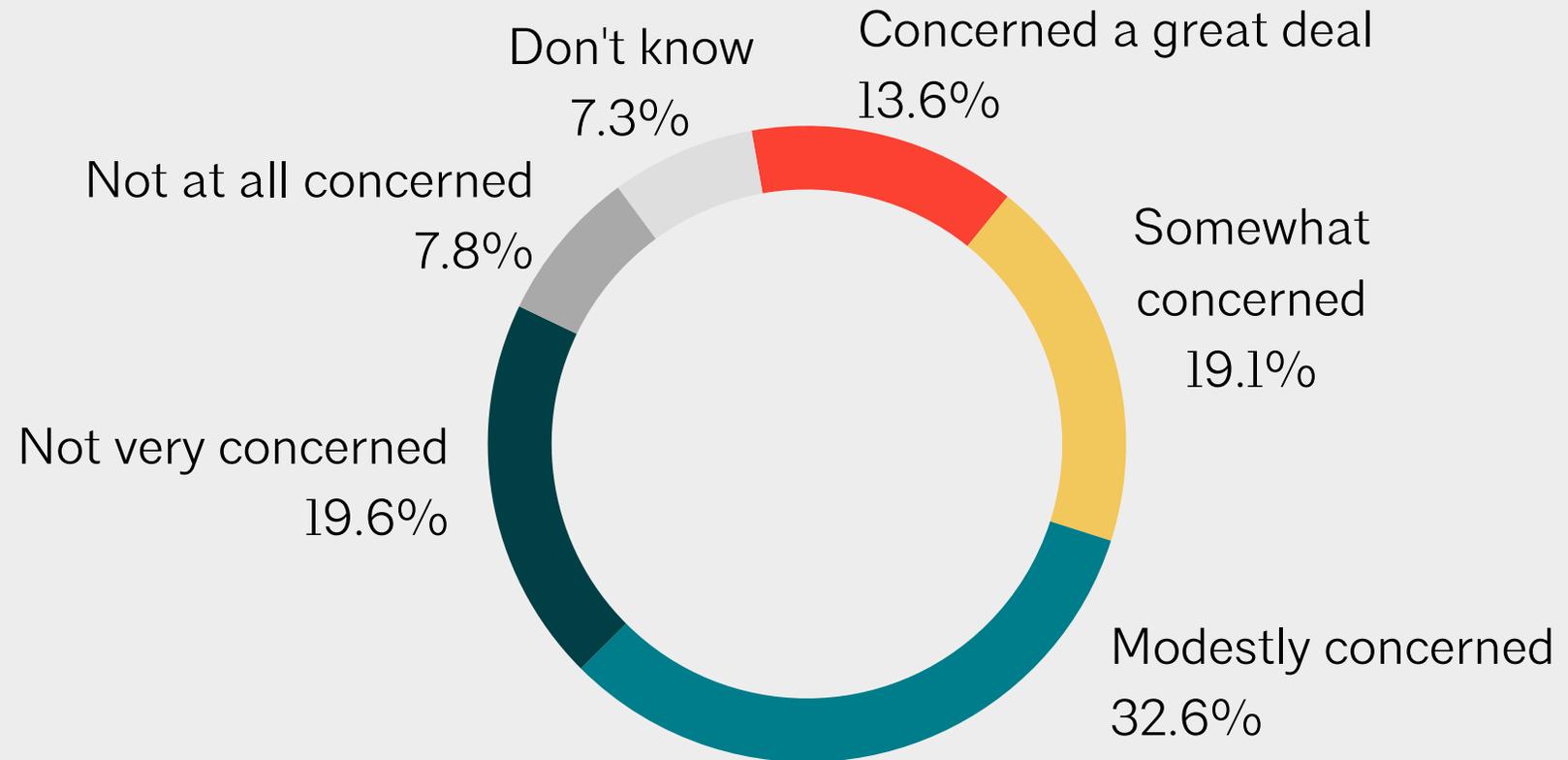
Architects generally report that their clients are not very nervous at present about the economic outlook

Extent that concern regarding economic outlook is affecting current clients
(percent of respondents)



Architects report that their clients are modestly concerned about tariffs and trade retaliation

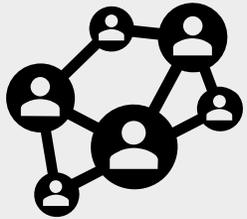
Extent that concern among major clients regarding tariffs and trade
(percent of respondents)



Issues and opportunities facing architecture firms



- Knowing when to act and how to act



- Managing office morale



- Identifying opportunities in a downturn & preparing for the next growth phase

Firms are offering expanded benefits to retain staff

Offer Health Insurance

95%

(up from 93% in 2016)

Pay a portion of AIA dues

94%

(up from 89% in 2016)

*77% pay them in full

Support emerging professions

- 81% pay for licensure
- 78% pay membership dues (other than AIA)
- 70% offer paid time off for professional development
- 65% pay for ARE prep materials

Firms are looking to improve firm culture

Offer workplace benefits

- 90% have **casual dress**
- 87% have **remote workers**
- 83% offer **flexible work hours**
- 63% offer **parental flexibility**
- 27% **child-friendly offices**
- 27% shorter **summer/seasonal hours**

Encourage a culture of diversity, equity, and transparency

- 88% have a **formal performance review** process
- 80% have specifically hired, promoted, and/or mentored **employees with diverse backgrounds**
- 36% conducted an **salary equity assessment** based on gender/race
- 27% **transparent promotion and compensation practices**

Issues and opportunities facing architecture firms



- Knowing when to act and how to act



- Managing office morale

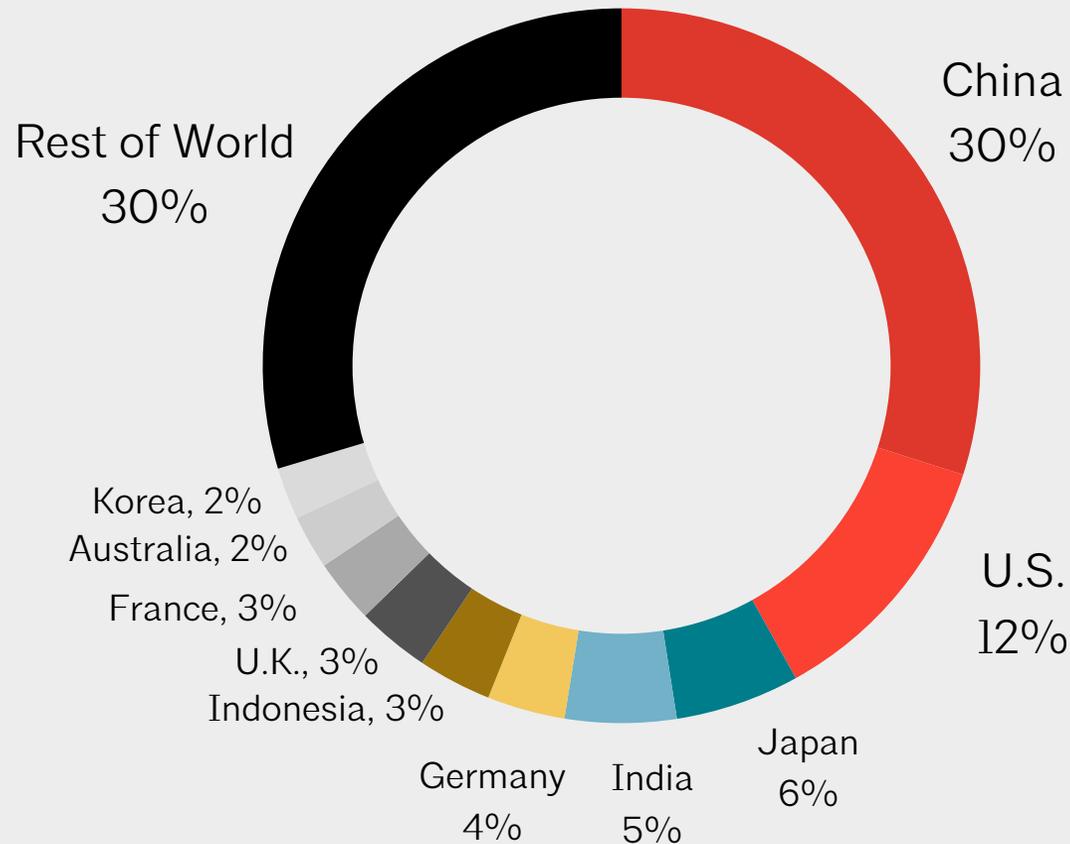


- Identifying opportunities in a downturn & preparing for the next growth phase

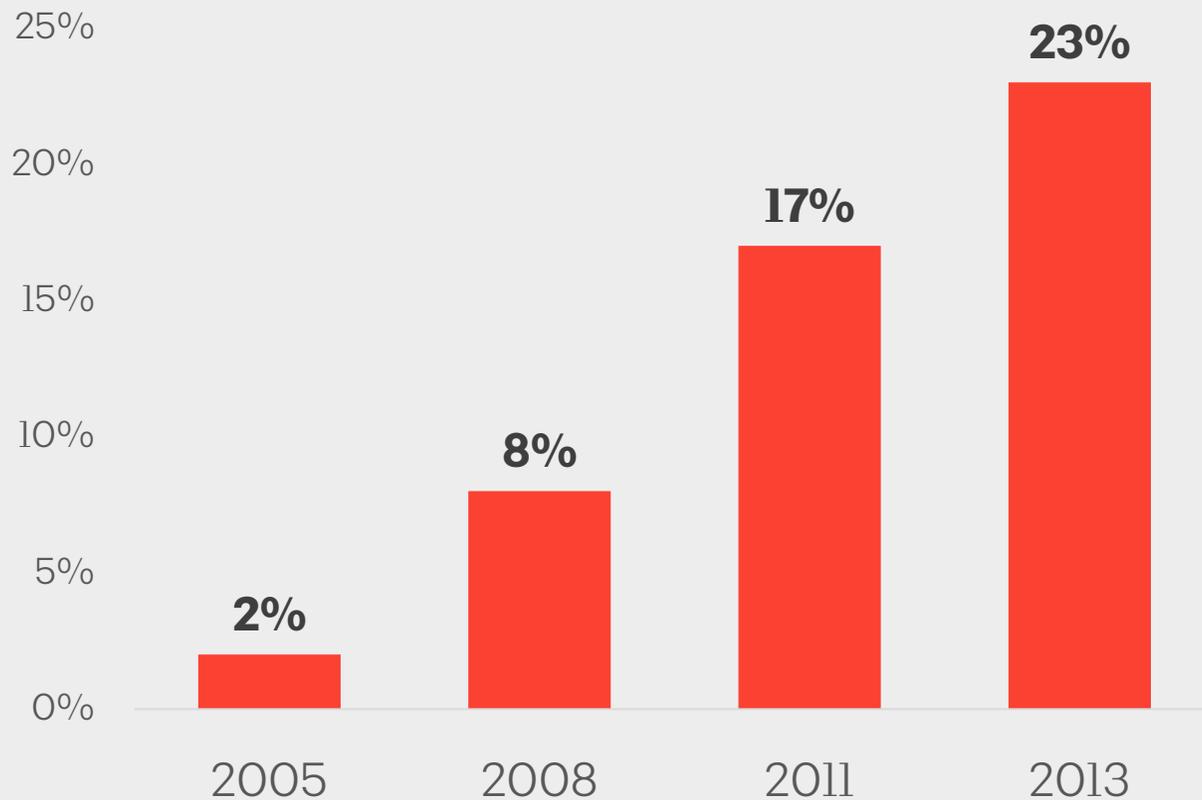
With U.S. accounting for only small share of international construction, global design opportunities are widespread

Top 10 countries account for 70% of \$10+ trillion international construction market.

Share of Global Construction Spending, 2017 (Percent)



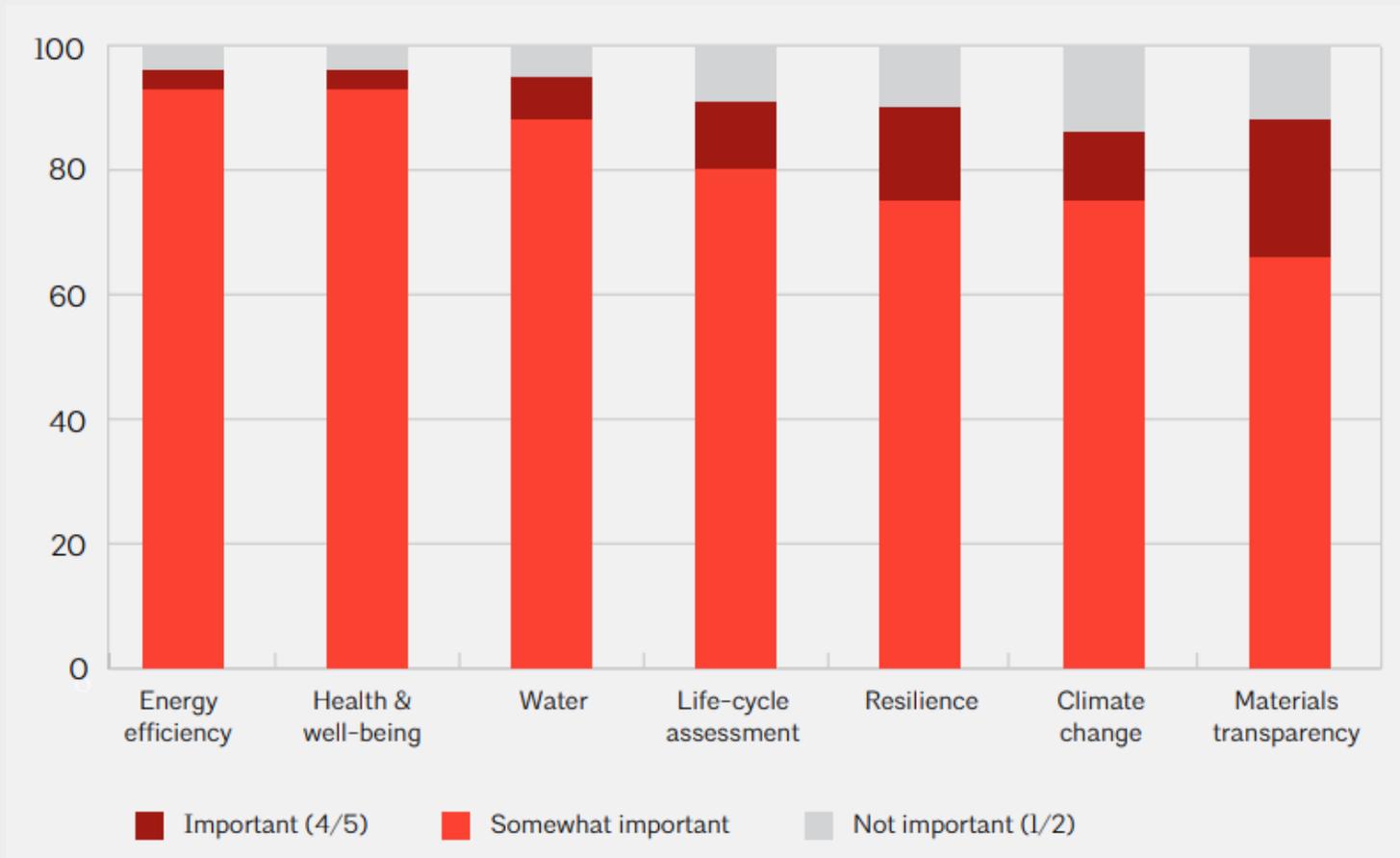
Green building as a share of market grew in the Great Recession...



...making a downturn a ripe time for deeper sustainable design activity

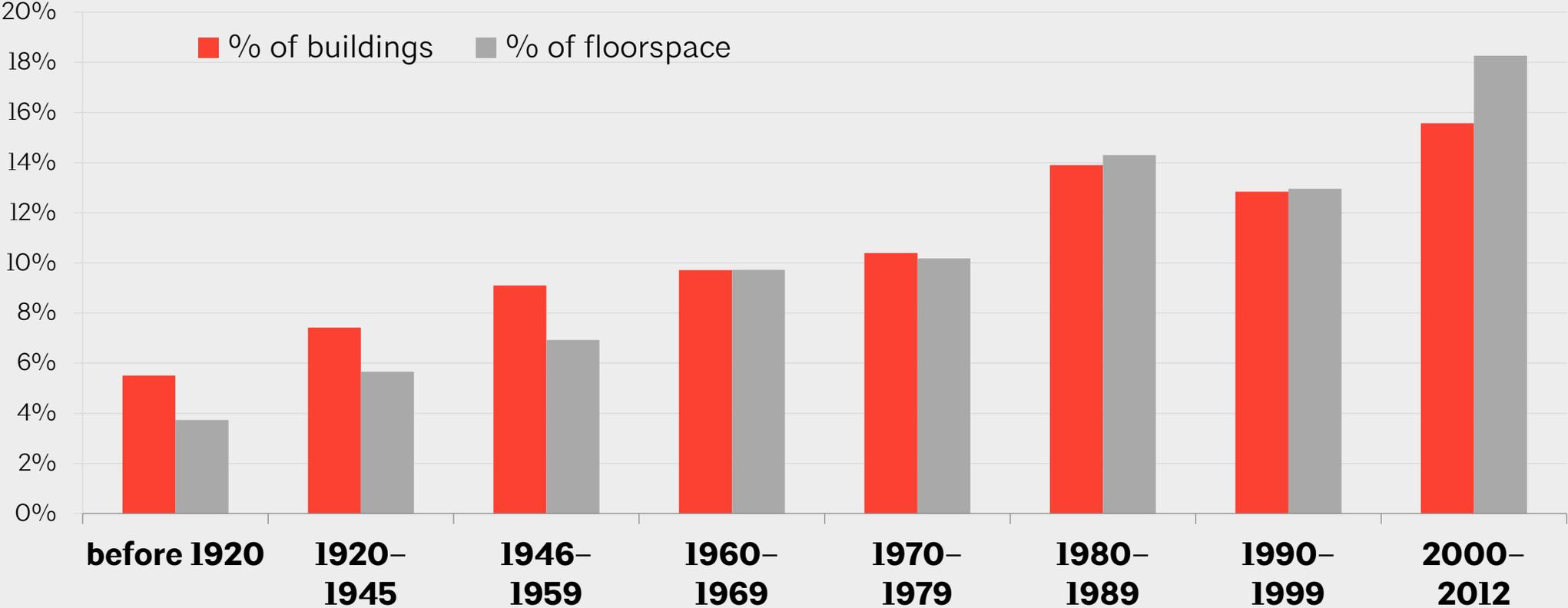
Members feel that sustainability is important

Importance of sustainability areas



U.S. building stock—half built prior to 1980 provide ample opportunity for existing building improvements

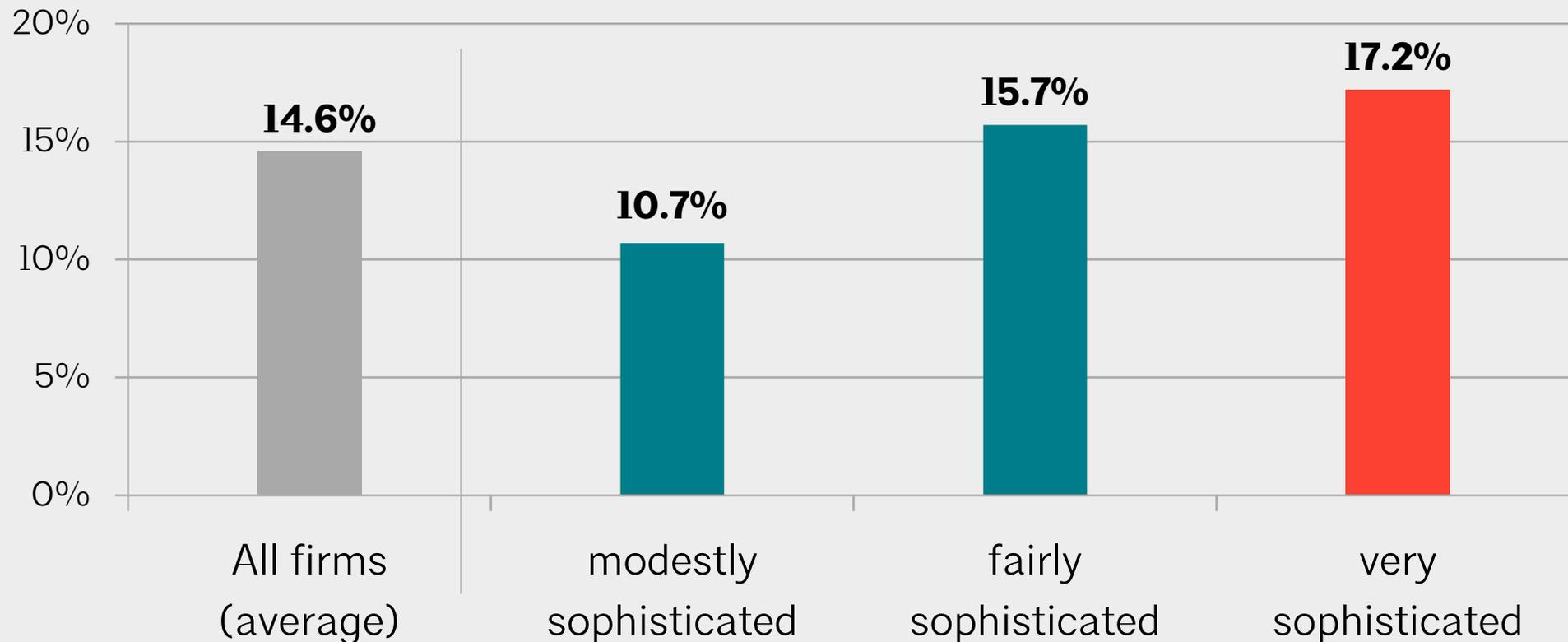
Share of nonresidential buildings by age of building



Source: U.S. Department of Energy, Energy Information Administration, 2012 Commercial Building Energy Consumption Survey (CBECS)

Technologically advanced architecture firms have been more profitable

2018 profitability by perceived technological sophistication, average % across all firms



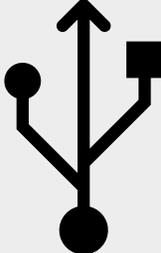
Preparing for the future

Looking forward...

**Pay
attention to
fundamentals**



**Prepare for
technology
disruptions**



**Eye the
workforce of
the future**

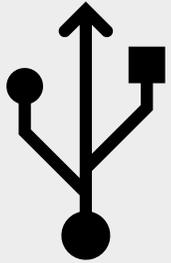


Pay attention to fundamentals



- Get your financials in order
- Right-size staff
- Ensure strong base services
- Stay nimble

Prepare for technology disruptions



OFFSITE CONSTRUCTION PROCESSES
e.g. prefabrication; modularization; preassembly



ARTIFICIAL INTELLIGENCE/ MACHINE LEARNING
Used to generate best practices; prototypes



BIG DATA/ PREDICTIVE MODELING
Monitor consumer behavior; construction processes; project history



VIRTUAL/ AUGMENTED REALITY/ REAL-TIME RENDERING
Visualize, test, validate designs



ROBOTICS/ AUTOMATION/ DRONES/ INDUSTRIALIZED DESIGN
Improve productivity in construction



3D PRINTING
Design models, on-site production of construction products



AUTONOMOUS VEHICLES
Affecting building designs, use of space; locational choices



ENHANCED CONSTRUCTION MATERIALS
Specially cured concrete; smart fenestration, microbiology, nanotechnology



INTERNET OF THINGS
Sensors, data to control systems

**Eye the
workforce of
the future**



Time to get ready for Gen Z (born ~1998-2012)

- **Different health crises.** High obesity, depression, sleep deprivation, and technology addiction will disrupt workplaces.
- **Education, idealism and money.** Pragmatism vs. idealism. What does this mean? Are they in conflict or powerful partners?
- **Constant contact—sort of.** This group is more connected than ever—but not in person. What does this mean?
- **It's all about sharing.** Privacy and IP? Not so much.

Thank you!

michelerusso@aia.org

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