

NAREC Year-End Conference

**Deloitte 2024 Commercial real estate outlook
& market update**

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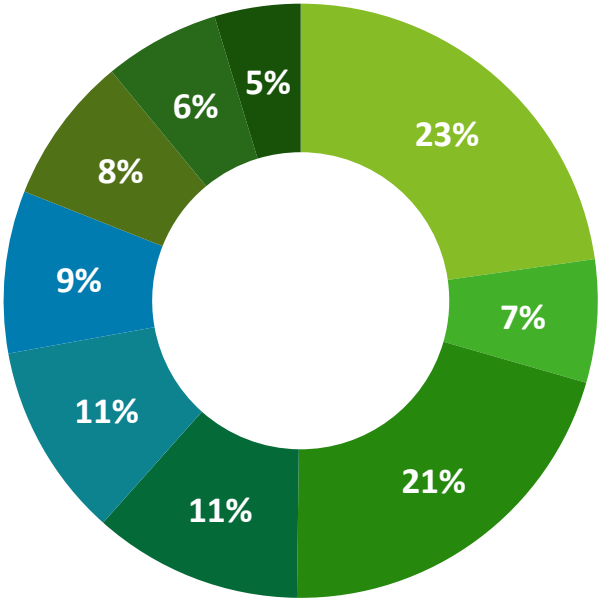
Real Estate research leader, Deloitte Services LP



2024 Commercial real estate update: Finding terra firma

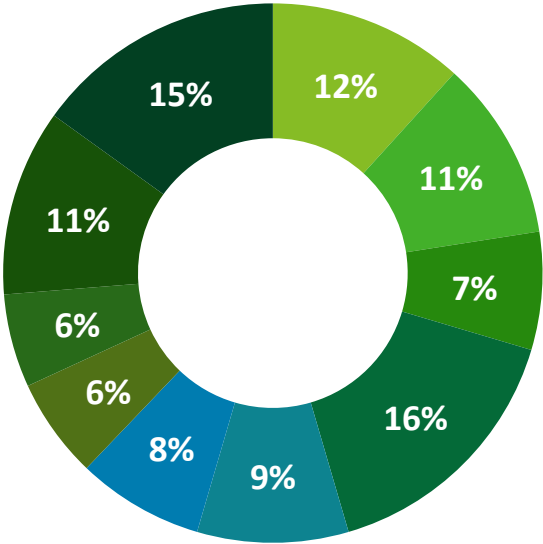
Survey Methodology

Investor/Owner Type



- REITs
- Other Owners
- Pension Fund
- Bank
- Investment management
- REOCs
- Private Equity
- Sovereign Wealth Fund
- Insurance

Property Type



- Office
- Industrial
- Specialty Residential
- Life Sciences
- Digital Economy
- Retail
- Residential
- Hospitality
- Self-storage
- Diversified

750

Respondents

Regions

North America

US
Canada

Europe

France
Germany
Spain
The Netherlands
United Kingdom

Asia/Pacific

Australia
Japan

Mainland China
Singapore

Assets under management

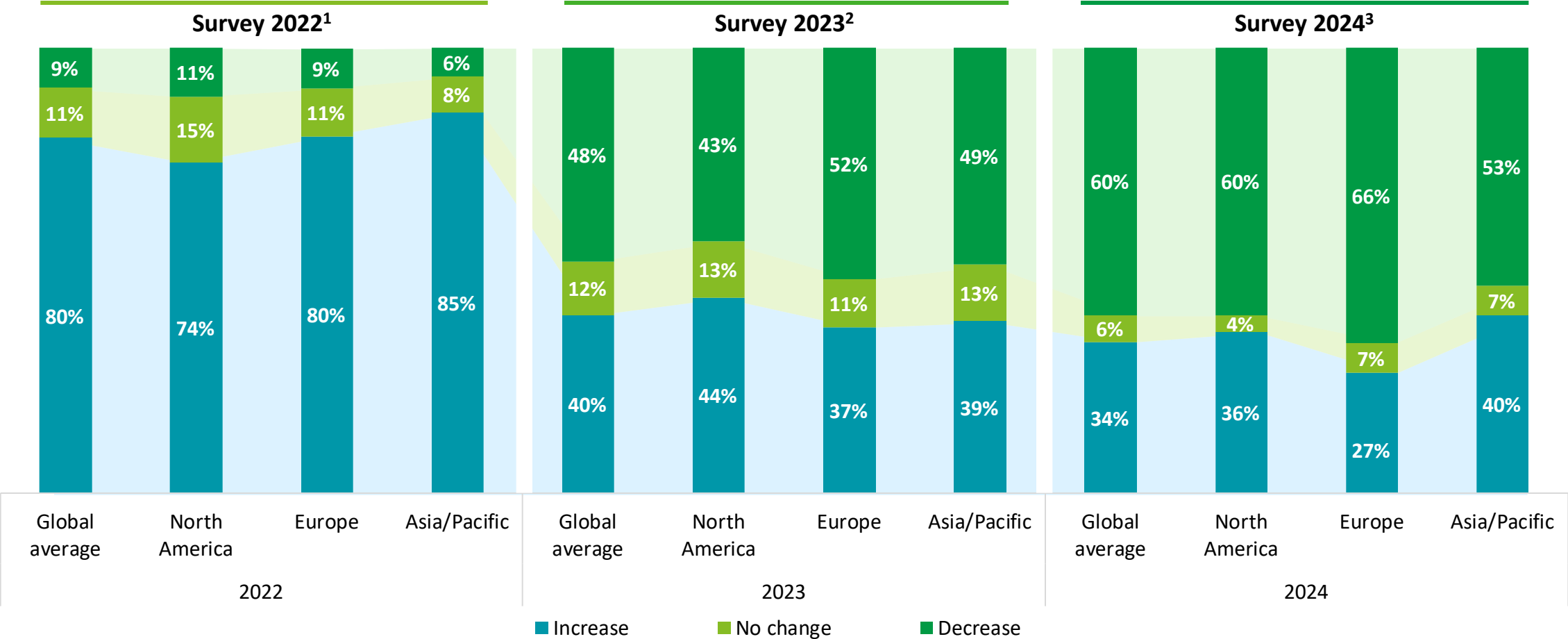
Small: \$50mn – \$5bn

Mid: \$5bn – \$15bn

Large: \$15bn – \$ 40bn+

Across regions, most respondents are bracing for lower revenues in 2023

What is your revenue forecast for the remainder of this year compared to last year?



Note: Percentages may not add up to 100% due to rounding; results compared against prior years' 2022 and 2023 Real Estate Outlook Survey responses
Source: ¹The Deloitte Center for Financial Services 2022 Real Estate Outlook Survey; ²The Deloitte Center for Financial Services 2023 Real Estate Outlook Survey; ³The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

Macroeconomic factors and cyber risk among top concerns for respondents through 2024

Which poses the greatest risk to your institution’s financial performance over the next 12 to 18 months?

Global survey 2023 ranking ¹	Global survey 2024 ranking ²		Survey 2024 ²		
			North America	Europe	Asia/Pacific
3	1 ▲	Cyber risk	1	1	7
4	2 ▲	Climate-related regulatory action	2	3	3
13	3 ▲	Rising interest rates	7	4	5
2	4 ▼	Sustained high inflation	3	5	9
n/a	5 ▬	Cost of capital	4	6	8
5	6 ▼	Supply chain disruptions	8	9	4
12	7 ▲	Regional political instability	11	2	2
n/a	8 ▬	Redemption queues/Short-term liquidity concerns	13	7	1
n/a	9 ▬	Capital availability	6	11	11
7	10 ▼	Climate change	9	10	10
6	11 ▼	Accelerating technology capabilities	14	8	6
14	12 ▲	Currency volatility	5	13	15
n/a	13 ▬	Employee retention	10	12	14
8	14 ▼	Changes in tax policies	12	14	13
n/a	15 ▬	Talent acquisition	15	15	12

Notes: Respondents could make multiple selections; “n/a” indicates response options that were not included in last year’s survey; results compared against prior year's 2023 Real Estate Outlook Survey responses.
Source: ¹The Deloitte Center for Financial Services 2023 Real Estate Outlook Survey; ²The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey

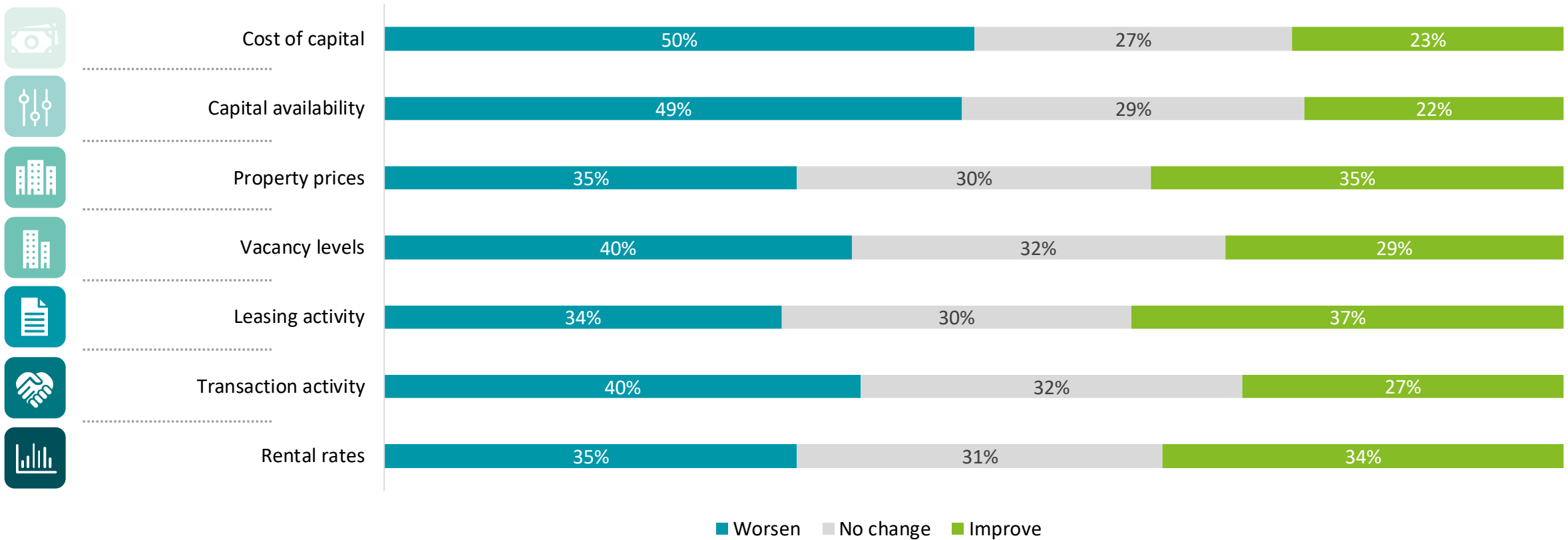
Global respondents preferred digital economy and single-family rentals/build-to-rent properties

Which asset classes present the most attractive opportunity for real estate owners and investors over the next 12 to 18 months?

Rankings				
	Global	North America	Europe	Asia/ Pacific
 Digital economy	1	1	1	1
 Single-family rentals/Build-to-rent	2	9	2	5
 Senior care	3	7	3	2
 Logistics & warehousing	4	2	5	3
 Life Sciences/Biotech	5	6	4	7
 Industrial	6	5	7	4
 Office suburban	7	3	6	8
 Self-storage	8	4	11	9
 Multifamily	9	8	10	12
 Office downtown	10	11	9	10
 Neighborhood retail	11	10	12	6
 Hotel/Lodging	12	13	8	13
 Malls	13	12	14	11
 Student housing	14	14	13	14

More respondents expect fundamentals to worsen than compared to all prior Real Estate Outlook surveys

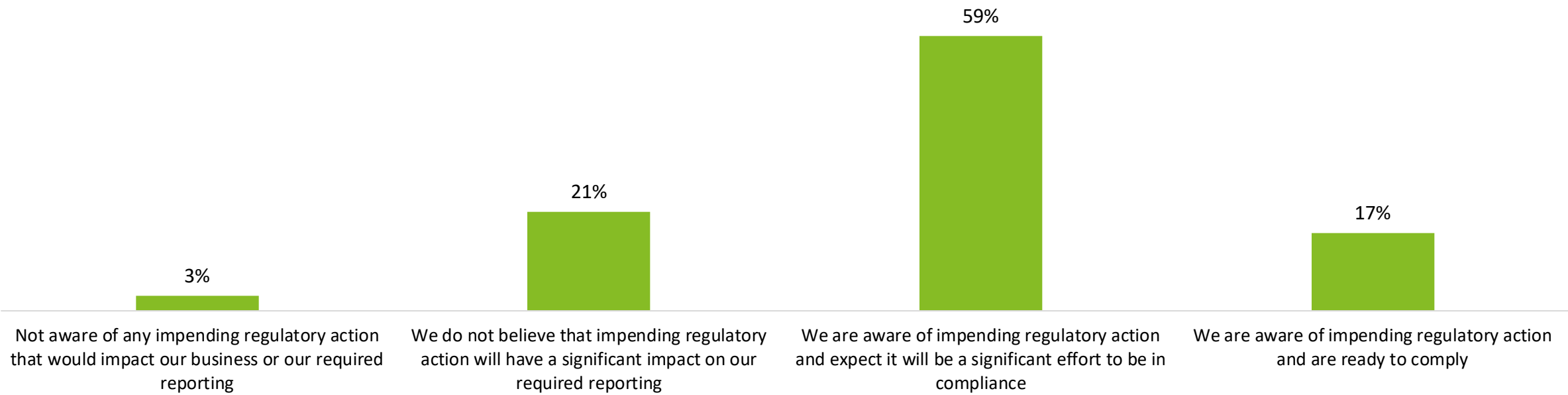
How do you expect each of the following aspects of real estate fundamentals to change over the next 12 to 18 months compared to current levels?



Note: Percentages may not add up to 100% due to rounding.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

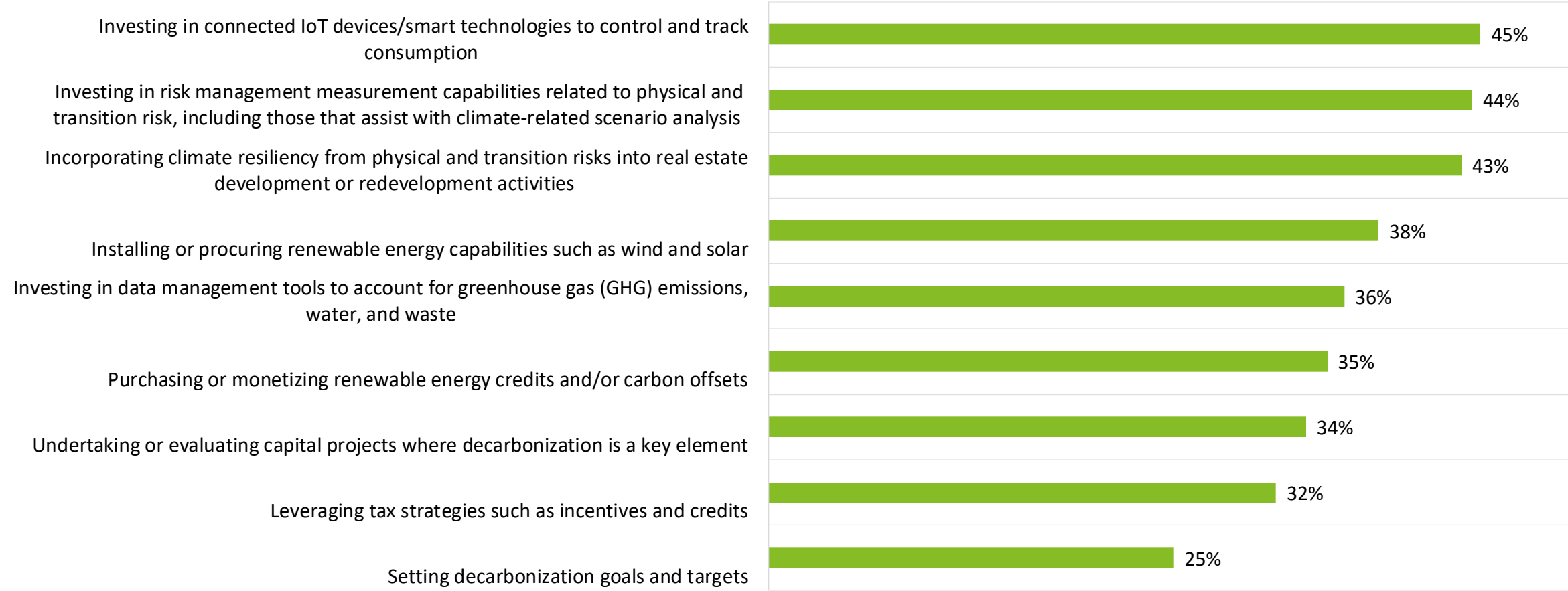
ESG regulations and compliance: Are real estate companies ready?

How prepared is your organization to comply with recent or final ESG related regulations or prepare information in accordance with standards and frameworks?



Note: Respondents could make multiple selections.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

Sustainability-related strategy initiatives respondent firms are most likely to take (next 12 to 18 months)

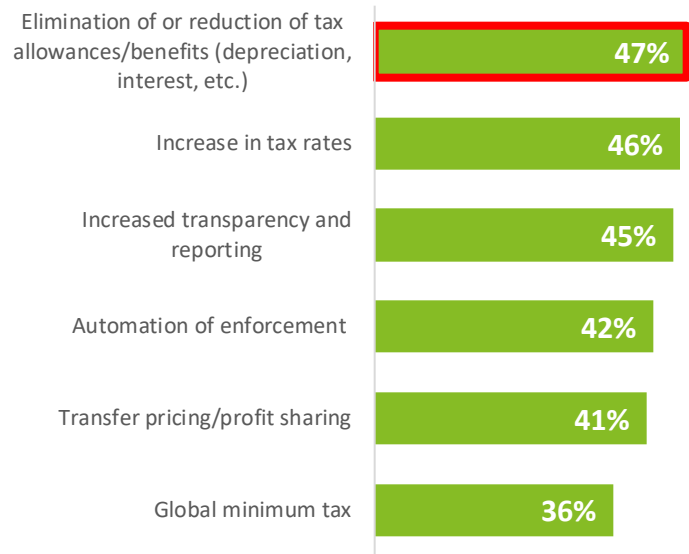


Note: Respondents could make multiple selections.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

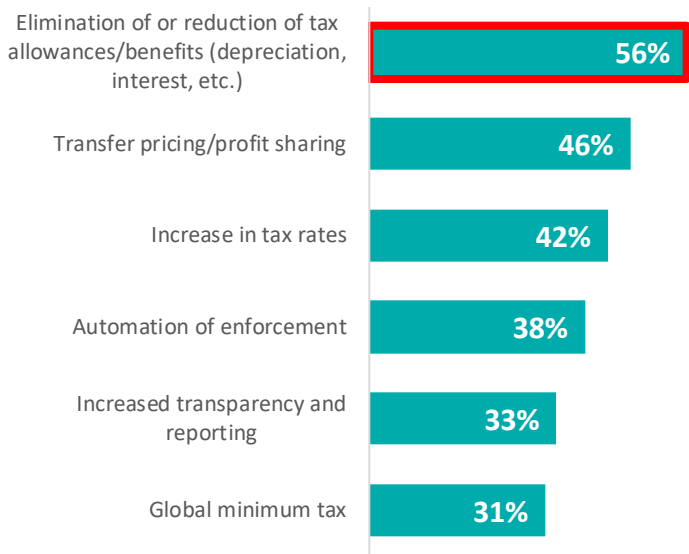
The potential elimination of tax allowances or benefits is top of mind for surveyed real estate CFOs



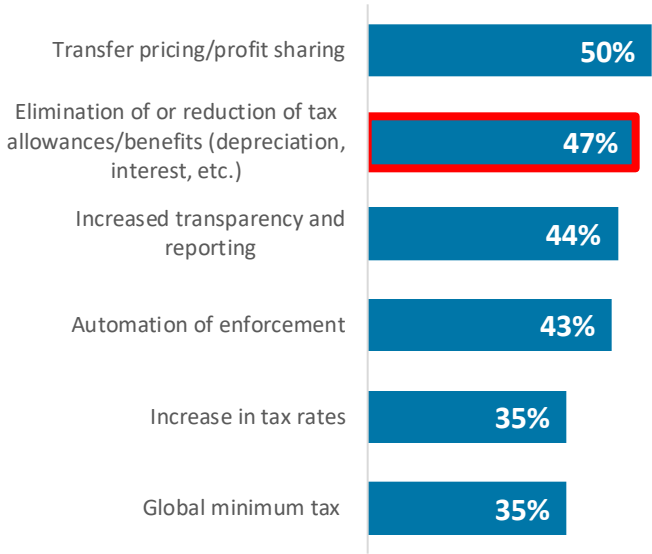
North America



Europe



Asia/Pacific



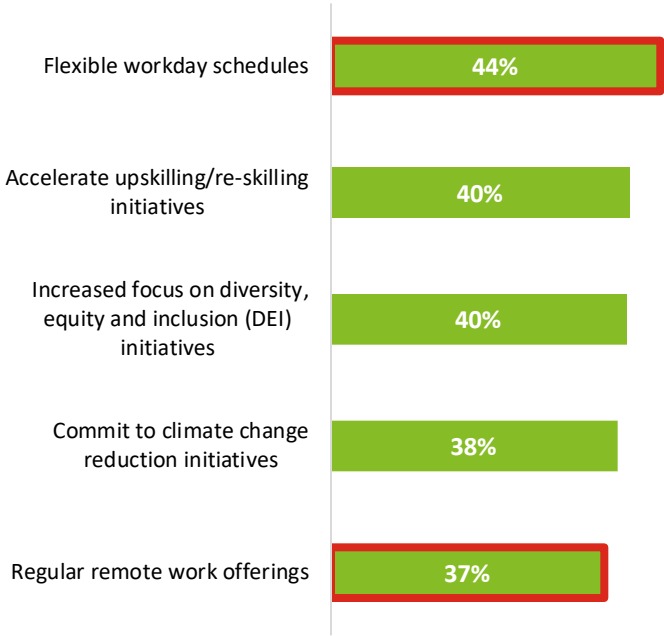
Note: Respondents could make multiple selections.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

Real estate leaders acknowledge the value of flexible schedules and remote work offerings

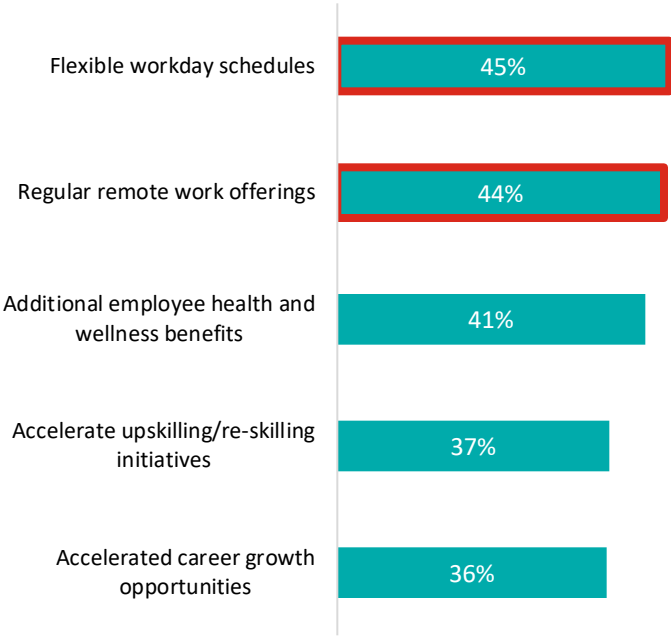
Which of the actions is your company most likely to take over the next 12 to 18 months to attract and retain talent?



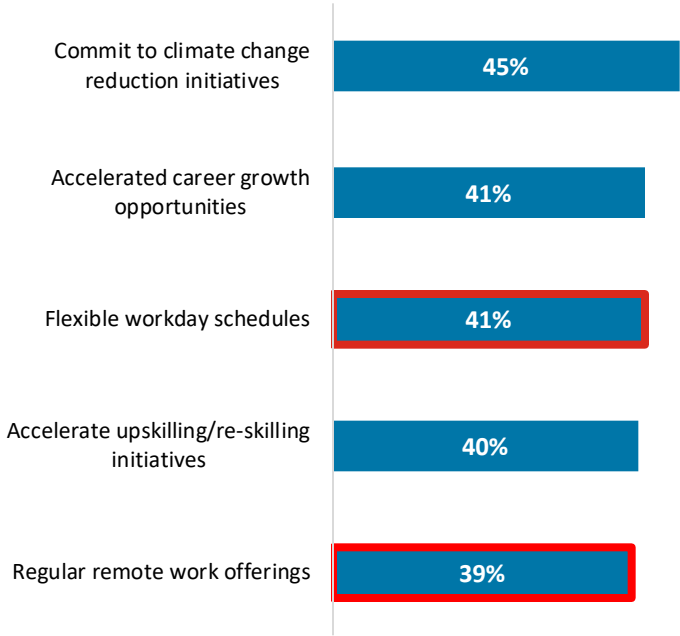
North America



Europe



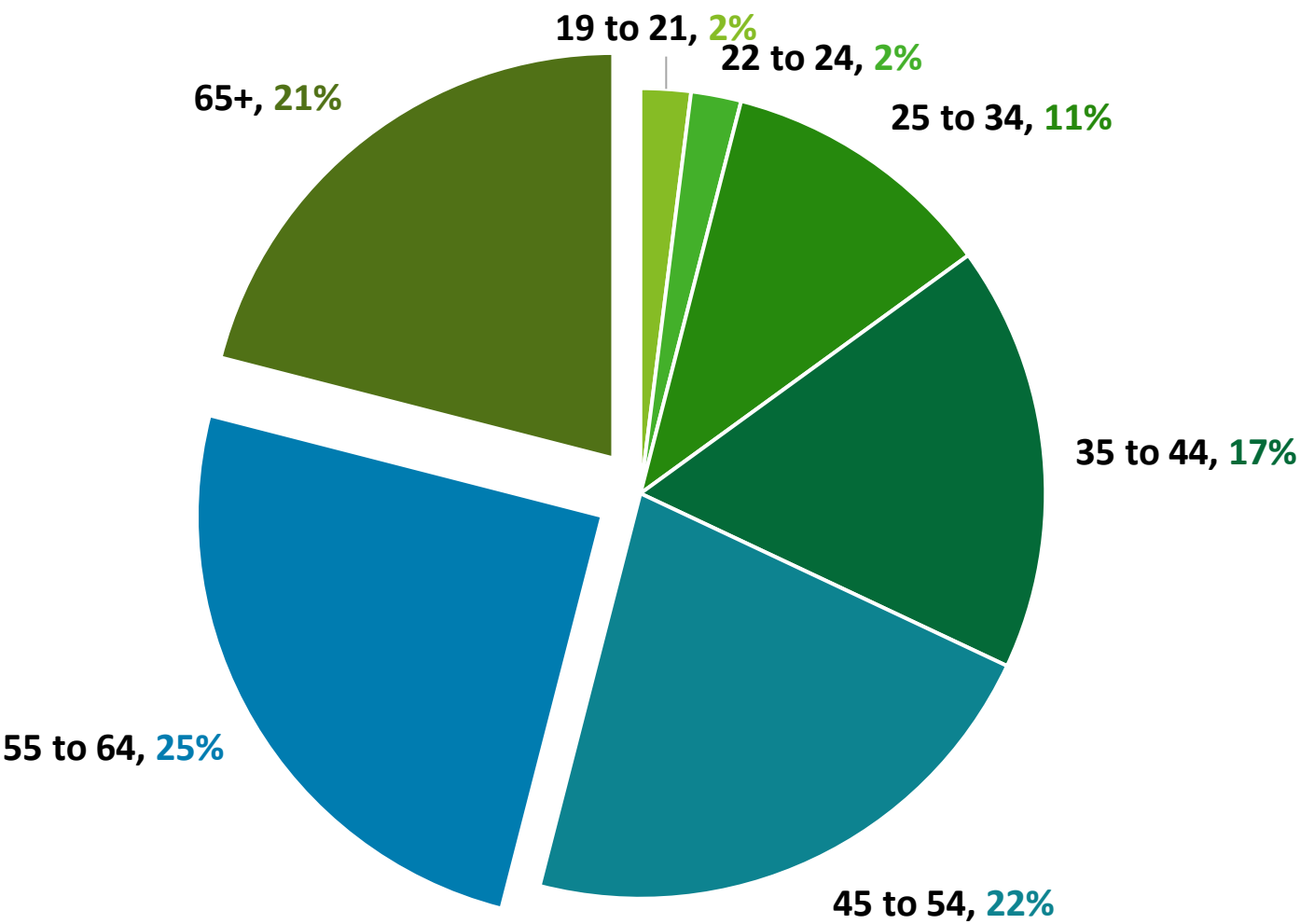
Asia/Pacific



Note: Respondents could make multiple selections.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

The aging commercial real estate workforce

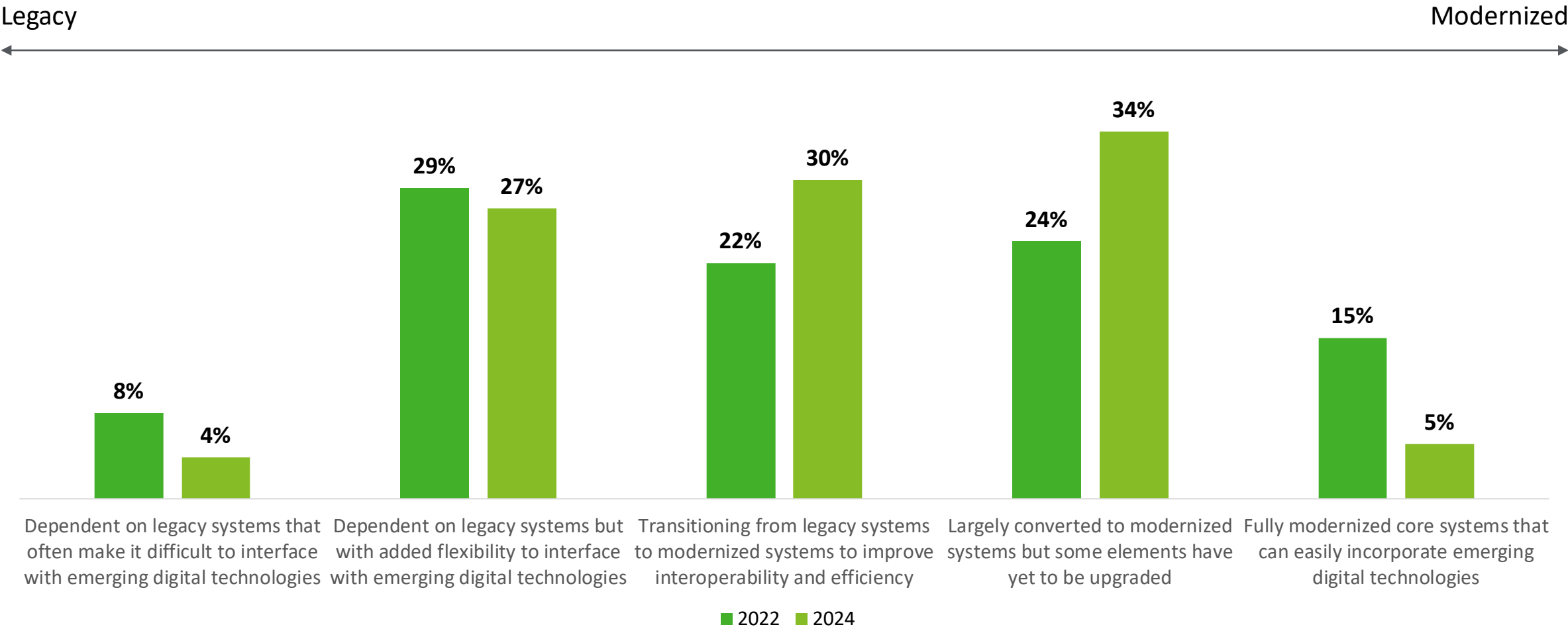
Nearly half of CRE employees are over the age of 55 – double the average from banking and insurance



Sources: Economic modeling specialists Int. (EMSI) database; Deloitte Center for Financial Services Analysis

More than half of real estate firms surveyed are still reliant on legacy technologies

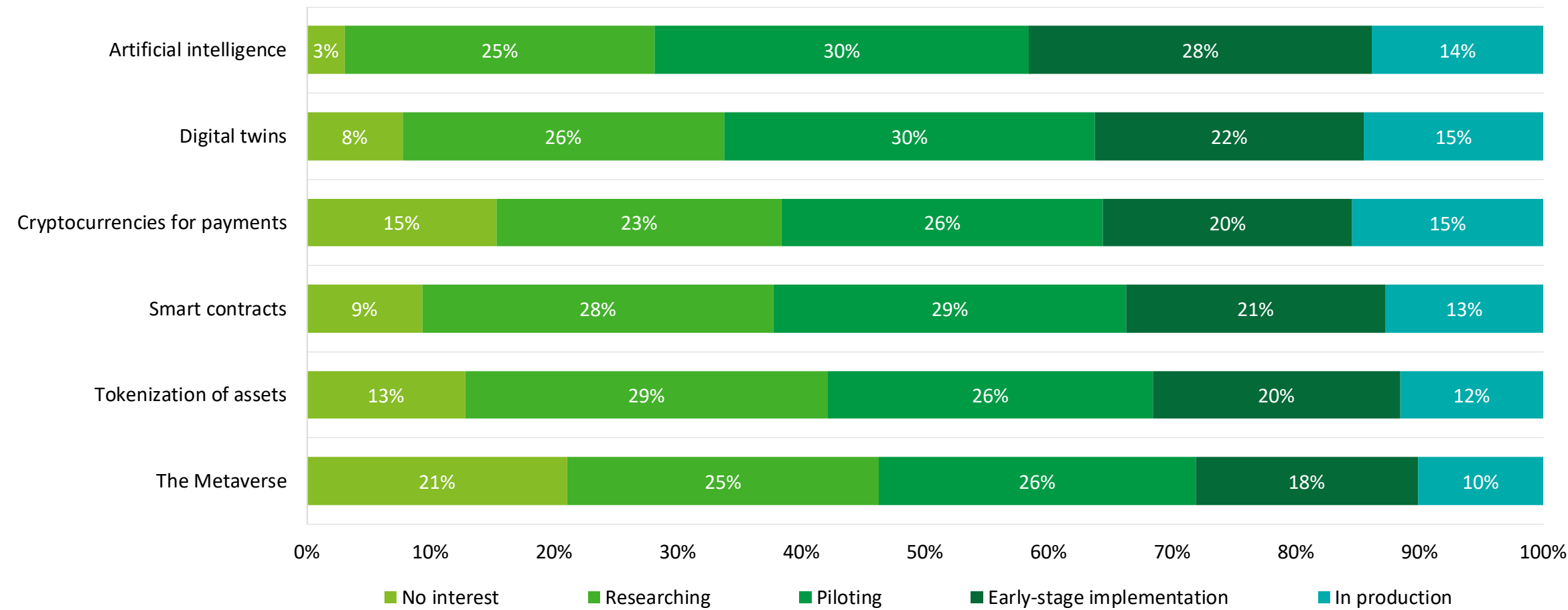
Which of the following statements is most applicable to your institution's core technology infrastructure?



Note: Results compared to 2022 Real Estate Outlook Survey responses as this question was not asked in last year's 2023 survey.
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

Real estate firms have been slow to embrace emerging technologies

Describe your company’s level of engagement with the following:

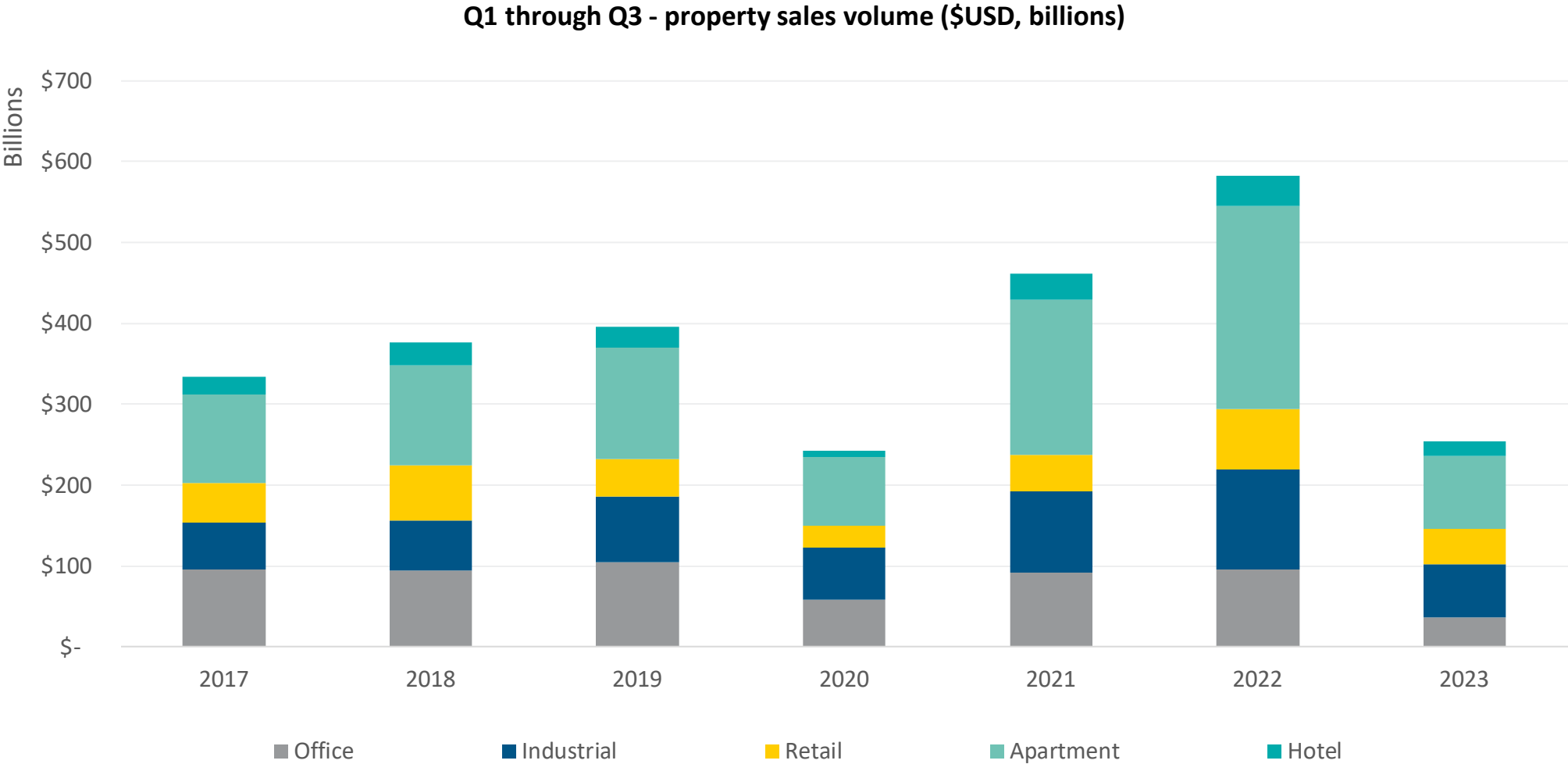


Note: Percentages may not add up to 100% due to rounding
Source: The Deloitte Center for Financial Services 2024 Real Estate Outlook Survey.

Capital markets and valuation update

Property sales dollar volume

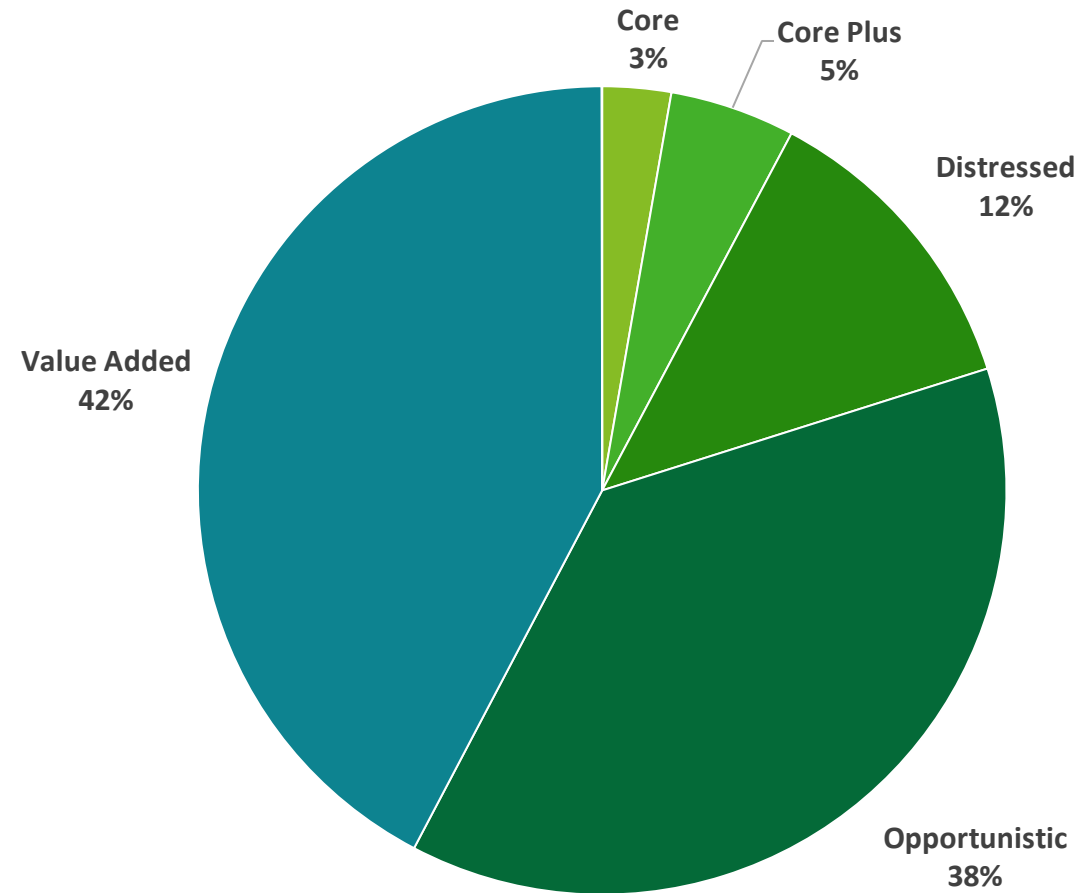
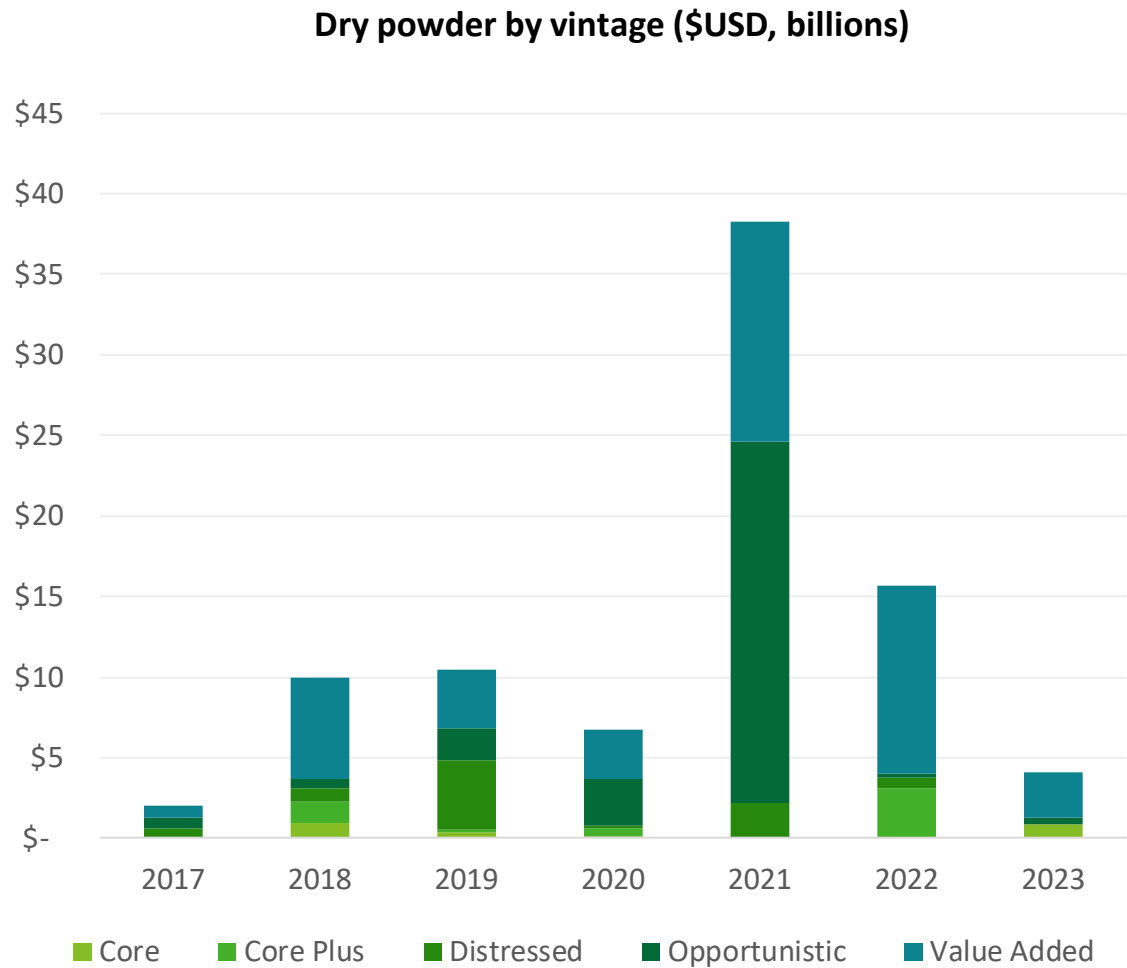
Office and apartment sectors lead in declines; total activity only barely outpaces Covid-era volumes



Source: MSCI Real Capital Analytics, data as of October 18, 2023.

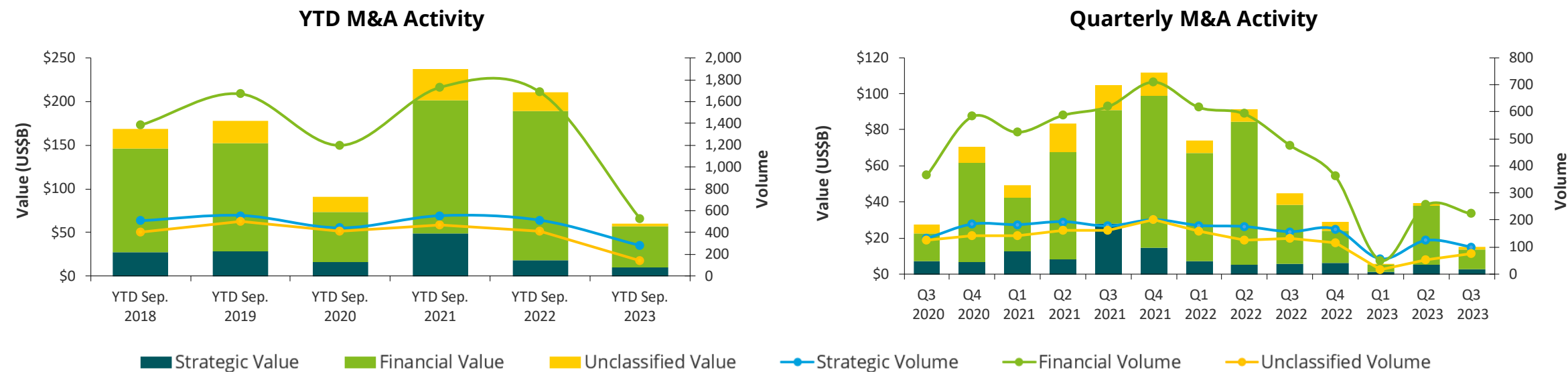
Real estate dry powder

Opportunistic & value-added strategies account for 80% of dry powder targets



Source: Pitchbook, data as of November 27, 2023.

US M&A Trends: Real Estate – Q3 2023



Top 10 US Transactions					
Date Announced	Buyer(s)	Buyer(s) Nation	Target	Target Primary Industry	Value (\$B)
04/03/23	Extra Space Storage Inc.	US	Life Storage, Inc.	Self-Storage REITs	16.1
05/23/23	Global Net Lease, Inc.	US	The Necessity Retail REIT, Inc.	Retail REITs	4.1
06/26/23	Prologis, Inc.	US	Blackstone Inc. (14MSF Blackstone Industrial Portfolio)	Real Estate Operating Companies	3.1
06/26/23	Mori Trust Co., Ltd.	US	SL Green Realty Corp. (49.9% interest in 245 Park Avenue)	Real Estate Operating Companies	2.0
08/28/23	Kimco Realty Corporation	US	RPT Realty	Retail REITs	2.0
05/23/23	Crow Family Holdings; Crow Holdings Capital Partners, LLC	US;US	EG Group Limited (Portfolio of 173 retail assets)	Real Estate Operating Companies	1.8
03/06/23	Realty Income Corporation	US	414 Single-tenant Convenience Store Properties in the U.S	Real Estate Operating Companies	1.5
08/28/23	KSL Advisors, LLC	US	Hersha Hospitality Trust	Hotel and Resort REITs	1.4
05/18/23	Regency Centers Corporation	US	Urstadt Biddle Properties Inc.	Retail REITs	1.4
04/20/23	Essential Housing Impact Partnership	US	Affordable Apartment Homes Across Eight States of US	Real Estate Operating Companies	1.2

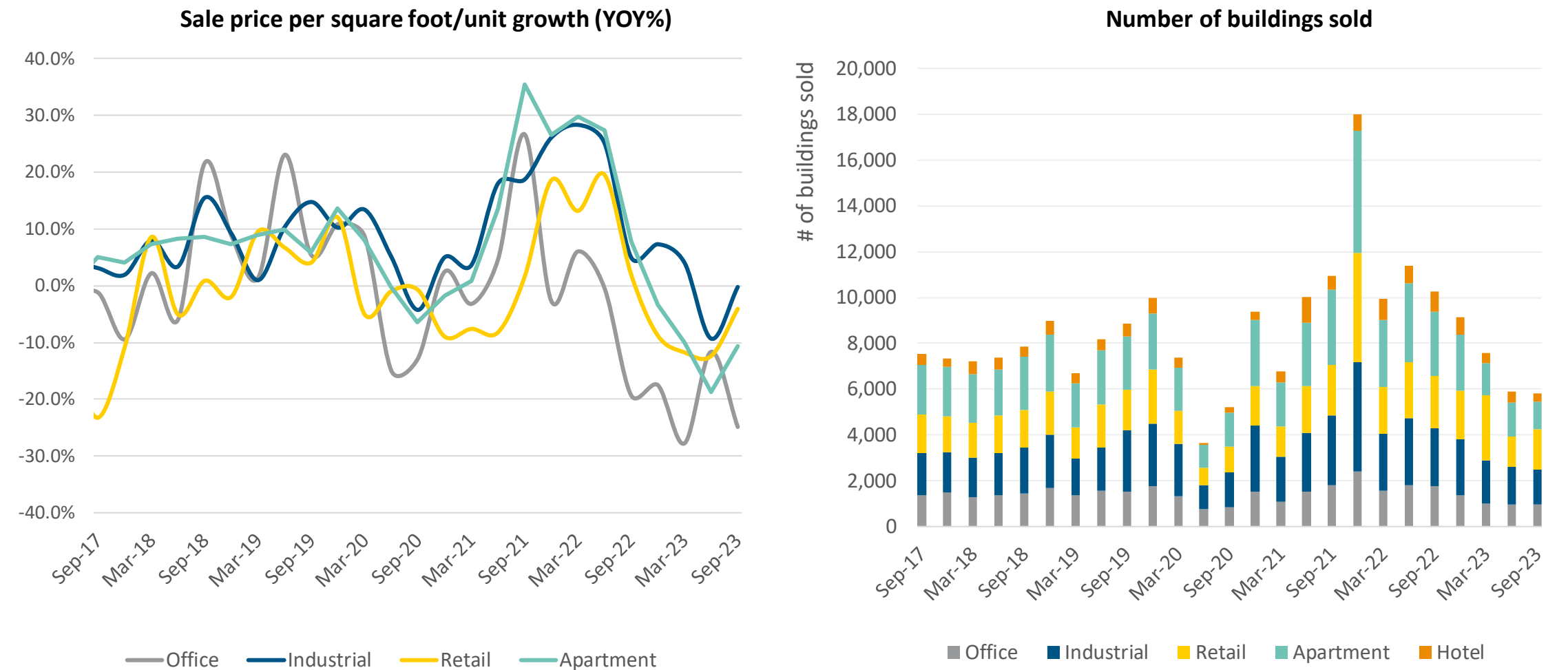
Note: Due to S&P's classification methodology, most REITs are considered as an investment firm, therefore, the relevant deals are categorized as 'Financial.'

Source: S&P Capital IQ

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Average sales price & number of buildings sold by property type

Volatile pricing as buyers and sellers struggle with discovery



Source: MSCI Real Capital Analytics, data as of October 18, 2023

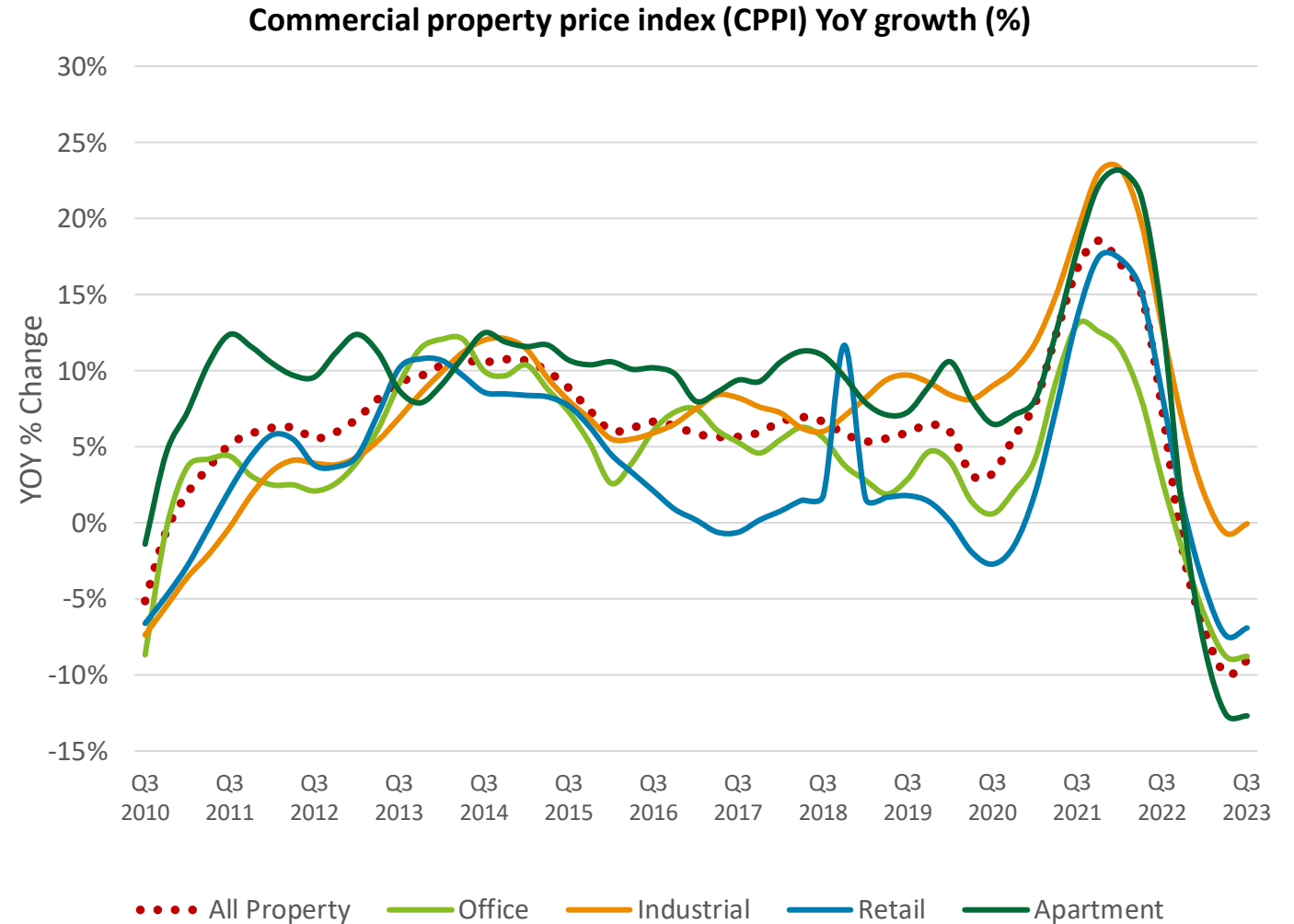
Property valuations

Estimated property valuations across property sectors plummet in 2023

Challenges with cost of financing deals weighs heavy on deal activity and pricing

Property valuations according to RCA's CPPI across all property types dropped by **9% YOY in Q3 2023** marking a decline for the fourth consecutive quarter.

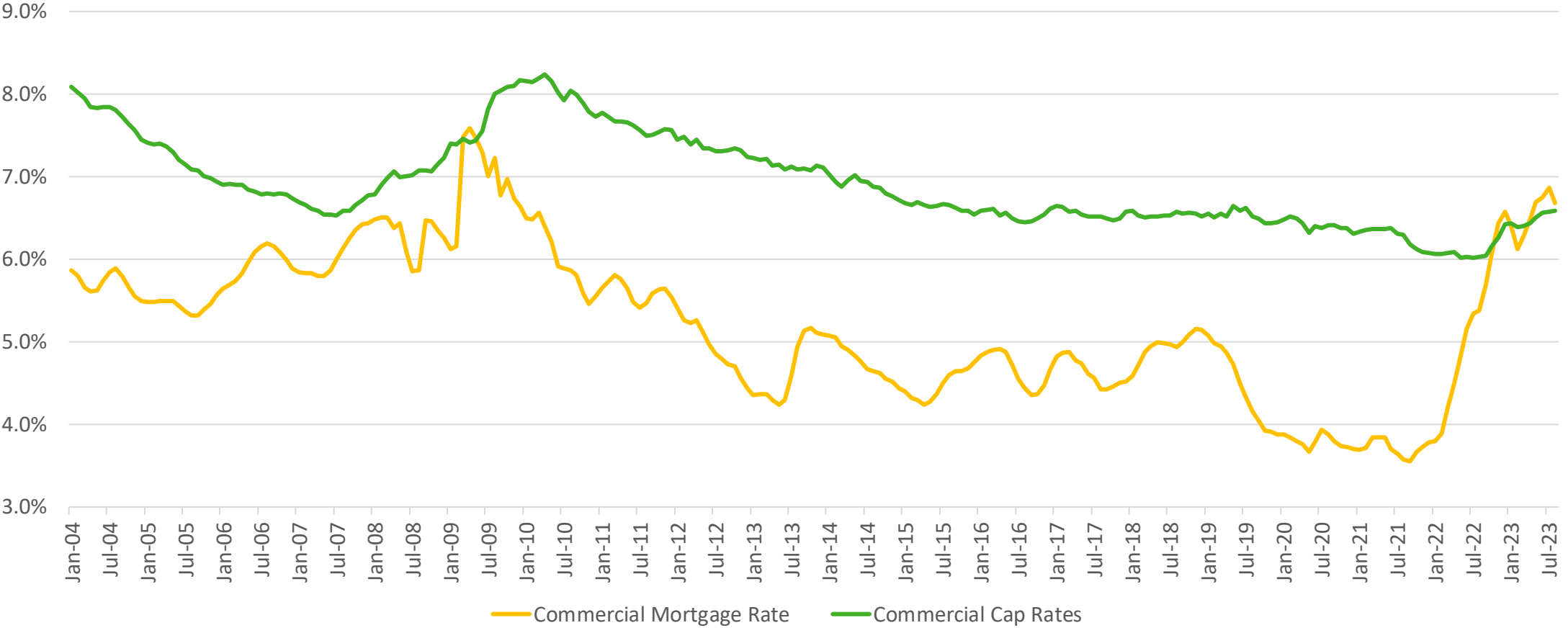
The multifamily sector was most impacted with a **12.7% YOY** drop in valuation, followed by office and retail recording 8.8% and 6.9% declines respectively. Industrial properties have held up best of the core property types as valuations remained flat from last quarter



Source: MSCI Real Capital Analytics US CPPI report, September 2023.

Welcome to negative leverage

Cost of debt exceeds cap rates for fifth straight quarter

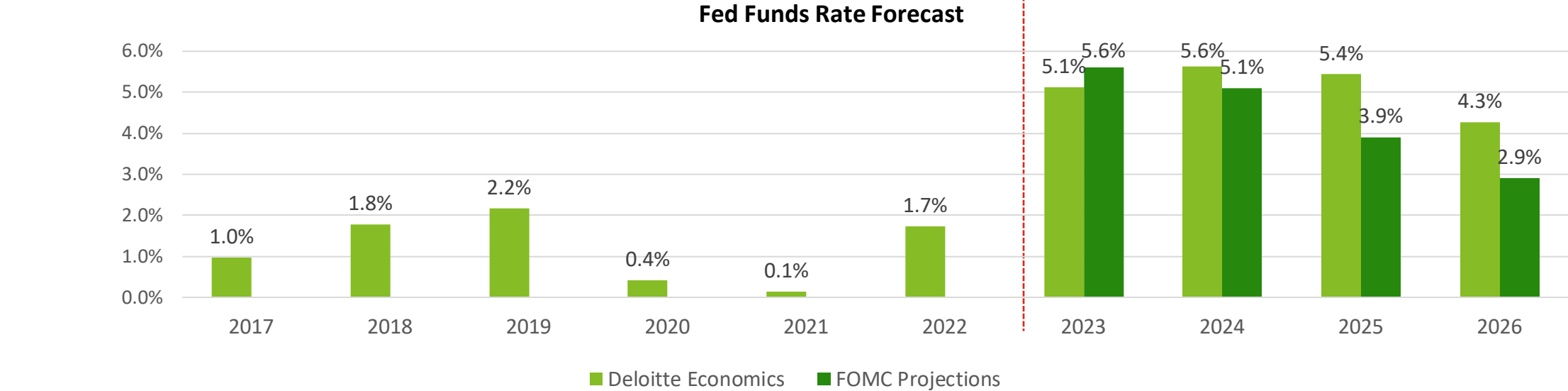


Source: MSCI Real Capital Analytics, data as of October 18, 2023

Deloitte interest rate forecasts

United States Economic Forecast Q3 2023

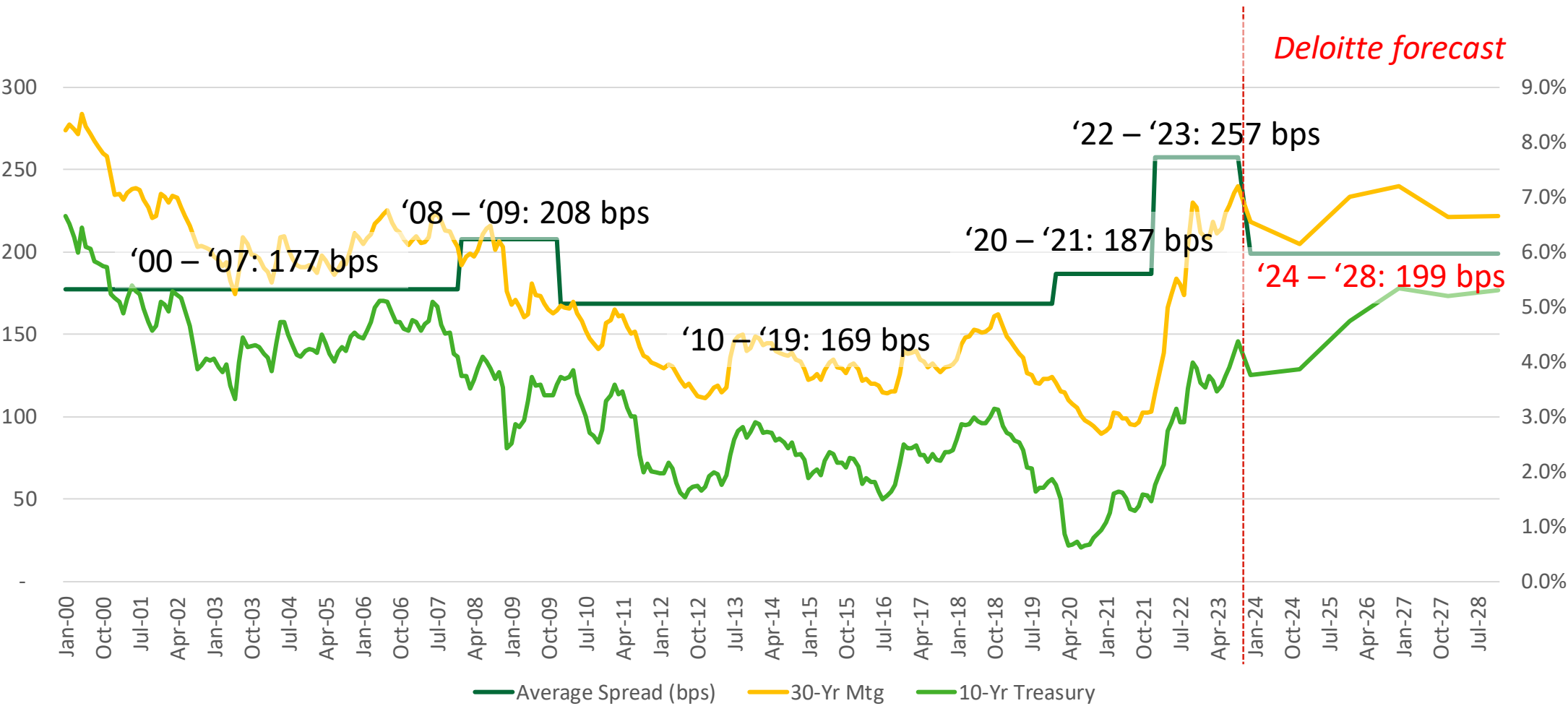
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Federal funds rate (%)	0.97	1.78	2.16	0.42	0.13	1.73	5.11	5.63	5.43	4.26	3.63	3.63
Yield on 10-year treasury note (%)	2.33	2.91	2.14	0.89	1.44	2.95	3.76	3.87	4.75	5.34	5.20	5.30
Interest rate on 30-year fixed rate mortgage (%)	3.99	4.54	3.94	3.11	2.96	5.33	6.54	6.15	7.01	7.19	6.63	6.65
Net household wealth (US\$ Trillion)	104	104	117	131	150	146	144	154	156	160	168	175



Source: Deloitte United States Economic Forecast Q3 2023; US Federal Open Market Committee and Federal Reserve Bank of St. Louis, FOMC Summary of Economic Projections for the Fed Funds Rate, accessed October 22, 2023.

Residential mortgage spreads remain elevated

Average 30-year fixed rate mortgage vs. 10-year UST



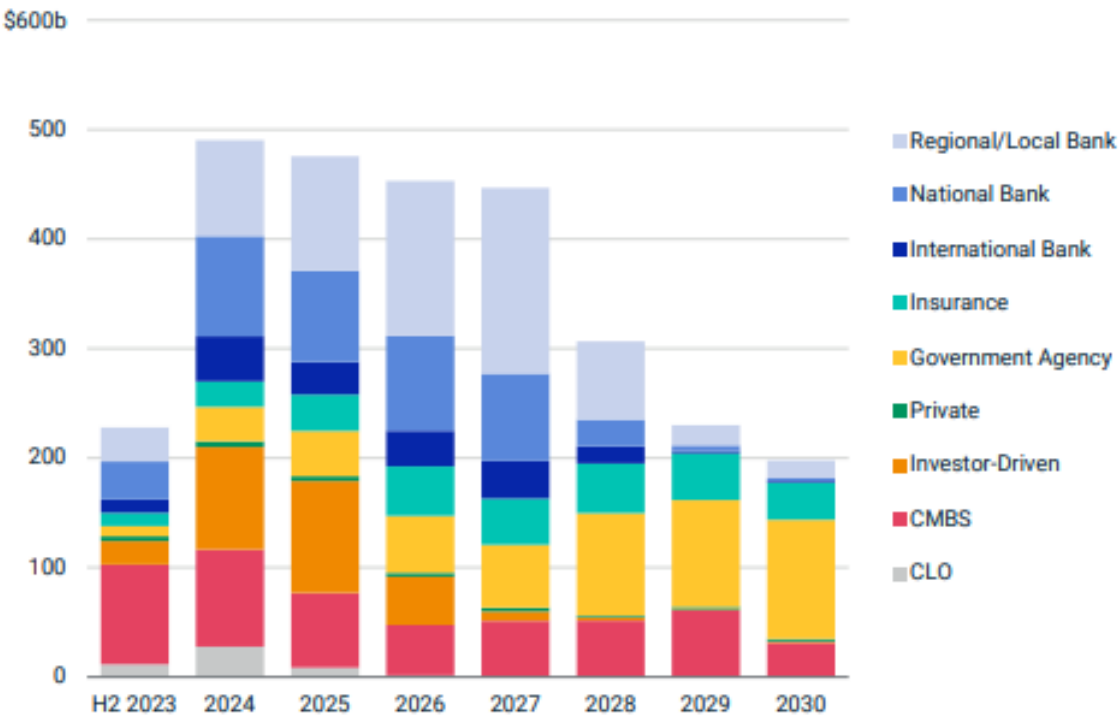
Source: Federal Reserve Bank of St. Louis, Deloitte United States Economic Forecast Q3 2023.

Commercial debt market conditions

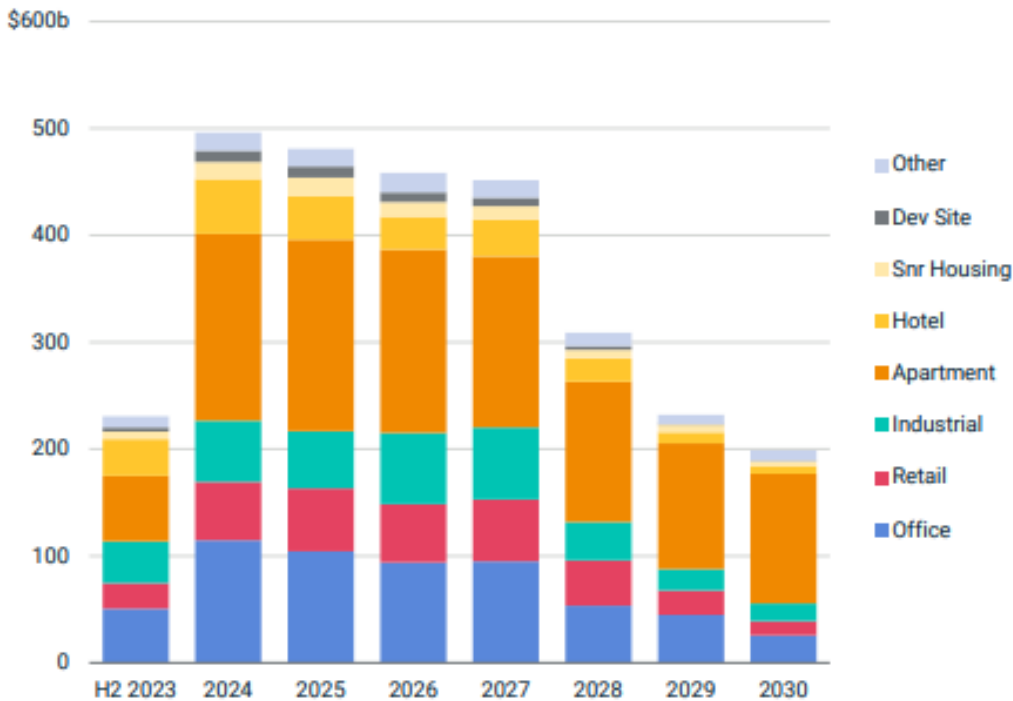
CMBS and Banks exposed to nearly 75% of all office loans maturing by 2025

Wave of commercial real estate loan maturities (\$USD, billions)

By Lender Type



By property type



Source: MSCI Real Capital Analytics, data as of October 18, 2023

Distressed real estate balances hit 10-year high

Office sector contributes to over \$80 billion in distress estimates

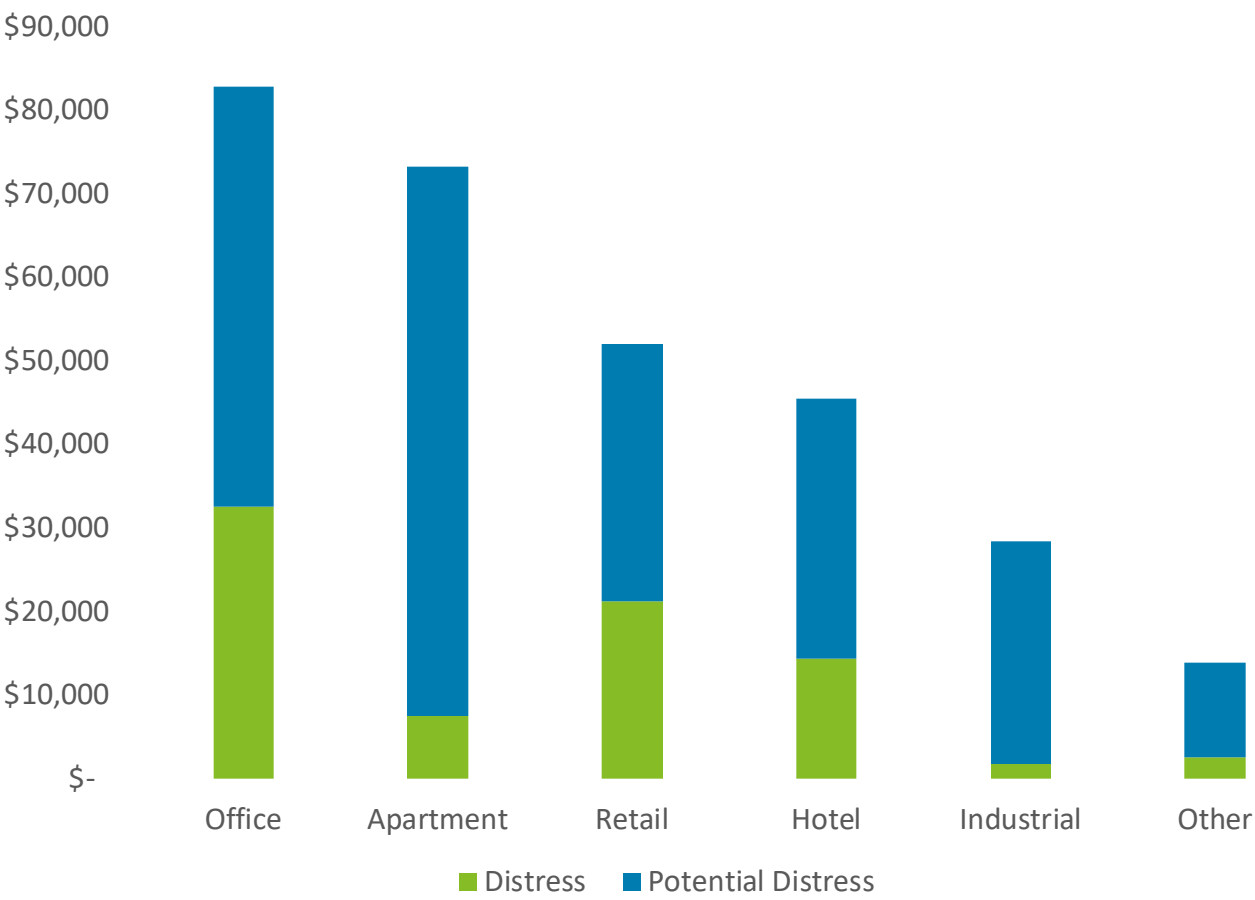
Ten-year high but still half of GFC-era

The **office sector continues to be the primary contributor** to mounting distress balances, as 93% of the new distress added in Q3 came from the sector, and now accounts for 41% of total outstanding distress.

New distress inflows totaled \$9.9 billion and outpaced workouts by \$5.6 billion, which has slowed slightly from highs in the first two quarters of the year.

One third of distressed asset value is owned by private owners, while another third is owned by institutional investors.

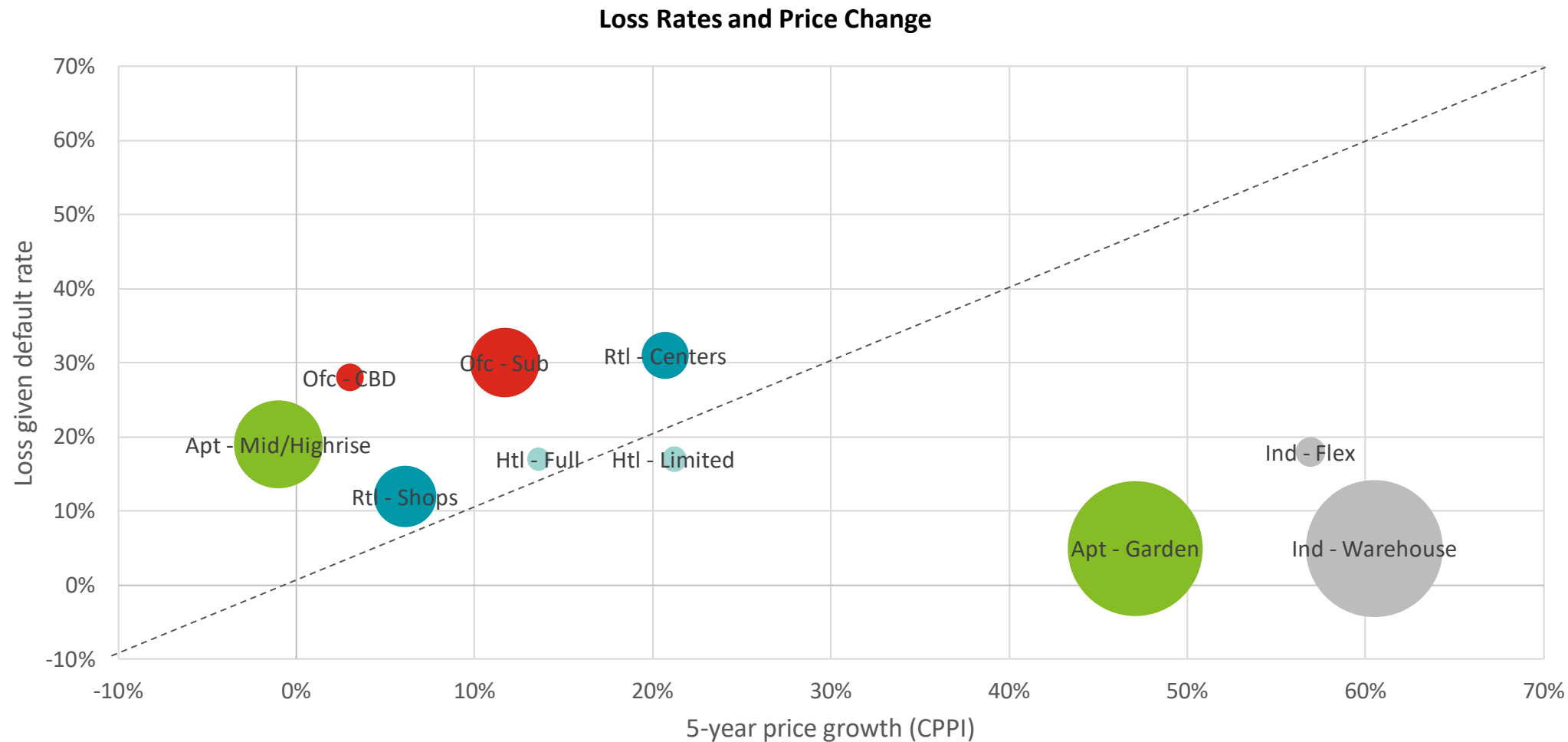
Balance of Distress by Property Type – Q3 2023 (\$USD, millions)



Source: MSCI Real Capital Analytics, data as of October 18, 2023

Pricing growth helps soften loan losses

Longer-term loans likely still a net positive



Source: MSCI Real Capital Analytics, data as of August 11, 2023

Note: Bubble sizes represent volume through H1 2023

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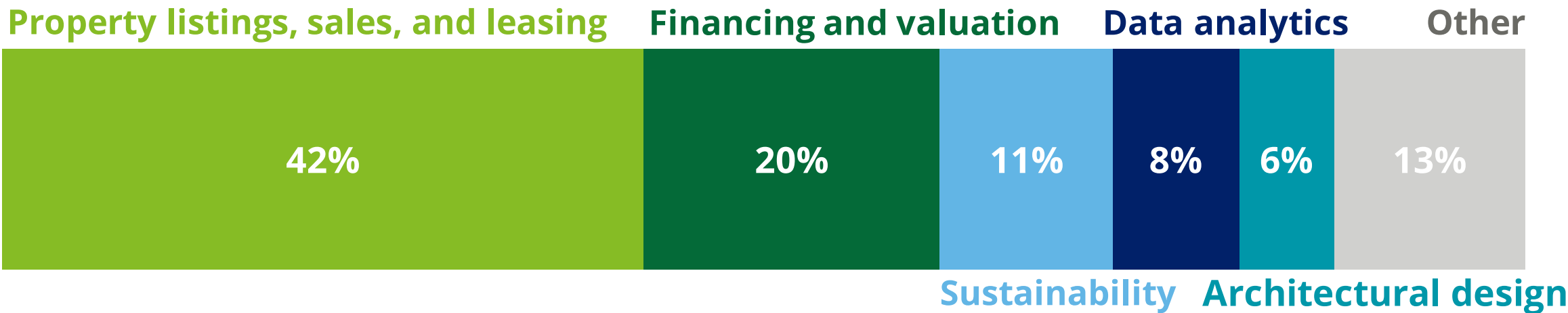
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Generative AI in real estate

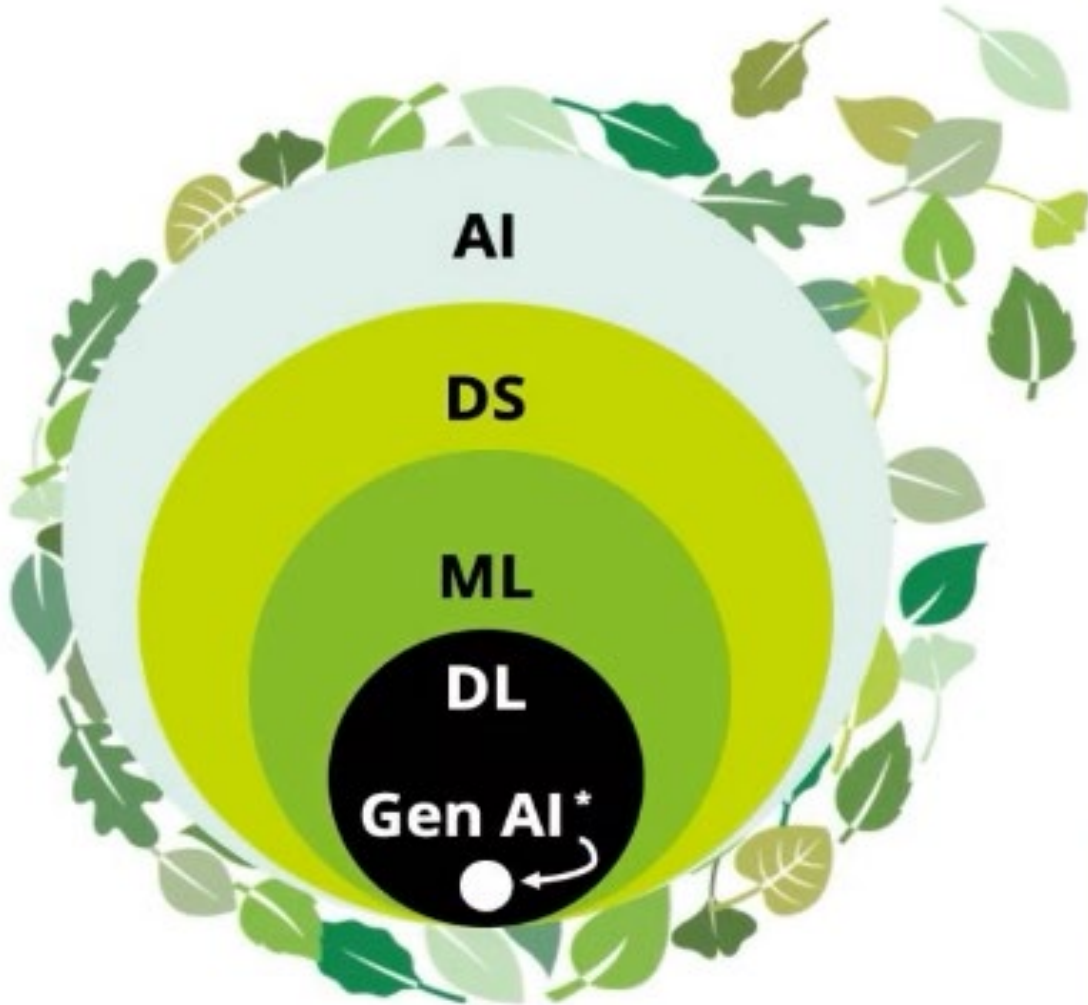
Solid foundation for AI – but there’s a long way to go

Real estate firms investing in AI/ML services companies, primarily for property transaction applications



Note: Percentages may not add up to 100% due to rounding
Source: Pitchbook, accessed October 2023; Analysis conducted by the Deloitte Center for Financial Services

A few words on Automation, Artificial Intelligence and Generative AI



Artificial Intelligence (AI)

The capacity for machines to perform tasks that simulates human intelligence such as *data processing, robotics and problem solving*.

Data Science (DS)

An approach to achieve AI that leverages or acts upon data. This includes *statistics* and general *model* building.

Machine Learning (ML)

ML trains models to identify and predict patterns based on human processed data, rather than relying on hard-coded rules.

Deep Learning (DL)

DL is a powerful and advanced ML paradigm that leverages neural network models to improve model performance without feature engineering.

Generative AI (Gen AI)

Gen AI is a highly sophisticated subset of AI using large parameter models to create data across a variety of modalities.

*GenAI also covers many methods that are not deep learning (e.g. physics simulations). We will not cover them in this workshop.

Overview of Generative AI

Generative AI can provide businesses with new opportunities to help improve their products and services, automate repetitive tasks, and create new and innovative customer experiences

WHAT is Generative AI | artificial intelligence that creates **original content across various modalities** (e.g., text, images, audio, code, voice, video) that would have previously taken human skill and expertise to create

HOW does it work | Generative AI is powered by **foundation models** such as OpenAI's GPT-4 , NVIDIA's Megatron, and Google's PaLM, which are trained on **vast amounts of data and computation** to perform a broad range of tasks

WHY now | innovations in **machine learning** and the **cloud tech stack**, coupled with the **viral popularity** of publicly released applications have propelled Generative AI into all kinds of discussions

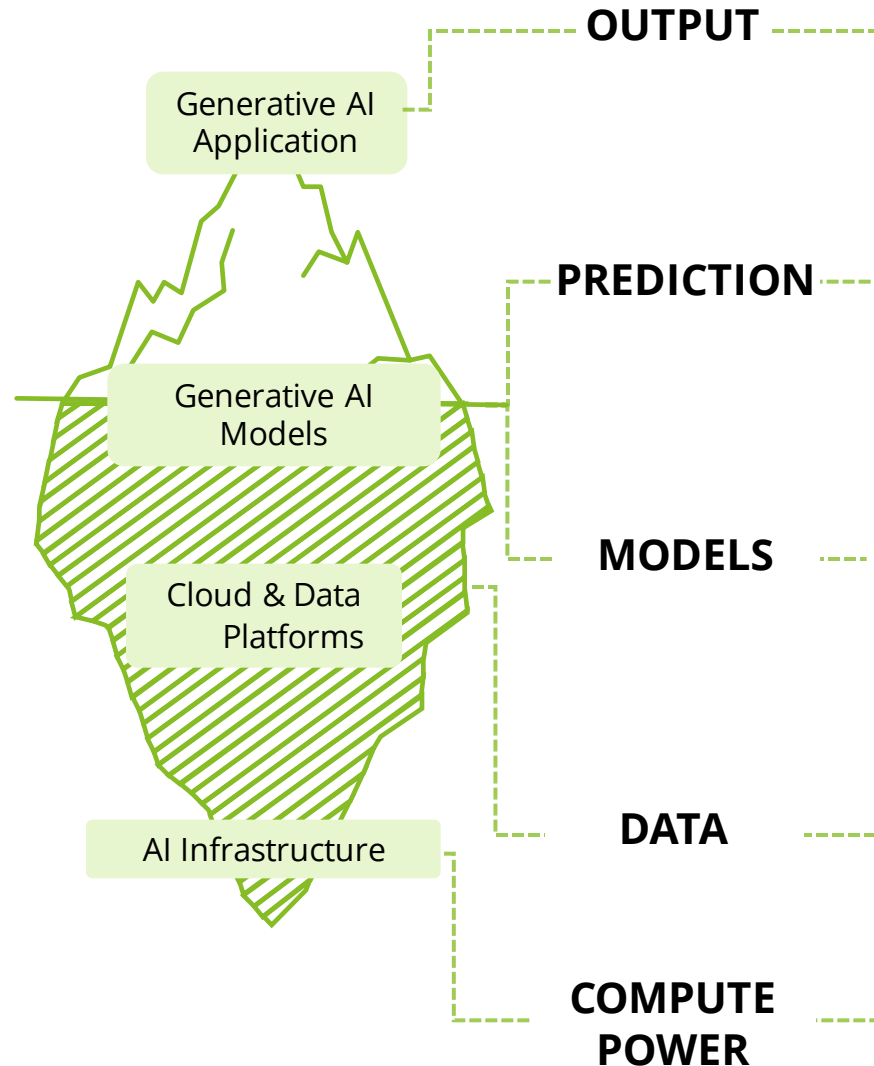
WHO is involved | **Big Tech** is building—and enabling access to—foundation models; **start-ups** are developing user applications on these underlying models; and **companies** are beginning to adopt



POTENTIAL BUSINESS IMPACT | the **marginal cost of producing initial versions of knowledge-intensive content**—such as IT code, marketing copy, and creative design—**can decrease significantly**

Generative AI is the tip of the iceberg

A simplified view



Applications...what we see

Generative AI applications generate content across various modalities (e.g., text, image, video, audio) based on how the underlying model was trained.

Why do these applications seem so human?

Like traditional AI, Foundation Models are models that predict outputs based on inferences on the inputs it receives. However, through, fine-tuning, prompt engineering and adversarial training these models generate outputs based on its understanding of human communication.

What are Foundation Models?

OpenAI's GPT-4, and NVIDIA's Megatron are two examples of Foundation Models, specifically large language models (LLM) which use deep learning to process huge amounts of data to form 'memories' on the input datasets through tokenization, thereby shaping the models' parameters. There are common Foundation Model architectures (e.g., Transformer, Diffusion) which drive the modalities for each model.

Training on the world's knowledge

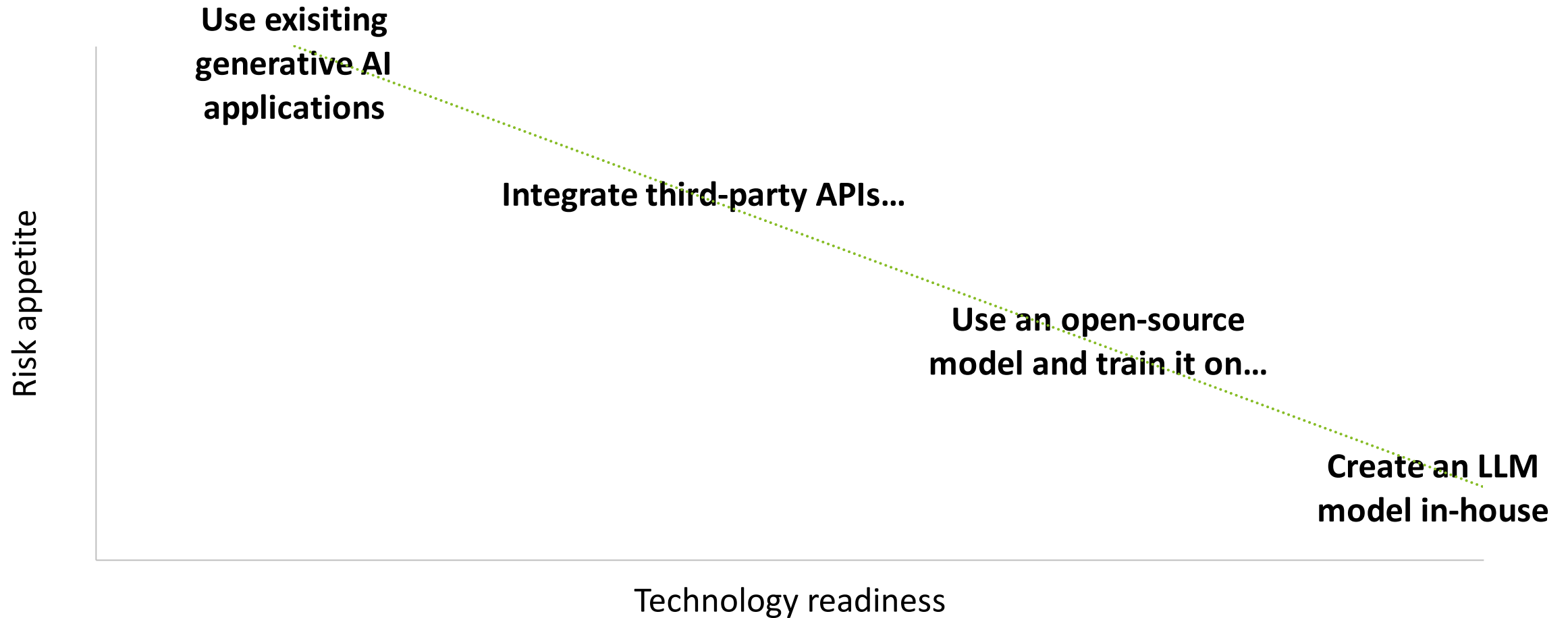
Foundation Models are trained on petabytes worth of global data to shape understanding, tone, and behavior while considering human communication styles.

Powering our journey to tomorrow

The scale of compute capacity required to train and process Foundation Models necessitates the usage of leading GPUs (e.g., A100 NVIDIA) and TPUs (e.g., Google TPU v4) on scalable infrastructure.

Generative AI in action

Depending on the technology readiness, risk appetite, and desire to transform, the approaches may vary

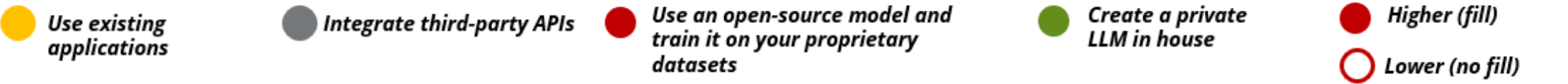


As always, there is no one size fits all approach. Organizations might use different approaches for different use cases

Generative AI in action

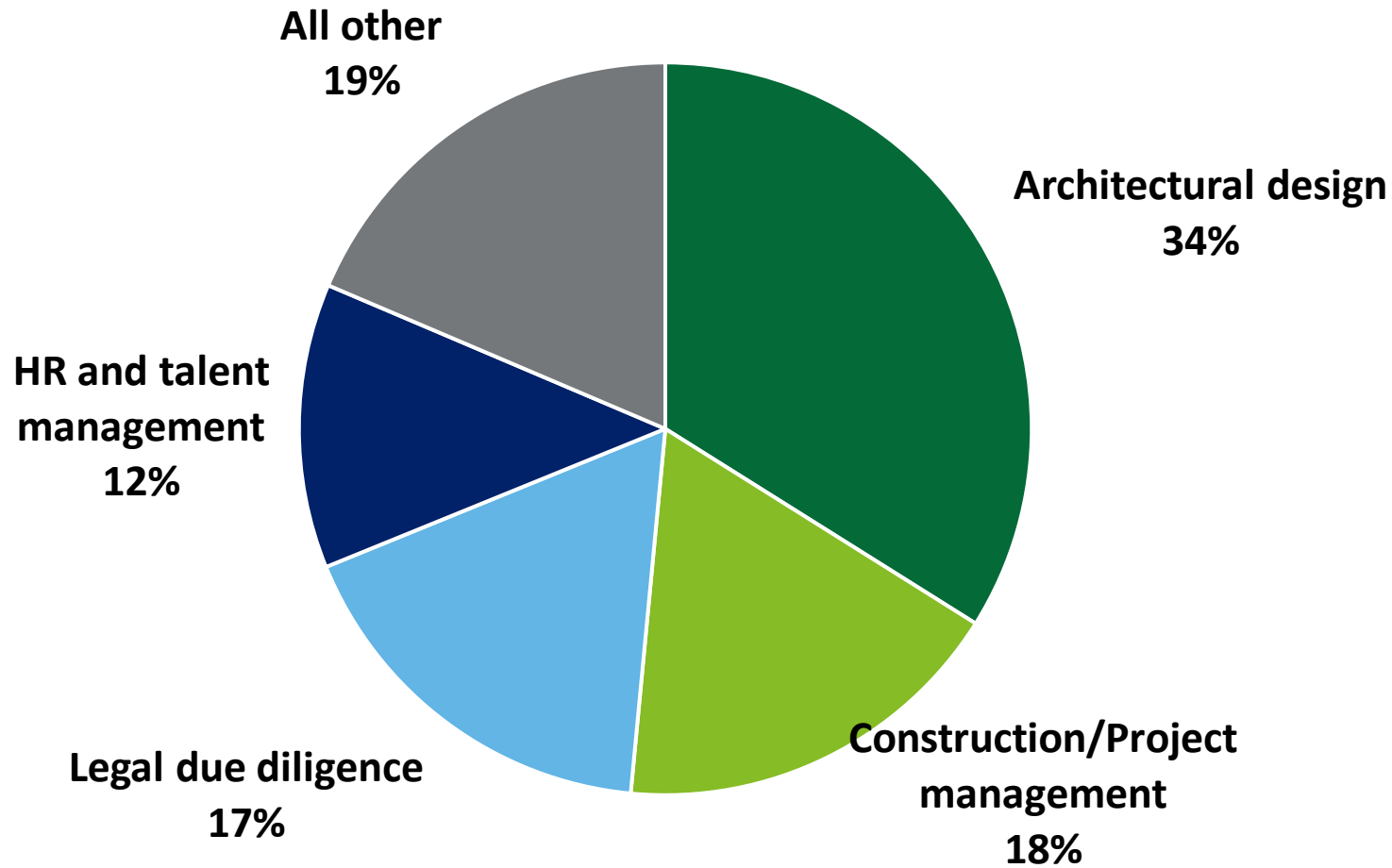
Different model priorities necessitate different approaches: Sample generative AI approach recommendations by use case

Use case\Integration priorities	Customization	Data privacy	Model latency	Implementation costs
Document summarization				
Performance analysis				
Autogenerating lease and vendor contracts				
Property photography and videos				
Metaverse/Digital twins				



We're hiring!

60% increase in real estate job openings **enabled by generative AI**, but where?



Note: Percentages may not add up to 100% due to rounding

Source: Lightcast, data accessed September 2023; analysis by Deloitte Data Science & Survey Advisory Services (DSAS), and Deloitte Center for Financial Services.

What to watch out for before going all out with generative AI

Balancing data validation, company culture, and the human-technology relationship will be key



- Accurate, timely, and comprehensive data; Lack of publicly available real estate data will make model training difficult
 - Assess overall technical infrastructure maturity
 - “With data, AI is useless”
-

- Prioritize only highest impact use cases
 - Review proofs-of-concept before diving in headfirst
 - Financial KPIs are not the only indicators of success in gen AI
-

- Teams will have to work as co-pilots; Humans + machines
- Upskilling or reskilling of emerging roles and teams
- Keep humans at the center of AI-decision making