

2023 commercial real estate M&A outlook

A tale of two markets

Contents

Introduction	3
2022 in review	4
Global M&A	4
US M&A	6
Mega-deals	6
Industrywide recap	9
Sector summary	10
2023 outlook	14
Fate of the interest rate	14
Tax and regulatory considerations	15
2023 by sector	16
The return of REITs	17
2023 trends and drivers	18
Opportunities and challenges	21
Capitalizing on commercial real estate	21

Introduction

Commercial real estate mergers and acquisitions (M&A) split in two opposing directions during 2022. Most sectors saw strong-to-stellar deal activity and dollar volume jumps in the year's first half, followed by a sudden drop as the two "ins"—inflation and interest rates—took hold in the second half (figure 1).¹

Global and US M&A activity and dollar volume both declined overall in 2022 from the previous year's levels.² The United States retained its transaction lead worldwide, with the seven largest deals all carried out by US entities. Those transactions spanned the industrial, residential, and alternative sectors, including specialized medical offices and campus housing.

In the United States, industrial assets remained the real estate industry's favored sector given consumers' embrace of e-commerce—and the need to warehouse all those goods someplace. Multifamily residential deals fared better in the Southwest, South, and Southeast than elsewhere.

The retail and office sectors remained question marks. Retail sales volume rose for much of 2022, only to tumble near year end. Office sales slumped as high-end, solidly performing Class A buildings fared well, while lower-end, troubled ones struggled. Hospitality deals soared as pandemic-weary leisure travelers flocked to hotels and resorts, while alternative investment M&A varied considerably by sector.

We expect muted CRE M&A activity in 2023 until interest rates and capital markets stabilize. Despite the slowdown, we observe six intriguing trends and drivers that are likely to unfold during the year:

1. **Realistic pricing and creative financing will likely emerge** as markets settle and financing alternatives augment traditional, tighter public and private capital sources.
2. **CRE will likely continue to be repurposed** as office buildings and malls are converted to industrial, mixed-use commercial/residential, or other uses.
3. **Environmental, social, and governance (ESG) factors will continue taking hold**, with climate considerations beginning to impact M&A pricing.
4. **Alternative sectors will likely become more mainstream** given demand for net lease properties, data centers, cell towers, life sciences labs, student and senior housing, and other specialty uses.
5. **Experiential retail will likely continue pushing boundaries** of recreation and immersive technologies.
6. **Companies will likely escalate technology uptake**, including systems for supporting customer relationship management, operating efficiency, emissions monitoring, and business.

This report explores 2022's complexities from industrywide and sector perspectives, while providing insights to help real estate owners and investors sharpen their strategies in 2023 and beyond.

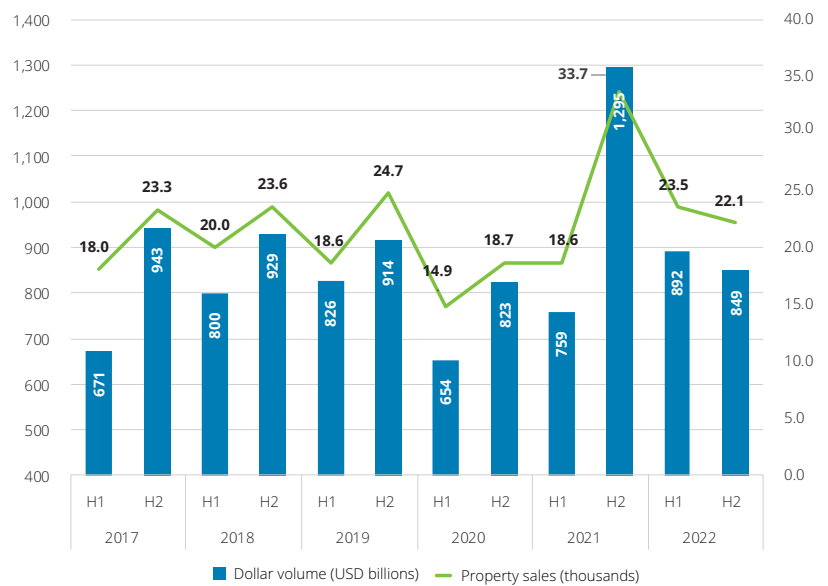
2022 in review

Global M&A

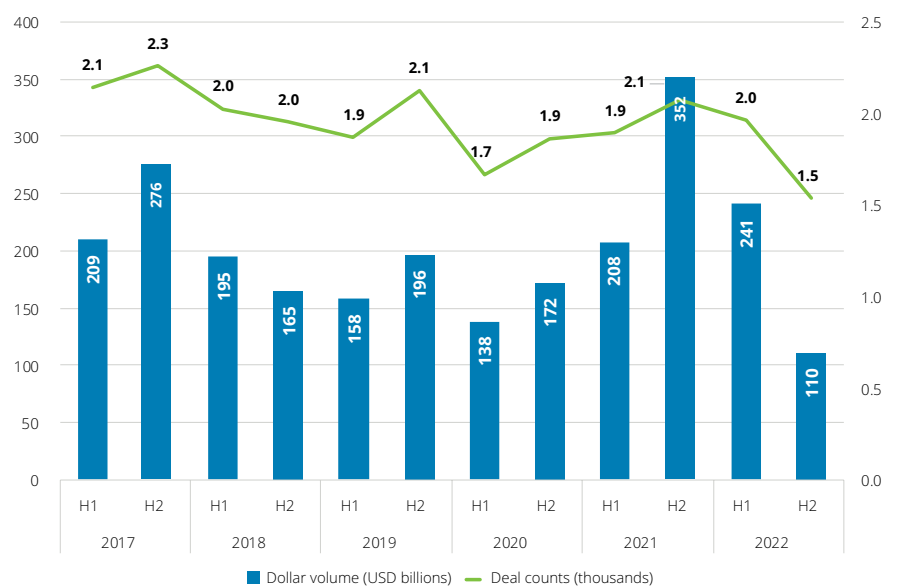
The year began exuberantly for CRE mergers and acquisitions in developed nations around the globe. Total M&A activity and dollar volume soared in the year's first half, only to ease across all major sectors during the second half. Activity declined to 3,500 transactions in 2022 from 4,000 transactions in 2021, a 12% drop. Volume fell to \$352 billion in 2022 from \$560 billion in 2021, a striking 37% tumble (figure 1).³ The slowdown was concentrated heavily in the year's second half, however—a trend clearly reflected in the US market (figure 3).⁴ Inflation, rising interest rates, and ongoing economic uncertainty depressed M&A in many countries, compounded in some markets by energy price hikes and other impacts of the Russia-Ukraine conflict.

Figure 1. Global 2022 CRE sales and M&A volume
Transaction volumes register 20% decline as cost of debt and uncertainty reigns in activity

Global property sales



Global M&A transaction activity



Source: Refinitiv, accessed January 10, 2023; Real Capital Analytics, accessed January 18, 2023

Multifamily residential and office were the year's best-performing sectors by dollar volume. Multifamily residential—including M&A—generated \$355 billion in total sales, or 33% of global CRE investment last year, up from 24% on average for the five years prior to the pandemic. Office registered the second-highest sales at \$282 billion, or 26% of global investment—an impressive result following the pandemic-driven office exodus but still well below 41% on average for the five pre-pandemic years.⁵

Yet the midyear falloff was evident even in these sectors. Total apartment volume dropped from \$204 billion in the 2022 first half to \$151 billion in the second half, a 26% tumble. Office volume fell 29% from \$165 billion in the first

half to \$117 billion in the second half. Industrial volume similarly was down 25%, while hard-hit retail volume collapsed 42% between the 2022 first and second halves.⁶

In regional terms, North America dominated activity, with the United States logging six of the 11 largest M&A deals—ranging from \$3.7 billion to \$23 billion. The United States was followed by Canada and Europe, specifically United Kingdom-, Spain- and Ireland-based entities (figure 2). Asia-Pacific (APAC) nations, which had been major players pre-pandemic, again were relatively quiet as the COVID-19 lockdown in China depressed merger activity in and outside Asia (table 1).⁷

Table 1. Top 2022 real estate M&A deals

Top global transactions						
Date announced	Acquirer	Acquirer nation	Target	Target nation	Target subsector	Value (USD billions)
5/10/2022	Prologis Inc	United States	Duke Realty Corp	United States	REITs	23.0
4/19/2022	Blackstone Inc	United States	American Campus Communities Inc	United States	REITs	12.8
2/28/2022	Healthcare Realty Trust Inc	United States	Healthcare Trust of America Inc	United States	REITs	10.5
4/25/2022	Blackstone Inc	United States	PS Business Parks Inc	United States	REITs	7.6
2/16/2022	Blackstone Inc	United States	Preferred Apartment Communities Inc	United States	REITs	5.8
1/24/2022	Blackstone Inc	United States	Resource REIT Inc	United States	REITs	3.7
5/6/2022	Brookfield Asset Management Inc	Canada	Watermark Lodging Trust Inc	United States	REITs	3.8
2/25/2022	Brookfield Asset Management Inc	Canada	Befimmo SA	Belgium	REITs	1.5
5/11/2022	Alvarium Investments Ltd	United Kingdom	Secure Income REIT PLC	United Kingdom	REITs	2.8
4/1/2022	Banco Bilbao Vizcaya Argentaria SA	Spain	Tree Inversiones Inmobiliarias SOCIMI SA	Spain	REITs	2.2
3/25/2022	Brookfield Asset Management Inc	Canada	Hibernia REIT PLC	Ireland	REITs	1.2
6/10/2022	Charter Hall/PGGM	Netherlands	Irongate Group	Australia	Non-Residential	0.9

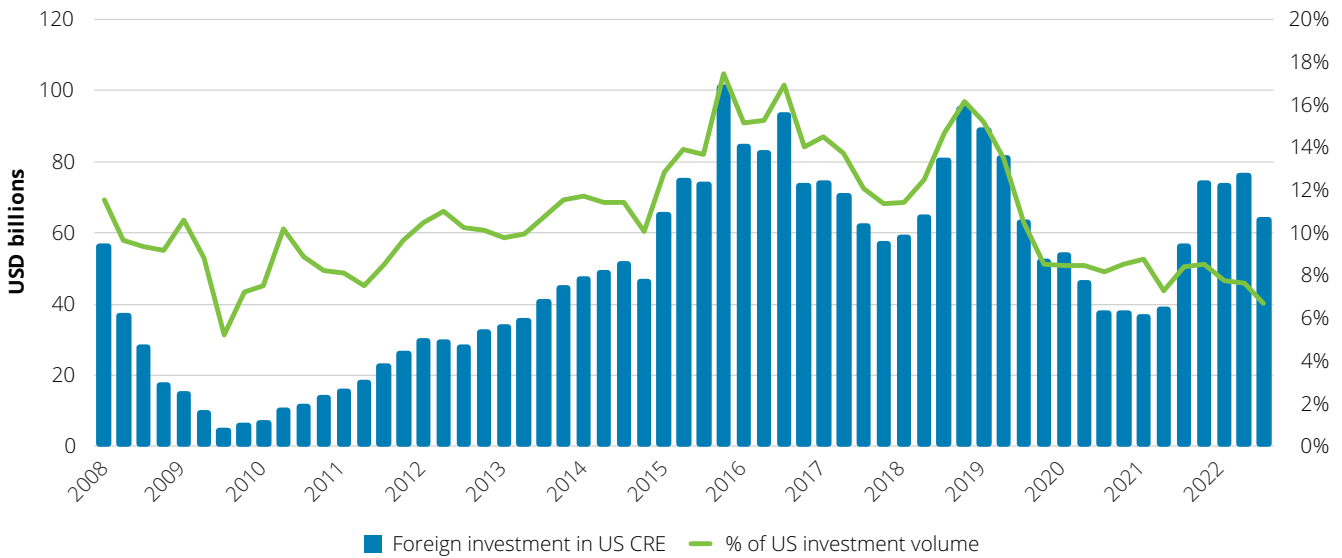
Top US transactions						
Date announced	Acquirer	Acquirer nation	Target	Target nation	Target subsector	Value (USD billions)
5/10/2022	Prologis Inc	United States	Duke Realty Corp	United States	REITs	23.0
4/19/2022	Blackstone Inc	United States	American Campus Communities Inc	United States	REITs	12.8
2/28/2022	Healthcare Realty Trust Inc	United States	Healthcare Trust of America Inc	United States	REITs	10.5
4/25/2022	Blackstone Inc	United States	PS Business Parks Inc	United States	REITs	7.6
2/16/2022	Blackstone Inc	United States	Preferred Apartment Communities Inc	United States	REITs	5.8
1/24/2022	Blackstone Inc	United States	Resource REIT Inc	United States	REITs	3.7

Note: Top six global transactions were domestic US deals.
Source: Refinitiv

Interestingly, no major deals were announced globally later than June 2022, when the US Federal Reserve Board announced its third interest rate increase for the year. Foreign entities' share of US CRE investment meanwhile dipped to 6% in 2022, the lowest

level since the financial crisis (figure 2).⁸ The timing of a rebound will most likely depend on when interest rates level off or fall and markets stabilize worldwide.

Figure 2. Foreign investment in US CRE
Mega-deals drive dollar volume, but uncertainty around the global economy sees foreign share of total investment dip to its lowest point since the global financial crisis



Note: Volume represented as Q4 rolling average; date through Q3 2022.
 Source: Real Capital Analytics

US M&A

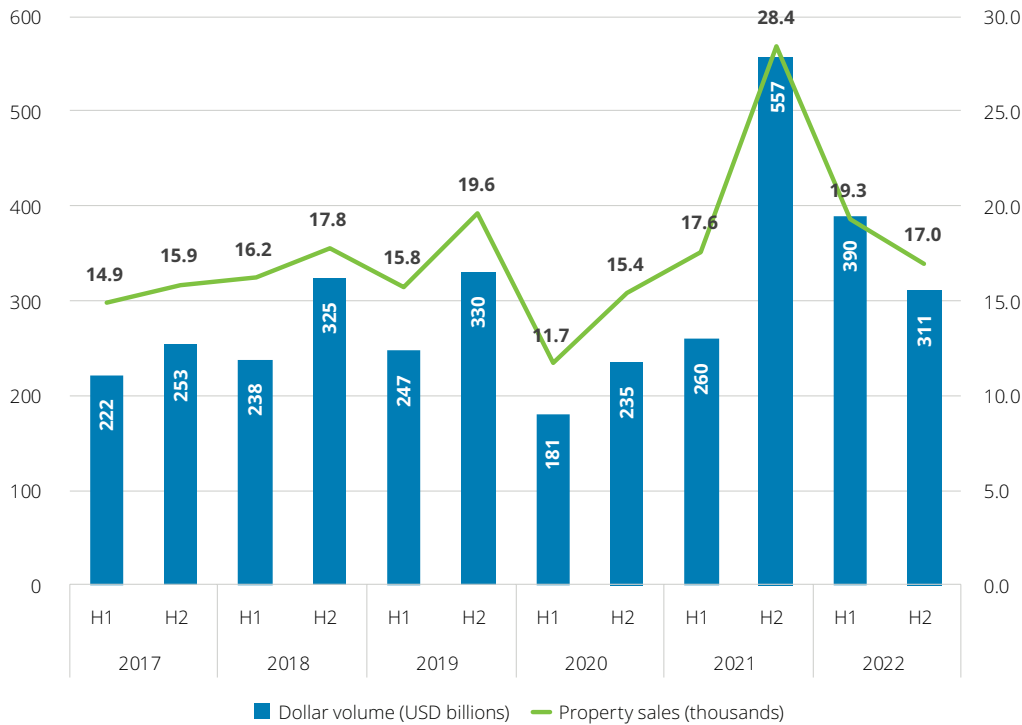
US mega-deals

As occurred globally, US deals were a tale of two markets: a robust first half followed by a plunging second half, when dollar volume dropped by 64%. Total M&A activity for the year kept a solid pace, increasing 7% to 801 deals in 2022 from 742 deals in 2021. While total dollar volume fell 26% to \$155 billion from \$209 billion the preceding year, there was no shortage of 2022 first-half mega-deals, all of which involved real estate investment trusts (REITs) buying other REITs (figure 3).⁹

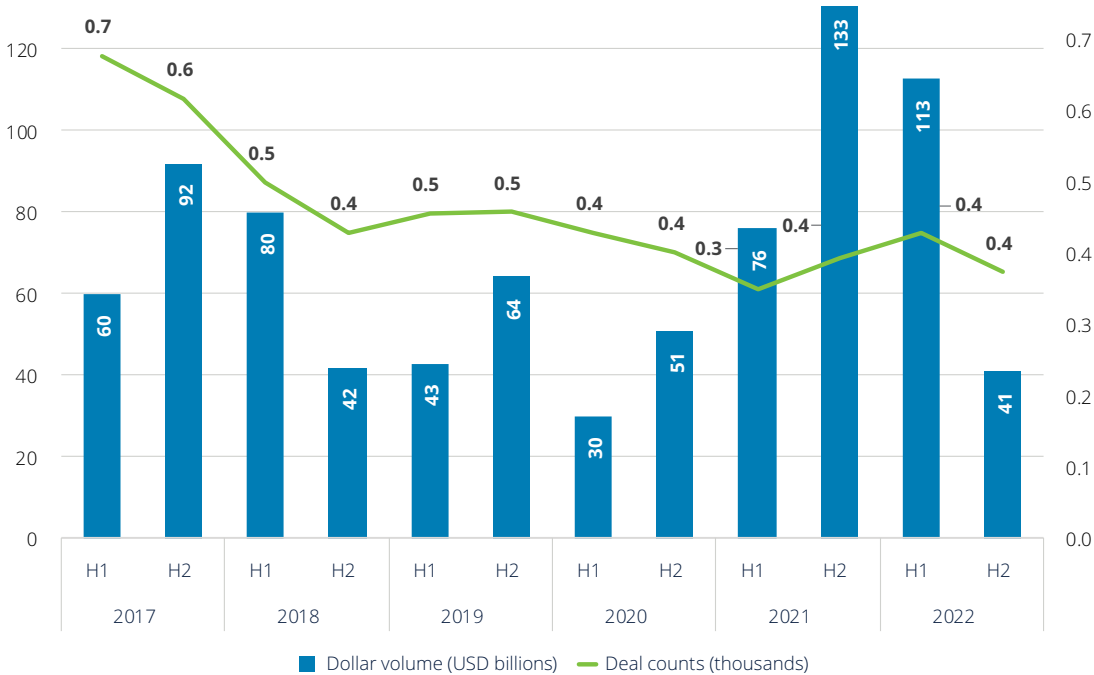
US deals were a tale of two markets: a robust first half followed by a plunging second half

Figure 3. US 2022 CRE sales and M&A volume
Transaction volumes register a 17% decline as cost of debt and uncertainty reins in activity

US property sales



US M&A transaction activity



Source: Refinitiv, Real Capital Analytics

Private equity (PE) firm Blackstone Inc. had an exceedingly busy year as the acquirer—either directly, with affiliates, or through its Blackstone Real Estate Investment Trust, Inc. (BREIT)—in four of those deals.¹⁰ Blackstone-affiliated acquisitions spanned the industrial, multifamily residential, and alternative sectors.

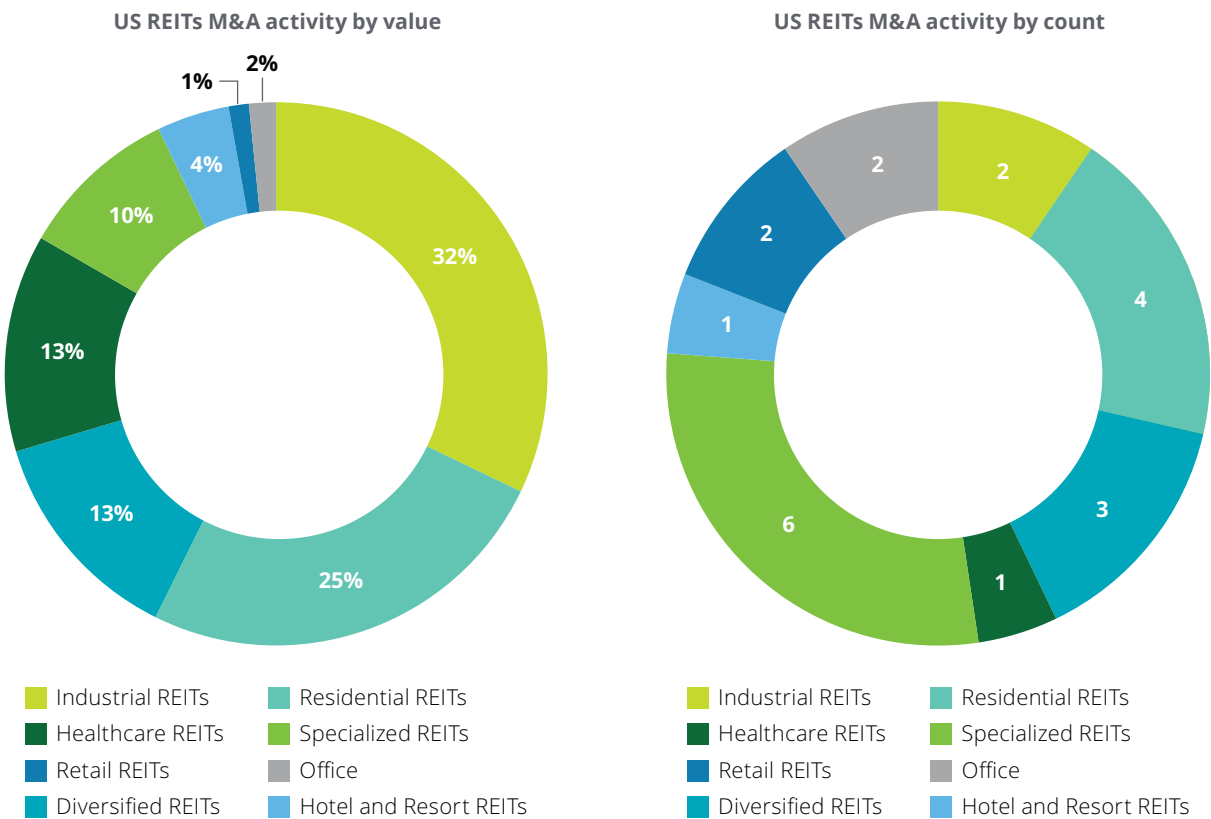
CRE M&A was headlined by Prologis, Inc.’s purchase of Duke Realty Corp. for \$23 billion. Announced in May and completed in October 2022, the transaction ranked as the year’s fourth-largest US deal in any industry after acquisitions by Microsoft Corp., Broadcom Inc., and Oracle Corp.¹¹ Logistics heavy-hitter Prologis gained 480 logistics warehouses totaling 142 million square feet in 19 major US markets.¹²

Blackstone Property Partners and BREIT, meanwhile, bought campus housing developer, owner, and operator American Campus Communities Inc. for \$12.8 billion.¹³ Healthcare Realty Trust Inc. acquired Healthcare Trust of America, Inc. in February for \$10.5 billion, joining two of the nation’s largest medical office landlords. Affiliates of Blackstone bought PS Business Parks Inc., which holds

warehouses, business parks, office buildings, and multifamily residential, for \$7.6 billion.¹⁴ BREIT also made two major multifamily deals, snapping up Preferred Apartment Communities Inc. for \$5.8 billion¹⁵ and Resource REIT Inc. for \$3.7 billion.¹⁶ Both companies hold apartments in multiple states.

M&A activity among US public and private REITs totaled \$83 billion in 2022—the second-highest annual figure since 2007¹⁷—and included the year’s biggest CRE deals. Yet fundraising by public and private REITs dropped substantially from \$114.60 billion in 2021 to \$42.69 billion in 2022.¹⁸ Still, they played an outsized role in moving public REITs to private ownership. BREIT, Starwood Real Estate Income Trust (SREIT), and other PE-managed funds logged 13%¹⁹ of public-to-private transaction activity in 2022 but represented half the \$40.2 billion capital. While fundraising may have slowed temporarily, REITs clearly remain a major force in CRE (figure 4).²⁰

Figure 4. Residential and Industrial saw upbeat activity counts



Note: Includes M&A transactions completed in 2022 by Equity REITs in the United States. Source: Refinitiv

Industrywide recap

Strong deal momentum from 2021 carried over into the first half of 2022, which saw robust purchase, M&A, and leasing activity across most CRE sectors. Industrial deals led the pack, reflecting Americans' ongoing enthusiasm for e-commerce. Retailers' rapid-delivery service models kicked off a scramble for retailers to store vast quantities of goods fairly close to urban customers. The second most-active CRE sector, multifamily residential, meanwhile benefitted from owners' ability to pass along double-digit annual rent increases in most states—particularly in the increasingly populous Sun Belt.

The 2022 second half was another story entirely. As inflation shot up to its highest level in 40 years, the Federal Reserve Board responded with seven interest rate hikes ranging from 0.25% to 0.75%. By year end, the federal funds target rate had jumped to a range of 4.25% to 4.5%, compared with near zero one year earlier. Determined to cool inflationary pressures, the Federal Reserve made clear that it hadn't finished raising rates. Inflation peaked at 9.1% in June 2022 before settling at 6.5% for the year.²¹

Public equities markets plummeted in June, effectively pulling the emergency brake on M&A transactions. Buyers and sellers waited to see how high the Federal Reserve would raise rates, for how long, and whether the economy would stumble into recession. Uncertainty was compounded by the November midterm election and a possible shift in US House of Representatives and Senate control.

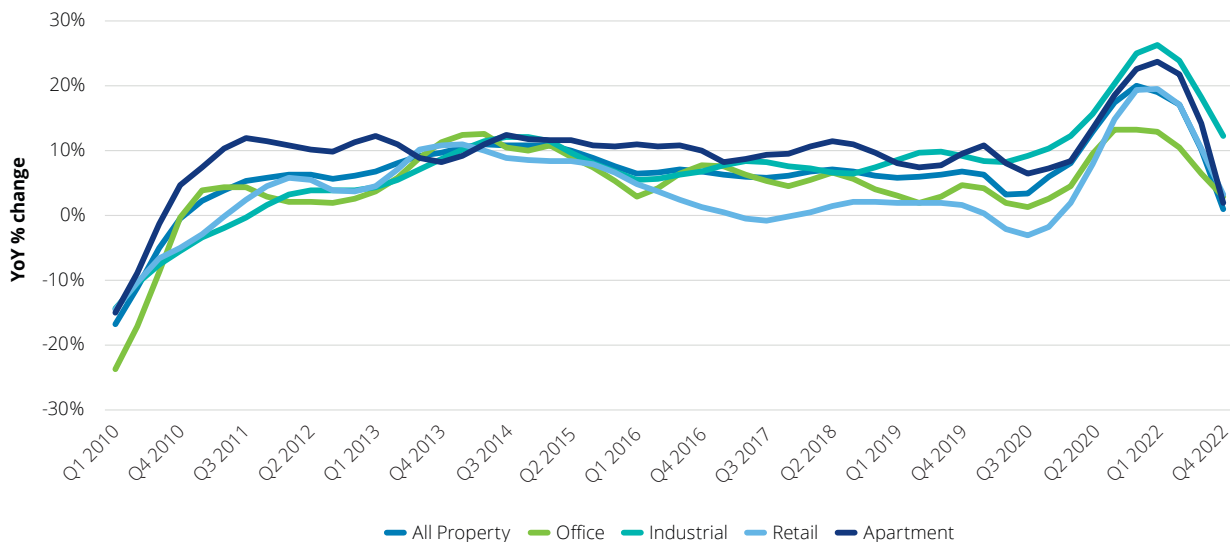
Rate increases substantially drove up the cost of capital, a powerful force considering that the typical large CRE deal has substantial debt financing. Private and public funding sources became much more costly, and companies faced the reality that refinancing existing debt could be far more expensive. Private debt availability also fell as major CRE lenders became far more conservative. Some lenders partially or entirely shut down funding for certain asset types and/or roles, such as development.²²

While painful for all real estate buyers, sharply higher debt costs affected PE business models along with their costs. PEs typically arbitrage between their own borrowing expenses and acquired assets' cash flow, enabling them to minimize transaction costs by using cash flow for debt payments. As rates pushed borrowing costs too high for many PEs to justify asset or portfolio purchases, the firms shifted from a CRE driving force in the 2022 first half to a much less visible presence in the latter half.

Markets were bound to descend from 2021's record-high transaction counts and prices, but the decline occurred faster than many participants had expected. One result: a substantial bid/ask gap between CRE buyers and sellers. Double-digit valuation growth in 2021 and the first half of 2022 pushed prices up to frothy levels in some sectors, particularly alternative assets such as data centers. Valuations largely decreased as the discount rate increased (figure 5).²³ Buyers view markets as fundamentally changed, while many sellers continue holding out for previous years' more lucrative returns.

Figure 5. Double-digit pricing growth slowed

Commercial Property Price Indices (RCA CPPI) YoY growth (%)



Source: Real Capital Analytics, accessed January 18, 2023

Sector summary

The industrial sector has been a CRE star for several years and remained the healthiest segment in 2022. While transaction activity dropped, total sales volume rose, making industrial one of only two major sectors in which dollar volume actually increased. All sales activity including M&A fell to 8,264 deals last year, down 28% from 11,438 transactions in 2021. Yet sales volume hit \$159 billion in 2022, up 20% from \$133 billion the previous year. Given the reshoring of manufacturing, easing of supply chain disruptions and record industrial construction²⁴—along with Americans’ continued embrace of e-commerce—it’s not surprising the year’s largest transaction centered on industrial properties (figure 4).²⁵

Among the evidence: East of the Ports of Los Angeles and Long Beach, which handle 40% of US imports, Inland Empire cities, such as Ontario and Fontana, have become the world’s most in-demand warehouse locales. More than 4,300 warehouses, constituting an estimated one billion square feet of storage space, have replaced the fruit tree groves and dairy farms for which the region was once known.²⁶

In a very different metric, US REITs favored industrial properties. Industrial REIT transactions constituted 32% of all REIT M&A dollar volume, followed by multifamily residential transactions at 25%

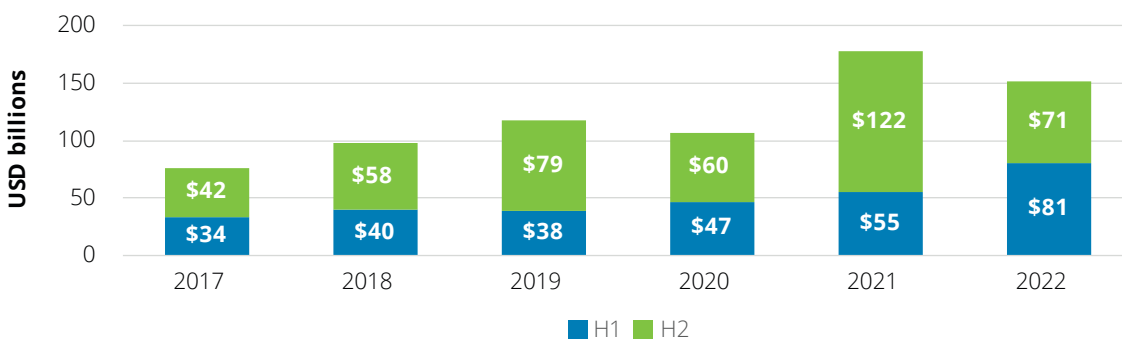
of REIT dollar volume. By contrast, REITs dedicated solely to the retail and office sectors now merit just 1% and 2% of REIT investment dollar volume, respectively (figure 4).²⁷

Multifamily residential M&A activity stumbled along with other CRE sectors in the second half of 2022. Sales activity including M&A dropped 22% to 10,143 transactions last year from 12,962 deals in 2021. Sales volume similarly fell to \$294 billion in 2022 from \$353 billion the previous year, a 17% drop (figure 6).²⁸ Despite those results, the sector may have benefitted from interest rate increases, which threw ice water on many renters’ plans to buy their first homes as mortgage payments climbed upward.

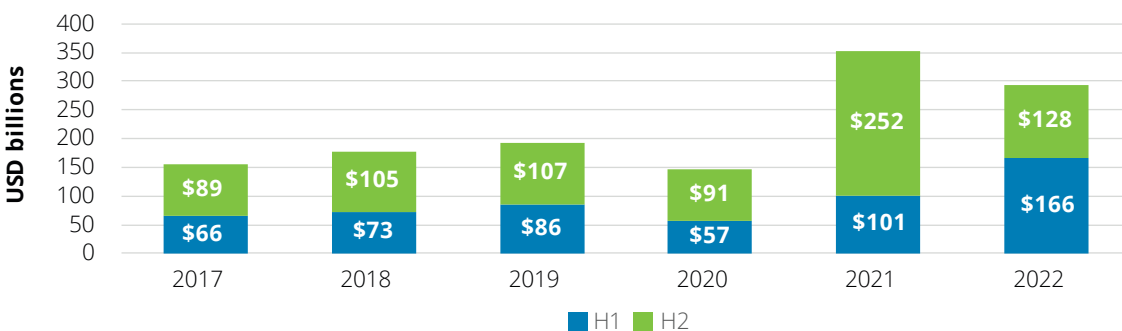
Single-family rental performance was more mixed. Institutional acquirers felt the impact of rising rates in the 2022 second half, and large-buyer purchases slowed or declined in line with overall home sales. The cooling was particularly noticeable in once-hot markets like Las Vegas and Phoenix.²⁹ Some institutions that had snapped up homes in the previous few years began shedding properties in Memphis, Jacksonville, Atlanta, Charlotte, and other southern and southeastern cities during 2022.³⁰

Figure 6. 2022 US industrial and multifamily property sales

Industrial property sales volume



Apartment property sales volume



Source: Real Capital Analytics

The retail sector defied observers who predicted its demise during and after the pandemic's 2020 peak. Asset volumes were surprisingly resilient through the 2022 third quarter before falling sharply near year end. Sales activity including M&A fell 21% to 7,147 deals last year versus 10,033 in 2021 (figure 7).³¹ Sales ticked up 4%, however, to \$86 billion in 2022 from \$83 billion in the preceding year. Retail undoubtedly benefitted from pent-up demand as consumers, weary of being homebound, sought the shared shopping experience: other people, lively public spaces, and the ability to touch and try merchandise on or out.

While retail activity didn't return to pre-pandemic levels and no major department-store-anchored malls were acquired, classic shopping centers recovered from pandemic lows. Many sought to lure customers back to brick-and-mortar stores with omnichannel offerings like online ordering and curbside pickup. Malls now routinely host events ranging from live music to artisan markets, art exhibits, and activity-oriented kids' clubs.³² Retail also has become increasingly experiential, such as stores with interactive video and other tech-heavy features. Others have added or are considering amenities that redefine the term "shopping mall," including golf simulators, batting cages, climbing walls, indoor ski slopes, and even casinos.³³

Office assets were another story. The troubled sector fell further, with all sales activity including M&A dropping 22% to 5,105 transactions in 2022 from 6,522 the previous year. Dollar volumes plunged 26% to \$110 billion last year from \$148 billion in 2021 (figure 7). Office occupancy in January 2023 hit its highest post-pandemic level in 10 major metro areas, but still only reached 50% of pre-pandemic usage.³⁴ While there has been some movement back to offices, and many corporations make clear they would prefer to have employees onsite, people remain reluctant to return. Many consider themselves at least as productive working from home and refuse to go back to aggravating, time-consuming commutes.³⁵

Half of companies in a major CRE survey reported that they were contemplating downsizing office square footage, possibly permanently, due to surplus space and elevated operating costs. Several large tech companies that purchased or leased large spaces early in 2022 since have backed off. Many major companies announced layoffs that may result in shedding office space and cancelling new leases.³⁷

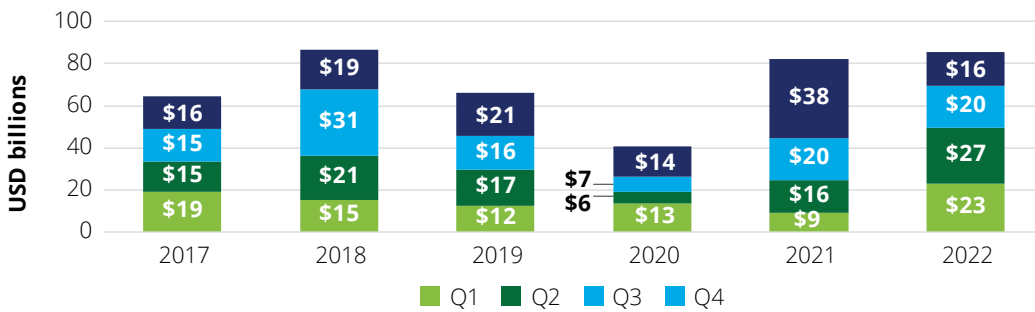
Yet views on office-sector health depend on the desk at which you sit. Newer, amenity-laden Class A properties near transit hubs continue to perform well. Many landlords and tenants are working to lure back employees with state-of-the-art tech capabilities, large patio spaces, rooftop decks, onsite gyms, high-caliber food, and/or ESG features aimed at lowering greenhouse gas (GHG) emissions.³⁸ The latter is increasingly a consideration for employees, along with other stakeholders.³⁹

But older, less well-maintained and less well-designed Class B and C properties tend to be troubled in central business districts (CBDs) and suburban areas. Many suffer from high vacancy rates and tenants demanding increasing concessions. Converting office to residential space is challenging given zoning restrictions and massive physical redesign requirements. Structures with few restrooms, minimal walls, and centrally controlled heating and air conditioning systems must be revamped to individually plumbed, walled, and climate-controlled units. Even in New York, only 3% of office stock is considered suitable for conversion.⁴⁰

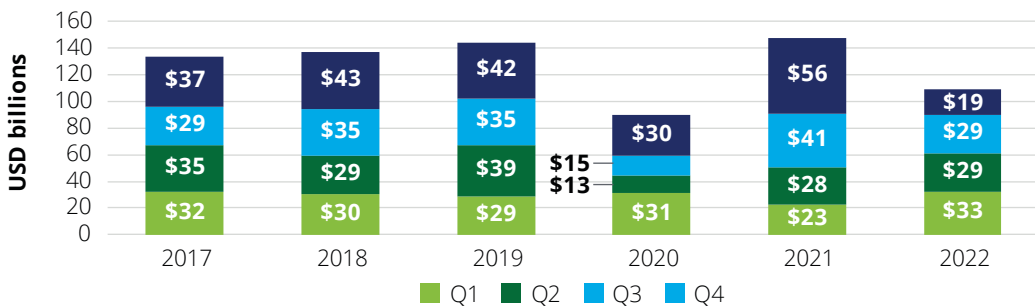
Some leading office investors and REITs accordingly are diversifying. Gladstone Commercial Corp. is selling noncore office holdings while boosting its industrial portfolio.⁴¹ New York City REIT, Inc. is expanding into other markets and asset types such as hotels and parking facilities.⁴² BXP is planning to develop residential units along the East Coast.⁴³ SL Green Realty Corp. is teaming with Caesars Entertainment Inc. to convert a Times Square office tower into a casino. And Empire State Realty Trust began adding multifamily properties to its office-heavy portfolio in late 2021.⁴⁴

Figure 7. 2022 US retail and office sales

Retail property sales volume



Office property sales volume



Source: Real Capital Analytics

Compared with other sectors, hospitality had an exceptionally good year. Hotel sales including M&A were \$46.2 billion in 2022, down just 1% from \$46.8 billion in 2021. The biggest M&A deal in the sector was Starwood Capital Group's \$2.1 billion sale of InTown Suites to affiliates of Starwood and Blackstone, which expands their jointly helmed portfolio of extended-stay properties.⁴⁵

The largest hotel deal in 2022 involved the Montage Laguna Beach in California, bought by Landry's Inc. for \$661 million. The Trump International Washington in Washington, DC, was sold to

CGI Merchant Group for \$375 million, and the Sheraton New York Hotel and Tower went to MCR Hotels and Island Capital Group LLC for \$373 million. Other notable deals included the Four Seasons Nashville, Waikoloa Beach Marriott on the island of Hawaii, Amangani Resort at Jackson Hole, and The Madison in Washington, DC (table 2).⁴⁶

Table 2. Top 2022 US hotel and hospitality transactions

Top US transactions				
Date	Address/portfolio	Market	Dollar volume (\$M)	Buyer
7/29/2022	Starwood US Hotel Portfolio	-	\$2,138.0	SREIT, Blackstone
2/23/2022	Brookfield US WoodSpring Suites Portfolio	-	\$1,455.0	Starwood, Blackstone
1/13/2022	NewcrestImage Hotel Portfolio	-	\$794.3	GIC, Summit Hotel Properties
11/3/2022	Montage Laguna Beach	Orange County	\$661.0	Landry's Inc
8/4/2022	Hersha US USS Portfolio	-	\$435.9	BREIT
4/22/2022	Trump International Hotel	Washington, DC	\$375.0	CGI Merchant
3/31/2022	811 7th Ave	New York	\$373.0	MCR, Island Capital
3/29/2022	316 12th Ave S	Nashville	\$328.5	Xenia
4/27/2022	Denihan Hospitality NY Hotel Portfolio	-	\$324.0	Service Properties Trust
11/1/2022	Four Seasons Resort Jackson Hole	All other – ID, MT, WY	\$315.0	Host Hotels & Resorts

Source: Real Capital Analytics

Hotel occupancy surged as cooped-up leisure travelers flooded to their dream destinations. The first three quarters of 2022 saw a large number of M&A deals weighted toward luxury and destination properties. Buyers pursued both coastal and inland properties, particularly in the Sun Belt and Nashville. Casinos, meanwhile, continued splitting operating companies from brick-and-mortar physical properties—a quest for efficiency that brings casinos more in line with standard hotel-ownership models. Blackstone completed its sale of The Cosmopolitan of Las Vegas to MGM Resorts, another Blackstone-controlled entity, for \$5.65 billion in 2022.⁴⁷ Brand changes also continued, with an emphasis on moving up the status ladder. Labor shortages among staff and management remained but had eased by year end.⁴⁸

Alternative assets maintained their popularity, including two of 2022's three biggest deals: Blackstone's nearly \$13 billion purchase of American Campus Communities Inc. and Healthcare Realty Trust Inc.'s \$10.5 billion acquisition of fellow medical office landlord Healthcare Trust of America, Inc. Investors also continued seeking deals involving life sciences labs, data centers, cell towers, self-storage, manufactured housing, and RV parks.⁴⁹ Alternative assets can offer lower operating costs than sectors such as office or residential, along with the chance to build up holdings in a relatively undiscovered market.

2023 outlook

Fate of the interest rate

This year's trillion-dollar question: the fate of interest rates. While the Federal Reserve instituted a tame quarter-point increase on February 2, 2023, the hike pushed the federal funds target rate to 4.5% to 4.75%, and Federal Reserve officials suggested that rate increases were not yet over. The median projection for 2023's top rate among Federal Reserve officials was 5% to 5.25% as of early February. At that time, [Deloitte continued to forecast a 1-in-3 chance of recession by September 2023](#). Whether the Federal Reserve will continue rate increases into or beyond midyear, and when rates will begin easing, is a favorite topic among business pundits.

At present, we believe that high rates are likely to continue for part or all of the year. We expect the 2023 first half to be much like the 2022 fourth quarter for CRE M&A: a subdued deal environment as investors wait to see where rates settle and uncertainty works its way through the financial system. It's an M&A truism: Making deals, particularly CRE transactions dependent on borrowing approximately half their financing, is impossible without knowing what the actual cost of money will be.

While M&A will likely be tempered, we expect activity to begin picking up in 2023's second half. Some sectors may see a flurry of activity from pent-up demand, while others may remain quiet. Mega-deals

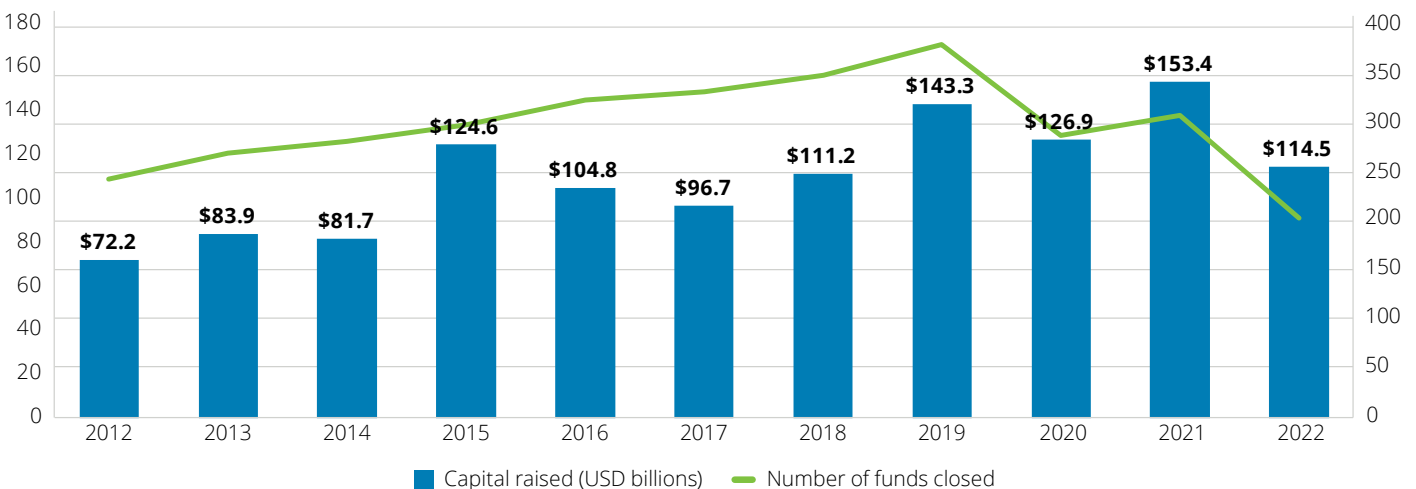
swept through the multifamily and industrial sectors, along with data centers, in recent years, meaning that fewer targets will be available even as rates come down and transaction activity returns. Valuations likely will come down as long as rates stay up, since fewer companies will be chasing deals.

Some owners might sell due to impending debt maturities or the opportunity to monetize existing holdings, albeit at lower premiums than the same assets commanded one to two years earlier. Debt financing of 4% to 5%, should it become available, is still attractive for many CRE buyers. As a result, we believe there will be opportunistic deals at the individual-asset or small-portfolio level for alert, acquisitive entities.

What's more, many PE firms have capital that they want, and will need, to deploy. PE fundraising slowed in 2022 to \$115 billion from \$153 billion the previous year, a 25% drop (figure 8). Yet PEs still have more than \$400 billion in cash reserves to invest (figure 9). Minimal PE deal-making in the second half of 2022 probably isn't sustainable given investor pressure, and PEs will need to balance discipline with making profitable investments.

Figure 8. Private equity real estate activity - North America
Amount raised by funds holding a final close

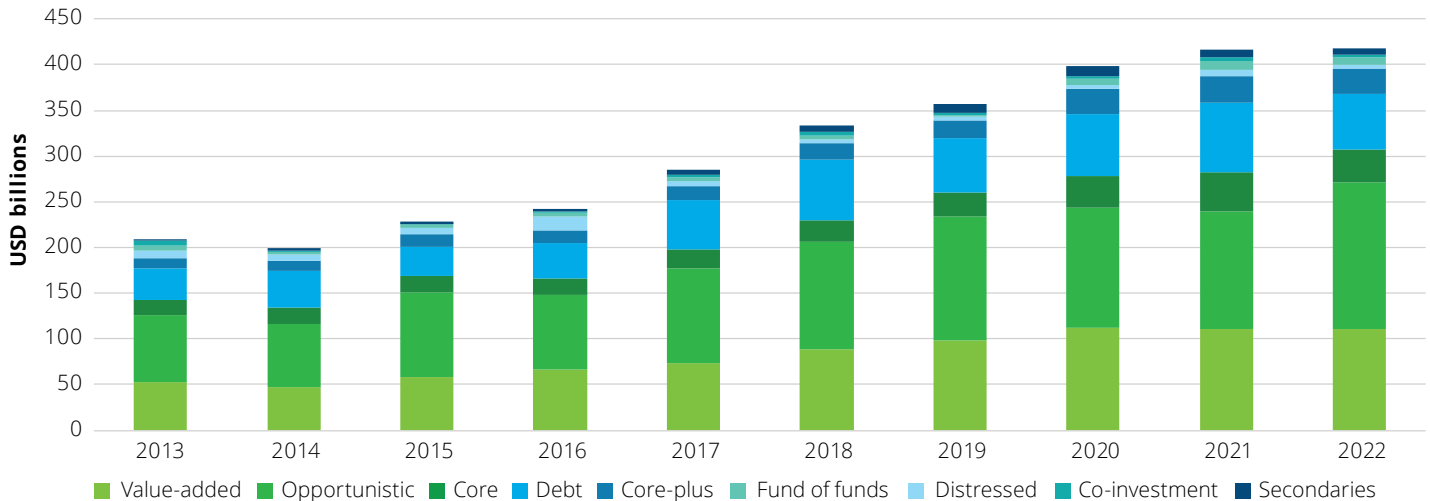
North American closed-end private real estate fundraising



Source: PERE

Figure 9. Private equity investable funds
PERE fundraising was below pre-pandemic highs but plenty of dry powder to invest

Closed-end private real estate dry powder, 2013–2022



Note: Dry powder refers to cash reserves on hand, especially to cover future obligations.

Source: Preqin, CBRE research

Tax and regulatory considerations

As discussed in the Deloitte Center for Financial Services' [2023 commercial real estate outlook](#), tax concerns for global real estate companies include the global minimum tax often referred to as Pillar 2. Beginning in 2023, large multinational businesses may need to pay a 15% minimum tax in nations where the companies operate. (For more detail, please see [Deloitte Perspectives](#) on Pillar 2.) Global transfer pricing and profit sharing, elimination or reduction of tax allowance benefits, and potential limits to—or elimination of—1031 like-kind exchanges in the United States also have concerned real estate companies. Since these proposals were included in President Biden's [budget blueprint for fiscal 2024](#), however, legislative activity still should be monitored during the year.

Another tax consideration for REITs: hedges. Most banks require borrowers to buy derivative contracts in the form of interest rate caps or swaps as a condition of receiving funds. Rising interest rates increasingly are turning those hedges into lucrative investments, and many borrowers' hedges are in the money for the first time. For example, if a borrower holds an interest rate cap of 3% and rates go to 7%, the borrower is earning 4% on the hedges alone. That profitability has tax implications for REITs. We suggest checking hedges to make certain they were correctly identified when entered into lest borrowers receive unpleasant tax surprises.

In addition, some states and local jurisdictions are raising CRE transaction taxes to replenish coffers depleted by pandemic relief. During underwriting, real estate companies should ensure they're clear on current law, rather than relying on last year's assumptions. Acquirers should also consider that deal exit costs such as transfer taxes may occur on property sales, not just purchases, going forward.

CRE investors also should consider tax planning for ESG investments, such as tax credits for electric vehicle (EV) charging stations and solar energy. REITs that will be able to take advantage of—and monetize—credits as a result of the Inflation Reduction Act of 2022 should think through how they will structure, obtain, measure, and report on ESG activities ahead of jumping into projects.

Regulatory considerations may include new ESG requirements and increased oversight of non-traded REIT redemptions. Investors contemplating single-family rental purchases should be aware that rising prices and falling availability drew the attention of the US House of Representatives' Financial Services Oversight and Investigations Committee in 2022. Some local governments are also weighing initiatives that would cap rental counts or restrict institutions from competing with local homebuyers. Similarly, industrial investors should pay attention to local initiatives aimed at limiting warehouse operations.

2023 by sector

The **industrial** sector now is viewed as largely recession-proof by many industry observers.⁵⁰ That may be true for existing facilities, but the fate of new construction is less clear. Warehouse-laden communities such as California's Inland Empire—where big-rig traffic, noise, and diesel exhaust can be pervasive—are pushing back. Parents, environmentalists, and local governments concerned about pollution and quality of life argue that low-wage jobs aren't worth the health and safety risks to themselves and their children, and some Inland Empire cities are implementing warehouse construction moratoriums.

Residential assets, including apartments and single-family rentals, will likely continue to do well. Among the reasons: the ability to pass along inflationary cost increases in annual rent hikes, a strong overall employment trend despite tech- and entertainment-industry layoffs, and households that appear eager to remain independent. In contrast, many individuals and families consolidated during the financial crisis to save on rent.⁵¹ Rents may rise at slower rates as inflation moderates, but asset prices are likely to benefit from the substantial, ongoing housing shortage plaguing much of the United States.

Owners may face greater M&A obstacles in California and other states with strict rent control and lingering COVID-19 eviction restrictions, which can limit landlords' ability to pass on rising costs. Conversely, multifamily properties remain red-hot in the Sun Belt and South due to migration from other states and fewer tenant-protection measures than in some coastal states. Despite short-term difficulties, we also expect single-family home rentals to remain strong at least as long as interest rates are elevated.

In **retail**, some operators and properties could continue to thrive, particularly as malls become more creative with tenants and entertainment. For example, the Northshore Mall in Peabody, MA, turned a vacant Sears store into a mixed-use space that combines a new fitness center with pickleball courts and other amenities. Visits soon significantly outstripped customer traffic seen when Sears had been open. Alternatively, well-located malls could be repurposed as urban distribution centers, or smaller neighborhoods could be redeveloped into mixed-use, walkable retail, restaurants, and other venues.⁵²

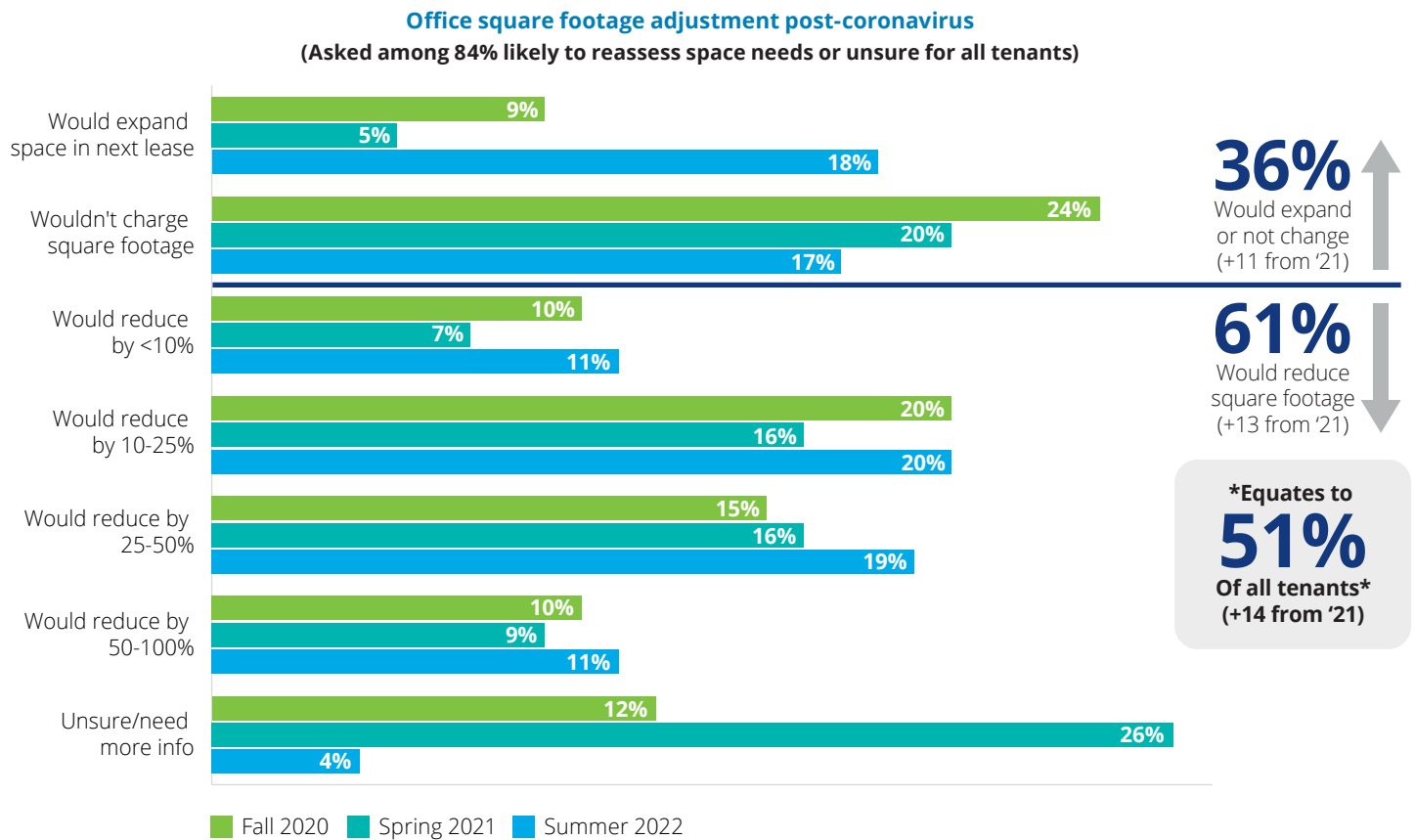
Office sector performance will depend largely on where buildings are located and how updated their amenities and sustainability profiles are. Newer properties such as Manhattan's One Vanderbilt tower likely will remain full and command lucrative lease rates.⁵³ Class B and Class C office buildings will face pressure to repurpose or, if vacant long enough, to be demolished and replaced with more appropriate structures.⁵⁴

The shared-space model is appearing in suburban spaces as people explore going back to an office, but not an urban core.⁵⁵ With low enough prices and/or sufficient government incentives, Class B or C buildings potentially could be converted to affordable housing.

Meanwhile, pandemic-era dust has not yet settled on the work-from-home model. It seems likely that business has returned to normal, but not to the office. The question for companies that want their employees onsite may be whether they're willing to earn people's commutes (figure 10).

Figure 10. Projected office square footage adjustments post-pandemic

Hybrid work culture and office occupancy



Source: 2022 BOMA International COVID-19 Commercial Real Estate Impact Study conducted by BOMA International, Yardi, Brightline

As for **hospitality**, we expect a continuing flight to quality,⁵⁶ with premium properties in irreplaceable locales retaining immense appeal for visitors and potential acquirers. Hotels likely will benefit as consumer spending shifts from goods to services, and from owners' ability to adjust prices in real time.

The return of REITs

Broadly speaking, **public REITs** are well positioned despite the CRE downturn and higher interest rates. Most are well capitalized, with strong balance sheets and some of the lowest debt/equity ratios in their histories.⁵⁷ Many also boast manageable interest rates and longer-laddered debt maturities that provide refinance breathing room. That fairly low near-term interest rate risk is a far cry from 2008 and 2009, when many REITs held debt with imminent maturities that they were unable to refinance.

We expect REITs to reenter M&A as rates stabilize or drop. Given that they generally don't have as much capital on hand as PE firms do, public REITs may have a harder time doing deals as markets rekindle.

Private REITs are in a very different position. Non-traded funds such as BREIT, SREIT, and those owned by Brookfield Asset Management and KKR and Co. jointly raised more than \$33.3 billion last year, only slightly less than a record \$34.4 billion in 2021.⁵⁸ Of that total, \$19.4 billion went to BREIT alone. BREIT says it has delivered a 12.5% annualized net return over the fund's six-year history, an impressive gain for small investors who would otherwise lack CRE access.⁵⁹

In late 2022 and early 2023, several non-traded REITs encountered issues when some retail investors—concerned by rising interest rates and falling stock and property values—increased redemption levels, which in turn triggered specific fund restrictions. The non-traded REIT model is not imperiled, however,⁶⁰ and we believe the funds will dive back into CRE M&A in mid- to late 2023. We don't expect private REITs to fade, nor for the appeal of their lucrative returns to diminish for retail investors, in coming years. But it's possible that non-traded REITs will face heightened regulatory hurdles in 2023 or soon afterward.⁶¹

M&A trends and drivers

We anticipate six intriguing trends and drivers in 2023:

1. **Realistic pricing and creative financing will likely emerge.**

Buyers appear to have good discipline on realistic valuations, while sellers have yet to adjust to lower prices. Given that the price divide has been in effect since mid-2022, bid/ask spreads may begin narrowing as soon as midyear.

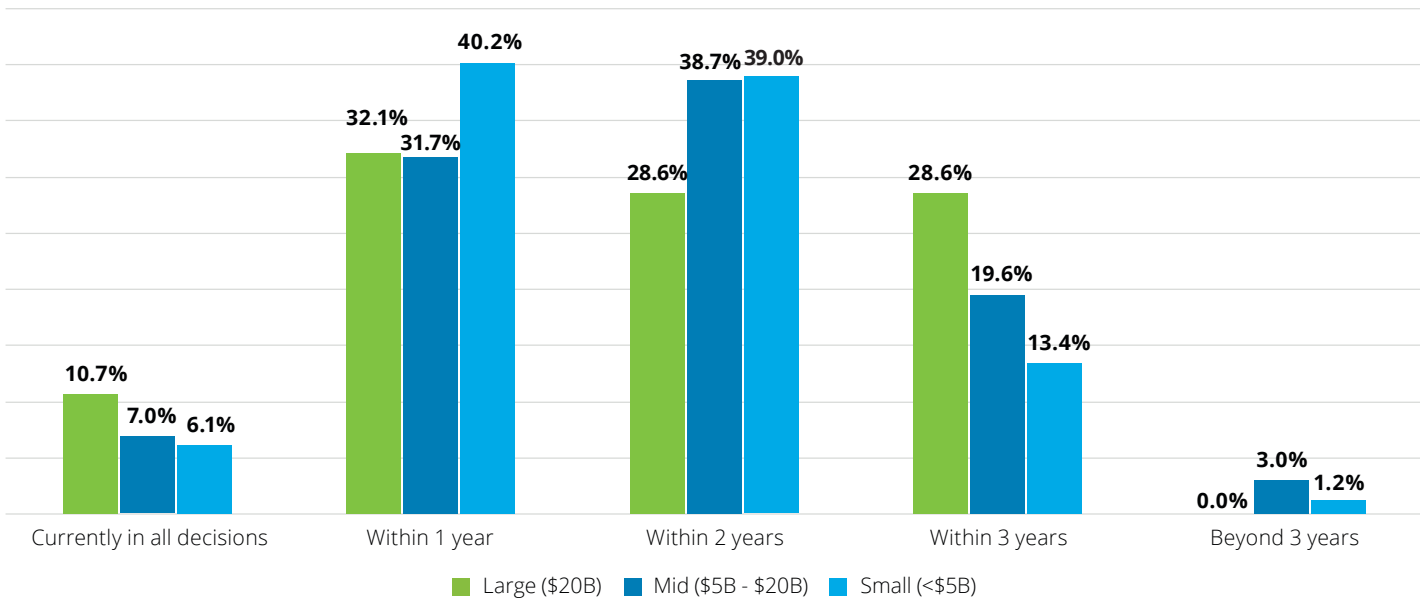
As long as interest rates remain high, we may see financing alternatives augment tighter public and private capital sources. For example, companies may opt for joint ventures in which one takes a minority stake in another’s portfolio to avoid triggering debt refinancing. The new entrant effectively is trading influence for the opportunity to retain existing, lower-cost debt.

2. **Commercial real estate will likely continue to be repurposed**

as office buildings and malls are converted to industrial, mixed-use commercial/residential or other uses, as discussed earlier.

3. **ESG factors will take hold.** ESG increasingly will play into M&A deals. In mid-2022, the Securities and Exchange Commission proposed categorizing ESG broadly and requiring owners to provide specific public disclosures. While no timeline has been set, the measure is expected to be adopted and could have a substantial impact on REITs. Tenants required to report on GHG emissions will be much more interested in properties that can be reported as being energy efficient. Features might include sensors that monitor how utilities are used and how much energy savings are being gained with conservation-oriented HVAC systems. CRE companies are beginning to move on these projects but still have much ground to cover (figure 11).

Figure 11. Global ESG compliance readiness
When do you plan to incorporate ESG data and analytics into investment strategy decisions at your institution (by assets under management size)?



If ESG features lower operating costs and offer other benefits, asset valuations will ultimately be higher. Conversely, insufficient cost/benefit trade-offs could cause obsolete properties to be demolished. We are already seeing “green premiums” for climate-savvy properties, along with “brown discount” price reductions for non-energy-efficient properties.

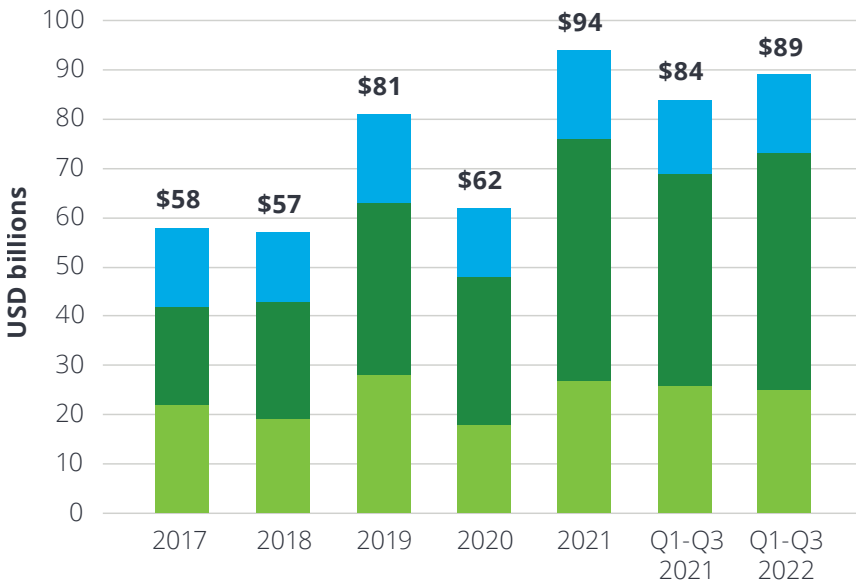
New ESG partnership models are also emerging. For instance, Brookfield partnered with Cleartrace, a startup that tracks energy use and emissions in real time, to reenvision its flagship Manhattan office tower with renewable energy and GHG data in a traceable blockchain format.⁶² Meanwhile, REITs UDR, Inc. and Essex Property Trust are co-lead investors in RET Ventures ESG Fund, which aims to implement ESG solutions for the housing industry—potentially including building design, energy use, carbon emissions, waste management, and data collection and reporting.⁶³

There is, however, a burgeoning political divide over ESG investment. Some state officials are discouraging their pension funds from investing in REITs or PEs that have established ESG standards, potentially walling off a substantial source of M&A and operating capital.⁶⁴

4. **Alternative sectors likely will become more mainstream.**

Net leases, in which tenants pay taxes, utilities, insurance, maintenance, and other costs normally borne by landlords, escalated in popularity last year—as did net lease property deals. For the first three quarters of 2022, net lease property sales rose to \$89 billion from \$84 billion in the same period the previous year—a notable increase given midyear sales and valuation declines in most sectors (figure 12). Net leases are particularly popular in large industrial facilities with single tenants, which gain greater control over their costs. The proliferation of warehouses could be driving net lease adoptions.

Figure 12. US net lease property sales



Among major M&A deals, STORE Capital Corp. was acquired in 2023 for \$14 billion by Singapore sovereign wealth fund GIC Private Ltd. and by Oak Street, a Blue Owl Capital Inc. division. A net lease REIT, STORE holds more than 3,000 single-tenant properties around the United States.⁶⁵

Other areas likely to move closer to the mainstream: tech-driven CRE such as data centers, cell towers, and life sciences labs. Unlike other professional work, which largely can be done remotely, lab staff must be on premises, so demand is likely to remain high.⁶⁶ Senior housing, which came under extreme operating pressure during the pandemic, is also likely to reemerge as baby boomers age and enter senior living communities in increasing numbers.⁶⁷

5. **Experiential retail will likely continue pushing boundaries.**

Experiential retail has become shorthand for the myriad ways in which malls are renovating and repurposing, particularly in the vast spaces left by former anchor tenants. The concept is already a fixture in parts of Asia, where experiential retail includes a skatepark on top of a Japanese mall, fitting-room tech that enables people trying on clothes to request other styles or colors without leaving their dressing areas, and checkout tech that minimizes the need for employee assistance.⁶⁸

In the West, experiential retail ranges from mall makeovers to novel combinations of attractions. London’s House of Vans, housed beneath railway arches near a major subway station, hosted an artist incubator, art gallery, movie theater, live events,

cafés, bars, and a skatepark—the better to show off the retro-trendy shoes for which Vans became known—for eight years. Closed in late 2022, House of Vans locations remain in Chicago and Mexico City, and the company has announced plans to debut the concept in other international locations.⁶⁹

Other repurposing is more avant-garde. American Ninja Warrior Adventure Park, an obstacle course inspired by the TV show of the same name, opened at MainPlace Mall in Santa Ana, CA, in mid-2022. The 17,000-square-foot facility—which includes monkey swings, spider walls, warped walls, and a massive obstacle course—expects 350,000 visits in its first year.⁷⁰

Another unusual concept, Sloomoo, began as a New York City pop-up that received 30,000 visits monthly pre-pandemic. Child-oriented Sloomoo is a fusion of play and immersive technologies, with kinetic sandboxes, augmented reality, and brightly colored goo that kids can add to a “slime wall.” Sloomoo’s backers now have expanded to large spaces in Chicago and Atlanta.⁷¹

Such radical experiential retail requires substantial upfront investment. The question for startup and M&A investors is whether such makeovers will pay off or turn out to be short-lived fads.

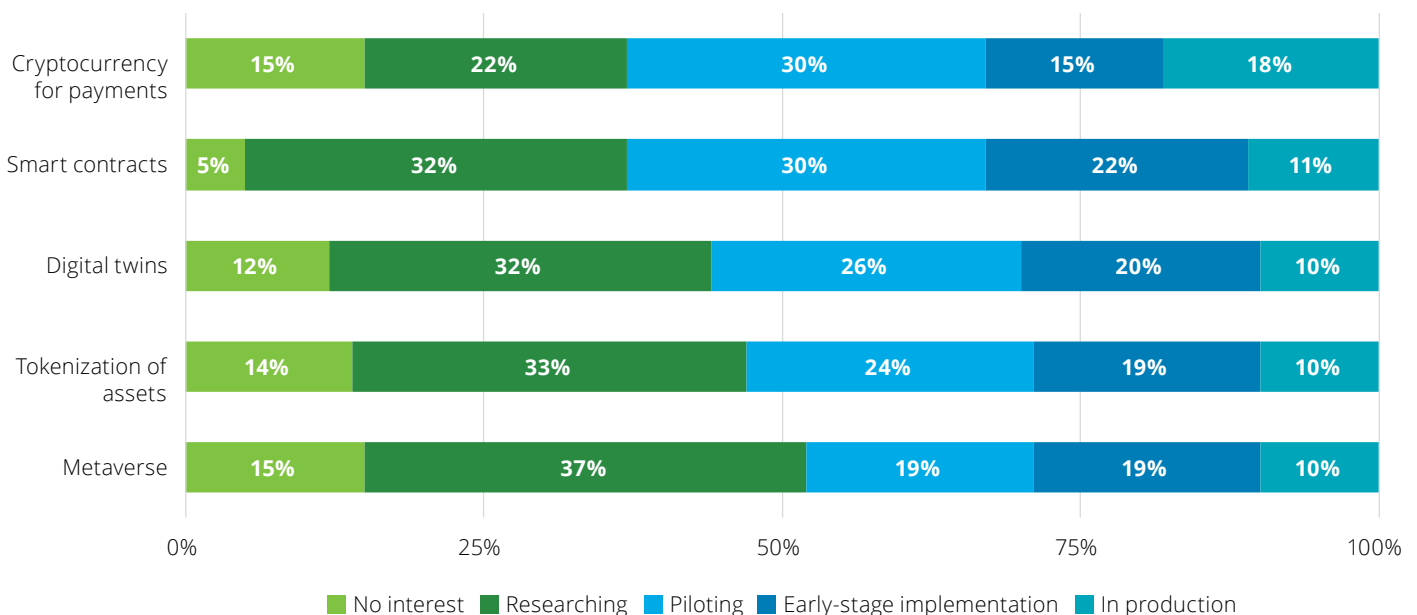
- 6. **Companies will likely escalate technology uptake.** CRE is undergoing fundamental operating changes, including escalating reliance on tech. [In a global survey of 450 chief financial officers](#) representing major CRE owners and investment firms last year,

the Deloitte Center for Financial Services found that one-third of respondents named accelerating tech capabilities as their greatest challenge. Fewer than half foresaw tech budget cuts near term, and 17% said their companies would boost tech spending by at least 5%.⁷²

Leading tech targets included systems to aid property management, fundraising, and customer relationship management, along with data integration to control energy costs. About half of Asia-Pacific and North American respondents saw value in proptechs, the real-estate-focused startups that rebounded in 2021.⁷³ Among proptech offerings: financing and management tools, analytics capabilities, and asset utilization systems. Real estate as a service (REaaS) also provides the ability to leverage smart building capabilities for delivering digital and physical services.

Responses showed growing openness to using smart contracts, cryptocurrency, and digital twins that virtually construct or replicate properties. The same was true of tokenization, the conversion of asset ownership into digital tokens on blockchain, and expanding into the metaverse (figure 13). Some CRE companies and cities now are exploring metaverse options, but the question of what determines value in a universe with unlimited land—and an unlimited number of universes—is a complex one. Hype aside, the metaverse still appears to be largely an idea.

Figure 13. US emerging technology adoption



Source: Deloitte Center for Financial Services 2023 commercial real estate outlook

Opportunities and challenges

The year's greatest M&A opportunity will likely lie in market distress. Whether or not a short-term or shallow recession materializes, acquirers may be able to scoop up assets for below-market prices. Office properties with declining occupancy and rising operating costs may be available if owners are unable to refinance. Multifamily property prices are sliding from their peak, and some retail locations have repurposing potential. Owners may also elect to sell tired hotels rather than take on renovations.

Internationally, 2023 may be a good time for US companies to look for assets abroad. Taking advantage of the strong dollar now may be wise given that the dollar may fade during the year. China in particular may have interesting prospects since the nation has reopened for business.

Another major opportunity: improving operating efficiency. CRE processes historically have been fueled by people, and the industry has lagged well behind other financial services in tech adoption. The Great Resignation was a wake-up call to make urgent tech upgrades, as well as to the realization that all CRE functions no longer need to occur in-house. We suggest looking carefully at internal operations that don't drive value or that can be outsourced effectively, including accounting, lease administration, and other rule-based processes—and implementing changes while markets are idle.

The greatest challenge may be finding well-priced acquisition targets. Buyers need to strategize how they will look for deals and identify viable prospects in a largely dormant market. Sellers may find that they must reduce prices, upgrade properties, or repurpose buildings that are no longer compelling. And all owners need to explore how they will refinance loans that are coming due.

Capitalizing on commercial real estate

To prepare for 2023's uncertain market, we suggest that organizations make sure their balance sheets are shored up, stay on top of debt maturities, and consider replacing near-term debt maturities with creative sources like private debt or joint ventures. A market pause is also a prime opportunity to look at how work gets done. The past few years saw many companies focused on buying and selling assets, not on their own organizations. We suggest examining back-office operations, tech systems, and processes of all types—including how tax and accounting departments function.

Companies may want to consider reassessing their asset portfolios and upgrading properties that lag in physical condition or amenities. Owners may also want to rebalance their portfolios to include other asset sectors or classes in light of market trends. While concentration often has been considered an advantage, focusing on one sector now carries risk, as the office and retail markets testify.

In addition, we suggest being patient deploying capital: watching what happens across CRE sectors and geographic markets while taking a long-term investment view. Real estate is characterized by up and down cycles, and the best deal still may be the one that a company doesn't do. Finally, we suggest businesses think carefully about how they will play when markets open up again. Positioning a company to thrive post-recession is as vital as managing diligently through the slowdown.

Contacts

Jonathan Keith

Managing Director
Deloitte & Touche LLP
+1 212 436 4554
jokeith@deloitte.com

Nathan Florio

Principal
Deloitte Transactions and Business Analytics LLP
+1 212 436 3451
naflorio@deloitte.com

Endnotes

1. Refinitiv, accessed January 10, 2023; Real Capital Analytics, accessed January 18, 2023.
2. Ibid.
3. Ibid.
4. Ibid; Real Capital Analytics.
5. Ibid.
6. Ibid.
7. Ibid; Refinitiv.
8. Ibid; Real Capital Analytics.
9. Ibid; Refinitiv; Real Capital Analytics.
10. Refinitiv.
11. Daniel Mather, "[8 biggest M&A deals of 2022](#)," iDeals, December 2, 2022.
12. Prologis, "[Prologis closes acquisition of Duke Realty](#)," press release, October 3, 2022.
13. Blackstone, "[Blackstone funds complete \\$13 billion acquisition of American Campus Communities](#)," press release, August 9, 2022.
14. Blackstone, "[Affiliates of Blackstone Real Estate complete \\$7.6 billion acquisition of PS Business Parks Inc.](#)," press release, July 20, 2022.
15. Blackstone, "[Blackstone Real Estate Income Trust completes \\$5.8 billion acquisition of Preferred Apartment Communities, Inc.](#)," press release, June 23, 2022.
16. Blackstone, "[Blackstone Real Estate Income Trust completes \\$3.7 billion acquisition of Resource REIT](#)," press release, May 19, 2022.
17. Sarah Borchersen-Keto, "[REIT M&A activity in 2022 set brisk pace across range of property types](#)," Nareit, January 18, 2023.
18. Ronamil Portes, "[US equity REIT capital offerings plunged over 62% in 2022](#)," S&P Global Market Intelligence, January 26, 2023.
19. Borchersen-Keto, "[REIT M&A activity in 2022 set brisk pace across range of property types](#)."
20. Refinitiv, accessed January 10, 2023.
21. Coin News Media Group LLC, "[US Inflation Calculator](#)," accessed February 23, 2023.
22. Peter Grant and Rebecca Picciotto, "[Real estate deal making slows as bank lending tumbles](#)," *Wall Street Journal*, July 26, 2022.
23. Real Capital Analytics.
24. Tim Coy and John D'Angelo, "[The impacts of economic uncertainty, supply chain disruptions, and e-commerce trends on industrial real estate today and in the future](#)," *Pension Real Estate Association Quarterly Magazine*, Fall 2022.
25. Refinitiv.
26. Schumpeter, "[Is the warehouse business recession-proof?](#)" *The Economist*, September 22, 2022.
27. Refinitiv.
28. Real Capital Analytics, accessed January 18, 2023.
29. Will Parker, "[Investor home purchases drop 30% as rising rates, high prices cool housing market](#)," *Wall Street Journal*, November 22, 2022.
30. Margaret Jackson, "[Quick to enter the market, institutional investors now shedding single-family home rentals](#)," Benzinga, November 25, 2022.

31. Real Capital Analytics.
32. The Grove, [Events list](#), accessed February 23, 2023.
33. Travel Maven, "[Exciting new attractions coming to American Dream Mall in 2022](#)," April 25, 2022.
34. Kastle Systems, "[Kastle Back to Work Barometer](#)," accessed January 30, 2023.
35. Joanna Partridge, "[It's just not worth it: Why employers still can't get the staff back to the office](#)," *The Guardian*, October 1, 2022.
36. BOMA International, Yardi, Brightline, [2022 BOMA International COVID-19 Commercial Real Estate Impact Study](#), conducted May 2022 through June 2022.
37. Peter Grant, "[Meta, Lyft, Salesforce and other tech firms dump office space as they downsize](#)," *Wall Street Journal*, November 15, 2022.
38. Jeffrey J. Smith et al., [2023 commercial real estate outlook](#), Deloitte Center for Financial Services, September 14, 2022.
39. Ibid.
40. Jeffrey Havsy, Xiaodi Li, and Kevin Fagan, "[Why office-to-apartment conversions are likely a fringe trend at best](#)," Moody's Analytics, April 7, 2022.
41. Gladstone Commercial, "[Gladstone Commercial announces \\$29.0 million acquisition in Crossville, TN](#)," press release, December 27, 2021.
42. Mark Heschmeyer, "[New York City REIT: Time to move beyond one market, one property type](#)," CoStar News, December 30, 2022.
43. Peter Grant, "[Top office owners don't want to own only office buildings anymore](#)," *Wall Street Journal*, January 10, 2023.
44. Ibid.
45. MSCI, Real Capital Analytics, data prepared February 8, 2023.
46. Ibid.
47. Blackstone, "[Blackstone completes sale of The Cosmopolitan of Las Vegas](#)," press release, May 17, 2022.
48. Eileen Crowley et al., [2023 travel industry outlook](#), Deloitte, 2023.
49. Melissa Reagan, "[Narrowing down the alternatives: Three megatrends in housing, healthcare and technology will support investments in alternative real estate](#)," Institutional Real Estate, Inc., September 1, 2020.
50. Schumpeter, "[Is the warehouse business recession-proof?](#)"
51. Timothy Dunne, "[Household formation and the Great Recession](#)," Federal Reserve Bank of Cleveland, August 23, 2012.
52. Jennifer Bradley Franklin, "[The Krog District is primed to become one of Atlanta's favorite hang-outs](#)," *Southern Living*, January 30, 2023.
53. Natalie Wong, "[NYC's One Vanderbilt tower hits 99% leased as new tenant signed](#)," Bloomberg News, September 15, 2022.
54. Howard Chai, "[Adapt or die: Why converting offices into homes hasn't taken off in Canada](#)," Storeys Newsletter, December 1, 2022.
55. Emily Landes, "[SF employers see coworking as back-to-the-office alternative](#)," *The Real Deal*, October 18, 2022.
56. JLL, "[Real estate's flight to quality is bringing investors and occupiers closer](#)," Hospitality Net, February 10, 2023.
57. Sarah Borchersen-Keto, "[Investment bankers see potential for REIT rebound in 2023](#)," Nareit, February 28, 2023.
58. Kinsley Live, "[Non-traded alternative investments raised record \\$104 billion in 2022](#)," *The DI Wire*, March 8, 2023.
59. Blackstone Real Estate Income Trust, [2022 year-end stockholder letter](#), January 26, 2023.
60. Hannah Zhang, "[What fundraising woes? PE giants are raking in cash](#)," *Institutional Investor*, November 15, 2022.
61. North American Securities Administration Association, Inc. (NASAA), "[Proposed Revisions to NASAA Statement of Policy Regarding Real Estate Investment Trusts](#)," July 12, 2022.
62. Cleartrace, "[Brookfield Properties' One Manhattan West to be powered by 100 percent renewable energy](#)," press release, March 21, 2022.
63. Essex Property Trust, "[Essex Property Trust and UDR, Inc. are lead investors in ESG innovation-focused 'Housing Impact Fund' launched by RET Ventures](#)," press release, April 22, 2022.
64. Amrith Ramkumar, "[Some GOP states push back against ESG investing trend](#)," *Wall Street Journal*, August 30, 2022.
65. STORE Capital, "[GIC and Oak Street complete \\$15 billion acquisition of STORE Capital](#)," press release, February 3, 2023.
66. Mark Faris, "[CRE lenders shift focus to alternative assets](#)," Commercial Property Executive, March 30, 2022.
67. Suzann D. Silverman, "[The baby boomer revolutionization of senior housing](#)," Multi-Housing News, March 2, 2023.
68. Mirei Takashima Claremon, "[Experiential retail is old news](#)," Medium, January 10, 2019.
69. Arusa Qureshi, "[London's House of Vans to close after eight years](#)," NME, November 23, 2022.
70. Joan Verdon, "[The pandemic didn't kill malls. It made them smarter](#)," *Forbes*, September 4, 2022.
71. Sharon Edelson, "[Sloomoo is spreading its colorful slime to new locations in Chicago and beyond](#)," *Forbes*, December 20, 2021.
72. Smith et al., [2023 commercial real estate outlook](#).
73. Ibid.



About this publication

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional adviser.

Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the "Deloitte" name in the United States, and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.