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The Present and Future of Proptech:

Charting a Clearer Path in Murky Markets

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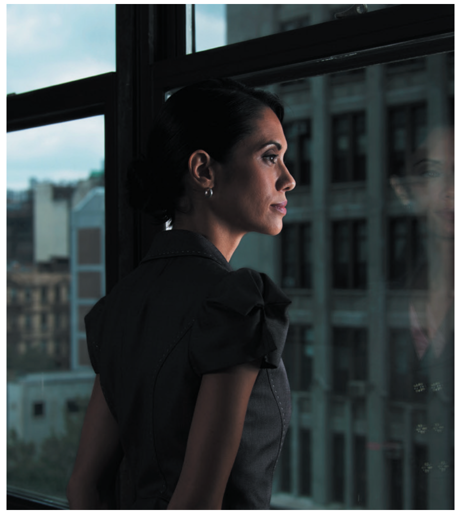
Introduction



The global real estate market has undergone considerable turmoil in the past few years, from the shocks of the COVID-19 pandemic to the ensuing and ongoing shift in office occupancy rates to even broader demographic trends. But even as volatility and challenges reign, the sheer size and impact of the sector remain monolithic. According to Savills, worldwide property hit nearly $380 trillion by the close of 2022—a 2.8% decrease from 2021 but growth of 18.7% over the three years prior .[1]

Part of that ongoing increase in value is due to the spread of technology and other innovations into of all aspects of property. Exotic new types of securitizations, establishing new platforms for investors to gain exposure to types of real estate beyond the usual residential ownership, the continued push of alternative asset managers into ownership of homes in developed nations, and the deployment of Artificial Intelligence (AI) all serve as examples of innovation changing proptech, whether quickly and slowly.

1 "Total Value of Global Real Estate: Property Remains the World's Biggest Store of Wealth," Savills, Paul Tostevin and Charlotte Rushton, September 2023.

In this report, the third in the annual proptech report series by Valley Bank, the key macro factors helping shape proptech on the economic, demographic and market fronts are examined as part of the backdrop to private investment trends. Although primarily concentrated in VC, private investment remains key to accelerating proptech innovation, while the activities of other investment firms or nontraditional asset managers also speak to the maturation of the sector and how the evolution of many mature PE firms into publicly listed giants and major players in residential real estate could mean even more sweeping changes for commercial real estate.

The report also surveys and spotlights a handful of key proptech technologies, featuring insights in a deep-diving Q&A from proptech players and experts spanning a variety of roles and perspectives. Lastly, the report concludes with an outlook on the most important risks and opportunities that could shape the year to come.

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About Us

Valley Bank

At Valley Bank, we don't just invest in your business. We invest in your future to achieve your goals, advance your communities and secure your legacies. As a leading regional bank, we balance stability and convenience—with approximately $61 billion in assets and more than 200 branches and commercial banking offices across the US—with an agility for knowing just how to adapt, pivot and plan two steps ahead.

With more than 3,800 experts across real estate, commercial & industrial, healthcare, nonprofit, government contracting and more, we help you focus your vision and then prioritize the solutions you need to achieve your business, specialized and personal ambitions, responsibly and sustainably.

Because whether you're just starting up, looking to expand, or seeking solutions that create greater stability, we take advancing your ambitions personally. It's how we've been working since 1927, and what makes us the partner you can turn to, to power your tomorrow with confidence.

GreenPoint Partners

GreenPoint is an alternatives investment firm that invests at the intersection of real assets, technology and sustainability. Founded in 2019 by Chris Green and headquartered in New York, the firm is deploying complementary strategies across technology investing and private equity to integrate the disparate worlds of real assets and technology. Green has 20 years of real assets experience, including 16 years at Macquarie Capital where he was the global head of real estate. The firm's activities are supported by a team of investors and operating partners who bring decades of experience in technology, real estate investing and operations at top firms. Visit us at www.greenpointpartners.com.

Chris Green, Founder & CEO, Greenpoint Partners

Chris Green is the founder and the Chief Executive Officer of Greenpoint Partners. He is also on the board of Goodman Funds Management Ltd., Goodman Ltd., Goodman Group and Goodman Industrial Trust. Chris was previously the global head of real estate for Macquarie Group and has worked as a consultant in a range of companies like Kingfisher, GAP and Hackett.

MetaProp

MetaProp is a New York-based venture capital firm focused on the real estate technology ("PropTech") industry. Founded in 2015, MetaProp's investment team has invested in 175+ technology companies across the real estate value chain. The firm manages multiple funds for both financial and strategic real estate investors that represent a pilot- and test-ready sandbox of 20+ billion square feet across every real estate asset type and global market. The firm's investment activities are complemented by pioneering community leadership including the PropTech Place innovation hub, MetaProp Accelerator at Columbia University programs, global events including NYC Real Estate Tech Week, and publications Global PropTech Confidence Index and PropTech 101.

Zak Schwarzman, General Partner, MetaProp

Since joining MetaProp as a General Partner in 2016, Zak has led MetaProp's venture capital funds, investing in high-growth PropTech startups that are transforming the way we conceptualize, utilize, build, transact, interact with, and manage physical space. Zak's investment experience spans seed, multi-stage and corporate venture capital as an investor at Gotham Ventures, Canaan Partners, AOL Ventures and LearnCapital. Zak is also an Adjunct Professor at Columbia Business School where he teaches the graduate venture capital seminar. Zak is a Kauffman Fellow and holds an M.B.A. from Columbia Business School and a B.A. in Political Economy and Business from Tulane University.

Executive summary

Headwinds:

The global property sector faces considerable change and economic pressures, from looming debt maturities numbering in the trillions over the next few years to geopolitical tensions ratcheting up the cost of construction to the need to retool and build in more sustainable ways. Moreover, economic growth is once again forecast to be sluggish at best in 2024.

Resiliency:

Although proptech dealmaking overall finally fell after an unexpectedly strong 2022, venture dealmaking remained historically healthy, signaling ongoing investment—even if at a subdued pace—into key arenas of innovation and technological deployment.

Risks:

Other areas of dealmaking, such as M&A or buyouts, were more sluggish due to sheer capital costs and uncertainty around timelines for returns, anticipated delays and costs of integration, and more. Consolidation still occurred, and investment in digitalization and the acquisition of other capabilities, as well as entry into new markets, could spur occasional M&A in 2024, but it is difficult to see a more substantial resurgence.

Opportunities:

The need to continually develop and implement tools such as AI in service of sustainability and efficiency still exists. As a result, dealmaking—particularly on the VC side—is anticipated to continue while firms try to balance caution with sufficient investment in proptech's gradual spread across multiple aspects of the property sector. It is likely macro concerns will continue to weigh on sentiment and the speed of dealmaking, but there remains plenty of capital to disburse in worthwhile opportunities, and more experienced firms continue to scour the proptech landscape for them.

Macro Trends

Last year saw much more resiliency in financial markets and economic growth in certain countries than anticipated, yet the outlook for 2024 is still very murky. The World Bank paints an overall gloomy picture of slowing growth, especially amid rising geopolitical tensions, stating, "Global growth is projected to slow for the third year in a row—from 2.6% last year to 2.4% in 2024, almost three-quarters of a percentage point below the average of the 2010s. Developing economies are projected to grow just 3.9%, more than one percentage point below the average of the previous decade.... In advanced economies, meanwhile, growth is set to slow to 1.2% this year from 1.5% in 2023."[2] This downbeat outlook may not yet translate to actuality, as was the case last year, but it will ensure dealmakers and longer-term, costly real estate projects will be slower moving in general.

2023 saw $541.0 billion of commercial real estate debt come due, setting a record.[3] Delinquency rates for mortgages backed by commercial real estate moved to 6.5% for office properties and 6.1% for lodging.[4] Commercial loan-to-value ratios are down somewhat from the past two years, while more than $2 trillion in loans for commercial real estate are set to mature through 2027.[5] This impending wave of debt is likely to be the main focus for players in commercial real estate as they seek to renegotiate and navigate rising costs of leverage. There is hope for some decline in interest rates in 2024, but that could prove illusory. Refinancing at higher rates will prove painful and could lead to further distress if not outright defaults.

The push for sustainability continues relentlessly. The JLL Global Real Estate Outlook estimates there is 75% unmet demand for low-carbon office space in the US, 57% in Europe, and 59% in Asia-Pacific.[6] As regulatory changes also enforce retrofitting, changes in construction plans, and other adaptations, more capital deployment opportunities should emerge for the swiftest-moving, most successful green real estate companies. In addition, demographic shifts and the resilience of remote work entail a balance between building ex-urban office clusters, revitalizing downtowns away from office dependency, and creating strong demand for rental expansion.

Technical innovations nowadays are dominated by AI, and proptech is no exception. However, as AI deployment continues across proptech in energy monitoring and usage, connectivity, security, and predictive analytics, the physical implementation of the ever-widening Internet of Things (IoT) also remains of critical importance, especially when it comes to retrofitting and improving energy consumption and emissions rates. Augmented reality (AR) and virtual reality (VR) deployment for building information modeling and property management is also occurring. From there, ongoing improvement in the automation of back-office processes, settlement, data analysis, and even marketing of properties will produce incremental yet important gains in efficiency and productivity.[7] Modular and prefabricated construction, novel materials such as mycelium bricks, geothermal heat pumps, and more are also technologies that have seen advances of late.

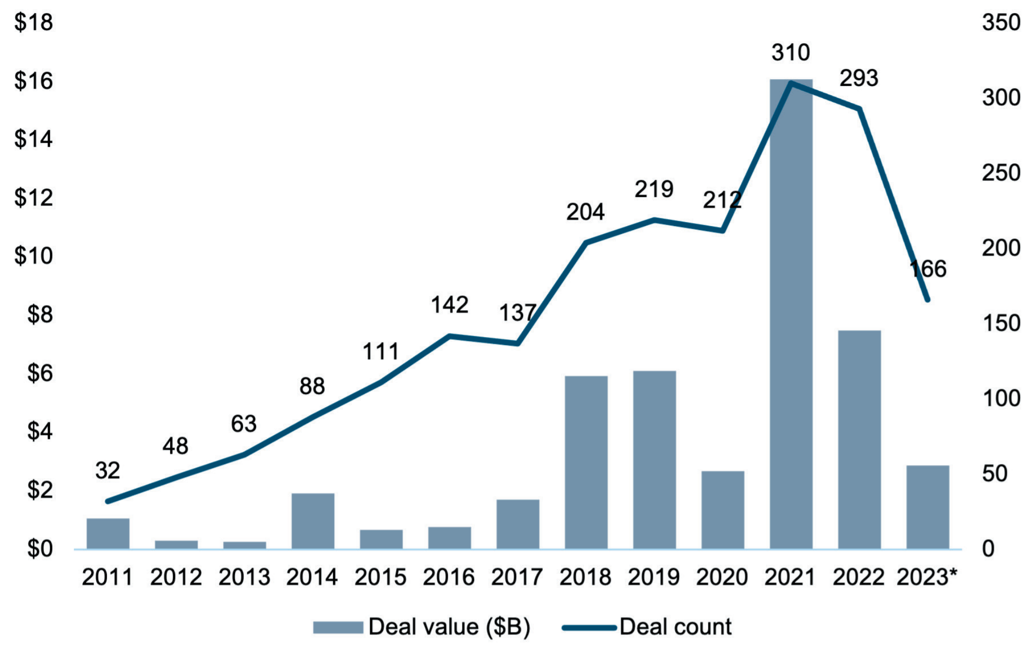
2. "Global Economy Set for Weakest Half-Decade Performance in 30 Years," The World Bank, January 9, 2024.
3. "The Bill Is Coming Due on a Record Amount of Commercial Real Estate Debt," The Wall Street Journal, Peter Grant, January 16, 2024.
4. "Delinquency Rates for Commercial Properties Increased in Fourth-Quarter 2023," MBA, Falen Taylor, January 16, 2024.
5. "2024 Trends to Watch in Real Assets," MSCI, Will Robson et al., December 13, 2023.
6. "Global Real Estate Outlook 2024," JLL, David Rea et al., n.d., accessed January 29, 2024.
7. "How Property Technology Is Changing Commercial Real Estate," J.P. Morgan, Reny Simon and Richard Patapoff, May 15, 2023.

Market Trends

The slowdown in dealmaking finally hits proptech

Last year, the pace of dealmaking in proptech finally succumbed to the general slowdown that has been observed in virtually every other asset class. Moreover, for proptech, 2023 saw the lowest count of completed transactions since 2017, albeit for a combined aggregate value of $2.9 billion that exceeded 2020's total. Overall, this decline was to be expected. Rising costs of capital, overall economic unease, fears of geopolitical tension, changes in supply chains' speed and cost propelling revisions upward for construction and renovation, the classic comedown from a bullish period of record valuations, and more all combined to create an environment of caution at best. However, as detailed below, venture dealmaking in proptech remained resilient, or at least healthy by historical averages, which hints that the resiliency noted in 2022 may still be holding in some segments.

US Private Capital deal activity



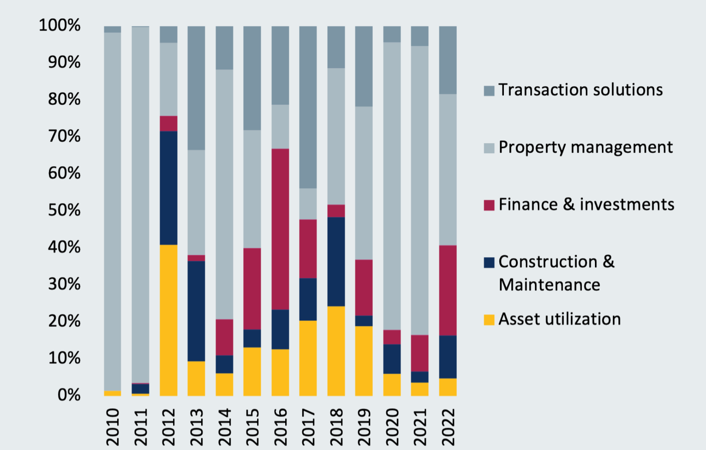
Source: PitchBook

Where proptech dealmaking is still concentrated suggests where 2024 may see investment pick up

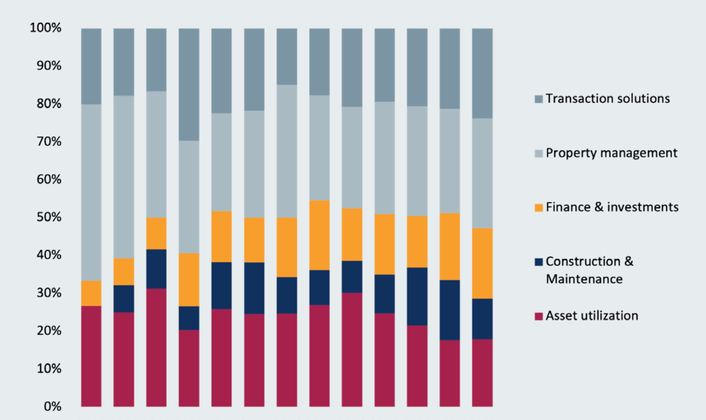
Analyzing where deals are being closed, although at a slower rate, helps explain where dealmakers felt most confident within the proptech realm. 2023 saw an uptick in the proportion of transactions around property management and transaction solutions, while aggregate deal values were also proportionally concentrated in those same proptech segments. This focus suggests that firms were prioritizing cost-saving and revenue-boosting implementations to costly, lengthy digital processes via automation. Physical property management, deployment of energy-saving devices and analytics packages also were prioritized. Reviewing a handful of select transactions further confirms the trend toward financial and physical sustainability, as well as opportunistic consolidation and investment in digitalization by more traditional real estate players:

- Peak Power, a developer of an AI-powered energy optimization platform, raised $200.0 million of VC in February 2023.
- Online mortgage marketplace Optimal Blue was acquired by Constellation Software for $700.0 million on September 15, 2023.
- February 2023 saw Juniper Square, an operator of a real estate investment management platform, garner $133.0 million in growth capital (both debt and equity) from a bevy of firms including Blue Owl Capital, Fifth Wall, Redpoint Ventures, and others, while Owl Rock BDCs supplied a term loan and a mezzanine financing.
- Multifunctional storage tech provider StoreBox raised EUR 67.5 million in Series B funding in the form of convertible debt from n3k Informatik, Kineo Finance, and Apic Investments, among others, in September 2023.
- Zillow bought real estate platform Follow Up Boss for an estimated $500 million in October 2023; the platform focuses on helping real estate agents handle lead management and responses.

US private capital deal activity ($B) by segment



US private capital deal activity (#) by segment



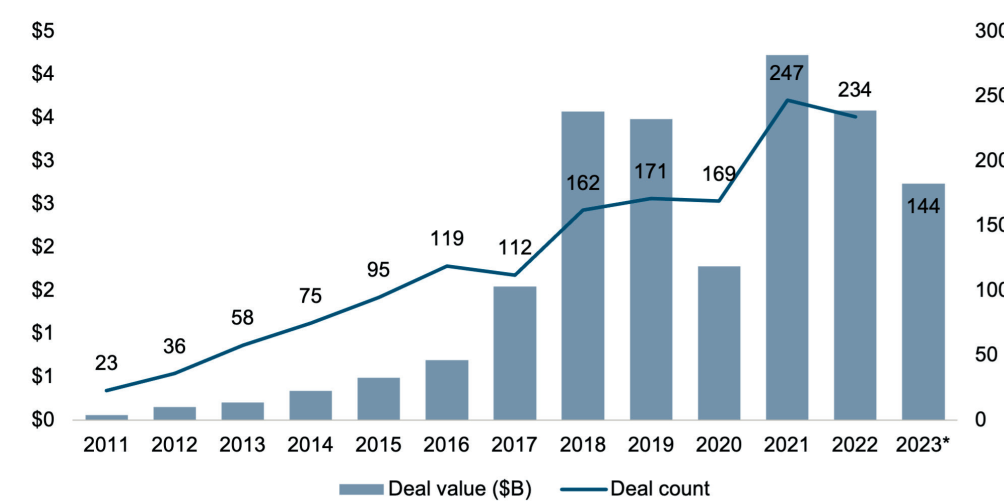
Source: PitchBook

Market Trends

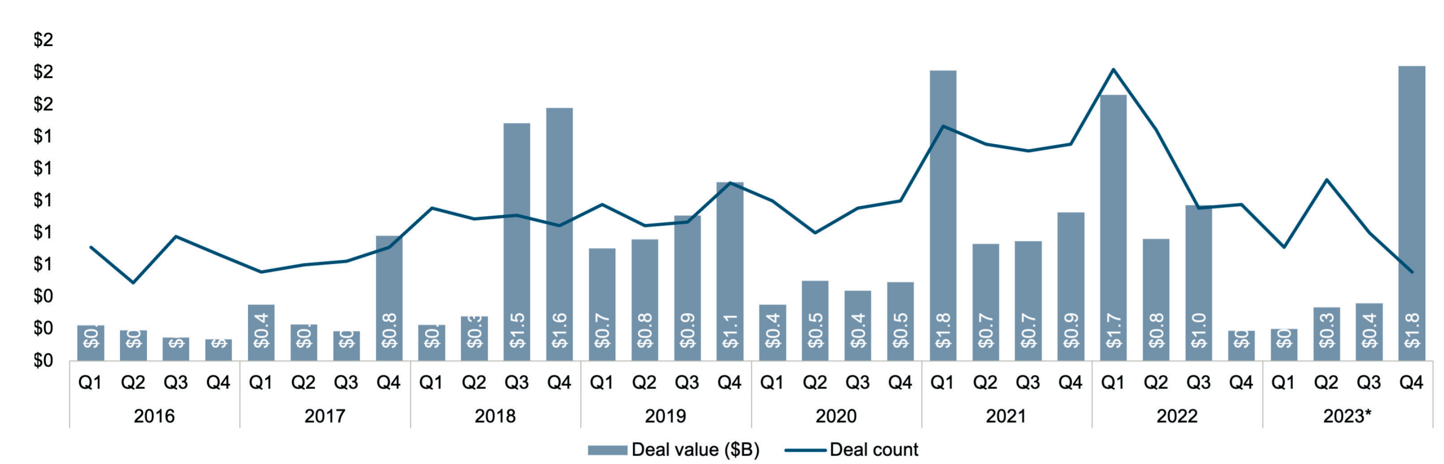
Venture sees historically healthy tallies

Proptech deployment is well-developed, but newer technologies within emerging proptech segments, such as utilization of AI for predictive maintenance for property managers, remain nascent. Perhaps that is one driver of VC activity's surprising resilience in proptech in 2023. At 144 completed deals for $2.7 billion in aggregate, VC accounted for the vast bulk of all proptech dealmaking in 2023, with those totals also comparing favorably to previous historical averages from 2017 to 2020—and well over anything seen in the first half of the 2010s. Outlier deals such as those noted above significantly skewed VC invested into transaction solutions, with that segment obtaining close to 70% of all 2023 venture deal value. However, VC deal counts broken out by segment proportionally held true to the levels seen in the past few years, which also helps explain why investment rates are holding steady. A diversity of potential business plays that would span more segments in proptech would offer investors a greater variety of options suitable for more cautious environments.

US VC deal activity



US VC deal activity by quarter



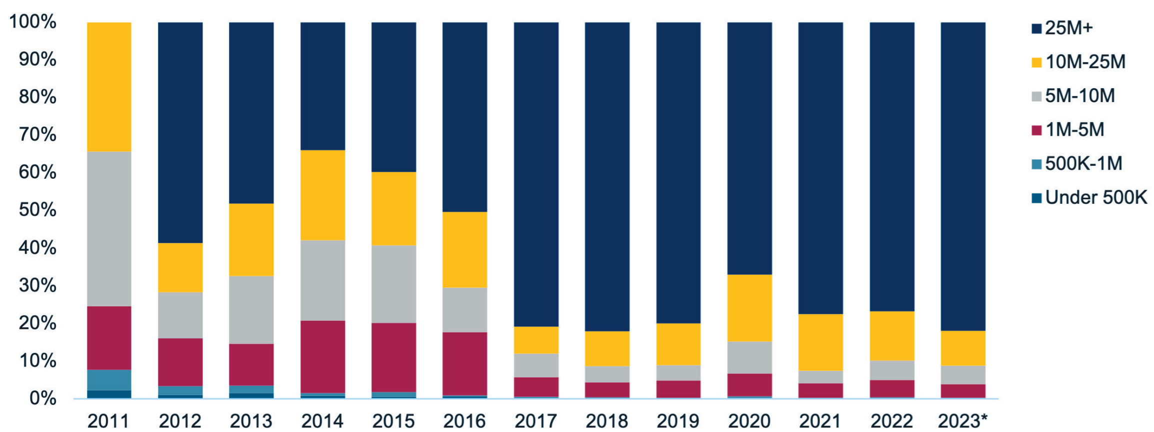
Source: PitchBook

Market Trends

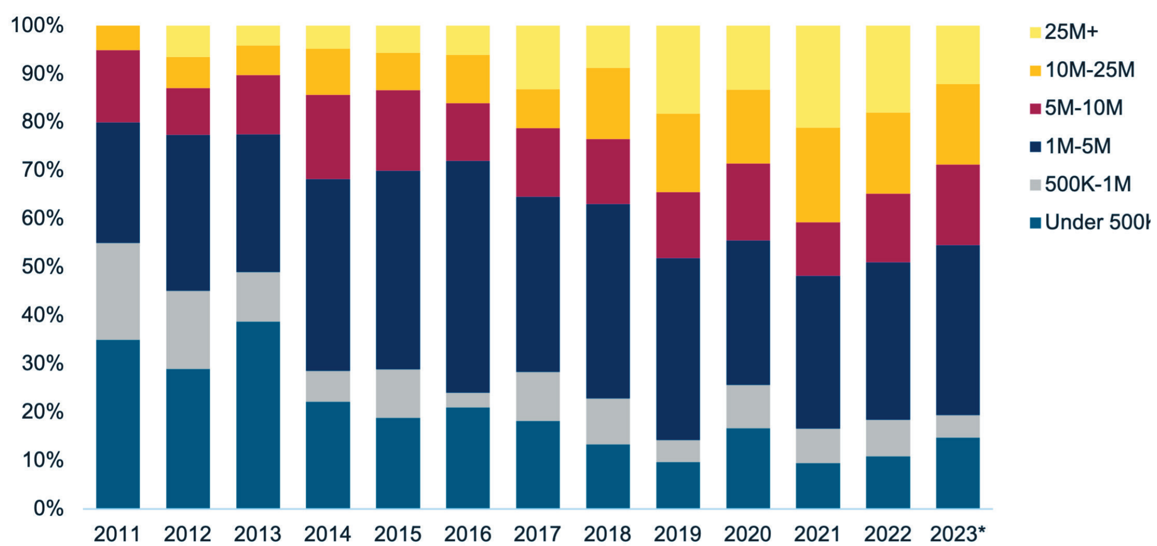
Financing metrics still hold steady, suggest caution rather than consternation

Interestingly, the proptech median deal size and pre-money valuation both held steady at relatively high levels, especially median deal size at $4.0 million compared to a height of $5.0 million in 2021 and $4.6 million in 2022. Pre-money valuations saw a median of $27.0 million, which exceeded any other year apart from 2021 and 2022. What these figures, juxtaposed against VC activity's relative resiliency, suggest that VC dealmakers still have plenty of capital to call and deploy into investments, but they are doing so at a somewhat slower clip. However, proptech's deal size economics have held to healthy levels compared to declines in other sectors. Although sample sizes are non-normative (meaning below 30 in population count) for early-stage and venture-growth figures, median deal sizes for pre-seed and seed actually increased to $3.3 million in 2023 from $3.0 million in 2022, and the later-stage saw a decrease to $8.6 million, the lowest figure since 2016. Both statistics reinforce a more cautious VC investment climate, yet not one of fearfulness.

US VC deal activity ($B) by size



US VC deal activity (#) by size



Source: PitchBook

Market Trends

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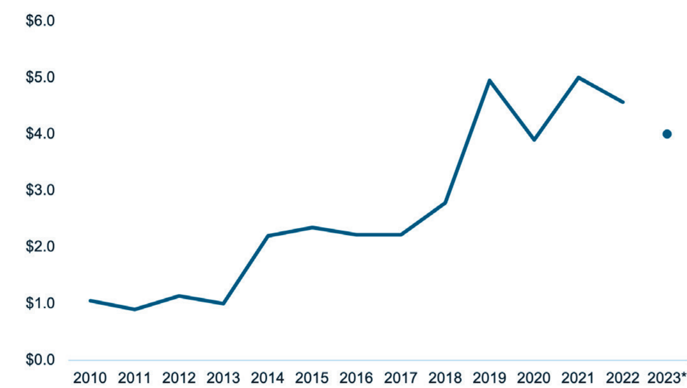
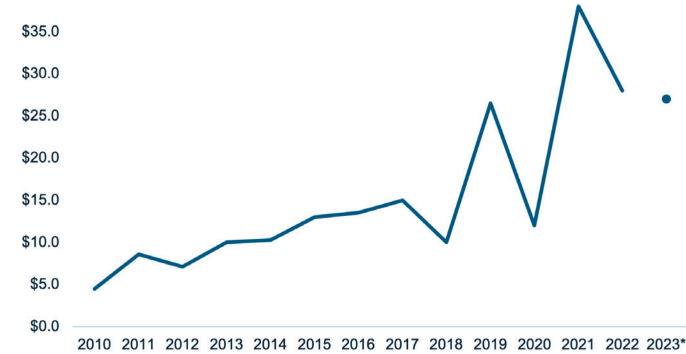
US median VC deal size ($M)



US median VC pre-money valuation ($M)



Source: PitchBook

70%

VC deals sized $10 million or less accounted for approximately 70% of all 2023 VC activity, the most since 2020 after two years of financings being tilted to the larger side.

9

After two years that saw a handful of hefty exits, 2023 saw a slump in overall confirmed exit values, although nine still occurred for VCs and their backers.

$1.9 billion

Cross-border dealmaking in venture continued to culminate in $1.9 billion in deal value despite geopolitical tensions and rising costs of capital, although at a lesser rate than seen before, with just 13 transactions involving foreign players. However, the aggregate deal value of those 13 deals was the third-highest for cross-border investment in years, suggesting there is still a willingness to back the largest proptech players.

1.4 years

Time between financings—both the average and the median—crept back up in 2023, signifying increased caution as it took longer to close transactions or return to market for follow-on funding.was the third-highest for cross-border investment in years, suggesting there is still a willingness to back the largest proptech players.

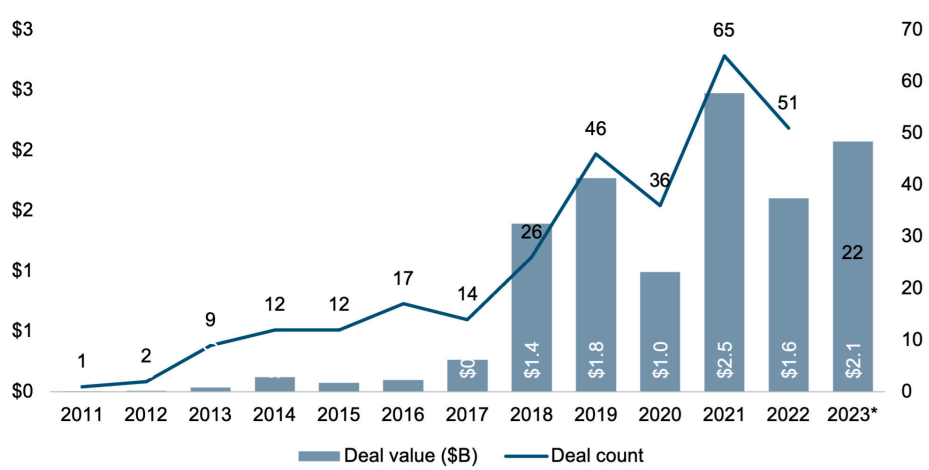
50

First-time financings declined by count in 2023 to 50, after staying healthy throughout the previous five years. However, as the tally in proptech only returned to levels seen prior to 2018, it was not so much a crash as a moderation of sentiment in increasingly volatile times.

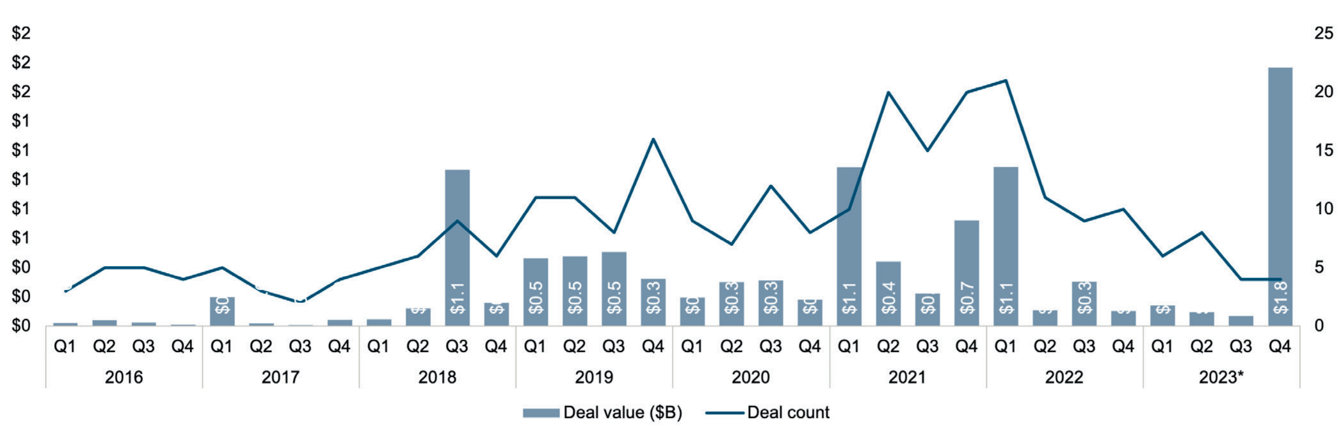
Corporates concentrate and hedge their bets

Corporate venture arms and corporations themselves pulled back only in terms of the number of deals in which they participated—not the size of the deals themselves. They joined in 22 financings for a combined $2.1 billion in deal value, the bulk of all VC invested in 2023. That total of 22 was the lowest since 2017, yet the aggregate deal value was the second-highest annual figure on record. Nontraditional players such as hedge funds or sovereign wealth funds stayed active as well but pulled back in similar fashion. Lacking the longer-term horizon of VC funds and often more immediate liquidity needs, nontraditional players concentrated their investments in more mature proptech companies than ever before last year; corporates did the same, with the added twist that their strategic imperatives in addition to financial return considerations lent them more flexibility, so they still participated in larger, more expensive financings.

US CVC-participating deal activity



US CVC-participating deal activity



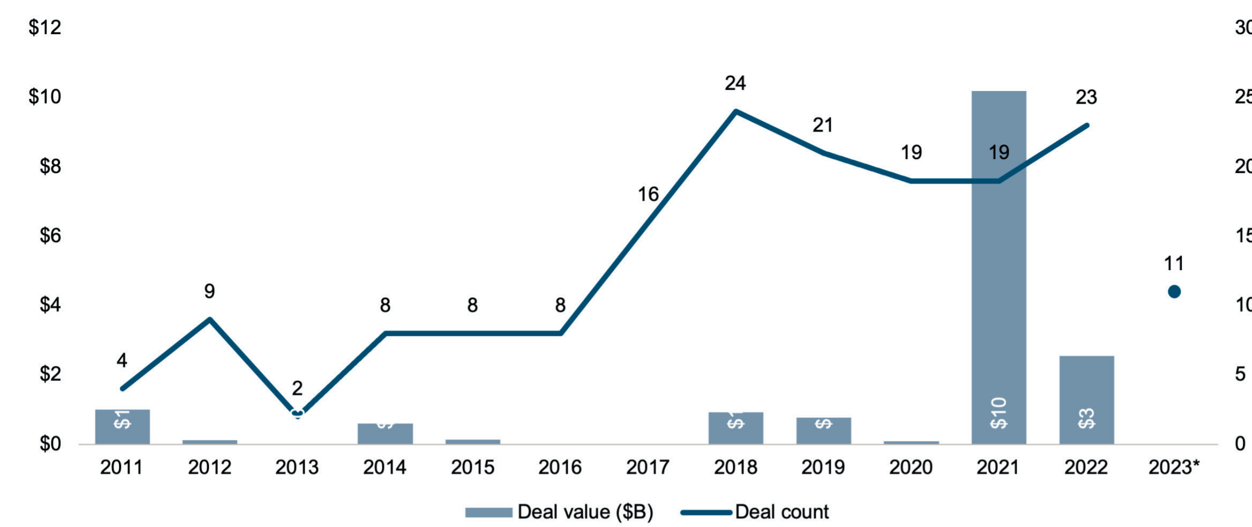
Source: PitchBook

Market Trends

Consolidation remains a key factor for broader M&A as well as venture returns

A liquidity crunch has surfaced as a phrase in more headlines than ever as 2024 commenced, speaking to VCs' concerns around the moribund IPO market and declining M&A volumes. Proptech's nascency has not generated much in venture exits as of yet. In the past, however, diversification and consolidation have combined to encourage a trickle of M&A at a level of 15 to 20 completed transactions in the late 2010s. 2023, however, saw that rate decline markedly. Most likely, concerns over regulations such as the US Federal Trade Commission's (FTC) announcement of potential shifts and increased costs to any merger or acquisition could have affected dealmakers' sentiment. However, should economic growth dampen further, defensive maneuvers in the form of consolidation or increased investment in new markets or new tech could prompt a resurgence of M&A, even in 2024.

US M & A deal activity



Source: PitchBook

Q & A

After a tumultuous year, proptech dealmaking finally declined while the property sector on the whole faces considerable challenges. What are your perspectives heading into 2024?

Coiley: The key primary risks for players in the overall industry remain concentrated around the macro conditions of economic growth and monetary policy, and then similarly broad drivers of change such as remote/hybrid work approaches, demographics and sustainability. Rate cuts could be coming, but regardless, dealmakers and lenders are more cautious and disciplined after a challenging year, which is likely to continue given the broader macro picture remains murky.

Korhn: Conditions for commercial real estate remain very challenging, but as always, whenever pressures exist so do imperatives to transform and adapt as needed. Last year was about renegotiating financing timelines and terms, whereas this year will face a blend of repayments and similar refinancings, if possible. Many borrowers and lenders are hoping for cuts in interest rates to ease pressure, yet it is best to prepare for no change.

Kapur: On the proptech side specifically, dealmaking conditions in venture remained challenging but I'm unsurprised to see resilience because experienced proptech players still had dry powder to invest and seized opportunistic dealmaking conditions as valuations and deal sizes declined slightly or at least were more open to flexible negotiations.

What further explains any resiliency in proptech dealmaking?

Schwarzman: As in any field of technology, there are cycles of boom and bust. That's certainly true in proptech, which came of age over the past decade in one of the most favorable macro environments imaginable. Those tailwinds ultimately culminated in a bubble that has been deflating under the new interest rate regime over the past two years. The market correction has exposed more fragile companies, encouraged more operational efficiency and financial discipline and fueled a broad repricing across the venture and technology markets. Tighter capital markets have also renewed investors' focus on companies that are delivering proven ROI propositions and building efficient businesses atop stable foundations—of which there are plenty. It takes a while for excess capital to drain out of the system, for the recent cohort of proptech companies to adapt their profiles to meet today's elevated investor expectations, and for the next group of pre-seed and seed stage opportunities to take shape. While proptech fundraising volumes remain muted—as they have for most other tech categories ex-AI—we began to see deal activity meaningfully pick up in the second half of 2023. Our own deal cadence has re-accelerated and we anticipate it will continue to do so as many of companies that deferred fundraising over the past few years return to the market in 2024 and the next swell of early-stage companies come to market.

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Chris Coiley
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Commercial Real Estate
Regional President of NJ and PA

Neal Kapur
Managing Partner
VLY Ventures Digital Banking

Q & A

Green: From a market conditions standpoint, any type of significant turn in sentiment presents the opportunity for a reset. After multiple years of technology investors seeming to value growth at all costs, the dynamic has shifted and companies that can prioritize a path to profitability and fiscal sustainability are likely to benefit. At the same time, investment round dynamics have become more investor friendly. We expect to see ample opportunities for good companies to continue to be well-funded.

Kaufman-Gafter: From a banking perspective, any lending conversations nowadays are more tempered but not overly pessimistic, which we believe is the proper attitude heading into 2024. Borrowing costs are undoubtedly higher but we have had time to adapt, as have portfolio companies and newer market entrants. This year we anticipate a greater focus on adaptation and flexibility, with investors and lenders expected to adopt a more understanding and accommodating approach in light of the broader market environment. Careful, cautious collaboration will be the priority emphasized throughout this year as we all navigate these complicated, costly markets.

Which proptech segments are poised to undergo the most change, either positive or negative, in 2024?

Kapur: There are good, prepared businesses in every proptech segment that are poised to better thrive in challenging conditions, so it is more of a segment-agnostic perspective with which to analyze the market currently. That said, priorities remain concentrated on proving out swifter paths to sustainable, recurring revenues and growth grounded in good fundamentals as opposed to relatively higher burn rates. As a result, businesses that are more closely connected to value propositions that target increases in efficiency or ease, lower costs of operations, or brand-new sources of growth that could help pad bottom lines are all being prioritized, e.g., a software solution for trimming maintenance costs by making predictions based on cheap IoT-enabled sensors.

Green: The building blocks of the global real estate industry are still undergoing the same fundamental evolutions. Accordingly, considerable opportunities remain for changes in logistics, storage, distribution, transport, and other lifeblood workflows of commerce. These Major structural shifts are underpinning new opportunities in the intersection of real assets and technology. For example, the decarbonization of transit and logistics via electrification is becoming more viable as the total cost of ownership of electric vehicles reaches parity with combustion vehicles. This shift is unlocking opportunities for technology products relating to the management and transmission of energy, along with software solutions that serve a variety of end customers (for example, fleet owners, individuals, or asset owner/operators) using parking and charging real estate.

Coiley: Ongoing adoption of digitization and other tools for workflows, pricing, estimations, appraisals, valuations and more all continue to transform more traditional segments of mortgage lending, not to mention agencies and other players. As that continues, we anticipate further advances in those tools and opportunities to invest in and retool segments of the typical tech stack, which should aid in origination and overall new business. It will take time and there will be the usual hurdles of adoption and implementation, but in time I think such a shift will inevitably pay dividends.

What other risks or opportunities remain underrated

Q & A

in your view?

Korhn: From the perspective of my focus area, it is not so much that there is an impending tsunami of debt that will ruin commercial real estate so much as there will be some significant difficulties in navigating the next few years of maturities coming due. But there is much more than that challenge occurring right now, so it is more about the balancing of all the changes in demand, need for renovations to align with regulations, lending conditions, investment in tech stacks, and so on.

Schwarzman: With all the ups and downs of the market it can sometimes be easy to lose sight of just how large and diverse the opportunity is to apply technology and tech-enabled businesses models within the real estate industry. There are still plenty of big but long-tail professional categories ripe for specialized software solutions. The same is true for local service categories that lend themselves to the efficiency that marketplace models and/or software offer. Or tried and true software solutions adapted to emerging real estate asset types. These opportunities often represent the ripples of now-familiar tech waves reaching as-yet-untouched industry shores. You can see these trends reflected in our recent deal activity,

Q & A

Kapur: To take fintech as an example, there was consolidation in payments that hit a crescendo to some degree in recent years, but now, it is more about current major players diversifying. For digital banking and other proptech-fintech nexuses, ensuring security and identifying any other pain points that could help boost margin, even if by only a few basis points of performance, will remain an extant opportunity set. However, that security will be paramount, especially as AI-generated fraud rates are likely to rise.

Kaufman-Gafter: Often times financing finds a way to work itself out even under considerable pressure, so we think that the more pressing risk is just how concrete the shift to remote/hybrid workflows is and what that really means for reimagined city centers, that then will have inevitable ripple effects in multiple proptech and property segments. Will cities' cores hollow out into greener spaces, event venues, historic attractions and associated necessary functionalities, while office workflows and headquarters will decentralize somewhat over a greater land area to accommodate a much larger residential footprint?

We simply don't know as of yet, but that is just one potentiality. Usage and commute trends will have to be examined closely to see what occurs with the fundamental underpinning of people's movements, which will inevitably drive so much of property adaptations.

> "With all the ups and downs of the market it can sometimes be easy to lose sight of just how large and diverse the opportunity is to apply technology and tech-enabled businesses models within the real estate industry.

PropTech Market Map

AGENT TECH AND VALUATION TOOLS

HOME BUYING/ SELLING
Orchard
knock
dnk
Homelister
ribbon
Sundae
Divvy

AGENT TECH & TOOLS
side
Propertymate
OCCUPIER
FLOORFY
STAGEGLASS
RealConnex

DATA & ANALYTICS
reonomy
REAL CAPITAL ANALYTICS
cherre
Juniper Square
BUILDZOOM
SUSU
CoreLogic
TRUE FOOTAGE
COMPSTAK
Aloft
bowery

MARKETING
findspace An MRI Software Company
buildout
FUNNEL
Bankrate

CRE MARKETPLACES
Ten-X
CREXI
BuildingBits

ASSET UTILIZATION

COWORKING & FLEXIBLE WORKSPACE
EXPANSIVE workspace
deskpass
Saltbox
TENANTBASE
wesmartPark
BOND COLLECTIVE
THE WING

RESIDENTIAL
ZEUS LENDING.COM
Xspleet
Vacatia
truehold
Culdesac
TRIPALINK
venn
GREAT JONES REALTY

DATA
ility

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BUNGALOW
kasa
placemakr
NATIIVO
PadSplit
Starcity
Common

ELECTRIFICATION
MONTA

EVENT SPACE
LYRIC
peerspace
convene
momentus technologies

INDUSTRIAL AND COMMERCIAL
Flowspace
RealMassive
metropolis
LoopNet
Aura

RETAIL
CLOUD KITCHENS
Workplace IQ
B

CONSTRUCTION, MAINTENANCE & PROJECT MANAGEMENT

PROJECT MANAGEMENT
VERSATILE
Bentley
Urbint
siteaware
PROCORE
ergeon
OnsiteIQ
SUPER
constrafor
Beti
SOCIAL CONSTRUCT

CONSTRUCTION ROBOTS
BUILT ROBOTICS
CANVAS
DUSTY ROBOTICS
MIGHTY BUILDINGS

ARCHITECTURE, DESIGN & PLANNING
houzz
Join
IRISVR
REPLICA
briq
OPENSPACE
mappedin
Higharc
cove.tool

MODULAR CONSTRUCTION
bluHOMES
Branch TECHNOLOGY
Factory_OS
abodu
veev
CONNECT HOMES
BOXABL welcome home

FINANCE & INVESTMENTS

INSURANCE
Policygenius
kin.
Archipelago
obie
Jetty
TENSORFLIGHT
STEADILY
billy

COMMERCIAL LENDING & FINANCING
biproxi
SKYLINE
PLUM
dv01
milo

MORTGAGE TECH
hometap
vesta
STAIRCASE
yave
TOMO
LoanSnap
POINT
snapdocs
Morty
Valon
Reggora
blend

INVESTMENT PLATFORMS
PeerStreet
roofstock
L3 Capital
FUNDRISE
Sharestates
CADRE
acretrader

PROPERTY MANAGEMENT

RENTAL AFFORDABILITY SOLUTIONS
Rhino
Obligo
LeaseLock
flex.

BUILDING OPERATIONS, ANALYTICS
REVELA
fetch
optii
ENVELOPE
Locale.ai
Qira
enVizi an IBM Company
LOGICAL BUILDINGS
VERGE SENSE

COMMERCIAL TENANT MANAGEMENT
Building Engines
VTS
sms assist
mri REAL ESTATE SOFTWARE
HqO
WORKSMITH

RESIDENTIAL TENANT MANAGEMENT
entrata
Latchel
home365 PROPERTY MANAGEMENT
HAPPYco
REALPAGE
Proper AI
Doorstead
TULU

The companies in this market map are intended to be representative of each given segment and do not constitute an exhaustive list given the volume of companies present within each space overall.

Conclusion

Proptech investment activity showcases pockets of resilience and a forward-looking perspective on the part of many players, although hedged by caution. In venture, significant sums of capital that could be committed to multiple funds remain to be invested worldwide. Rising costs of capital, contingent on the very uncertain future of interest-rate decisions by central banks, may well be set for the near term but will continue to weigh on decision-making as well as any M&A or buyouts. Meanwhile, geopolitical tensions are rising, and the rate of economic growth continues to be murky at best, with many downbeat predictions by global economic forecasters. The property sector itself is beset by significant credit crunches and potential distress, as well as demographic and workstyle shifts.

What does all this entail for proptech? Investment is bound to continue if at subdued levels, especially at a baseline level for venture, given the elevated amount of dry powder and the need for proptech innovation to help improve margins on property holdings, transactions, usage, and the like. Regulations compelling greener construction will also prompt a consistent trickle of funding for more radical innovations in materials and techniques, especially via digititalzation. Although the multiple factors summarized above will continue to drag on the pace of investment, it would take even more considerable shocks to cause proptech dealmaking to decline significantly, as it represents a critical avenue for the gradual evolution of the global property sector.

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Methodology

Proptech was defined using a custom mix of keywords and industry verticals within the PitchBook Platform to arrive at five distinct segments: construction, maintenance & renovation, asset utilization, property management, finance & investments, and transaction solutions. Subsegments for each include: construction & maintenance (project management, architecture, design and planning, modular construction, and construction robotics); asset utilization (co-working and flexible workspace, residential, co-living, homesharing, retail, events, and industrial); property management (residential tenant management, commercial tenant management, building operations and analytics, and security deposit alternatives); finance and investments (investment platforms, commercial lending and financing, mortgage tech and insurance); and transaction solutions (home buying or selling, agent tech, marketing, data and analytics, and commercial real estate marketplaces).

All five of the principal segments were then pooled to arrive at the entire population of companies that were deemed to be proptech and were scanned to remove any duplicate numbers. Each distinct segment was deduped from the other in descending order from largest to smallest, for its individual breakout datasets. PitchBook's standard venture, M&A, and PE methodologies otherwise applied to all transaction types and datasets. The market map had additional segmentation below the five main proptech segments, which were not broken out in terms of datasets but were used to identify relevant, prominent companies within each proptech subsegment to represent a given subsegment, such as mortgage tech, in the market map. Only completed transactions were included. As proptech within this report has a custom definition based on a curated population of companies, these figures are more accurate and differ from other estimates of proptech financing activity. Corporates were defined as private or public companies, not institutional venture firms. Real estate companies were defined likewise, with their primary industry having to be tagged as real estate within PitchBook—based on a group of related industry codes. Other nontraditional investor types included hedge funds, sovereign wealth funds, and asset managers.

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