The Current State of the Commercial Real Estate Office Sector

by

Nick Dessalines
B.A. Economics
Stonehill College, May 2018

Submitted to the Center of Real Estate in partial fulfillment of the requirements for the degree of

Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

September 2023

Copyright statement

©2023 Nick Dessalines. All rights reserved.

The author hereby grants to MIT a nonexclusive, worldwide, irrevocable, royalty-free license to exercise any and all rights under copyright, including to reproduce, preserve, distribute and publicly display copies of the thesis, or release the thesis under an open-access license.

Authored by: Nick Dessalines
MIT Center for Real Estate
August 18, 2023

Certified by: Albert Saiz
MIT Center for Real Estate, Daniel Rose Associate Professor of Urban Economics and Real Estate

Approved by: Professor Siqi Zheng
STL Champion Professor of Urban and Real Estate Sustainability
MIT Center for Real Estate + Department of Urban Studies and Planning
Faculty Director, MIT Center for Real Estate (CRE)
Director, MIT Sustainable Urbanization Lab

The Current State of the Commercial Real Estate Office Sector
by
Nick Dessalines

Submitted to the Department of Urban Studies and Planning
on August 18, 2023 in Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Real Estate Development

ABSTRACT

In January 2023, approximately 50% of Manhattan office workers were in the office on an average weekday; roughly 10% of the local workforce was fully remote; and only 9% of employees were in the office five days a week. These city-level trends are also reflected at the submarket, market, and national levels. As of 2023, 13% of full-time U.S employees work entirely from home, while 28% work a hybrid model. The Covid-19 pandemic's impact on commercial real estate, particularly the office sector, is still being felt three years later. Due to the 2020 outbreak of the coronavirus, regulators worldwide implemented lockdowns, forcing employees to work remotely indefinitely. And to the surprise of many, this trend has continued unabated.

The adaptation of the work-from-home model by a myriad of office real estate tenants caused a significant decline in office space demand. According to commercial real estate services firm, CBRE, the U.S. national office market reported 16.5 million sq. ft. of negative net absorption in Q1 2023 (the weakest quarter for office demand in two years), bringing overall vacancy up to 17.8%. The concept of remote working has long been criticized and rejected. The prevailing belief was that employees are simply not as motivated nor productive working from home as opposed to the office. Additionally, critics further argue that it is impossible to build and maintain a company office culture if your employees are not physically present in the office. Simply put: the remote work model was widely regarded and portrayed as a productivity and culture "killer". The temporary lockdowns in 2020 however presented a unique (and forced) opportunity for those theories to be tested. Three years later, it's safe to say that the paradigm of traditional workspaces has undergone a seismic shift thanks to the Covid-19 pandemic. The remote-work model's benefits and limitations have largely come to light, prompting employers and employees to respond accordingly.

With an increasing number of companies cutting down their real estate footprints, rising vacancy rates, and plummeting valuations, what exactly does the future hold for the office sector? How are investors, landlords, and tenants affected? These are some of the questions that I look to address throughout this paper, for which I've interviewed three highly regarded and respected industry experts.

Thesis Supervisor: Albert Saiz
Title: Daniel Rose Associate Professor of Urban Economics and Real Estate

Table of Contents:

1. Emerging Macroeconomic and Workforce Trends (Pg. 5)

2. Office Real Estate Market Overview (Pg. 9)

3. Valuations & Capital Markets Landscape (Pg. 14)

4. Sustainability Overview (Pg. 19)

5. Future Outlook
    a. Tenant/Occupier Overview (Pg. 23)
    b. Development and Conversion Opportunities (Pg. 29)
    c. Valuation, Portfolio Planning, & Capital Markets (Pg. 33)

6. Author Case Studies & Final Thoughts (Pg. 35)

List of Figures, Tables, and Images

1. Office Attendance Requirements (Pg. 6)
2. Net Absorption, Completion, and Vacancy (Pg. 9)
3. Rental Rates Performance (Pg. 11)
4. Net Absorption by Property Delivery Year (Pg. 12)
5. Executed Rental Rates (Pg. 12)
6. Under Construction Square Footage by Market (Pg. 13)
7. Office REIT Discount to NAV (Pg.15)
8. Scope 1, 2, & 3 Emissions (Pg. 20)
9. Focus of C-Suite on Office Attendance Amid Economic Uncertainty (Pg. 24)
10. Office Conversions in Perspective (Pg. 31)

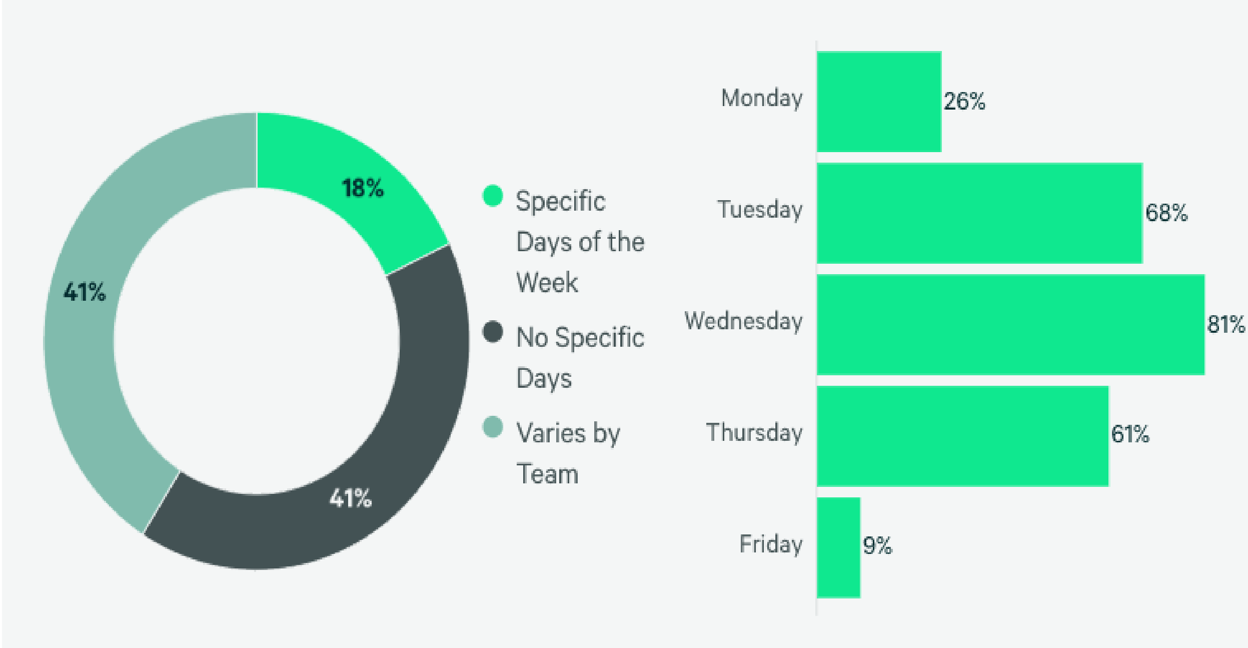
Emerging Macroeconomic and Workforce Trends

Office space demand is primarily driven by employee headcount - the more employees that are in the office at any given time, the more space is required to accommodate them all. Due to the emergence of the remote work model and the workforce's growing affinity towards the flexibility that it offers, an increasing number of employees are now operating from home. Per a recent Forbes study, 12.7% of employees have embraced full-time remote work, causing concern for office real estate developers and owners nationwide. The traditional work model in corporate America finds itself at a pivotal juncture, navigating the varying expectations of both employers and employees. Companies want their workers back in the office, while employees want to work remotely. Philippe Visser, President of Office at Related; Aaron Jodka, Director of U.S Capital Markets at Colliers; and Mark McGowan, Head of Development at Oxford Properties will share their thoughts on this polarizing topic.

"There's a push-pull right now between C-suites who want a vibrant office culture and see far greater productivity having people in the office vs certain employees who don't want to relinquish their work from home couple days a week." Philippe says. Inevitably, a compromise was bound to emerge, and it did: The Hybrid Work Model. A hybrid workplace model mixes in-office and remote work to offer flexibility to employees. A company's hybrid work model may consist of either a hybrid at-will policy where employees choose which days they come into the office, or a hybrid manager-scheduling policy where managers control schedules and select which days employees come into the office. As of 2023, 28.2% of employees work a hybrid model.

In recent months, more and more corporate executives and decision makers, including JP Morgan's CEO, Jamie Dimon, have come out and publicly state they want their employees back in the office five days a week. But this doesn't hold true for most companies, and according to Colliers' Aaron, majority of firms don't have such extreme expectation from their employees: "Generally speaking, employers are not requiring their folks to be in five days a week" he says, "the financial institutions however, seem to be the groups that are making such demands. Ultimately though, it comes down to company culture and how that's been operating over time." The general consensus among most firms now is that, they'll permit employees to work from home 1-3 days per week, and while most of those firms' policies state the number of days per week employees are expected to be in the office, few specify which days of the week. Of those that do

specify actual days, employees are expected to be in the office on specific and pre-determined days, preferably mid-week on Tuesdays, Wednesdays, and Thursdays (CBRE).



These demands speak directly to the challenges that some firms are facing in their attempt to build and promote company culture and foster collaboration amongst teams. “It's not perfect” Aaron continues, “but I do think that this makes businesses operate a little bit more efficiently and effectively if certain employees/departments are in the office on the same days.” Finding that balance is very crucial, and as Oxford’s Mark put it, office space went from being a place where work gets done, to one of the places that work can get done: “the office sector is going through a strong cleansing. What will survive is going to be a function of the ultimate value to the customer.” he adds, “the market has proven that well-functioning teams can balance where productivity happens and have contributors that add value with focus work that is not in the office.”

This shift in work policy phenomenon varies significantly by industry, however. Research by Stanford economist, Nicholas Bloom, found that hybrid work implementation is lower in sectors that rely more on face-to-face interaction (e.g., retail, healthcare, hospitality) and jobs that require on-site labor (e.g., manufacturing, construction, transportation). But those industries will have to accelerate their rate of implementation if they want to remain competitive and retain workers. Back in September 2022, General Motors sent a message to all salaried workers that, by

the end of the calendar year, they must all return to the office at least three days a week. A few days later, amid fierce pushback from non-factory employees, CEO Mary Barra followed up with another email stating that GM was actually putting the policy on ice.

Job candidates' priorities have also evolved in the post-Covid era – hybrid work is now expected from companies as a perk. Similar to how candidates inquire about a company's 401K or healthcare plan, the question "What is your work from home policy?" has gained equal importance. Aaron states: "If you were interviewing for a job back in 2019, you wouldn't really ask 'well, how many days a week can I work from home?' If it was a remote job, it was advertised clearly in the job description to separate it from every other job, whereas now, it's oftentimes embedded in there for what the expectations are." In June 2023, a Forbes study laid out the most recent remote work statistics and trends that are shaping the professional world and working environments across the nation. The following are its findings:

- Key Remote Work Statistics and Demographics
    - By 2025, roughly 33 million Americans will work remote, which equates to about 22% of the total workforce.
    - 98% of workers want to work from home at least some of the time.
    - 16% of companies operate fully remote. These companies are operating without a physical office.
    - The highest percentage of remote workers are aged 24 to 35. Within this demographic group, 39% work from home full time, while 25% do so part time. These figures strongly suggest that the younger workforce highly values the flexibility and autonomy offered by remote work.

- Top Industries for Remote Workers in 2023
    1. Computer and IT
    2. Marketing
    3. Accounting and Finance
    4. Project Management
    5. Medical and Health
    6. HR and Recruiting
    7. Customer Service

- Preferences, Benefits, and Challenges of Remote Work

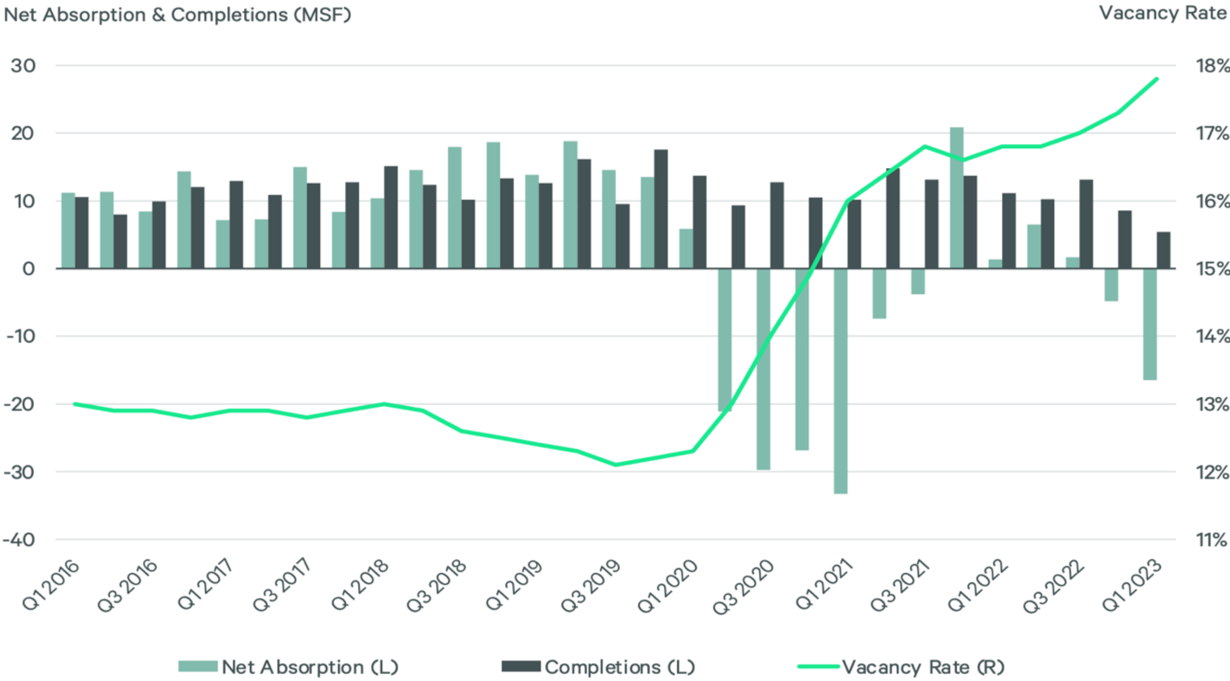
- 57% of workers would look for a new job if their current company didn't allow remote work. This however depends on whether or not these workers can secure another job of course.
- 35% of remote employees feel more productive when working fully remote.
- 65% of workers report wanting to work remote all of the time.
- 69% of remote workers report increased burnout from digital communication tools. The constant stream of digital communication can lead to mental fatigue, underscoring the need for proper work boundaries and digital wellness strategies.
- 53% of remote workers say it's harder to feel connected to their coworkers. An additional 37% of remote workers feel that work from home neither hurts nor helps with connection to coworkers.
- Research shows that employers can save over $10,000 per employee when switching to remote work. These savings come from reduced costs associated with office space, utilities, and other resources.

- Additional Remote Work Statistics
  - 60% of companies use monitoring software to track remote employees
  - Over 70% of executives believe remote workers pose a greater security risk
  - Over 30% of hybrid workers report they would take a pay cut to work remotely full-time

- The following are Office-Using Employment statistics from CBRE's office report:
  - In Q1 2023, U.S employment grew by 2% year over year and was 6.1% above its pre-pandemic (Q1 2020) level. Office employment was 5.9% above its pre-pandemic level.
  - Employment growth in several gateway markets, including Boston, Los Angeles, and New York City, exceeded the U.S average.
  - Over the past year, 6 of the top 10 markets for office-using employment growth were in the Sun Belt. This correlates with the fact that the Sun Belt markets currently has the highest office square footage under construction (as a share of total inventory) in the country.

Office Real Estate Market Overview

The latest U.S. quarterly data suggests that the office sector's recovery will be slow and painful. The hybrid work model has created a disconnect between office-using employment and space demand, making employment less dependable in forecasting future office demand. Despite continued office-using job growth, Q1 saw more than 16 million sq. ft. of negative net absorption—the weakest quarter for office demand in two years—due to recession fears and hybrid work arrangements, per CBRE's U.S. Office Q1 Report. Leasing activity slowed by 25% and 35% quarter-over-quarter and year-over-year (Appendix 1a), respectively. Moreover, demand was primarily driven by smaller-sized leases; average lease size in Q1 2023 was 28% lower compared to Q1 pre-pandemic levels. All of this, combined with the completion of 5.4 million sq. ft. of new office space, caused the overall national vacancy rate to rise 50 basis points (bps) q-o-q to 17.8%. From Q1 2020 to Q1 2023, the national office vacancy rate increased by a total of 550 bps.



Source: CBRE Econometric Advisors, Q1 2023.

Meanwhile, sublease space availability continues to grow to a record high of 189 million sq. ft. The technology sector in particular accounted for 23% of all sublease availabilities, the

largest contributor to sublease space. The technology sector and other capital-fueled industries such as life science have slowed significantly over the past 12 months, to the point that banking & finance tenants have begun to outpace leasing activity from technology tenants over the past year. Per JLL's Q2 office report, technology and life science have both seen year-over-year leasing activity decline by more than 40%, while other traditional office-using sectors have remained more stable, with professional services and finance seeing leasing volume decline by less than 30%.

One important observation to note upon further analyzing the national data is that for the first time ever, the U.S. average suburban office vacancy rate, 17.7%, has fallen below the CBD office vacancy average of 18.1%. "There's been a flip flop that we've never seen before" says Aaron, "that comes down to the dynamics of where people are locating and migrating (thus working), in particular in The Sunbelt states." Also referred to many as the smile states, The Sun Belt is home to some of the largest and fastest growing cities in the nation including LA, Miami, Austin, Atlanta, Las Vegas, Dallas, and Phoenix. The smile states are generally suburban-driven and earned their nickname due to the warm climates each state has near the southern coast. Although Q1 net absorption was positive in only 15 out of 55 total markets, demand remained strongest in several Sun Belt markets, including Nashville, Charlotte, Miami, and Dallas/Ft. Worth. Meanwhile, demand fell in most gateway markets – San Francisco, Boston, Los Angeles, Chicago, and Washington, D.C. (Appendix 1b).

Florida in particular dominated the top U.S Markets for office rent growth in the first half of the year, and according to CoStar analytics, business migration to South Florida has landed the region in the top three spots for office rent growth in Q2 2023. Tampa, Jacksonville, and Orlando were also in the top 12, meaning that 50% of the top markets for office rent growth in the nation in the second quarter of this year were in Florida (Appendix 1c).

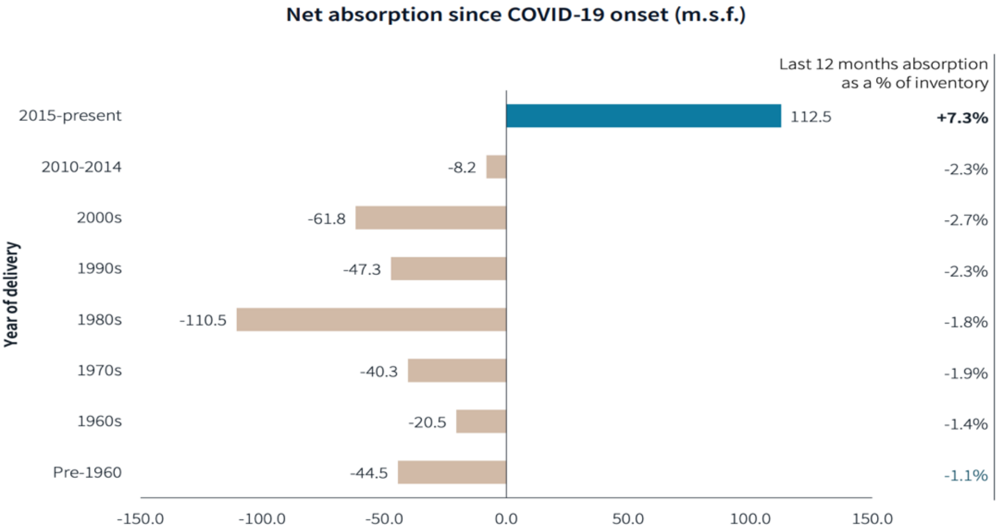
The national average asking rent, at $35.42 per sq. ft., stayed unchanged from Q1 to Q2 2023 and was up by just 1% from a year ago. However, tenants' negotiating power strengthened, widening the gap between asking rents and taking rents. As landlords continue to compete for office tenants, so will the increase in free rent offerings and tenant improvement allowances.

Source: CBRE Econometric Advisors, Q1 2023.
*Preliminary

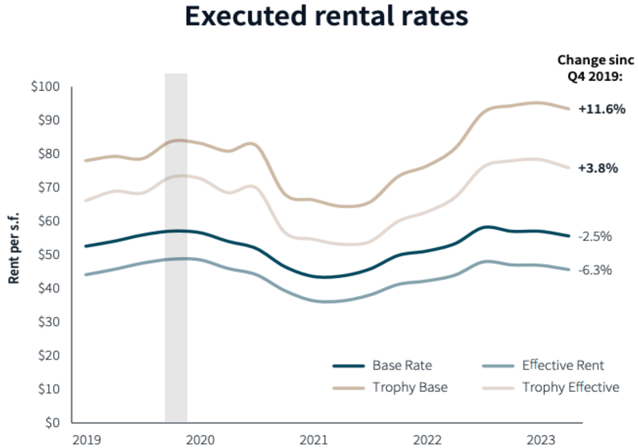
The overall macro view of the office sector's performance overlooks a crucial bifurcation that has grown more pronounced in recent years, as it relates to asset quality. The top-quality office assets, Class AA & A, continue to perform well, while the remaining, lower-quality inventory, Class B and C, is struggling mightily. "Class B buildings have been hit particularly hard", states Philippe, "Class AA+ product that Related works on for instance, has continued to perform very well given demand from top companies for premium space with companies having a desire to create the best work environments for employees to use as a tool to attract to the workplace." The latest data strongly echoes these words. Per commercial real estate services firm, Cushman & Wakefield, 75% of Manhattan office demand in Q1 2023 occurred in Class A products, while in Midtown, Class A accounted for 83% of leasing activity.

This trend also manifests itself on a national scale. According to JLL's latest office report, newer, higher-quality office products built post-2015 have seen 112.5 million s.f. in positive net absorption since the onset of the Covid-19 pandemic, with an additional 33 million s.f. of occupancy gain in the last 12 months, reflecting 7.3% of existing inventory. The high demand for new office space has led to favorable conditions for landlords in the top-quality segment, while lower-quality tiers have been more favorable for tenants. Vacancy rates for offices built since 2015 decreased quarter-over-quarter despite more than 10 million s.f. of new buildings delivering that were only 72 % occupied, per JLL. Direct vacancy in those newly built assets is now more than

400 bps lower compared to the overall market. “It’s really nothing new”, Oxford’s Mark remarks, “Class A tends to be more efficient, have better on-site amenities, and is just simply… new. There will always be a market for ‘new’ and every market across the U.S. will have different appetites for how much it can absorb.”

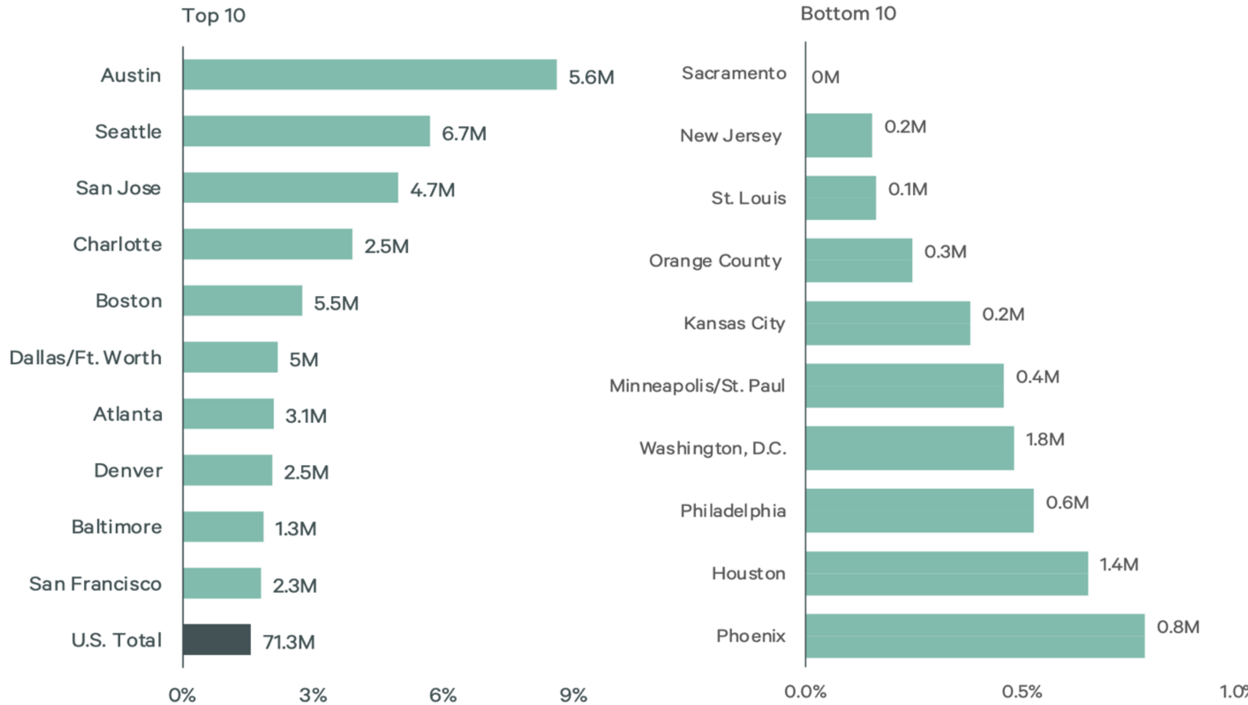


A similar trend can be observed when examining rental rates trends. Rent premiums for newer-built products remain elevated. Offices developed in the past five years are generating over 60% higher rental rates than the market average, a spread that has grown considerably from historical norms of around 35-40% in previous cycles. Despite softening overall, the Trophy/Class A office market continues to command strong rental rates. Though that segment has also seen moderate softening over the past nine months, Trophy rental rates are continuing to grow on a rolling 12-month basis for both base rents and effective rents.



Total office space construction fell by 3% q-o-q to 71 million sq. ft. in Q1 2023, accounting for 1.6% of inventory. The relatively low construction pipeline reduces supply-side risk to vacancy. Groundbreaking on new office buildings have slowed due to higher cost of capital, a tight lending market, and expensive labor and material costs. “The age-old test of replacement costs < asset value or said differently, ‘can you build for less that you can buy it’, is conclusive in Boston” Mark adds, “given the sharp decline in transactions, assumed increase in the risk premium for office buildings, and high costs in major markets like Boston, new development is not really happening.” The added cost of tenant improvement packages to build out space for tenants is also very expensive.

Per CBRE, the Sun Belt markets has the highest office square footage under construction (as a share of total inventory) in the country. Manhattan had the most construction of any market with 7 million sq. ft. underway.



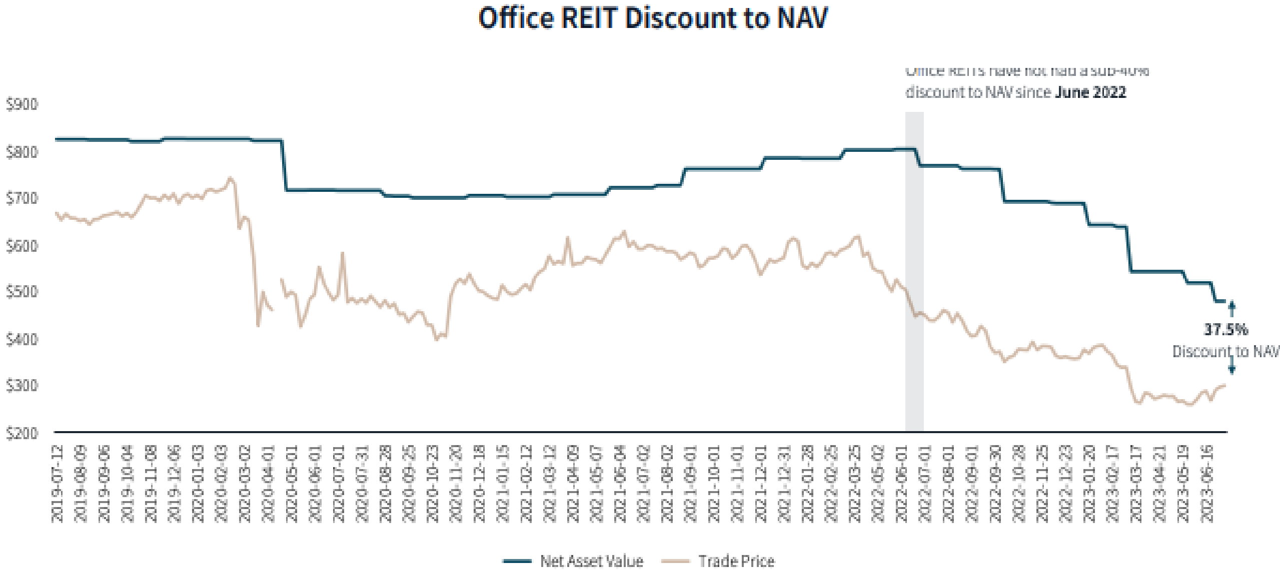
Valuations & Capital Markets Landscape

Owners of commercial office space have seen their property values plunge since the onset of the pandemic three years ago. Delinquencies have surged, and maturing mortgage loans face starkly higher refinancing rates. These combined compounding troubles have widened the opacity of the U.S. commercial office property market so significantly that industry experts estimate that the office sector's total value ranges from near $1 trillion to $3+ trillion. That broad range highlights the difficulty in assessing current values in a market that has lost an estimated a third to a half of its worth since the beginning of 2022. And that could weigh heavy on banks and financial institutions.

Office assets are often financed with debt which resides on banks' balance sheets and in commercial mortgage-backed security (CMBS) portfolios. Large declines in value will have consequences for institutional investors and for financial stability. A joint study by Columbia University's Graduate School of Business and New York University's Stern School of Business found that the commercial office market nationwide suffered $506 billion in losses in the three-year period ended December 2022. Furthermore, additional declines remain likely. For the nation's largest office market, New York City, the Columbia/NYU study predicted that, by 2029, the market's value will remain 43.9% below pre-pandemic levels—51.6% lower if work-from-home habits don't revert to pre-pandemic norms. Similar anticipated declines in various other markets have ominous implications for investors, owners, tenants, lenders and even municipalities relying on commercial property taxes to fund their budgets. New York City, for instance, relies on property tax revenue from office buildings and retailers for almost a third of its budget. The study's predicted decline in office values would trim the city's tax revenue by 6.5%.

Meanwhile, office-based real estate investment trusts, or REITs, measured by the FTSE Nariet Equity REIT Index dropped 37.6% in 2022 and another 18.1% in the first four months of this year (Appendix 2). A myriad of factors – including difficulty in understanding cap rates and liquidity, challenging capital-raising environment, and interest rate uncertainty – makes underwriting deal in today's market extremely difficult. Analysts and appraisers are left scratching their heads in their attempting to come up with reasonable and realistic assumptions and projected lease-up timeline for vacant spaces. "Given current vacancy rates and costs necessary to lease up space, NOI stands to suffer and thus implied value" Mark says. But there's a light at the end of the tunnel. Per JLL, in Q2 2023, office REITs had their first tentative positive movement in pricing in

several quarters, with discount to NAVs falling to levels last seen in June 2022, potentially indicating that investors see office market pricing at or near bottom today. Because of the increased sensitivity of office REIT pricing compared to private markets, REIT pricing can often overreact to different valuation shifts, but also can often serve as a leading indicator for where private market valuations are trending.



For all these aforementioned reasons listed, investors have shied away from the office sector. Global fund managers have cut allocations to commercial real estate to the lowest since the depths of the 2008-09 Global Financial Crisis—a little more than a year after they reached their highest level in over a decade and a half (Financial Times). “Office is not an asset class that many investment committees are clamoring to see more of in the pipeline” Mark continues, “the last 15 years has seen a run up in value of most asset classes, and office was one of them.” For office shoppers, there is a focus on current income, and identifying the right risk-adjusted return for that income. As price discovery continues to remain crucial, investors need to be diligent and flexible.

Liquidity problems within the market have mounted. In addition to headwinds posed by higher vacancy and slower rent growth for the majority of the market, sharp shifts to the cost of capital have significantly impacted pricing of office assets, which has in turn greatly reduced liquidity. This causes a significant gap between a seller’s asking price, and a buyer’s offered price. The investment sales market particularly, remains extremely challenged. Per JLL, office investment volume reached $18 billion in the first half of 2023, down 70.2% from the first half of

2022. The speed of the change in the cost of capital has left many sellers to take their buildings back off the market entirely in many cases.

Distressed situations are becoming more frequent where valuation shifts have been particularly severe: office CMBS debt saw its most significant monthly jump in delinquency rates on record from April to May, even outpacing the rise in delinquency during the Global Financial Crisis in 2008 (JLL). The downturn in the commercial office market has caused numerous distressed property owners to make the decision to simply walk away—either due to debt service they can't pay right now, or because they simply cannot afford to refinance at today's ridiculously higher interest rates. Related's Philippe reiterates: "Right now, you have a combination of a) certain landlords simply handing back the keys because the buildings are not worth the debt or b) some landlords who are hanging on because they want to keep the buildings for tax reasons or future value." Real estate owners, from small niche developers to private equity giants such as Blackstone, have all made that decision in recent months. But there's a basic problem with that: lenders don't want to be asset managers.

In a disparate, nuanced office market that fluctuates depending on property type, class, and location, some attractive properties continue to achieve unprecedented rental rates. It's very important not to paint all office properties with a broad brush. Comparably to trends observed in the leasing markets, some high-end, in-demand office assets continue to perform well. However, other swaths of large metropolitan downtown areas are on the brink of outright collapse. Office values in downtown San Francisco on a square-foot basis have dropped significantly from their peak just a few years ago, even by up to 75%[1] in some instances. Some of this year's headlines of real estate owners and investors handing the keys to lenders include:

- Blackstone stopping payments on a $325 million loan on its 1.5 million-square-foot Hughes Center office campus in Las Vegas. Las Vegas' office vacancy rate hit 10.2% as of March 2023, a 15-year low for the region and below its historical average of 13.7%, according to CoStar Market Analytics data.

- Blackstone walked away from the 26-story, 621,000-square-foot office tower at 1740 Broadway in Midtown Manhattan that it had bought in 2014 for $605 million. The two biggest tenants moved out well before their leases expired: L Brands, occupying 77% of

[1] The former Union Bank building in the heart of San Francisco's financial district, located at 350 California Street, was auctioned off in May 2023. The winning bid was $65 million, roughly 75% less on a per-square-foot basis than comparable pre-pandemic building sales.

the rentable area; and law firm Davis & Gilbert, which had 15.8% of the space. The property serves as collateral for a $308 million loan that was originated by Deutsche Bank and securitized into a single-asset single-borrower CMBS back in 2015.

- Brookfield Corp. has defaulted on $161.4 million worth of office building mortgages, according to a report from Bloomberg. The mortgage default covers roughly a dozen office assets, primarily around Washington, D.C., and comes roughly two months after the company defaulted on $784 million in mortgages for two Los Angeles office towers.

Things are likely to worsen. CMBS analytics and research firm, Trepp released their Q1 2023 Bank CRE Loan Performance report earlier this year which stated that, of the $270 billion of CRE loans maturing in 2023, about $80 billion (30%) are backed by office properties. “That’s my biggest concern right now” says Colliers’ Aaron, “this wave of maturities that we have to get through is truly troubling”. Furthermore, maturing office loans that don't default will face much higher refinancing costs — 40-60% higher than just two years ago. The seemingly never-ending continuous rise in borrowing costs is set to persist at least in the short-term. As of July 26th, 2023, The Federal Reserve approved a much-anticipated interest rate hike that takes the benchmark rate to its highest level in more than 22 years. The quarter percentage point increase will bring the fed funds rate to a target range of 5.25%-5.50%, and according to Aaron, it’s because the Fed has made inflation control a top priority of theirs: “It seems that the Fed’s thinking is, if real estate suffers temporarily, if the job market, broad economy suffers a little bit, so be it. Inflation is much worse.”

Following the recent March bank failures of Silicon Valley Bank and Signature Bank, there were alarming concerns amongst banks that loan to commercial real estate ventures. A recent study by the U.S Government Accountability Office found that failures of small and medium-sized banks back in the Great Financial Crisis (used as a point of comparison) were largely associated with high concentrations of commercial real estate loans. The study states: “When these banks were exposed to the sustained real estate and economic downturn that began in 2007, credit losses on commercial real estate loans drove them to fail. This combination of aggressive growth strategies and weak risk-management practices is similar to what we found in the March Silicon Valley Bank and Signature Bank failures.” Data shows that banks’ exposure to commercial real estate loans in today’s environment drastically does indeed vary by size. Commercial real estate loans account for about 40% of smaller banks’ total lending, against about 13% of the books of the biggest

lenders (Financial Times). Due to economic uncertainty and fear of overexposure to the sector, banks have tightened their lending standard across various commercial real estate loans, especially office. “Banking activity had contracted significantly,” Mark adds, “regional banks make up a significant portion of the commercial lending and with loans coming due – there will be more pressure on the banking sector.” Increasing debt default could be a major concern for small and regional banks, which hold roughly 67% of all commercial real estate loans, according to Federal Reserve data.

Sustainability Overview

The real estate sector is responsible for a significant share of greenhouse gas emissions, contributing around 40% of total carbon dioxide emissions globally[2]. As part of global efforts to combat climate change, a growing coalition of countries, cities, businesses, and other institutions are pledging to get to net-zero emissions. The net-zero pledge refers to a commitment made by those groups to achieve net-zero greenhouse gas emissions by 2050, as stated per the Paris Agreement[3]. Additional efforts are underway to improve the energy efficiency of buildings, promote renewable energy sources, and adopt sustainable construction practices in an attempt to reduce the sector's carbon footprint.

The greenhouse gas emissions from the real estate sector primarily come from two main sources:

- Building Operations: These emissions arise from the energy used to heat, cool, and power buildings, as well as from water and waste management. Older buildings with inefficient heating and cooling systems tend to have higher emissions.
- Construction and Materials: Emissions are also generated during the construction and demolition of buildings. The production of construction materials, such as cement and steel, can be energy-intensive and contribute to emissions.

Three different categories are used to classify and measure carbon footprint: Scope 1, Scope 2, Scope 3. Scope 1 emissions refer to direct greenhouse gas emissions that are produced from sources owned or controlled by the organization. Scope 2 emissions represent indirect greenhouse gas emissions associated with the consumption of purchased electricity, heat, or steam. Scope 3 emissions are indirect greenhouse gas emissions that occur in the value chain of the reporting organization. It's important for the real estate industry to address all three scopes to comprehensively account for its greenhouse gas emissions and implement effective strategies for emission reduction and sustainability. Many real estate companies are already taking steps to measure, report, and reduce their emissions across all three scopes as part of their sustainability initiatives. Numerous strategies, regulations, and efforts are also being implemented to combat climate change. For instance, last year, the U.S Securities and Exchange Commission (SEC)

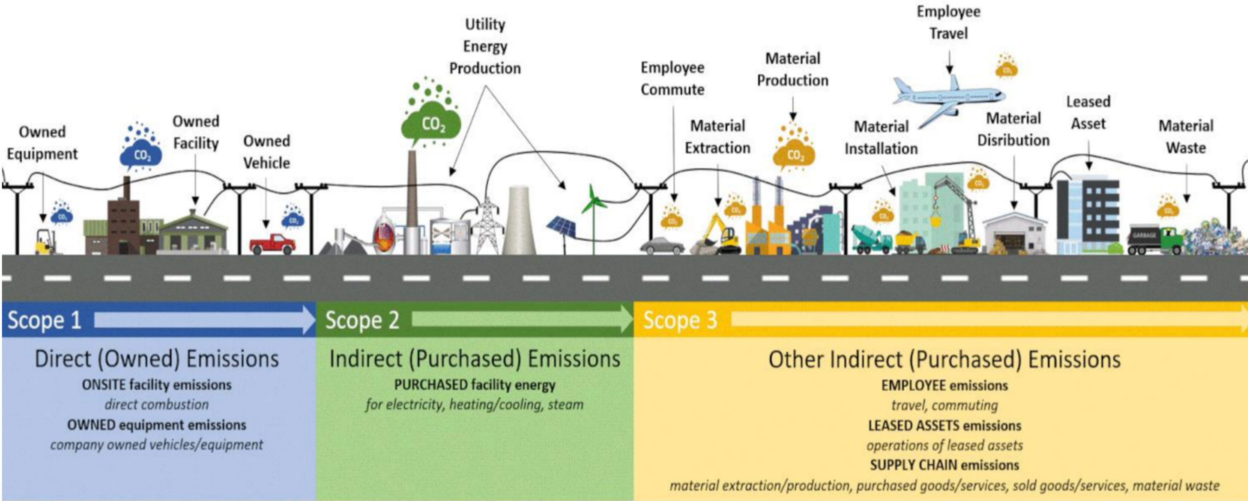
[2] According to the United States Environmental Protection Agency (EPA) and the United Nations Environment Programme (UNEP)

[3] The Paris Agreement is an international treaty adopted in 2015, at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) held in Paris, France. It is a landmark global accord aimed at addressing climate change and its impacts. To keep global warming to no more than the ideal global temperature of 1.5°C – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net zero by 2050.

proposed rule changes requiring companies to disclose certain climate-related information, ranging from greenhouse gas emissions to expected climate risks to transition plans.

Graphic by Stacy Smedley, 2021

Understanding Scope 1, 2 and 3 Emissions



Policy makers have also been very active. An increasing number of municipalities, led by New York City and Boston, have put out metric-driven plans for reducing CO2 emissions. New York's Local Law 97[4] is one of the more ambitious policies yet. Under this groundbreaking law, most buildings over 25,000 sq. ft. will be required to meet new energy efficiency and greenhouse gas emissions limits by 2024, with harsher limits coming into effect in 2030. The goal is to reduce the emissions produced by the city's largest buildings 40% by 2030, and 80% by 2050. Similarly, Boston's Building Emissions Reduction and Disclosure Ordinance (BERDO) also set requirements for large buildings to reduce their greenhouse gas emissions in the city. If building owners do not comply these limits, they will certainly face stringent fines.

Complying with these new emissions standards however don't come without any added development/renovation costs. "This will increase costs for owners who will need to incorporate into their planning and will be more cost effective for owners who can plan for the upgrades over time" says Mark, "regulations will continue to nudge the industry to be more wholistic in energy savings and greenhouse gas reduction planning – but the premise remains that there will be costs

[4] The law also established the Local Law 97 Advisory Board and Climate Working Groups to advise the city on how best to meet these aggressive sustainability goals.

and the tenant will have to step up and pay more for that investment." Those additional 'green' costs certainly remain a concern, especially for an office sector that has taken a beating the past couple of years, but Phillipe expect municipalities to intervene and help office landlords, stating: "The green regulations will benefit newer and modern buildings that are able to be cutting edge on sustainability (i.e. all electric to allow carbon neutral as grid greens). Laws like Local Law 97 will certainly increase costs though I expect this will be moderated as New York State rolls out renewable energy programs."

Sustainability is also becoming a bigger factor for institutional investors. According to Aaron, "the institutional players from Europe, APAC, etc. are very much focused on the topic, and when they look for investment opportunities in the U.S., they're oftentimes searching for municipalities that have those green policies." This is particularly important because ESG[5] implementations and strategies in the U.S. vary drastically based on location and political party/affiliation. Whereas northeast states such as MA, NY, and DC have put ESG at the forefront of their plans, other states have taken the opposite approach. Earlier this year, Florida Governor, Ron DeSantis, signed a law that prohibits the use of ESG factors in state and local investment decisions and government contracting processes (aka "woke ideology[6]"). Iowa, Wyoming and North Dakota have also all enacted their own laws prohibiting investments using social factors for investment strategies.

A recent study conducted by consulting firm, Ernst & Young, found that the role of sustainability has become a key factor in both individual and company decision-making. For leading corporate tenants, ESG matters have had an increasingly important influence in leasing decisions, recruitment and overall corporate strategy. The study states: "the heavier carbon footprint of older office buildings, relative to other commercial buildings, leaves Class B and C office landlords at risk from an economic and environment perspective. Additionally, across US cities, legislation akin to Local Law 97 in New York City, which fines landlords for failure to reduce greenhouse gas emissions by certain future dates, is rising."

---

[5] ESG, also known as environmental, social, and governance, is a set of aspects and standards considered when investing in companies, that recommends taking environmental issues, social issues and corporate governance issues into account.

[6] Conservative politicians and pundits have co-opted "woke," a term that originally meant to stay aware of racial injustice Woke" is now best known as a negative political buzzword used to describe anything deemed too liberal or progressive

Another aspect to consider in the sustainability bucket is the rising insurance prices. As severe weather affects the U.S. coasts, insurance carriers' room for adequate catastrophe risk capacity is diminishing. According to the National Oceanic and Atmospheric Administration, in 2022, the U.S experienced 18 separate weather and climate disasters, costing at least $1 billion in damages. Most were hurricanes, storms, and floods. That number puts the year 2022 into a three-way tie with 2017 and 2011 for the third-highest number of billion-dollar disasters in a calendar year, behind the 22 events in 2020 and the 20 events in 2021. Over the last seven years (from 2016 to 2022), 122 separate billion-dollar disasters have cost over $1 trillion in damages. In addition, the $100 billion cost figure has been eclipsed in five of the last six years. Per the report, the number and cost of weather and climate disasters are increasing in the United States due to a combination of increased exposure (i.e., more assets at risk), vulnerability (i.e., how much damage a hazard of given intensity—wind speed, or flood depth, for example—causes at a location), and the fact that climate change is increasing the frequency of some types of extremes that lead to billion-dollar disasters. In other words, the increase in population and material wealth over the last several decades are an important cause for the rising costs. These trends are further complicated by the fact that much of the growth has taken place in vulnerable areas like coasts, the wildland-urban interface, and river floodplains. Vulnerability is especially high where building codes are insufficient for reducing damage from extreme events.

With carriers rolling back their capacity, commercial property owners along the coasts will face higher rates and deductible increases. Risk professionals and senior executives must anticipate and proactively manage risks to thrive amid uncertainty in a dynamic, ever-changing industry. As underwriters scrutinize a business's risk capacity, buyers will be challenged to differentiate their risk during the renewal process. The increasing costs of insurance will intensify the squeeze on Net Operating Income, exacerbating challenges for the office industry.

Future Outlook

The emergence of the COVID-19 has prompted a reevaluation of the purpose and significance of office spaces within corporate plans and financial allocations. The pandemic has highlighted both the advantages and constraints of home-based work environments. For the past few years, investors, developers, and tenants have all been wondering what the future holds for the buildings where so many of us used to spend so much of our waking hours. How should each group strategize moving forward? Undoubtedly, this question carries a complex nature with various facets to consider. Layer by layer, in collaboration with my interviewees, I will aim to offer some understanding into the direction the industry heading and what to expect in the forthcoming years.

Tenant/Occupier Outlook

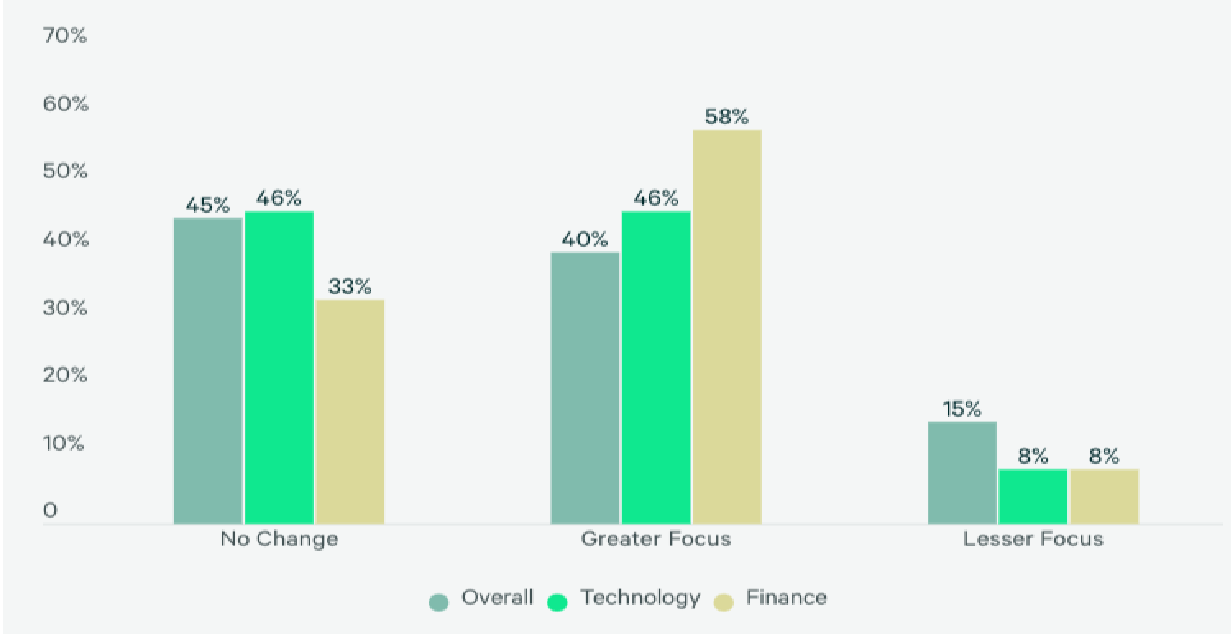
I'll first start by further examining the work-from-home and hybrid work models, and what employers can do (if anything) to attract employees back to the office. What strategies are companies finding most effective for boosting office attendance, and how are they planning on moving forward? Do employees even want to come in the office?

As previously stated in this paper, not only do organizations want their employees back in the office more, but, employees themselves want to be in at least part-time. CBRE's Spring 2023 Office Occupier Sentiment survey[7] revealed that 78% of businesses want their employees in the office at least half of the time, with 65% of respondents saying that their companies are actually requiring workers to return to the office. The companies with clear policy guidance demanding employee office attendance are also the ones achieving higher office attendance rates, per the survey. While effective, this might not be the best course of action for the long-term according to Colliers' Aaron who used the phrase: "make it a magnet instead of a mandate." When discussing the leverage employers can pull, Aaron believes that employers should incentivize, not demand that their employees come back in the office, especially if employees themselves don't fully mind coming in from time to time: "There's the social interaction part of it all. That's the piece that when we as a firm look at surveys, and when we're conversing with clients (employers and employees

[7] CBRE's Spring 2023 Office Occupier Sentiment Survey provides insights from 207 corporate real estate executives with U.S. office portfolios about how organizational strategies to support the future of work are progressing.

alike), we've found that the biggest reason that people want to be in the office is to see one another. We are social creatures after all. People want to grab lunch with coworkers and meet up for after-work drinks with friends that work in the area."

Forbes's latest survey on remote work showed that 53% of remote employees say that it's harder to feel connected to their coworkers. Lack of face-to-face interaction remains a major challenge associated with remote work – an additional 37% of remote workers feel that work from home neither hurts nor helps with connection to coworkers. These stats highlight the need for effective communication and team-building strategies in a remote setting, which is one of the main reasons why Phillipe believes that the office sector will eventually bounce back: "It's now firmly established that firms need some in-place work for collaboration, maintaining work culture, training, mentorship, and so on. Even firms that were remote first early in pandemic like Salesforce have reversed course." The latest data and findings unequivocally agree with Phillipe's sentiments. CBRE's survey indicated that, an equal mix of office and remote work seems to be a strategy that is losing favor. As of 2023, 45% of the survey's respondents support a mostly or fully office culture vs. 37% in 2022.



The last part of Philippe's above-mentioned quote has especially become evident the past year or so. In another sign that the era of remote work is evolving, pandemic darling, Zoom, along with other remote-work pioneers have started to call employees back to the office at least part-time. In early August 2023, Zoom announced that it is requiring many of its 7,400+ employees to

start showing up at the office. The company asked all employees within 50 miles of an office to work in person on a part-time basis, a plan Zoom said it would roll out in August and September. There's of course an irony here, given how crucial Zoom has become to many for remote work. But Zoom has actually waited much longer than many big tech companies in mandating some sort of hybrid work model. Google workers in many locations across the country were expected to work from the office at least three days a week starting in April 2022, for example. Meanwhile, Apple employees in the Bay Area similarly had to return to the office three days a week starting in September of last year. Elon Musk largely ended remote work at Twitter shortly after he took over late last year.

Salesforce might have the most intriguing story yet. Salesforce's CEO, Marc Benioff, completely changed his tune regarding remote work. Salesforce was among the first tech companies to communicate to its workforce that they didn't have to come back to the office. Back in 2021, the company even acquired communications app Slack, with Benioff claiming that people can work very effectively from their homes. Salesforce even said that it would let teams decide how much time they would be in office. But Benioff quickly started to recognize some of the challenges that remote work presents and did a complete 180. Earlier this year, he specifically highlighted that the loss of "tribal knowledge with new employees without an office culture" as a major concern. According to leaked Slack messages from late last year seen by CNBC, Benioff also complained about those hired during the pandemic of not being productive enough.

Considering that the technology sector remains the primary source of sublease space on a national scale, office real estate owners are pleased with the prospect of this trend continuing. As CBRE noted, only 56% of technology company respondents to their Spring 2023 Office Occupier Sentiment survey say that their firm requires employees to return to the office in some capacity, with most stipulating attendance for less than half the week. For comparison, 71% of financial/professional services firm participating in the survey stated that they have return to the office mandates in place.

The missed learning opportunities for entry-level/junior employees can also be leveraged to bring some workers back according to Aaron: "It's definitely interesting! Because you have to be in the office to learn, right? You can sit in the conference room and listen to someone's client call. That's how you quickly pick up how to interact with our clients and learn how to solve problems. You can't do that on Microsoft Teams, whereas you can actually stay quiet in the corner

of an office during a call (on speakerphone). There's something to be said about hearing the verbiage, dialogue, and just experiencing all of that." This quote is also applicable to Salesforce's situation that was preciously mentioned. Both groups – new employees and young employees – would significantly improve and accelerate their learning experience (thus career trajectory) simply from being in the office more often.

Whether employers choose to implement back-to-the-office mandates or decide to turn the work environment into a magnet, like Aaron suggests, one thing is certain, the data, surveys, and various analyses surrounding this topic are inconclusive. Executives claim that the work from home model is a productivity and culture killer. This is backed by a recent study that was conducted by economists at the Massachusetts Institute of Technology and the University of California which found that employees randomly assigned to work from home full time are 18% less productive than those in the office. Contrarily, recent data from Future Forum[8] disproves this opinion and states that, in reality, flexible work is associated with higher productivity and focus, not less. Workers with location flexibility report 4% higher productivity scores than fully in-office workers, a difference that across a workforce can add up to material improvements to the bottom line. The benefits of schedule flexibility are even greater; Future Forum data shows that workers who have full schedule flexibility show 29% higher productivity than workers with no ability to shift their schedule. Moreover, Stanford's Nicholas Bloom's study of 16,000 workers over nine months found that working from home increase productivity by 13%. This increase in performance however was specifically due to more calls per minute attributed to a quieter more convenient working environment as well as working more minutes per shift due to fewer breaks and sick days. In this same study, workers also reported improved work satisfaction, while attrition rates were cut by 50%.

The below are some of CBRE's Spring 2023 Office Occupier Sentiment Survey's most interesting findings:

- 65% of survey respondents say that their company now requires some level of office attendance, while only 30% are maintaining a voluntary return-to-office policy.

[8] Future Forum is a consortium launched by Slack with founding partners Boston Consulting Group, MillerKnoll and MLT to help companies redesign work in the new digital-first workplace.

- Of the survey correspondents that require a return to office, 57% are tracking attendance. However, most have no guidance on enforcement. Considering today's tight labor market, this is not surprising. Employers are carefully requiring more days in the office, while avoiding strict enforcement to hedge against resignations by skilled employees.

- Results vary by industry, with technology respondents citing a more lenient return-to-office policy than other respondents. Only 26% of technology respondents require a return to the office more than 2.5 days a week vs. 48% of financial/professional services respondents. Conversely, 41% of technology respondents support a voluntary return to the office vs. 25% of financial/ professional services respondents. This industry difference indicates why some of the more tech-centric markets are lagging in return-to-office rates. (Appendix 3a)

- Small companies are more likely to have higher office attendance. 94% and 65% of respondents from larger companies and smaller companies, respectively, reported office utilization rates of less than 60%. (Appendix 3b)

- Office attendance is expected to increase for companies with lowest utilization. Nearly 40% of respondents still expect office utilization to increase, while most expect to achieve steady state by year-end. The lower a company's current office utilization rate, the higher the expectation for an increase in utilization. Nearly a quarter of respondents are unsure when office utilization patterns will reach acceptable levels, pointing to continued uncertainty among many companies.
    - 60% report that their office utilization has settled at a steady state, meaning that many companies have accepted less-than-full utilization as the new normal. This is up from only 43% that reported reaching a steady state in 2022. The smallest companies are ahead of the curve: 71% of those with under 100 employees said they have reached a steady state vs. only 55% of the largest companies with 10,000+ employees. (Appendix 3c)

- A clear and logical pattern forms when analyzing office utilization based on company policy. 44% of surveyed companies that require a return of 2.5 days or more have office utilization rates above 60%. Only 2% of those with a voluntary policy are achieving the same. It is clear that setting expectations helps companies achieve higher office attendance. (Appendix 3f)

- Amid economic uncertainty, executives are split over how the impact of a recession will affect return-to-office policies. 45% of respondents reported no impact from the weakening economy, while 40% reported an increased urgency of C-suite executives to get employees back to the office. (Appendix 3d)

- More than 70% of U.S. respondents to CBRE's Global Live-Work-Shop Survey[9] who identify as hybrid workers claim that trust in their employer is stronger than it was pre-pandemic. This is much higher than fully remote or fully in-office worker sentiment. Trust serves as a fundamental element in fostering employee engagement, and the ongoing management of this trust remains an essential commitment over the long haul. Adopting a cautious and deliberate strategy when communicating about the return to the office, particularly amid periods of economic uncertainty, is a wise course of action.

- 63% of U.S. respondents to CBRE's Global Live-Work-Shop Survey want to work in the office at least three days a week. Less than 7% want to be full-time remote workers. Employee preferences are important for companies to understand before they shift to a strategy that could impact employee productivity and wellness.

- With more companies intending on either maintaining or boosting office attendance this year, clear communications to clarify and gain greater acceptance of office-attendance policies are critical. 66% of respondents report having a policy or at least guidance in place to help drive intended office utilization patterns. While most of these policies state the number of days per week employees are expected to be in the office, few specify which days of the week. 41% indicate it varies by team and 41% indicate there are no expectations. Of those that do specify actual days, most are in mid-week. (Appendix 3e)

- The most common actions to reallocate space in support of new work patterns focus on making space more efficient for the company and more effective for employees. 66% of respondents indicated they were moving away from individual seat assignments toward a greater ratio of seat sharing. 52% are planning up to a 2-to-1 employee/seat ratio, while 15% are planning up to a 3-to-1 ratio. Only 25% of respondents plan to keep a 1-to-1 ratio or less. (Appendix 3g)

Based on the above results, it is apparent that policy implementation by companies remains a key driver of higher office attendance. However, as I will discuss later on in the paper, a myriad of factors – including building quality, on-site amenity offerings, ownership group, locational and neighborhood amenities – will also play an integral role in attracting employees back to the office.

[9] In the first survey of its kind, CBRE polled more than 20,000 people worldwide last year—from baby boomers to Gen Zers—to determine how they will live, work and shop in the future. CBRE identified four overarching themes they believe will significantly influence how consumers live, work and shop. These conclusions have far-reaching consequences for real estate occupiers and investors.

Development and Conversion Opportunities

The office sector's flight to quality is not being exaggerated one bit. All of the major commercial real estate services firm – some of which I used as cornerstones for this paper – are consistent in their findings[10]. From an occupier standpoint, most real estate executives believe the office is key to their future. They want their people back together, collaborating and innovating, so they're seeking Class A, quality, flexible, amenity rich workspaces. Since we are still in a historically tight labor market, the competition to attract and retain talent remains extremely high. Company executives have also become very concerned about the economic impact of the bottom line on their businesses, real estate, and labor force.

Occupiers are conflicted between their demands for shorter, more flexible leases that cater for dynamic workforces, and the availability of the spaces that meet their priorities. Quality space requires capital investment but then inherently, the shorter the lease, the more expensive it is for the occupier. It's about finding balance and working in partnership with investors. Tenants seek transparency regarding building and property management offerings and the potential property performance. On the flip side, owners are trying to understand what they need to do in order to meet these occupier requirements and demands. This necessitates enhanced communication from the outset, particularly thorough data gathering during due diligence to enable informed choices.

With excess office space on the market, and overall rising vacancies and sublease spaces across the nation, many municipalities are pleading for office-to-residential conversions as remote work takes over and a housing shortage persists across U.S. The Class B & C office inventory in particular are facing major challenges as articulated all throughout this paper. Majority of the products in this segment are worth simply the land value unfortunately, so those lower-quality office assets are especially interesting conversion plays. However, when taking a deeper dive into the practical aspects of such conversions, it's not nearly as simple as one may think. Only a narrow set of existing office buildings are truly viable candidates for such transformations. Despite the potential benefits, office-to-residential conversions come with their own set of challenges. One of the most significant is the financial burden associated with retrofitting a building. A recent study by the Urban Land Institute found that the typical hard costs of retrofitting a building range from $250,000 to $300,000 per unit. Given that the current average market price of a multifamily property is a little under $250,000, achieving financial feasibility will not be easy for most office

[10] Refer to Market Overview section of paper

buildings. As with any real estate transaction, an investor's cost basis is a determining factor for future returns.

Office buildings also tend to have large floor spaces, making them difficult to economically carve up for apartment units. "Generally speaking, office-to-residential conversion is hard to do" Aaron says on the matter, "academically you'd say, 'alright well, we need housing, we have unused office, so let's just take the office and make housing and we solve two problems at once'. Theoretically, yes. In practice, it's very hard. You need a really low basis for you to take advantage of that. For many of the buildings, the lines don't work; the floor plates are either too big or not big enough; if you're mid-block, you don't have enough windows so it's hard to turn the office building into an apartment building; if you have a really deep building mid-block where you don't have natural light, it's a challenge; and so on".

Aaron's words are validated by recent studies conducted (separately) by commercial real estate analytics firms, CoStar Analytics and CRE Analyst, which found that only about 6% and 5%[11] of U.S office buildings, respectively, satisfy the requirements for residential repurposing. The studies found that most existing office buildings present insurmountable hurdles to converting office space into multifamily units, such as building size, floor plate sizes and configuration, MEP, fire and life safety, location, complex zoning process, etc. CoStar's study concludes: "Given the current state of the market, the office-to-multifamily conversion narrative holds intuitive appeal. But the reality is that, while transformative for the neighborhoods in which they occur, conversions will probably be relatively rare. At this scale, they are unlikely to impact market fundamentals on either the office or the multifamily side, let alone solve the housing shortage." This raises the question of: "Well what makes a decent conversion candidate?" CRE Analyst' answers to that question are summarized and broken down below:

1. <u>Age:</u> A building almost certainly needs to be old. No owner wants to undertake the extreme expense of repurposing office space that functions and fetches decent rents. Owners of newer buildings are more likely to renovate and/or drop rents and/or increase concessions until obsolescence can't be delayed via minor renovations or concessions. CRE Analyst assume office buildings need to be at least 20 years old to be seriously considered for conversion.

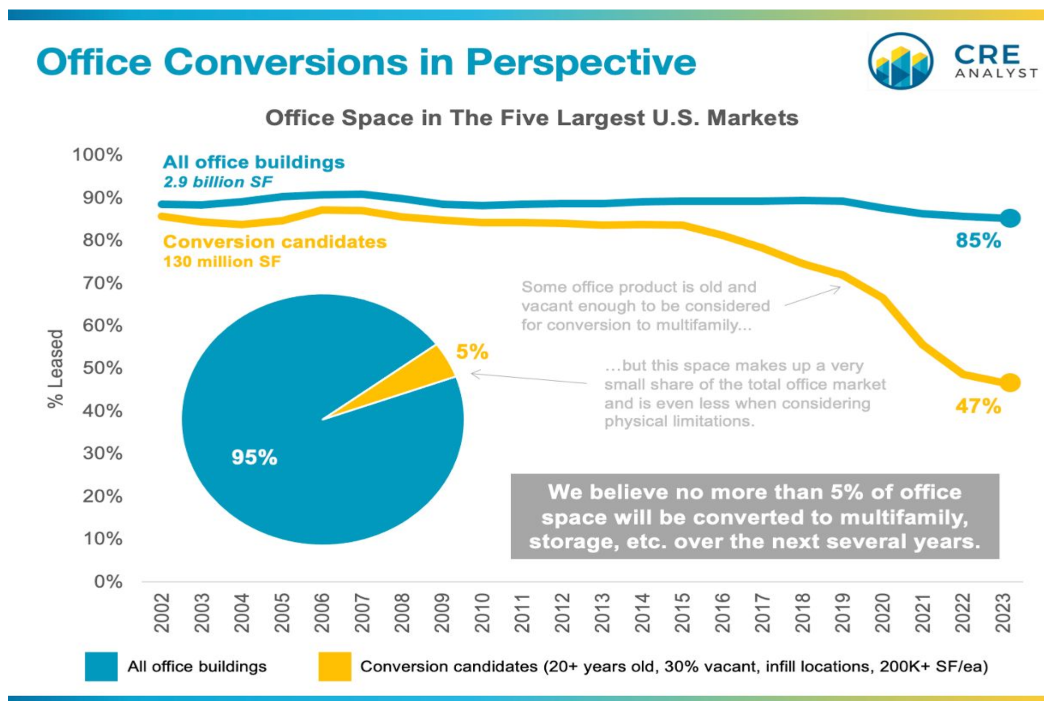
[11] CRE Analyst' study strictly focused on office space in the Five largest U.S Markets

2. Vacancy: Similar to the age issue outlined above, why would an owner undertake the significant expense of converting an office building if the building wasn't already substantially vacant? CRE Analyst assumed office buildings need to be at least 30% vacant to be seriously considered for conversion.

3. Location: There's currently an "existential change" happening in the office market. In CRE Analyst's view, office buildings need to be in dense locations to be seriously considered for conversion.

4. Building Size: Finally, office buildings need to be large enough to create about 200 units (a threshold that justifies professional management). CRE Analyst assumed a minimum building size of 200,000 total sq. ft.

These screens cut out 95% of the office space, leaving only 5% (or 130 million sq. ft. vs. 3 billion sq. ft. in the top 5 markets) that could be reasonably considered for conversions. The actual share of converted buildings could be much lower since CRE Analyst' simple analysis doesn't consider physical building considerations. In essence, the outcome is that conversions are prone to remain a topic of discussion rather than a feasible and realistic solution. Instead, a majority of office buildings might find themselves in a state of uncertainty: not modern or polished enough to command top rental rates, and not old enough, vacant enough, and/or urban enough to justify conversion.



Public incentives could help offset the high costs of repurposing and make office-to-residential conversions more financially feasible. However, implementing such incentives can be politically challenging. For example, while New York City has discussed public incentives to support conversions, it has so far only instituted a program providing tax relief for office buildings that invest in upgrades but continue to function as offices. But other cities, such as Boston, are taking a different, bolder approach. Boston's Mayor, Michelle Wu, has proposed property tax breaks of up to 75 % over 29 years for downtown office conversions, the Boston Business Journal reported. It's the first financial incentive the city of Boston has proposed providing to office owners. The catch however is that this will be a limited time offer. The City expects to start taking applications later this fall but will close the door at the start of the following summer. Construction on approved projects will need to start by Oct. 25th if the owners don't want to hand back the entire tax break. Terms of how the tax break functions would be negotiated on a case-by-case basis. They will be implemented through payment in lieu of taxes agreements with the city and the Boston Planning and Development Agency (BPDA).

Transforming older office buildings into different building types, particularly residential, that meet specific requirements presents a viable remedy. However, for these conversions to financially make sense to developers, collaboration between public institutions and private real estate investors is essential. This partnership should streamline the zoning process and offer appropriate economic benefits to attract redevelopment. This approach has the potential to augment housing availability, modernize facilities, and breathe new life into the heart of a city.

Valuation, Portfolio Planning, & Capital Markets

Conversions get even tougher to pencil when taking into account the current state of the capital markets landscape. Extremely high interest rates on constructions/conversion loans are forcing developers to make huge equity investments. Lending relationships remain critical as developers try to grapple with plunging valuations and seeking conversion opportunities.

With the ongoing and swift ascent of interest rates, office owners will continue to struggle to meet their debt service requirements. Floating-rate debt specifically are proven to be troublesome. As of August 11th, 2023, the SOFR[12] rate stands at a 5.30%; compared to 2.28% a year ago; and 0.05% the year before that. Due to these strenuous circumstances, substantial capital injections will be needed for various office properties, or else owners risk the possibility of delinquency (or worse, default). There is a glimmer of hope in the end, however. Trepp[13] recently reported that the number of office properties with a Debt Service Coverage Ratio of less than 1 (in other words negative levered cash flow), is finally starting to decrease.

Larger portfolios will drive more rightsizing. Uncertainty surrounding the long-term impact of hybrid work has translated into varying approaches to space planning over the past three years. CBRE reported that nearly 23% of respondents to their survey reported portfolio growth and 44% portfolio contraction since the start of the pandemic. Downsizing was more prominent among technology and financial services firms, with 64% reporting reducing their portfolio size over the past three years. More than half of respondents anticipate further rightsizing of their portfolio in the next three years. (Appendix 4)

This has various implications for investors and landlords. In the current environment, buyers can purchase the vast majority of office buildings at below replacements cost. Research group Capital Economics is forecasting that, office real estate values nationally will have dropped 35% by 2025 from pre-pandemic peaks and won't reach "before times" prices again until 2040. Other studies have made similar predictions about this crash in valuations. This has forced some investors to flee the U.S. for Japan, as reported by the Wall Street Journal earlier this month. Foreign investors are finding a haven in Japan due to its stable market and robust office attendance. LaSalle Investment Management, M&G, and Keppel are among those buying Japanese office

---

[12] SOFR, aka the secure overnight financing rate, is based on U.S Treasury repurchases between banks and is a benchmark rate that is broadly used by lenders for adjustable-rate loans.
[13] Per a recent TreppWire Podcast episode

properties, with investments exceeding $4 billion in Q1 2023, double the previous year. Though this serves as further indication that the U.S. real estate office market is primed for disruption, office landlords can take specific measures to enhance their future positioning, optimize property value, increase profit margins and returns.

Author's Case Studies

All of the market reports, trends, surveys, and studies highlighted throughout this paper clearly indicate an augmented flight to quality within the office sector. Related's Phillipe adds: "Vibrant work environment in new buildings are a big attraction for companies and their employees – with high ceiling heights, floor to ceiling windows with tremendous light and air, attractive floorplates. Amenity rich environments (like Hudson Yards) and proximity to good transportation are highly important as well." This quote is reinforced by the findings of CBRE's Office Occupier Sentiment Survey which reported that 32% of respondents are relocating to better-quality space, with an additional 25% exploring the option. This flight-to-quality trend is not just focused on the building however, but also the neighborhood in which it is located. Mixed-use districts anchored by trophy office buildings are among the most appealing locations. A recent brief by CBRE Econometric Advisors highlights that "live-work-shop" districts—dense, walkable areas that combine modern office space, housing and high-end experiential retail—are outperforming the broader market in which they reside.

67% of U.S. respondents to CBRE's Global Live-Work-Shop Survey said that they place more importance on the quality of their working environment than they did pre-pandemic, likely because they have more choices today. Building amenities have an impact on decision-makers who are trying to balance employee experience, health & wellness, sustainability and efficiency. Buildings that provide easy commutes and other conveniences are highly desirable – 59% of survey respondents favor buildings near public transit and 53% favor buildings with onsite food & beverage options. CBRE's Global Live-Work-Shop Survey also found that second to salary, workers considered commute time a top factor when considering future job opportunities.

To demonstrate this phenomenon more clearly, I will conduct two brief analyses that will highlight this bifurcation that exists in the office sector. First, I'll take a look at the Hudson Yards development, before diving into the Washington D.C. office market which has especially been hit harshly the past few years.

Hudson Yards, NYC – Lifestyle Office

Philippe Visser: "We've really seen demand for Hudson Yards as a mixed-use, highly amenitized environment accelerate even in the last year as companies want vibrant workplaces

and mixed-use environments. We have other similar mixed-use projects in our pipeline of what we're calling Lifestyle Office[14] *(or Class AA)."*

Located in Midtown Manhattan, between the Chelsea and Hell's Kitchen neighborhoods, Hudson Yards is the largest private real estate development in the history of the United States. The neighborhood includes approximately 12 million square feet of commercial office and residential space; dozens of shops; a collection of restaurants; thousands of residences; The Shed, a new center for artistic invention; 5 acres of public gardens and groves; and an Equinox branded luxury hotel with more than 200 rooms—all offering unparalleled amenities for residents, employees and guests. The Eastern Rail Yards was completed in 2019/2022 and contains soaring commercial towers 10 Hudson Yards, 30 Hudson Yards, 50 Hudson Yards, and 55 Hudson Yards; The Shops at Hudson Yards, and a unique cultural monument featuring New York's Staircase by Thomas Heatherwick of Heatherwick Studio.

When the Western Yards are complete (Phase II), new public green space, a 750-seat public school and more vibrant places to live, work, and play will extend all the way to the Hudson River. The office tower at 70 Hudson Yards is the next evolution of this successful mixed-use development and is slated to come online in 2026. Hudson Yards has a substantial economic impact on the New York City economy with leading companies and buildings bringing thousands of direct jobs to the West Side. Once fully operational, the development will include a total of 6 million sq. ft. of commercial office space and contribute nearly $19 billion annually to New York City's Gross Domestic Product, accounting for 2.5% of the citywide GDP. Hudson Yards will also contribute nearly $500 million annually in New York City taxes.

Despite the current state of the office market, with many people claiming that office is dead, Hudson Yards has experienced some of the best leasing over the last year according to its CEO, Jeff Blau. Related has been securing rents on the upper floors of its newest tower, 50 Hudson Yards, in excess of $200 per sq. ft. That is more than double the $95.53 average asking rent for a class A building in Midtown, according to commercial real estate services firm, Savills. Average office attendance at Hudson Yards exceeds 80% from Monday through Thursday. That number

---

[14] The future of work demands spaces that create the ultimate employee experience – destinations that are built to be enjoyed, which is why Related is creating Lifestyle Office districts all over the country (Austin, NYC, Chicago, etc.). Lifestyle Office districts are mixed-use neighborhoods — "five-minute cities" that employees don't want to leave; offering apartments, shopping, food, culture, open space and hotels. Combined with world-class architecture, morning to night programming, and landscaping, these Lifestyle Office places are not just a collection of properties — they are distinct places and communities that matter to employees and visitors alike.

compares to less than 50% for the rest of the city. Related's confidence in its Class AA offices is such that the development firm is also planning to build a 2 million sq. ft. office tower (70 Hudson Yards) on the as-yet-undeveloped west side of Hudson Yards. That site will also host a casino if a joint bid with Wynn Resorts is selected for one of three forthcoming New York licenses. Related received further validation recently when Brad Lander, the New York City comptroller and a one-time Hudson Yards sceptic, noted the development was now delivering $200 million more in annual tax revenue than forecast — and growing. "This is one place I have to say that I got it wrong," Lander told Errol Louis on the Inside City Hall programme.

The original plan was for Hudson Yards' office towers to play a supporting role by attracting the affluent to its retail space and condominium towers. However, the office towers have been its star performers. 10, 30, and 55 Hudson Yards are now 100% leased. Some early tenants, such as Tapestry and BlackRock, were lured from Midtown with favorable deals (Financial Times). Meanwhile, 50 Hudson Yards, is nearly 90% occupied. The complex's largest tenants and commercial condo owners also include Meta, Warner Bros., Discovery, Wells Fargo, and L'Oréal. Hudson Yards' remarkable lease-up and occupancy numbers vastly outperform the overall market. As of Q2 2023, total office occupancy rates in the Manhattan market and Midtown submarket are 83.3% and 81.5%, respectively. Other developers have taken notice and are also betting on Lifestyle Offices. SL Green for instance has reaped similar success at One Vanderbilt, near Grand Central Station, with some rents topping $300 per sq ft.

D.C. Office Market – The tales of two stories (Boston Properties vs. Brookfield).

As mentioned earlier in this paper, Brookfield Corp., one of the largest public real estate companies in the world, has defaulted on over $161 million worth of office building mortgages. The mortgage default covers twelve office properties, primarily in and around Washington, D.C., though only nine are still owned by the asset manager. Three of the properties have been sold off, according to industry professionals with knowledge of events surrounding the default. This comes as high office vacancy and interest rate hikes have contributed to a string of defaults this year and fueled concerns of a commercial real estate debt crisis. Occupancy and interest rate hikes had hit Brookfield's defaulted D.C. office portfolio hard—across the 12 properties, occupancy rates averaged 52%, down from 79% in 2018 when the debt was underwritten. On top of that, monthly debt service payments jumped from $300,000 to $880,000 over the past 12 months due to interest

rate hikes. Located mainly within Washington's Maryland suburbs, the assets in the portfolio were small, tertiary-market Class B properties**,** providing additional evidence of the ongoing challenges faced by the owners of lower-quality office products.

In comparison, Boston Properties (BXP)'s Washington D.C. office assets – consisting of strictly Class A and AA buildings – is performing extremely well. BXP owns roughly 36 total properties spanning 10 million sq. ft in the Northern Virginia, Washington D.C, and Maryland areas. As of 2023, the average occupancy rate for these buildings is just a little under 89%. I recently spoke with Sam Orr – Vice President of Office Leasing at Boston Properties (based in D.C. area) – who told me that, similarly to Related (and contrarily to Brookfield), Boston Properties distinguish themselves from the competition by providing tenant and occupiers what they are calling as "premier workforce". A property is classified as having premier office space based on numerous factors and its offerings, including, asset quality, building quality, locational benefits and amenities, ownership group, and overall environment. BXP is a major and well renowned REIT across the world. The company's assets are typically Class A/AA, positioned in top tier markets, and surrounded by various amenities – retailers, shops, walkable green spaces, bars, etc. The same recipe has proven to work for Related as previously mentioned, but does that mean that the Class B & C inventory are dead? Well, not exactly.

Though the Class B & C inventory is taking an absolute beating, it's still very much needed. "Not every company wants to pay $80.00+ per sq. ft. for a brand new or luxurious Class A office space" Aaron says, "some businesses can't, so they need a cheaper location, cheaper rent." JLL has also noted that more recent sublease additions are generally coming in higher-quality, class A space than sublease listings from earlier in the pandemic: less than 20% of additions during 2020-2021 came in buildings developed in 2010 or later, since 2022 31.5% of listings have taken place in newer construction. Class B & C products remain attractive for those occupiers who can't afford the Class A/AA spaces. However, landlords should expect to not have much leverage in negotiations. Generous tenant improvement packages and free rent months will be expected from tenants.

Final Thoughts

Mark: *Like shopping malls of a certain vintage; there will be office product that become functionally obsolete; some will have to go back to the banks and get repriced – then developers and owners can start to be creative about how and what conversion looks like – but basis will be the determining factor in how much risk someone is willing to take on a future use.*

Aaron: *It took ten years for sales volume to regain the pre global financial crisis levels. I wouldn't be surprised if it takes us another 10 years to regain 2021-2022 levels in. In aggregate, it might even be longer because if you think of what happened this last cycle. So, it may be that 2021 is the height of sales volume that we'll see in our careers, especially if interest rates stay up. And no, unfortunately I have no idea what interest rates are going to be like in 2035!*

If you look over time, office has been a smaller piece of the pie for a long time. Pre the Great Financial Crisis, office drove about 1/3 of total sales volume in the US. More recently, that number has been to 20% plus or minus. So, does it go back to 1/3? Not with the conditions it's in right now. So, I think you continue to see office sort of fade. If you take a look at NCREIF data over time, we never regained 'peak values' from the 80s. In other words, office values are less today than they were in the 1980s based on the NCREIF value index"

The massive lasting impact of the Covid-19 pandemic affected countless facets and aspects of everyday life. As the workforce embraces the remote-work model, business models and corporate planning will continue to adjust and evolve. The various studies surveys, and reports mentioned throughout this paper clearly points out some consistent findings, but also contradictory ones in some cases. This evolution happening in the workforce has forever changed our perception of remote work. Though overall office space demand continues to decline, that certainly doesn't mean that the sector is dead. In fact, just like the sector evolved after the Great Financial Crisis[15], this just is another point of its evolution.

Municipal authorities have begun efforts to address the excess vacant office space in their downtowns, which can impose a strain on local economies. While Washington D.C. for instance has struggled with low office occupancy (due to the absence of a federal mandate for in-office work), other major cities are facing similar problems. Back in January, New York City Mayor Eric Adams announced plans to open up a slice of Midtown Manhattan to office-to-residential conversions, following in the footsteps of D.C. Mayor Muriel Bowser's plan to add 7 million

[15] Pref GFC, most offices consisted of individual conference rooms which restricted collaboration amongst teams. After 08-09 however, that quickly changed. Cubicles and the concept of open floor plan quickly gained popularity

square feet of residential space in the city's traditionally office-centric downtown district, which has already stimulated several conversion projects.

The below are my final thoughts summarized for occupiers, investors, and landlords:

Occupiers

- Clearly articulate your intentions regarding office attendance and formulate communication strategies and policies that reinforce these objectives. The employers who establish and effectively communicate transparent are achieving increased office attendance rates. Research indicates that mandates and policies can significantly enhance office attendance.

- Complement short-term initiatives, such as expanding shared spaces, with transformative long-term strategies. Guiding a comprehensive vision for the future will enhance the prospects of achieving success.

- Monitor office utilization to inform future space allocation plans, while also being mindful of potential employee tracking concerns. Fostering trust is fundamental for a productive employer-employee relationship.

- Involve employees in the planning process to ensure their needs and preferences are considered and balanced alongside company objectives. Emphasize the value of the office in communication with employees to garner support and encourage desired behaviors.

- Leverage negotiation tactics to secure more favorable lease terms, while simultaneously exploring innovative and flexible structures that align with your goals of establishing a more adaptable portfolio.

- Optimize your portfolio by striking a balance between organizational efficiencies and employee preferences. Factor in variables like employee commutes, neighborhood quality, building debt profile, and landlord characteristics when making portfolio decisions.

Landlords

The Related Lifestyle Office Districts provides a road map to achieve the same level of success that's being experienced in places such as Hudson Yards, and other Class AA/premier office spaces. Certain aspects need to be taken into account when designing and building new premier office space, which include the below:

- Health & Wellness

    - Related affiliate Equinox offers the ultimate luxury fitness experience directly incorporated into our districts. Onsite health centers created in partnership with Mount Sinai provide top-tier medical concierge.

- Childcare & Family
    - Related partner Vivvi, a best-in-class childcare and early learning facility, provides employees in most of Related's buildings access to onsite childcare.

- Open Space
    - Developing public outdoor spaces, lawns, parks, and outdoor terraces that are central gathering places with custom programming developed by Related and its partners.

- Food & Beverage
    - Partnering with global renowned chefs, Related curates the ideal mix of food and beverage to offer the perfect mix of options for a quick meal, drink or more formal dining options.

- Arts & Culture
    - Related commissions art from the world's top artists, from Jaume Plensa to Frank Stella. Related districts are tied to cultural attractions, from arts centers like The Shed, and stunning observation deck Edge.

- Related 360 Life Programming
    - Activated open space and distinct common areas with constant programming to engage employees and enhance their day. Related's team create unique events and activations as well as offering exclusives and perks.

Related Distinct Projects

70 Hudson Yards

NEW YORK

One Lady Bird Lake

AUSTIN

725 Randolph

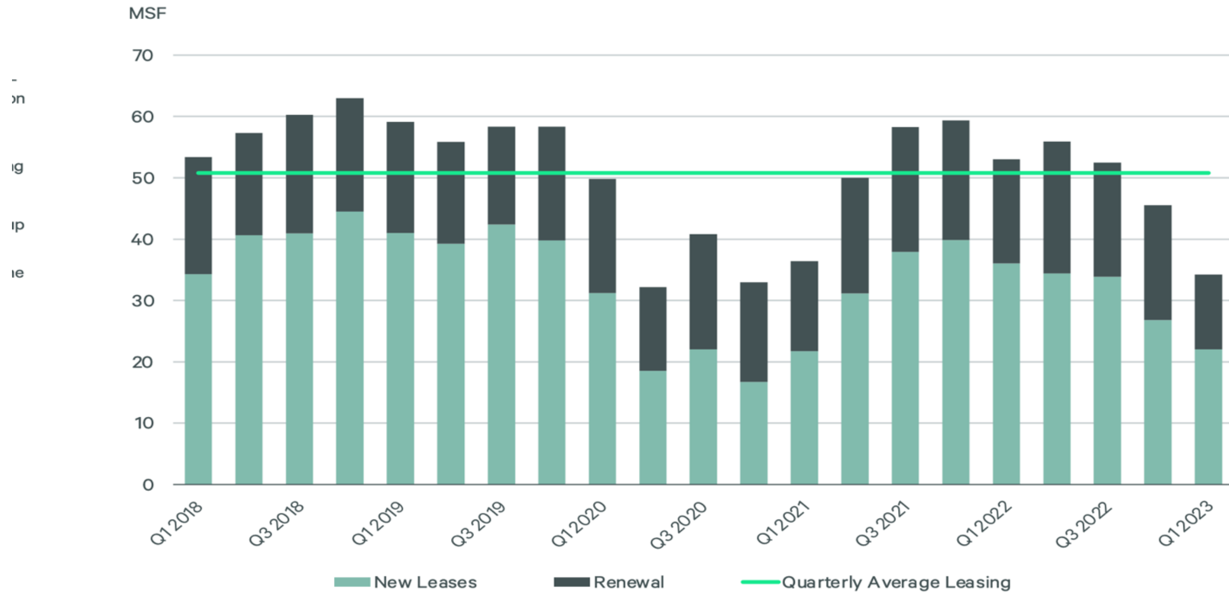
CHICAGO

One Brickell City Centre

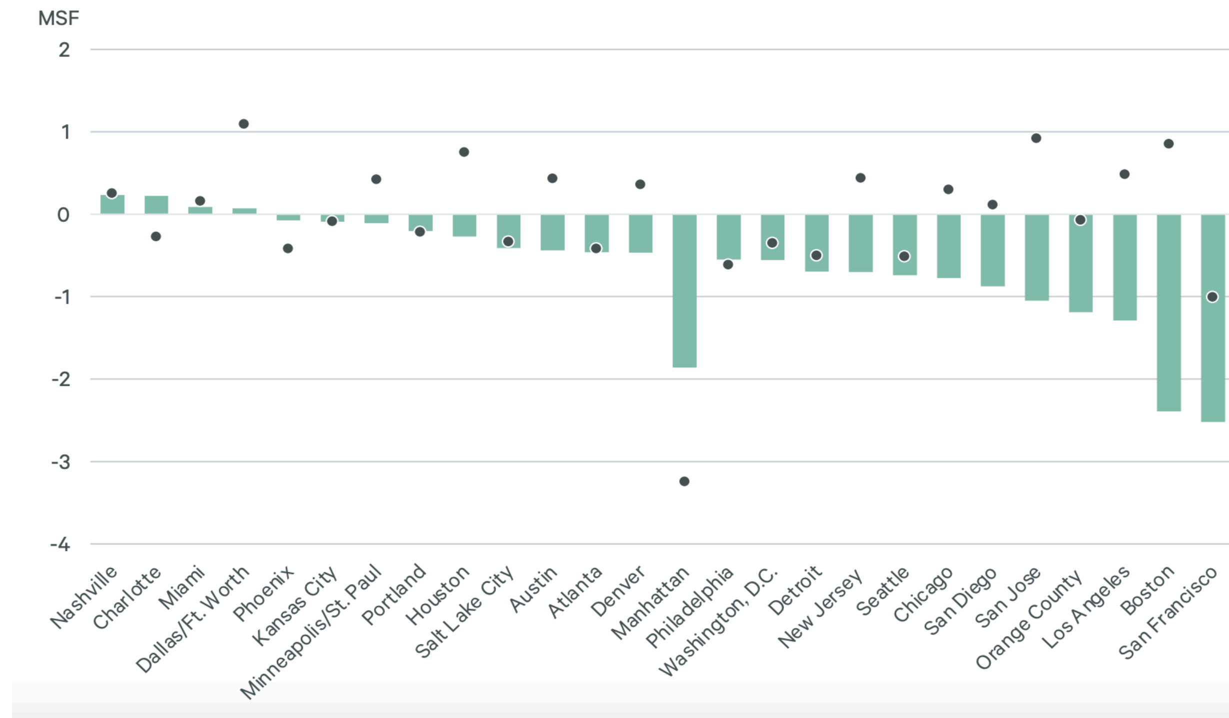
MIAMI

Appendix 1

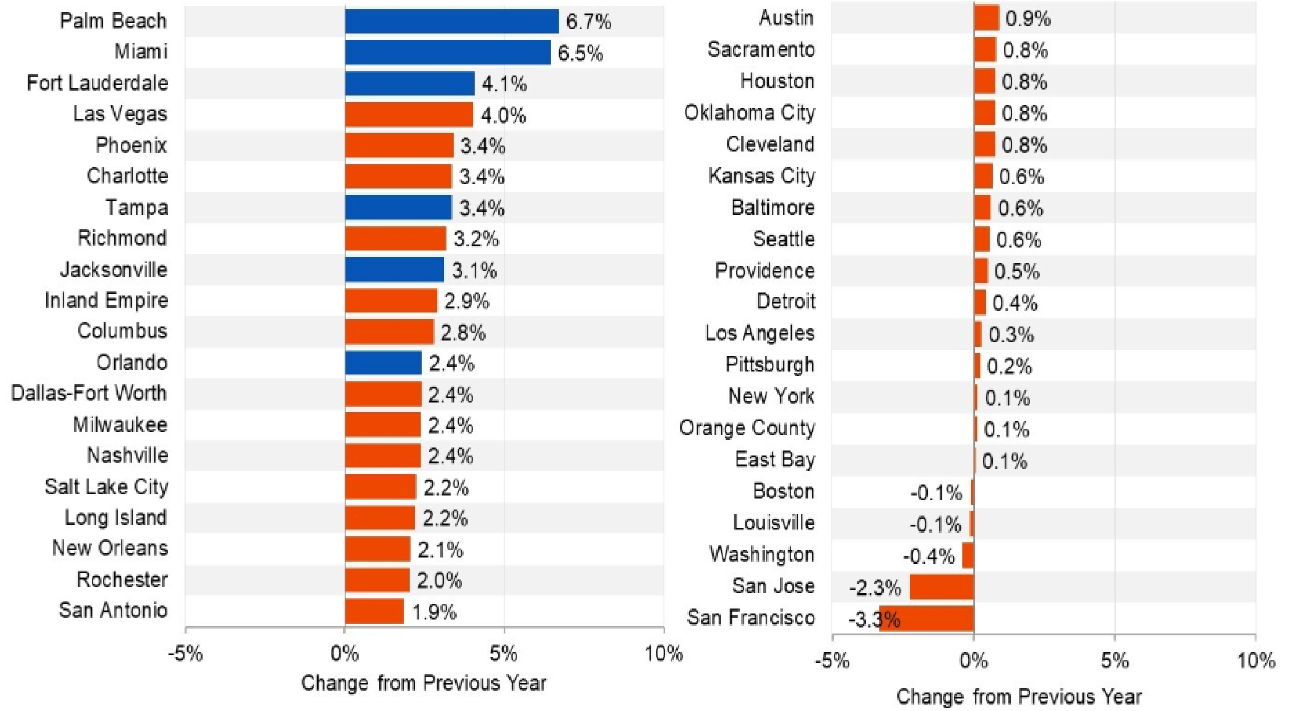
A) Leasing Activity



B) Net Absorption



C) Rent Growth



Appendix 2

Investment Performance by Property Sector and Subsector

June 30, 2023

Sector	Number of Constituents	Total Return (%) 2022	June	2023: YTD	Dividend Yield (%)	Market Capitalization ($)[1] Equity	Implied
FTSE Nareit All Equity REITs	145	-24.95	5.36	2.97	4.08	1,206,115,305	1,233,220,353
FTSE Nareit Equity REITs	138	-24.37	5.15	5.37	4.20	1,007,563,402	1,034,548,456
Industrial	11	-28.58	0.31	9.25	3.00	163,949,951	167,550,481
Office	19	-37.62	10.38	-16.18	6.25	54,250,745	57,213,558
Retail	32	-13.29	7.03	-0.62	5.24	169,219,384	176,455,283
Shopping Centers	18	-12.54	11.04	1.10	4.42	60,667,525	62,086,597
Regional Malls	3	-22.91	11.70	1.48	6.39	40,402,957	45,967,044
Free Standing	11	-6.53	1.11	-3.10	5.29	68,148,902	68,401,642
Residential	19	-31.34	6.28	9.23	3.45	185,838,654	192,435,072
Apartments	14	-31.95	7.63	10.08	3.76	124,349,383	128,129,403
Manufactured Homes	3	-28.34	4.97	-2.41	2.85	28,726,563	29,661,881
Single Family Homes	2	-31.88	2.39	18.33	2.83	32,762,708	34,643,788
Diversified	12	-15.73	0.23	-10.83	6.96	25,374,113	26,313,545
Lodging/Resorts	14	-15.31	2.40	4.58	3.64	33,321,502	33,764,292
Health Care	15	-22.18	6.93	7.84	5.16	103,739,394	104,672,953
Self Storage	5	-26.73	3.65	9.25	4.20	89,446,617	92,632,045
Timber	3	-19.48	15.90	11.16	2.60	33,232,463	33,333,220
Infrastructure	4	-28.61	4.69	-10.69	3.71	165,319,439	165,338,676
Data Centers	2	-27.97	7.32	19.37	2.53	106,124,442	106,840,532
Gaming	2	-	-0.54	-0.54	5.24	44,290,500	45,204,700
Specialty	7	-0.78	7.02	5.57	4.96	32,636,467	32,651,575
FTSE Nareit Mortgage REITs	32	-26.61	12.77	7.63	11.86	54,087,900	54,431,882
Home Financing	16	-26.17	11.81	7.31	13.15	30,451,042	30,451,682
Commercial Financing	16	-27.32	14.23	8.09	10.20	23,636,858	23,980,200

Source: FTSE Russell™, Nareit®.

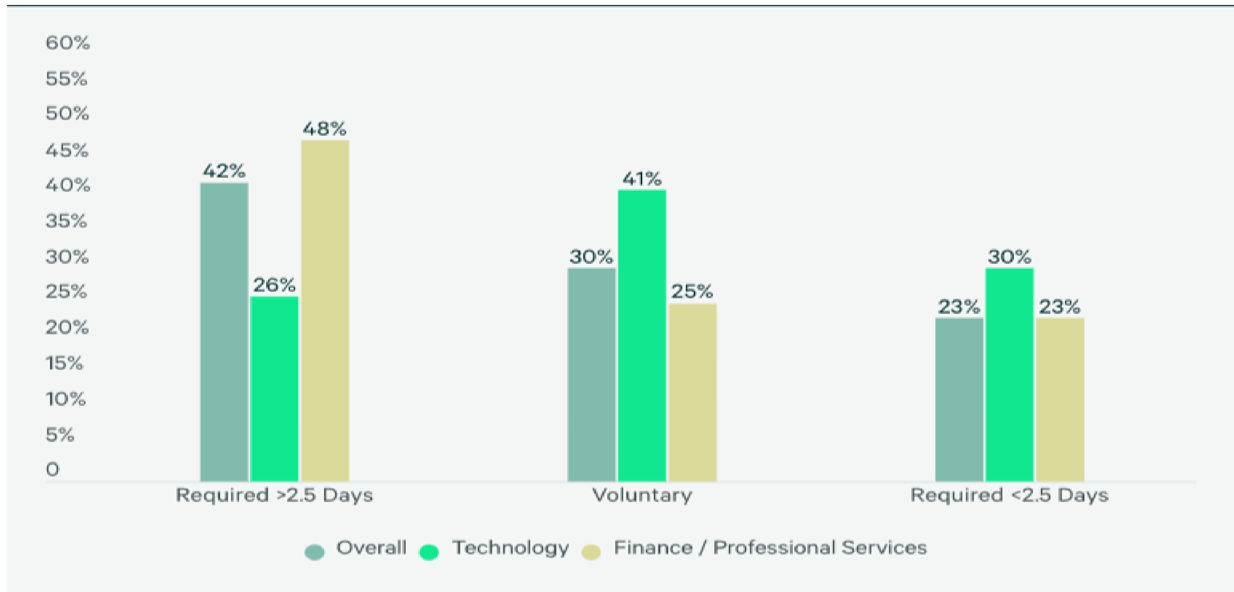
Notes:

[1] Implied market capitalization is calculated as common shares outstanding plus operating partnership units, multiplied by share price. Data presented in thousands of

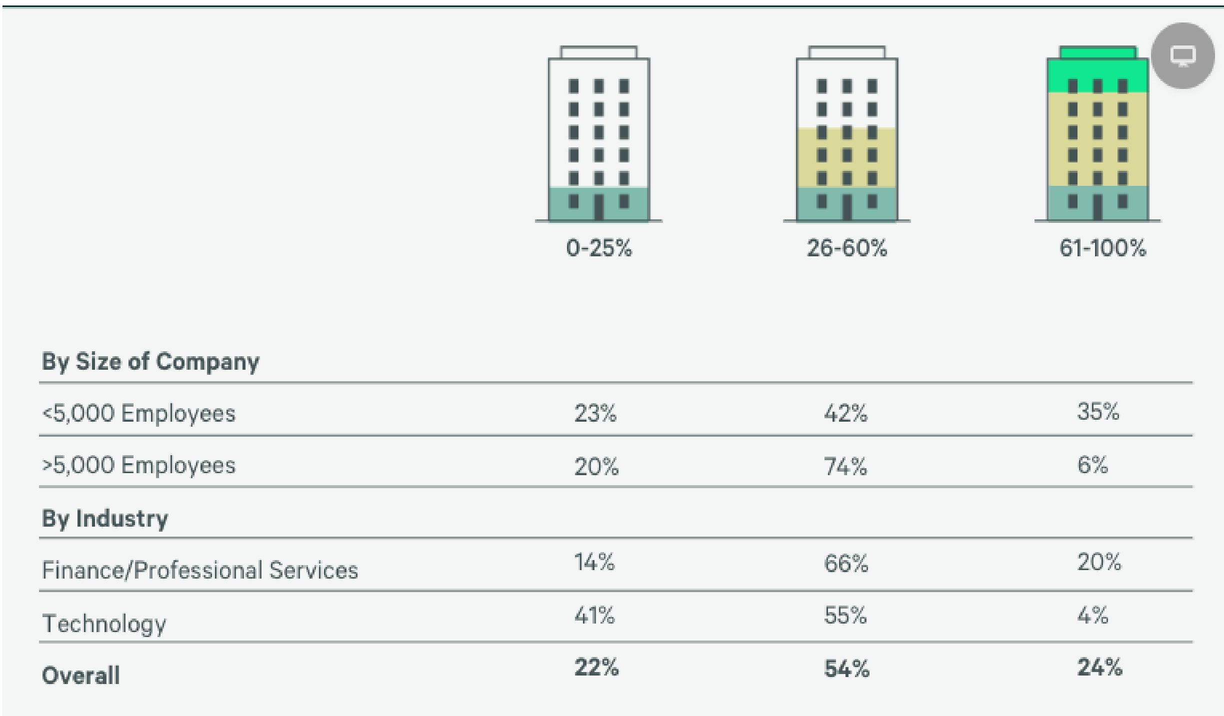
Disclaimer: The FTSE Nareit US Real Estate Index Series (Indexes) is calculated by FTSE International Limited (FTSE®), which is part of the London Stock Exchange Group plc (LSE Group). FTSE Russell® is a trading name of FTSE®, FTSE® and related trademarks and service marks owned or licensed to the LSE Group. Nareit® is the exclusive registered trademark of the National Association of Real Estate Investment Trusts®. All rights in the Indexes vest in FTSE® and Nareit®. All information is provided for information purposes only. Every effort is made to ensure that all information given in this publication is accurate, but no responsibility or liability can be accepted by any member of the LSE Group nor by Nareit® nor by their respective directors, officers, employees, partners or licensors for any errors or for any loss (including in negligence) from use of this publication or any of the information or data contained herein. Past performance is no guarantee of future results. Charts and graphs are provided for illustrative purposes only. Index returns shown may not represent the results of the actual trading of investable assets.

Appendix 3

A) Current Guidance on Employer Expectations for Office Attendance



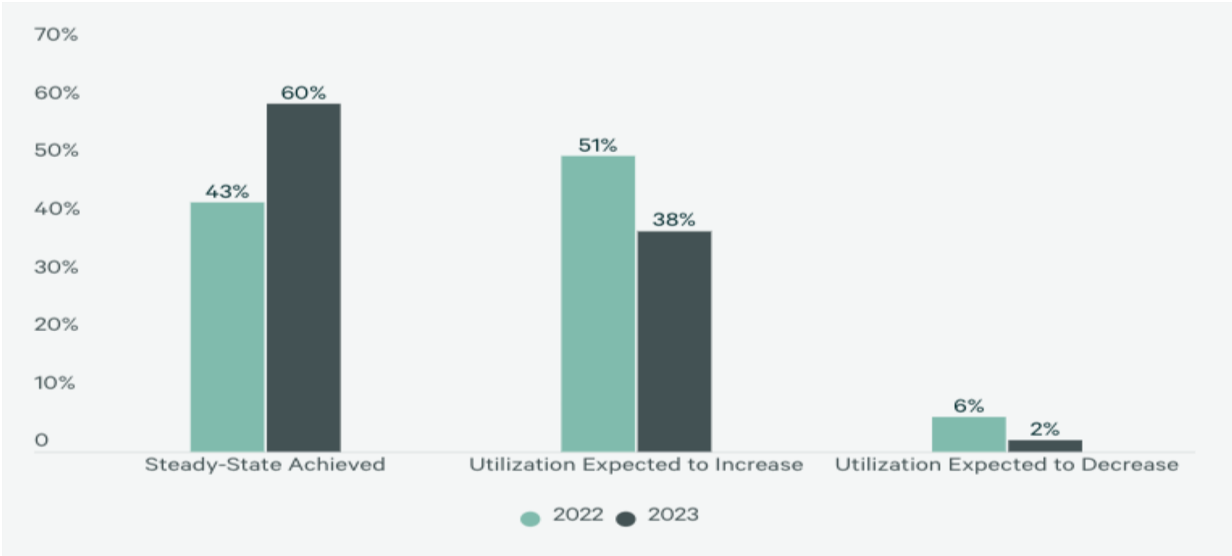
B) Average Weekly Office Utilization Rate (headcount/desk count)



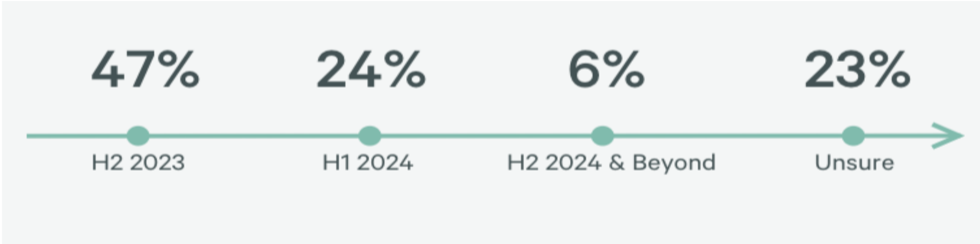
	0-25%	26-60%	61-100%
By Size of Company			
<5,000 Employees	23%	42%	35%
>5,000 Employees	20%	74%	6%
By Industry			
Finance/Professional Services	14%	66%	20%
Technology	41%	55%	4%
Overall	**22%**	**54%**	**24%**

C)

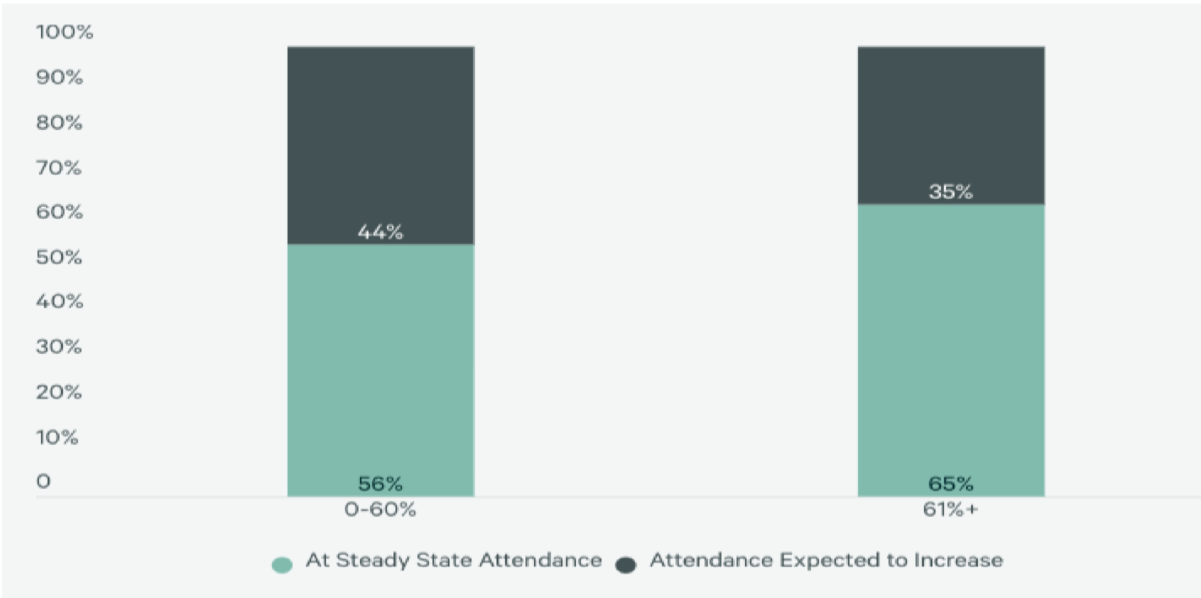
Expectations about Office Utilization Patterns



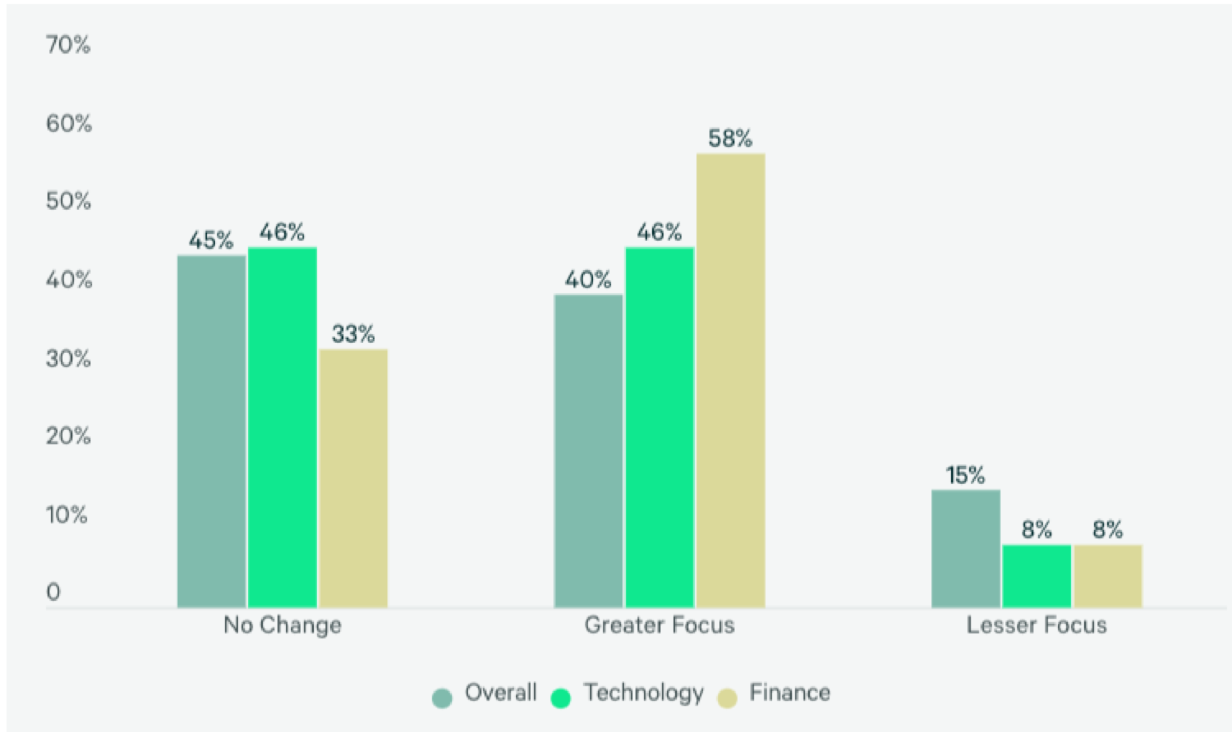
Expected Timeline for Companies to Reach Steady State



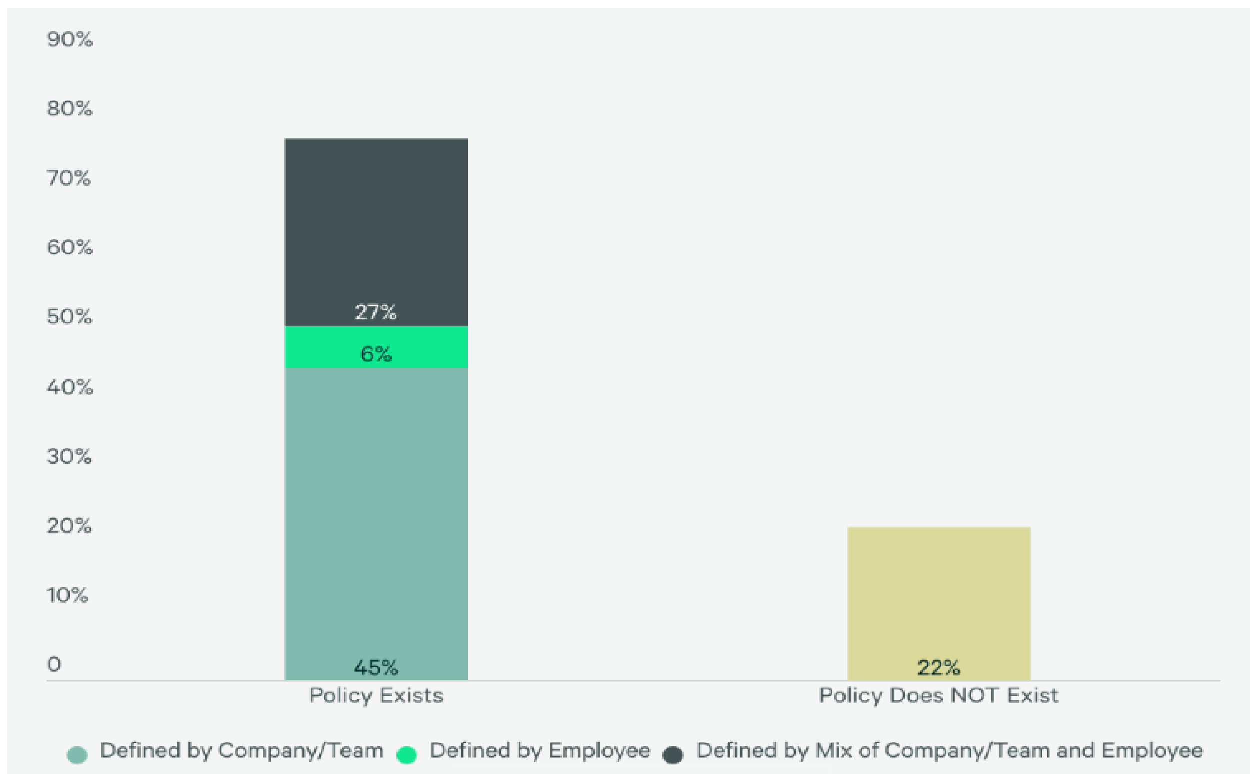
Steady State Expectations by Current Office Utilization



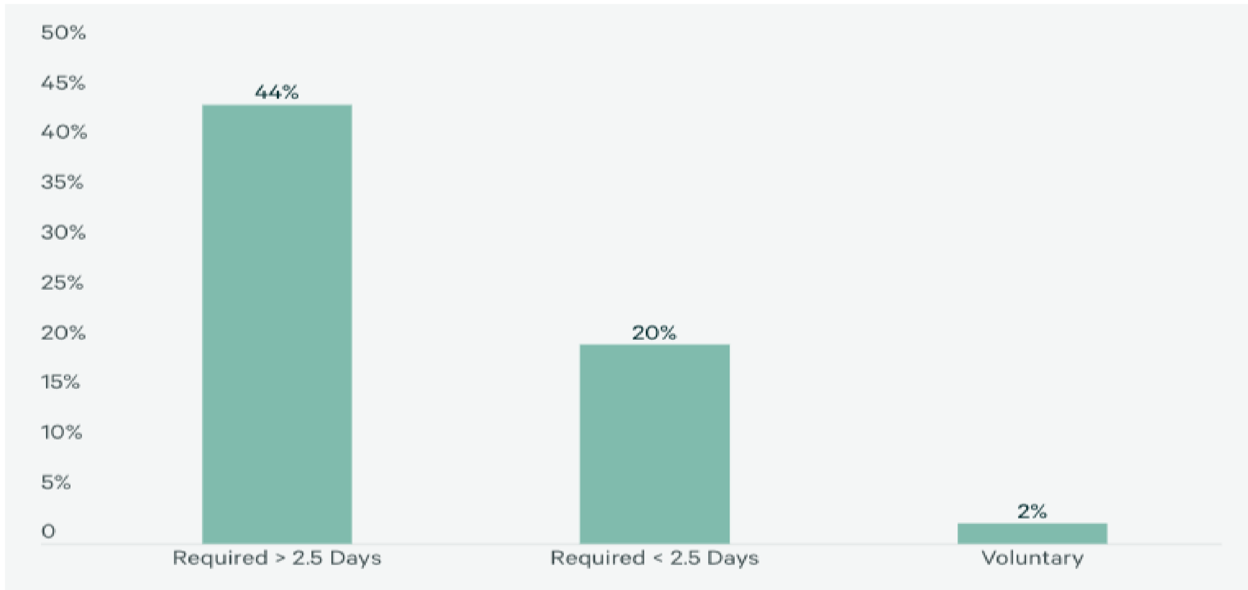
D) Focus of C-Suite on Office Attendance Amid Economic Uncertainty



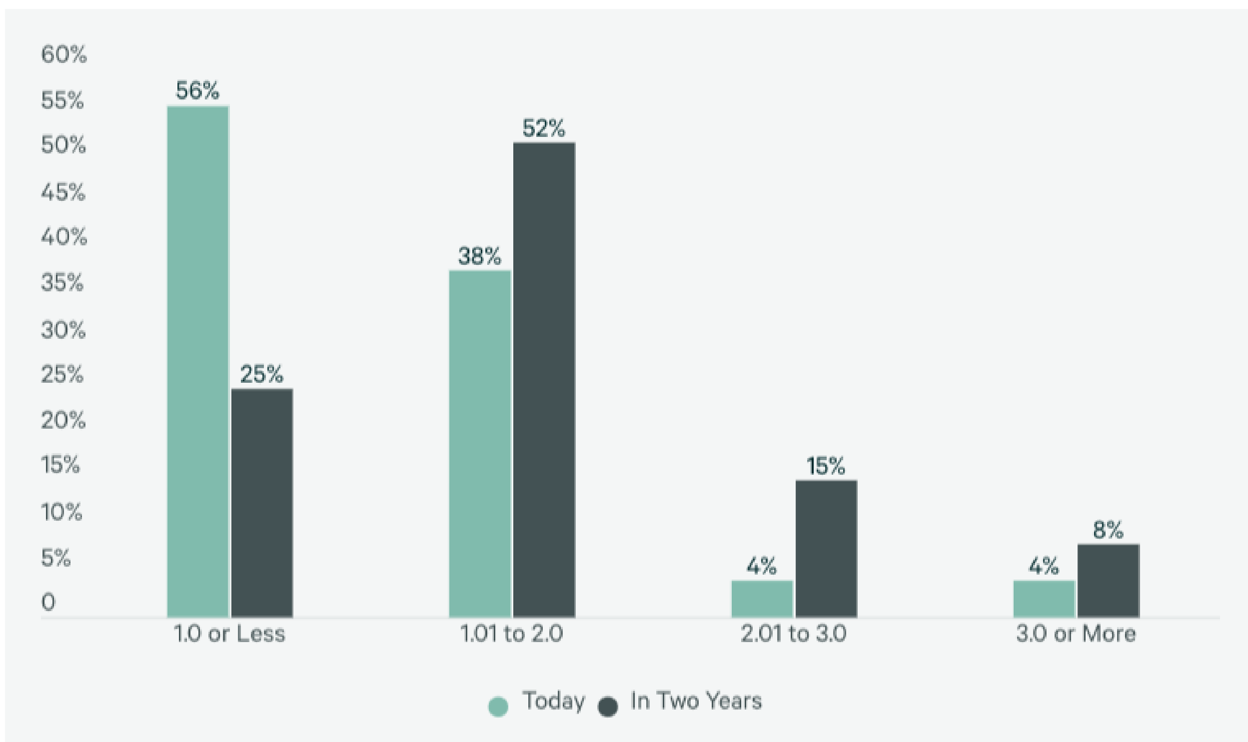
E) Return to Office Policy



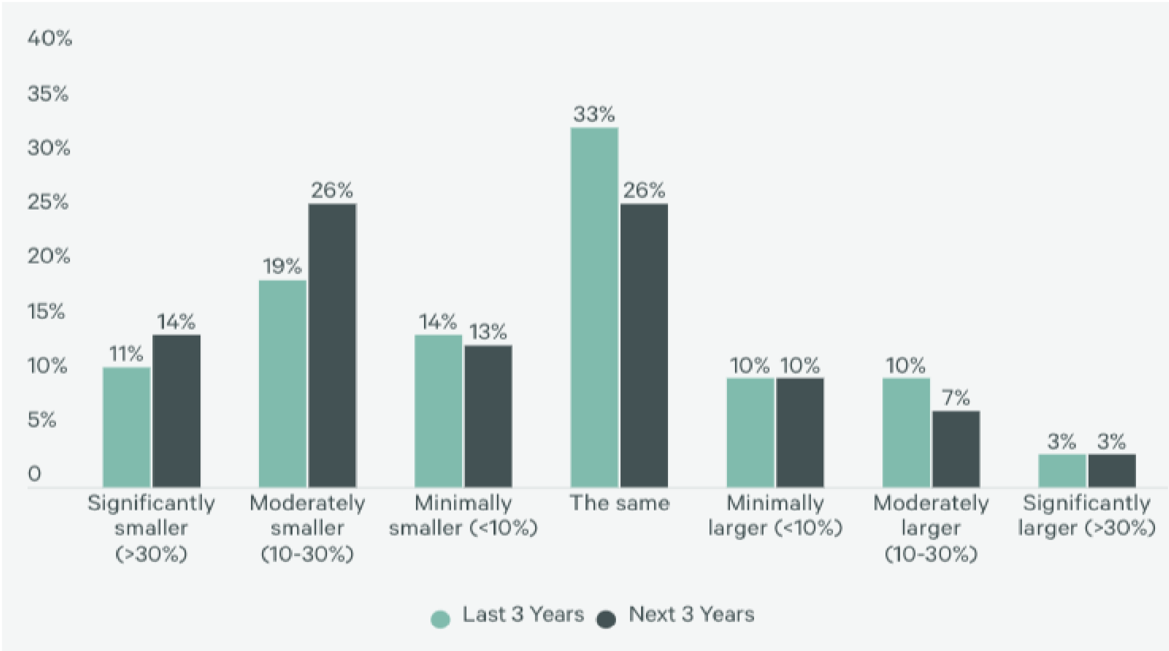
F) Return to Office Policy



G) Employee-to-Desk Ratio



Appendix 4



Bibliographic References

Atkin, David, et al. "Working from Home, Worker Sorting and Development." *National Bureau of Economic Research*, 1 July 2023, www.nber.org/papers/w31515. Accessed 12 Aug. 2023.

Bloom, Nicholas. "How Working from Home Works Out." *Stanford Institute for Economic Policy Research (SIEPR)*, Stanford University, June 2020, siepr.stanford.edu/publications/policy-brief/how-working-home-works-out.

Bloomberg. "Brookfield Defaults on $161 Million Debt for Office Buildings." *Bloomberg.com*, 17 Apr. 2023, www.bloomberg.com/news/articles/2023-04-17/brookfield-defaults-on-161-million-debt-for-office-buildings?utm_source=website&utm_medium=share&utm_campaign=twitter. Accessed 13 Aug. 2023.

---. "US Office Owners Get Dire Warning: Rebound Unlikely before 2040." *Bloomberg.com*, 22 June 2023, www.bloomberg.com/news/articles/2023-06-22/office-owners-get-dire-warning-rebound-unlikely-before-2040?utm_content=business&cmpid=socialflow-twitter-business&utm_campaign=socialflow-organic&utm_medium=social&utm_source=twitter&sref=yaJhKSOh. Accessed 12 Aug. 2023.

Boston Business Journal. "Wu Proposes Tax Breaks to Spur Office Conversions Downtown." *Bizjournals.com*, 10 July 2023, www.bizjournals.com/boston/news/2023/07/10/wu-tax-breaks-office-conversions.html.

CBRE. *Office Demand Further Weakens Q1 2023*. 1 May 2023.

---. "Spring 2023 U.S. Office Occupier Sentiment Survey." *Cbre.com*, 18 May 2023.

Columbia University Graduate School of Business | NYU Stern School of Business. *Work from Home and the Office Real Estate Apocalypse*. 22 Sept. 2022.

Commercial Search. “Brookfield’s Defaults, Blackstone’s Earnings: Bellwethers for Delinquencies?” *Commercial Property Executive*, 26 Apr. 2023, www.commercialsearch.com/news/brookfields-default-blackstones-earnings-drop-bellwethers-for-delinquencies/. Accessed 13 Aug. 2023.

CoStar Analytics. “Florida Dominates Top US Markets for Office Rent Growth.” *Costar.com*, June 2023, www.costar.com/article/421661147/florida-dominates-top-us-markets-for-office-rent-growth.

CRE Analyst. *Office Conversions in Perspective*. July 2023.

Cushman & Wakefield. *MarketBeat: Manhattan Office Q1 2023*. 15 May 2023.

Ernst & Young. “Observations in Office: Bellwether for Distress, or Opportunity for Revitalization?” *Www.ey.com*, Aug. 2023, www.ey.com/en_us/real-estate-hospitality-construction/observations-in-office-bellwether-for-distress-or-opportunity-for-revitalization. Accessed 12 Aug. 2023.

Financial Times. “Jeff Blau Rejects “Office Is Dead” Claims by Betting Billions on New Towers.” *Www.ft.com*, 1 July 2023, www.ft.com/content/96b069a9-a11d-44d1-b39c-6409574809ef.

Flood, Chris. “Fund Managers Cut Commercial Property Exposure to Lowest since 2008.” *Financial Times*, 16 May 2023, www.ft.com/content/2b07f21f-7be8-4c93-9459-2e8b8ccfc2f4. Accessed 3 Aug. 2023.

Forbes. “Remote Work Statistics & Trends in (2023) – Forbes Advisor.” *Www.forbes.com*, 12 June 2023, www.forbes.com/advisor/business/remote-work-statistics/#sources_section.

Future Forum. “Executives Feel the Strain of Leading in the “New Normal.”” *Future Forum*, 20 Oct. 2022, futureforum.com/2022/10/20/pulse-fall-2022-executives-feel-strain-leading-in-new-normal/. Accessed 12 Aug. 2023.

JLL. *U.S. Office Outlook Q2 2023*. 25 July 2023.

NAREIT, FTSE Russell. “Investment Performance by Property Sector and Subsector Number of Total Return (%) Dividend Market Capitalization ($).” June 2023.

Novet, Jordan. “Marc Benioff Tells Salesforce Workers That New Employees Are “Facing Lower Productivity.”” *CNBC*, 16 Dec. 2022, www.cnbc.com/2022/12/16/marc-benioff-says-newer-salesforce-employees-are-less-productive.html.

Related. “Lifestyle Office by Related.” *Lifestyle Office by Related*, www.lifestyleoffice.com/. Accessed 14 Aug. 2023.

Smith, Adam. “2022 U.S. Billion-Dollar Weather and Climate Disasters in Historical Context | NOAA Climate.gov.” *Www.climate.gov*, 10 Jan. 2023, www.climate.gov/news-features/blogs/2022-us-billion-dollar-weather-and-climate-disasters-historical-context.

U.S. Government Accountability Office. “Empty Offices Increase Risks for Banks Lending to Commercial Real Estate | U.S. GAO.” *Www.gao.gov*, 8 June 2023, www.gao.gov/blog/empty-offices-increase-risks-banks-lending-commercial-real-estate.