

The Economy, CRE, and What's Next

Summary of 2021 and Updated 2022 Outlook

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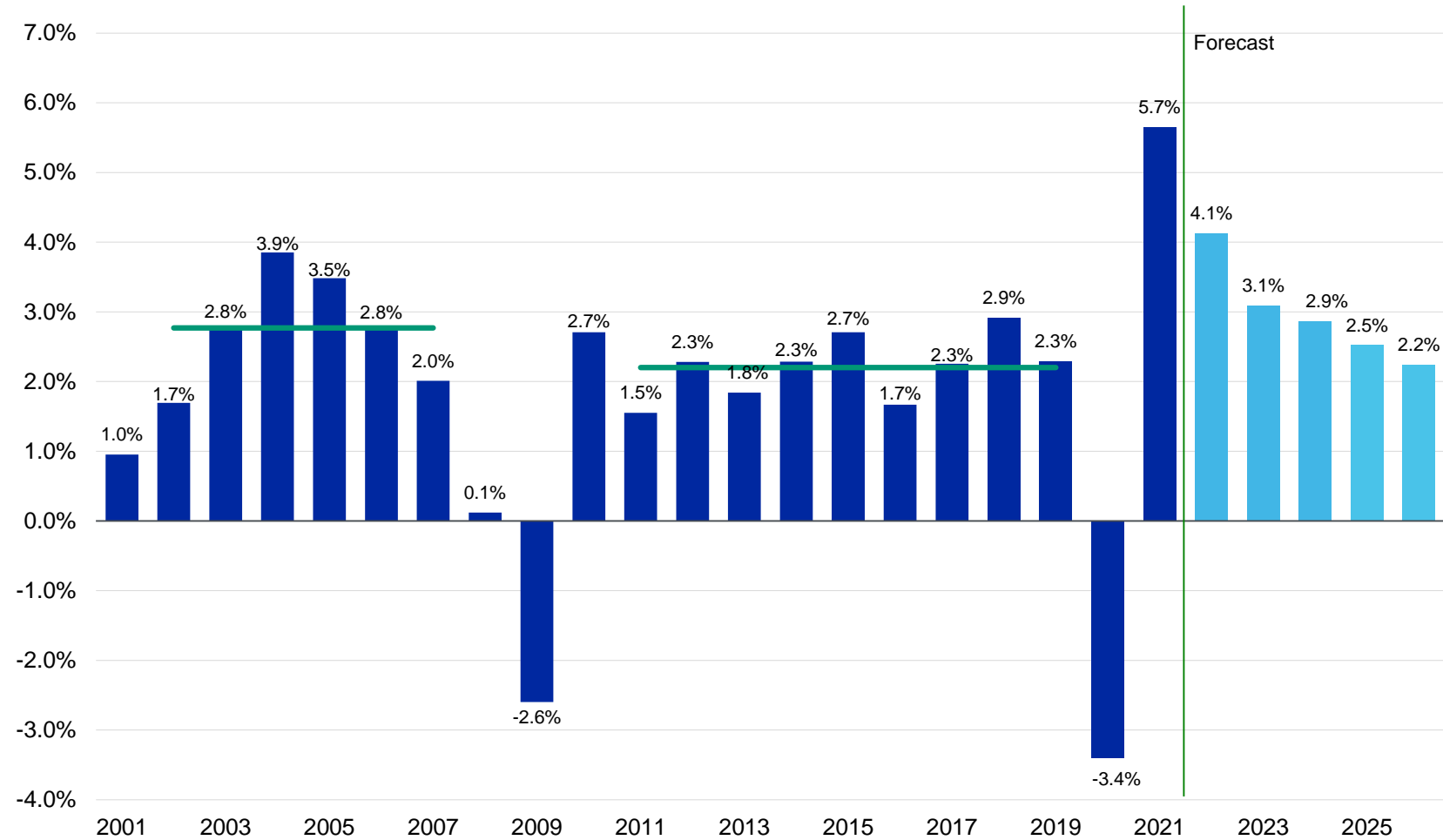
February 17, 2022

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The Economic Outlook &
Policy Environment

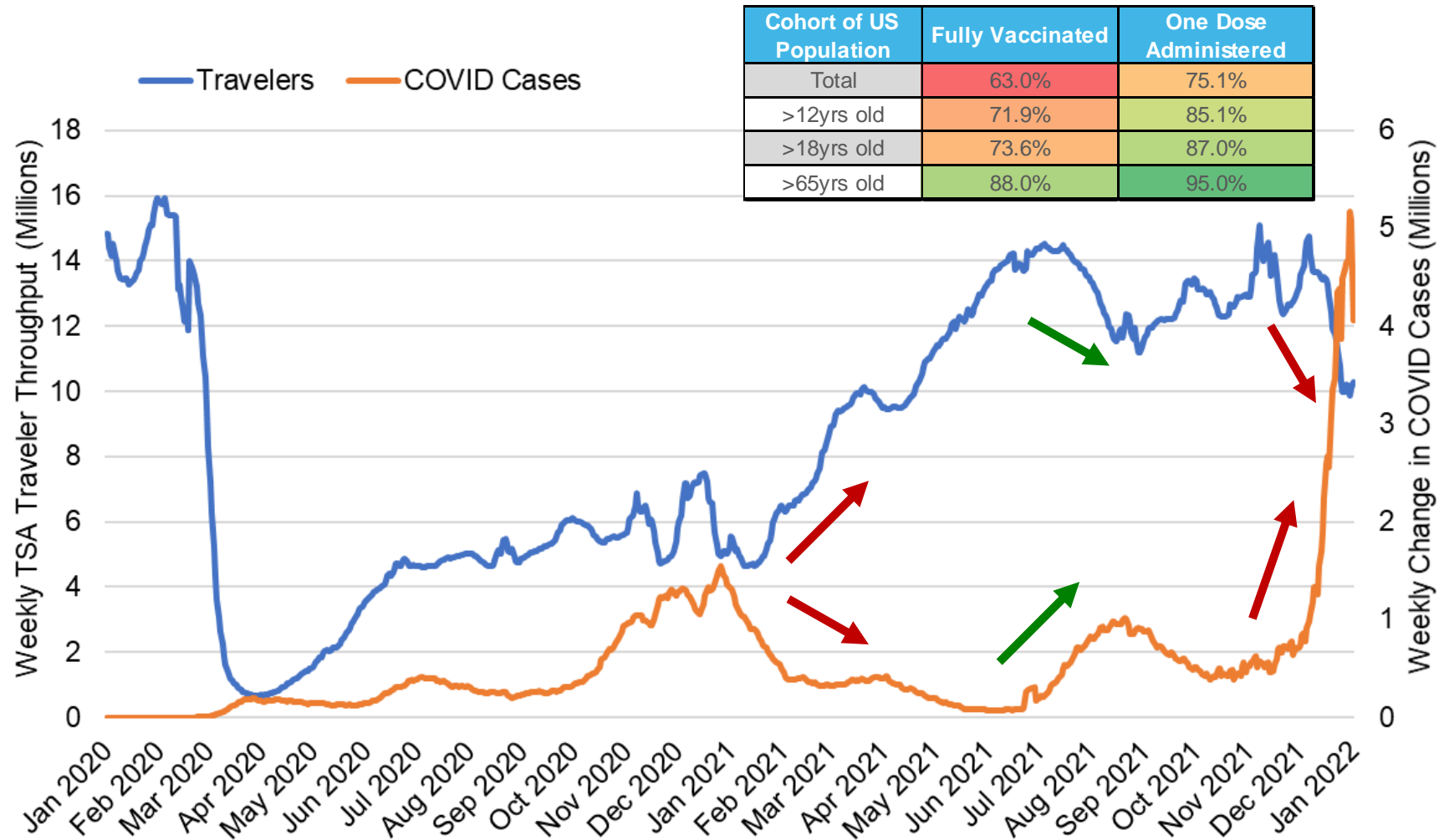
Updated GDP Forecasts

2001 - 2026



Source: Bureau of Economic Analysis; Moody's Economy.com

The Yin & Yang of Variants & Travel



Source: Transportation Security Administration, CDC, Moody's Analytics

The Economic Outlook & Policy Environment

Key Takeaways

- » Economic growth for 2021 was at its strongest since 1984, but higher aggregate demand combined with supply chain issues means price pressure.
- » Outlook for monetary policy tightening: from 1-2 rate increases expected 3-4 months ago, we now expect around three (or more) throughout 2022.
- » Uncertainty around elements of infrastructure spending; geopolitical factors spooked equity markets for weeks.
- » Baseline forecasts call for 4.1% US real GDP growth in 2022 – it will still (likely) be a very busy year for the CRE industry.
- » <What does this mean for CRE performance metrics and forecasts?>

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National Market Updates

National Apartment Market

Quarterly & Annual Market Conditions

- » Asking and effective rent growths of 2.9% in the fourth quarter would have set a new record relative to prior highs from the third quarter of 2001 – if it wasn't for the blowout numbers from the third quarter.
- » National vacancies of 4.7% are now at or even lower than pre-COVID levels from 2019.

Quarterly

Year	Qtr	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2014	4	\$1,193	0.8%	\$1,146	0.8%	4.4%
2015	1	\$1,205	1.0%	\$1,159	1.1%	4.3%
2015	2	\$1,226	1.8%	\$1,179	1.8%	4.3%
2015	3	\$1,249	1.8%	\$1,200	1.8%	4.3%
2015	4	\$1,262	1.1%	\$1,213	1.1%	4.3%
2016	1	\$1,274	0.9%	\$1,223	0.9%	4.3%
2016	2	\$1,291	1.4%	\$1,240	1.4%	4.2%
2016	3	\$1,308	1.3%	\$1,255	1.2%	4.2%
2016	4	\$1,313	0.4%	\$1,260	0.4%	4.2%
2017	1	\$1,325	0.9%	\$1,268	0.6%	4.4%
2017	2	\$1,345	1.6%	\$1,285	1.3%	4.4%
2017	3	\$1,364	1.4%	\$1,301	1.3%	4.5%
2017	4	\$1,373	0.7%	\$1,309	0.6%	4.7%
2018	1	\$1,390	1.2%	\$1,324	1.1%	4.7%
2018	2	\$1,411	1.5%	\$1,344	1.5%	4.7%
2018	3	\$1,431	1.4%	\$1,362	1.4%	4.8%
2018	4	\$1,446	1.0%	\$1,375	1.0%	4.8%
2019	1	\$1,455	0.6%	\$1,383	0.6%	4.7%
2019	2	\$1,475	1.4%	\$1,403	1.4%	4.6%
2019	3	\$1,489	1.0%	\$1,417	1.0%	4.6%
2019	4	\$1,497	0.5%	\$1,425	0.5%	4.8%
2020	1	\$1,503	0.4%	\$1,431	0.5%	4.8%
2020	2	\$1,498	-0.3%	\$1,427	-0.3%	4.9%
2020	3	\$1,476	-1.5%	\$1,405	-1.5%	5.1%
2020	4	\$1,461	-1.0%	\$1,390	-1.1%	5.3%
2021	1	\$1,459	-0.1%	\$1,389	-0.1%	5.4%
2021	2	\$1,476	1.1%	\$1,406	1.2%	5.4%
2021	3	\$1,590	7.7%	\$1,520	8.1%	4.8%
2021	4	\$1,635	2.9%	\$1,564	2.9%	4.7%

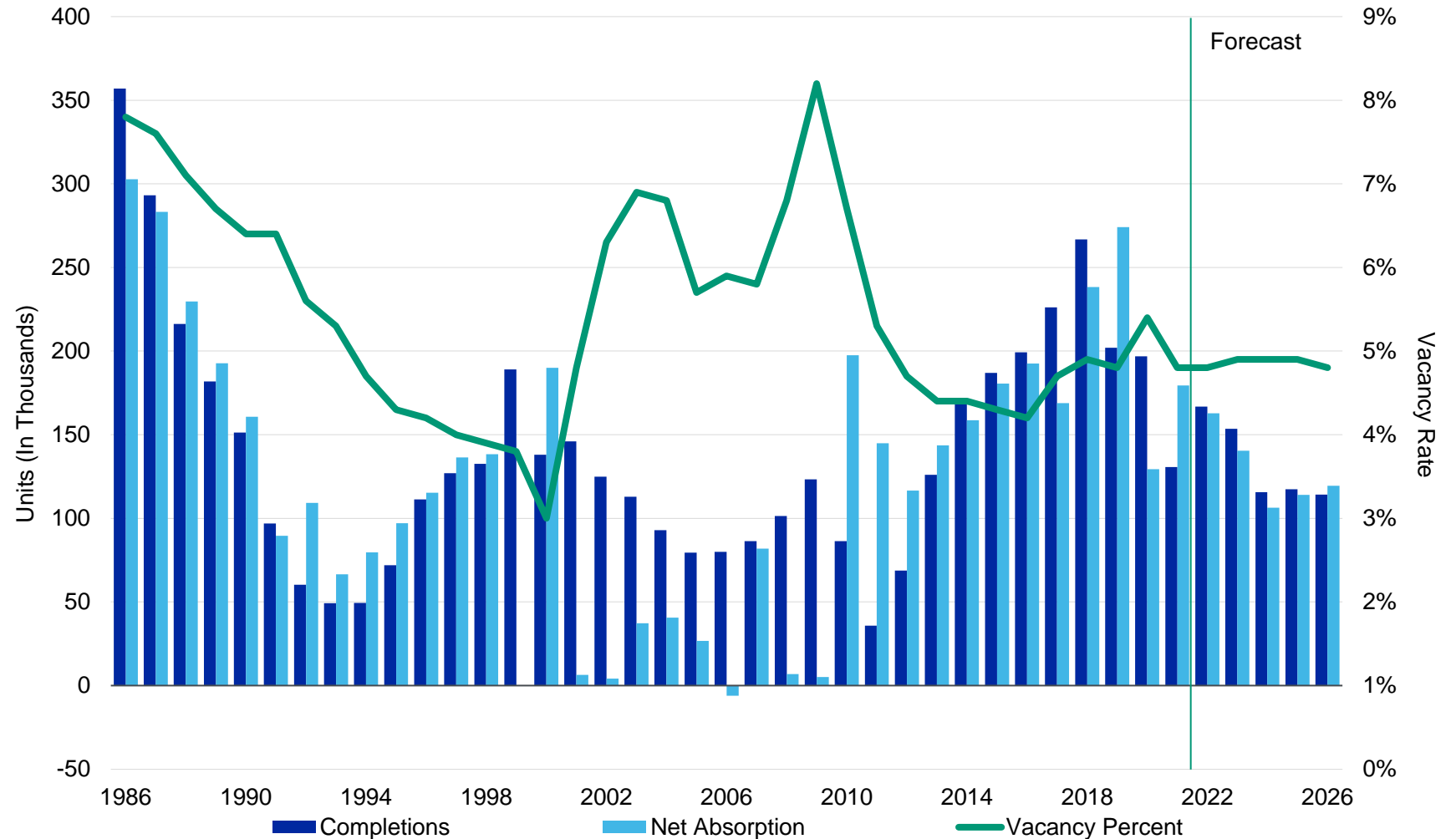
Annual

Year	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2012	\$1,107	3.4%	\$1,061	4.1%	4.7%
2013	\$1,146	3.5%	\$1,100	3.7%	4.4%
2014	\$1,193	4.1%	\$1,146	4.2%	4.4%
2015	\$1,262	5.8%	\$1,213	5.8%	4.3%
2016	\$1,313	4.0%	\$1,260	3.9%	4.2%
2017	\$1,373	4.6%	\$1,309	3.9%	4.7%
2018	\$1,446	5.3%	\$1,375	5.0%	4.8%
2019	\$1,497	3.5%	\$1,425	3.6%	4.8%
2020	\$1,461	-2.4%	\$1,390	-2.4%	5.3%
2021	\$1,635	11.9%	\$1,564	12.5%	4.7%
2022	\$1,713	4.8%	\$1,640	4.8%	4.7%
2023	\$1,774	3.6%	\$1,697	3.5%	4.8%
2024	\$1,836	3.4%	\$1,755	3.4%	4.9%
2025	\$1,898	3.4%	\$1,815	3.4%	4.8%
2026	\$1,962	3.4%	\$1,876	3.4%	4.7%

Source: Moody's Analytics REIS;
79 of 275 Apartment Markets

National Apartment Market

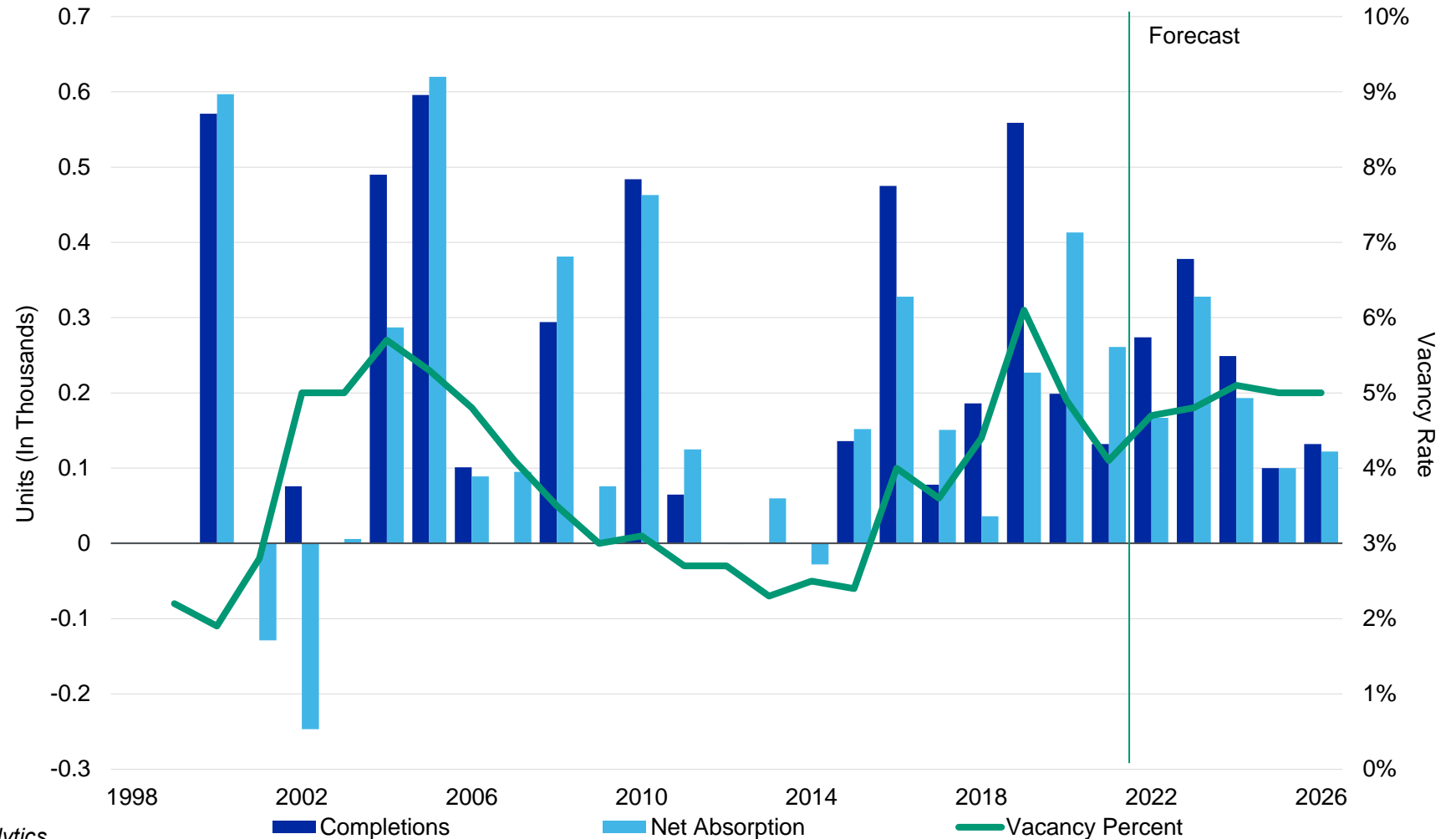
Supply & Demand Trends



Source: Moody's Analytics REIS;
Top 50 Primary Apartment Markets

New Haven Apartment Market

Supply & Demand Trends



Source: REIS, Real Estate Solutions by Moody's Analytics

National Office Market

Quarterly & Annual Market Conditions

- » National vacancies rose throughout 2021, ending the year at 18.1%. But that is down from what appears to be the cyclical high of 18.5%, recorded in the middle half of the year.
- » Asking and effective rent growth remained flat to slightly positive in the latter half of 2021.

Quarterly

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2014	4	9.9	\$30.25	1.1%	\$24.45	1.1%	16.9%
2015	1	4.9	\$30.54	1.0%	\$24.70	1.0%	16.8%
2015	2	8.3	\$30.78	0.8%	\$24.90	0.8%	16.7%
2015	3	12.2	\$31.02	0.8%	\$25.10	0.8%	16.6%
2015	4	12.7	\$31.28	0.8%	\$25.32	0.9%	16.5%
2016	1	8.2	\$31.57	0.9%	\$25.58	1.0%	16.4%
2016	2	5.1	\$31.76	0.6%	\$25.74	0.6%	16.4%
2016	3	2.9	\$31.89	0.4%	\$25.85	0.4%	16.4%
2016	4	12.9	\$32.00	0.3%	\$25.95	0.4%	16.3%
2017	1	5.7	\$32.16	0.5%	\$26.08	0.5%	16.3%
2017	2	4.9	\$32.26	0.3%	\$26.16	0.3%	16.4%
2017	3	5.6	\$32.38	0.4%	\$26.26	0.4%	16.4%
2017	4	7.3	\$32.57	0.6%	\$26.42	0.6%	16.4%
2018	1	6.2	\$32.85	0.9%	\$26.65	0.9%	16.5%
2018	2	3.0	\$33.09	0.7%	\$26.84	0.7%	16.6%
2018	3	5.2	\$33.22	0.4%	\$26.96	0.4%	16.7%
2018	4	9.7	\$33.46	0.7%	\$27.14	0.7%	16.7%
2019	1	8.5	\$33.59	0.4%	\$27.27	0.5%	16.7%
2019	2	5.3	\$33.88	0.9%	\$27.50	0.8%	16.8%
2019	3	10.3	\$34.14	0.8%	\$27.72	0.8%	16.8%
2019	4	15.4	\$34.35	0.6%	\$27.90	0.6%	16.8%
2020	1	0.8	\$34.49	0.4%	\$28.02	0.4%	17.0%
2020	2	3.4	\$34.49	0.0%	\$27.93	-0.3%	17.0%
2020	3	-4.3	\$34.55	0.2%	\$27.88	-0.2%	17.4%
2020	4	-6.5	\$34.52	-0.1%	\$27.74	-0.5%	17.8%
2021	1	-14.9	\$34.42	-0.3%	\$27.53	-0.8%	18.2%
2021	2	-5.4	\$34.44	0.1%	\$27.46	-0.3%	18.5%
2021	3	20.2	\$34.46	0.1%	\$27.51	0.2%	18.2%
2021	4	8.1	\$34.46	0.0%	\$27.52	0.0%	18.1%

Annual

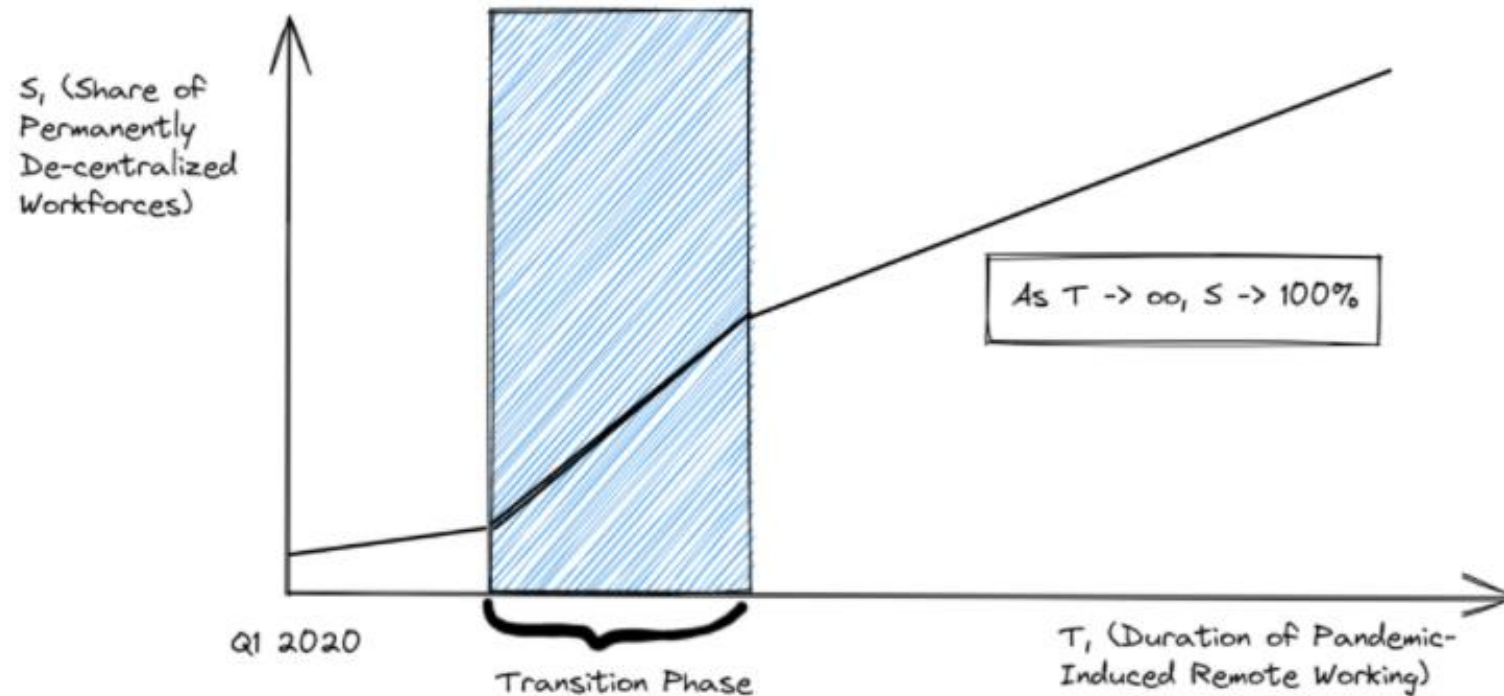
Year	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2012	15.4	\$28.60	2.1%	\$23.09	2.3%	17.2%
2013	25.1	\$29.32	2.5%	\$23.69	2.6%	17.0%
2014	29.3	\$30.25	3.2%	\$24.45	3.2%	16.9%
2015	38.0	\$31.28	3.4%	\$25.32	3.6%	16.5%
2016	29.1	\$32.00	2.3%	\$25.95	2.5%	16.3%
2017	23.4	\$32.57	1.8%	\$26.42	1.8%	16.4%
2018	24.1	\$33.46	2.7%	\$27.14	2.7%	16.7%
2019	39.5	\$34.35	2.7%	\$27.90	2.8%	16.8%
2020	-6.6	\$34.52	0.5%	\$27.74	-0.6%	17.8%
2021	8.2	\$34.46	-0.2%	\$27.52	-0.8%	18.1%
2022	34.4	\$34.54	0.2%	\$27.61	0.3%	18.2%
2023	30.2	\$35.07	1.5%	\$28.17	2.0%	18.1%
2024	33.2	\$35.66	1.7%	\$28.84	2.4%	17.8%
2025	36.8	\$36.30	1.8%	\$29.54	2.4%	17.5%
2026	38.0	\$36.98	1.9%	\$30.28	2.5%	17.1%

Source: Moody's Analytics REIS;
79 of 190 Office Markets

Net absorption figures are in millions of square feet.

Effect of Infinitely Delayed “Return-to-Office”

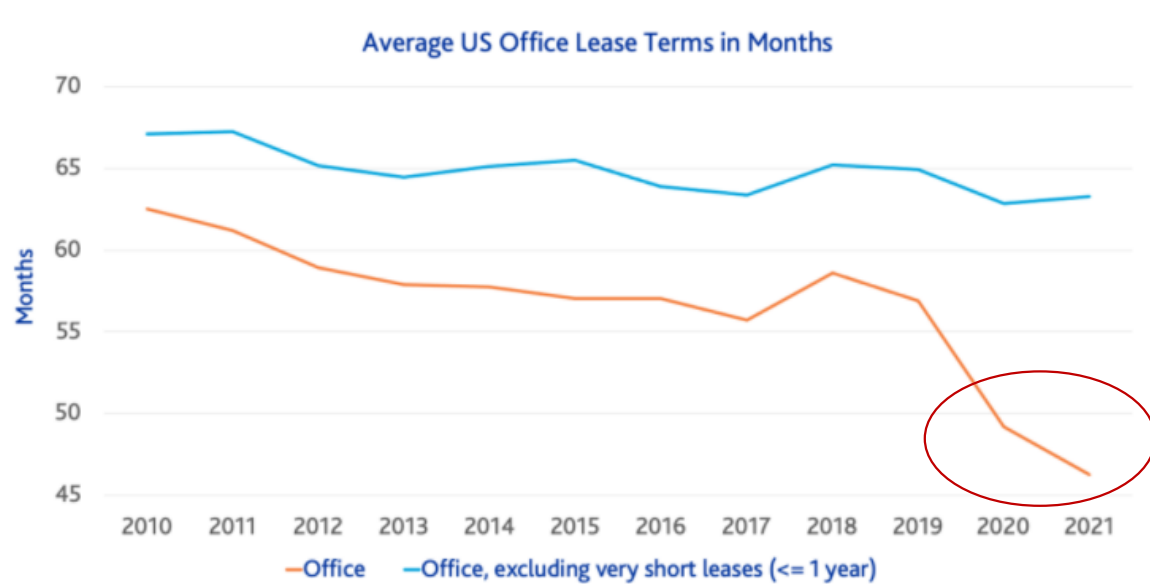
- » The NYTimes reports many firms giving up on setting dates for return b/c of Omicron and potential other variants.
- » The full-remote or full-return dynamic will play out over the next 18 months or more, as employers and employees make decisions about what works best in the post-COVID world of work. Result? Elevated vacancies. Especially the longer the return is delayed...



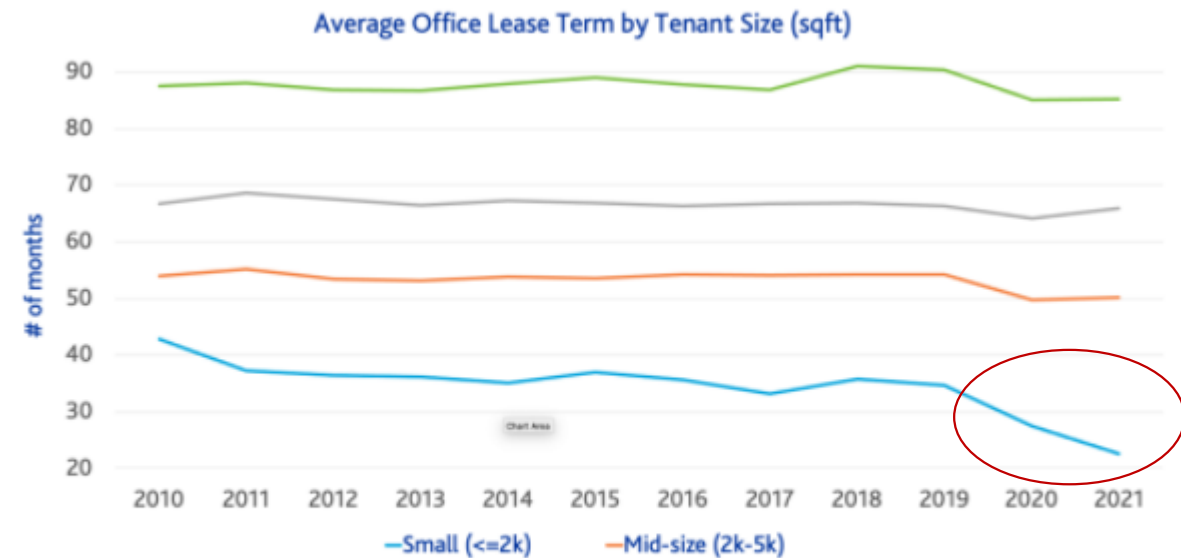
Source: Moody's Analytics REIS

Leases are Shorter - Driven by “Bridge” Leases and Small Tenants

- » Almost a third of leases signed in 2021 were a year or less
- » Small tenants are more sensitive to real estate costs



We included all lease types (new/renewal/extension/expansion), and lease term lengths declined evenly among all lease types over recent years. Sources: CompStak, Moody's Analytics

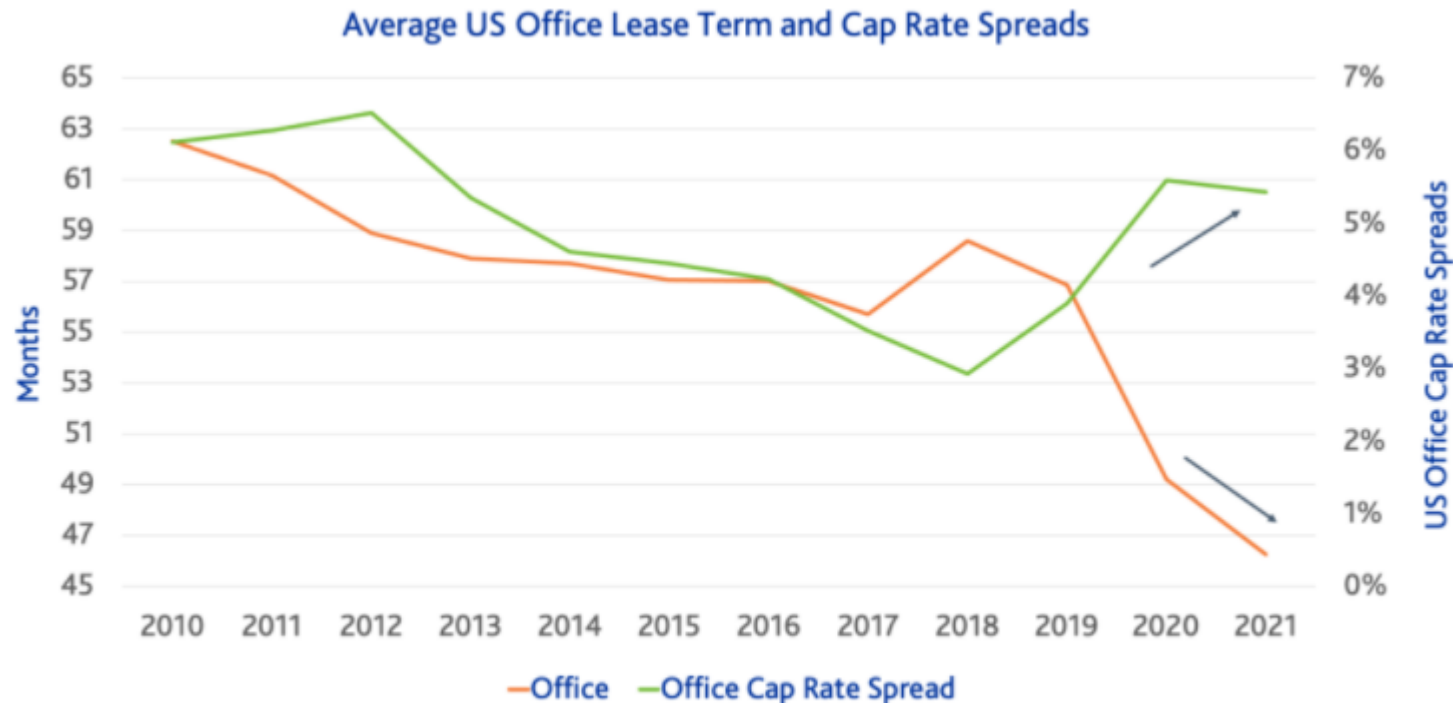


Tenant Size is based on the size (sqft) of the space it is leasing. Share of small leases by count has been increasing, putting greater weight on small lease trends in average statistics. Sources: CompStak, Moody's Analytics

Source: Moody's Analytics REIS

Shorter Leases = More Volatility

- » Greater rollover = greater turnover costs and concessions = higher income volatility
- » Capital markets will price that in (and are preemptively)



Cap rate spread based on MA US office cap rates spread to 10yr US Treasuries. Sources: CompStak, Moody's Analytics

Source: Moody's Analytics REIS

National Retail Market

Quarterly & Annual Market Conditions

Quarterly

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2014	4	4.8	\$19.70	0.5%	\$17.17	0.6%	10.2%
2015	1	3.6	\$19.80	0.5%	\$17.27	0.6%	10.1%
2015	2	2.5	\$19.90	0.5%	\$17.36	0.5%	10.1%
2015	3	3.7	\$20.01	0.6%	\$17.46	0.6%	10.0%
2015	4	2.6	\$20.11	0.5%	\$17.55	0.5%	10.0%
2016	1	3.1	\$20.22	0.5%	\$17.66	0.6%	9.9%
2016	2	4.0	\$20.30	0.4%	\$17.73	0.4%	9.8%
2016	3	1.1	\$20.39	0.4%	\$17.81	0.5%	9.9%
2016	4	4.5	\$20.48	0.4%	\$17.90	0.5%	9.9%
2017	1	3.0	\$20.56	0.4%	\$17.98	0.4%	9.9%
2017	2	1.2	\$20.66	0.5%	\$18.06	0.4%	10.0%
2017	3	2.2	\$20.76	0.5%	\$18.16	0.6%	10.0%
2017	4	3.3	\$20.88	0.6%	\$18.27	0.6%	10.0%
2018	1	1.0	\$20.97	0.4%	\$18.36	0.5%	10.0%
2018	2	-4.0	\$21.03	0.3%	\$18.41	0.3%	10.2%
2018	3	2.7	\$21.13	0.5%	\$18.49	0.4%	10.2%
2018	4	1.5	\$21.22	0.4%	\$18.57	0.4%	10.2%
2019	1	17.2	\$21.34	0.6%	\$18.68	0.6%	10.2%
2019	2	2.7	\$21.42	0.4%	\$18.76	0.4%	10.2%
2019	3	2.4	\$21.48	0.3%	\$18.82	0.3%	10.2%
2019	4	0.6	\$21.50	0.1%	\$18.84	0.1%	10.2%
2020	1	1.4	\$21.54	0.2%	\$18.87	0.2%	10.2%
2020	2	-0.5	\$21.44	-0.5%	\$18.75	-0.6%	10.2%
2020	3	-2.3	\$21.40	-0.2%	\$18.69	-0.3%	10.4%
2020	4	-1.6	\$21.34	-0.3%	\$18.60	-0.5%	10.5%
2021	1	-0.6	\$21.31	-0.1%	\$18.57	-0.2%	10.6%
2021	2	1.0	\$21.33	0.1%	\$18.59	0.1%	10.5%
2021	3	4.5	\$21.36	0.1%	\$18.64	0.3%	10.4%
2021	4	1.3	\$21.36	0.0%	\$18.66	0.1%	10.3%

Neighborhood & Community Shopping Centers

Annual

Year	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2012	11.3	\$19.08	0.5%	\$16.59	0.5%	10.7%
2013	12.7	\$19.35	1.4%	\$16.83	1.4%	10.4%
2014	13.5	\$19.70	1.8%	\$17.17	2.0%	10.2%
2015	12.3	\$20.11	2.1%	\$17.55	2.2%	10.0%
2016	12.7	\$20.48	1.8%	\$17.90	2.0%	9.9%
2017	9.7	\$20.88	2.0%	\$18.27	2.1%	10.0%
2018	1.2	\$21.22	1.6%	\$18.57	1.6%	10.2%
2019	22.8	\$21.50	1.3%	\$18.84	1.5%	10.2%
2020	-2.9	\$21.34	-0.7%	\$18.60	-1.3%	10.5%
2021	6.3	\$21.36	0.1%	\$18.66	0.3%	10.3%
2022	8.1	\$21.36	0.0%	\$18.68	0.1%	10.2%
2023	6.4	\$21.53	0.8%	\$19.00	1.7%	10.1%
2024	7.4	\$21.86	1.5%	\$19.33	1.7%	10.0%
2025	7.1	\$22.23	1.7%	\$19.70	1.9%	10.0%
2026	8.0	\$22.63	1.8%	\$20.10	2.0%	9.9%

Neighborhood & Community Shopping Centers

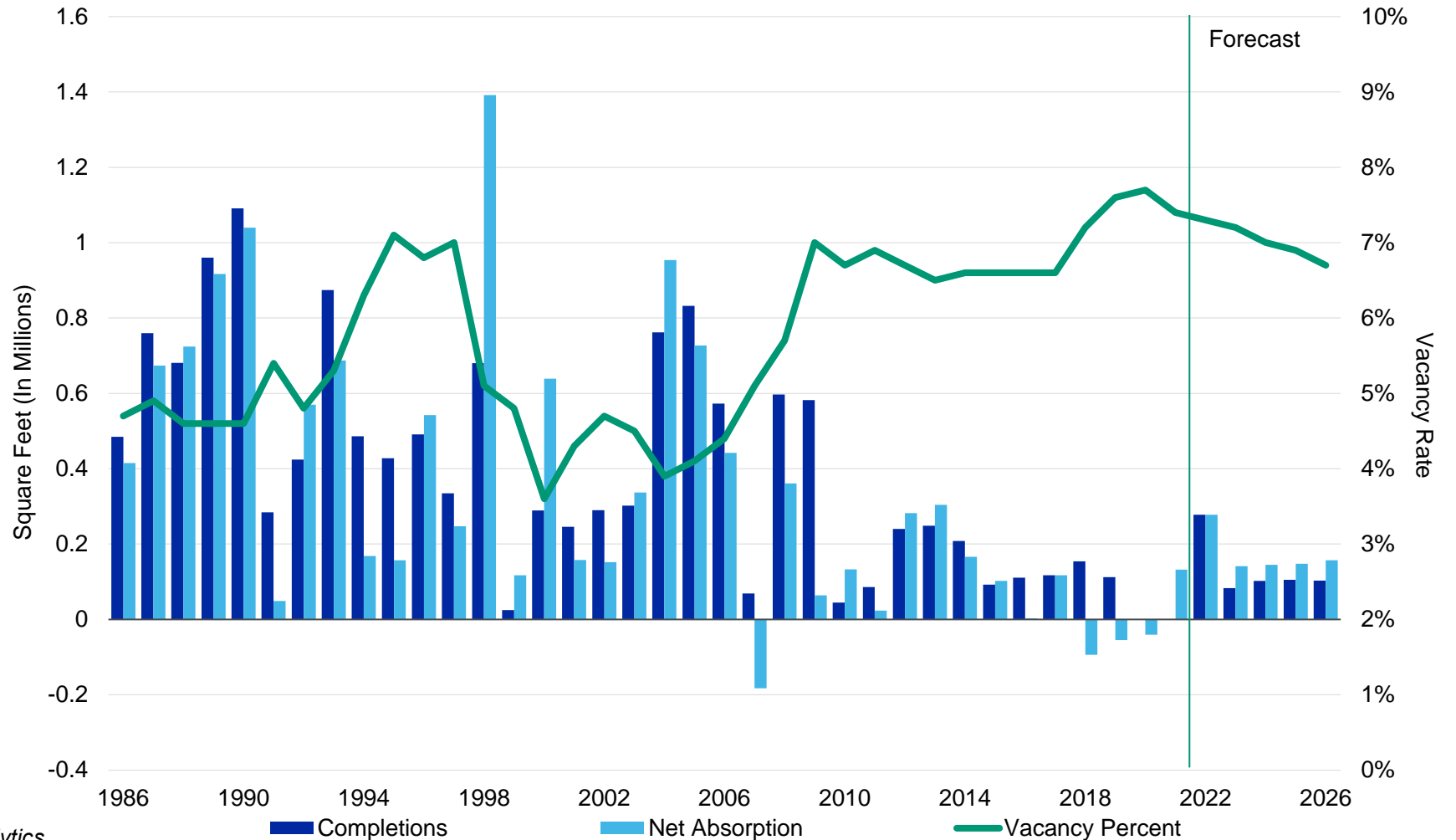
Year	Quarter	Asking Rent	Percent Change	Vacancy Rate
2011	Y	\$38.92	0.3%	9.2%
2012	Y	\$39.31	1.0%	8.6%
2013	Y	\$39.95	1.6%	7.9%
2014	Y	\$40.66	1.8%	8.0%
2015	Y	\$41.54	2.2%	7.8%
2016	Y	\$42.38	2.0%	7.8%
2017	Y	\$43.00	1.5%	8.3%
2018	Y	\$43.35	0.8%	9.0%
2019	Y	\$43.84	1.1%	9.7%
2020	Y	\$43.05	-1.8%	10.5%
2021	Y	\$43.26	0.5%	11.2%

Regional/Super Regional Malls

Source: Moody's Analytics REIS;
77 of 190 Retail Markets
Net absorption figures are in millions of square feet.

Boston Retail Market

Supply & Demand Trends



Source: REIS, Real Estate Solutions by Moody's Analytics

National Hotel Market

Quarterly Market Conditions

- The sharp drop in occupancies in the latter half of 2021 was likely due to Delta and Omicron fears - but market-by-market performance was decidedly mixed.
- Lower-tier markets more severely affected by Omicron fears: 57 out of 69 lower-tier markets showed declines in occupancy. 51 out of 69 upper-tier markets showed declines in occupancy.
- Some markets weathered Omicron fears well, registering continued increases in occupancy and ADRs: New York, Los Angeles, and drivable beach destination markets are examples.

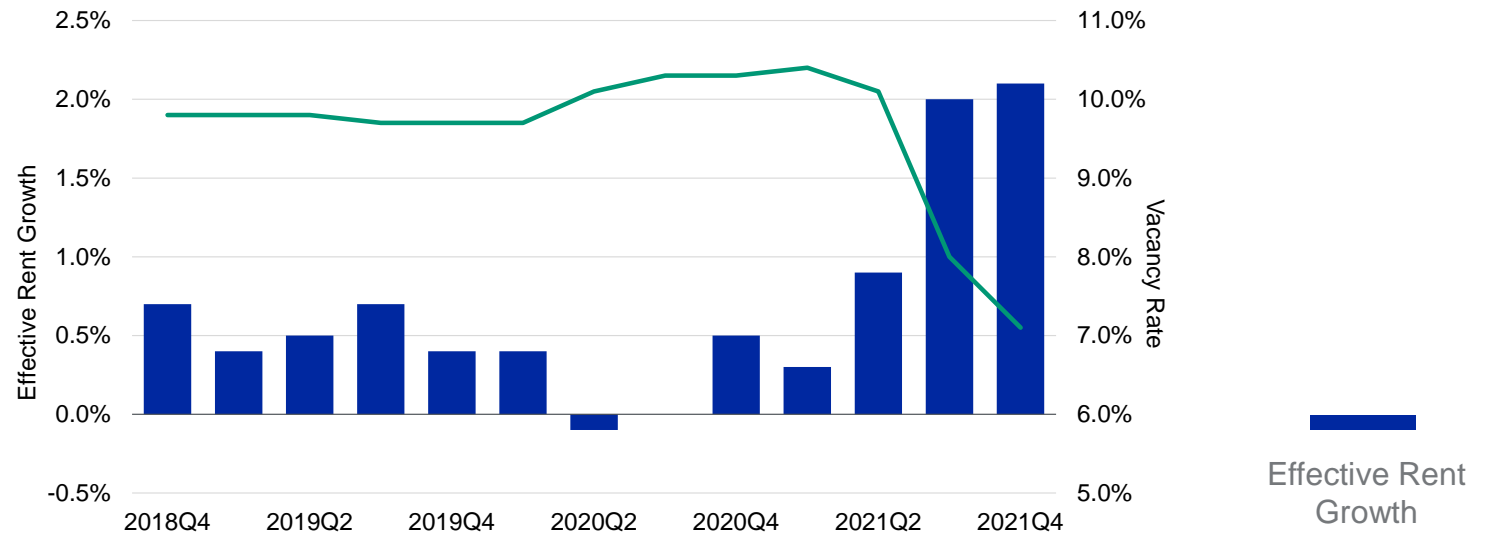
Source: Moody's Analytics REIS

Year	Qtr	ADR	Percent Change	Occupancy Rate	PCT PT Change	RevPAR	Percent Change
2017	1	\$122	-0.3%	66.0%	1.2%	\$80	1.6%
2017	2	\$123	0.9%	65.3%	-0.7%	\$80	-0.1%
2017	3	\$124	0.7%	66.7%	1.4%	\$82	2.8%
2017	4	\$125	1.4%	65.4%	-1.3%	\$82	-0.6%
2018	1	\$127	1.0%	65.6%	0.2%	\$83	1.3%
2018	2	\$127	0.2%	65.7%	0.1%	\$83	0.3%
2018	3	\$127	0.3%	64.0%	-1.7%	\$81	-2.3%
2018	4	\$127	-0.4%	65.5%	1.5%	\$83	2.0%
2019	1	\$127	0.6%	65.2%	-0.3%	\$83	0.2%
2019	2	\$128	0.1%	65.3%	0.1%	\$83	0.3%
2019	3	\$127	-0.4%	65.1%	-0.2%	\$83	-0.7%
2019	4	\$128	0.8%	66.0%	0.9%	\$85	2.2%
2020	1	\$106	-17.3%	36.7%	-29.3%	\$39	-54.0%
2020	2	\$88	-16.9%	38.4%	1.7%	\$34	-13.1%
2020	3	\$93	5.9%	45.4%	7.0%	\$42	25.2%
2020	4	\$86	-7.5%	34.6%	-10.8%	\$30	-29.5%
2021	1	\$100	16.4%	52.1%	17.5%	\$52	75.2%
2021	2	\$123	22.1%	64.0%	11.9%	\$78	50.0%
2021	3	\$126	2.9%	59.8%	-4.2%	\$75	-3.9%
2021	4	\$129	1.9%	50.9%	-8.9%	\$65	-13.2%
2022	1	\$125	-3.1%	53.3%	2.4%	\$66	1.5%
2022	2	\$124	-0.1%	55.6%	2.3%	\$69	4.2%
2022	3	\$125	0.8%	57.7%	2.1%	\$72	4.6%
2022	4	\$127	1.2%	59.6%	1.9%	\$76	4.5%

Industrial: An Incredible Third & Fourth Quarter

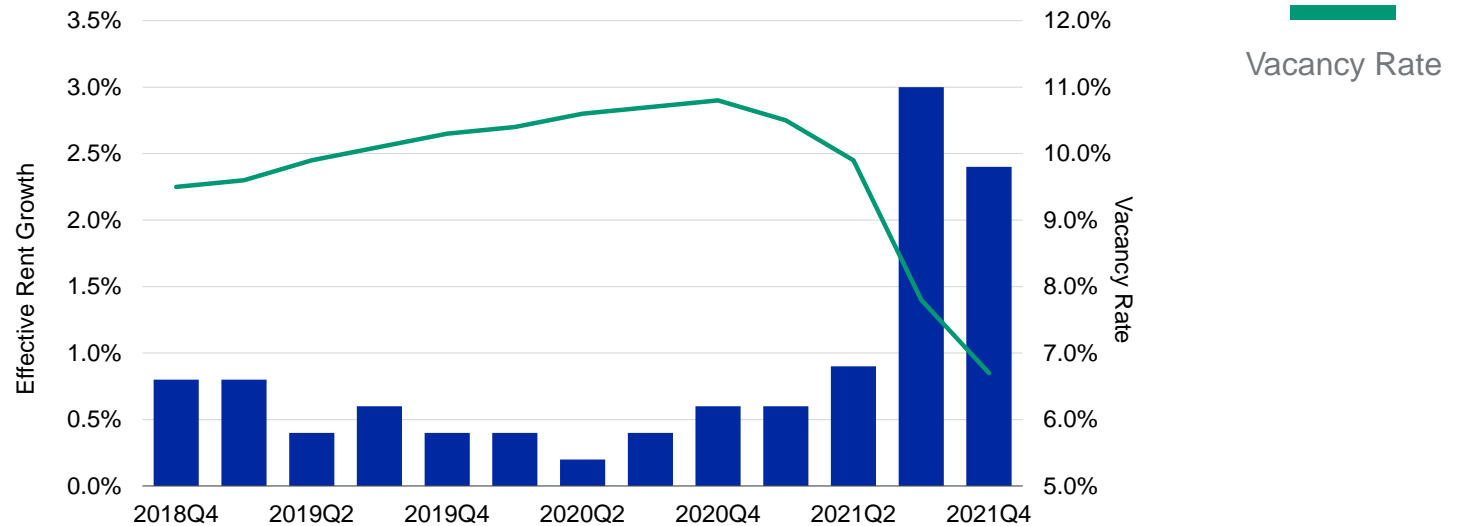
Flex/R&D

- » Flex/R&D vacancies fell by 20 basis points to end 2021 at 7.1%, down 330 bps from Q1
- » Effective rents rose by 2.0% and 2.1% in Q3 and Q4.



Warehouse/ Distribution

- » Warehouse/distribution vacancies down to 6.7% to end 2021; effective rents up by 3.0% and 2.4% in Q3 and Q4.
- » Rent forecasts expected to be the strongest relative to other core property types.



Source: Moody's Analytics REIS

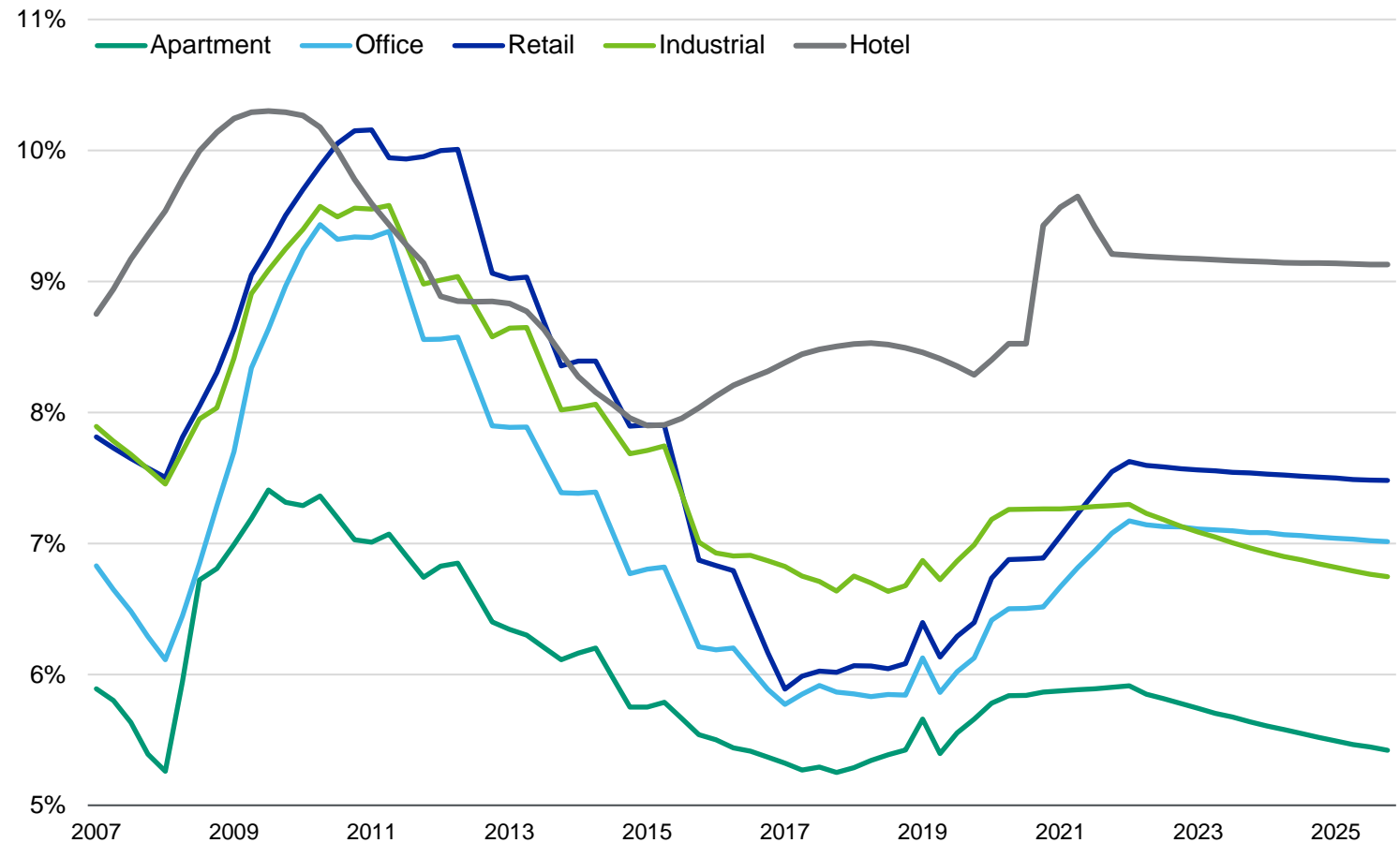
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CRE Capital Markets

Cap Rate Forecasts

General Flatness to Forecasted Declines – but Beware the Fed

- » Cap rates still expected to remain relatively flat (and even decline slightly) throughout 2026 – spreads are not razor thin (given where TSYs are), and demand for CRE as an asset class likely to remain strong.
- » Tightening monetary policy suggests that risky assets – from equities to CRE – are likely to go through a period of revaluation (and therefore volatility).

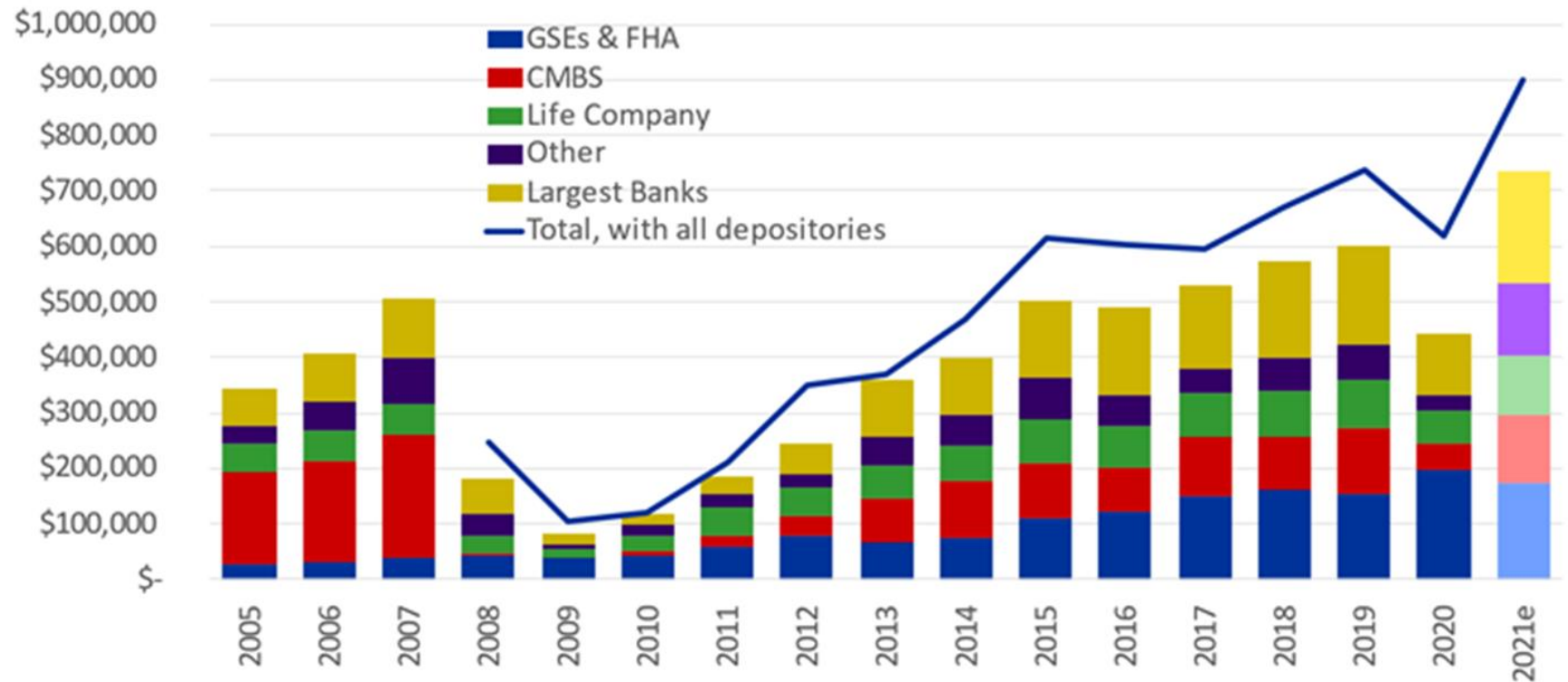


Source: Moody's Analytics REIS

Multifamily and CRE Originations

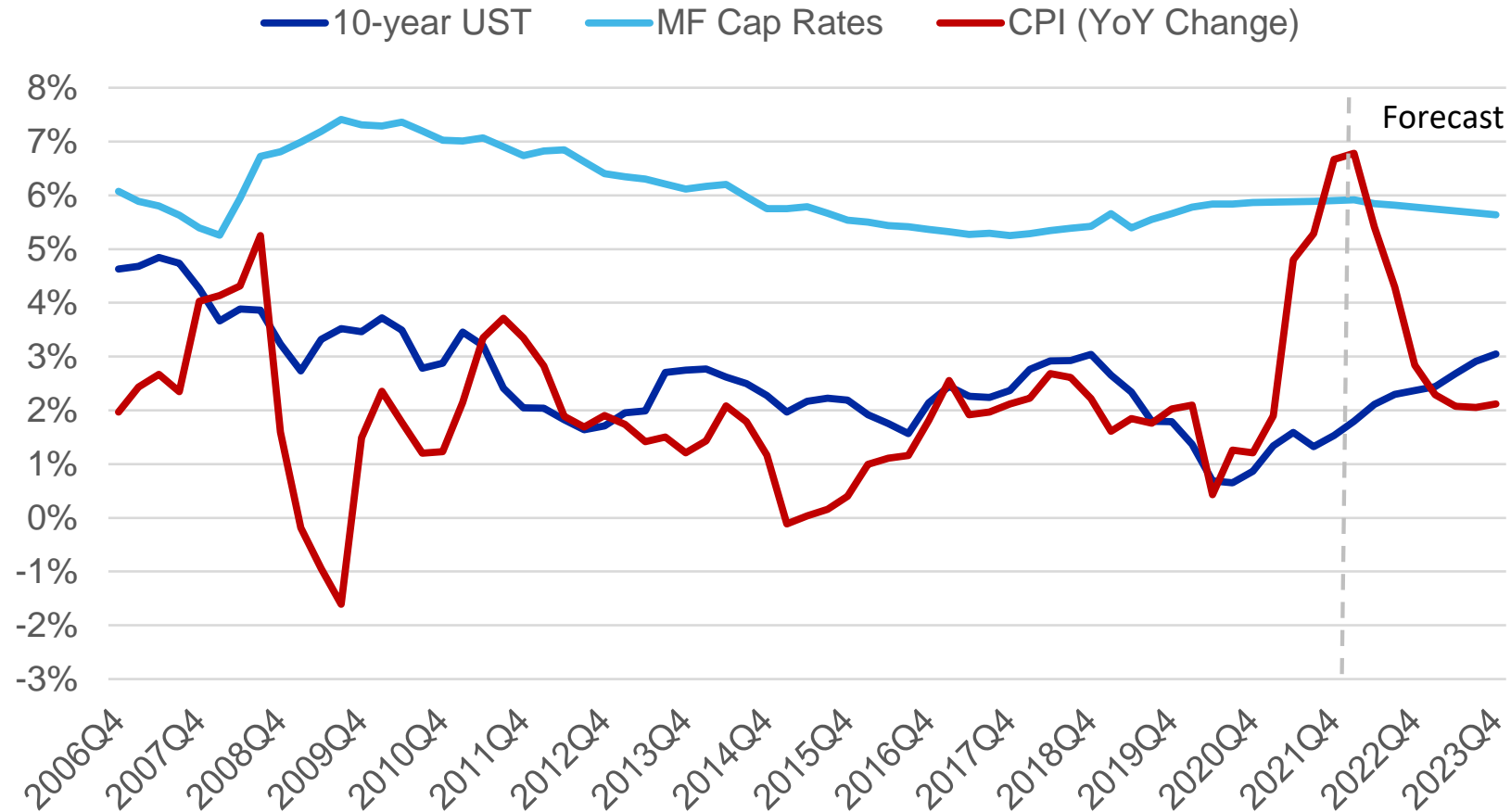
Less Severity than Expected in 2020, Big Recovery in 2021

Total Commercial/Multifamily Mortgage Lending, by Capital Source (\$millions)



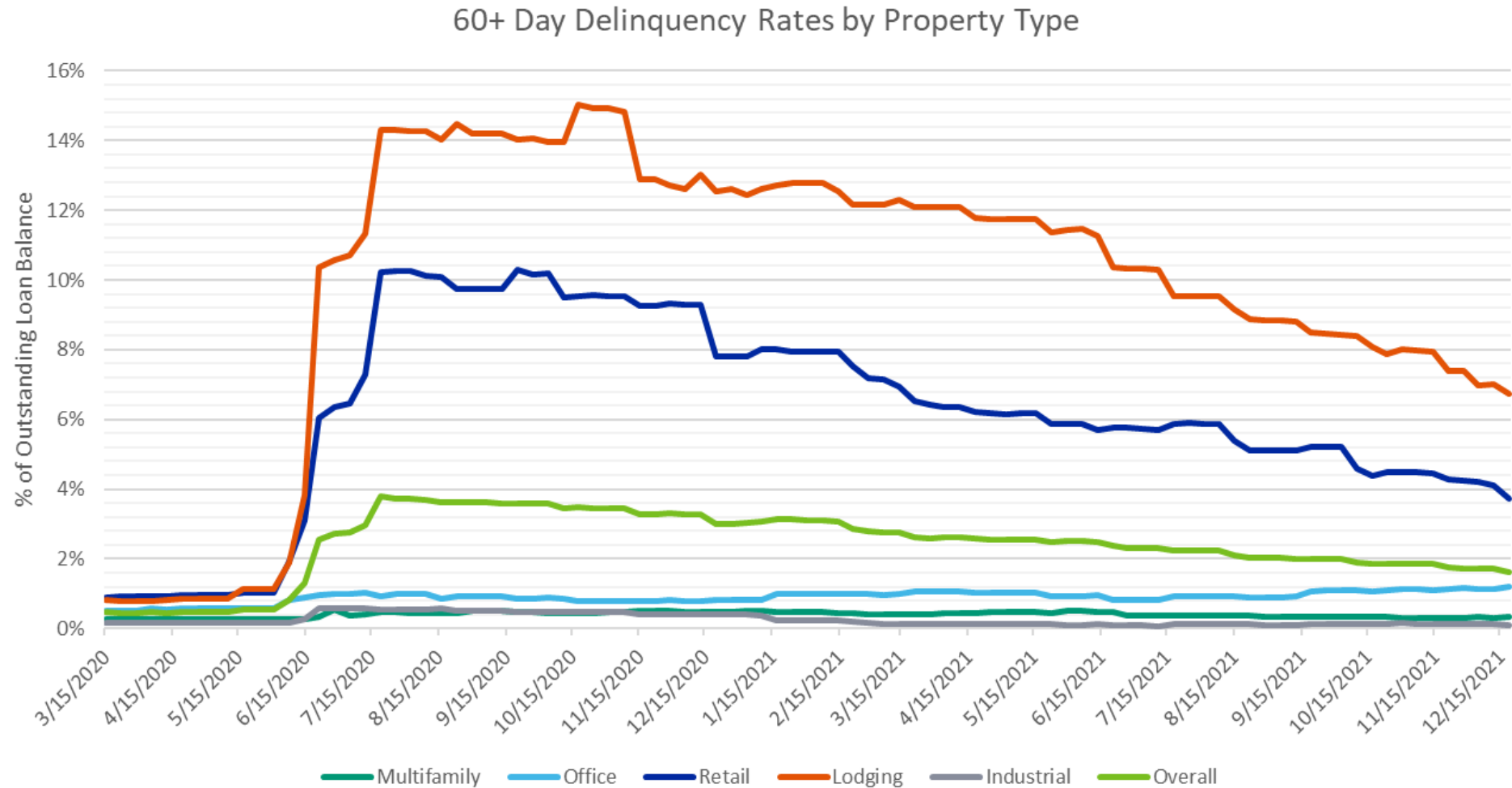
Source: Mortgage Bankers Association

Inflation Looms, But Will Likely Hit Unevenly



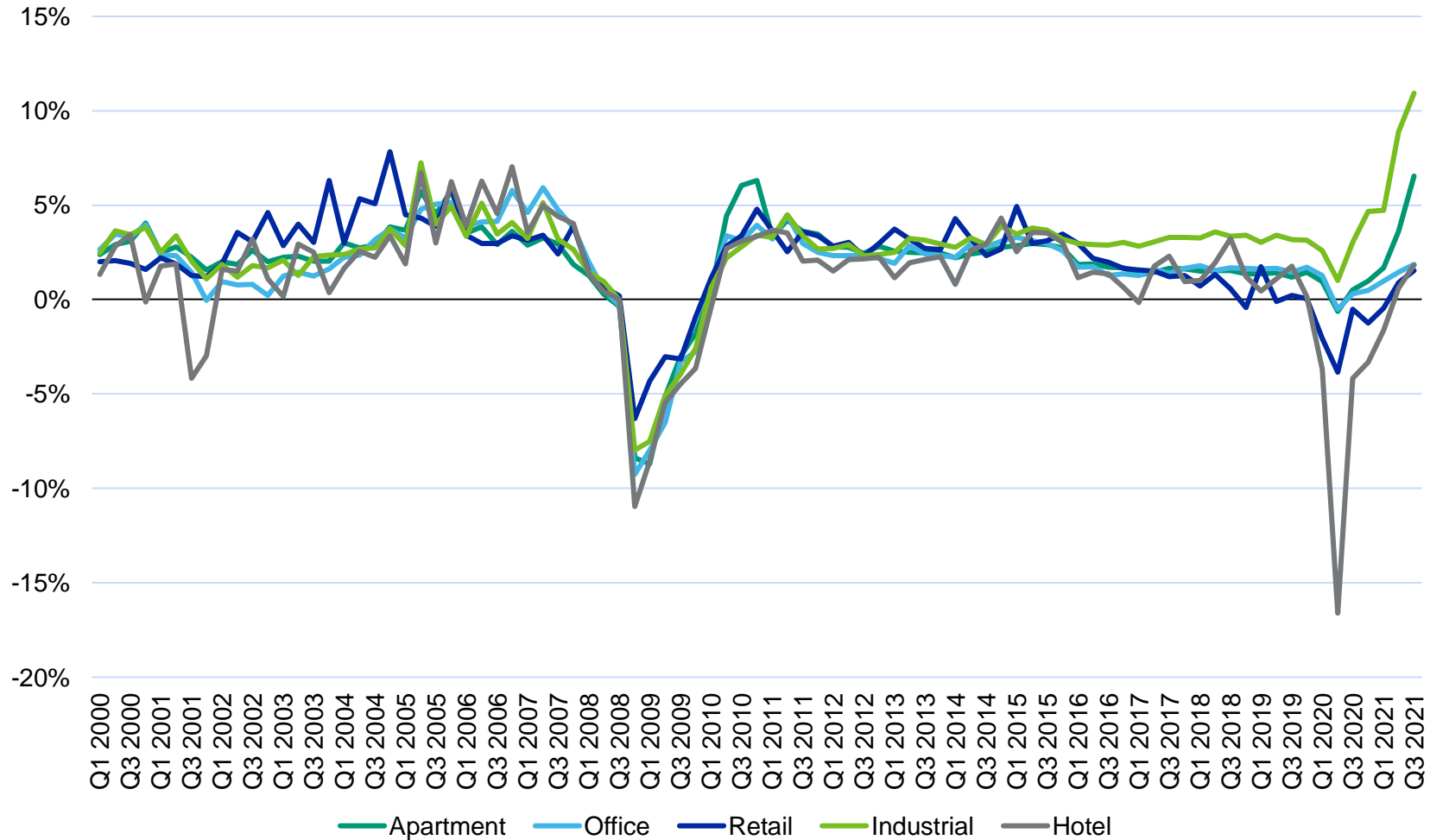
Source: BLS, FRB, Moody's Analytics

Economic Recovery Alleviating Defaults...



Source: Moody's Analytics (CMBS data feed)

... And Helping CRE Returns & Capital Markets



Source: NCREIF (total returns)

4

The ESG Conversation

Climate and CRE Issues Coming to the Fore

In 2021, ESG issues (emphasis on E) reached a watershed moment for CRE (green lending' on the opportunity side; and physical/transition risk on the risk side).

- » **Net Zero by 2050.** Significant commitments came out of COP26, including public announcements of CRE firms to get their portfolios to net zero.
- » **Green bonds.** However, CRE has been slow to get the ESG memo, but that will change. For example, only half of roughly \$1T of sustainable bond issuance in 2021 could be considered “green.” Only \$90B linked to “green buildings” - most of that outside US despite the US being largest, most advanced CRE market.
- » **CRE tech investing.** The CRE VC market is heating up, with significant investment in climate-related technologies. Largest is Fifth Wall, backed by a consortium of CRE firm sponsors. Focus is on energy monitoring & near-term payback energy retrofits.
- » **Standards.** Standards and industry organizations are ramping up their efforts to guide the finance world on what “resilient” and “sustainable” mean (ASTM, CREFC, SEC RFC, LL97 TCFD/SASB, USGBC, BREEAM, etc)



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