



Quarterly Economic Briefing

Q1 2020

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May 14, 2020

Agenda

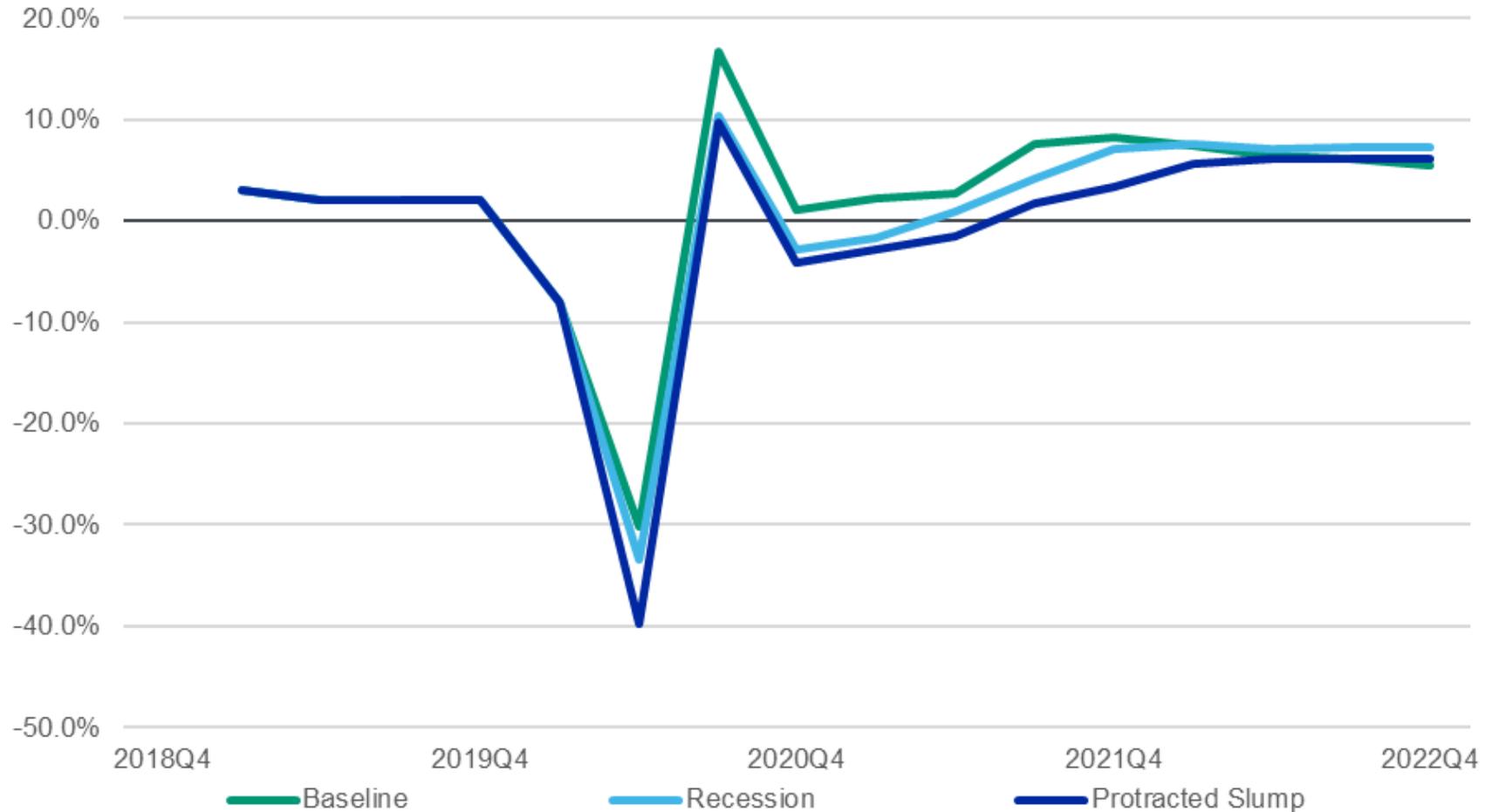
1. The world has changed. But how will all this play out?
2. Briefing on the economic outlook and the way back from historic distress.
3. How did properties perform in the most recent quarter/period?
4. Trends in the CRE capital markets, financing issues, and predictions of defaults and losses.

1

Economic Armageddon

An Historic Recession, An Unprecedented Time

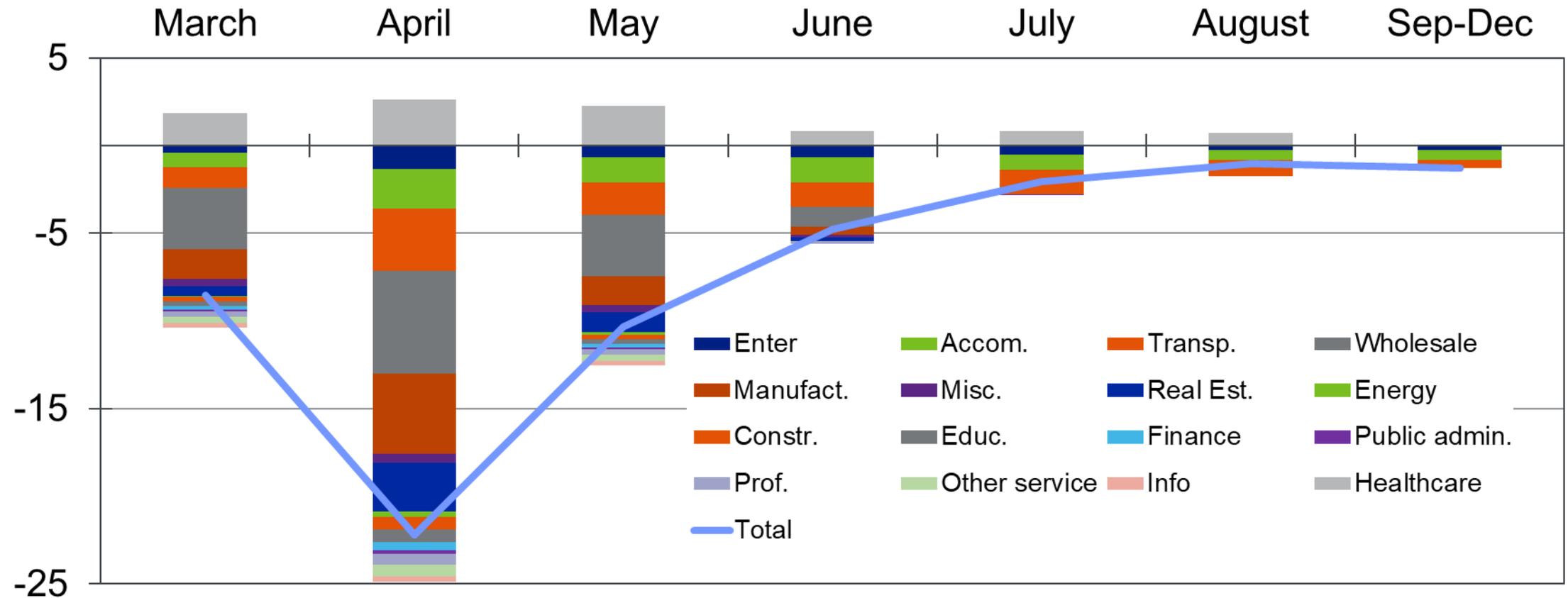
Real GDP, annualized quarter/quarter growth rate



Sources: BEA; Moody's Analytics

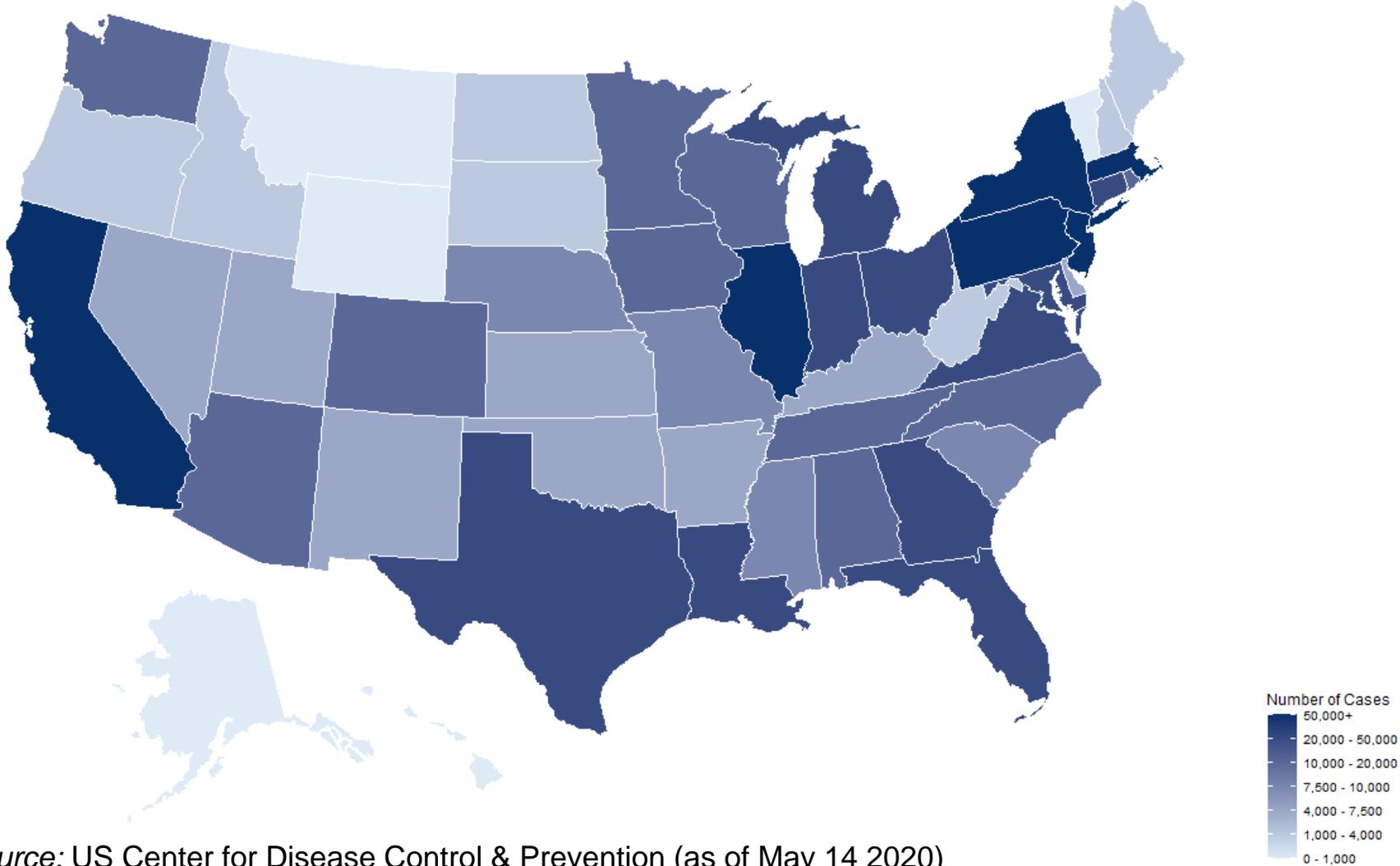
Lockdown Hits Business Hard

Deviation from typical U.S. GDP, annual comparisons by industry 2020



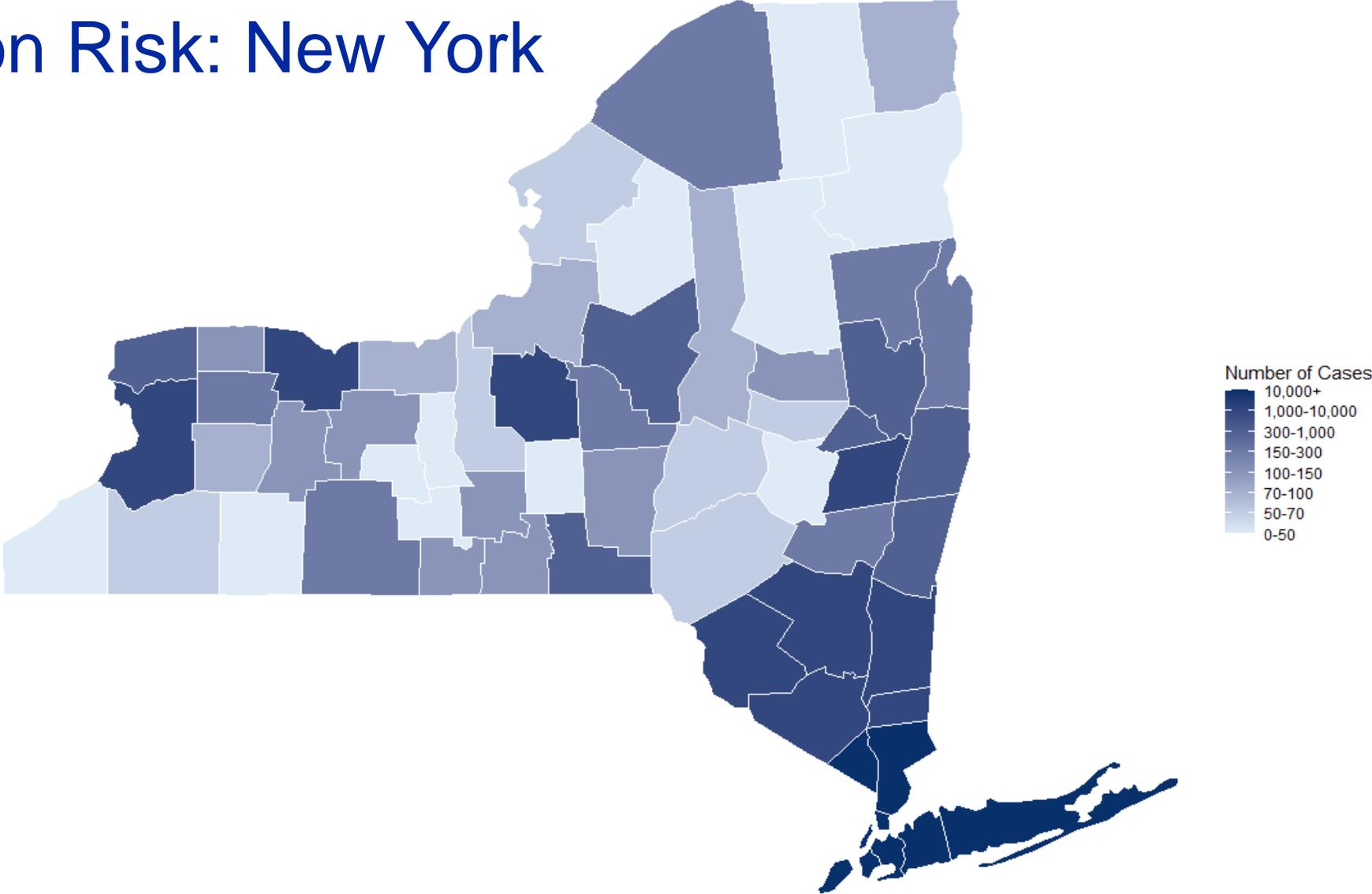
Source: Moody's Analytics

Concentration Risk Prevalence



Source: US Center for Disease Control & Prevention (as of May 14 2020)

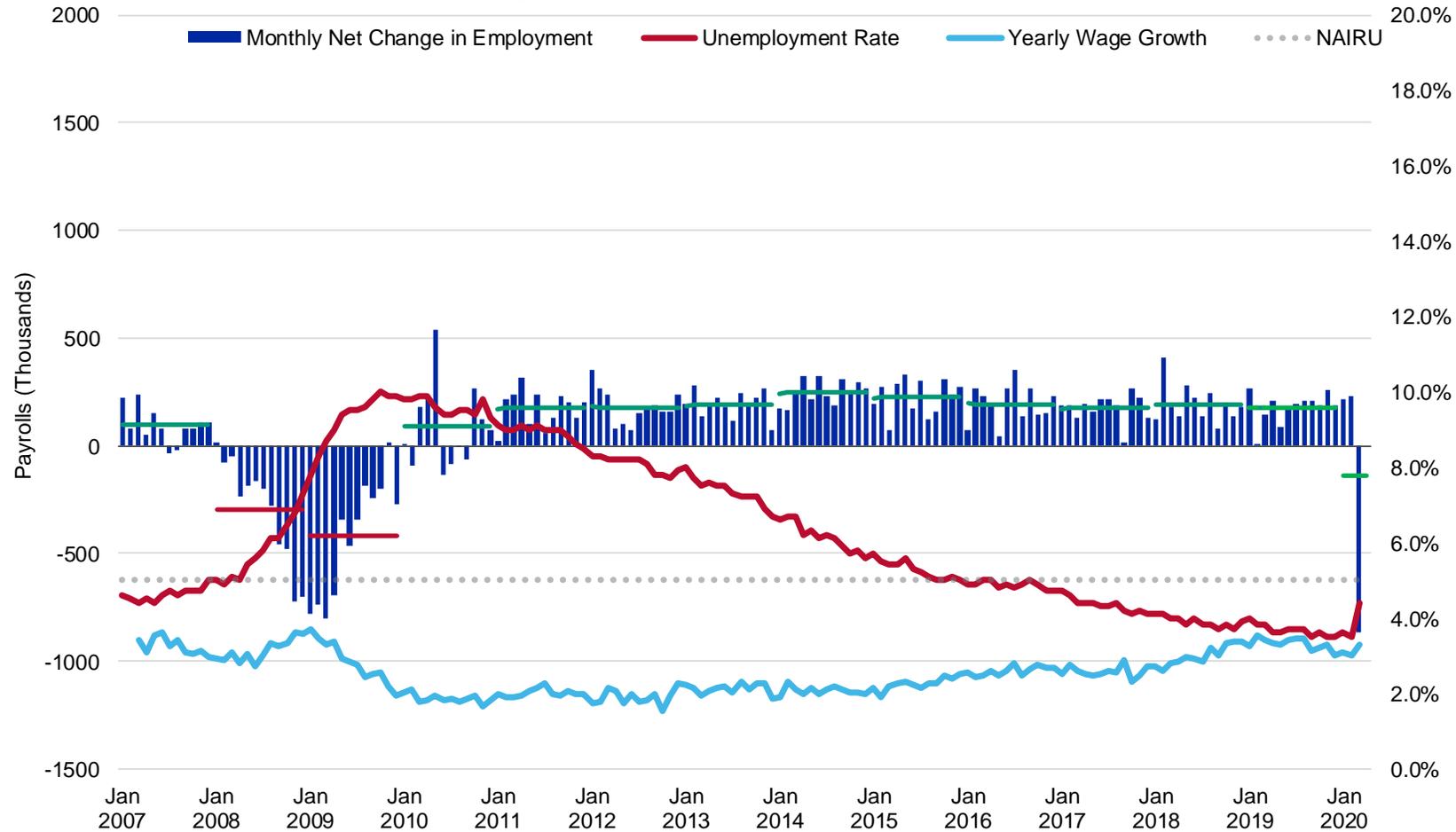
Concentration Risk: New York



Source: US CDC, county and state departments of health, data as of May 14, 2020.

This is the Beginning... How Will it End?

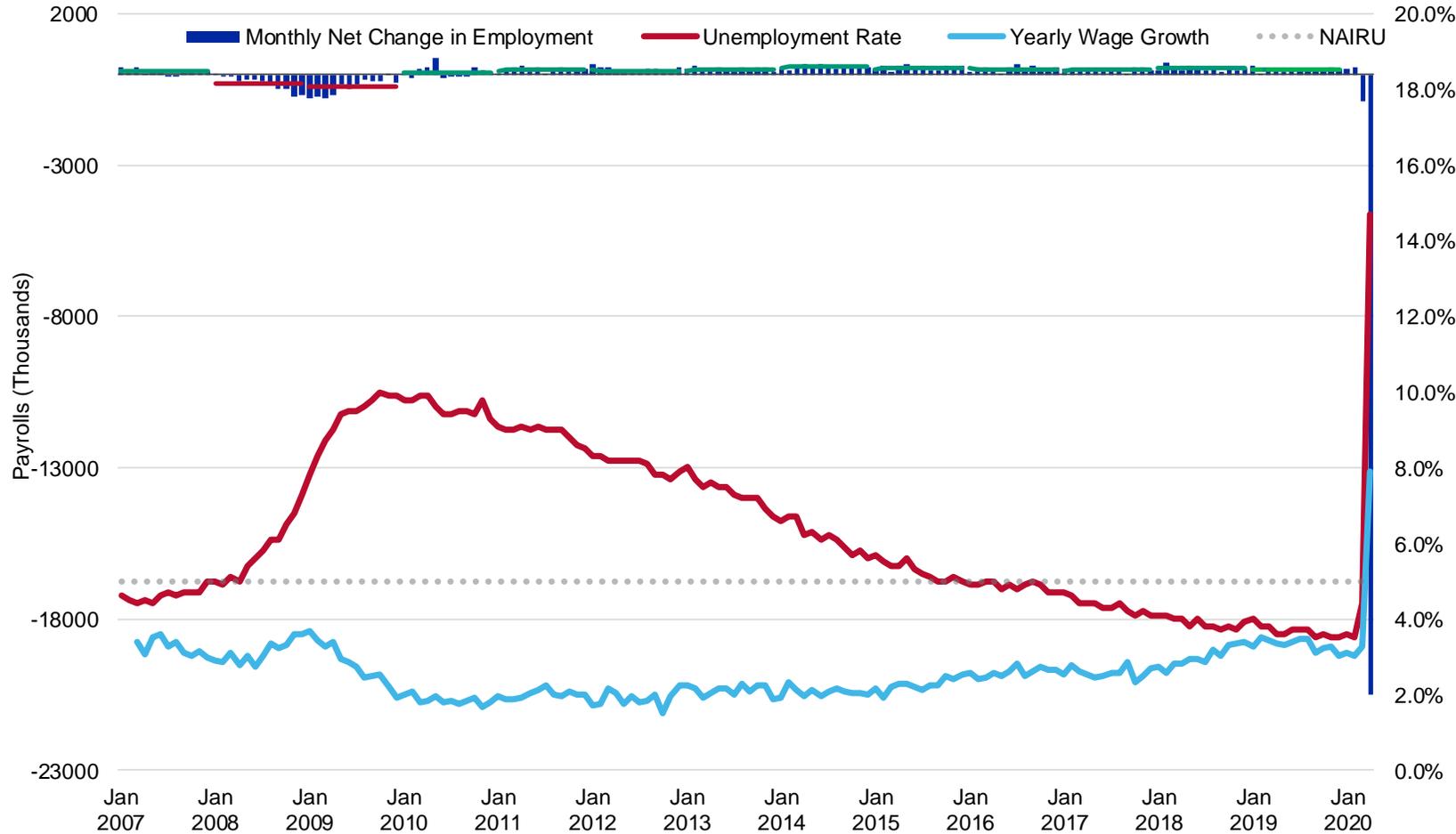
Job Creation and the Unemployment Rate - March



Sources: Bureau of Labor Statistics; FRED

Job Losses through April

Job Creation and the Unemployment Rate - April



Sources: Bureau of Labor Statistics; FRED; New York Times

This block contains a collage of newspaper clippings from The New York Times, dated Saturday, May 9, 2020. The main headline is "U.S. UNEMPLOYMENT IS WORST SINCE DEPRESSION". Other headlines include "Georgia Killing Puts Spotlight on a Police Force's Troubled History", "April's Rate of 4.7% Touches All Parts of Economy", "In Flynn Case, Russia Inquiry Is Barr's Target", "If West Wing, Still Isn't Safe, Is Any Office?", "As Official Toll Ignores Reality, Mexico's Hospitals Are Overrun", "G.O.P. Convention Quells", "A Walk a Day to Get By", "A Good Walk, Unspoiled", "Anyone Up to Shoot Hoops?", "A Shot at Stardom, Revised", and "Timothy Egan".

The Economic Outlook

Key Takeaways for the Rest of 2020

- » The unofficial word: we are in a recession (likely began in late March). GDP declines will be historic.
- » We still expect the economy to reopen – in fits and starts – over the next few months. It is uncertain how smooth the reopening process will be.
- » Unprecedented levels (and swiftness) of fiscal and monetary support already blunting downside projections from having become worse.
- » Three necessary conditions: *credible, reliable, widely available* treatment and vaccination protocol. Until that materializes, expect reopening efforts to be uneven.

2

National Market Updates

National Apartment Market

Quarterly & Annual Market Conditions

- » Not much distress in the first quarter of 2020, with vacancies flat versus end-2019 and asking and effective rents up 0.3% and 0.4%, respectively.
- » Occupancies likely to remain stable even through the second quarter given no-eviction and no-rent-increase policies in place.
- » Expect the hit to come in rents given collection losses and relief requests.

Quarterly

Year	Qtr	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2013	1	\$1,113	0.6%	\$1,068	0.7%	4.4%
2013	2	\$1,123	0.9%	\$1,077	0.9%	4.4%
2013	3	\$1,135	1.1%	\$1,090	1.1%	4.4%
2013	4	\$1,146	0.9%	\$1,100	1.0%	4.4%
2014	1	\$1,155	0.8%	\$1,109	0.9%	4.2%
2014	2	\$1,168	1.2%	\$1,122	1.2%	4.3%
2014	3	\$1,183	1.3%	\$1,137	1.3%	4.3%
2014	4	\$1,192	0.8%	\$1,146	0.8%	4.3%
2015	1	\$1,205	1.0%	\$1,158	1.1%	4.2%
2015	2	\$1,226	1.8%	\$1,178	1.7%	4.2%
2015	3	\$1,248	1.8%	\$1,199	1.8%	4.2%
2015	4	\$1,262	1.1%	\$1,212	1.1%	4.3%
2016	1	\$1,273	0.9%	\$1,223	0.9%	4.3%
2016	2	\$1,291	1.4%	\$1,240	1.3%	4.2%
2016	3	\$1,307	1.3%	\$1,255	1.2%	4.1%
2016	4	\$1,313	0.4%	\$1,259	0.4%	4.2%
2017	1	\$1,324	0.8%	\$1,267	0.6%	4.3%
2017	2	\$1,344	1.5%	\$1,284	1.3%	4.3%
2017	3	\$1,363	1.4%	\$1,301	1.3%	4.4%
2017	4	\$1,373	0.7%	\$1,309	0.6%	4.6%
2018	1	\$1,388	1.2%	\$1,323	1.1%	4.7%
2018	2	\$1,409	1.5%	\$1,342	1.4%	4.7%
2018	3	\$1,430	1.5%	\$1,361	1.4%	4.7%
2018	4	\$1,444	1.0%	\$1,374	1.0%	4.8%
2019	1	\$1,456	0.8%	\$1,384	0.7%	4.7%
2019	2	\$1,476	1.4%	\$1,405	1.5%	4.6%
2019	3	\$1,492	1.0%	\$1,420	1.1%	4.6%
2019	4	\$1,500	0.5%	\$1,428	0.5%	4.7%
2020	1	\$1,505	0.3%	\$1,433	0.4%	4.7%

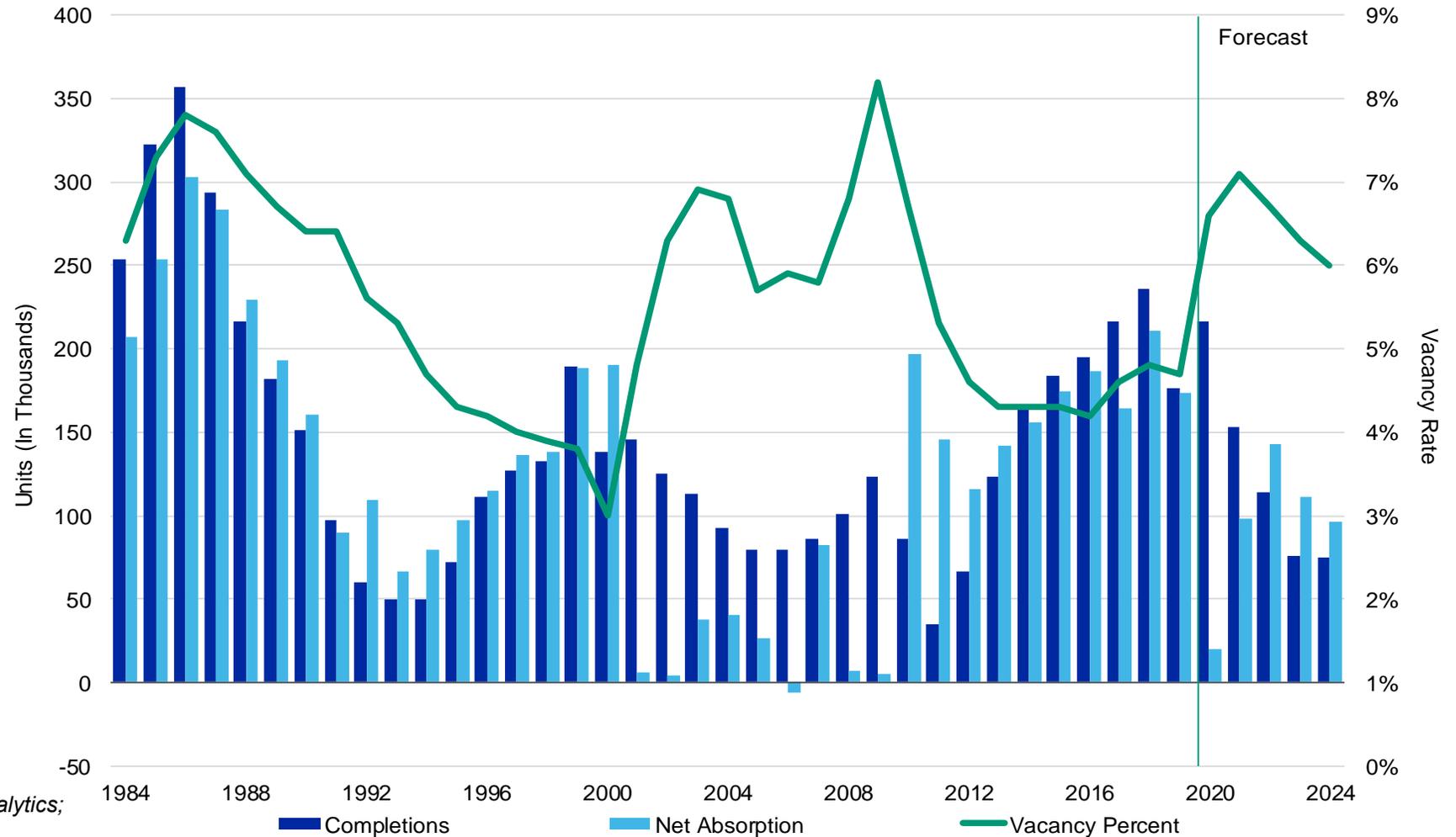
Annual

Year	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2010	\$1,044	1.7%	\$991	2.3%	6.6%
2011	\$1,070	2.4%	\$1,018	2.7%	5.3%
2012	\$1,107	3.5%	\$1,061	4.2%	4.7%
2013	\$1,146	3.5%	\$1,100	3.7%	4.4%
2014	\$1,192	4.1%	\$1,146	4.2%	4.3%
2015	\$1,262	5.8%	\$1,212	5.7%	4.3%
2016	\$1,313	4.0%	\$1,259	3.9%	4.2%
2017	\$1,373	4.5%	\$1,309	3.9%	4.6%
2018	\$1,444	5.2%	\$1,374	5.0%	4.8%
2019	\$1,500	3.8%	\$1,428	3.9%	4.7%
2020	\$1,453	-3.1%	\$1,374	-3.7%	6.6%
2021	\$1,443	-0.7%	\$1,360	-1.0%	7.0%
2022	\$1,467	1.7%	\$1,389	2.1%	6.6%
2023	\$1,501	2.4%	\$1,422	2.4%	6.2%
2024	\$1,536	2.3%	\$1,454	2.3%	6.0%

Source: REIS, Real Estate Solutions by Moody's Analytics;
79 of 275 Apartment Markets

National Apartment Market

Supply & Demand Trends



Source: REIS, Real Estate Solutions by Moody's Analytics;
Top 50 Primary Apartment Markets

National Office Market

Quarterly & Annual Market Conditions



- » Office fundamentals remain mostly flat to slightly negative. Vacancies rose by 10 basis points to 16.9% in the first quarter of 2020.
- » Asking and effective rents rose by 0.4%, still not showing distress from the COVID-19 pandemic.
- » The risk is medium- to long-term for the office sector.

Quarterly

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2013	1	5.8	\$28.83	0.8%	\$23.28	0.8%	17.1%
2013	2	5.7	\$28.97	0.5%	\$23.40	0.5%	17.1%
2013	3	7.2	\$29.11	0.5%	\$23.51	0.5%	17.1%
2013	4	6.4	\$29.32	0.7%	\$23.69	0.8%	17.0%
2014	1	10.1	\$29.54	0.8%	\$23.87	0.8%	17.0%
2014	2	1.8	\$29.77	0.8%	\$24.06	0.8%	17.1%
2014	3	7.3	\$29.92	0.5%	\$24.18	0.5%	17.0%
2014	4	9.9	\$30.24	1.1%	\$24.45	1.1%	16.9%
2015	1	4.8	\$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	12.4	\$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	4.8	\$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	7.4	\$32.57	0.6%	\$26.42	0.6%	16.4%
2018	1	6.2	\$32.85	0.9%	\$26.64	0.8%	16.5%
2018	2	2.5	\$33.07	0.7%	\$26.83	0.7%	16.6%
2018	3	4.9	\$33.21	0.4%	\$26.95	0.4%	16.7%
2018	4	9.9	\$33.44	0.7%	\$27.13	0.7%	16.7%
2019	1	4.9	\$33.58	0.4%	\$27.26	0.5%	16.7%
2019	2	4.0	\$33.86	0.8%	\$27.49	0.8%	16.8%
2019	3	9.3	\$34.12	0.8%	\$27.71	0.8%	16.8%
2019	4	14.2	\$34.33	0.6%	\$27.89	0.6%	16.8%
2020	1	-2.7	\$34.47	0.4%	\$28.00	0.4%	16.9%

Annual

Year	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2010	-21.6	\$27.54	-0.9%	\$22.09	-1.5%	17.6%
2011	17.7	\$28.02	1.7%	\$22.58	2.2%	17.4%
2012	15.5	\$28.60	2.1%	\$23.09	2.3%	17.2%
2013	25.1	\$29.32	2.5%	\$23.69	2.6%	17.0%
2014	29.1	\$30.24	3.1%	\$24.45	3.2%	16.9%
2015	38.2	\$31.28	3.4%	\$25.32	3.6%	16.5%
2016	29.1	\$32.00	2.3%	\$25.95	2.5%	16.3%
2017	23.5	\$32.57	1.8%	\$26.42	1.8%	16.4%
2018	23.4	\$33.44	2.7%	\$27.13	2.7%	16.7%
2019	32.5	\$34.33	2.7%	\$27.89	2.8%	16.8%
2020	-71.0	\$32.19	-6.2%	\$24.95	-10.5%	19.4%
2021	2.4	\$32.01	-0.6%	\$24.62	-1.3%	20.1%
2022	16.8	\$32.49	1.5%	\$24.97	1.4%	20.2%
2023	43.9	\$33.03	1.7%	\$25.50	2.1%	19.7%
2024	48.5	\$33.64	1.8%	\$26.14	2.5%	19.1%

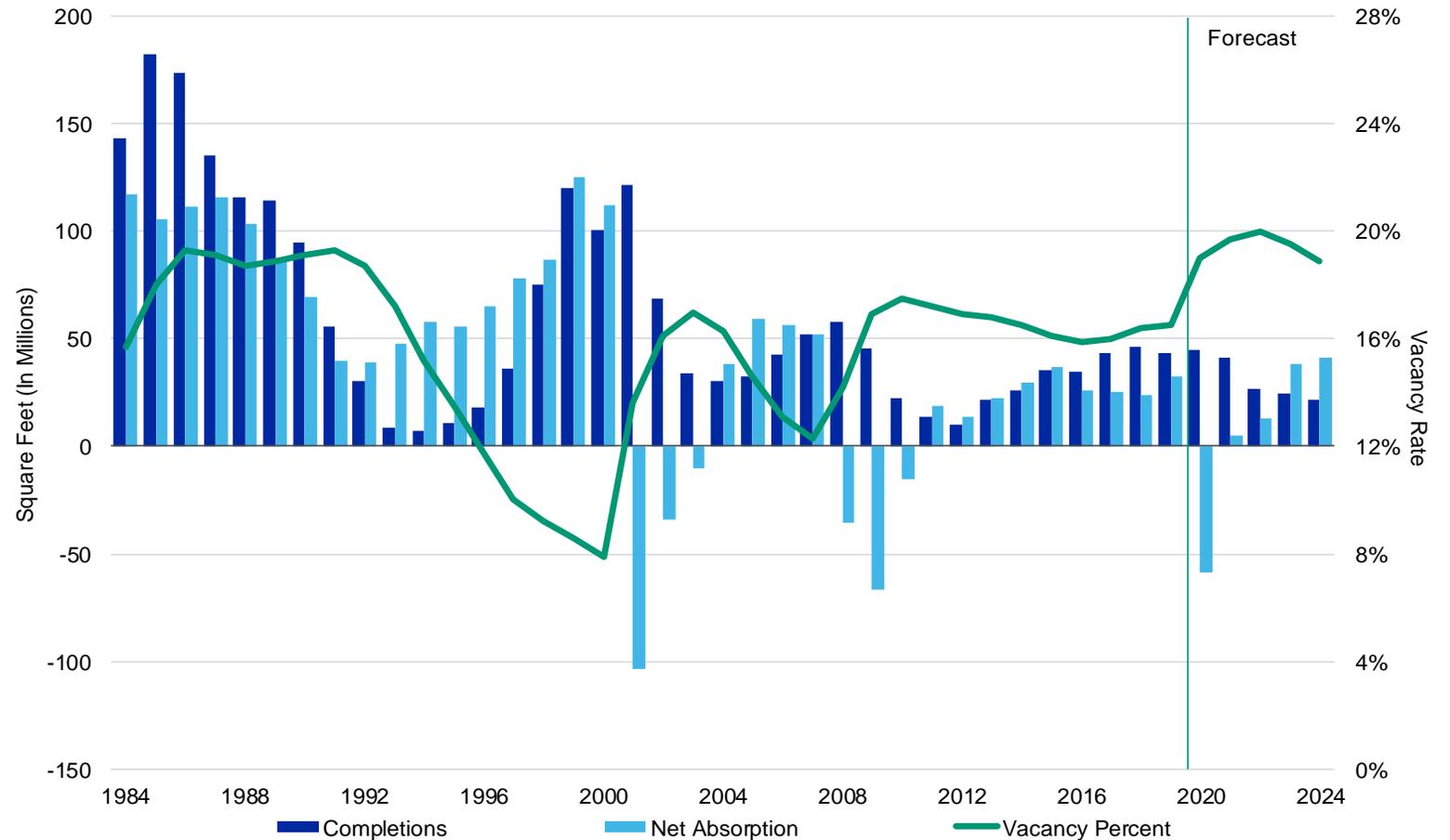
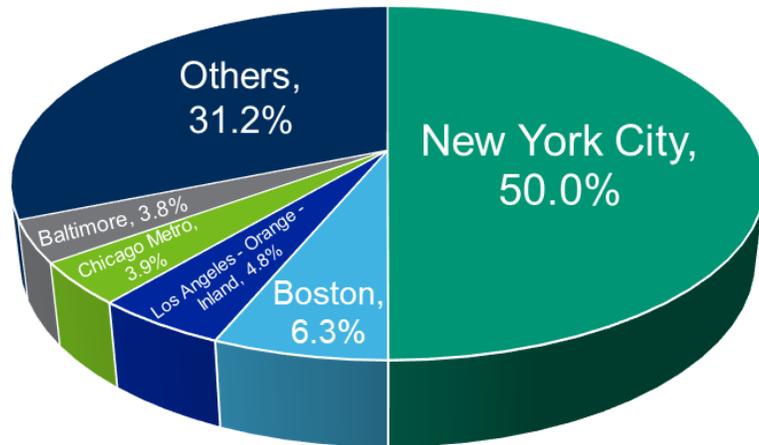
Source: REIS, Real Estate Solutions by Moody's Analytics; 79 of 190 Office Markets

Net absorption figures are in millions of square feet.

National Office Market

Supply & Demand Trends

- » Office vacancies expected to top 20% given economic distress.
- » Large employers like Morgan Stanley overtly expressing their intent to reevaluate their need for office space over the long run, given the success of remote working policies.



Source: REIS, Real Estate Solutions by Moody's Analytics; Top 50 Primary Office Markets; CompStak

National Retail Market

Quarterly & Annual Market Conditions

Quarterly

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2013	1	2.9	\$19.14	0.3%	\$16.64	0.3%	10.6%
2013	2	2.9	\$19.20	0.3%	\$16.69	0.3%	10.5%
2013	3	2.2	\$19.26	0.3%	\$16.75	0.4%	10.5%
2013	4	4.6	\$19.35	0.5%	\$16.83	0.5%	10.4%
2014	1	1.2	\$19.43	0.4%	\$16.91	0.5%	10.4%
2014	2	3.4	\$19.52	0.5%	\$16.99	0.5%	10.3%
2014	3	4.1	\$19.60	0.4%	\$17.07	0.5%	10.3%
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%	\$18.07	0.5%	10.0%
2017	3	2.2	\$20.76	0.5%	\$18.16	0.5%	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	1.4	\$21.22	0.4%	\$18.57	0.4%	10.2%
2019	1	1.0	\$21.31	0.4%	\$18.66	0.5%	10.2%
2019	2	2.6	\$21.39	0.4%	\$18.73	0.4%	10.2%
2019	3	2.0	\$21.46	0.3%	\$18.80	0.4%	10.1%
2019	4	0.5	\$21.48	0.1%	\$18.82	0.1%	10.2%
2020	1	0.6	\$21.51	0.1%	\$18.85	0.2%	10.1%

Neighborhood & Community Shopping Centers

Annual

Year	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2010	-3.2	\$18.99	-0.7%	\$16.51	-1.4%	11.0%
2011	6.3	\$18.99	0.0%	\$16.50	-0.1%	11.0%
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	1.1	\$21.22	1.6%	\$18.57	1.6%	10.2%
2019	6.1	\$21.48	1.2%	\$18.82	1.3%	10.2%
2020	-45.4	\$19.75	-8.1%	\$16.74	-11.1%	12.6%
2021	-12.4	\$19.52	-1.2%	\$16.53	-1.3%	13.3%
2022	10.1	\$19.60	0.4%	\$16.78	1.5%	13.1%
2023	16.7	\$19.77	0.9%	\$17.09	1.8%	12.5%
2024	19.7	\$20.08	1.6%	\$17.41	1.9%	11.8%

Neighborhood & Community Shopping Centers

Year	Quarter	Asking Rent	Percent Change	Vacancy Rate
2010	Y	\$38.79	-0.6%	8.7%
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	1	\$44.08	0.5%	9.7%

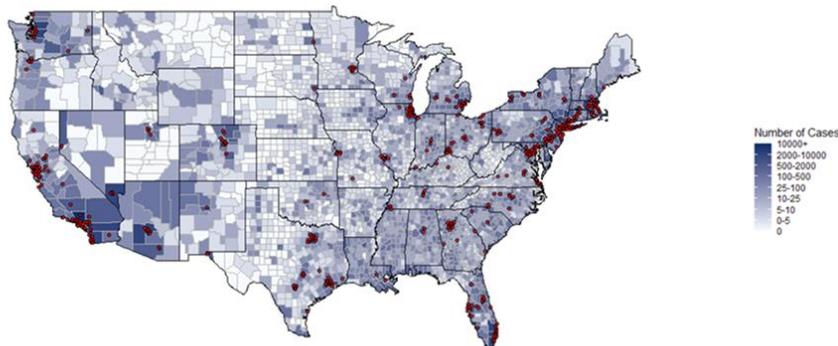
Regional/Super Regional Malls

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

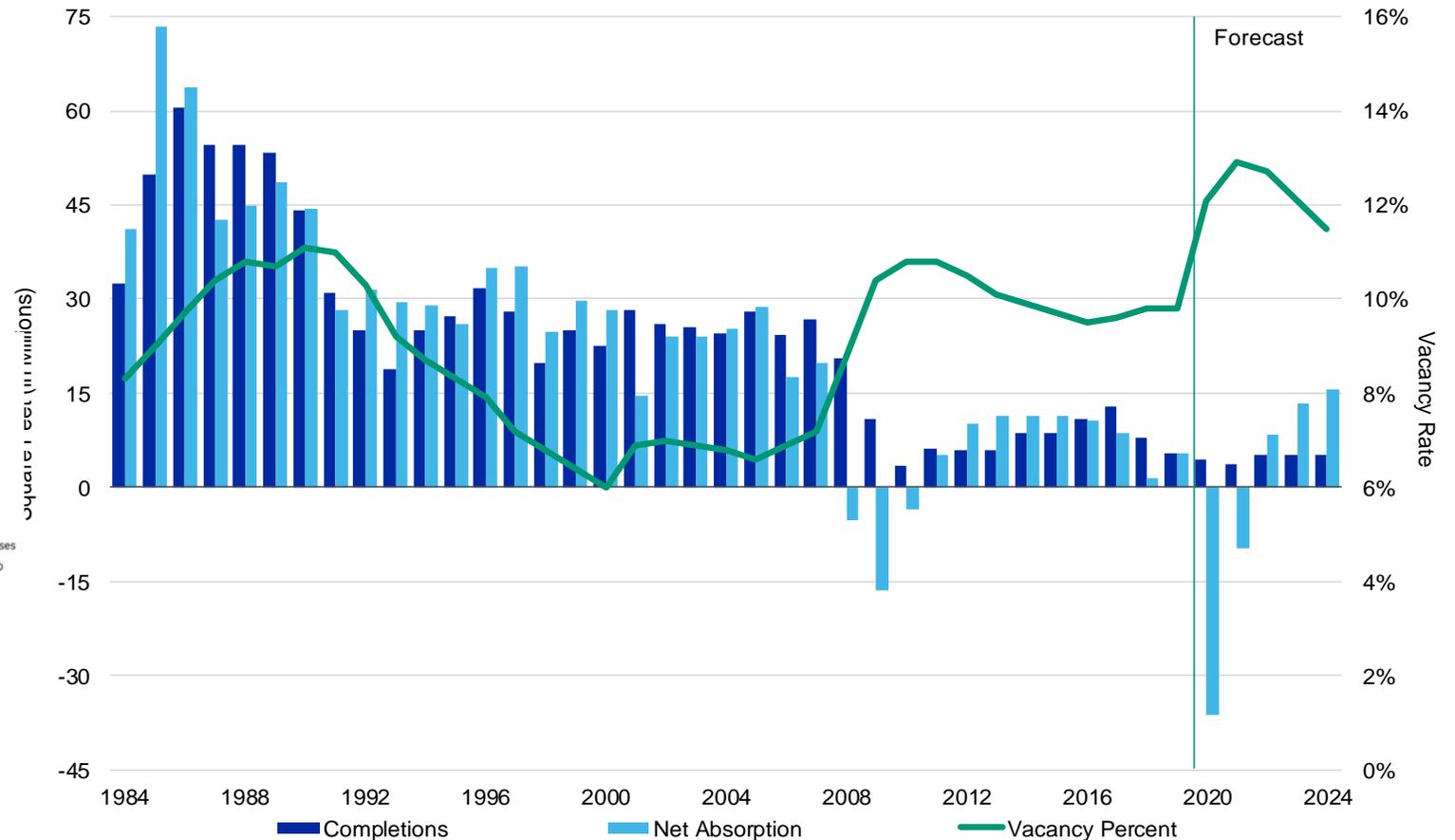
National Retail Market

Supply & Demand Trends

- » Retail vacancies expected to break historic highs. Retail rents will decline by up to double the rate from 2008-2009.
- » Concentration risk and geographic analysis are important: need to go case-by-case. Map below shows Macy's properties in 200+ counties across the country, but top 20 counties account for 1/3 space occupied.



Source: REIS, Real Estate Solutions by Moody's Analytics;
Top 50 Primary Retail Markets



Industrial: Hit Less Hard (Most Likely)

Flex/R&D

- » Flex/R&D vacancies flat in the first quarter at 9.6%
- » Asking and effective rents up 0.4% for the first quarter



Warehouse/ Distribution

- » Warehouse/distribution vacancies up to above 10% late last year and in the beginning of 2020, 'melting upwards' throughout 2019.
- » Tailwinds from online sales? Won't escape unscathed.



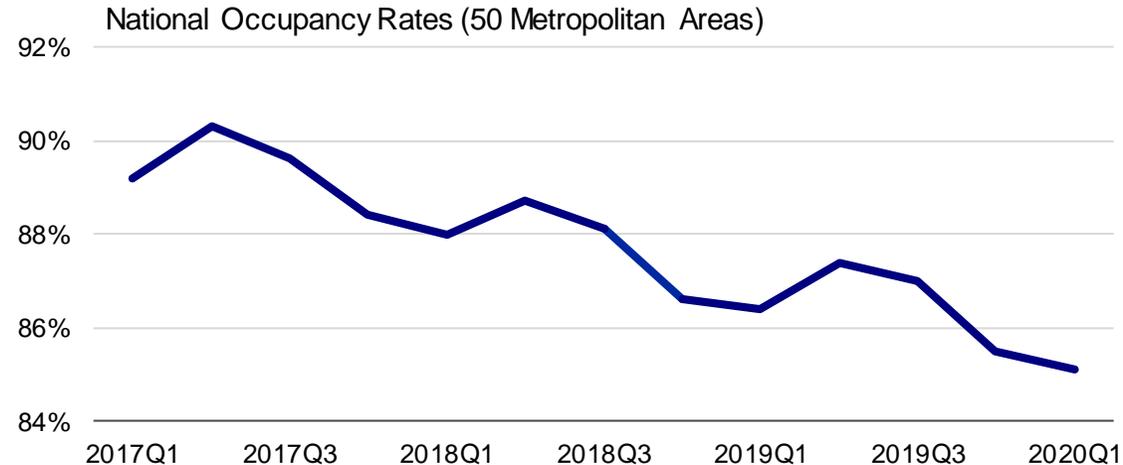
Source: REIS, Real Estate Solutions by Moody's Analytics

3

Specialty Sector Updates

Self Storage in the First Quarter

- » Occupancies fell to 85.1%, a 40 basis point drop versus end-2019, and the lowest level since 2012.
- » Rents for 10x10 climate controlled units fell by 3.9%, a record decline.
- » Though there are industry expectations of a relief in supply growth in the near future, 2020 is still likely to be a rocky time for this sector.



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

Student Housing in the First Quarter

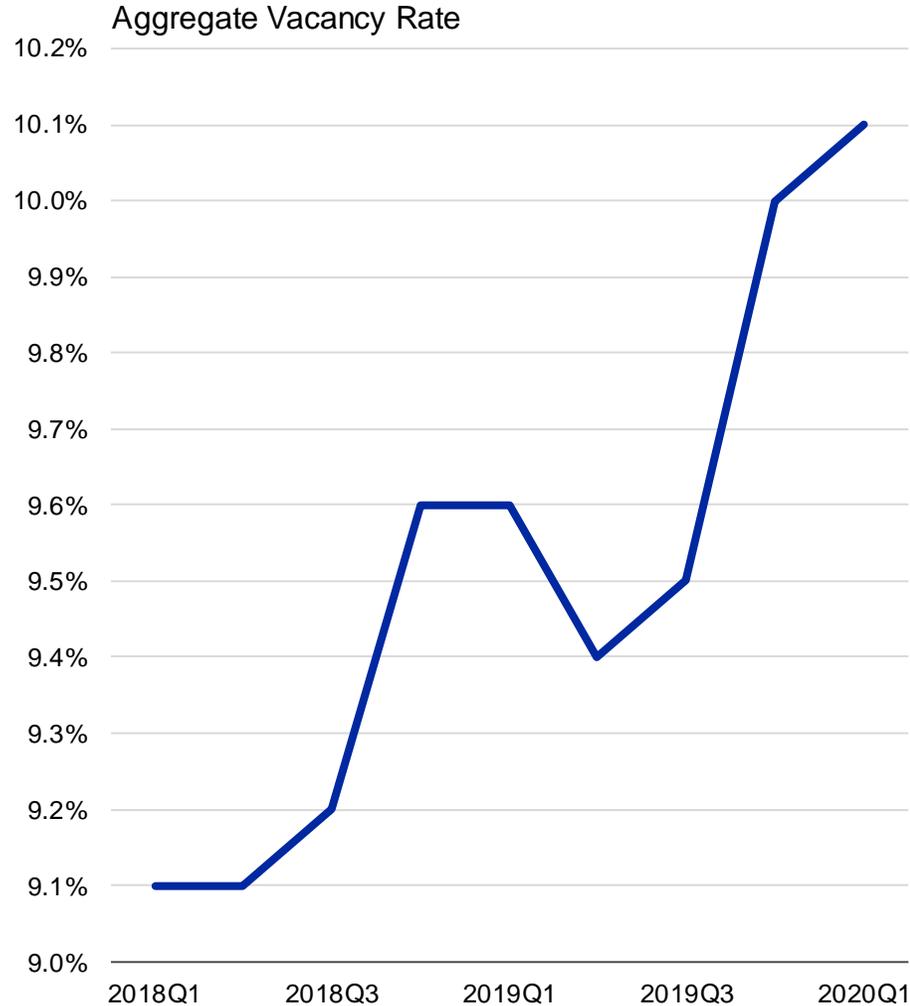
- » Tables present Fall 2019 to Fall 2020 projected changes in vacancy rates and rent growth for subtypes.
- » There is likely to be some divergence in performance, but uncertainty around the return to schools will nudge vacancies up and rents down by Fall of 2020.
- » Construction loans for Student Housing properties at particular risk given the economics of leasing during the months of July and August.



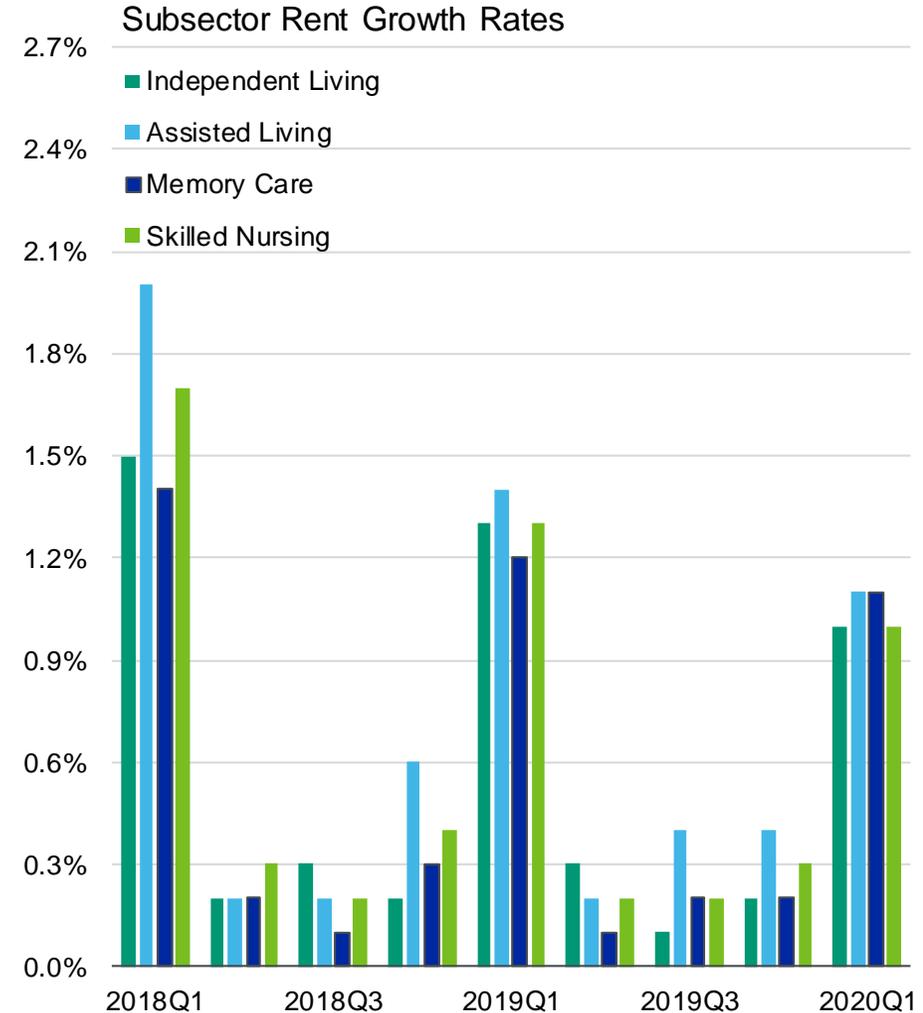
National Student Housing Market, Fall 2019 – Fall 2020				
	Vacancy Rate	Vacancy Chg, BPS	Rent Growth	Inventory Growth
Bed	7.4%	220	-6.1%	3.3%
Unit	3.3%	100	-4.6%	1.1%

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

Seniors Housing in the First Quarter

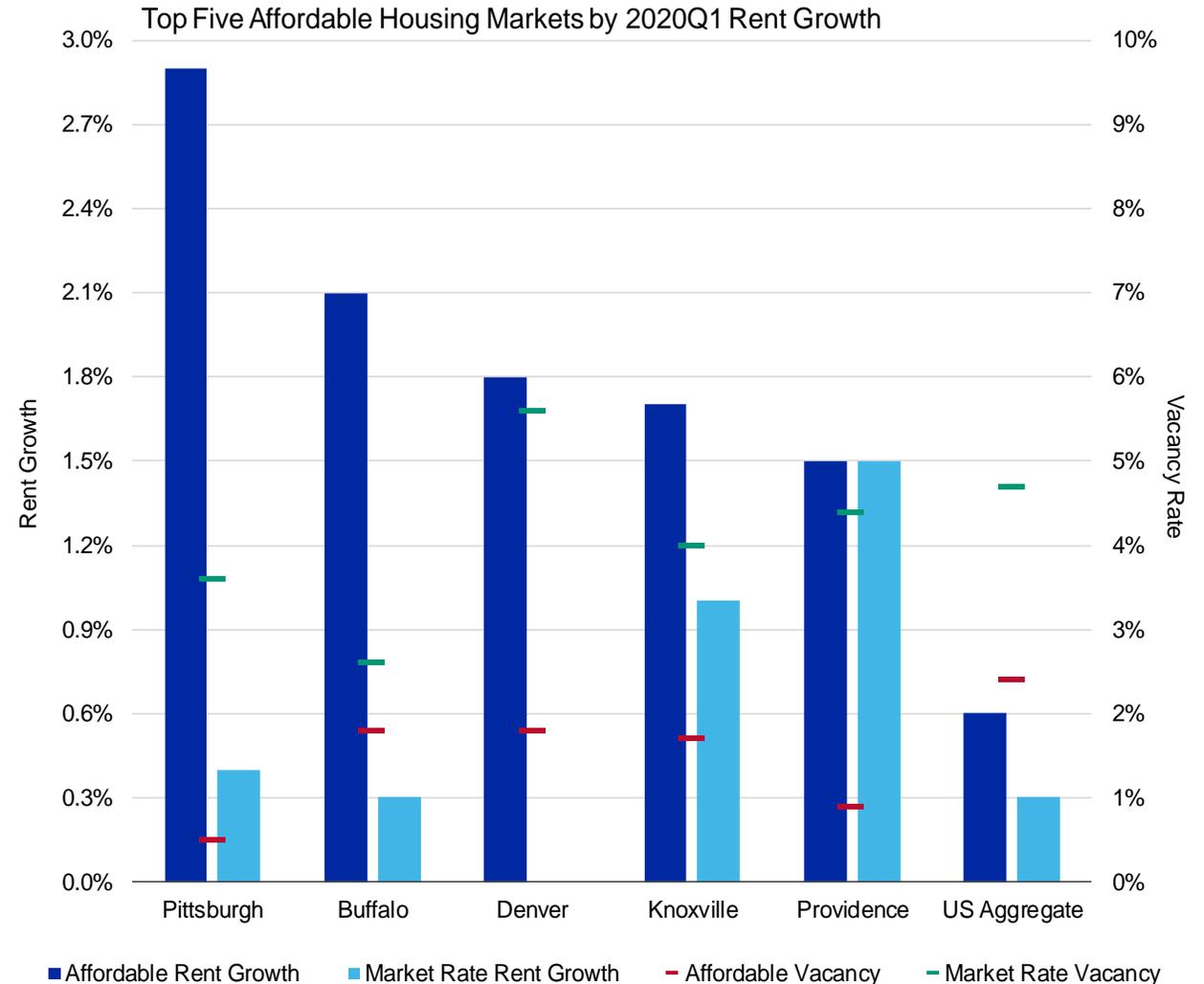


Source: REIS, Real Estate Solutions by Moody's Analytics



LIHTC in the First Quarter

- » 2.4% vacancies represent *half* of the level for market rate rentals. Conditions very tight for LIHTC and demand for affordable housing likely to increase given COVID-19 crisis.
- » Asking rents grew by 0.6% in the first quarter of 2020, 20 basis points stronger than market rate rentals. In markets like Pittsburgh, Buffalo, Denver, and Knoxville, LIHTC rent growth (far) outstripped market rate.



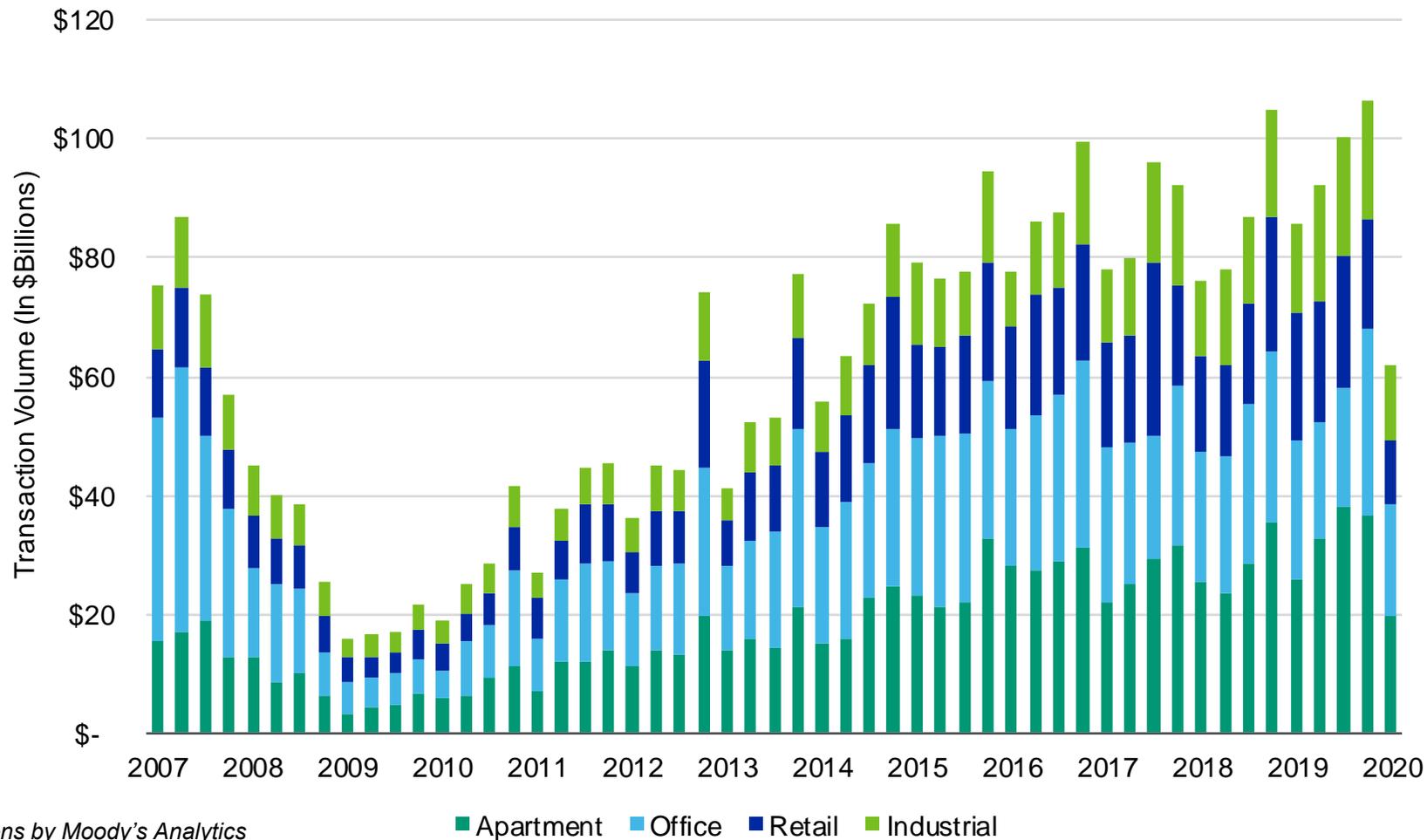
Source: REIS, Real Estate Solutions by Moody's Analytics

4

CRE Capital Markets

Transaction Activity Down (Again)

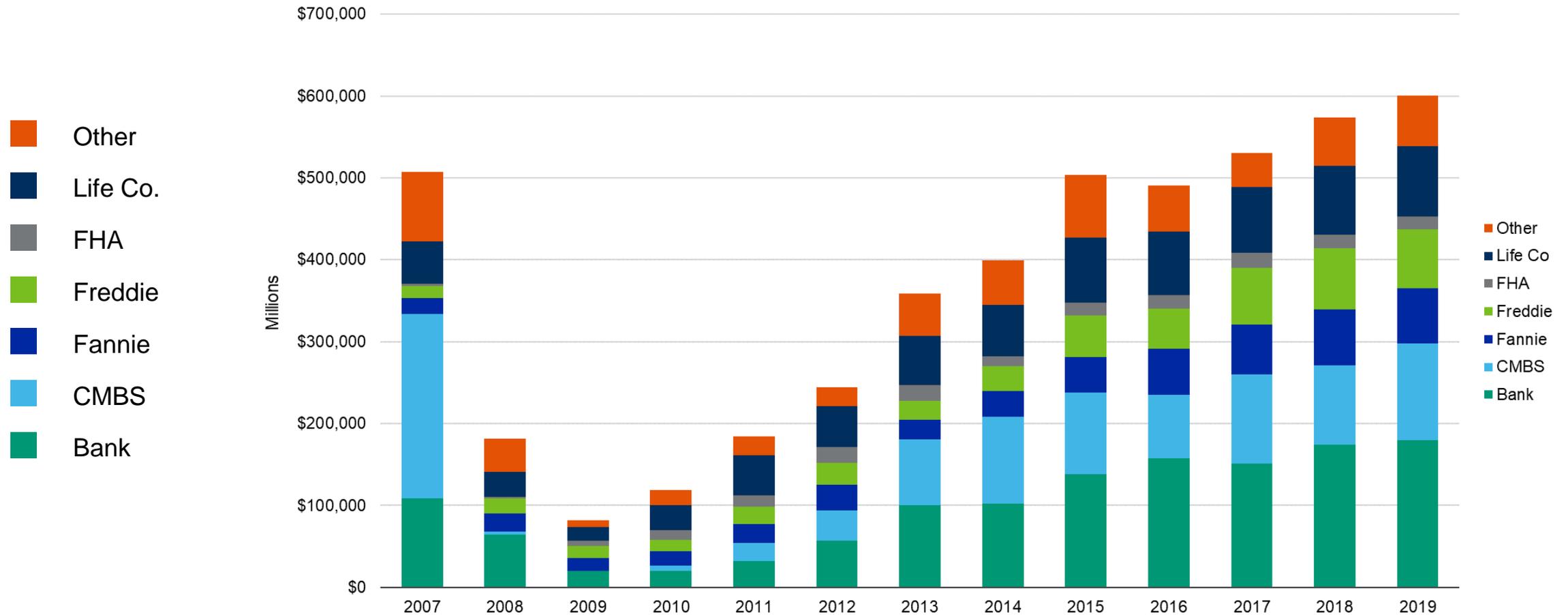
Compare and contrast this with 2008-2009



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

CRE Debt Issuance

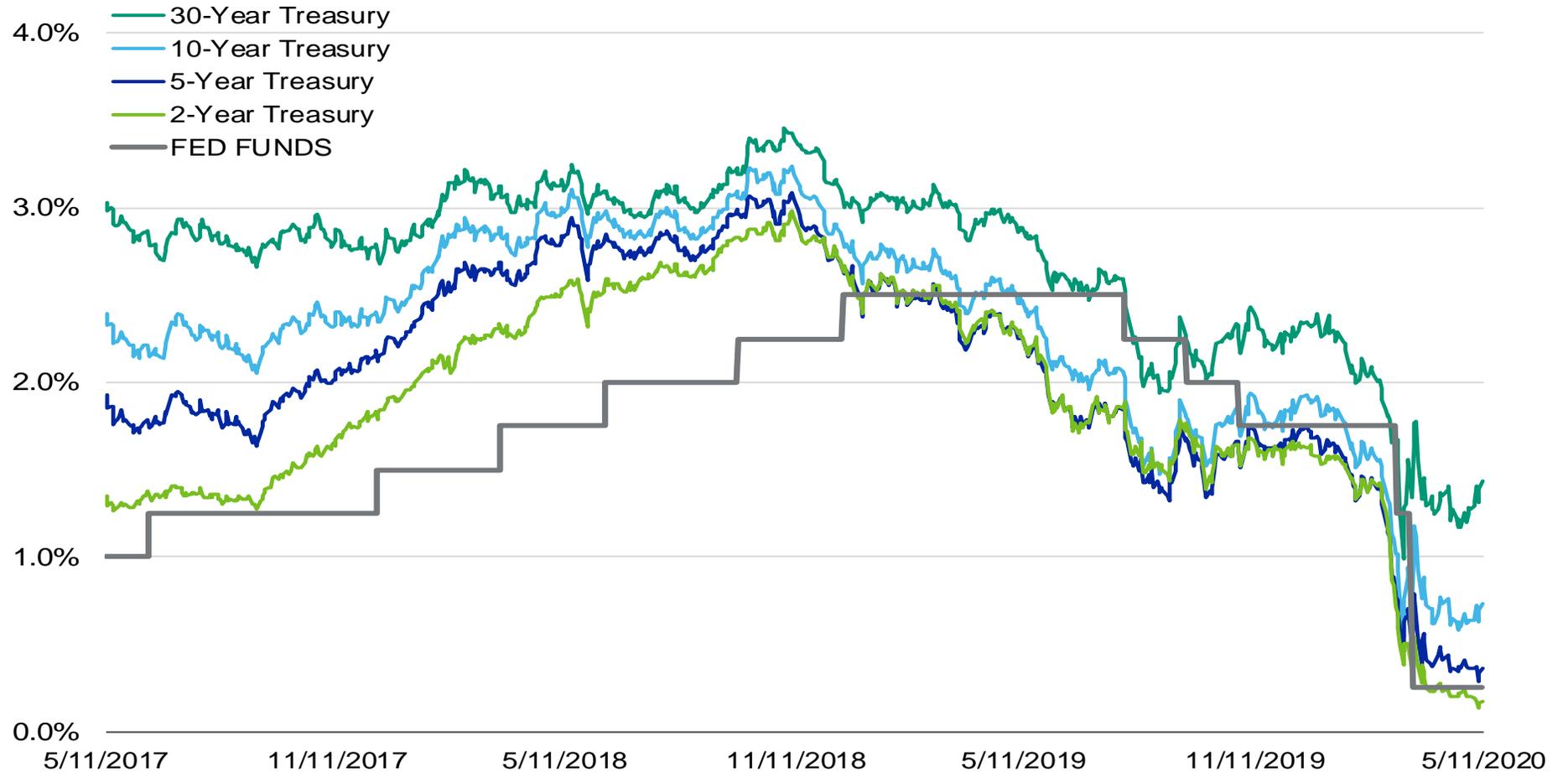
Multifamily + CRE issuance volume, by year



Source: Mortgage Bankers Association

Interest Rates

Daily, May 2017 – May 2020

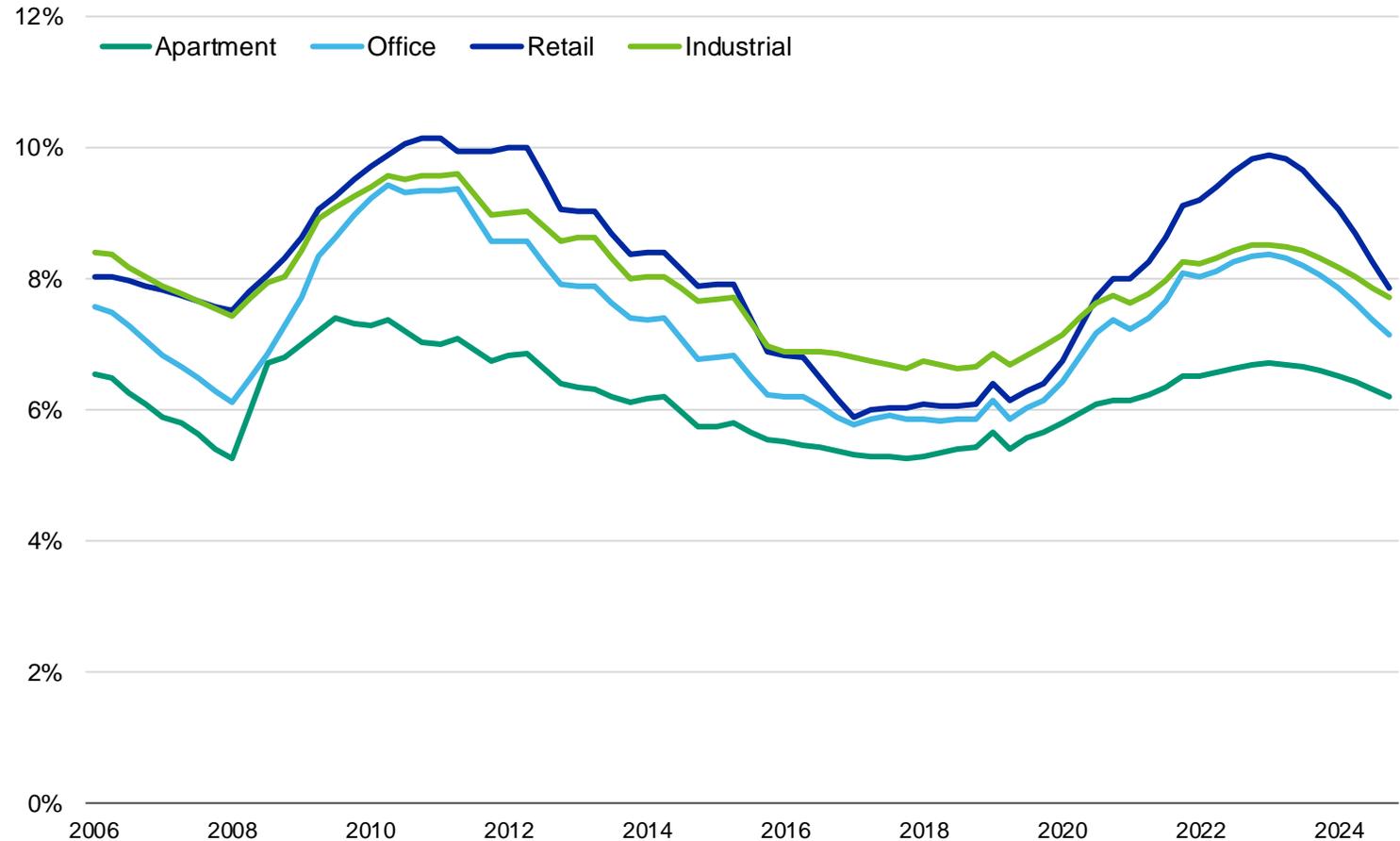


Source: Federal Reserve, U.S. Department of the Treasury

Cap Rate Forecasts

Implied Value Declines for 2020

- » Given major economic distress, expect cap rates to rise over the course of the year.
- » Implied value declines will differ across property types: 7.8% for apartment, 10.2% for industrial, 16.8% for office, and 20% for retail.
- » Within property types, value declines will vary across geographic markets.

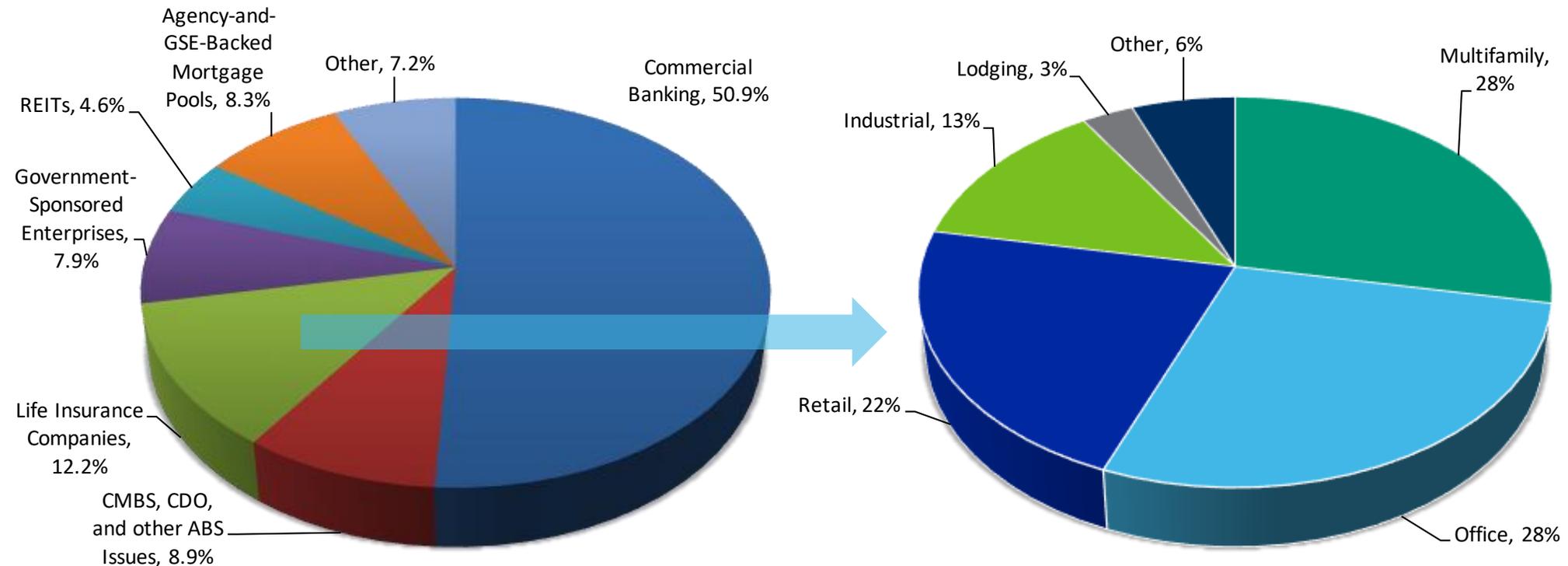


Source: Moody's Analytics REIS

Stress Will Depend on Focus and Footprint

Total MF/CRE Mortgage Debt Outstanding – and the Life Cos

Total and Multifamily Debt Outstanding: \$4.59 Trillion



Source: Federal Reserve, latest data available as of February 2020. Data on the insurance sector from the Mortgage Bankers Association.

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Closing Remarks

Questions from Participants

- » “How often do you update your forecasts? What variables do you monitor to give you a sense of whether your baseline expectations have slid closer towards your (worse) downside scenarios?”
- » “What exactly is the way out of all this, and when do you see distress easing, or the world returning to some semblance of normality?”
- » “Where therefore are the opportunities? Do you see the entrepreneurial attitude of the US or the world changing because of this? Are we going to become more risk-averse?”

Summary & Parting Thoughts

- » Uncertainty around how we handle a global pandemic and what happens next is fueling volatility and speculation.
- » We are facing the worst recession since the Great Depression, and it will happen over a shorter, more intense time frame.
- » The downturn will affect property types differently. Multifamily (affordable) > industrial distribution/warehouse > office > retail. Student Housing will be hit in the short run, but what is the future of Senior Housing?
- » *Duration matters:* How long will it last? Will a high unemployment rate persist, or will rehiring begin at a pace faster than expected?
- » This is not just a particular, local shock: this is a national, global shock.



Thank you!

Quarterly Economic Briefing | First Quarter 2020

May 14, 2020

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