



Quarterly Economic Briefing

Q2 2020

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August 13, 2020

Agenda

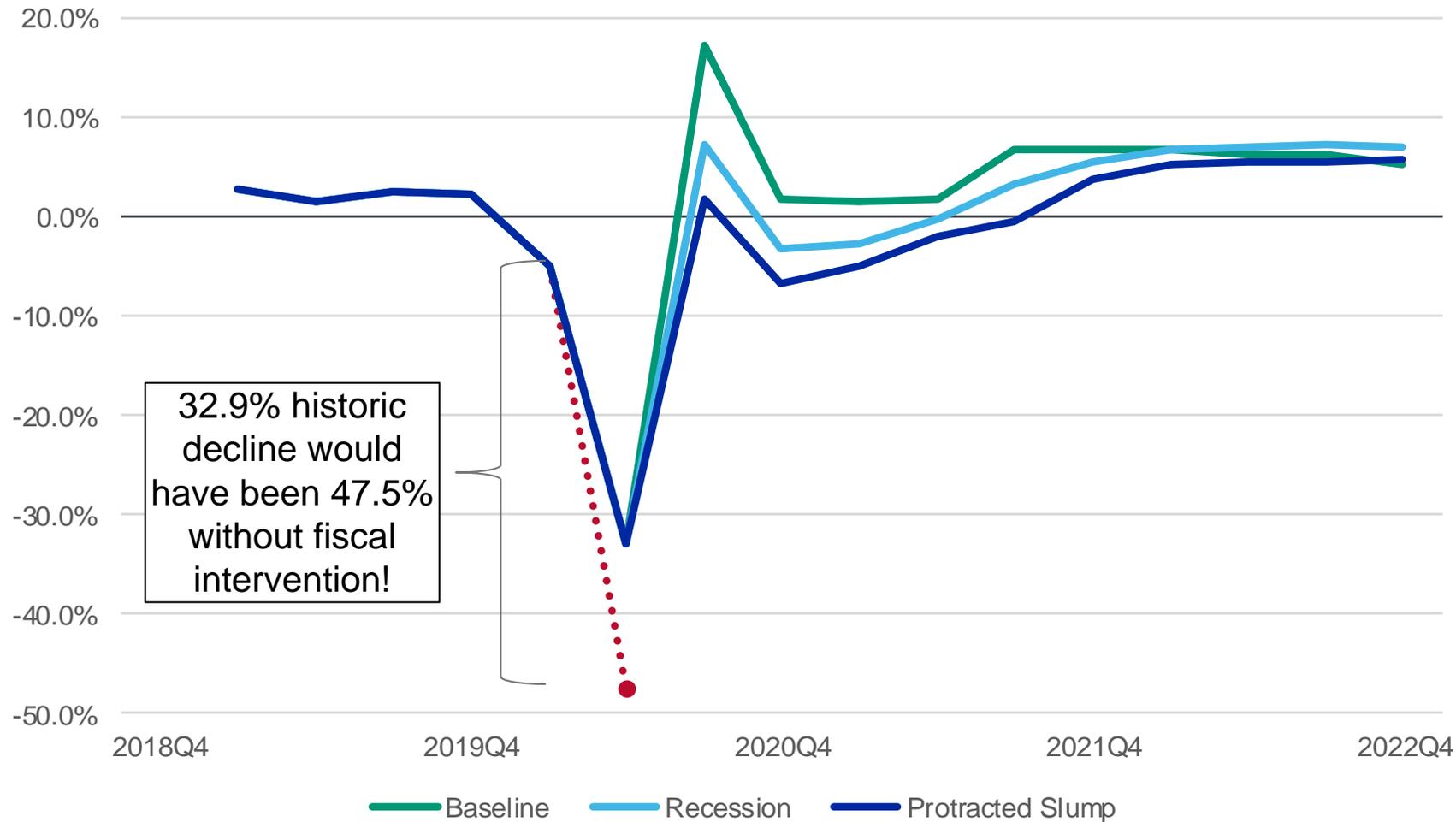
1. Briefing on our near- and intermediate-term economic outlook: have our expectations of recovery trajectory changed?
2. How did properties perform in the most recent quarter/period?
3. Trends in the CRE capital markets, financing issues, and predictions of value declines (and timing).

1

Economic Armageddon
Confirmed – But What is
the Way Forward?

An Historic Recession, An Unprecedented Time

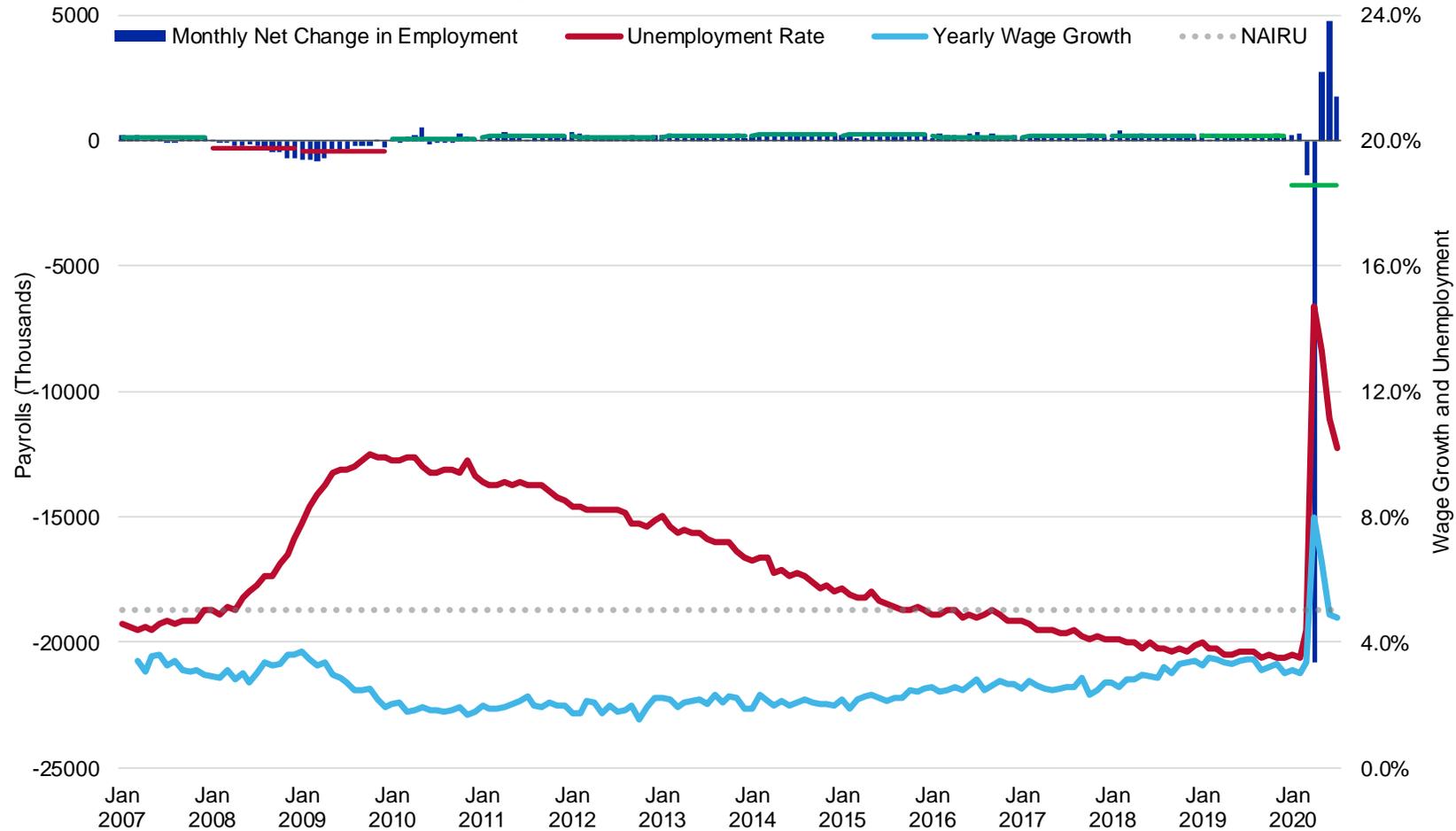
Real GDP, annualized quarter/quarter growth rate



Sources: Bureau of Economic Analysis; Brookings Institution; Moody's Analytics

The Labor Markets Through July

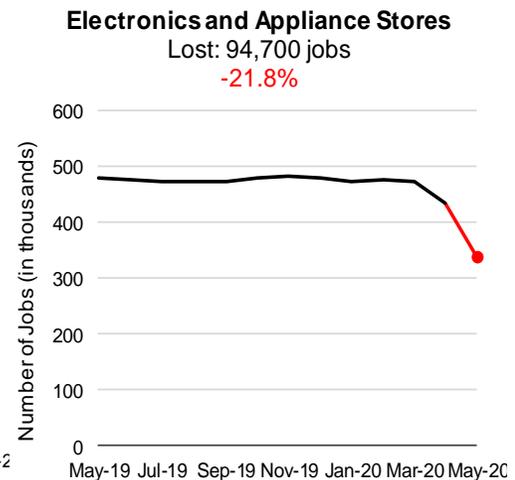
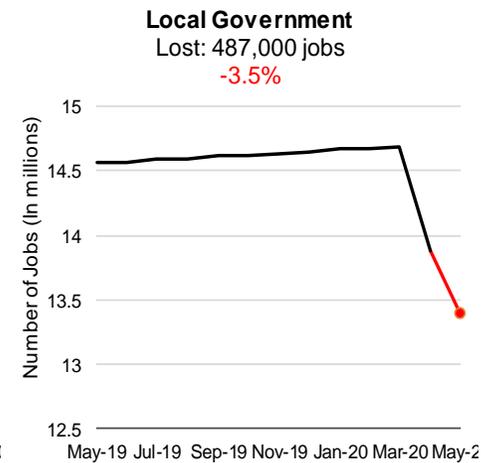
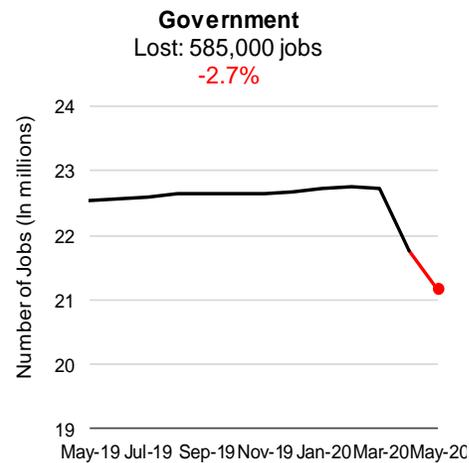
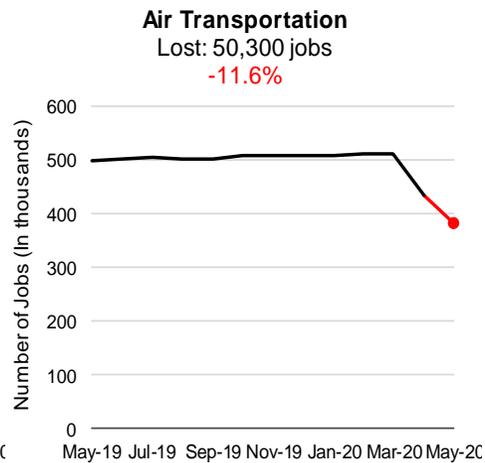
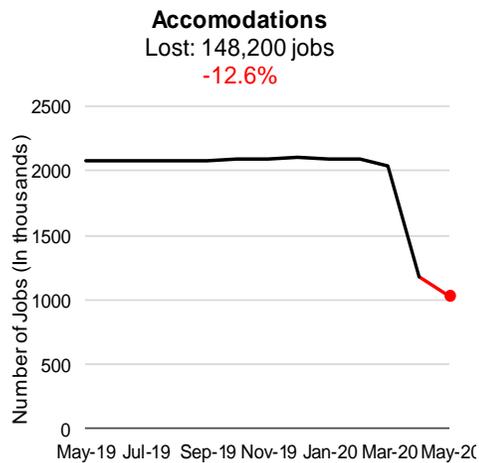
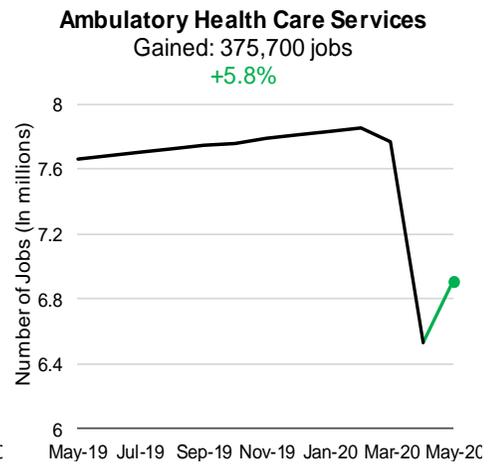
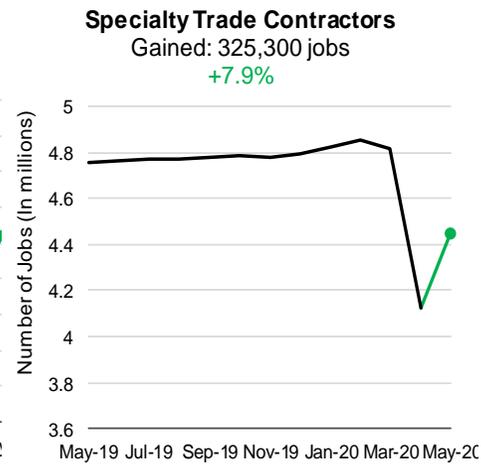
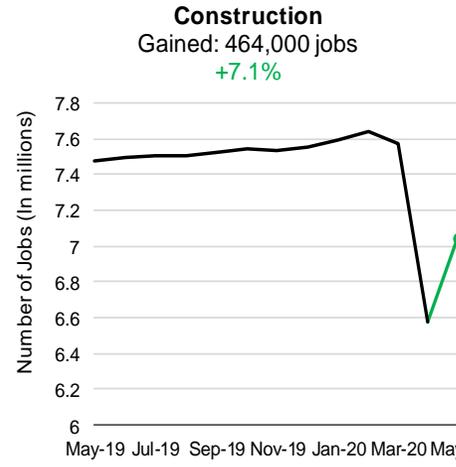
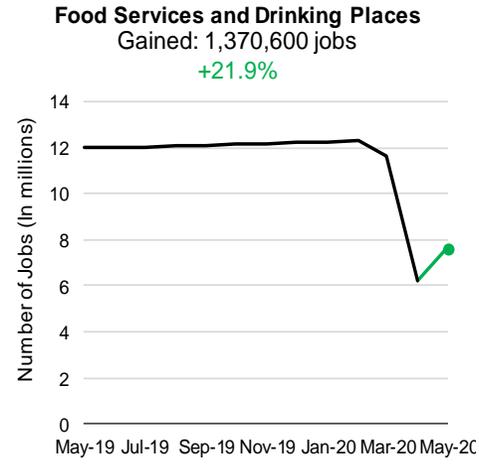
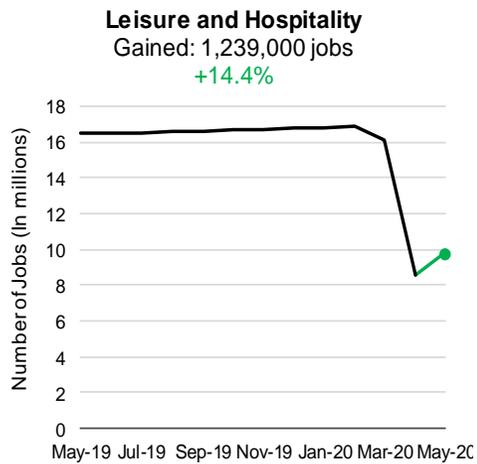
Job Creation and the Unemployment Rate



Sources: Bureau of Labor Statistics; FRED

Jobs Gained, Jobs Lost in May 2020

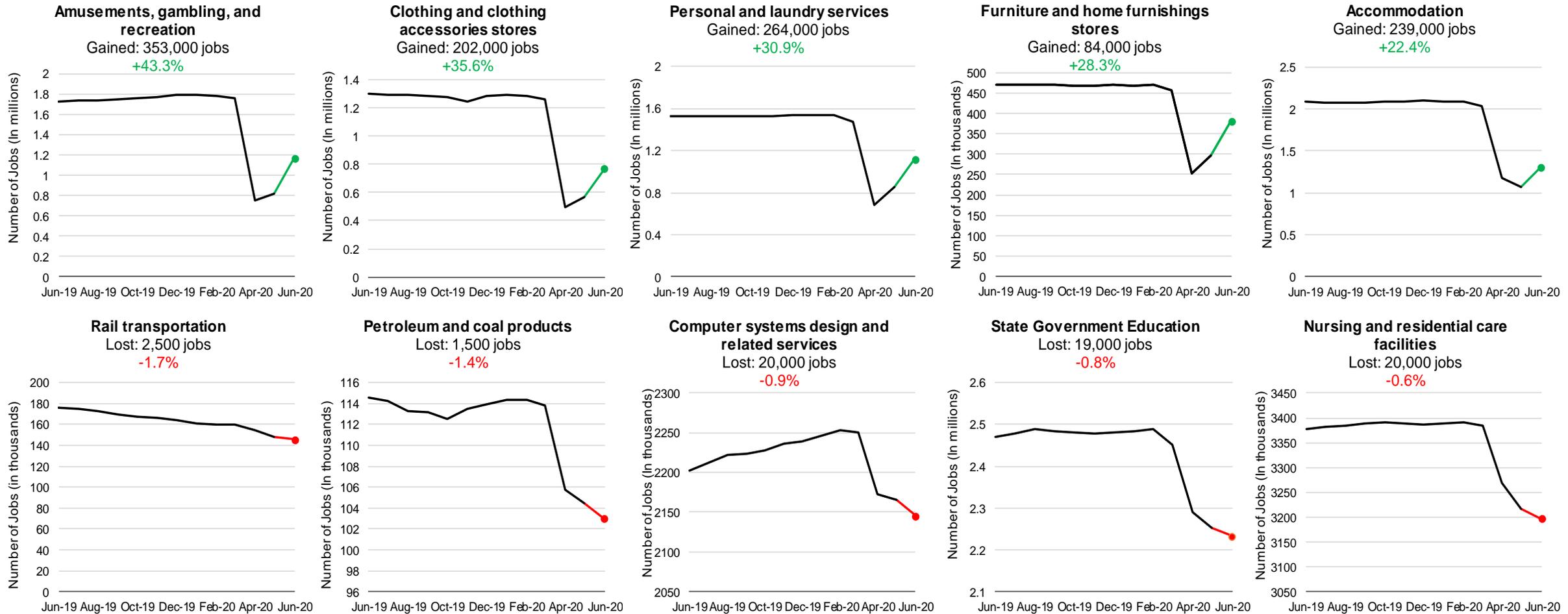
May 2019-May 2020 Job Trends in Line Graph; May 2020 Absolute and Percentage Changes in Captions.



Source: BLS

Job Gains and Losses

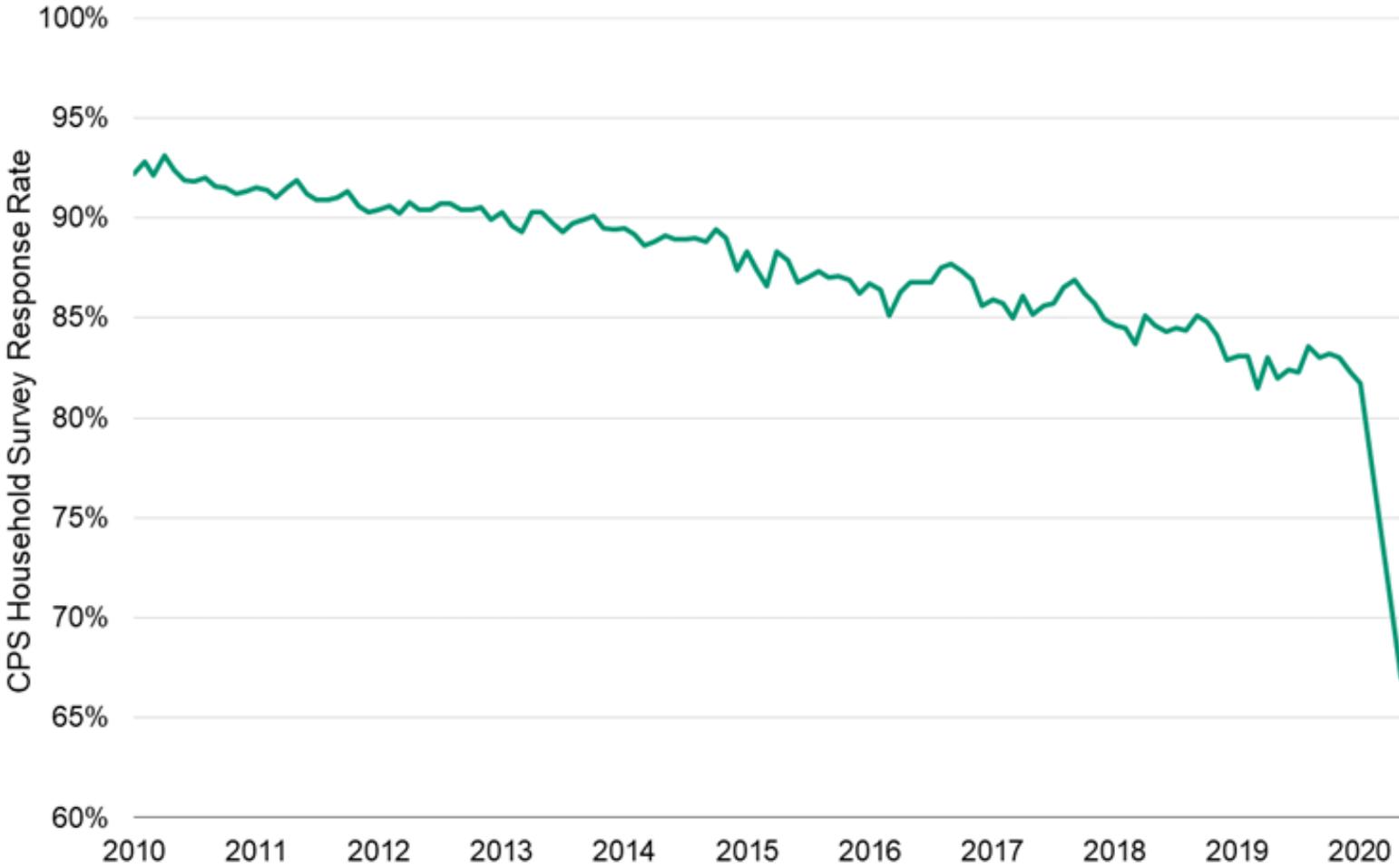
By Industry, June 2019 - June 2020



Source: BLS

Participation Rate Signals Larger Margin for Error

Current Population Survey Participation Rate (Monthly, January 2010 to June 2020)



Sources: Bureau of Labor Statistics

Moody's Forecasts for Employment Change (2020)

MSA/State	Total Employment Change (Projected, 2020)	Share of Leisure & Hospitality Jobs
Las Vegas-Paradise NV	-15.4%	20.6%
Reno-Sparks NV	-12.8%	13.9%
Fort Lauderdale-Pompano Beach-Deerfield Beach FL Metro Division	-10.7%	8.8%
Miami-Miami Beach-Kendall FL Metro Division	-10.6%	8.9%
Prescott AZ	-10.5%	11.8%
Flagstaff AZ	-10.5%	19.6%
New Orleans-Metairie-Kenner LA	-10.4%	10.0%
Phoenix-Mesa-Scottsdale AZ	-10.4%	7.9%
Orlando FL	-10.3%	15.5%
Carson City NV	-10.2%	10.3%
<i>United States - National Average</i>	-7.3%	9.7%

Sources: Moody's Analytics

Moody's Forecasts for Employment Change (vs '08-'09)

MSA/State	Total Employment Change (Projected, 2020)	Actual Employment Change (2008-2010)
Las Vegas-Paradise NV	-15.4%	-9.6%
Reno-Sparks NV	-12.8%	-8.6%
Fort Lauderdale-Pompano Beach-Deerfield Beach FL Metro Division	-10.7%	-5.1%
Miami-Miami Beach-Kendall FL Metro Division	-10.6%	-3.2%
Prescott AZ	-10.5%	-9.6%
Flagstaff AZ	-10.5%	-5.0%
New Orleans-Metairie-Kenner LA	-10.4%	-0.8%
Phoenix-Mesa-Scottsdale AZ	-10.4%	-7.0%
Orlando FL	-10.3%	-4.1%
Carson City NV	-10.2%	-8.4%
<i>United States - National Average</i>	-7.3%	-3.6%

Sources: Moody's Analytics

The Economic Outlook

Key Takeaways for the Rest of 2020

- » The official word: the recession began in February 2020. But because of the unique circumstances surrounding this downturn – this may well be one of the shortest recessions in history.
- » The issue now is the shape and speed of the recovery. Current expectations hold that GDP will contract in 2020 by about 1.75x more than '08-'09's recession.
- » Expect the unemployment rate to remain elevated throughout 2021. As discussed in the prior two slides, employment declines will hit different geographic areas in varying ways.

2

National Market Updates

National Apartment Market

Quarterly & Annual Market Conditions

- » Occupancies remained stable through the second quarter given PPP, eviction moratoria, and no-rent-increase policies in place – but that may be changing already.
- » Asking and effective rents have begun to decline – both falling by 0.4% in the second quarter.
- » Rent collection losses began to spike in July, though still at relatively low levels.

Quarterly

Year	Qtr	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2013	2	\$1,123	0.9%	\$1,078	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%	\$1,123	1.2%	4.3%
2014	3	\$1,183	1.3%	\$1,137	1.3%	4.4%
2014	4	\$1,192	0.8%	\$1,146	0.8%	4.4%
2015	1	\$1,205	1.0%	\$1,158	1.1%	4.2%
2015	2	\$1,226	1.8%	\$1,179	1.7%	4.2%
2015	3	\$1,248	1.8%	\$1,200	1.8%	4.2%
2015	4	\$1,262	1.1%	\$1,212	1.1%	4.3%
2016	1	\$1,274	0.9%	\$1,223	0.9%	4.3%
2016	2	\$1,291	1.4%	\$1,240	1.3%	4.2%
2016	3	\$1,307	1.3%	\$1,255	1.2%	4.1%
2016	4	\$1,313	0.4%	\$1,260	0.4%	4.2%
2017	1	\$1,324	0.9%	\$1,268	0.6%	4.3%
2017	2	\$1,345	1.5%	\$1,285	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	\$1,389	1.2%	\$1,324	1.1%	4.7%
2018	2	\$1,410	1.5%	\$1,343	1.5%	4.7%
2018	3	\$1,431	1.5%	\$1,362	1.4%	4.7%
2018	4	\$1,445	1.0%	\$1,375	1.0%	4.8%
2019	1	\$1,456	0.8%	\$1,385	0.7%	4.7%
2019	2	\$1,477	1.4%	\$1,405	1.5%	4.6%
2019	3	\$1,492	1.0%	\$1,421	1.1%	4.6%
2019	4	\$1,500	0.5%	\$1,428	0.5%	4.7%
2020	1	\$1,506	0.4%	\$1,435	0.5%	4.8%
2020	2	\$1,500	-0.4%	\$1,429	-0.4%	4.8%

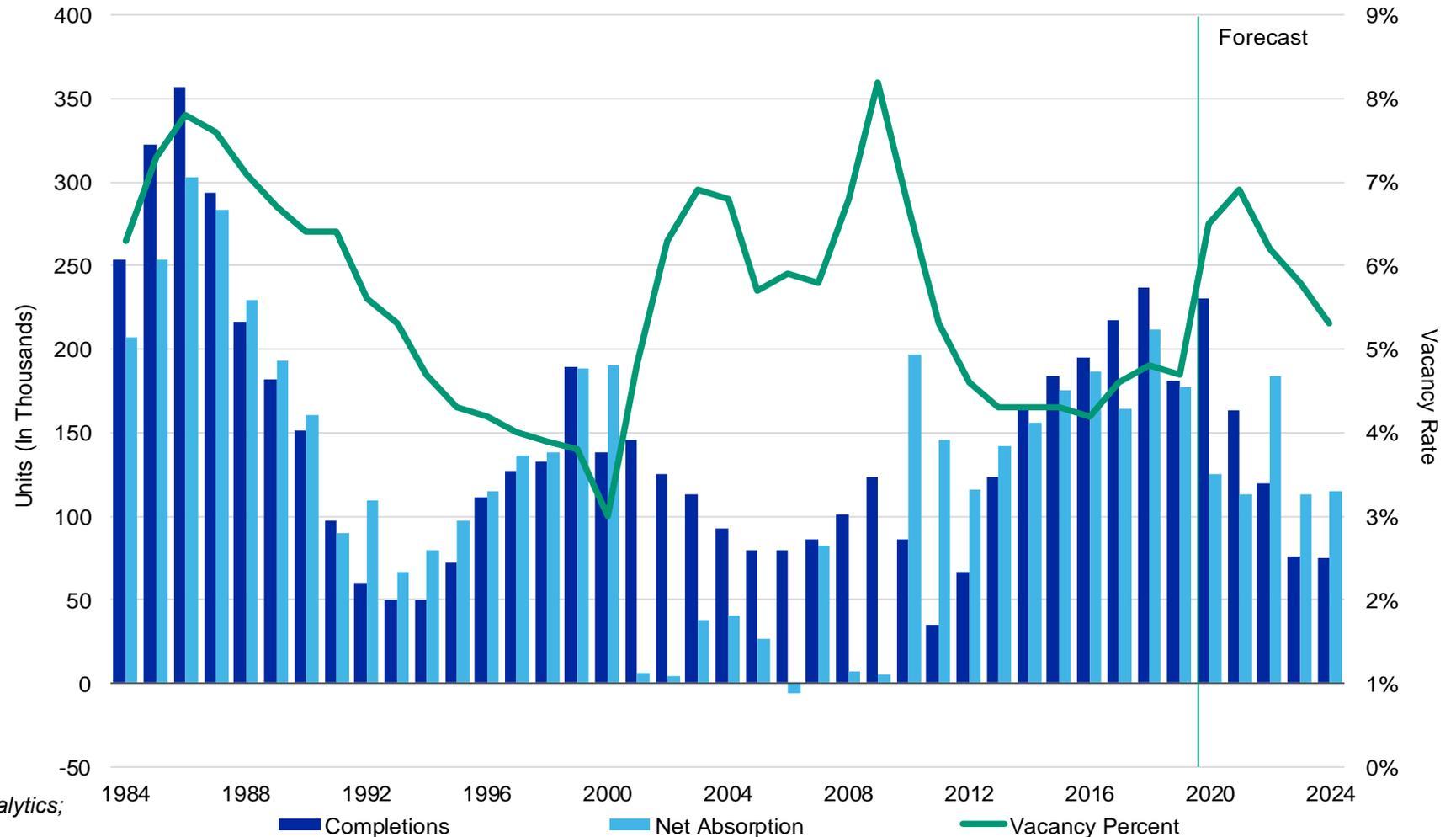
Annual

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%	\$1,019	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%	4.4%
2015	\$1,262	5.8%	\$1,212	5.8%	4.3%
2016	\$1,313	4.0%	\$1,260	3.9%	4.2%
2017	\$1,373	4.5%	\$1,309	3.9%	4.6%
2018	\$1,445	5.3%	\$1,375	5.0%	4.8%
2019	\$1,500	3.8%	\$1,428	3.9%	4.7%
2020	\$1,453	-3.1%	\$1,378	-3.5%	6.4%
2021	\$1,454	0.1%	\$1,378	-0.1%	6.8%
2022	\$1,477	1.6%	\$1,402	1.8%	6.1%
2023	\$1,512	2.3%	\$1,436	2.4%	5.7%
2024	\$1,552	2.6%	\$1,476	2.8%	5.3%

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 occupancies trended flat relative to the first quarter, but asking and effective rents have begun to decline. That is happening with relative rapidity given prior historical experience.
- » The risk is medium- to long-term for the office sector, and there is need for much nuance in the analysis.

Quarterly

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
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	12.2	\$31.02	0.8%	\$25.10	0.8%	16.6%
2015	4	12.7	\$31.27	0.8%	\$25.32	0.9%	16.5%
2016	1	8.2	\$31.57	1.0%	\$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%	\$26.65	0.9%	16.5%
2018	2	1.7	\$33.08	0.7%	\$26.84	0.7%	16.6%
2018	3	4.9	\$33.21	0.4%	\$26.95	0.4%	16.7%
2018	4	9.5	\$33.44	0.7%	\$27.13	0.7%	16.7%
2019	1	4.9	\$33.59	0.4%	\$27.27	0.5%	16.7%
2019	2	4.0	\$33.86	0.8%	\$27.49	0.8%	16.8%
2019	3	9.5	\$34.13	0.8%	\$27.71	0.8%	16.9%
2019	4	14.2	\$34.33	0.6%	\$27.89	0.6%	16.8%
2020	1	-2.2	\$34.47	0.4%	\$28.00	0.4%	17.0%
2020	2	-1.0	\$34.44	-0.1%	\$27.89	-0.4%	17.1%

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	29.0	\$30.24	3.1%	\$24.45	3.2%	16.9%
2015	38.0	\$31.27	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	22.3	\$33.44	2.7%	\$27.13	2.7%	16.7%
2019	32.7	\$34.33	2.7%	\$27.89	2.8%	16.8%
2020	-65.1	\$32.22	-6.1%	\$24.97	-10.5%	19.3%
2021	10.2	\$32.04	-0.6%	\$24.64	-1.3%	19.9%
2022	20.8	\$32.51	1.5%	\$24.98	1.4%	20.0%
2023	41.7	\$33.04	1.6%	\$25.50	2.1%	19.5%
2024	45.6	\$33.63	1.8%	\$26.12	2.4%	19.0%

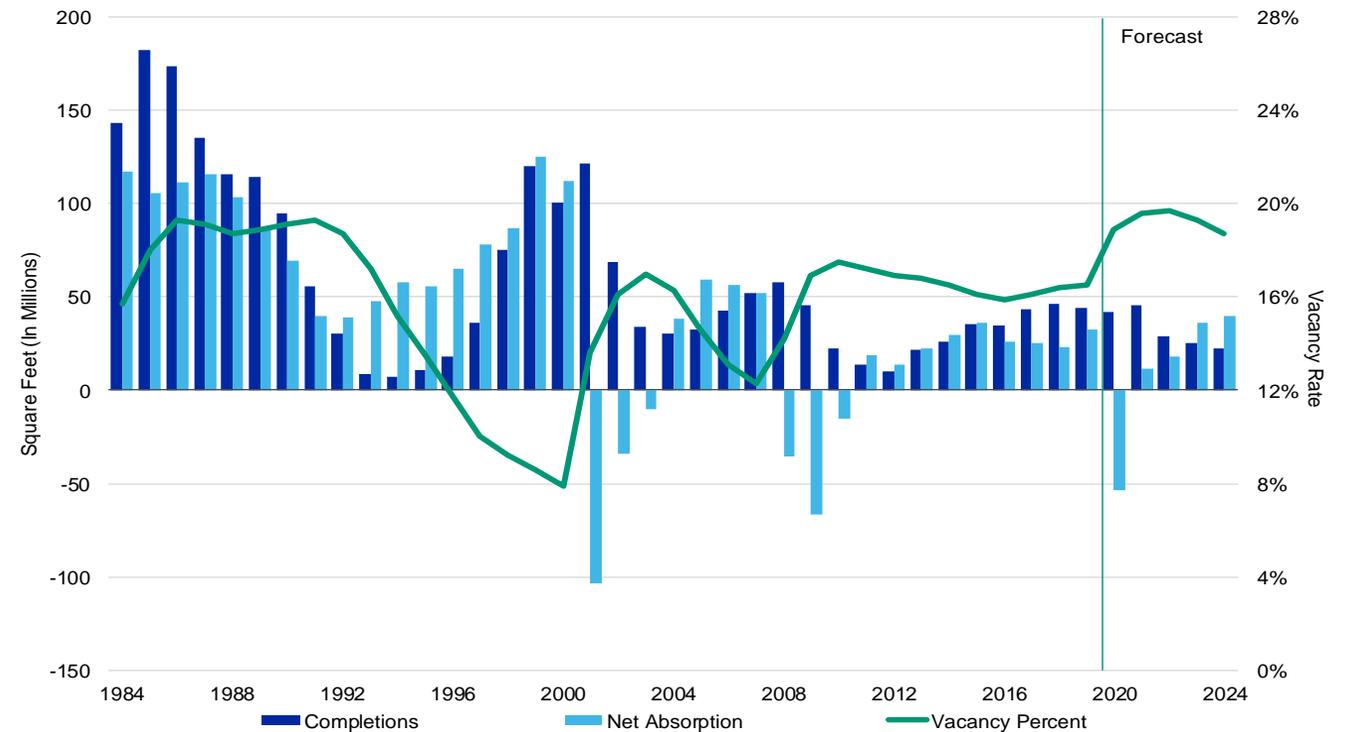
Source: REIS, Real Estate Solutions by Moody's Analytics; 79 of 190 Office Markets

Net absorption figures are in millions of square feet.

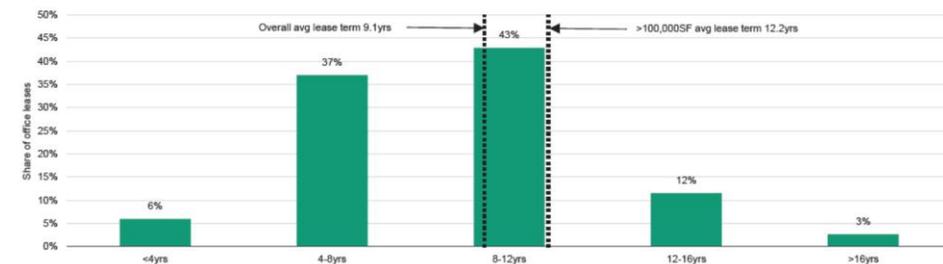
National Office Market

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.



The majority of office lease terms are greater than eight years
Distribution lease terms for US offices of 10,000 SF or more



Sources: Moody's Investor Service, Moody's Analytics, Compstak

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

National Retail Market

Quarterly & Annual Market Conditions



Quarterly

Neighborhood & Community Shopping Centers

Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
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%	\$18.06	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	1.4	\$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	2.1	\$21.46	0.3%	\$18.79	0.3%	10.1%
2019	4	0.6	\$21.48	0.1%	\$18.82	0.2%	10.2%
2020	1	0.9	\$21.51	0.1%	\$18.85	0.2%	10.2%
2020	2	-1.1	\$21.41	-0.5%	\$18.73	-0.6%	10.2%

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	6.3	\$21.48	1.2%	\$18.82	1.3%	10.2%
2020	-30.7	\$19.76	-8.0%	\$16.74	-11.1%	12.6%
2021	-11.5	\$19.53	-1.2%	\$16.53	-1.3%	13.3%
2022	13.9	\$19.61	0.4%	\$16.78	1.5%	12.9%
2023	21.6	\$19.76	0.8%	\$17.09	1.8%	12.1%
2024	21.4	\$20.04	1.4%	\$17.38	1.7%	11.4%

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	2	\$43.70	-0.9%	9.8%

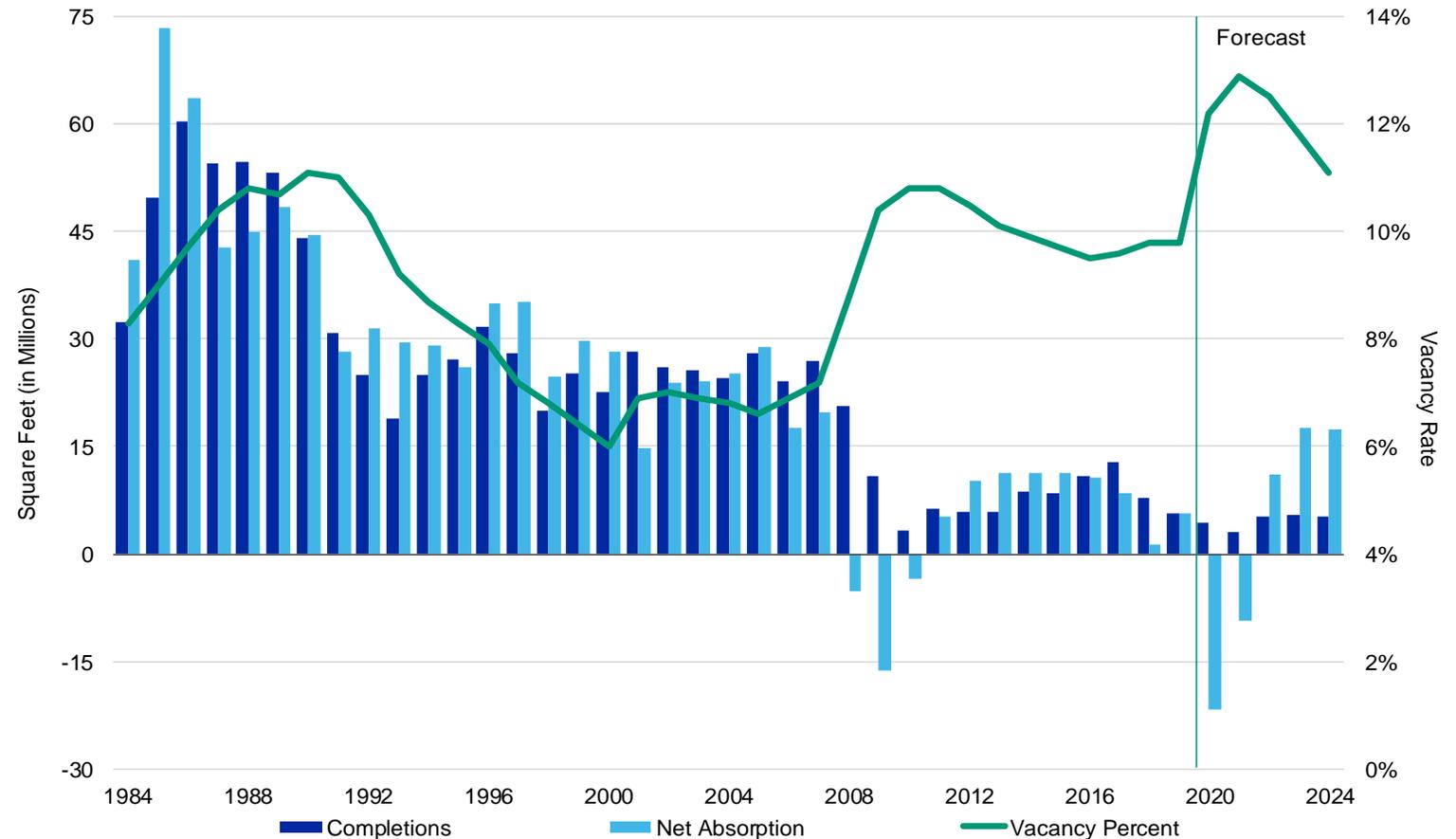
Regional/Super Regional Malls

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

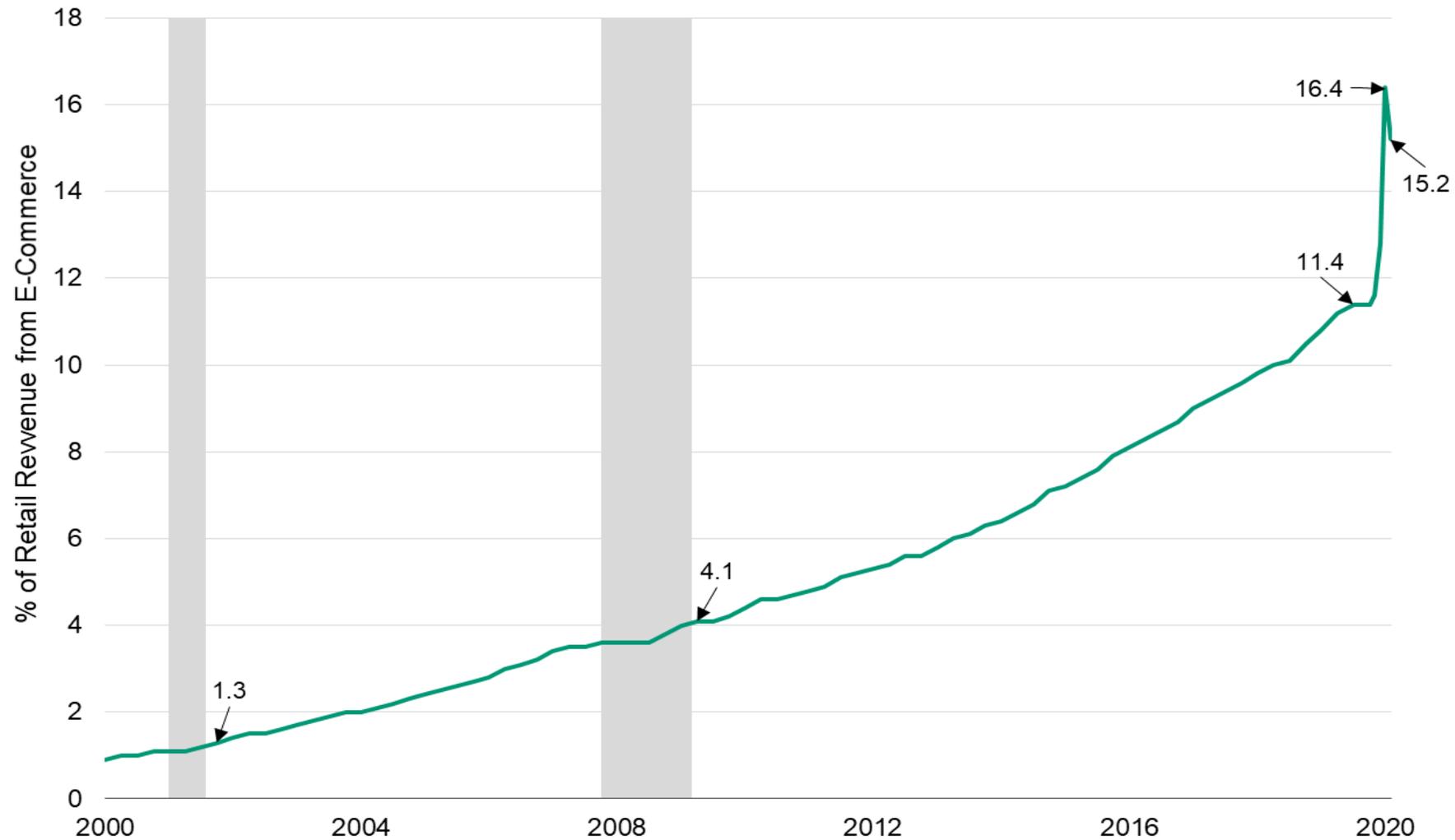
Supply & Demand Trends

- » Retail vacancies expected to break historic highs – up to 13.3% by 2021, more than 200 basis points higher than the prior record from the late 1980s.
- » Rent forecasts are expected to be almost double the magnitude of declines in '08-'09.
- » Conditions were very different from prior downturns: now more than ever, retail brick-and-mortar properties are dealing with an existential threat from a very viable substitute that is gaining greater traction: online commerce.



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

Retail: Evolution, Accelerated

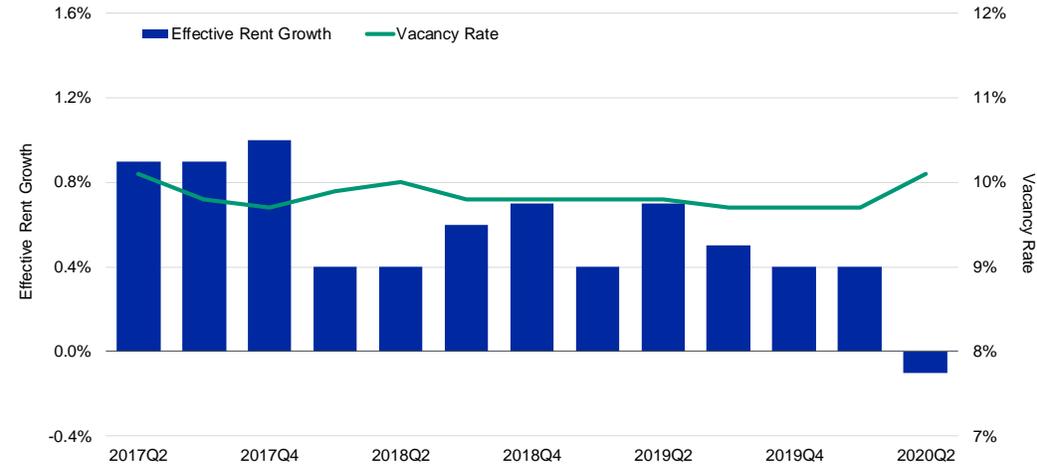


Source: US Commerce Department; *Moody's Analytics*

Industrial: Hit Less Hard (Most Likely)

Flex/R&D

- » Flex/R&D vacancies up by 30 bps in the second quarter to 10.1%.
- » Asking rents *up* by 0.1% but effective rents *down* by 0.2%.



Effective Rent Growth

Vacancy Rate

Warehouse/ Distribution

- » Warehouse/distribution vacancies flat at 10.4% for the second quarter. Effective rents flat (zero growth).
- » Still expect beneficial structural change for this subtype given the rise of e-commerce.



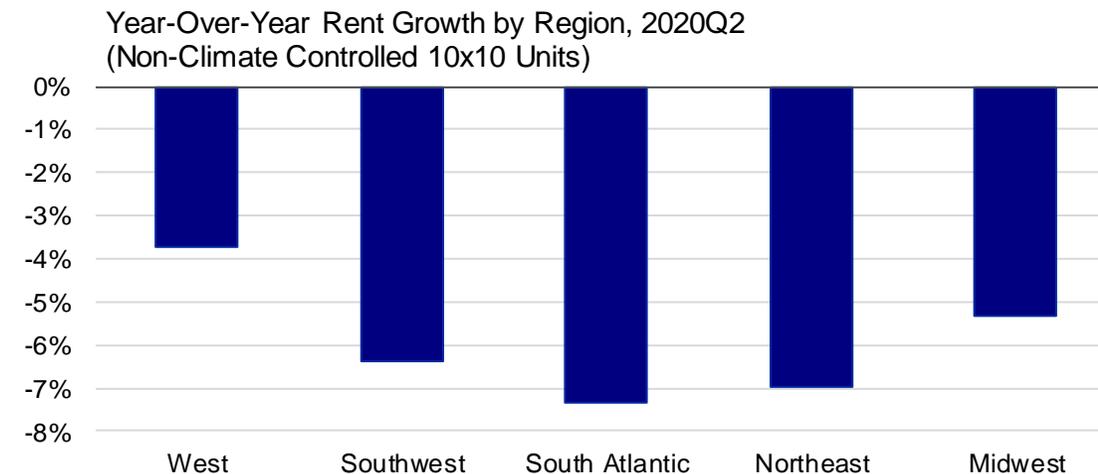
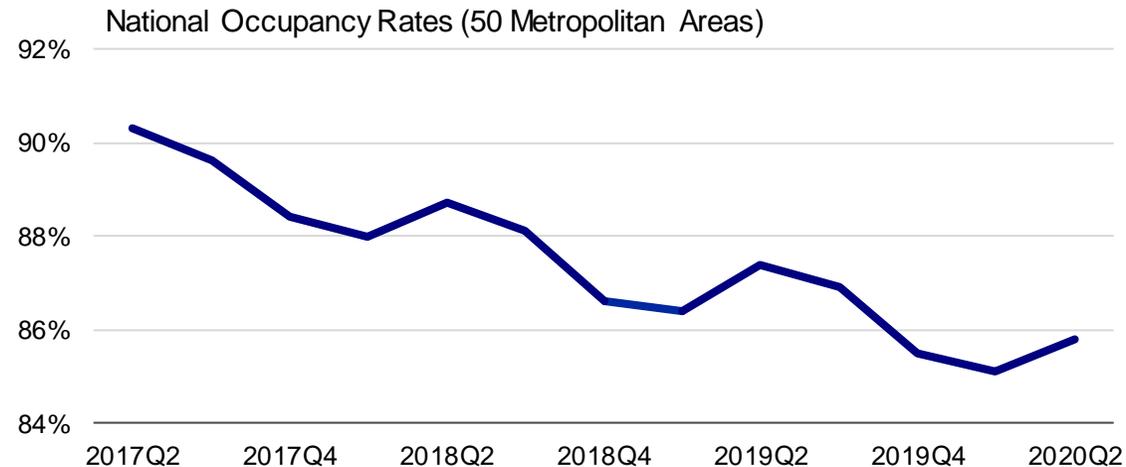
Source: REIS, Real Estate Solutions by Moody's Analytics

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Specialty Sector Updates

Self Storage in the Second Quarter

- » Occupancies *improved* by 70 basis points to 85.8%. While part of that is likely seasonality, we speculate on whether this property type will be a net beneficiary from COVID-prompted structural change.
- » Rents for 10x10 climate controlled units fell by 5.4%, a record decline.
- » Expected supply growth for 2020 has eased relative to its trailing three-year average.



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

Student Housing in the Second Quarter



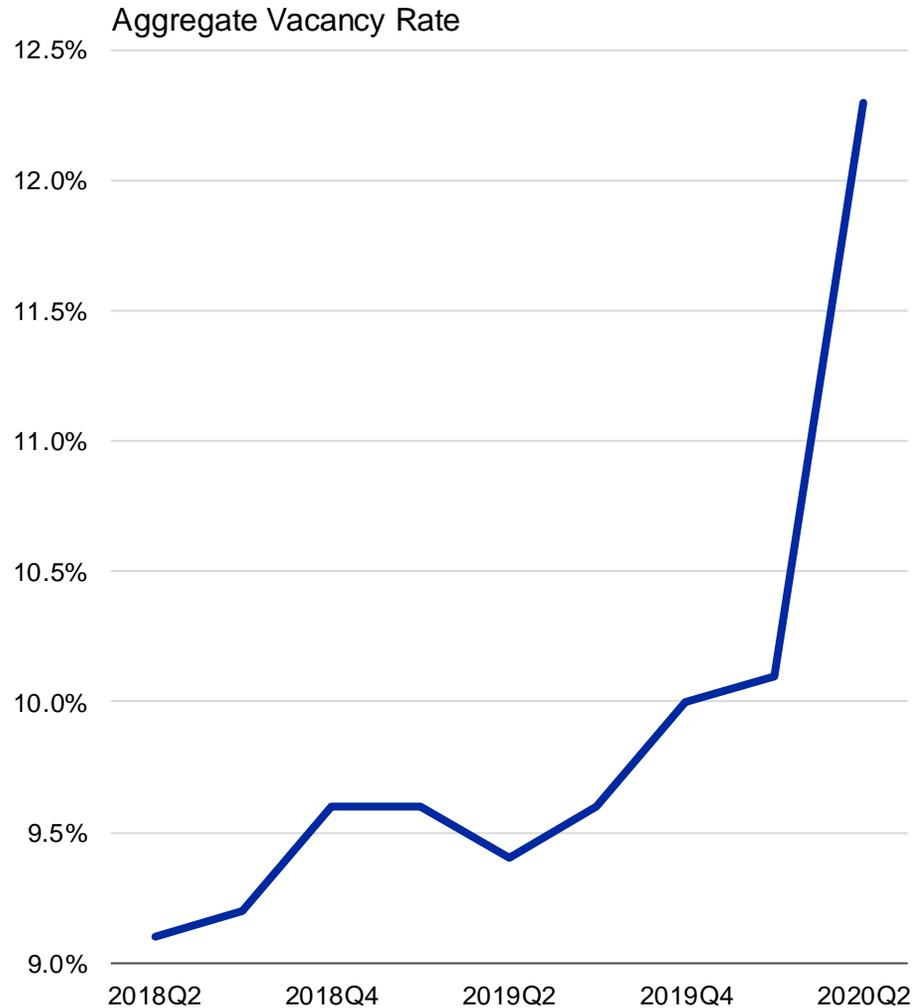
- » Tables present Fall 2019 to Fall 2020 projected changes in vacancy rates and rent growth for subtypes.
- » There remains much uncertainty around school reopenings; whether student housing facilities will be physically occupied over the next few weeks – and whether that will translate into a drop in income for operators.
- » REIS projects a rise in vacancy of anywhere from 80 to 210 bps, and a drop in rents of ranging from 4.5 to 5.6%, conditional on subtype.



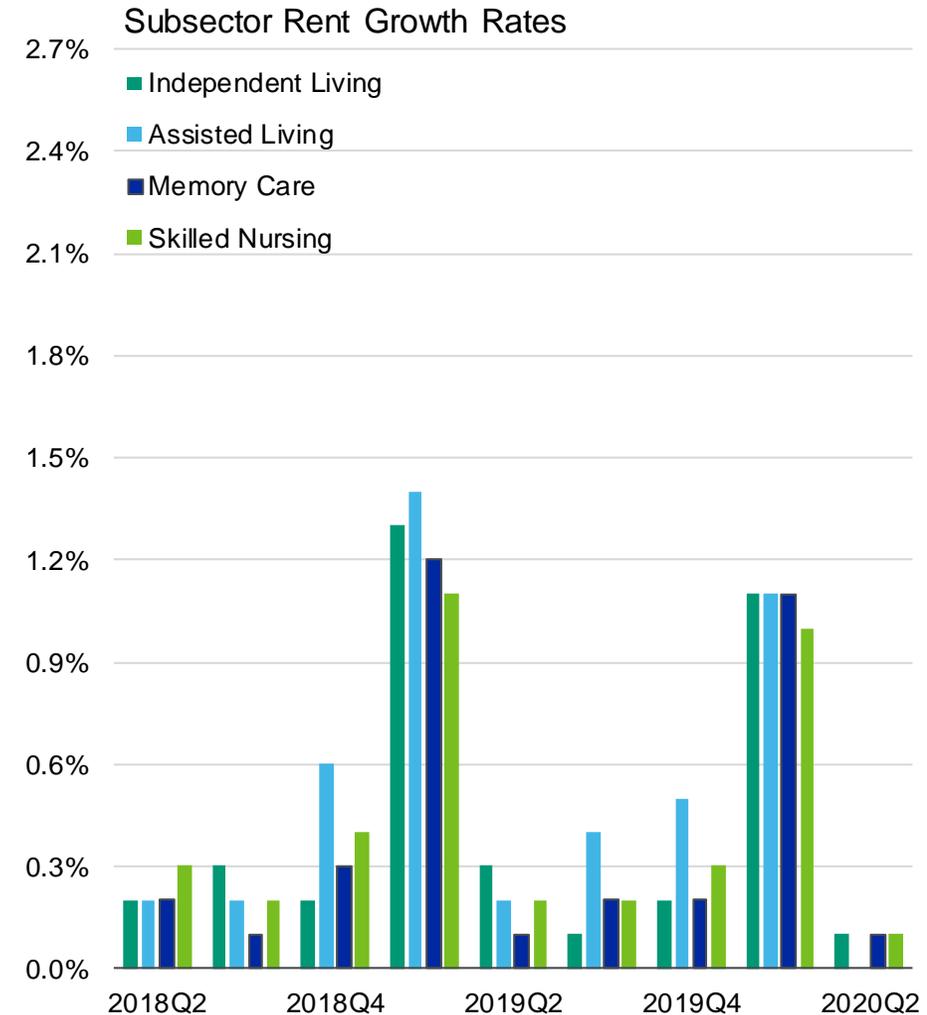
National Student Housing Market, Fall 2019 – Fall 2020				
	Vacancy Rate	Vacancy Chg, BPS	Rent Growth	Inventory Growth
Bed	7.3%	210	-5.6%	2.8%
Unit	3.1%	80	-4.5%	0.8%

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

Seniors Housing in the Second Quarter

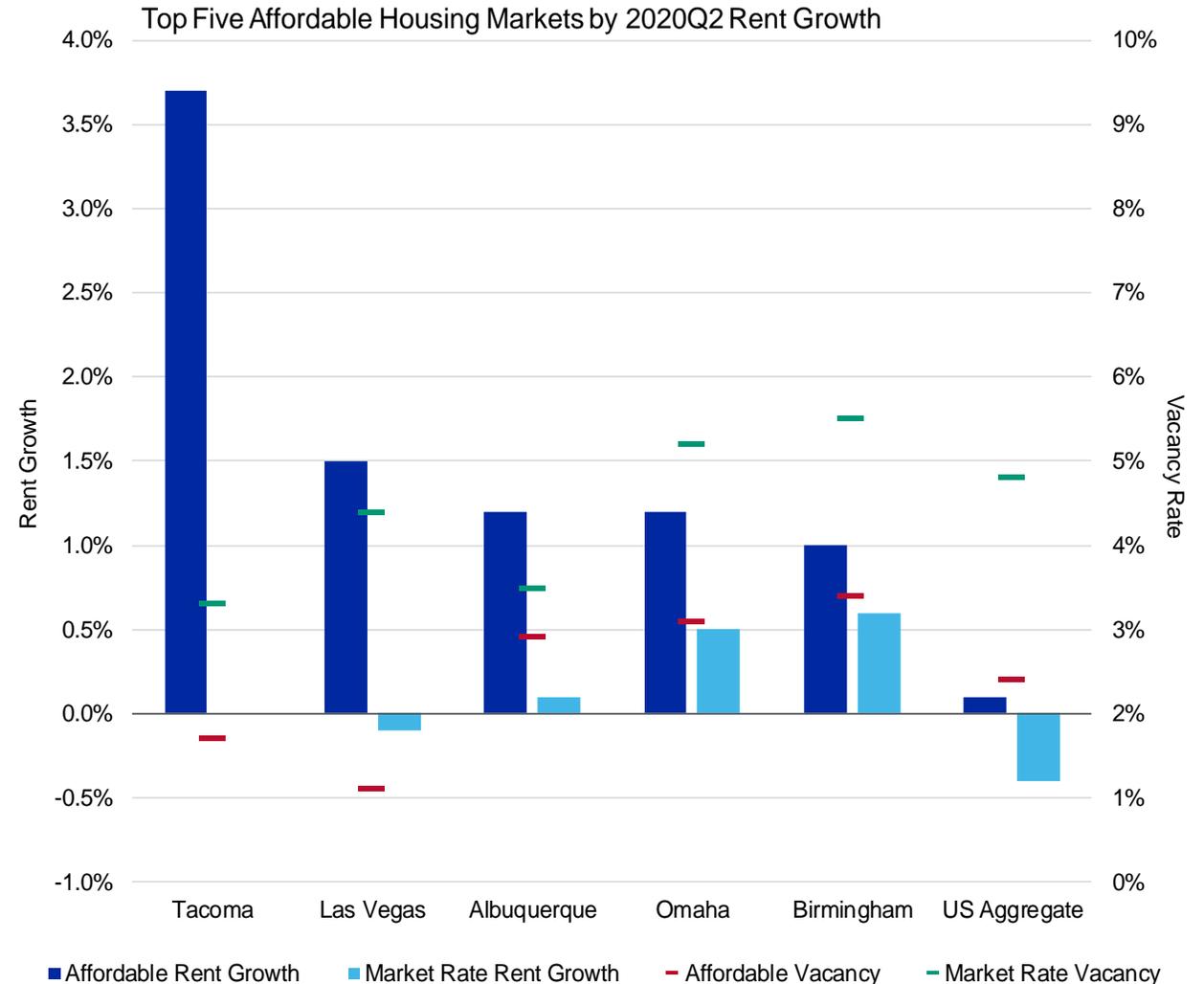


Source: REIS, Real Estate Solutions by Moody's Analytics



LIHTC in the Second Quarter

- » Performance metrics remain tight for LIHTC markets, with vacancies actually improving by 10 basis points to 2.4% in the second quarter.
- » Construction was not suspended for affordable housing, even in places that deemed construction in general as non-essential during the months of March to May.
- » Note how in Las Vegas, LIHTC rents *grew* by 1.5% in the quarter while market rate rents fell by 0.1%.



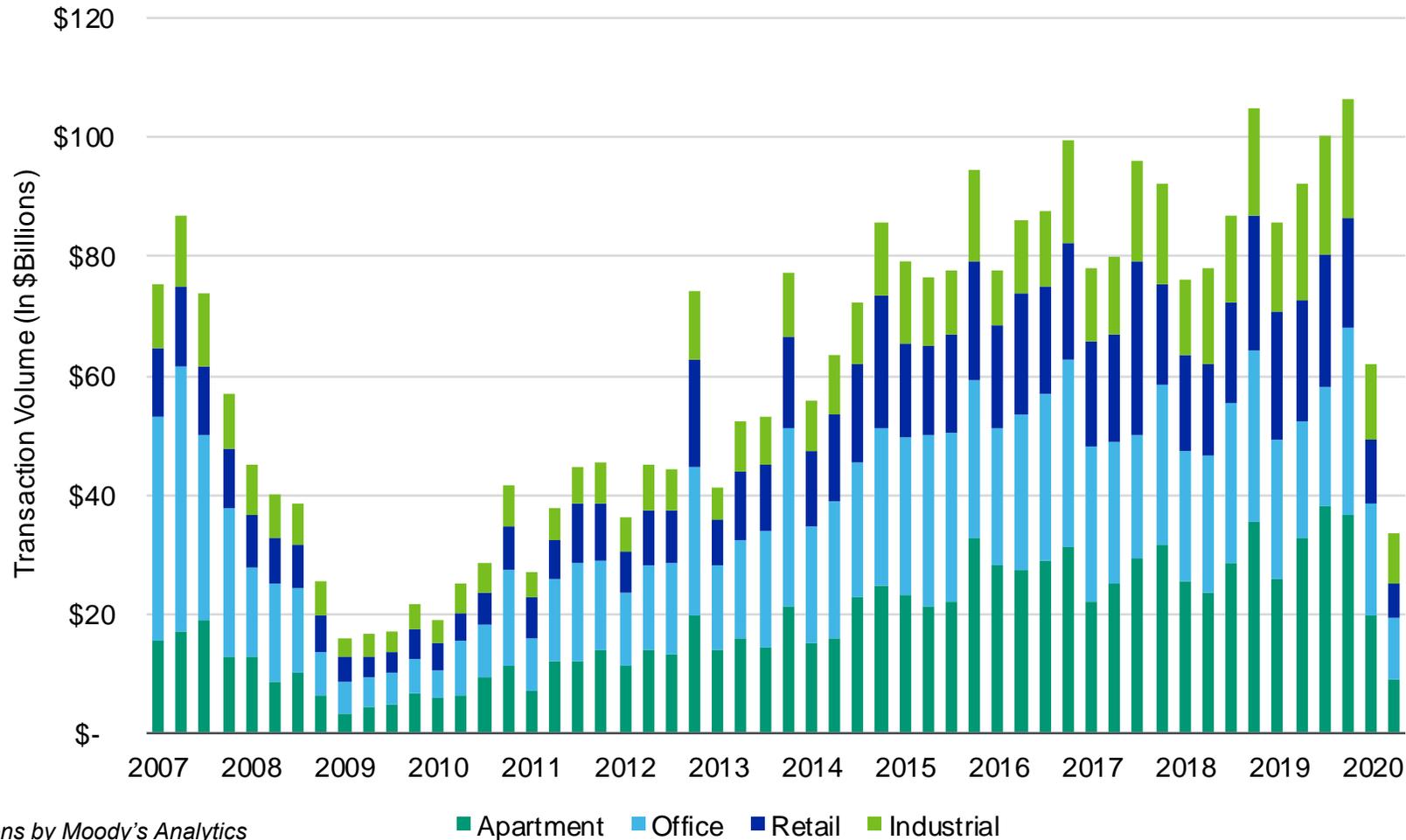
Source: REIS, Real Estate Solutions by Moody's Analytics

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CRE Capital Markets

Transaction Activity Down (Again)

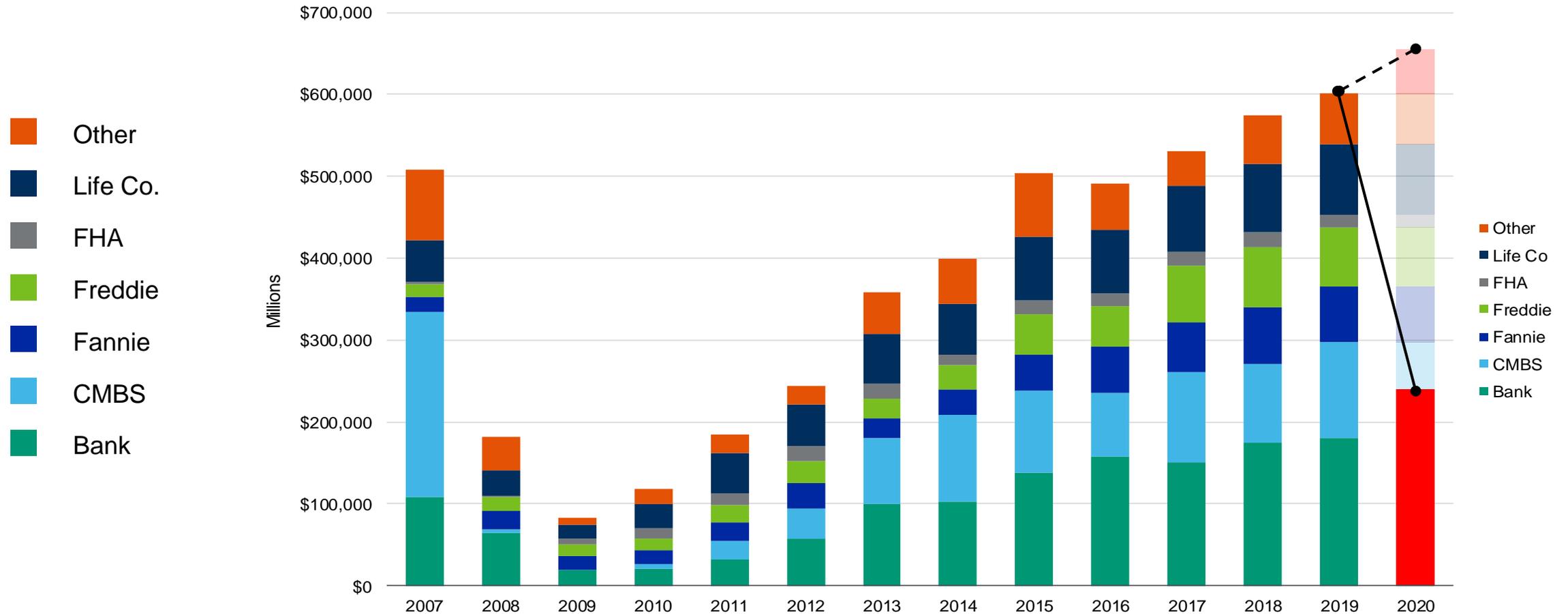
Compare and contrast this with 2008-2009



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

Expected Originations Volume

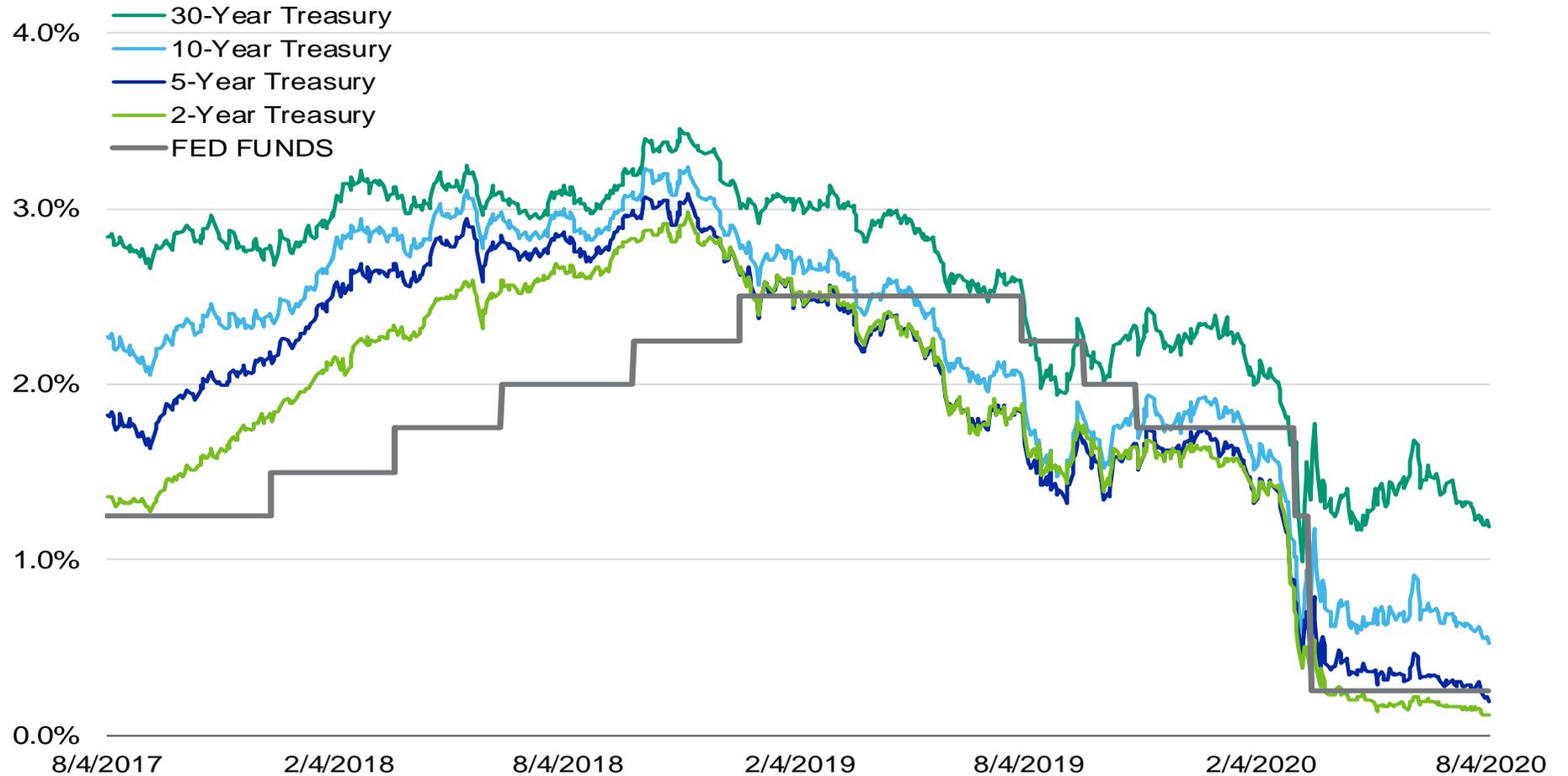
Multifamily + CRE issuance volume, by year



Source: Mortgage Bankers Association

Interest Rates

Daily, August 2017 – August 2020

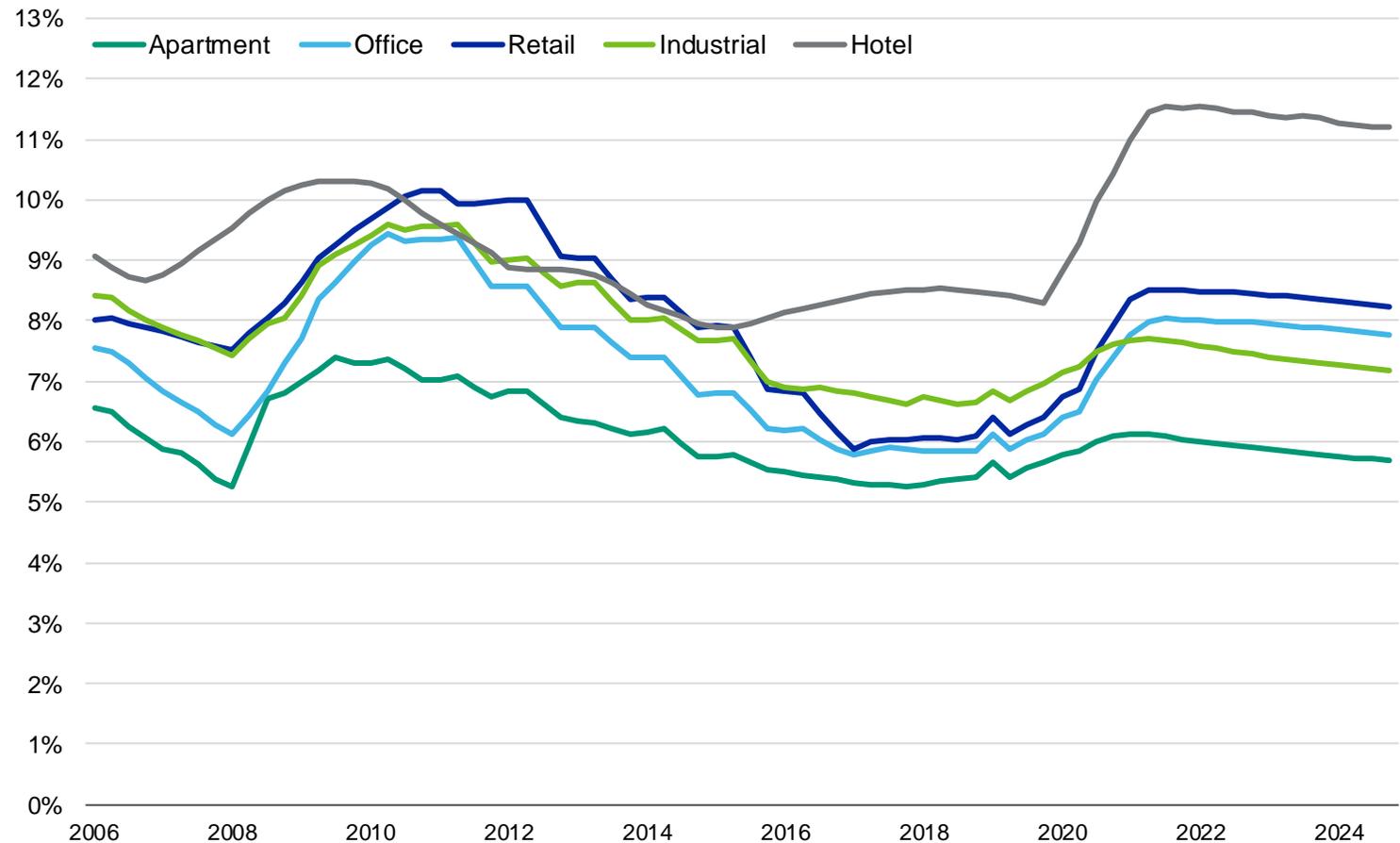


Source: Federal Reserve, U.S. Department of the Treasury

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% for apartment, ~9% for industrial, ~17% for office, ~19% for retail, and ~21% for hotel.
- » So why are deals not happening?
- » *Interest rates and cap rates do not move in direct proportion to each other, all the time. It is highly dependent on the business cycle.*



Source: Moody's Analytics REIS

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Closing Remarks

Questions from Participants

- » “How does all of this translate to expected credit losses? Do you have predictions or scenarios for that?”
- » “Are you anticipating that further government support is forthcoming? Won't we reach a point where we'll offer so much support (how in the world are we even affording all of these trillions of dollars we're spending) that we're basically mortgaging our children's future?”
- » “What needs to happen before we get back to some semblance of normal?”

Summary & Parting Thoughts

- » Uncertainty levels remain high, fueling the divide between equity markets that are anticipating recovery and the real economy that is climbing in an uneven fashion out of a very deep hole.
- » Performance metrics like occupancies and rents appear deceptively stable in the second quarter, but that is due to several complicating factors. Income-generating assets, however, will not escape this historic downturn unscathed.
- » Distress is absolutely already showing up in measurable ways in the CMBS markets.
- » Even more critical to identify, analyze, and present innovative data sets and engage in a mutually beneficial conversation, given the unprecedented nature of this situation.



Thank you!

Quarterly Economic Briefing | Second Quarter 2020

August 13, 2020

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