

ANALYSIS

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COVID-19 and California Property Markets

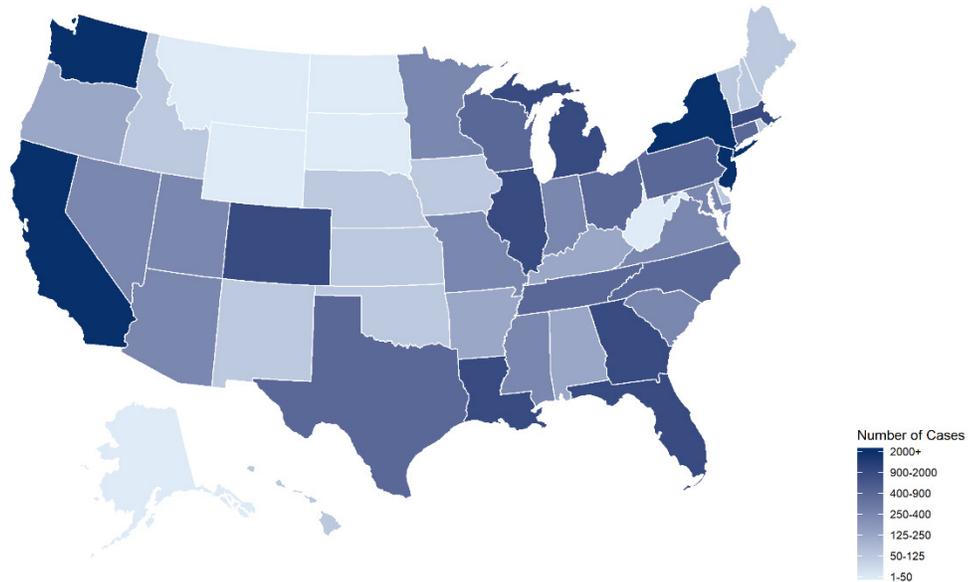
An Analysis of Pandemic Scenarios, Property Types, and Geographic Markets

Introduction

On March 26, the United States overtook China as the country with the most identified cases of COVID-19. Though there is some dispute about data accuracy across places, it cannot be denied that the coronavirus pandemic has now spread at an alarming rate around the world.

In the United States, concentration risk is apparent. COVID-19 cases in four states (New York, New Jersey, California, and Washington) add up to approximately two-thirds of all cases nationwide.

Figure 1 Number of Confirmed Cases by State



Source: US Center for Disease Control and Prevention (data as of March 27, 2020)

It is not a coincidence that cities like New York, Los Angeles, and Seattle are among the epicenters of the outbreak.¹ Paradoxically, the very same characteristics that make these cities such vibrant, desirable places to work and live—a diverse set of businesses, cultural centers, and institutions co-located in proximity to one another; robust trade and tourism—are also predisposing them to the spread of COVID-19. Proximity, frequent contact, and large groups of people traveling via public transportation (in New York’s case) set the stage for the high number of cases being identified in these places.

Economic Transmission Channels

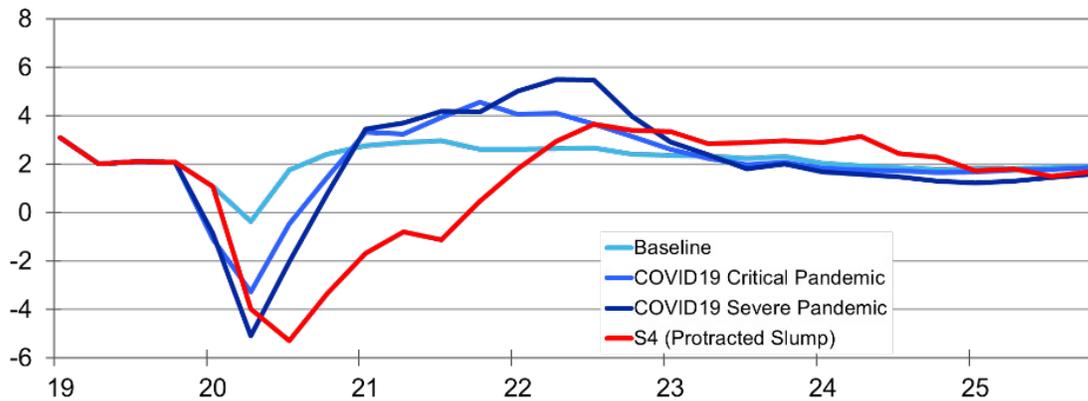
How are the effects of COVID-19 transmitted through economic channels? The five main channels are:

- » Tourism: think about places dependent on leisure and hospitality for economic activity, and how property types like hotels will be affected.
- » Trade: a measure of openness and the frequency of interaction.
- » Commodity prices: this captures large swings in economic activity—think about how demand and supply of basic goods in groceries have changed over the last four weeks.
- » Financial markets: recent volatility reflects a large divergence of expectations about whether various asset prices will rise or fall (and by how much).
- » Confidence: measures of consumer confidence in particular signal the immediate future of *consumer spending*, which makes up a large proportion of US GDP.²

During this time of uncertainty, one approach is to attempt to *bound* and *quantify* downside risk using economic scenarios. Moody’s Analytics economics scenarios provide a range of possibilities, so for this paper’s analysis specific to California markets, we will focus on the *Severe Pandemic* scenario and the *Protracted Slump* scenario.³ Figure 2 below shows that these are among the worst downside scenarios, considering both a situation where the economy reopens later this year (*Severe Pandemic*), and a scenario where the economy continues to contract until the third quarter of 2021 (*Protracted Slump*).

Figure 2 Economic Scenarios, Pandemics, and a Protracted Slump

Annualized GDP Change | Quarterly Basis



Source: Moody’s Analytics

¹ As of March 26, 2020, New York City recorded over 20,000 confirmed cases—over a quarter of all confirmed cases in the United States so far, according to county-level reports compiled by the CDC.

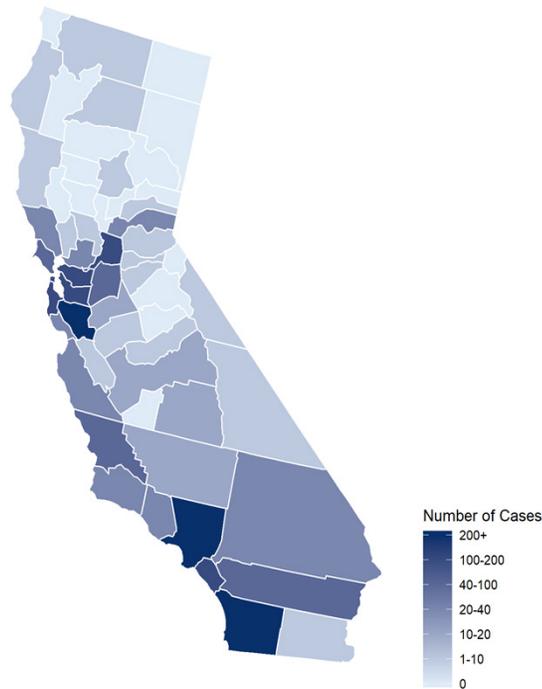
² Moody’s Analytics Deputy Chief Economist Cris DeRitis discussed COVID-19 economic transmission channels and our approach to scenario forecasting in a webinar on March 19. Replay available upon request.

³ We discuss details for various markets around the country—not just California—in this paper (available upon request): “How Bad Can It Get? COVID-19 and The Outlook for CRE” (March 19, 2020).

The California Situation

What is the COVID-19 situation like in California? Numbers are changing daily, but much like the state-level map for the nation as a whole, we can see that identified cases cluster in specific counties.

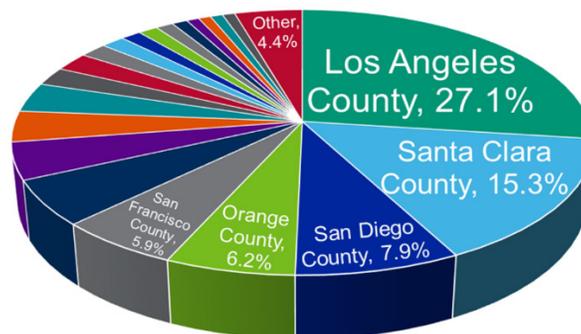
Figure 3 Number of Confirmed COVID-19 Cases by County (California)



Source: US Center for Disease Control and Prevention, March 26, 2020

Los Angeles (799), Santa Clara (458), San Diego (238), Orange (187), and San Francisco (178) counties rank as the top five across all 58 reporting counties. The rest look more like a smattering but again, there is much debate around the amount of testing being done, and how prevalent this virus is.

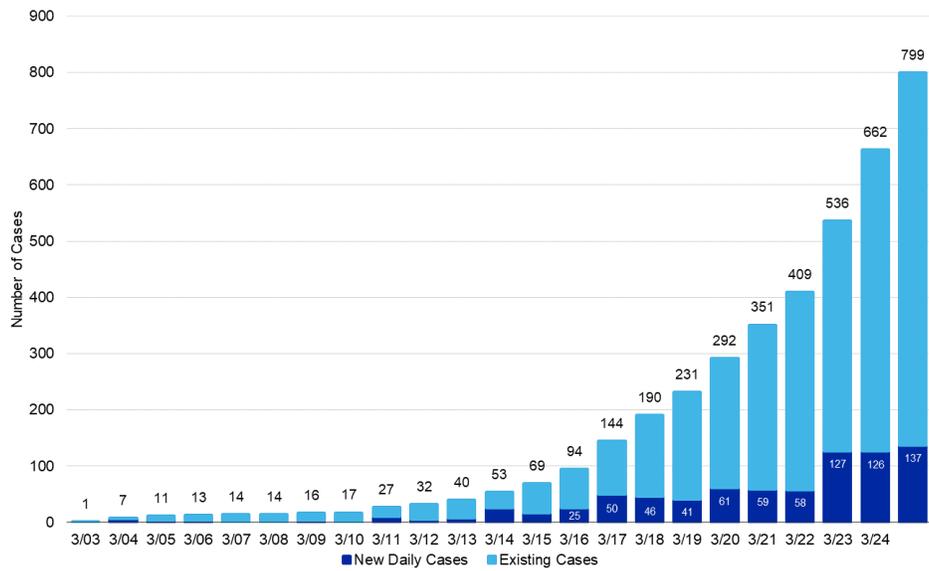
Figure 4 Share of COVID-19 Cases in California, by County



Source: US Center for Disease Control and Prevention, March 26, 2020

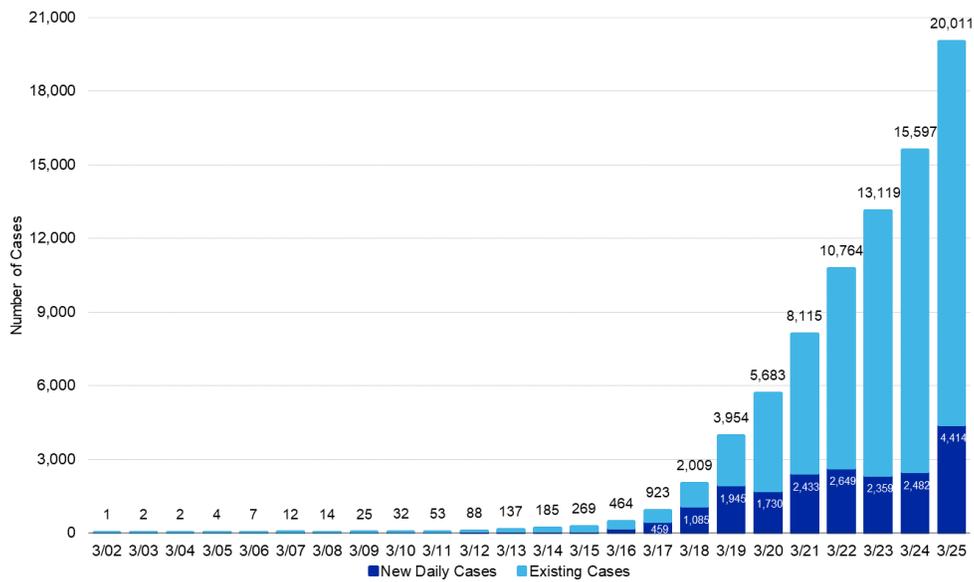
If we focus on *daily* data for Los Angeles County, the exponential spike in the number of cases looks worrisome—but not at all different from what we are seeing in other areas. The absolute numbers, for example, are different, but compared to the spike in cases for New York the daily increases look eerily similar.

Figure 5 Daily Cases of COVID-19 (Los Angeles)



Source: Los Angeles County Department of Health, March 26, 2020

Figure 6 Daily Cases of COVID-19 (New York City)



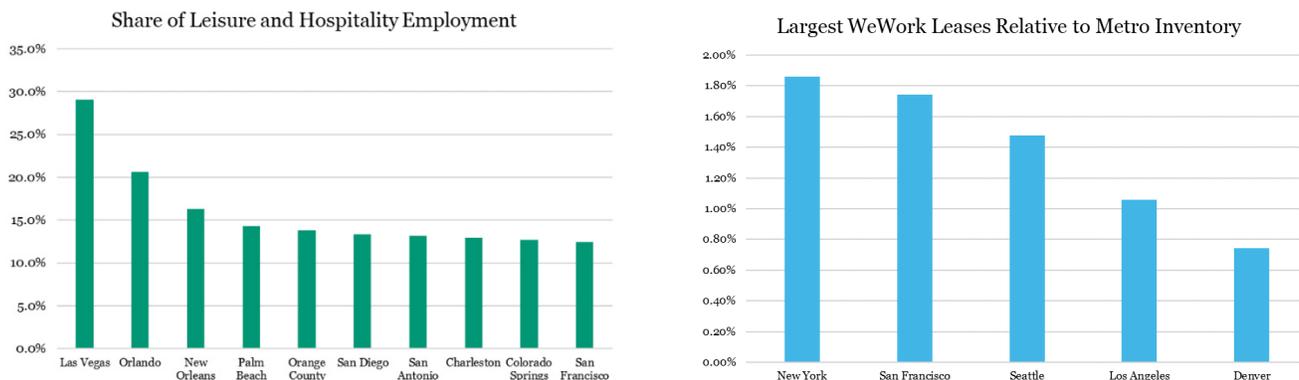
Source: New York City Department of Health, March 26, 2020

How does the outlook for COVID-19 cases link up with our economic scenarios for the near future? How do we translate these projections to specific geographic markets and property types in California?

California Property Markets

The biggest risk—and data was still coming in as we finalized this paper—will be to properties with shorter leases. As we wrote in a paper⁴ published March 3, expect markets with a larger share of leisure and hospitality jobs to be hit correspondingly harder, as both business and personal travel is shut down. Similarly, co-working, though a recent trend, might be at risk given that these are not long-term office space leases, but rather shorter-term leases to smaller firms that might not have the resources to survive the current social distancing policies in play, however short term they may be.

Figure 7 Leisure/Hospitality and Co-Working at Risk



Source: Moody's Analytics; Moody's Analytics REIS; CompStak

The charts above identify Orange County, San Diego, and San Francisco as among the markets at risk with the leisure and hospitality segment; and San Francisco and Los Angeles as among the top five markets by share of WeWork leases (as a proxy for penetration of the co-working phenomenon). It is worrisome that these very same markets are among the top five counties for COVID-19 cases in California.

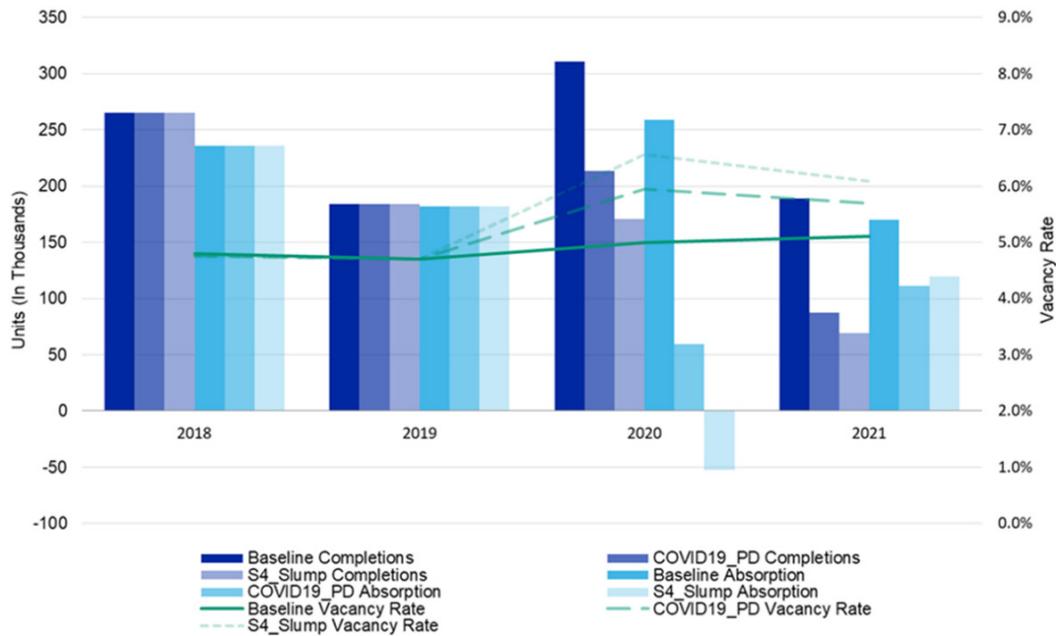
How should we apply scenario analysis to multifamily and commercial real estate, in general? We receive news daily about record unemployment claims, industries asking for bailouts, and other headlines that may prompt fear and panic—but how does it all translate to nuanced, rigorous projections for how bad things can get for specific property types and geographic markets?

Countervailing Effects and Nuanced Analysis

In Figure 8 below, we chart out three different scenarios for multifamily (first, at the national level, as an illustration). Refer to the *baseline*: Before the outbreak erupted, we were expecting over 300,000 units of new completions at the national level for the apartment sector this year, 2020. That is the highest figure in over 20 years, and it is reflected in the *tallest* dark blue column you see on the chart on the right. We then updated our multifamily forecasts based on two scenarios: the *Severe Pandemic* scenario, which has GDP falling by close to 2.0% in 2020 before recovering the following year, and the *Protracted Slump* scenario, where GDP slides until the third quarter of 2021, approximating the 4% decline we experienced during the Great Recession.

⁴ "Peak Uncertainty: The Possible Effect of COVID-19 on US Multifamily and Commercial Real Estate" (March 3, 2020) – available upon request.

Figure 8 Severe Pandemic and Protracted Slump Scenarios (Multifamily)



Source: Moody's Analytics REIS

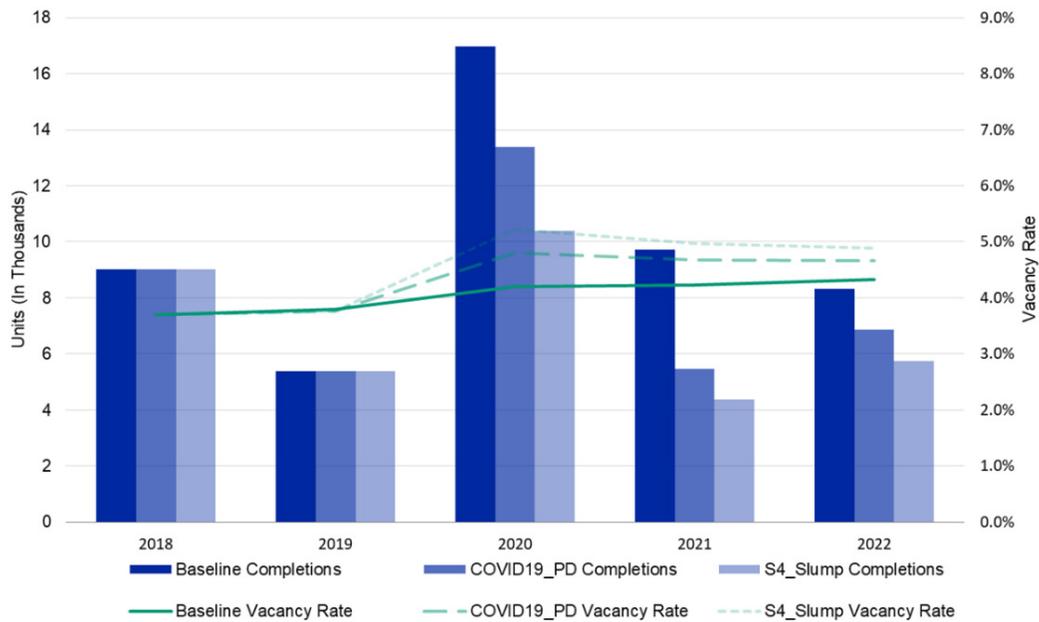
The downturn scenarios are presented starting in year-end 2020. The *Severe Pandemic* scenario slashes new construction figures by over 30%, given project delays and cancellations. The *Protracted Slump* scenario, our worst-case simulation, slashes baseline almost in half, so only around 170,000 units come online. The *pullback in demand* prompts national vacancy rates to rise to 5.9% in 2020 in a *severe pandemic* scenario; and up to 6.6% if we end up in a *protracted slump*.

However, it is important to note that the pullback in new supply actually acts as a *positive countervailing effect*, by capping the rise in vacancies. We also aren't breaching historic highs (which happened in late 2009, when national vacancies rose to 8.1%), because fundamentals have been relatively tight for multifamily over the last decade or so. We are starting off from a healthier base. The multifamily sector doesn't escape unscathed, however—asking and effective rents fall, at their worst, by 2.8 and 3.9%, respectively, in the *Protracted Slump* scenario.

California Markets: Multifamily

Prior to the outbreak of COVID-19, for Los Angeles, we were expecting close to 17,000 units to come online at the end of this year. That would have been the highest figure for new completions since 1990. However, given the projected pullback in supply growth—21% for *Severe Pandemic* and 38% for *Protracted Slump*—vacancies spike to “only” 5.2% in the worst case scenario, given that we ended 2019 at a very tight 3.8%.

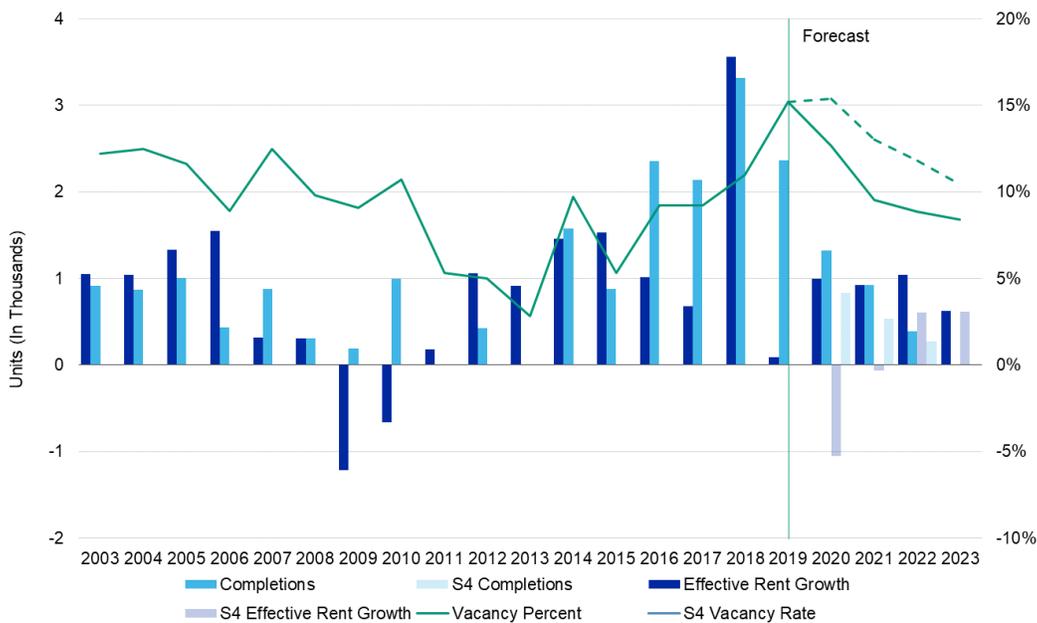
Figure 9 Economic Scenarios (Los Angeles Multifamily)



Source: Moody's Analytics REIS

Take a look at how this plays out at the submarket level. In Figure 10 we provide historical data along with three-year forecasts for the Downtown submarket of Los Angeles. The differences between the baseline forecast and the *Protracted Slump* scenario appear to the right of the vertical line labeled 'Forecast' since those are the projected periods. Construction, vacancies, and effective rent growth figures prior to 2020 (to the left of the vertical line) are actual historical values, so there is no divergence there.

Figure 10 Economic Scenarios (Downtown Los Angeles Multifamily)



Source: Moody's Analytics REIS

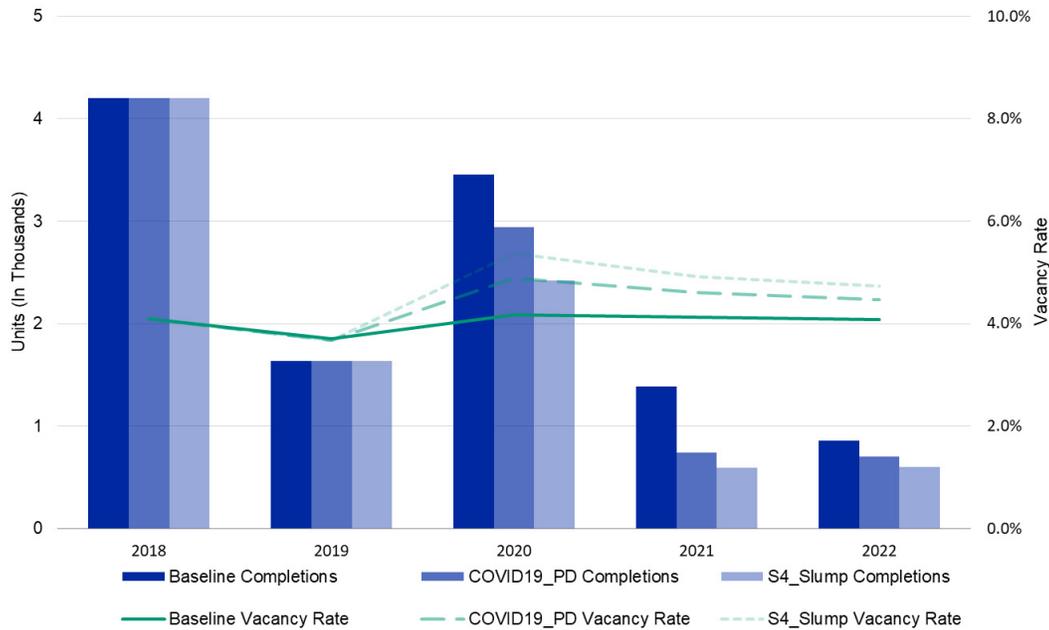
We selected the Downtown submarket because it experienced the largest amount of new deliveries across all of the 37 submarkets we cover in Los Angeles county during the last five years. As much as one-third of all new apartments in Los Angeles from the period of 2015 to 2019 came online in the Downtown submarket. Deliveries in 2018 of close to 3,600 units was a *record*

high (the previous record was just short of 3,000 units in 1987). Vacancies have therefore spiked to historic highs as well, from a very tight 2.8% in 2013 to 15.2% by year-end 2019.

Construction financing began to tighten about three years ago, so deliveries have begun to slow. REIS expected slightly over 1,300 units to come online this year, before the coronavirus outbreak. The worst case scenario has supply growth falling by about 37% to just slightly over 800 units. It may well fall more, given business conditions under shelter-in-place mandates. Effective rents are projected to fall by as much as 5.3%, which roughly approximates how much effective rents declined in 2009 (which you can see to the left of Figure 10 above). Vacancies will rise by up to 15.4%, which is an historic high, but we are already at historic high vacancies as of year-end 2019. Models need to account for values outside relevant range and not simply mean revert, because we have to deal with historically unprecedented times as best we can.

For the Orange County multifamily market, supply growth over the last few years has not been as strong as for Downtown Los Angeles. With only around 2,400 units expected to come online this year for the entire metro area, the construction pullback relative to Los Angeles (and certainly relative to Downtown Los Angeles) is less pronounced (only 15% for *Severe Pandemic* and 31% for *Protracted Slump*). Vacancies top out at 5.4% later this year, and begin to recover next year.

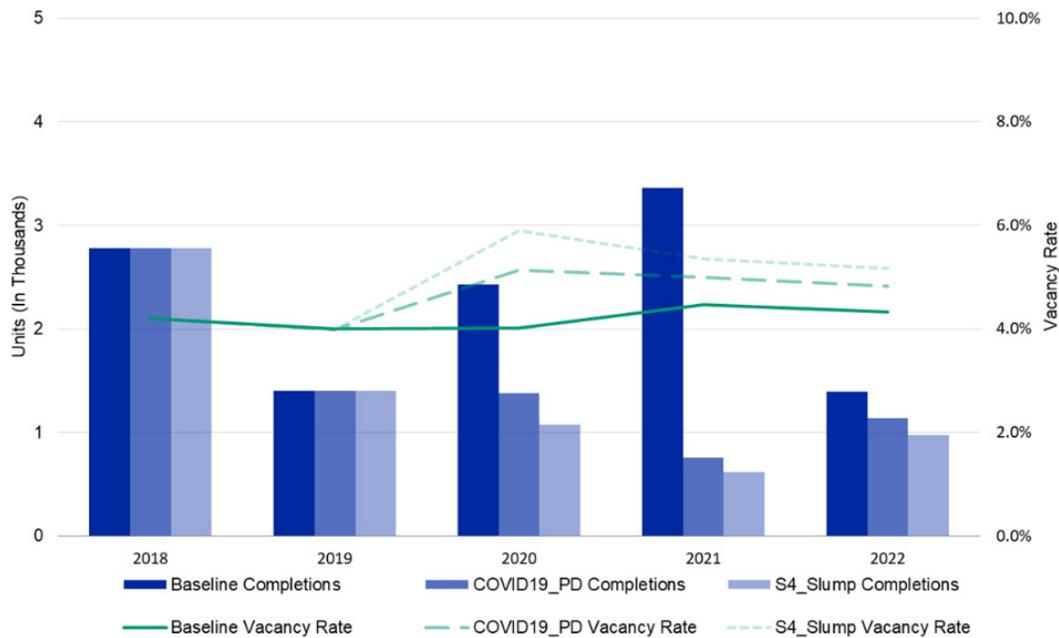
Figure 11 Economic Scenarios (Orange County Multifamily)



Source: Moody's Analytics REIS

For San Francisco multifamily, the situation is closer to that of Downtown Los Angeles, albeit with a few key differences. First, despite the fact that San Francisco apartment deliveries reached a record high in 2016, with over 3,600 units opening their doors that year (the previous high was just under 2,000 units, set in 1987), vacancies actually did not spike, unlike Downtown LA. Vacancies rose from a low of 3.2% in 2012 to a recent high of 4.8% in 2016, but have fallen since then and ended 2019 at 4%. In other words, *demand* for San Francisco multifamily has generally outstripped even record high supply growth, with the tech sector center stage creating jobs and supporting household formation.

Figure 12 Economic Scenarios (San Francisco Multifamily)



Source: Moody's Analytics REIS

In our downturn scenarios for San Francisco multifamily, we are expecting a reversal in these relatively strong fundamentals, with vacancies rising to 5.9%. That seems tight, but it is almost a 200-basis point increase over its year-end level of 4.0%.

However, construction and vacancies are only one aspect of real estate fundamentals. San Francisco, in particular, as well as markets like San Jose, have relatively stable vacancy patterns, but very volatile rent growths. In other words, any projections of commercial real estate fundamentals need to consider at least three things:

1. What we've already discussed regarding countervailing effects of changes to the supply-side, given expectations of how demand-side variables will perform.
2. Historical reaction functions of specific submarkets and property types: During past downturns, did the stress hit occupancies more? Or was volatility reflected in (negative) rent growth?
3. Relative strength or weakness on both the demand- and supply-side prior to the onset of the downturn, which in this situation was precipitated by the coronavirus outbreak.

In Table 1, we rank markets based on the *highest projected increase in vacancies*, with Sacramento topping the list. However, take a look at the table carefully. San Francisco and San Jose are further down the chart in terms of vacancy spikes, but have projected effective rent declines in the double digits: -10.8% and -13.1%, respectively.

Table 1 Highest Projected Increases in Vacancy (California Markets)

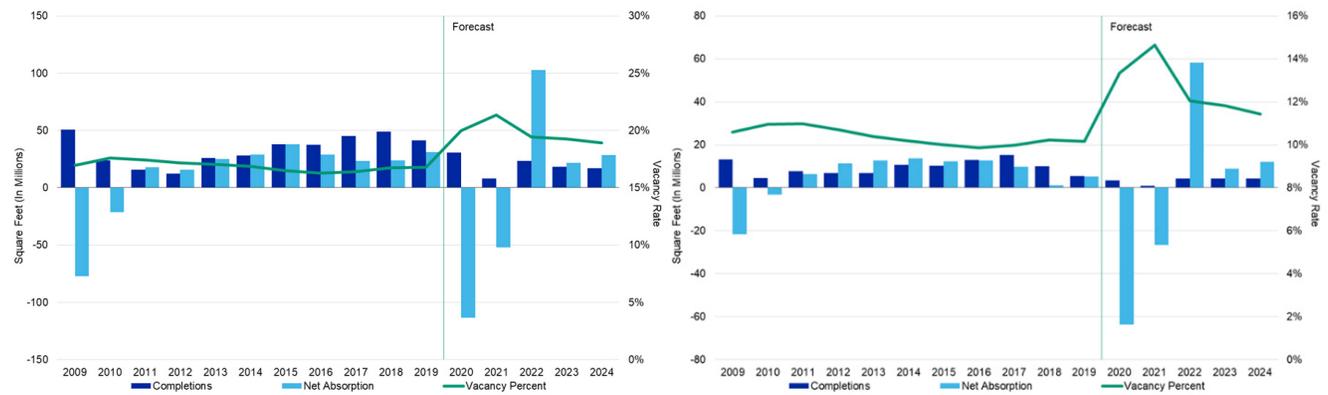
MSA	STATE	YEAR	VACANCY	VACANCY CHANGE - BPS	EFFECTIVE RENT CHANGE
Sacramento	CA	2020	5.10%	222	-3.43%
San Bernardino/Riverside	CA	2020	5.49%	215	-3.09%
San Francisco	CA	2020	5.89%	190	-10.81%
San Jose	CA	2020	6.13%	175	-13.18%
Oakland-East Bay	CA	2020	5.45%	172	-5.79%
Orange County	CA	2020	5.36%	169	-4.30%
Los Angeles	CA	2020	5.22%	146	-4.43%
Ventura County	CA	2020	4.43%	118	-4.17%
San Diego	CA	2020	4.98%	111	-2.79%

Source: Moody's Analytics REIS

Other Property Types

With the multifamily sector serving as our base, let us examine how other property types will do. At the national level, we see that office and retail will not fare as well. Both property types were under pressure even before the coronavirus outbreak, with macro trends like outsourcing and mechanization shrinking demand for office space; along with the rise of online commerce over the last 20 years putting pressure on brick and mortar retailers. Moody's Analytics REIS expects national vacancies for office and retail sectors to break historic highs.

Figure 13 Office and Retail Fundamentals (Protracted Slump Scenario)



Note: Office completions, net absorption, and vacancies shown on the left (national level). Retail completions, net absorption, and vacancies shown on the right (national level).

Source: Moody's Analytics REIS

Table 2 below lists the major markets covered by REIS for California's office sector, ranked in order of forecasted increases in vacancy rates for 2020. San Francisco is close to the top of the list for office metros with a large spike in vacancy rates, given the *Protracted Slump* scenario, but note how its projected declines in effective rents are more severe than in other markets.

Table 2 California Office Fundamentals (*Protracted Slump Scenario*)

MSA	STATE	YEAR	VACANCY	VACANCY CHANGE - BPS	EFFECTIVE RENT CHANGE
Los Angeles	CA	2020	17.27%	327	-3.11%
San Francisco	CA	2020	12.08%	325	-13.17%
Orange County	CA	2020	19.71%	322	-4.40%
San Jose	CA	2020	21.42%	321	-9.50%
San Diego	CA	2020	18.84%	319	-3.49%
Oakland-East Bay	CA	2020	18.38%	318	-5.78%
Sacramento	CA	2020	21.70%	318	-2.45%
Ventura County	CA	2020	21.55%	317	-2.52%
San Bernardino/Riverside	CA	2020	19.69%	315	-2.09%

Source: Moody's Analytics REIS

Table 3 below provides a list of major retail markets in California, again ranked in order of the largest projected spikes in vacancies for 2020 given a *Protracted Slump* scenario. The case of Sacramento is illustrative: For neighborhood and community shopping centers (the basis of these retail forecasts), Sacramento did not fare well in the Great Recession or the subsequent recovery. Effective rents fell by 5.7% in 2008, and another 7.4% in 2009, continuing to slide for two more years before stabilizing. Vacancies never dipped below 10.1% (circa end-2019)—double that of its starting point in 2005 and 2006 of around 5% before the onset of the housing market crash. With that kind of weak start, Sacramento is projected to have the worst performance for *both* vacancy and rent growth, across major retail markets in California.

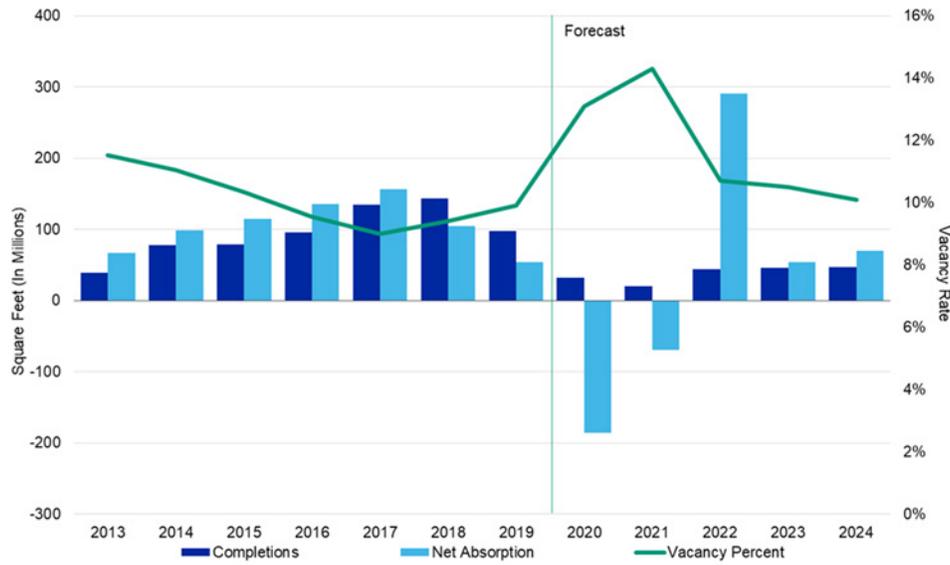
Table 3 California Retail Fundamentals (*Protracted Slump Scenario*)

SUBMARKET	SHARE OF DESTRUCTION
Sherman Oaks/Studio City/N Hollywood	40.0%
Granada Hills/Northridge/Reseda	27.0%
Panorama Hills/San Fernando/Pacoima	12.8%
Hollywood/Silver Lake	9.5%
Chatsworth/Canoga Park	3.6%
Van Nuys/North Hollywood	2.1%
Downtown	2.0%
Wilshire/Westlake	1.6%
Inglewood/Crenshaw	1.4%

Source: Moody's Analytics REIS

What about the industrial sector, and specific markets? Buoyed by the long economic expansion and the rise of e-commerce, industrial markets have performed well over the last five years, particularly the warehouse/distribution subsector. Despite more than 550 million square feet of new warehouse and distribution space from 2015 to 2019, national vacancies kept declining from above 11% to as low as 9% in 2017. The last couple of years, however, have shown vacancies inching upwards, ending 2019 at 9.9%.

Figure 14 National Warehouse/Distribution (*Protracted Slump*)



Source: Moody's Analytics REIS

Figure 14 above shows how projected vacancies are expected to rise through 2021 under the *Protracted Slump* scenario, given the kind of lagged patterns industrial fundamentals tend to follow during downturns.

Table 4 presents major warehouse/distribution markets covered by REIS, ranked in order of the *growth in inventory over the last five years*. The San Bernardino/Riverside market has, in particular, welcomed a large amount of new industrial space—close to 20% of 2015 inventory levels. Vacancies rise across the board throughout 2020, given the national scope of the COVID-19 shock.

Table 4 High Supply Growth Industrial Markets (*Protracted Slump*)

MSA	STATE	YEAR	INVENTORY CHANGE (2015-2020)	VACANCY	VACANCY CHANGE - BPS	EFFECTIVE RENT CHANGE
San Bernardino/Riverside	CA	2020	19.43%	12.39%	314	-4.99%
Oakland-East Bay	CA	2020	5.37%	12.97%	313	-5.18%
San Diego	CA	2020	4.10%	12.23%	313	-5.03%
Los Angeles	CA	2020	3.20%	8.51%	315	-4.74%
Sacramento	CA	2020	2.24%	12.95%	315	-4.64%
Orange County	CA	2020	2.23%	10.43%	315	-5.20%
San Jose	CA	2020	1.07%	11.38%	313	-4.23%
San Francisco	CA	2020	0.06%	8.72%	312	-4.75%

Source: Moody's Analytics REIS

San Bernardino/Riverside will take an immediate hit given the pullback in trade that is hammering port activities. Other markets like Orange County and Oakland/East Bay will likely experience greater effective rent declines given the way these markets have reacted to previous downturns.

The Future of California Property Markets

The COVID-19 pandemic is still evolving rapidly. It is difficult to speculate about how geographic markets and property types will evolve, particularly given how challenging it is to predict mass psychology around how households and employers will react. In a paper we published March 26, we outlined how markets have tended to react to idiosyncratic shocks like earthquakes, hurricanes, and terrorist attacks.⁵

In 1994, the Northridge Earthquake which devastated Los Angeles actually did not impact property fundamentals in a sustained negative manner. This was because the area did not suffer a permanent long-term shock to demand: households and employers kept flocking to Los Angeles, and the city benefited from the urban revitalization that swept across the nation.

By contrast, New Orleans did not fare well after Hurricane Katrina in 2005. It suffered a one-time loss of about a third of its population. About 100,000 people that relocated to Houston ended up staying there permanently. As of 2019, New Orleans has yet to recover its population levels from 2004. Improvements in commercial real estate fundamentals slowed over the long run.

Time will tell whether California markets will experience more of a short-run transitory shock given the COVID-19 experience, or if there will be long-term consequences to both the demand for, and use of, commercial real estate.

⁵ “Idiosyncratic Shocks and Multifamily Housing: COVID-19 and What We Can Learn from Earthquakes, Hurricanes, and Terrorism” (March 26, 2020). Available upon request.

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