

COVID-19 and U.S. CRE Property & Transaction Markets

Agenda

1. Welcoming Remarks
2. COVID-19 – The Potential Effects on the U.S. Economy
3. COVID-19 – The Potential Effects on the CRE Sectors
4. Questions & Answers

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Welcoming Remarks

Cristina Pieretti, *Managing Director | Head of REIS*
Moody's Analytics

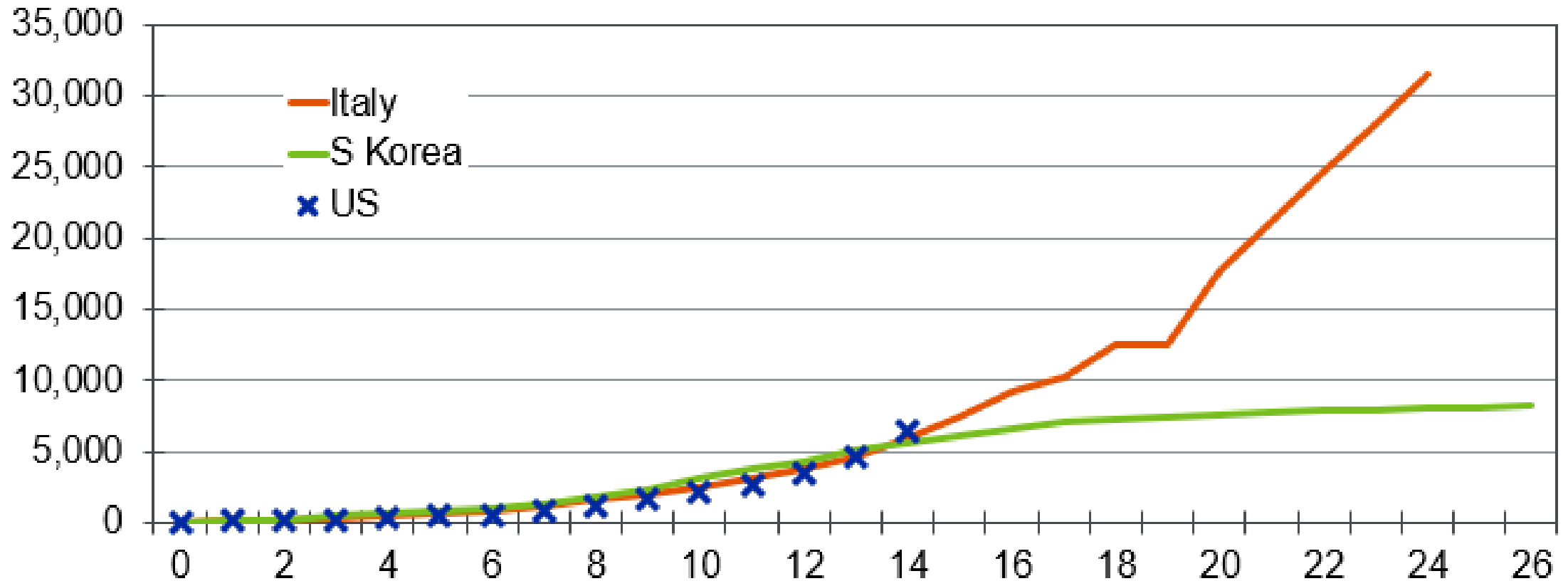
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COVID-19 – The Potential Effects on the U.S. Economy

Cris deRitis PhD, *Deputy Chief Economist*
Moody's Analytics

U.S. Case Trajectory at a Turning Point

Number of COVID-19 cases, days since 100 confirmed cases



Sources: *Johns Hopkins CSSE COVID-19 Data Repository; Moody's Analytics*

COVID-19 Economic Transmission Channels

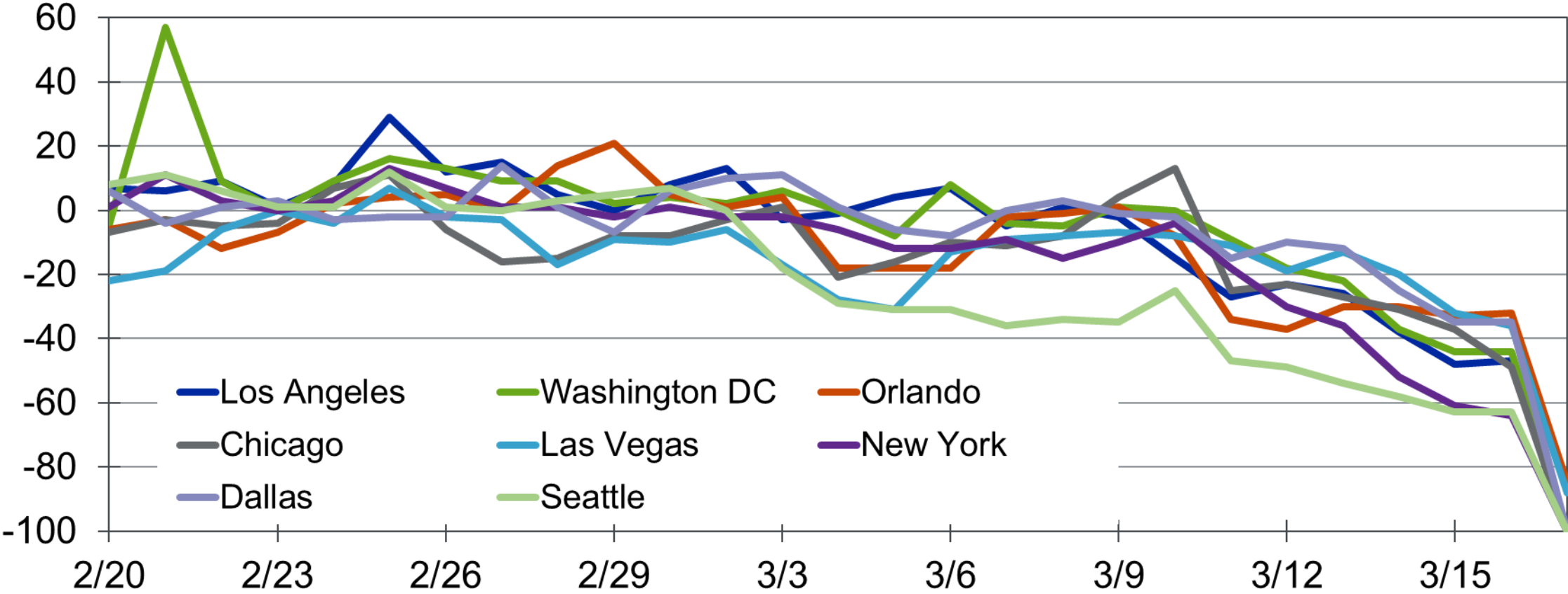
1. Tourism/Leisure/Hospitality
2. Trade
3. Commodity prices
4. Financial markets
5. Confidence



**Combination of Supply and Demand
Shocks Complicates Forecasts**

COVID-19 Impact on Restaurants

Seated dinners, % change year ago



Sources: OpenTable; Moody's Analytics

COVID-19 Scenarios (as of March 2020)

COVID-19

Baseline Scenario

- Middle of the distribution of possible outcomes
- 1 million global infections
 - New infections peak in March
 - 1-2% mortality rate
 - 3-4% hospitalization rate
 - Infections abate by June

COVID-19

Critical Pandemic Scenario

- 45% probability actual outcome is worse
- 1-2 million global infections
 - New infections peak in March
 - 2% mortality rate
 - 4-5% hospitalization rate
 - Infections abate by June

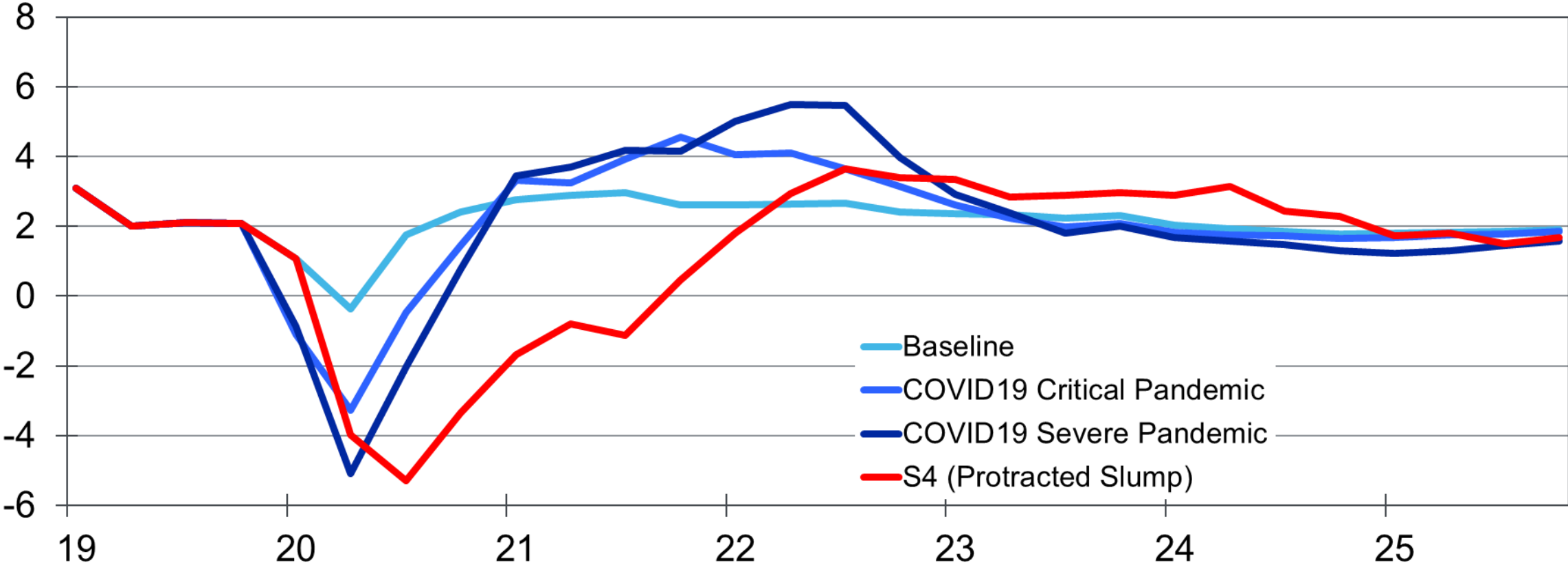
COVID-19

Severe Pandemic Scenario

- 35% probability actual outcome is worse
- 3-4 million global infections
 - New infections peak in April
 - 2-3% mortality rate
 - 5-6% hospitalization rate
 - Infections abate by July

COVID-19 Scenarios Follow Varying Assumptions

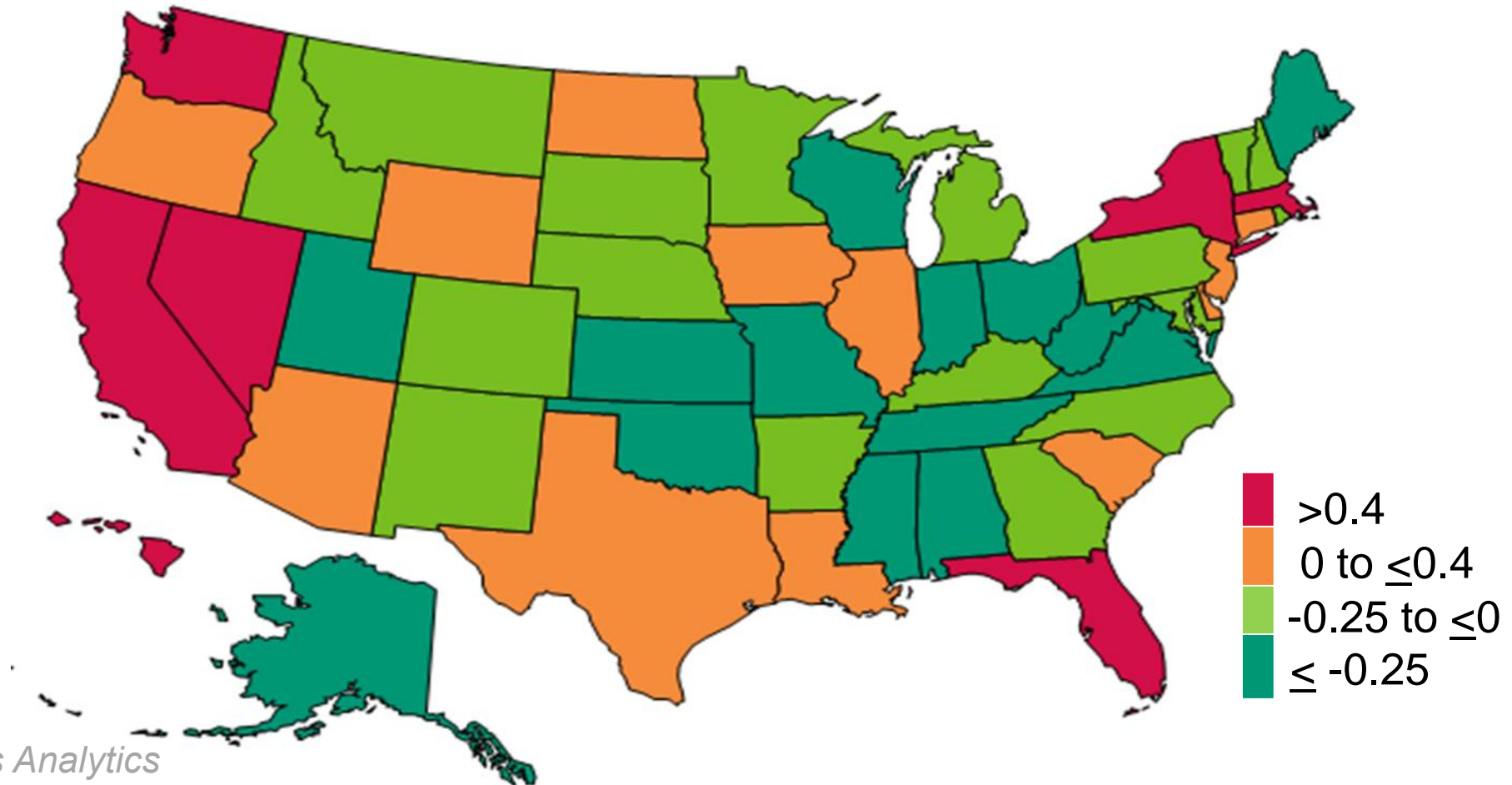
Real GDP, annualized quarter/quarter growth rate, March 2020 Forecast Vintage



Sources: BEA; Moody's Analytics

Large States & Coastal Areas Face Greater Risk

Average Z-score across rankings, 0=state average



Source: Moody's Analytics

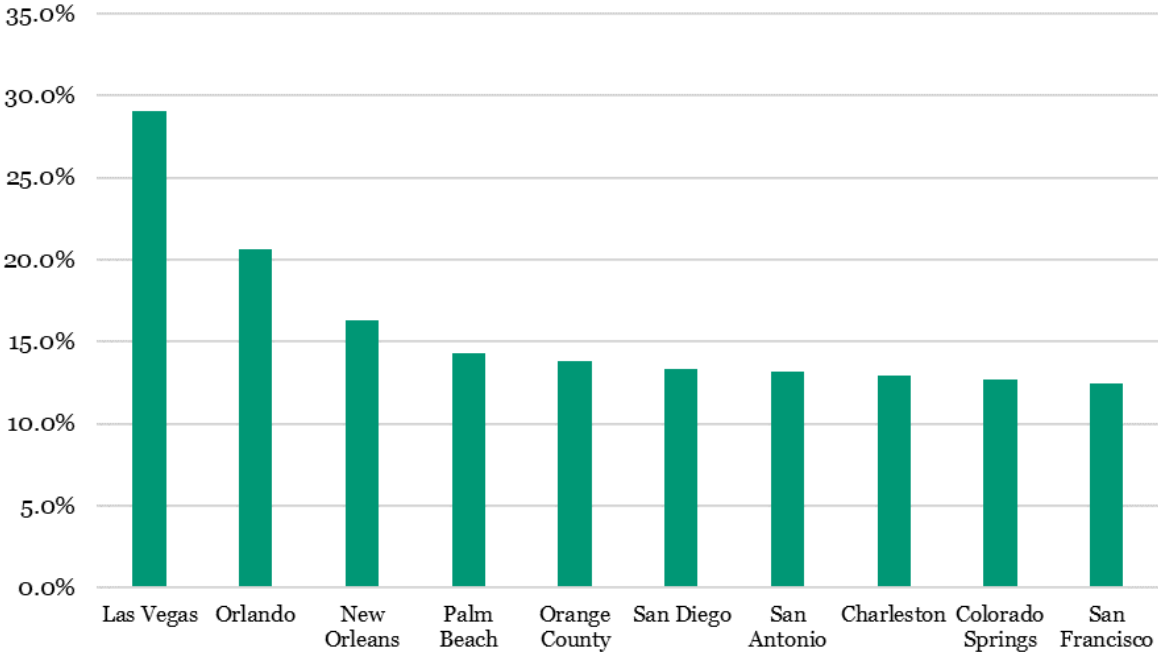
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COVID-19 – The Potential Effects on the CRE Sectors

Victor Calanog PhD, *Head of CRE Economics*
Moody's Analytics

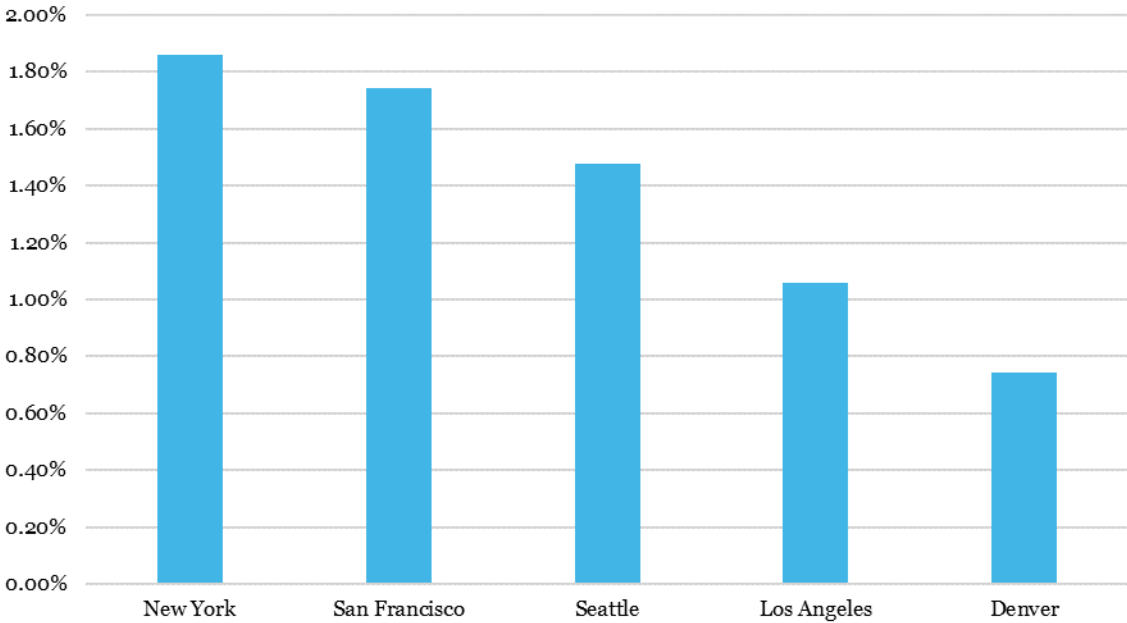
The Front Lines

Share of Leisure and Hospitality Employment



Source: Moody's Analytics

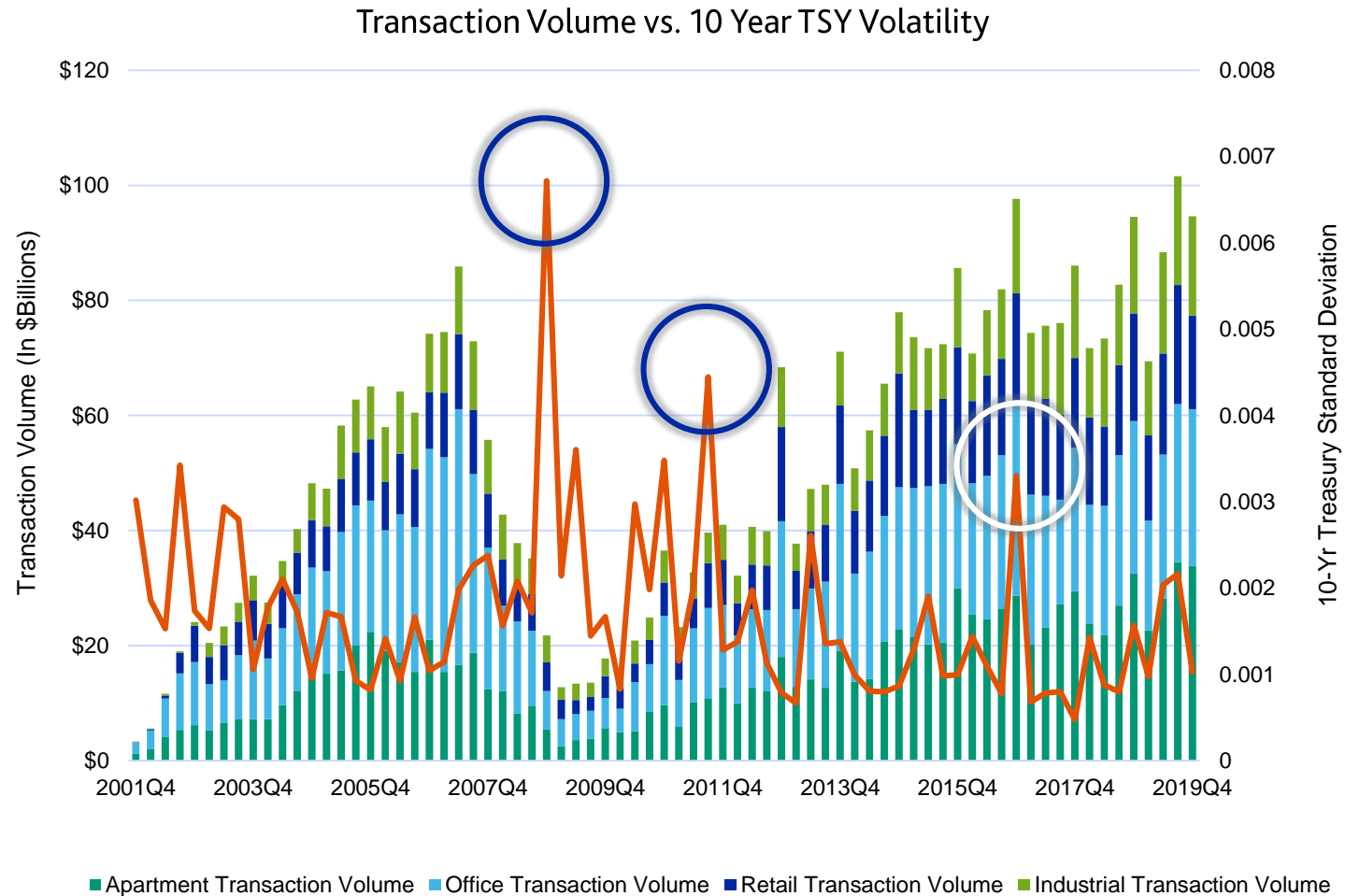
Largest WeWork Leases Relative to Metro Inventory



Source: Moody's Analytics REIS; CompStak

Volatility & Transaction Markets

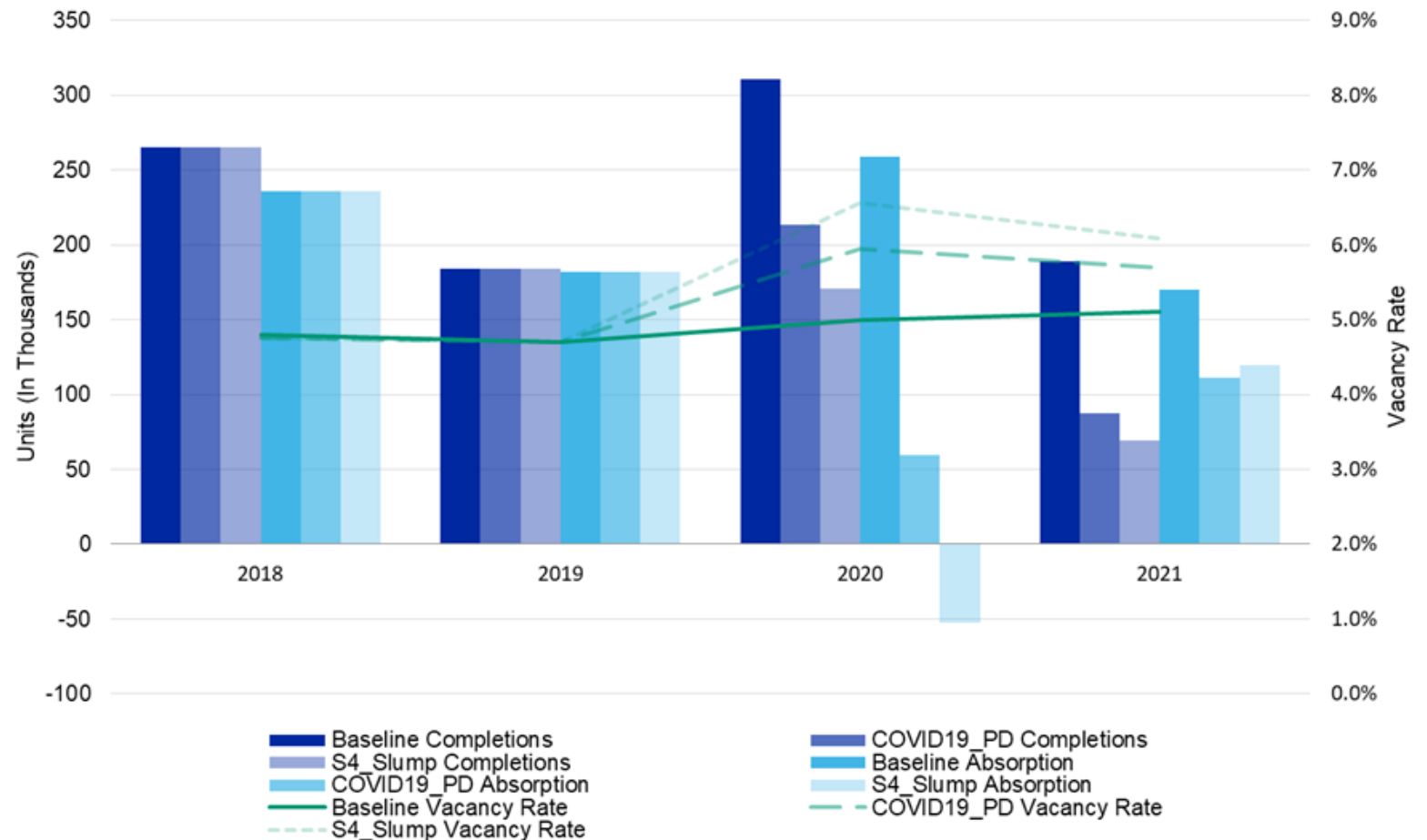
- Three periods (2008Q4, 2011Q3, and 2016Q4) result in a marked effect on transaction markets.
- Volume may drop anywhere from 20 to 40% during volatile periods.
- Longer recovery if this turns into a full-blown protracted recession.



Source: Moody's Analytics REIS

Pandemic & Protracted Slump | Multifamily

- Baseline expected a record high in terms of deliveries for 2020: over 300,000 new units.
- Severe pandemic and protracted slump scenarios produce an increase in vacancies, but construction pullback is a countervailing effect.



Source: Moody's Analytics REIS

Pandemic & Protracted Slump | Multifamily

- Historical reaction functions to downturns determine the relative focus and magnitude of distress in various property types and geographic markets.

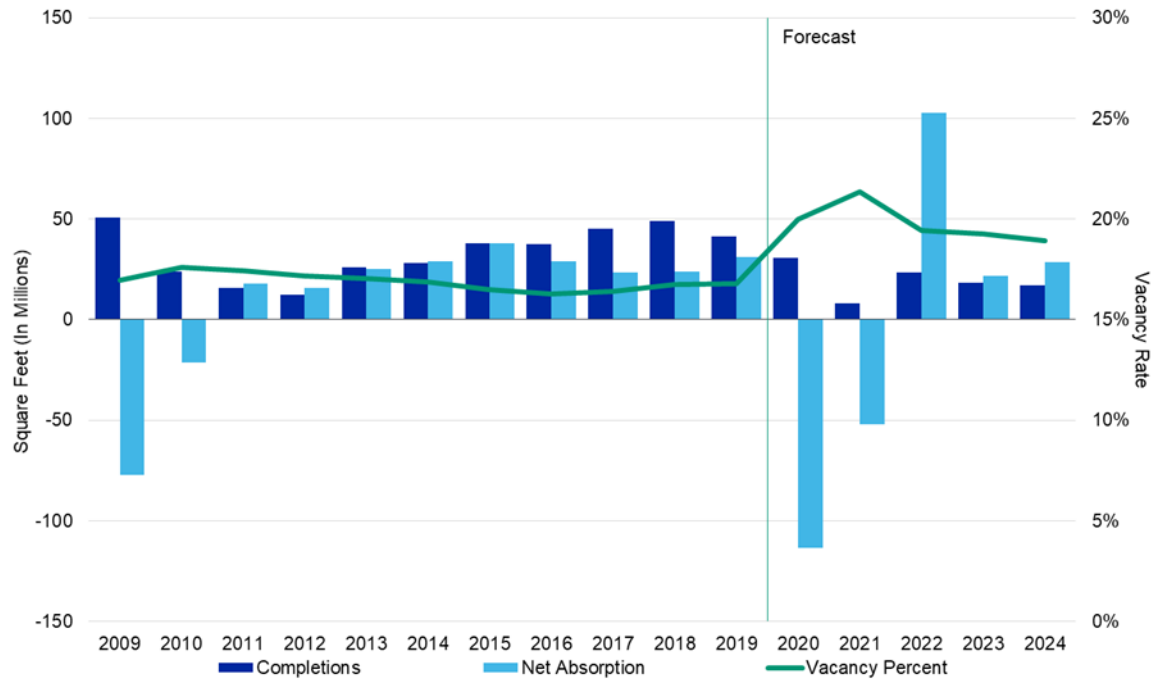
MSA	State	Year	Vacancy Change (bps)	Vacancy Level	Effective Rent Change
Tucson	AZ	2020	387	8.0%	-2.6%
New Orleans	LA	2020	366	8.0%	-3.0%
Greenville	SC	2020	330	8.9%	-2.8%
Charlotte	NC	2020	326	9.7%	-3.5%
Tacoma	WA	2020	319	6.0%	-3.9%

Source: Moody's Analytics REIS

- Recent record of oversupply will position any geographic market for distress, if demand pulls back abruptly (as per a severe pandemic or protracted slump scenario).
- Recent record of poor performance, particularly when vacancies have been rising and/or rent growth has been moderating, suggests markets will not fare as well in a downturn.
- New York and San Francisco display stable vacancies, but volatile rent growths: effective rents may fall by 5 to 10% in a protracted slump.

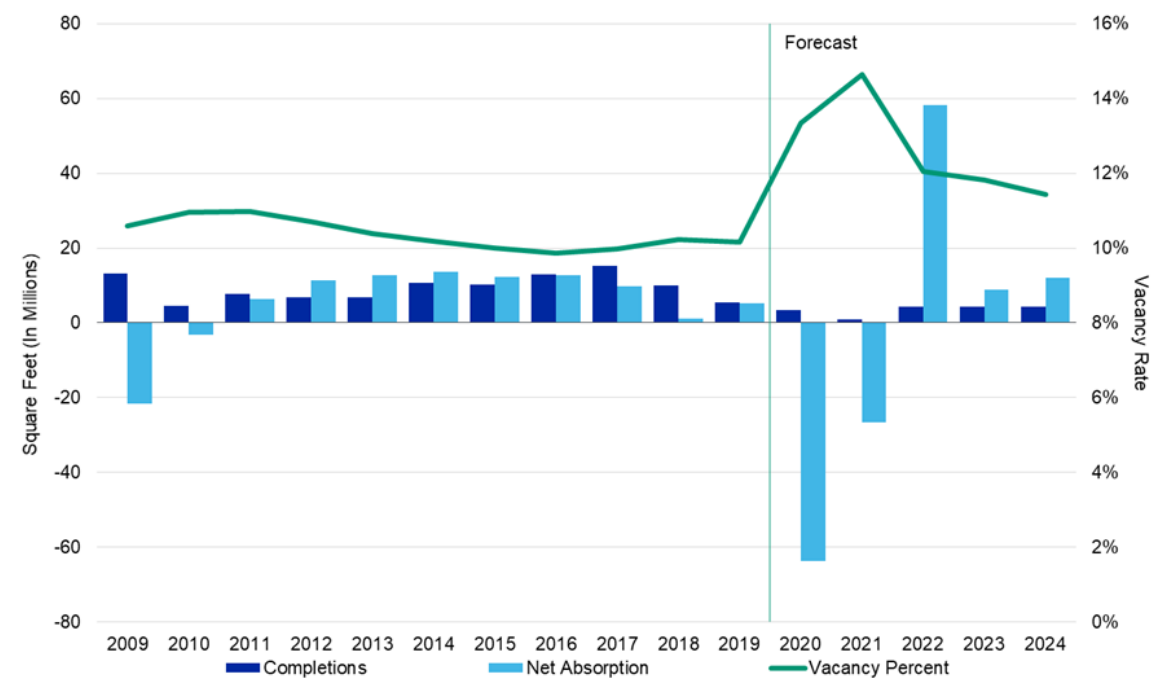
Office & Retail Do Not Fare as Well

Office Fundamentals | Protracted Slump



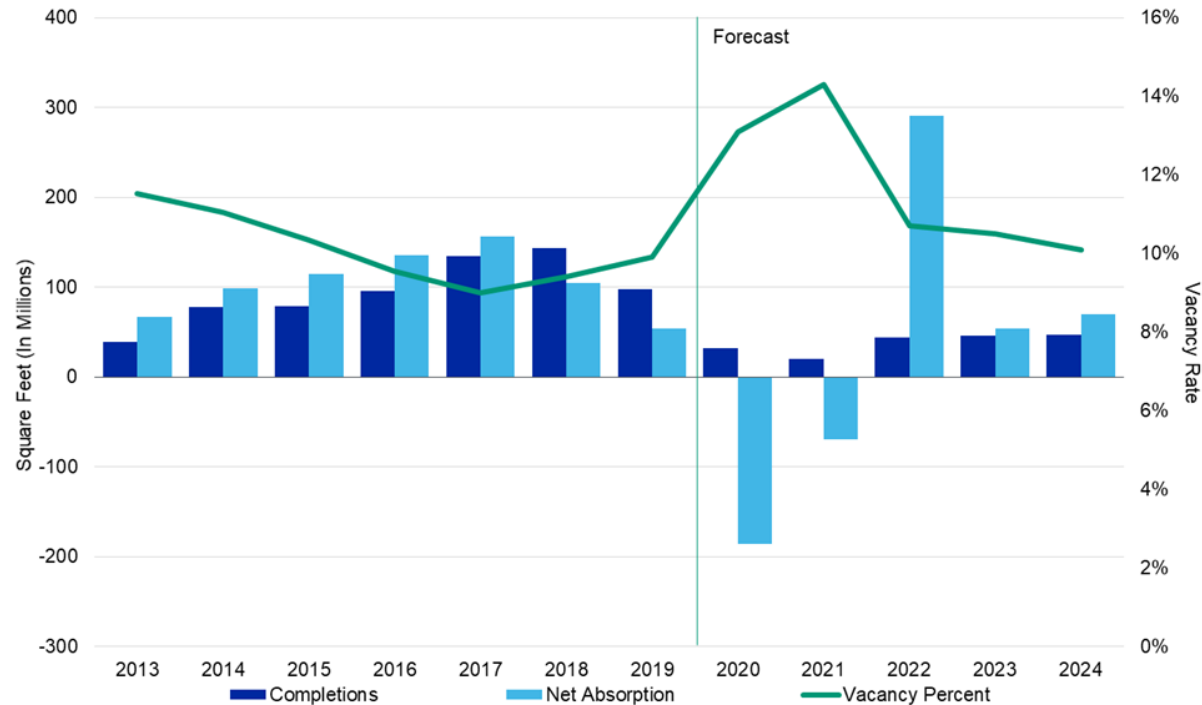
Source: Moody's Analytics REIS

Retail Fundamentals | Protracted Slump



Source: Moody's Analytics REIS

Industrial Markets | Various Drivers



Source: Moody's Analytics REIS

MSA	State	Year	Inventory Growth	Vacancy Change (bps)	Vacancy Level	Effective Rent Change
San Bernardino/Riverside	CA	2020	19.4%	314	12.4%	-5.0%
Dallas	TX	2020	17.1%	314	15.1%	-5.3%
Kansas City	MO	2020	15.5%	313	12.2%	-5.8%
Orlando	FL	2020	13.7%	317	14.7%	-5.5%
Fort Worth	TX	2020	12.6%	312	14.1%	-7.8%

Questions & Answers

Today's Speakers



Cristina Pieretti
MANAGING DIRECTOR / HEAD OF REIS



Cris deRitis
DEPUTY CHIEF ECONOMIST



Victor Calanog
HEAD OF CRE ECONOMICS

Thank You

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