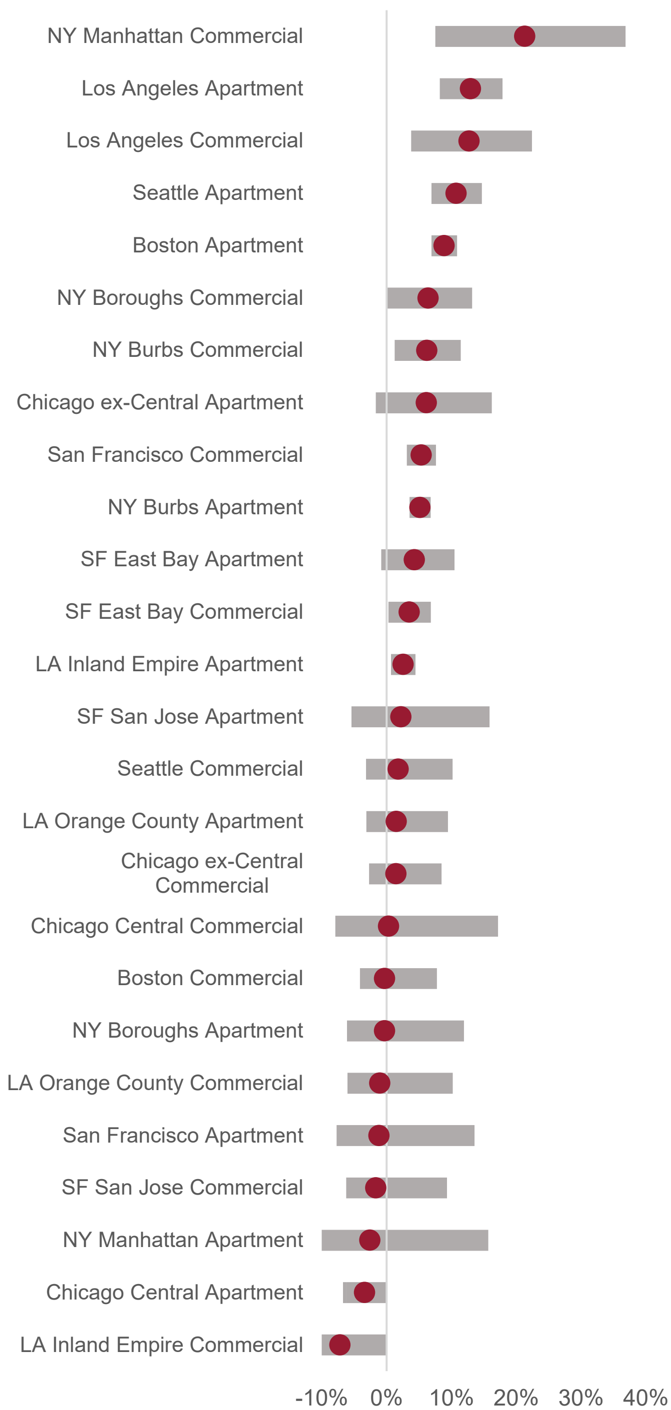
CPPI FORECAST REPORT

Forecast capital gains from 2020Q1 through 2022Q1



Based on largely pre-pandemic data we were still forecasting largely positive price change through 2022Q1. But 22 of our 26 markets showed forecast growth lower than the previous 2 years of history, & seven markets had negative forecasts.

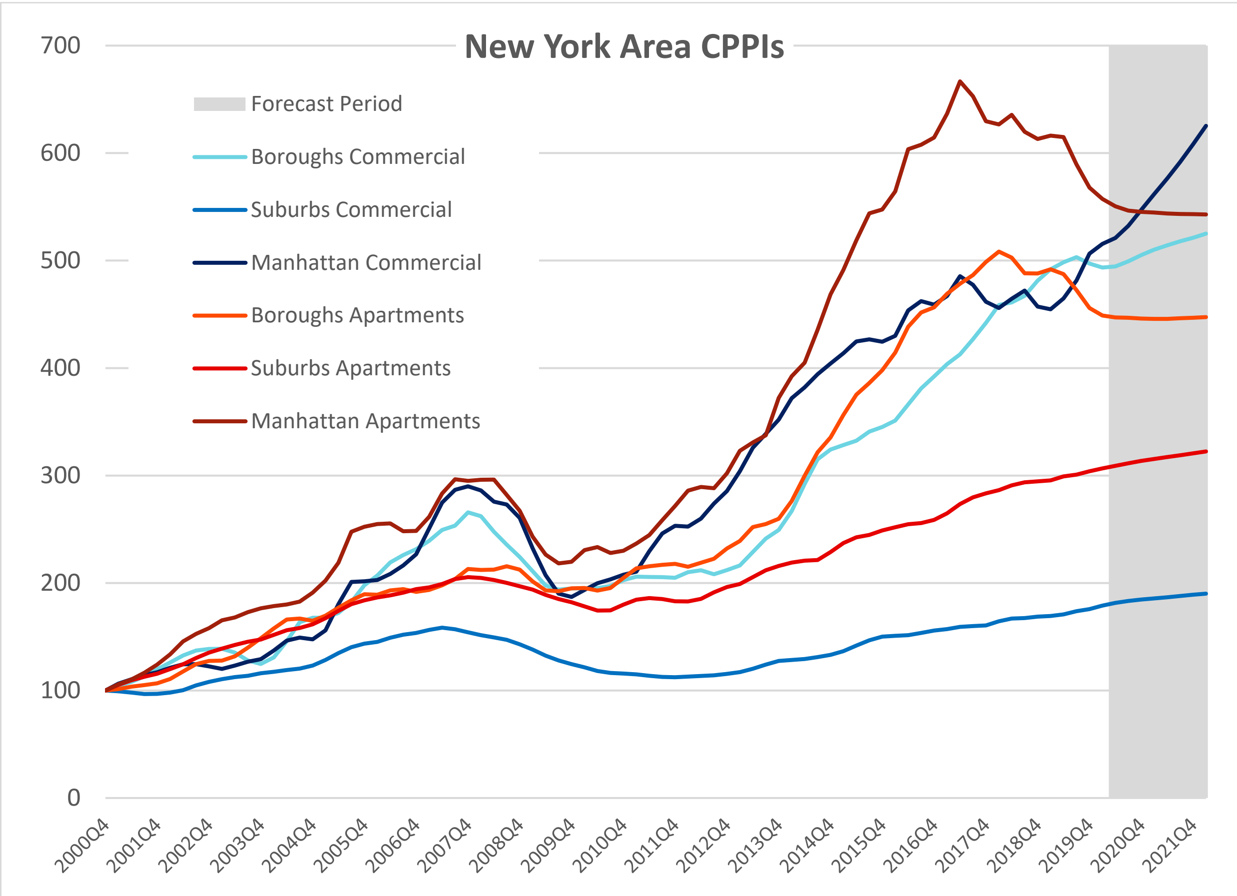
Based on data through 2020Q1, essentially still pre-pandemic, our repeat-sale price forecasts were still largely positive for the markets we track (see graphic). However, some weakness was already evident in generally declining growth rates and some negative projections. Interesting contrasts were evident, for example between Manhattan commercial (strong growth) and Manhattan apartments (slight decline). In fact, Manhattan was the only commercial market with growth expected to outpace recent history. While the projected increase is higher than other markets, it exhibits exceptionally wide uncertainty bounds.

Of course, we would expect all of these forecasts to change dramatically in the next quarter's update, after the pandemic has made its effect in the data. Meanwhile, we direct our readers' attention to the Special Report of the Investor Supply/Demand Index posted on the Platform's Analytics Page. There, we forecast regional US commercial real estate markets by incorporating early pandemic data on market liquidity.

Methodology

We employ nearly 100 forecasting models within a Dynamic Factor Modeling framework. The forecasts apply to the RCA CPPIs. We take the average forecast of the 10 best models based on historic performance (a Model-of-Models). The lower bound is based on the low end of those 10 forecasts, and vice versa.

RCA CPPIs history and our (average) forecasts prior to the pandemic (grey box), 2000Q4 = 100.



Over the two years through 2020Q1, New York markets followed broadly different paths across both sector and location. Prior to the pandemic, the commercial sector was predicted to remain on an upward trajectory averaging 11% 2-year price growth across the three submarkets, with Manhattan leading the pack. In contrast, apartments were forecast to increase 1% on average over two years even before the pandemic, despite expected slight improvement in suburban resale prices.

About the Real Estate Price Dynamics Platform

The MIT Center for Real Estate's Price Dynamics Platform (PDP, or "Platform" for short) serves at the intersection between Academia and the Real Estate Industry. Seeded by a generous gift by Real Capital Analytics in 2017, we utilize the newest data combined with cutting-edge and interdisciplinary econometric techniques from many fields not just real estate, such as (space) navigation, weather forecasts, and healthcare. We develop innovative tools that potentially have a global impact for real estate stakeholders, resulting in a more transparent real estate market.

We presently publish three products; (1) the Total Return Index, (2) CPPI Forecasts and (3) Investors Supply/Demand Indexes. We aspire to update our products on a regular basis. For more information on the methodology, to get access to the data or other reports, or to subscribe to our products, visit us at: http://pricedynamicsplatform.mit.edu/.