

ISM 646 Visualizing Data to Design Strategy

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Executive Summary

The Great Recession of 2008, and COVID-19 2019 have a great impact on Employment and house prices in California, New York and North Carolina States. There is a rise in Unemployment in all three states which correlates to a fall in Net Employment Rate around these occasions. In the state of California, The unemployment rate was around 3-5% but jumped to 11.5% in 2009 following the Recession. Similar trends followed in all three states during Covid-19. During both occasions, House prices increased following inflation trends regardless of the size of the houses. There would be great ROI in the following years for investments put in during the occasions. The Inflation was similar during the occasions but skyrocketed in the after years. This shows the government's effort during the occasions to control the Inflation rate but it is clearly visible in the high inflation years that followed after the government eased the control.

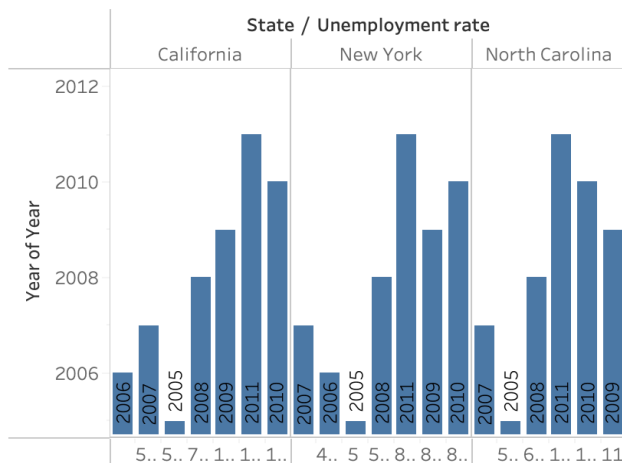
The Facts and Figures below support the Executive Summary.

States: California, New York, North Carolina.

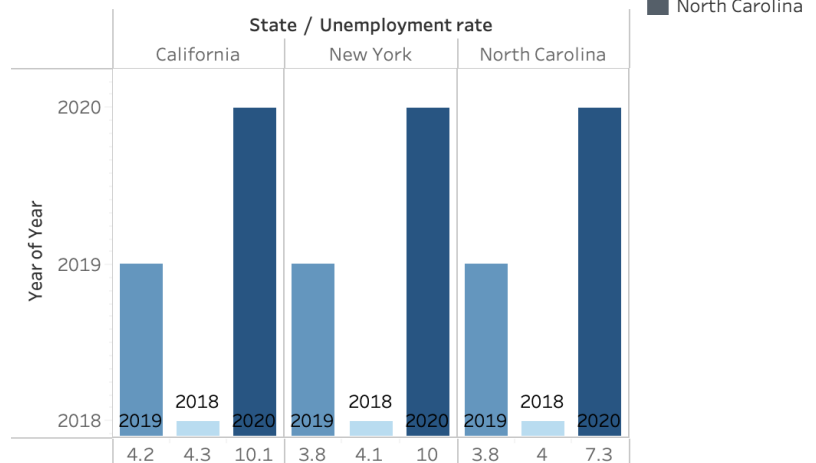
Dimensions and Measures: Employment, Unemployment, Inflation, House Prices.

1. Unemployment Rate vs Net Employment Rate: A clear spike is noticed during these events. It also correlates with the Net Employment drop.

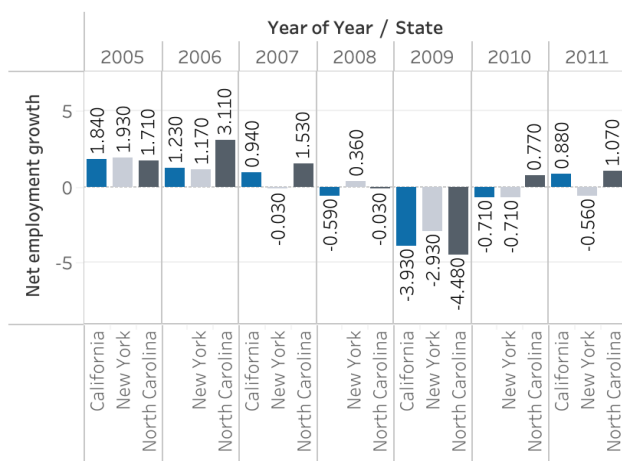
Unemployment Rate of 3 states during and around Recession



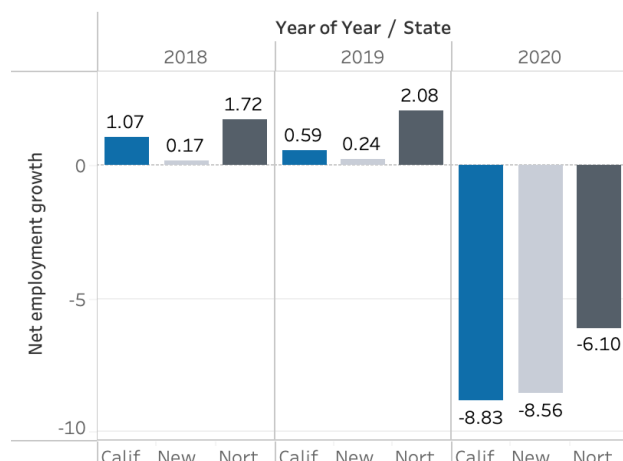
Unemployment Rate of 3 states during and around Covid



Net employment Rate of 3 states during and around Recession

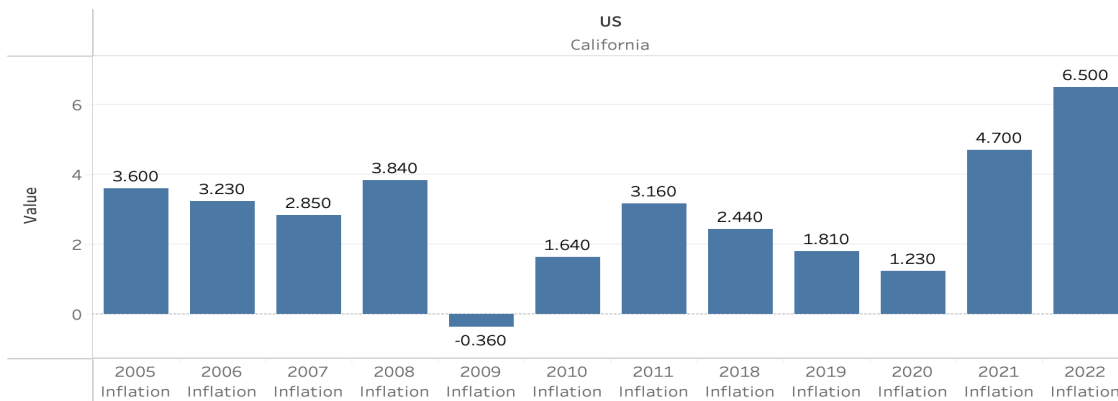


Net employment Rate of 3 states during and around Covid

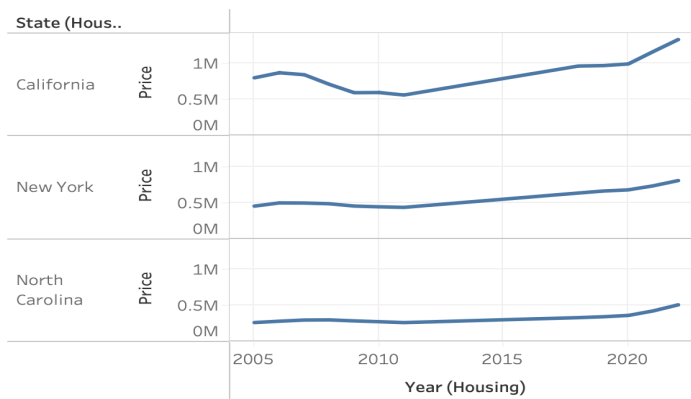


2. Inflation Vs House Prices: Inflation was normal during these events but had increased drastically afterward and the same could be seen in its pricing for house sales after COVID-19.

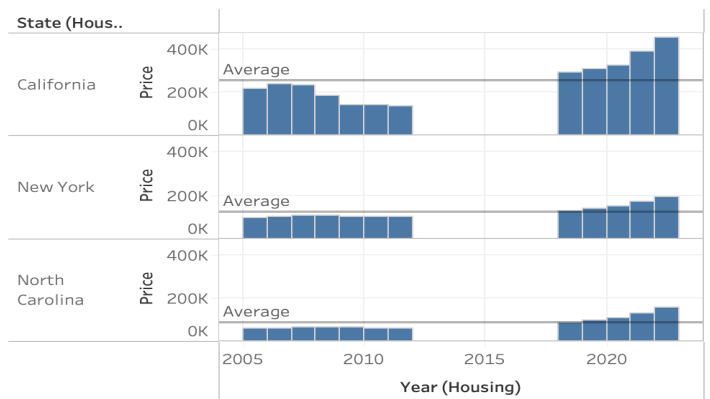
Inflation



Top Tire Price



Bottom Tier Price

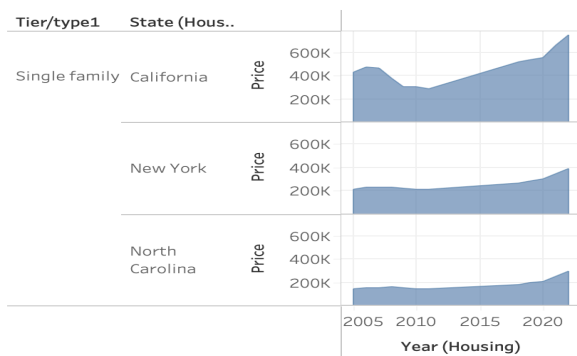


3. Leaders and Laggards:

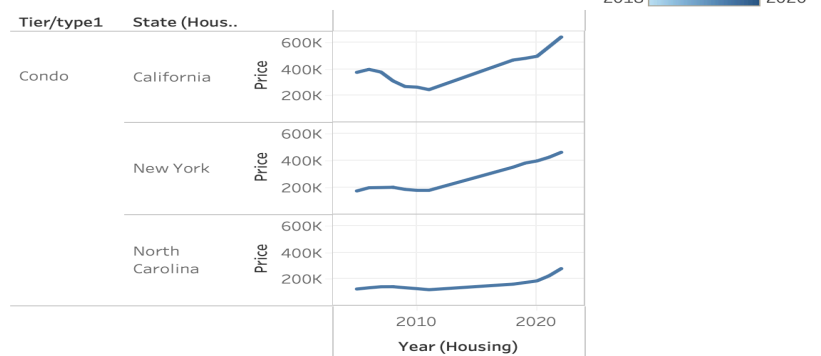
Leaders: Housing is leading with price increases on both occasions. It could yield great ROI if you have invested before these events.

Laggards: After both events Unemployment increased which impacted the economy.

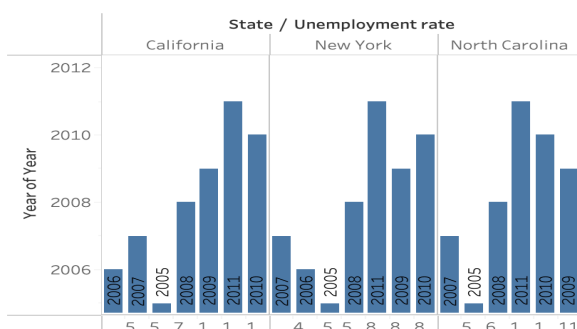
Single Family House Sale



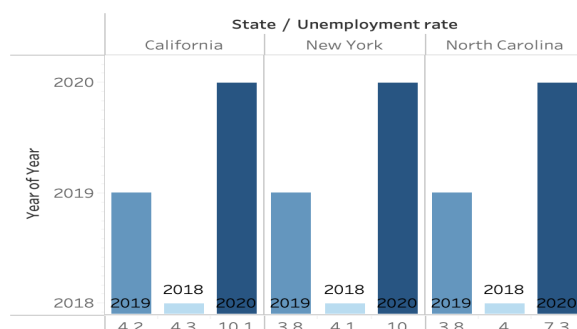
Condo Price



Unemployment Rate of 3 states during and around Recession

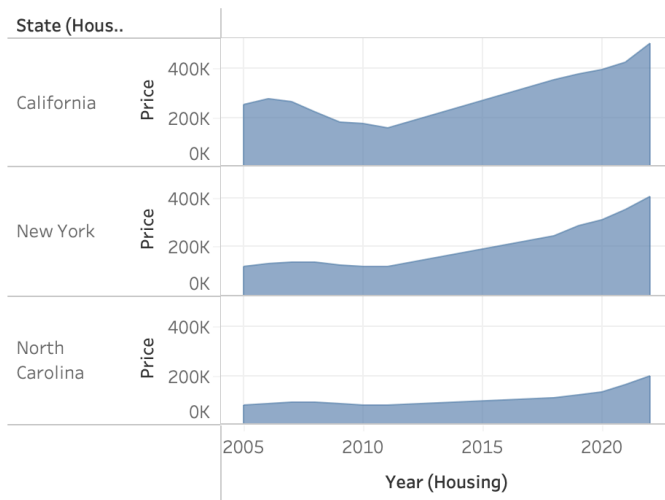


Unemployment Rate of 3 states during and around Covid

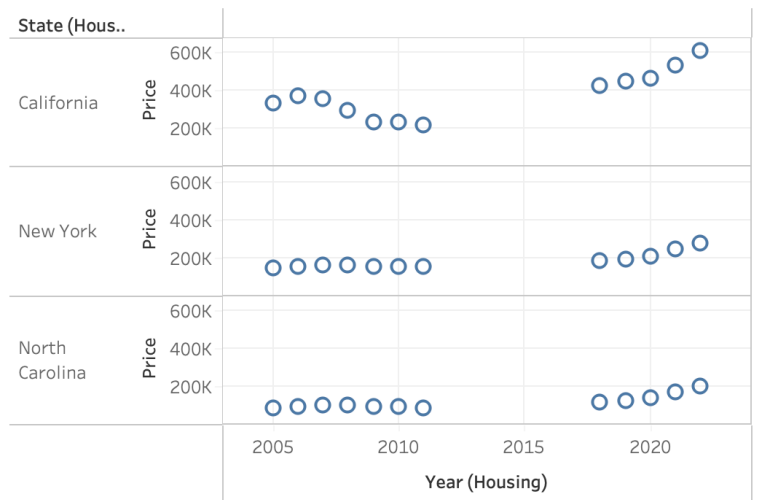


4. Differential Impacts: There is a rise in House prices in all states. But the price increase is more significant in California compared to North Carolina. 2 Bed Houses and 3 Bed Houses are comparatively similar prices whereas 1 Bed is considerably low and 4 Bed house is consistently high.

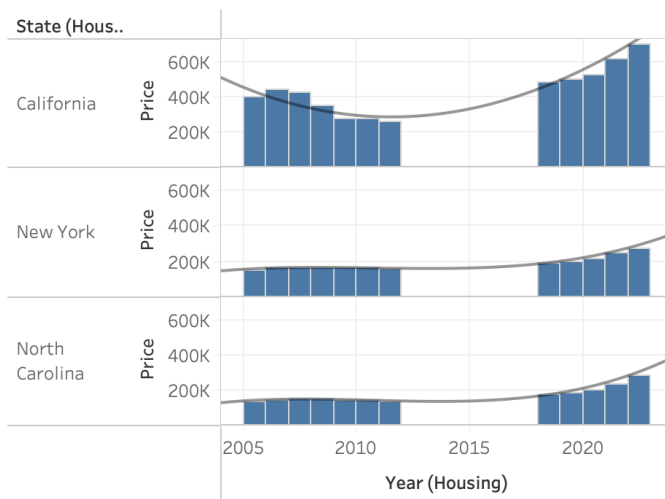
1 Bed Room House Price



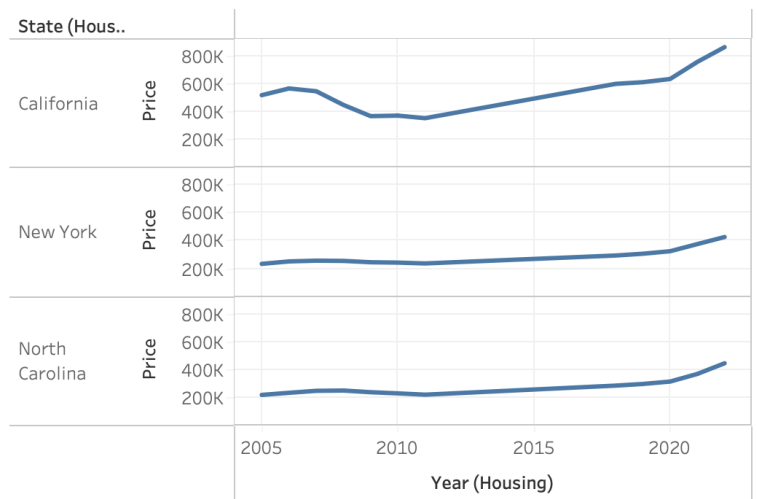
2 Bed Room House Price



3 Bed Room House Price



4 Bed Room House Price



Data Source:

1. <https://www.kaggle.com/datasets/valbauman/student-engagement-online-learning-supplement>
2. <https://www.zillow.com/research/data/>
3. <https://fred.stlouisfed.org/categories/27286>
4. <https://fred.stlouisfed.org/categories/27314>
5. <https://fred.stlouisfed.org/categories/27315>
6. https://www.bls.gov/data/inflation_calculator.htm