Capstone 1

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This report is written on the basis of something that I am personally very interested in. I'm moving soon out of state, but my family has been looking to buy a new home for a while now. There are a few different metrics that I have been trying to use. However, I believe the best to use is that of home value increases. When putting hundreds of thousands of dollars into a home purchase, especially in this state of economy, it is important to know where one's money is going. There are a few specific neighborhoods or cities near Chicago that our family has narrowed the future home purchase area down to. My goal with doing this research is to see which areas, out of the ones that we had preselected, have ahd the most significant increases in home value, which should be able to lead us to retaining our value the most in the house. I was able to find a spreadsheet that has various value information regarding home values over the years since the year 2000. The three areas we were able to narrow down to were Schaumburg, Mount Prospect, and Oak Forest/Tinely Park. The spreadsheet that I will be using for my analysis is utilizing an identifying code for each area. Schaumburg is p3103, Mount Prospect is p3104, and the Oak Park/Tinely Park area is p3116. Utilizing R, I was able to create a PDF file that I can give to my parents to reference at a later time. For my personal reference, it could be said that all I needed was a PDF file with just the three area codes that I am truly interested in looking at, but when doing this, by showing all of the different areas, we can possibly see if there is one area that may

have been significantly higher in the amount of value that it has grown over the last few decades. However, for this report's purposes, we will only look at the main three areas that my family is interested in.

The first area we will be looking at is the city of Schaumburg. I am attaching the Value Trend graph that was in the output PDF below. The value is in average percent value since 2000, where 100 is representative of the original value of the home in 2000. The value was originally going to be output in a way where it is labeled with only the increase, but that would mean changing the values for all of the other plots which may not be truly representative of the data.

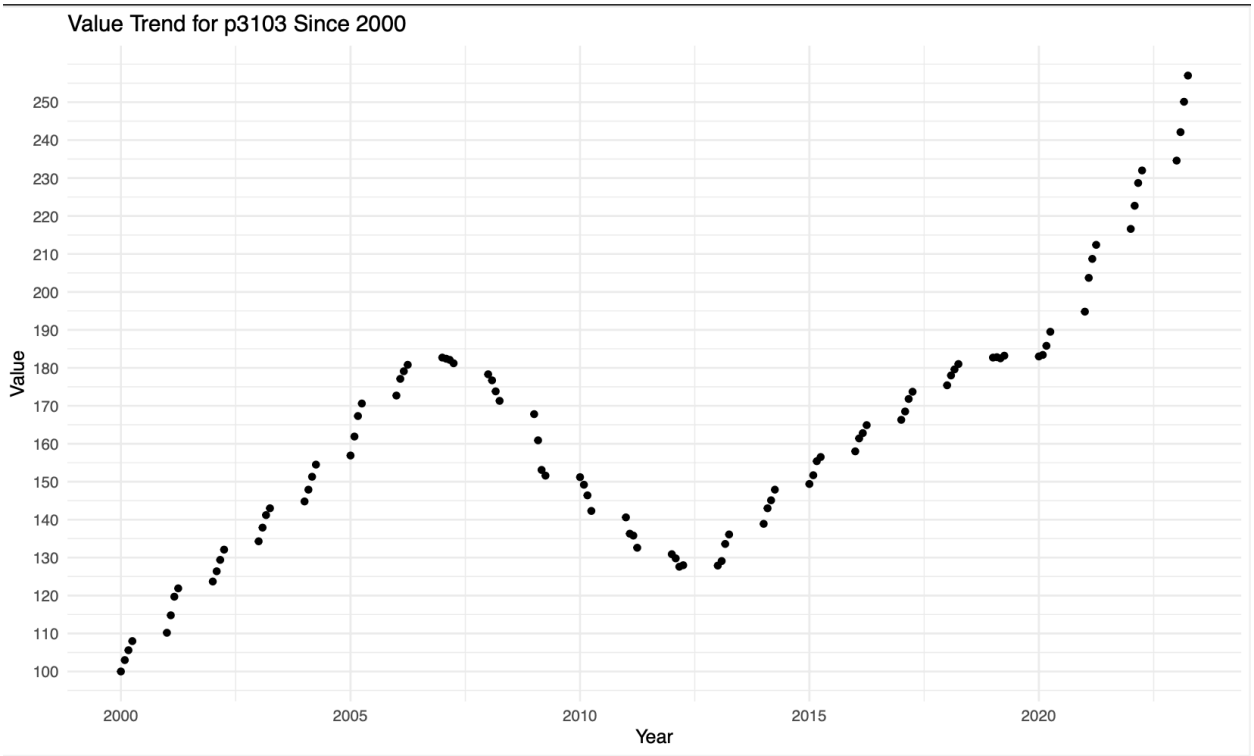

Fig. 1 - Value increase plot for the city of Schaumburg

As seen by plot, the value of the home was steadily rising in a linear manner until around 2008-2012, when the economic housing crash happened, where the majority of homes ended up losing value, which is expected. From here, there is steady rise until 2020 when the pandemic hit. Due to this, there is more of an exponential increase, resulting in a current home value increase percentage of nearly 265, which is very significant.

The next plot will be for the city of Mount Prospect. The plot is attached below.

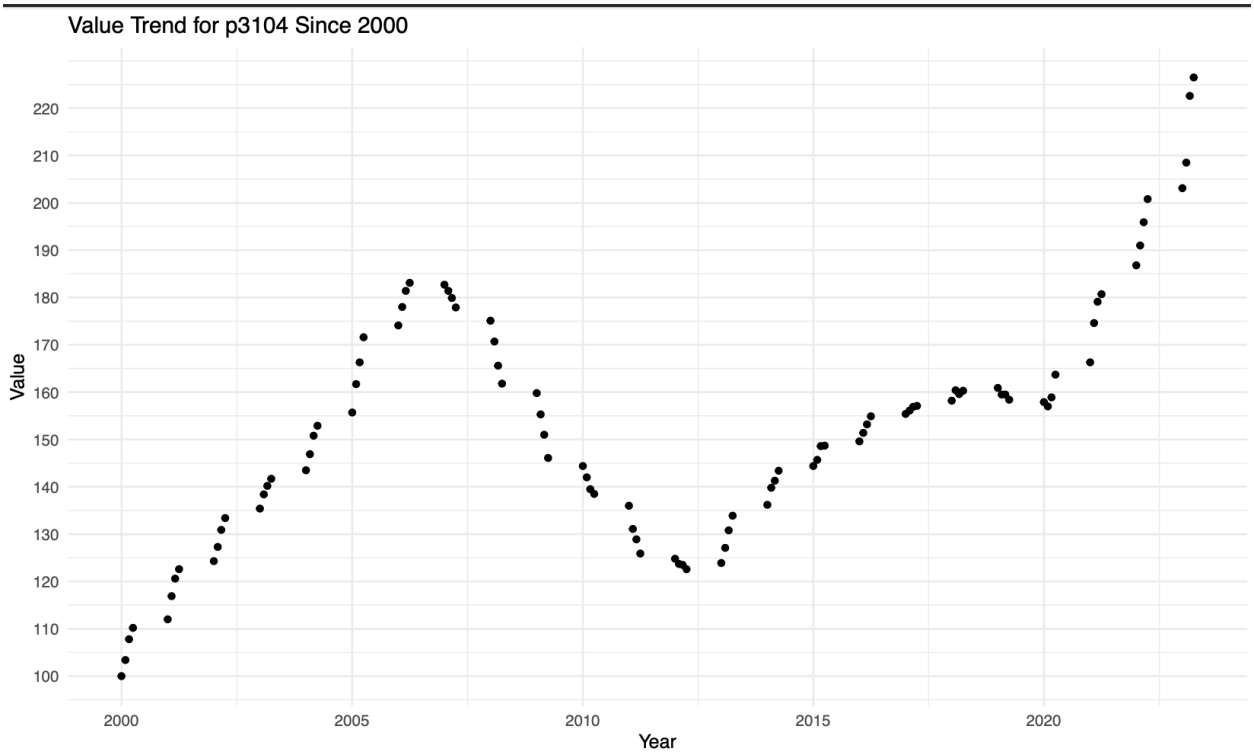

Fig. 2 - Value increase plot for the city of Mount Prospect

The graph illustrates that the home's value was on a consistent linear upswing until the period between 2008 and 2012, which coincides with the economic downturn in the housing market. As anticipated, this led to a depreciation in the value of most homes. Following this dip, there was a gradual recovery in value until 2020, when the pandemic emerged. The pandemic's impact has caused the home value to surge almost exponentially, culminating in a current increase of approximately 225% in home value. This is a considerable rise, although it falls short of the increase seen in Schaumburg.

The final plot will be for the cities of Oak Forest/Tinely Park. The plot is attached below.

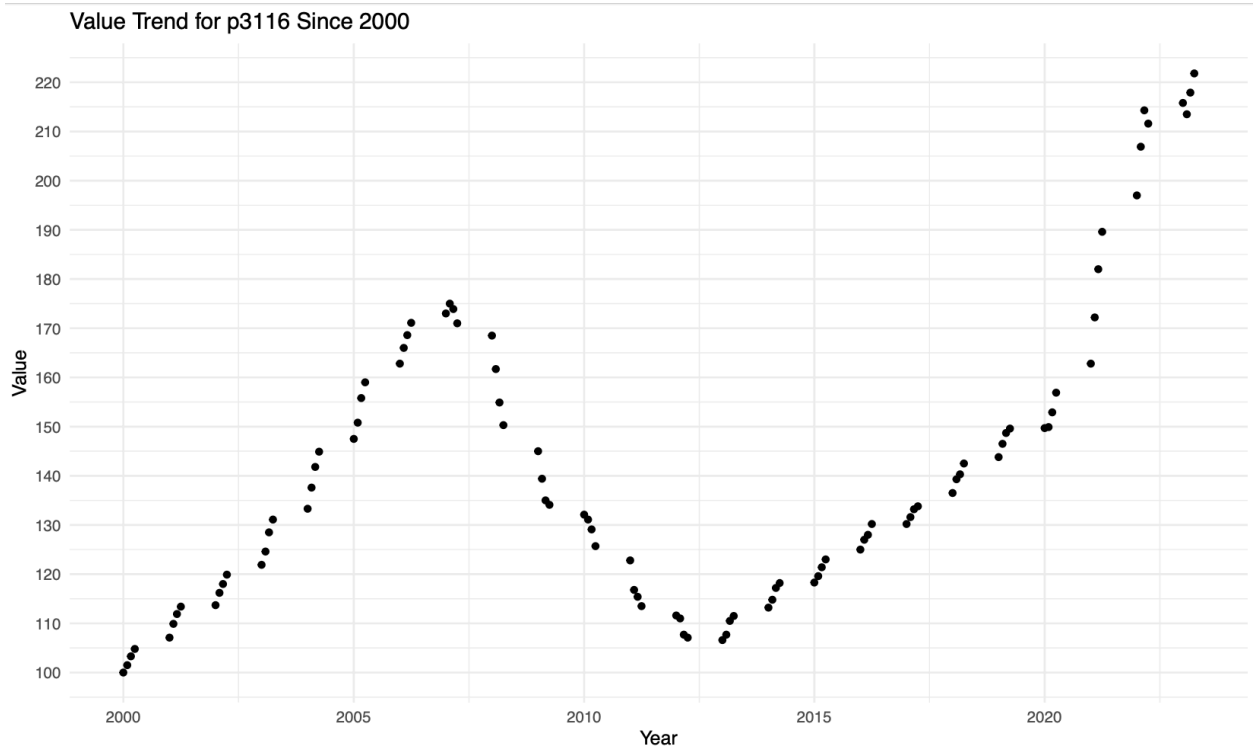

Fig. 3 - Value increase plot for the cities of Oak Park/Tinely Park

The graph illustrates that the home's value was on a consistent linear upswing until the period between 2008 and 2012, which coincides with the economic downturn in the housing market. As anticipated, this led to a depreciation in the value of most homes. One thing that I noticed, however, was that before the dip, the peak only rose to less than 180, which is about 10% less

than that of the next highest of Mount Prospect. Following this dip, there was a gradual recovery in value until 2020, when the pandemic emerged. The pandemic's impact has caused the home value to surge almost exponentially, culminating in a current increase of approximately 220% in home value. This falls short of the increase seen in Schaumburg and Mount Prospect, and it signifies to me that this area may see the least growth for the future, leading to a possibly unwise investment in a home for our family.

In conclusion, this report has provided a detailed analysis of home value trends in three distinct areas near Chicago: Schaumburg, Mount Prospect, and Oak Forest/Tinley Park. The data, derived from a comprehensive spreadsheet and visualized through R-generated plots, has offered valuable insights into the potential long-term value retention of properties in these locales.

Schaumburg has demonstrated the most significant growth, with an impressive 265% increase in home values since 2000, suggesting a robust and resilient real estate market. Mount Prospect follows closely, with a 225% rise, indicating steady and promising growth. Oak Forest/Tinley Park, while showing a substantial 220% increase, has the least growth among the three, hinting at a

potentially lower return on investment. The most viable investment seems to be a home in Schaumburg.

For my family, poised to make a substantial financial commitment in uncertain economic times, these findings are crucial. They not only reflect past performance but also provide a predictive lens through which future trends can be estimated. The choice of neighborhood will not only be a matter of personal preference but also a strategic financial decision, aiming to maximize the value and stability of our investment.

Reference:

Cook County Housing Price Index - https://price-index.housingstudies.org/