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Inflation Effects on US Real Estate Returns and House Prices

Real Estate

Asset Division – December 2021

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Introduction

The following report will focus on the US real estate market and will investigate how its returns are affected by inflation rates. Namely, the report will provide an overview of REITs' returns during past inflationary and non-inflationary times in order to highlight any recurring trends. Moreover, such analysis will be compared to US equity returns over the same time periods, perhaps providing indication as to if, depending on current inflation rates, investors should invest in US real estate or equities.

Among the measures used throughout the report to assess the performance of the real estate market, were the case-shiller house price index that tracks the evolution of housing prices in the US since 1890, and the more recent MSCI US REITS index to also evaluate the performance of real estate investment trusts.

The Consumer Price Index (CPI) will be used as the measure for inflation throughout the report, for both low and high inflationary periods. Inflation rates above four percent will be considered as "high".

Section 1 will cover the reasons as to why Real Estate should perform well during times of high-inflation. Section 2 analyzes the performance of Real Estate based on house prices compared to the S&P 500 during periods of low-inflation. Finally, section 3 dives into the returns of Real Estate during periods of high inflation against the S&P 500.

Overall, through graphs and analysis, this paper will show there is a positive relationship between real estate returns and inflation rates. Thus, providing an indication for investors to invest in real estate, rather than equities, in times of high-inflation and vice versa.

1. Hypothesis on Real Estate returns

This section provides potential reasons as to why Real Estate should outperform Equities during periods of high inflation.

There may be numerous reasons that explain why that happens during inflation. The first one is that inflation increases the costs of land, labor, and materials. This makes construction less financially feasible thereby reducing the supply of homes. Since the demand for homes tends to stay the same or increase, this limit in supply drives prices of existing properties by creating a shortage. Furthermore, by increasing home prices, inflation lowers the loan-to-value of mortgage debt which translates in higher property values for homeowners while their mortgage payments stay the same. Thereby, increasing their wealth. In addition to that, inflation benefits renters by increasing their cash flows. Since property values and salaries increase with inflation, renters can increase rents. Indeed, many properties with longer duration leases have contractual rent escalators that increase renter's income. Finally, inflation also reduces renters and other homeowners' debt. Most homeowners finance their properties through fixed-rate long term mortgages. Since their payments are fixed rate, inflation benefits homeowners by allowing them to pay back lenders with money that is worth less than they originally borrowed, and thereby reducing their real mortgage payments. These factors should translate into Real Estate having a better performance than Equities during periods of high inflation.

The following sections will assess that hypothesis by providing an analysis into the returns of Real Estate compared to Equities during selected periods of low and high inflation.

The results show a positive correlation between Real Estate returns and inflation.

2. Real Estate performance during normal times

This section will examine and compare Real Estate returns (based on US house prices) to equities returns (based on the S&P 500 performance) in periods of low inflation (<4%). More specifically, time periods between 1953 to 1966 and 1987 to 1997 will be analyzed and will be referred to as 1950s and 1990s respectively.

2.1 Inflation during the 1950s

Following the post-World War 2 inflationary boom, which took place from 1946 to 1949, the US experienced a decade of stabilized inflation rates fluctuating below four percent from 1953 all the way to 1966, as illustrated below.

Figure 1 - US Inflation rates between 1953 and 1966 (TRADING ECONOMICS, n.d.).

Such a low inflationary period was mainly explained by historians as the effect of rising unemployment, reaching peaks of 7.4% in 1958 which, in turn, lowered consumption and slowed the US economy down (Rissman, 2005). Overall, according to the Bureau of Labor Statistics consumer price index, the average inflation rate between 1953 and 1966 was 1.5% (Webster, 2021).

2.2 Performance of Real Estate in contrast to equities during the 1950s

In the 1950s, real estate (which will be analyzed through the US historical home price index) experienced a gradual and significant decline in performance. Namely, as depicted by figure 2, house prices kept falling from an index of 154 in 1955, to 145 by 1965. Such a negative trend may suggest inflation might have had an impact on real estate's house prices, perhaps contributing to their decline over these years.

On the other hand, US equities generally experienced high returns throughout the same decade. Namely, returns have been overall positive, with a peak of 45.02% in 1954 and a negative of -14.31% in 1957. The disproportionate number of green bars in figure 3 (indicating positive returns on the S&P 500) clearly displays equities' good performance during the 1950s.

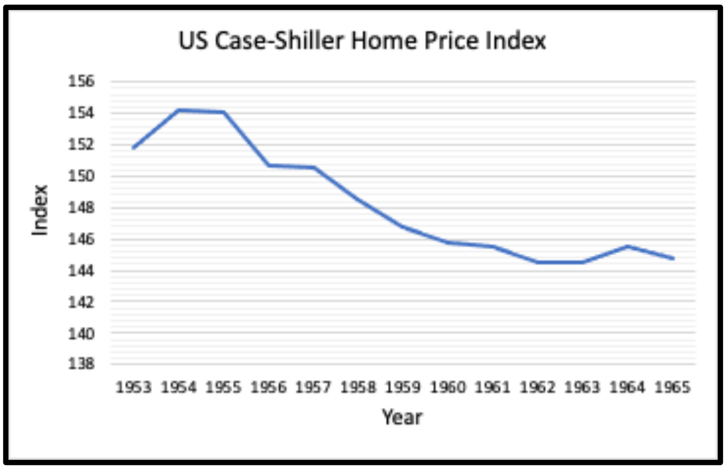

Figure 2 – Home price index between 1953 and 1966 (Case Shiller home price index, 2021).

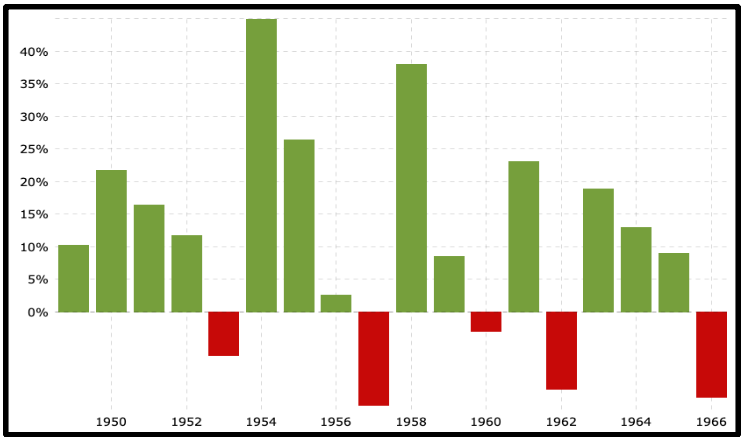

Figure 3 – S&P 500 returns between 1953 and 1966 (S&P 500 historical annual returns, 2021).

Although several negative returns have indeed been registered, the graph clearly shows how these never persisted for more than one year, indicating that the overall tendency for the returns on the S&P 500 between 1953 to 1966 was overly positive. Similarly, upon further analysis of the price fluctuations of the S&P 500 throughout the same decade, a positive trend can once again be observed (figure 4). Such a persistent increase in the price of US equities further highlights their performance over these years.

Hence, based upon analysis of US house prices and the S&P 500 performance in the 1950s, it can be argued that, given low rates of inflation, equities outperform real estate in terms of performance. The following subsections will investigate this relationship further, by analyzing house prices and equities returns during a different historical period of low inflation in the US.

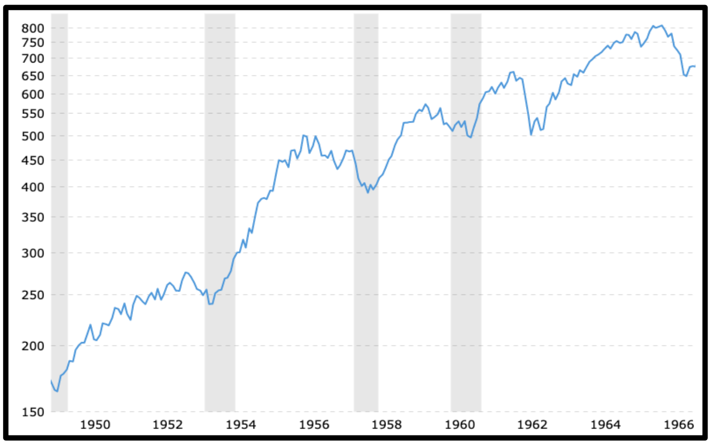

Figure 4 – S&P 500 price between 1953 and 1966 (S&P 500 index – 90-year historical chart, 2021).

2.3 Performance of Real Estate in contrast to Equities during the 1990s

Another historical period with low inflation rates in the US was the 1990s. In these years inflation never fluctuated above four percent, and experienced rates below 2.5% in 1994, as displayed by the graph.

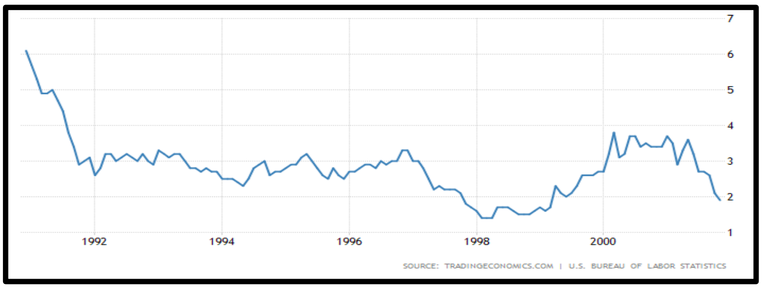

Figure 5 – US Inflation rates between 1987 and 1997 (TRADING ECONOMICS, n.d.).

While inflation was low and relatively steady, house prices fell at a somewhat constant rate instead.

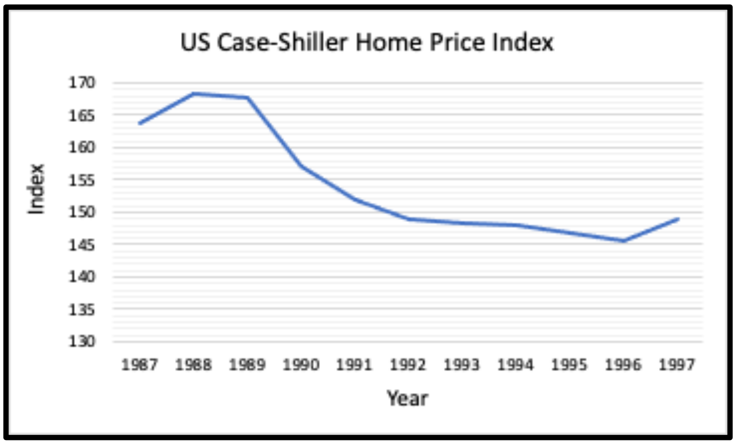

Figure 6 – Home price index between 1987 and 1997 (Case Shiller home price index, 2021).

According to the US Case-Shiller home price index presented above, real estate suffered from the low inflationary period. This is shown by a decline of approximately 21 units in the index between 1989 and 1996.

While real estate appears to have been struggling in the '90s, the S&P 500 experienced significantly high returns throughout.

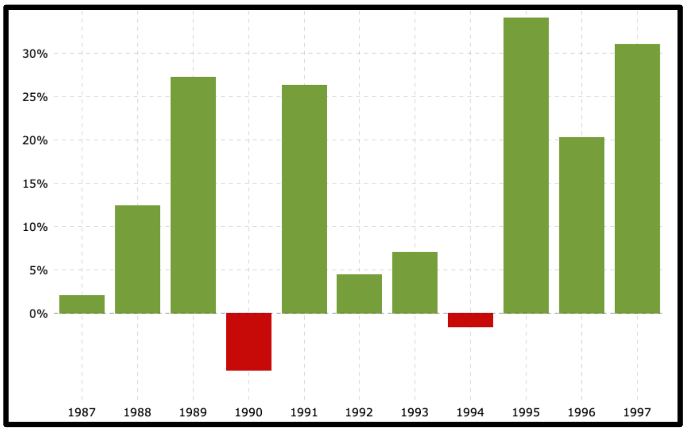

Figure 7 – S&P 500 returns between 1987 and 1997 (S&P 500 historical annual returns, 2021).

To illustrate, US equities registered returns as high as 34.11% in 1995, with a mere negative peak of -6.56%.

Once again, the price of US shares experienced a substantial increase over this decade as well. Namely, S&P 500 equities were traded for just above $600 in 1989, and for more than double the amount (approximately $1,600) by 1997.

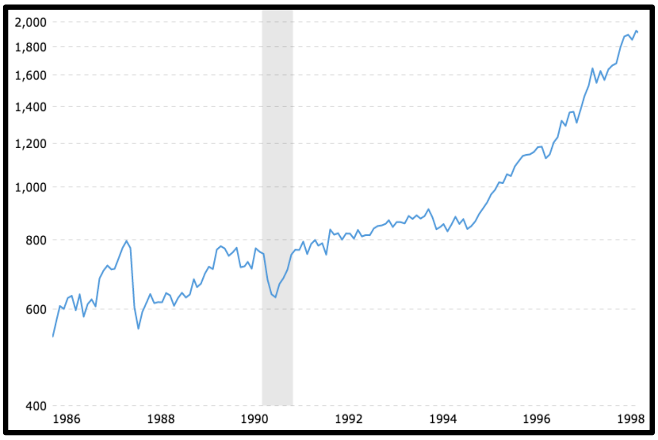

Figure 8 – S&P 500 price between 1987 and 1997 (S&P 500 index – 90-year historical

Hence, following the investigation of real estate and equity performance during two historical decades (1950s and 1990s) characterized by low inflation rates, it may be hypothesized that, in times of low inflation, equities outperform real estate. This is justified by declining house prices and high returns on the S&P 500 stock index during these periods.

The following section will delve deeper into this hypothesis, by carrying out a similar investigation during periods of high inflation instead.

3. Real Estate performance during periods of high inflation

This section will cover the performance of the US real estate market in comparison to the S&P 500 during two periods of high inflation, namely the 1970s and the present.

3.1 Inflation during the 1970s

The 1970s were an important period in US history marked by the Watergate scandal which led to the resignation of President Nixon in 1974, the end of the Vietnam war in 1975, and the oil shocks in 1973 and 1979 which signaled the end of the post-war economic boom.

The average inflation rate from the 1900 to 1970 was 2.5%. From the 1970 to 1979, the average inflation rate jumped to 7.06% and hit around 14% in December 1979 (Dalitso et al., 2021).

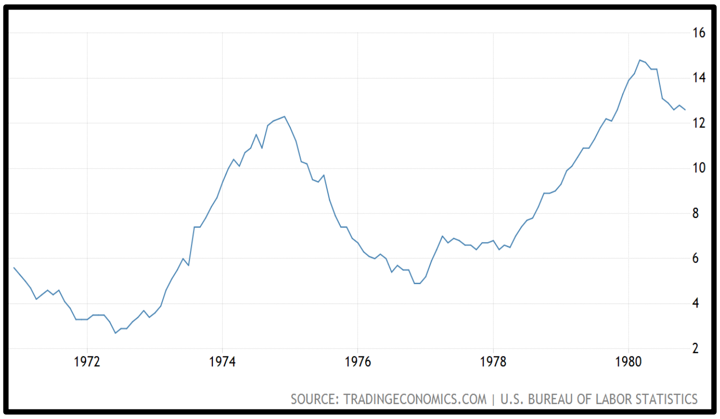

Figure 9 – Inflation during the 1970s (TRADING ECONOMICS, n.d.)

This increase in inflation throughout the decade was caused by different factors.The first was excessive monetary supply and high budget deficits. These measures were a result of the Fed's policy of low-interest rates to fuel economic growth and avoid a potential recession which was a fear of President Nixon (Kramer, 2021).

President Nixon was also responsible for other factors that lead to high inflation, such as his 1971 price and wage control that aimed at freezing prices and wages. But, after 90 days Nixon ended up doing the opposite and ending the link of the dollar to gold, thereby turning it into a fiat currency and causing its devaluation (Binder, 1982).

Finally, the major factors that brought about inflation in the 1970s were the oil shocks in 1973 and 1979. The first oil shock in 1973 was due to an oil embargo led by OPEC to protest against countries who supported Israel during the Yom Kippur War in 1973 (Smith, Charles D.,2006). This resulted in an increase in oil prices by roughly 300% (U.S. Department of State, Office of the Historian, 2012) which provoked a rise in inflation to around 10%. The 1979 shock was caused by a significant drop in oil production following the Iranian revolution which doubled oil prices and accelerated inflation to a new high of 14% for the decade.

3.2 Performance of Real Estate in contrast to equity during the 1970s

During the 1970s, Real Estate was a volatile but strong market with REITS delivering a total return of 36% for the decade and home prices increasing by around 9% (Steiner, 2020). In comparison to the stock market, with the exception of energy stocks, was incredibly hurt by inflation with the S&P 500 delivering a return of -16%.

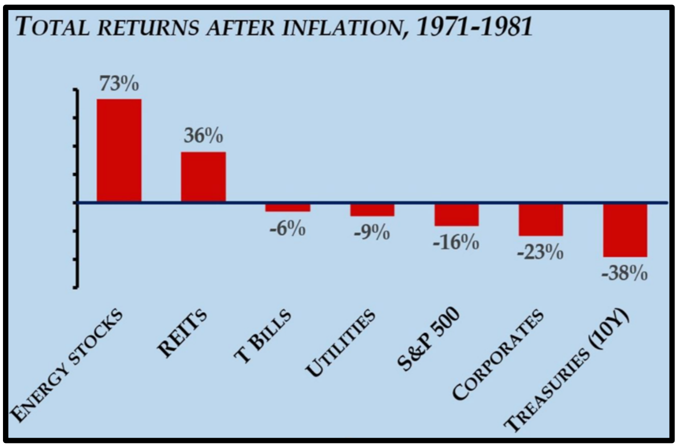

Image 1 – Asset class returns in the 1970s (Arends, 2021).

This data supports the hypothesis that Real Estate outperforms Equity during inflationary periods. However, the 1970s was a decade marked by political conflicts and turmoil as well as high levels of unemployment and the first growth slowdown after WW2 which could influence these results. It is therefore necessary to investigate another inflationary period to confirm this hypothesis.

3.3 Current Inflation

In the past year the US has gone from an inflation of 1.36% to the highest rate in more than 25 years of 6.22%.

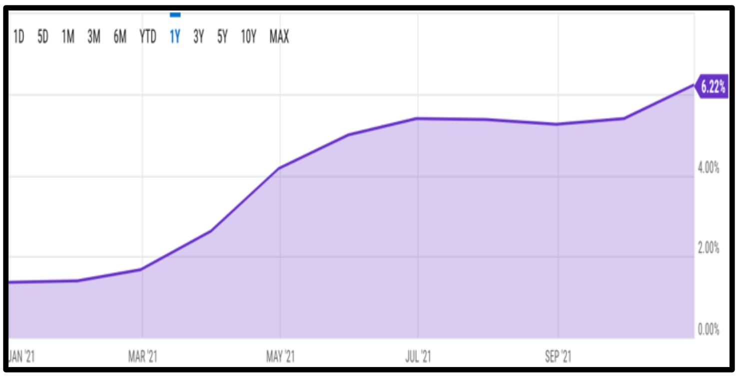

Figure 10 – US Inflation 2021 (YCharts, n.d.)

One of the factors that caused inflation in the 1970s is also partly responsible for inflation in the present, an excess of money. Following the 2008 financial crisis, the Fed decided to run a Quantitative Easing program and started buying long-term securities such as treasury bonds to provide more liquidity to the markets by increasing the amount of money in circulation. This program ended in 2014 and was arguably one of the main reasons for the bull market of the past 10 years and it didn't immediately raise inflation.

More recently, Covid plunged the stock market in March 2020 and forced people all around the world to stay home thereby decreasing the US's GDP and increasing its unemployment rate to a high of 14.7% in April 2020. To respond to this, the US Government provided fiscal stimulus in the form of 4 relief packages that increased the amount of money local governments and citizens had, and thereby raising the amount of money in circulation. In addition to that, the Fed cut interest rates and restarted its Quantitative Easing program to try and keep the economy alive and working which inevitably increased the monetary mass (Alpert, 2021).

The final factor responsible for the current inflation rate is problems with global supply chains.

Global supply chains have been hurt by many issues that were created by the pandemic such as factory closures, raw materials shortages, workforce decreases, inadequate infrastructure and many others. These issues are causing decreases in the production of goods such as cars and consumer electronics. Supply has been decreasing since Covid began but inflation has only started to rise rapidly in March 2021. This can be explained by the fact that in the beginning of the pandemic demand also decreased exponentially as people were staying at home and decreased their expenses, and after a few months as the economy started to open back up, consumer sentiment rose (McKinsey & Company, 2021) and Americans started spending more than they did before the pandemic (Hoffower & Kiersz, 2021). This surplus of demand and lack of supply inevitably caused prices to increase.

3.4 Current performance of Real Estate in contrast with Equities

Inflation crossed 2% in March and 4% in April and since then the return on the MSCI US Reit index (RMZ:MSCI) has been 24% and home prices as measured by the S&P CoreLogic Case-Shiller U.S. National Home Price Index have increased by almost 20% (Smart, 2021). In comparison the S&P 500 has "only" grown about 19% in the same period (as illustrated by figure 11).

The comparison of these returns shows that when inflation started increasing so did the gap between the returns on Real Estate measured by RMZ:MSCI and Equities measured by the S&P 500.

The returns of Real Estate and Equities in the 1970s and now confirms the hypothesis that Real Estate tends to outperform Equities during periods where inflation is high.

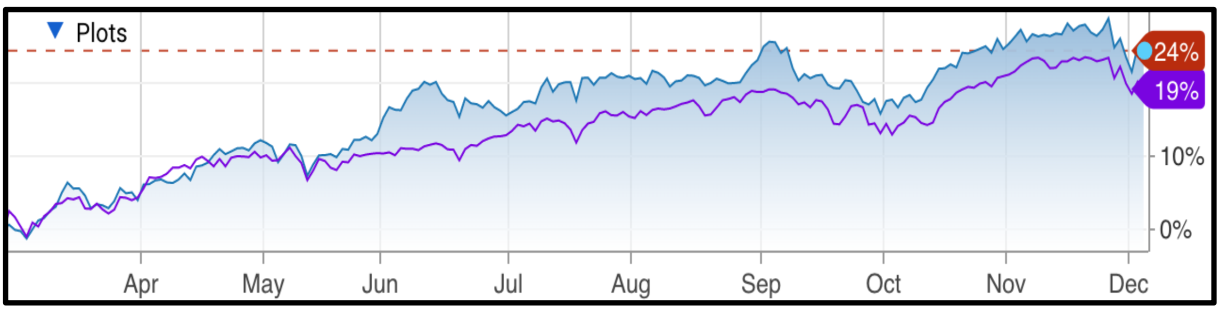

Figure 11 – RMZ in red and S&P 500 in purple (CNBC, n.d.)

Conclusion

Overall, considering the above analysis on Real Estate and the S&P 500 returns throughout different historical periods of high and low inflation, it can be concluded that Real Estate outperforms equities when inflation rates are above 4% and it, consequently, underperforms (compared to equities) during periods of inflation below 4%.

Therefore, it would be recommended for investors to invest in Real Estate and Real Estate securities during times of high inflation.

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