IDSYN | RESEARCH® JUNE 2021 REPORT

WHAT TO EXPECT WHEN YOU ARE EXPECTING INFLATION

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IN CONJUNCTION WITH CHANDAN ECONOMICS



It wasn't too long ago that persistently low inflation was keeping Federal Reserve officials up at night.

Now, in a year where everything has changed, so too has the reason for Jerome Powell's insomnia.

Prices are rising, and in many corners of the economy, they are doing so in attention-grabbing ways. Lumber prices are up a remarkable 89% from a year ago, and energy prices are up 25%. It has been a decade since the last inflationary debate, and a generation since the Central Bank last lost control of price stability.

With the recovery well underway and an unprecedented amount of fiscal stimulus still making its way through the economy, it is no longer just a fringe cohort of pundits thinking that the US may, once again, be heading toward a period of sustained higher inflation.

In this brief, we will explore the potential for the US moving into a higher inflation environment and how the commercial real estate sector may fare if the Inflation Hawks are proven right.

^{1.} Lumber prices according to the BLS' Producer Price Index. Data can be retrieved here: https://fred.stlouisfed.org/series/wPS081. Energy prices are according to the BLS' Consumer Price Index. Data can be retrieved here: https://fred.stlouisfed.org/series/CPIENGSL. Referenced data are through April 2021.

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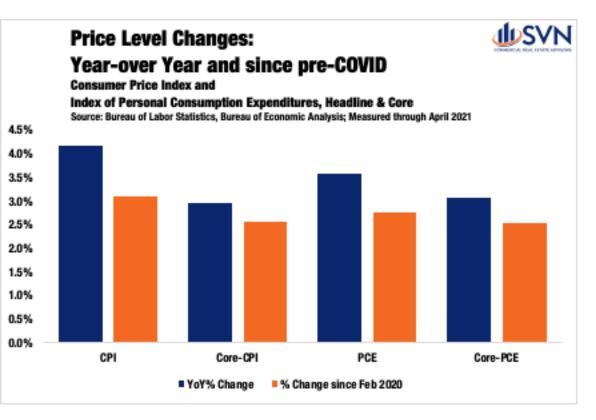


The Goldilocks Zone

Not all inflation is bad. In fact, the Federal Reserve targets a low level of positive annual inflation: 2%. There are several economic rationales for doing so. The most compelling is that it offers a cushion against deflation, which central bankers regard as the most destructive and destabilizing force in monetary economics.

If a consumer sees prices falling and expects that the cost of an item will decline more, they are likely to postpone their planned purchase. As a result, firms respond by cutting prices to incentivize buyers, which validates the consumer's belief that prices will indeed fall more. If this process continues and becomes circular, an economy is left stopped in its tracks. Thus, the Federal Reserve explicitly targets 2% inflation: enough of a hedge to guard against deflation and low enough that most consumers do not notice its effects on a day-to-day basis.

In short, it's the Federal Reserve's "Goldilocks Zone."



Through April 2021, the US has started to move above the Fed's target range. The BLS' consumer price index (CPI) and the BEA's index of personal consumption expenditures (PCE) (the Fed's preferred measure) are up 4.2% and 3.6% year-over-year, respectively.

Moreover, stripping out the relatively volatile food and energy components, so-called "core" inflation rates are also up considerably year-over-year. Core CPI and Core PCE are respectively each up from a year earlier by 3.0% and 3.1%.

Of course, as these price indices are quoted on a year-over-year basis, it is important to reflect on the price conditions from one year ago. As the country went into lockdown, consumer demand took a nosedive, and prices followed. The volatility that occurs in the base

year can amplify annual changes down the road, much as they are doing now.

Comparing headline CPI and PCE (includes food and energy) instead to February 2020, prices are up by a slightly less concerning 3.1% and 2.8%, respectively. Nevertheless, **consumer spending is primed to accelerate in summer 2021, and businesses, through April 2021, are behind the curve in the race to get workers back and match supply with rising demand.** Base effects and supply chain disruptions are a significant part of the story for current levels of observed inflation. Still, if there is a next chapter of sustained higher inflation ahead, it will likely be one of broad consumer demand outpacing supply.

I Expect, Therefore, It Is

The role of expectations in a monetary framework cannot be understated. As noted in the deflation example up above, the consumer's expectations impacted their behavior, which, in turn, influenced the price level. The exact process works in reverse as well.

If a consumer expects that prices will rise tomorrow, they will purchase today. The instigated consumption means that there is more demand relative to existing supply, causing firms to raise their prices.

One way to measure inflation expectations is by looking at how inflation risk is priced in public markets. Take two Treasury securities of equal duration: one priced nominally and one indexed to inflation. The yield spread between the two securities represents the additional compensation investors are demanding to account for the expected inflation risk over the term of the nominally priced bond. That is a sleep-inducing way to say that the yield spread estimates inflation expectations.



For a more detailed breakdown on how inflation expectations influence future levels of observed inflation, see "What are inflation expectations? Why do they matter?"

https://www.brookings.edu/blog/upfront/2020/11/30/what-are-inflation-expectations-why-do-they-matter/ This yield spread is referred to as the **"Breakeven" inflation rate.** Currently, the 5-year breakeven inflation rate is 2.57%, meaning that investors expect inflation to average that much over the next five years.²

Looking back at these inflationary bets over time, history suggests that markets are at least reasonably adept at anticipating the inflationary horizon.

According to a Chandan Economics analysis, average inflation over a 5-year period is roughly 48% correlated with the 5-year breakeven rate offered at the start of the term. Moreover, if investors were efficiently pricing inflation risks, the average spread between predicted inflation and actual inflation would sit near zero.

Measured from 2004 and 2016, this spread has averaged -0.1%, meaning that **not only is the breakeven rate a** reliable gauge of upcoming conditions, but its tendency to undershoot reality is equally weighted by its tendency to overshoot.³



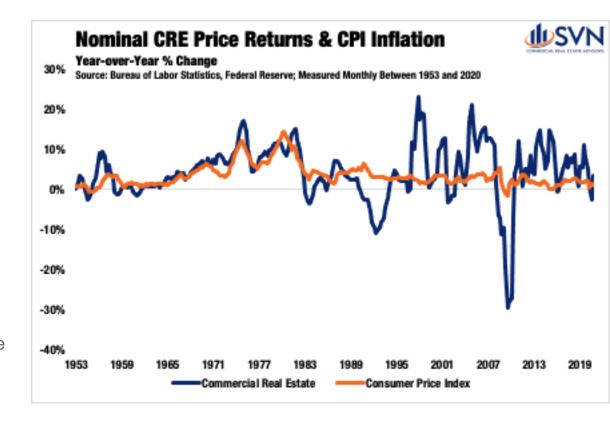
^{2.} Measured through June 1st, 2021. Data can be retrieved here: https://fred.stlouisfed.org/series/T5YIE

^{3.} Historical analysis of 5-year inflation averages completed through June 2016, the last month of full-forward data availability.

Keeping It Real

Policymakers argue that it is not time to worry about the effects of higher inflation, but perhaps it is at least time to start worrying about worrying about it. However, the good news for real estate investors is that in periods of high inflation, real estate prices have historically come along for the ride.

It has been more than 40 years since the last time the Fed lost control of stable prices. In 1980, average price levels were growing more than 14% year-over-year. For a brief period, consumer prices were increasing more quickly than real assets.



Still, sectors such as commercial real estate quickly caught up, posting nominal valuation returns above 15% by the end of 1981.

Between 1953 (the earliest date of data availability) and 1980, inflation and commercial real estate value moved in near lockstep. Over this period, the annual rate of increase for the two measures was correlated 85.4%. Moreover, valuations of commercial real estate prices grew an average of 4.3% annually compared to annual inflation averaging 3.4%. Taking these data points together, the average "inflation-adjusted" or "real return" for commercial real estate valuations was 0.88%.

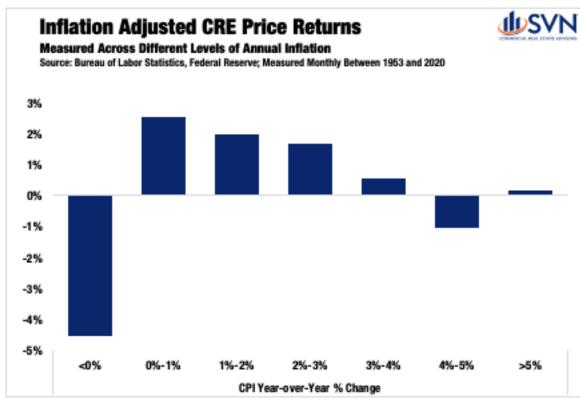
As the French writer Jean-Baptiste Alphonse Karr put it: "plus ça change, plus c'est la même chose." For those who aren't fluent in French or Google Translate, that is, "the more things change, the more they stay the same."

As much could be said about commercial real estate returns since 1980. The 1980s ushered in a period of profound change for CRE. Between a deregulatory environment introduced by the Reagan Administration and the Savings and Loan Crisis, by the mid-1990s, the commercial real estate sector had transformed into a far more professionally-managed and risk-tolerant industry.

Suddenly, prices of commercial real estate were responding more to cyclical factors unique to the sector and less to average prices measured throughout the broader economy. Since 1980, CRE prices are only 18.4% correlated with inflation. Despite this apparent decoupling, the inflation-adjusted returns, on average, remain remarkably similar to the pre-1980 paradigm, coming in at 0.85%.

Nevertheless, even as commercial real estate prices have demonstrated over the long run that they will track and exceed inflation, it is not to say that there aren't ranges of inflation better suited for CRE performance than others. The chart to the right details the average spread between annual CRE price growth and inflation, given different levels of inflation.⁴

CRE valuations tend to grow the most above inflation when inflation is relatively low. When the average price level of goods and services is growing at an annual rate between 0% and 1%, CRE valuations tend to outperform inflation by a resounding 2.5%.





When inflation averages 1%-2% or 2%-3%, real CRE price returns average 2.0% and 1.7%, respectively. As inflation moves further away from low, stable levels, real CRE returns suffer.

When inflation sits **between 3% and 4%**, CRE outperforms by a stingy **0.6%**.

At inflation levels **between 4% and 5%**, real CRE returns have historically fallen into negative territory, underperforming the CPI by **1.1%**.

When inflation **exceeds 5%**, commercial real estate prices have kept up, albeit just barely, outpacing CPI by **0.2%**.

Lastly, the worst conditions for CRE price performance are during periods of **deflation**, losing a crippling **4.6**% of real value annually.

These data support both conventional wisdom and economic intuition. As the line goes, "investing in real estate is a great hedge against inflation." That much appears to be true.

When prices start to rise across the economy in an unusually rapid fashion, CRE valuations generally keep up. However, those periods are usually marred by interest rate uncertainty and tight credit conditions. As risk becomes more difficult to price, there is less entrepreneurial innovation, and the activities associated with value creation are reduced.

Conversely, when inflation sits near the Federal Reserve's stated target, there is less fear of an aggressive central bank intervention, and the flow of capital runs more smoothly, encouraging productive risk-taking and economic value gains.

Almost Nothing to Fear but Fear Itself

Commercial real estate investors in 2021 are, undoubtedly, on high alert. Thankfully though, if history is any guide, the prospect of higher inflation should not overly concern commercial real estate investors.

If there is one major takeaway from the last chart, it's that falling inflationary pressures and the risk of deflation is what should really spook the market. This is not to say, however, that there won't be isolated challenges if inflation continues to rise. The most at-risk group of CRE investors for higher inflation are those that are currently early in the life of their deals. Sustained higher inflation would set the stage for higher interest rates, and if an early-stage investor had an expectation of continued low-interest rates as they seek permanent financing, conceivably, they could run into trouble. Multifamily, self-storage, and hospitality investments may prove extra attractive in a high-inflation environment as one-year lease terms are conducive for resetting rents to match the increase in average consumer prices. Neighborhood properties, especially those in the retail sector, which also tend to have shorter lease terms, are also likely to be better positioned to manage any inflationary risk in the near- and midterm.

The US economy has limited cross-sections where demand has far outstripped supply and prices have responded in kind. Holding these cases aside, expectations of price growth elsewhere are rising, though not up to overly concerning levels (at least, not yet). The risk of higher inflation is more significant than it has been at any point since before the Financial Crisis, though in absolute terms, the risk of the Federal Reserve losing control of price stability remains modest. All else equal, the potential for higher inflation should be on the radar for commercial real estate investors as the US moves into a new phase of the recovery. Nonetheless, the overall threat to CRE is low, and the sector is positioned well to absorb the impacts of high inflation should they occur.

Methodology Notes

- Commercial Real Estate Returns quoted here are from the Board of Governors of the Federal Reserve
 System's Commercial Real Estate Price Index, which can be retrieved here: https://fred.stlouisfed.org/series/BOGZ1FL075035503Q. These data were chosen as they offered the longest historical time series of data.
- Unless otherwise explicitly stated, all mentioned as "inflation" refers to the year-over-year % change in the
 consumer price index, produced by the Bureau of Labor Statistics. These data can be retrieved here: https://fred.stlouisfed.org/series/CPIAUCSL#0.

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