



Inflation and Property Performance: Not What You Expect

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Introductions

- **Jason Benderly** is President, **Benderly Economic Insights** and formerly Co-Director of Economics, Goldman Sachs & Co. He serves as a member of the Advisory Board of **Outsourced Research**.
- **Randall Zisler** is Chairman, Zisler Capital Associates and **Outsourced Research**, formerly professor, Princeton University; Executive Director Real Estate Research at Goldman Sachs & Co., Managing Director, Nomura Securities, and Co-Head of Investment Banking at JLL.
- **Russell Platt** is Chief Executive Officer, Forum Partners Europe (UK) LLP, formerly Managing Director, Morgan Stanley Asset Management. He serves as a member of the Advisory Board of **Outsourced Research**.
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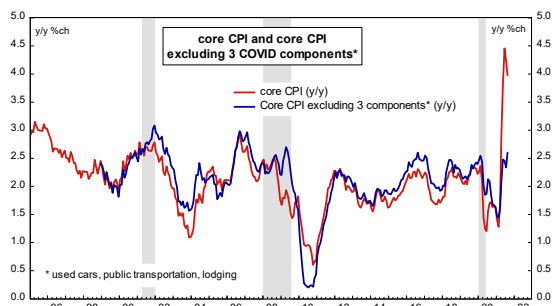
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Executive Summary

- **Inflation analysis.** Be wary of broad generalizations, characterizations, and definitions, e.g., stagflation.
 - **Our inflation outlook.** The consensus forecast of 70 economists in the latest WSJ survey shows inflation slowing to about 2.5% next year and in 2023. Our forecast is for a pickup to 3%-4% in the next few years, with some upside risk. But there is NO reason to expect runaway inflation.
 - **Inflation hedging.** Two approaches: Short-term return/inflation correlations and long-term store of value.
 - **Inflation's impact on property and other assets.** Stocks and property are poor short-term hedges but are good inflation-adjusted long-term stores of value. Bonds and senior commercial mortgages are poor hedges.
 - **Inflation's impact on specific property returns.** Apartments, office, and industrial are poor short-term inflation hedges and share similar inflation-hedging characteristics.
 - **Deals.** Deal performance reflects uncertainty pertaining to deal revenue and expense growth rates, and unexpected changes in the exit cap rate. Inflation may not affect revenues and expenses equally due to demand-supply imbalances and imperfect expense pass-throughs.
- Portfolios.** Property asset allocation in the context of the surplus (assets minus liabilities) reflects the expected return, risk and the correlation of property returns with other asset returns, as well as the characteristics of the liabilities. If the liability returns are correlated with inflation, then property's allocation may be less; if the liability return is long-term bond-like, then the allocation is greater.
- **Then why invest in property?** Even if property is not a good short-term inflation hedge, there are many other reasons to invest in property.

The Fed and Inflation

US Inflation Jumped Sharply in 2021, Due in Part to Covid-Related Supply Issues



Core inflation jumped sharply in 2021: 4.0% to 4.5% for the core CPI.

A significant part of the pickup is price increases directly due to supply shortages related to the pandemic

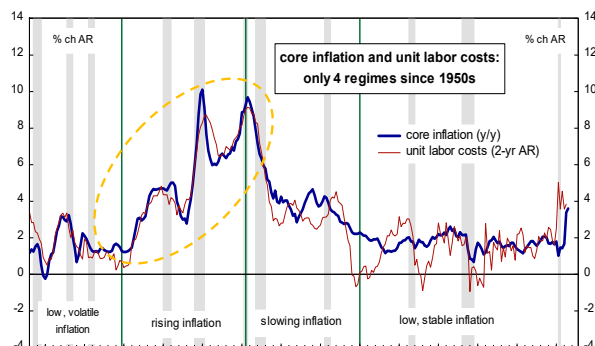
The most extreme example is used car prices, which increased 30% to 40% from their level last year.

Excluding 3 price components shows that the rest of core CPI has increased by 2.6% year-over-year, an increase but only up to the peaks reached many times during the last 20 years.

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Only 4 Monetary Policy Experiments and 4 Inflation Regimes Since the 1950's



Early-1950s to early-1960s: Monetary policy acted often to stop inflation from rising, creating 3 recessions from 1953-1960.

Early 1960s to 1980: Monetary policy let inflation rise in each economic recovery and did not bring inflation back to its previous low; the President tried wage and price controls instead in 1971 and 1973 with unsatisfactory results.

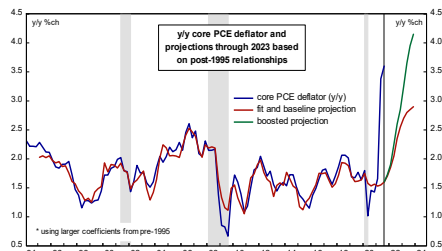
1980 to mid-1990s: Monetary policy tightened dramatically in 1980-82 and then did not ease enough to bring unemployment below the natural rate until the mid-1990s.

Mid-1990s to the present (maybe): Inflation has stayed low, perhaps because of credible monetary policy but also because low inflation begets low inflation.

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Our Inflation Outlook: Higher than the Fed's and the Consensus Forecast

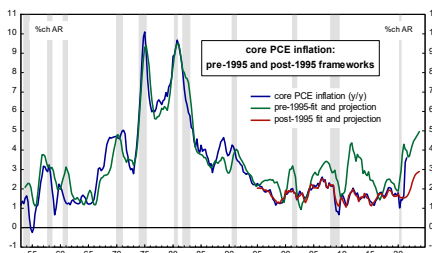


Since the mid-1990s, core inflation has been low and relatively stable, with subdued effects from the important factors that determine inflation.

These factors include commodity prices, import prices, the dollar exchange rate, productivity, and economic growth.

For the period from the 1950s to the mid-1990s, these important factors had a larger effect on inflation and there was an interaction among prices, labor costs and the unemployment.

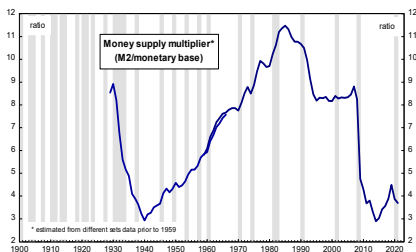
A projection of inflation based on this pre-1995 relationship would have overstated the actual behavior of core inflation from 1996 to 2021.



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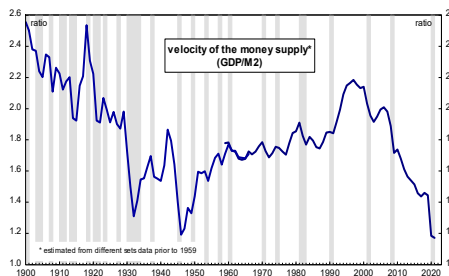
No Direct, Automatic, Stable Links Among Reserves, Money Supply, Economy and Inflation



The ratio of the money supply (M2) to the monetary base (or reserves) has never been constant – neither its long-term trend nor its short-term cycles.

Similarly, the ratio of the economy (GDP) to the money supply (M2) has never been constant.

Consequently, there has been neither a direct nor automatic nor stable link from monetary measures to inflation.



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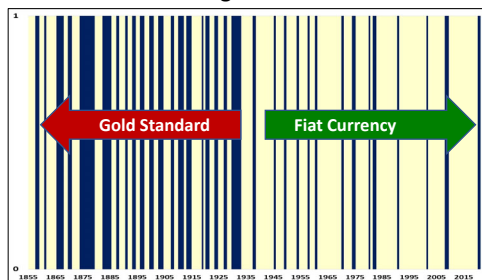
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Post-WW II Enhanced Monetary Stability

- Since the Great Depression, improved macroeconomic stability reflects more effective Federal Reserve policy that included gradual elimination of the on-and-off again deflationary effects of the gold standard.
- While the gold standard maintained a flat long-run price level, it did so at the expense of economic instability.

The economy was extremely unstable under the gold standard

- Under the gold standard, the economy was in recession almost 50% of the time; since then, the economy has been in recession less than 15% of the time.
- The Federal Reserve has the policy tools to manage and contain inflation, and since WW2 inflation in the US has stayed relatively low except for the 1965-1980 experiment.

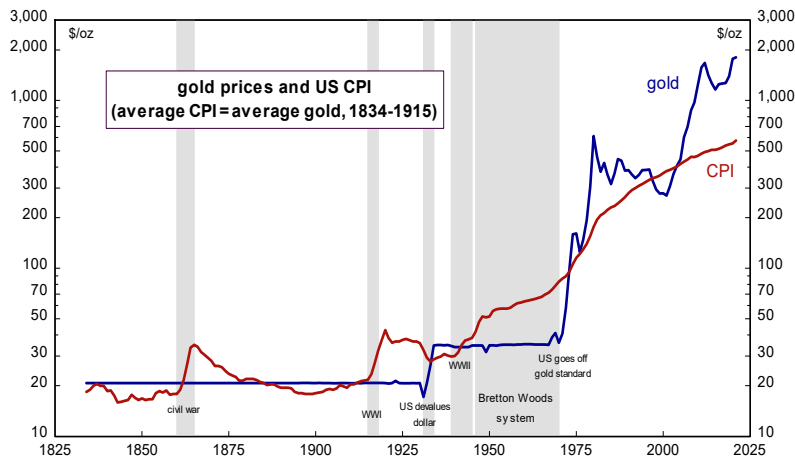


Note: Dark vertical bands are recessions.

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Gold, an Inflation Hedge over the Very Long Term, has Significantly Outpaced the CPI Since the End of the Gold Standard



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What is Inflation Hedging?

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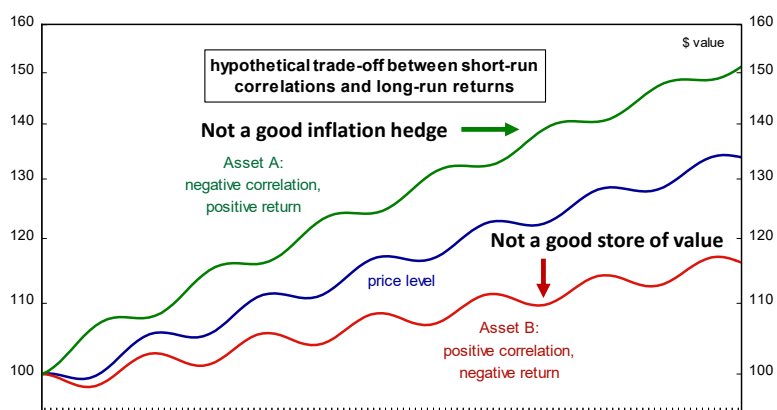
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Hypothetical Short-Term Correlations Versus Cumulative Returns

Price level: Rising with a cycle

Asset A: Positive long-run real return, but negatively correlated with inflation

Asset B: Negative long-run real return, but positively correlated with inflation

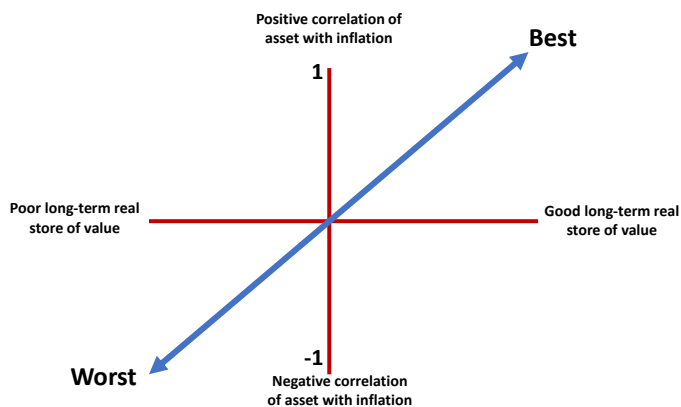


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What Does Inflation Hedging Really Mean?

- **Strict definition:** High positive short-run correlation with inflation
- **Pragmatic definition:**
 - A good long-run store of value, i.e., earning a positive after-inflation (and after-tax) return in the long run
 - After-inflation returns should not fall significantly for extended periods. Stocks do this more than property.

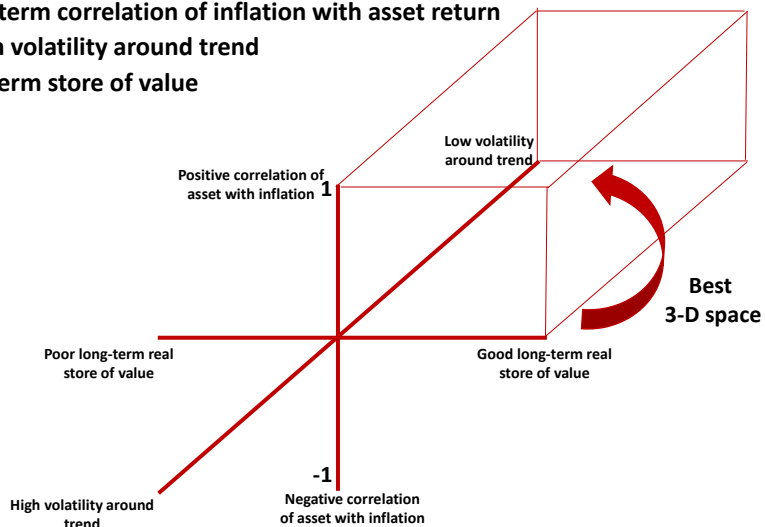


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Hedging Characteristics are Multi-Dimensional

- Short-term correlation of inflation with asset return
- Return volatility around trend
- Long term store of value



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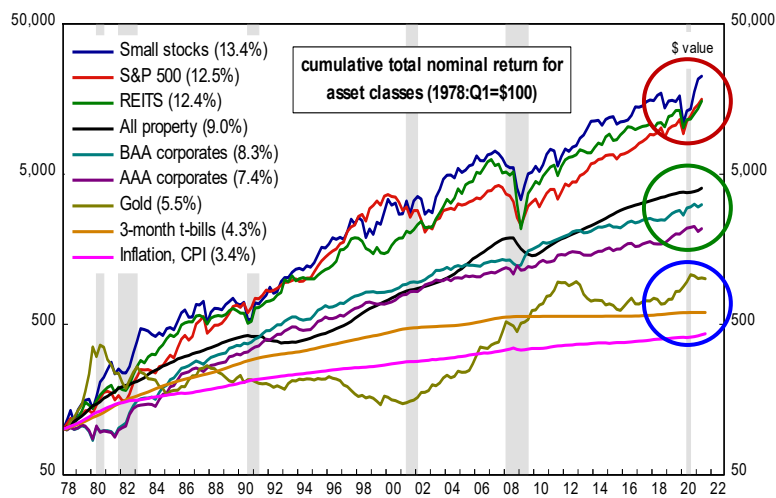
Multi-Asset Comparison

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Long-Run Performance of Asset Classes: Cumulative Total Return from Q1:1978

We divide assets into 3 groups with regard to cumulative total nominal return: (1) **Equities**, (2) **corporates and properties**, and (3) **commodities and short-term instruments**

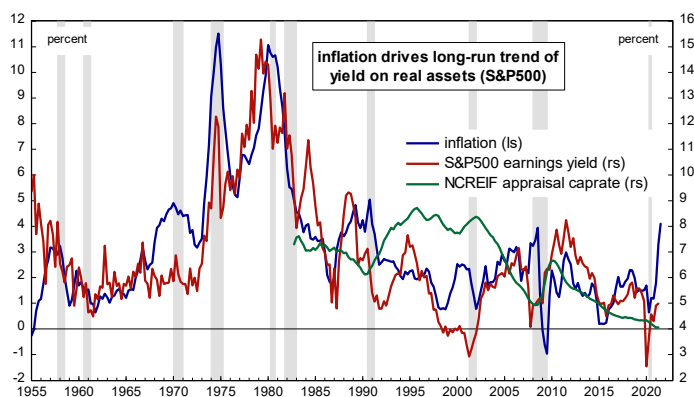


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Current Yield On Real Assets is Driven by Inflation in the Long-Run

The highs and lows of the earnings yield on the S&P500 (EPS/price) are closely related to the average level of inflation over the long run, but factors other than inflation are important in determining the property cap rate.

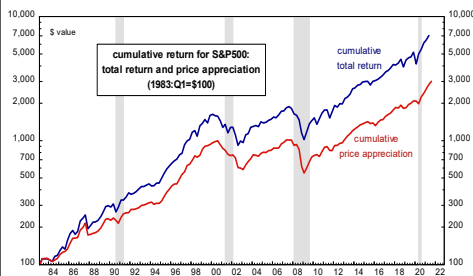


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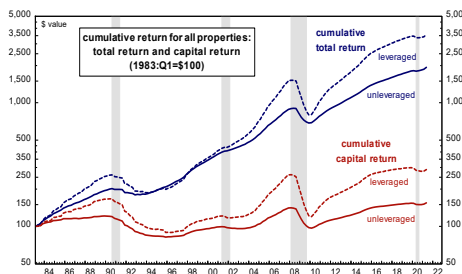
Comparing Cumulative Returns for S&P500 and Property: Income Vs Capital

This difference goes a long way toward explaining why inflation has such a different impact on stock and property returns.



The opposite is true for properties, with only about 20% of the cumulative total return coming from the capital return.

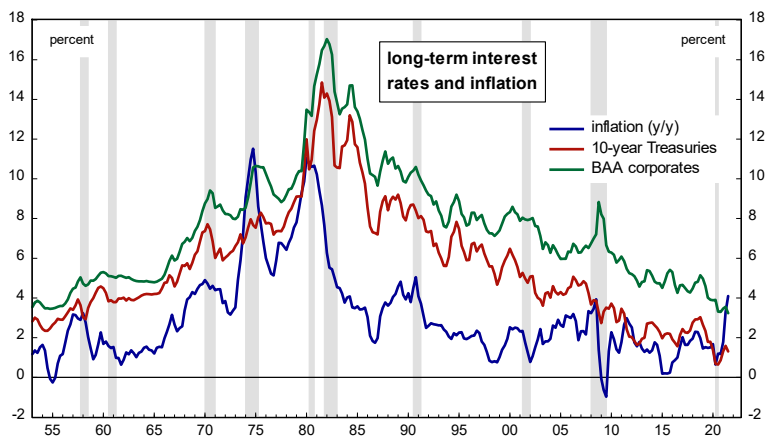
Most - about 80% - of the long-run total return for common stocks (S&P500) comes from price appreciation with little from the income (dividend) return.



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Long-Term Interest Rates have Tended to Respond Gradually to Inflation

The response of long-term interest rates – Treasuries and Corporates – has been gradual, both on the way up to the peak in 1982 and on the way down to the current low



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Property and Inflation

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Conceptual Framework: Why Leased Property is a Weak Short-Run Inflation Hedge

- Macroeconomic factors, which affect interest rates, rental growth, credit spreads and inflation, can influence property value and returns in counterintuitive ways. The reason is that leased properties are hybrid assets consisting of bond-like leases and unleased space.
- Interest rates and credit spreads can rise or fall in weakening or strengthening rental markets. Inflation's interaction with the timing and extent of lease escalation (pass through) as well as local excess demand determine net real revenues.
- Property valuation reflects the present values of the equity and the leases, and the changes in these values can be mutually reinforcing or offsetting. The hybrid nature of leased properties is one of several factors explaining why property is a weak, short-run inflation hedge.

Case	Rental Growth	Interest Rates	PV of Leases	PV of Unleased Space	Net Effect: PV of Property
A	Rising	↑	↓	↑	↓↑
B	Rising	↓	↑	↑	↑
C	Falling	↑	↓	↓	↓
D	Falling	↓	↑	↓	↓↑

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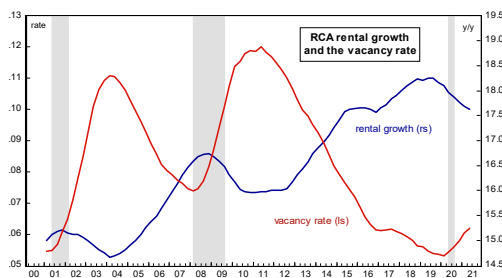
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Rental Growth Rate is Negatively Correlated with the Commercial Property Vacancy Rate

Inflation's impact on property performance reflects capital market as well as real estate market conditions.

Observations:

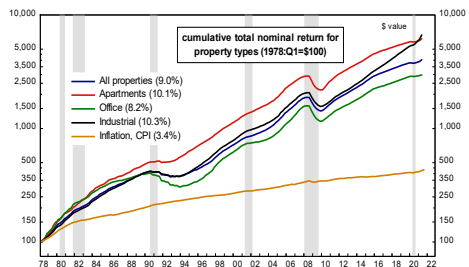
- If the vacancy rate exceeds the natural rate—rents are neither rising nor falling—owners cannot raise rents for new leases or renewals.
- In-place lease escalation provisions may not always provide full pass-through and, if they do, there may be a significant lag.
- Inflation uncertainty can increase the property discount and exit cap rates, thus impairing value and total return performance.
- LPs and GPs typically do not equally share the burden of inflation uncertainty.



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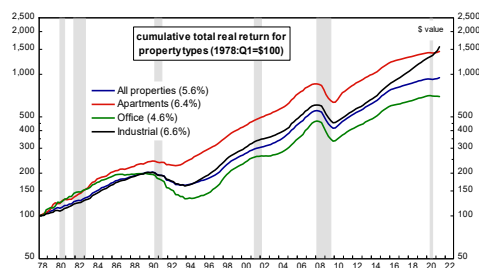
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Long-Term Inflation Hedging Potential Does not Vary Much by Property Type



Nominal property returns are grouped together and outperform inflation.

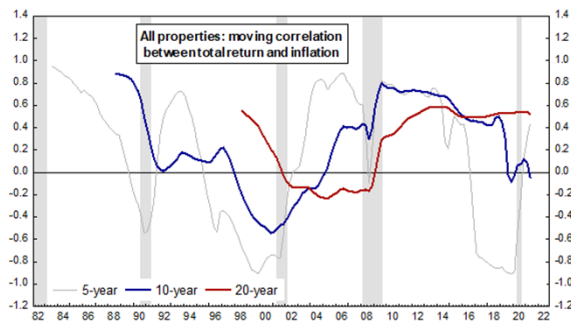
Real property returns are grouped, but apartments lead the pack.



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Correlation of Combined Property Total Returns and Inflation

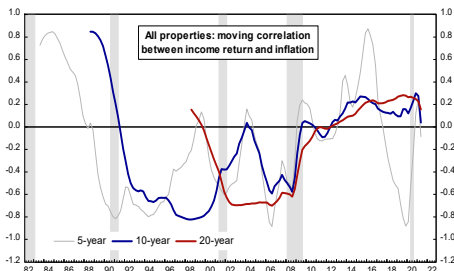


- If property is an inflation hedge, the bivariate correlation should be consistently positive. It is not.
- The charts show the moving 5-year, 10-year and 20-year correlations between the consumer personal expenditure price index and total returns.

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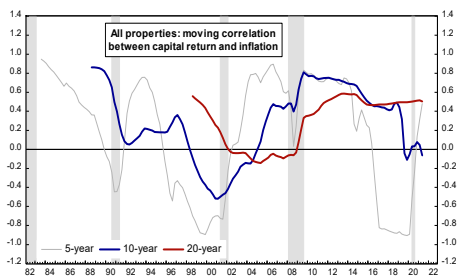
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Correlation of Property Capital Appreciation and Income Rates of Return with Inflation



Correlation between income return and inflation is very low

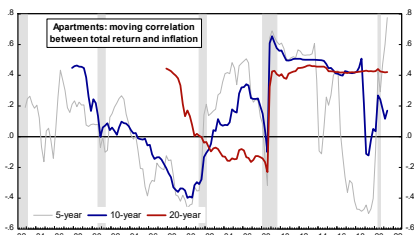
Correlation between capital return and inflation is much higher.



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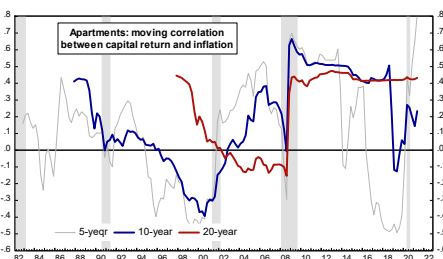
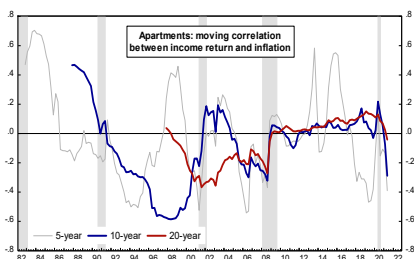
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Example: Apartments are a Poor and Unreliable Inflation Hedge



Apartments correlations are similar to the correlations of other commercial properties; the average capital return correlation with inflation exceeds the income return correlation.

This conclusion applies to offices and industrial properties.

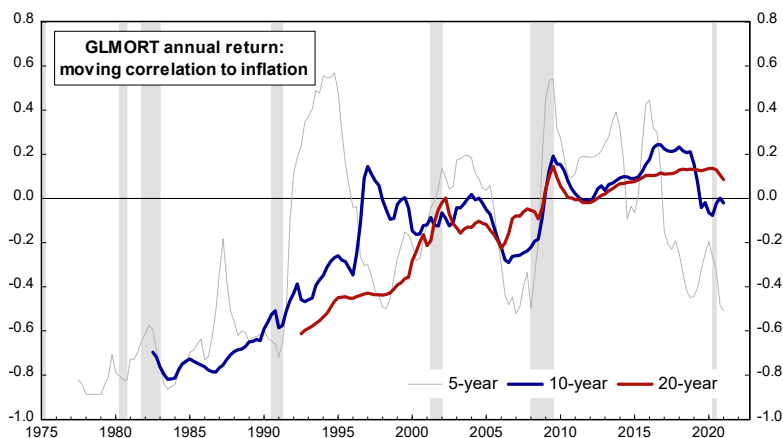


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Example: Senior Commercial Mortgages are Poor Inflation Hedges

Senior mortgages are not good short- or long-term inflation hedges as shown by the very low rolling 5-, 10- and 20-year correlations of total return with inflation.



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Concluding Comments

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Investment Ideas: Portfolio and Transaction Structuring

Deals. Deal performance reflects stochastic factors that include growth of revenues and expenses (and extent of expense passthrough) and the exit cap rate.

- Inflation may not equally affect revenues and expenses, especially given leasing market imbalance.
- Inflation expectations should affect discount and growth rates, but not necessarily equally.
- Hence, the uncertain impact of inflation on performance, which is property- and market-specific, can reduce (and sometimes enhance) property total returns.
- Inflation's burden may affect LPs and GPs differently depending on the structure of the deal (e.g., promotes, leverage, etc.) and local market conditions.

Portfolios. The optimal property allocation within a multi-asset portfolio of stocks, bonds and cash reflects the expected return, standard deviation and bivariate correlation for all assets.

- Investors should focus on optimizing the surplus, which equals assets minus liabilities.
- Variables include the nature of the liabilities and whether or not the investor (pension fund) is under- or over-funded.
- Property's allocation will reflect the nature of the liabilities, e.g., are the liability returns correlated with inflation or the bond yield?
- Many factors determine the extent to which the surplus is resistant to inflationary shocks.

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Should We Really Worry About Inflation?

- No. The likelihood of runaway inflation is nil even though our inflation forecast is above-consensus. The market has placed too much emphasis on inflation as a risk factor: (1) The negative effect on asset prices in the 1970s was more from uncertainty than inflation *per se*, and (2) the Fed has shown it can prevent a sustained rise in inflation.
- Hedging: We examine short- and long-term inflation hedging and find both useful.
- Inflation's impact: The longer the holding period, the more correlated are total and capital returns with inflation and the stronger is the hedging potential.
- The income rate of return is more bond-like than the appreciation rate of return: its rolling correlation with inflation is about zero.
- The rolling capital return correlations with inflation are higher than the income returns but are similar for all property types.
- All major commercial property classes are poor short-run inflation hedges but are stronger, albeit still weak and unreliable, hedges over the long-term.
- Senior commercial mortgages are poor inflation hedges but they still merit a significant allocation within well-diversified property and multi-asset portfolios.
- Inflation has no significant impact on leveraged or unleveraged property total returns.

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