Inflation – a blessing or a curse?

AUGUST 2022

Nordanö

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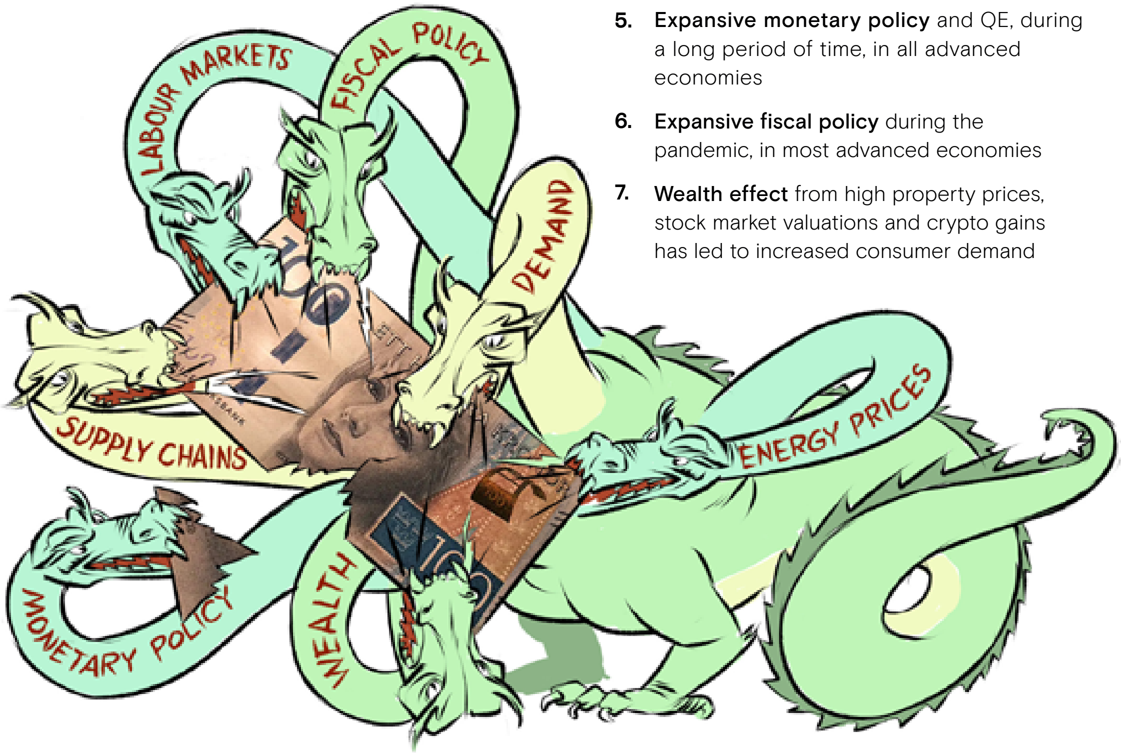
What is the impact of inflation on property investors?

After decades of low inflation, the ugly face of inflation seems to be appearing again. How will rising inflation impact property markets? Do property investments constitute a hedge against inflation? Or, more worryingly, will increasing interest rates push the property market off the cliff?

Causes of inflation
During the last 12 months we have seen a sharp increase in inflation in Europe and the US. The causes of the current increase in inflation have been thoroughly discussed and are well documented. Some of the main factors have been:

1. Increasing **energy prices**, caused by the war in Ukraine (a bad thing) and, to a lesser degree, a rise in CO_2 emissions pricing in Europe (a good thing for the climate)
2. **Supply chain disruptions** and shortages caused by the pandemic and the war in Ukraine
3. Increased **demand for physical goods** during and after the pandemic
4. **Tight labour markets**, particularly in the US, and to a lesser extent in Europe as well
5. **Expansive monetary policy** and QE, during a long period of time, in all advanced economies
6. **Expansive fiscal policy** during the pandemic, in most advanced economies
7. **Wealth effect** from high property prices, stock market valuations and crypto gains has led to increased consumer demand



The bad news is that many of the factors above contribute to increase inflation at *the same time*. The good news is that most of the factors above, upon closer inspection, are *transitory*. We might have to live with high energy prices for the foreseeable future, not the least to reduce CO2 emissions, but the rest of the factors are mostly transitory. Some of them might already be in reverse, for instance the "Wealth effect" may already be deflationary.

Also keep in mind that inflation is the *rate* at which prices increase, not the price level per se. For instance, if energy prices continue to be very high, but don't increase further, they contribute zero to inflation going forward.

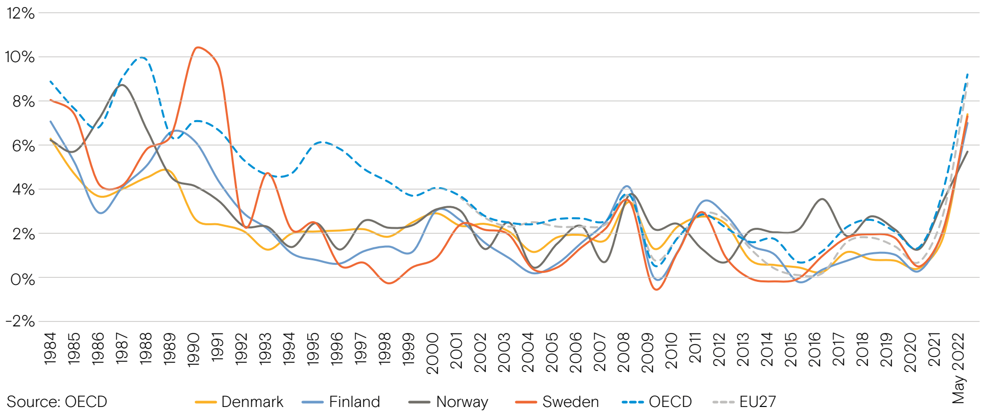
There is not a supply crunch — volumes of almost everything are at record high levels[1].

Inflation is mainly driven by high demand rather than by supply shortages (with a few exceptions like Russian natural gas), i.e. we are facing "demand-pull inflation" rather than "cost-push inflation", particularly in the US.

The main potential argument for permanent inflation is "anchoring", i.e. that inflation expectations remain high and become self-fulfilling.

On the other hand, central banks can increase interest rates to reduce overall demand. With higher interest rates, companies invest less and consumers spend less, reducing demand and creating deflationary pressure. Looking forward, the big question is whether central banks will be able to stop inflation with a soft landing, without creating a recession.

The rise in inflation has been sharp and broad



Source: OECD

[1] This is shown in Bridgewater research report "It's Mostly a Demand Shock, Not a Supply Shock, and It's Everywhere" (https://www.bridgewater.com/its-mostly-a-demand-shock-not-a-supply-shock-and-its-everywhere)

How does inflation impact property markets?

Inflation is already here, but the jury is still out on whether it is transitory or permanent. But how does inflation matter to property investors?

There are several mechanisms that "translate" inflation into property markets.

Transfer mechanism 1 – indexation
This is the most obvious mechanism. Most rental contracts, in most property sectors, in most markets, are indexed, i.e. rents increase with inflation, albeit with a year's lag. Indexation protects the *income* of property against inflation.

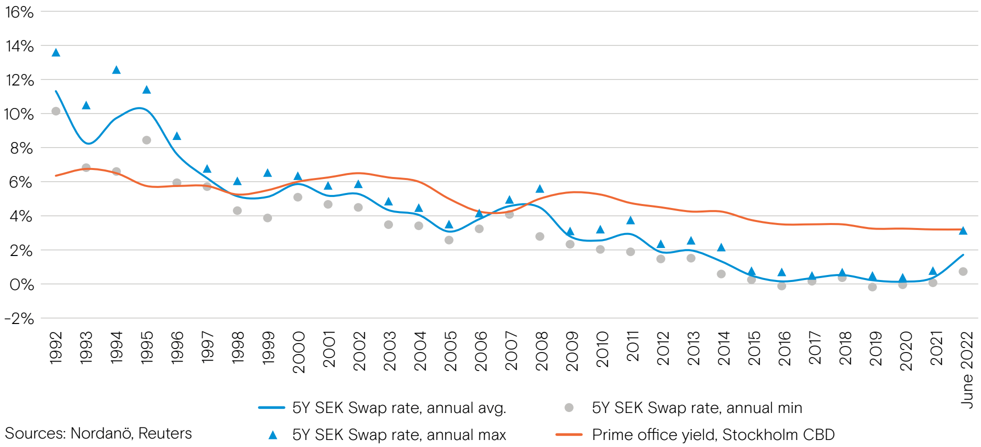
Transfer mechanism 2 – interest rates
The second way that inflation impacts property is through interest rates. Assuming *real* interest rates are somewhat stable (more about that later), *nominal* interest rates will move together with inflation. As some of you may remember, in the seventies and eighties we had periods of very high inflation and very high nominal interest rates (and high growth!).

Higher inflation leads to higher interest rates, and increased interest rates impact property markets mainly through two mechanisms:

Transfer mechanism 2a – interest expense (leveraged investors)
For leveraged investors, interest rates have a direct impact on the bottom line, since their interest expense increases with rising interest rates. This happens rapidly for floating rate debt, but will eventually impact long maturity debt as well (see numerical example in the breakout box overleaf).

Transfer mechanism 2b – opportunity cost (all-equity investors)
For non-leveraged all-equity investors, like many institutional investors, the impact of interest rates is different. The main mechanism is the opportunity cost of investing in other markets, for instance fixed income markets. Why should an investor buy somewhat risky properties if they do not yield more than less risky bonds?

Prime yield vs. swap rates – the yield gap is tightening, from a historical high



Sources: Nordanö, Reuters

As seen in the graph above, leveraged investors have enjoyed a huge yield gap between borrowing costs and property yields. This gap has tightened sharply. However, leveraged investors often invest in high-yielding non-prime assets where the yield gap, before inflation struck, was significantly higher, cushioning the blow of inflation.

Simplified numerical example (aka "the napkin")
The following *very* simplified example is meant to illustrate the effects of changes in inflation and interest rates on a leveraged investor.

Assumptions:

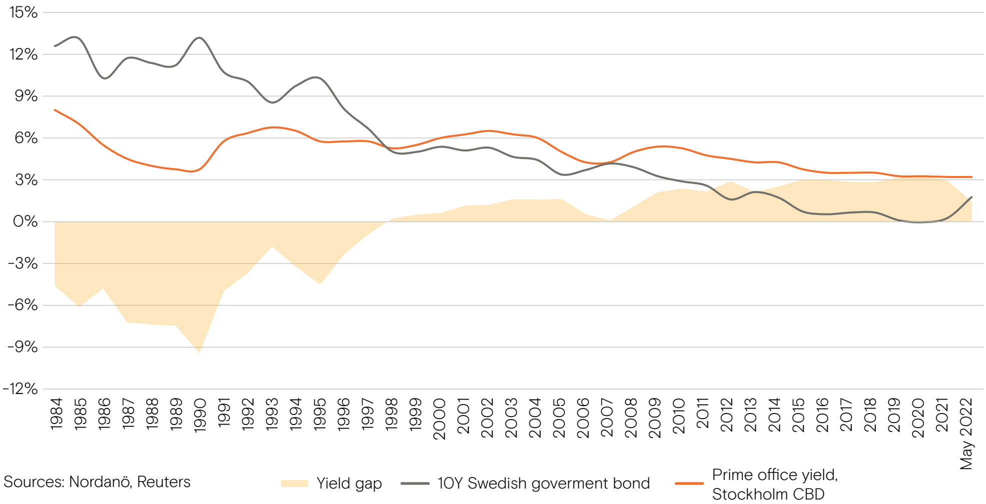
- Inflation increases abruptly by 100bp from 2% to 3% – rental income, property costs and NOI follow inflation
- *Nominal* interest rates increase by 100bp, in parallel with inflation, increasing borrowing costs from 3% to 4%
- A fictional investor owns a property worth 100 MSEK, yielding 4%, with 50% leverage

Year	**1**	**2**	**3**
Inflation	2.0%	3.0%	3.0%
Borrowing cost	3.0%	4.0%	4.0%
Debt, MSEK	50	50	50
NOI, MSEK	4.00	4.08	4.20
Interest expense, MSEK	1.50	2.00	2.00
"Cash flow"*, MSEK	**2.50**	**2.08**	**2.20**
Debt Coverage Ratio	**2.7**	**2.0**	**2.1**

* "Cash flow" in this example is NOI minus interest expense

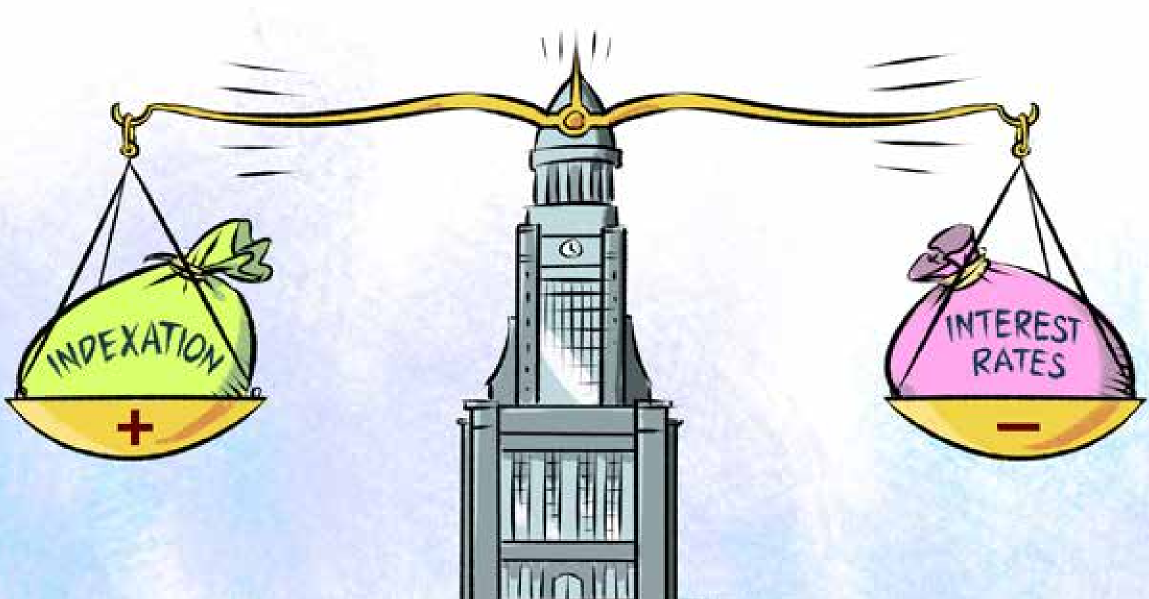
In this example, the investor's Net Operating Income would increase by 5% form year 1 to year 3, while borrowing costs would increase by 25%(!), sharply reducing cash flow as well as the debt coverage ratio. It is not hard to imagine a scenario where this can lead to a liquidity problem.

The nominal yield gap is tightening – but still at a historically "normal" level

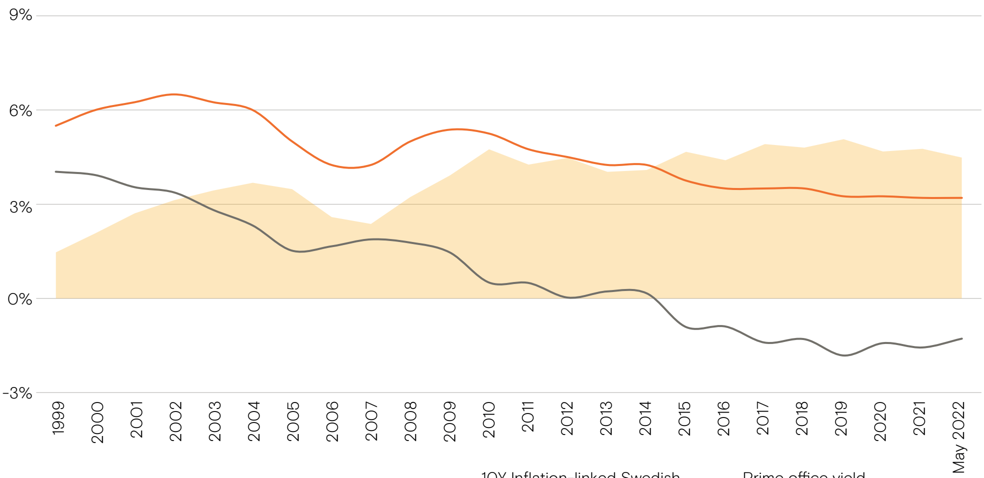


Sources: Nordanö, Reuters

The nominal yield gap (the difference between property yields and interest rates) has tightened significantly due to increasing interest rates. However, the nominal yield gap is only part of the story. For an all-equity investor, *real* interest rates are more relevant. If property values follow inflation (more about this later), the income return of a property is a *real* return, rather than a *nominal* return.



The real yield gap is almost at all time high – compared with inflation-linked bonds, property returns are highly attractive



Sources: Nordanö, Reuters

> As seen in the graph above, the real yield gap (the difference between property yields and yields on inflation-linked bonds[2]), is close to all time high. You can argue that risk-adjusted returns for property are still very attractive.[3]

Transfer mechanism 3 – construction costs

A third mechanism that transfers inflation to the property sector is rising construction costs. In the short run, developers will need to absorb that cost, leading to less development projects being started, limiting the supply of new space. The increased construction costs will create downward pressure on the price of land and building rights, since developers will not be able pay as much.[4]

Conclusion – inflation has both a positive and negative impact

The impact of inflation on property investors will depend on the relative magnitude of the transfer mechanisms mentioned above. Indexation has a positive effect on property, while increasing interest rates have the opposite effect.

[2] Due to the lack of supply of inflation-linked bonds, they are not a perfect measurement of real interest rates, but it is as close as it gets, and can be used as a proxy

[3] For a thorough analysis of the risk-adjusted return of property as an asset class, please read our research report 1:2018; "Property – the holy grail of investments?"

[4] The price of land can be seen as the price of an option contract, with the strike price being (construction cost + margin), and the value of the finished property being the underlying asset.

Are property investments a hedge against inflation?

It is common knowledge that property is good in times of inflation; that it offers protection. This has been repeated so often, that most investors take it for granted. But is this really the case? Is there any empirical evidence for this?

We have analysed correlations between total return on property and inflation in Sweden[5]. After analysing *many* different time periods as well as taking into account different leads and lags (from t-2 to t+2) we have found no strong correlation that stands the test of time. Depending on the starting year, correlations can be either negative or positive, but they are not significant.

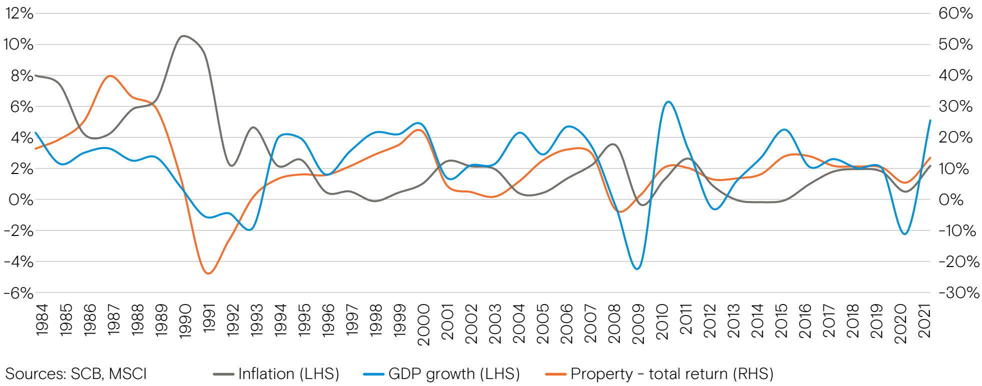
During the last years, the correlation seems to increase, but the sample is too small to draw any conclusion.

Thus, the conclusion is that there doesn't seem to be any clear correlation between inflation and total return on property.

Based on empirical data (in Sweden), there is no support for the "inflation hedge" theory. However, we have found a very strong link between total return on property and GDP growth[6]. Irrespective of time period, starting year, etc., the correlations between property returns and GDP growth are very high.

Correlations (1994-2021)	Property Total Return	Inflation	GDP Growth
Property Total Return	1.00	**-0.25**	**0.64**
Inflation	**-0.25**	1.00	0.11
GDP Growth	**0.64**	0.11	1.00

Inflation, GDP Growth and property returns



Sources: SCB, MSCI

> Between 1994 and 2021 the correlation between total return on property and inflation is non-significant and slightly negative (-0.25), whereas there is a strong correlation between total return on property and GDP growth (0.64), during the same period of time.

Real Estate Total Returns vs. Inflation and Economic Growth, 1986-2020

Correlations (1986-2020)	Inflation	GDP Growth
Australia	0.42	0.55
Canada	0.23	0.82
France	0.25	0.46
Japan	-0.01	0.40
Netherlands	0.13	0.70
Sweden	-0.06	0.54
UK	0.11	0.59
USA	0.03	0.63

Sources: MSCI, NCREIF, ONS, Refinitiv Datastream, ROZ, Schroders, October 2021. Real Estate returns in nominal terms. 603409

> Similar results have been found by Schroders[7] in several other countries. As seen in the table above the correlations between property total returns and inflation are very low, in all countries, whereas the correlations between property and GDP growth are high and significant.

Conclusion – How should investors act today?

Although property might not be the holy grail as far as protection against inflation, there are other reasons to choose property investments in the current market. Property as an asset class offers an attractive risk-adjusted return, since *real* interest rates, as opposed to *nominal* interest rates, continue to be at very low levels, creating a significant risk premium to be enjoyed by property investors.[8]

Based on our analysis, there is no evidence that property constitutes a hedge against inflation. It is, of course, true that over the long-term, property has outpaced inflation by far, but so have all other asset classes as well...

However, the correlation between property returns and GDP growth is very high, as well as stable over time. It seems as if property returns are driven by GDP growth, in addition to structural mismatches between supply and demand; property supply is notoriously inelastic, while demand is a function of, among other things, demographics, as well as, technological and behavioral change.

In conclusion, investors should focus on *a)* GDP growth and *b)* the nitty-gritty of property investments (location, location, location as well as demographics, footfall, letting, repositioning etc.), rather than trying to second guess inflation.

[5] Unfortunately there is not sufficient data to analyse Finland, Denmark and Norway

[6] The MSCI Total Return index for Sweden is heavy on office property

[7] Source: "What does inflation mean for real estate investors?" by Mark Callender at Schroders 10/12/2021

[8] For a thorough analysis of the risk-adjusted return of property as an asset class, please read our research report 1:2018; "Property – the holy grail of investments?"

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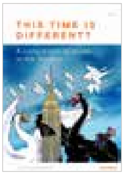

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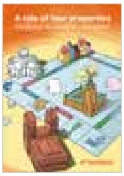

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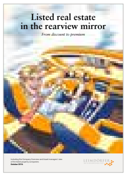

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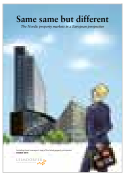

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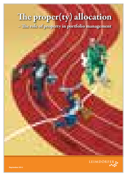

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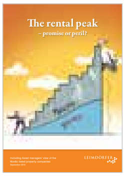

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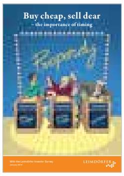

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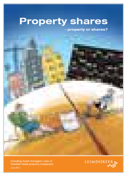

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