Session A: Room 2
What goes up must come down? - inflation impacts on real estate

Frontier annual conference 2022

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Setting the scene

A look back at….

- The relationship between inflation and real property returns (income in particular)
- The underlying drivers - look at lease structures and rent escalators – Australia and USA
- When does the inflation hedge work best?
- What can clients do to improve portfolios?

Did you know?

Tenants prefer to fix rental growth over their lease term

Scenario	If CPI is x% p.a.	Portfolio impact to a diversified Australian property portfolio - (five year timeframe)
Low inflation	<3%	Most leases in Australia have a rental escalator of at least 3% p.a. Purchasing power of rental income is fully protected at these levels.
Moderate inflation	3-5%	Fixed lease escalations provide some protection to rental income.
High inflation	5%+	Fixed lease escalations provide limited protection for inflation greater than 5%.

Quick look – traditional Australian sectors

Leases and rental escalators

Typical lease structures in Australian real estate sectors

Key Characteristics	Retail	Office	Industrial	Healthcare
Duration	• Majors: 15-25 years • Specialties: up to 5 years	Typically 5 years • Large corporates/banks can be up to 15 years • Smaller tenants 5 years	• Large corporates or internationals can be up to to 15+ years • Smaller tenants max 5 years	• Leases typically from 7+ years to 27+ years for stabilised hospitals to those in build-to-core stages
Rent Escalators	• Majors: Every 4-5 years based on combination of base rent + sales • Specialties: Fixed 3-5%. Some moving to % of sales	• 3.5% to 3.75% annually • Government tenants opposed to CPI increases • Fixed increases = neither tenant nor landlord can move into overdrive or reverse	• 3.5% to 3.5% annually • Typically net or triple net leases • Triple net: all expenses are passed through to the tenant including inflation rises	• Various escalators but mainly CPI+x% quarterly or annually • Some have ratchet clauses • Some are capped at ~ 4%
Inflation protection	• Majors: Inflation passed through via rising sales • Specialties: Good protection at low-to-moderate inflation. Higher proportion of rent generated by this group	• 4% rental increase will protect against low-to-moderate inflation • CPI+1.25% min will protect against higher inflation	• Supply/demand driven; not inflation driven • % of lease expiries key to locking in inflation based market rental levels	• Variety of exposures to private hospitals, university centres, medical centres • Typically, moderate to high inflation protection

Source: Frontier analysis

Retail

Source: Shopping Centre News

Store type	Net lettable area	Base rent	Recoveries	Gross passing rent
Majors	61%	20%	36%	22%
Specialties	31%	66%	59%	65%
Mini majors	6%	6%	2%	5%
Kiosks	1%	6%	2%	6%
Freestanding	1%	2%	1%	2%
Total	**100%**	**100%**	**100%**	**100%**

Source: Frontier analysis

- The numbers above refer to a typical sub-regional shopping centre in Melbourne. The two major tenant types are majors (supermarkets, big box retail), and specialties (cafes, jewellers, travel agents).
- Majors: lease terms 15-25 years, with rent reviews every 4-5 years, and with turnover rent. Exposed to CPI increases for the most part, with very limited inflation protection unless inflation flows through to turnover rent via higher MAT.
- Specialties: small tenants, tend to be shorter term, annual rent reviews with a fixed circa 5% escalator. Specialties have good inflation protection at low-to-moderate inflation rates.
- Majors comprise 61% of net lettable area but only 22% of base rents. On the other hand, specialties, with stronger inflation protection, comprise only 31% of net lettable area but 65% of base rents. Therefore, given most rent comes from specialties, we can expect inflation protection at low-to-moderate inflation rates.

Office

Source: HBR

Lease type	Lettable area	Base rent	Outgoings recovered	Gross passing rent
4.00%	36%	37%	36%	37%
CPI+1.25%	64%	63%	64%	63%
Total	**100%**	**100%**	**100%**	**100%**

Source: Frontier analysis

- Example of an A-Grade office tower in Melbourne. The tower comprises of one major tenant and four smaller tenants.
- One third of the office space is protected by annual rent reviews with a 4.00% escalator.
- Two thirds of the office space is subject annual rent reviews of CPI+1.25%.
- Leases are all net, so cost recoveries (power, water etc.) are also passed through. For this building they amount to $210sqm for all leases.
- A 4.00% rental increase will protect against a low-to-moderate inflation increase. The CPI+1.25% rental increase will protect against higher inflation levels as inflation is fully passed through.

Industrial

Source: CBRE

Source: CBRE

- Most leases have 3.0-3.5% escalators and annual rent reviews. This will protect against low levels of inflation, but not moderate-to-high increases in CPI.
- Managers aim for long leases, with five year minimum lease terms.
- While triple net (tenant pays all expenses) and gross leases exist (no recovery of expenses), the typical industrial lease is net.
- In the case of a net lease, the landlord pays any capex and the tenant meets operating expenses. These expenses are passed through should there be any inflation increase.
- Industrial properties are currently experiencing strong rent growth with 5% p.a. average rental growth expected over the next five years.

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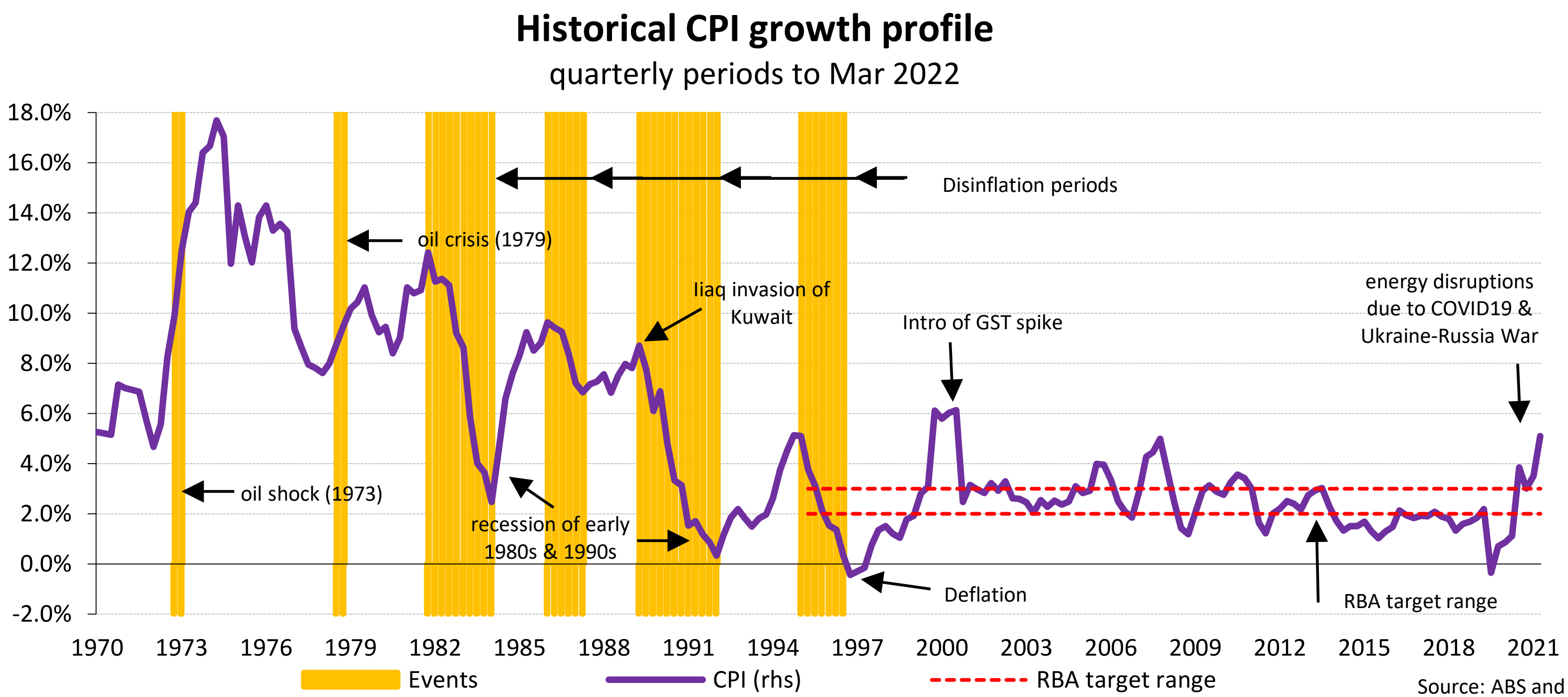
Consumer inflation: a turbulent period 1970-1990s, then a benign period since 2000

The nature of consumer inflation has differed markedly since 1970s



Source: ABS and RIA.

Evaluating inflation hedge features requires a review of different "states" of the market

Inflation hedge feature prevails in periods: i) high inflation & high growth and ii) benign inflation and moderate growth

ECONOMIC GROWTH	CONSUMER INFLATION: BENIGN	CONSUMER INFLATION: ELEVATED
BELOW TREND	• Unfavourable space market fundamentals • Weak effective rental growth • Fixed rental growth • Scope for price growth with lower interest rates but offset by weak SMF	• Unfavourable space market fundamentals (SMF) • Subdued effective rental growth • Lease structures with rental escalation below CPI • Prices retreat due to weak SMF and higher interest rates
ABOVE TREND	• Favourable space market fundamentals (SMF) • Positive effective rental growth • Long lease structures with fixed rental escalation factors above CPI • Strong price growth supported by lower interest rates	• Favourable space market fundamentals (SMF) • Positive effective rental growth • Short lease structures with market/CPI linked rental escalation factor • Moderate price growth supported by strong SMF but tempered by higher interest rates

LOW PERFORMANCE (Benign / Below trend)

Period: 1991/92
Real GDP growth: 0.8%
GDP trend growth: 2.1%
Inflation: 2.1%

STRONG PERFORMANCE (Benign / Above trend)

Period: mid 1994 – 2020
Real GDP growth: 2.9%
GDP trend growth: 2.1%
Inflation: 2.3%

ADVERSE PERFORMANCE (Elevated / Below trend)

Period: 1982/83
Real GDP growth: -1.42%
GDP trend growth: 2.1%
Inflation: 11.4%

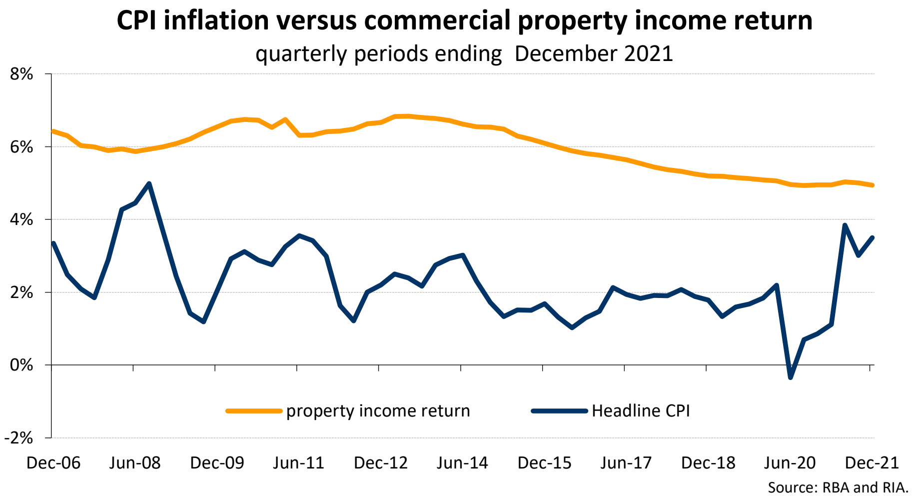
MODERATE PERFORMANCE (Elevated / Above trend)

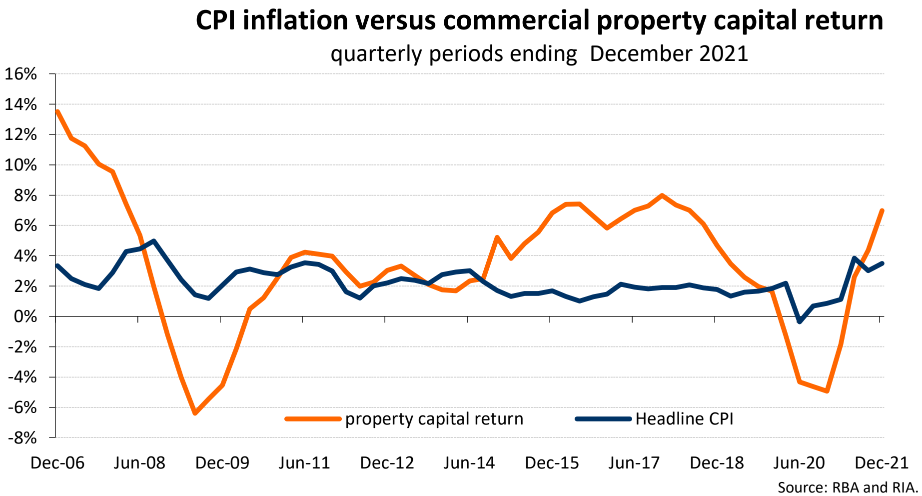
Period: mid 1980s – mid 1990s
Real GDP growth: 3.2%
GDP trend growth: 2.1%
Inflation: 5.4%

Source: Frontier

Inflationary pass-through effects: empirical evidence in low inflation environment

Commercial property has been an inflation hedge delivering income protection and real capital growth



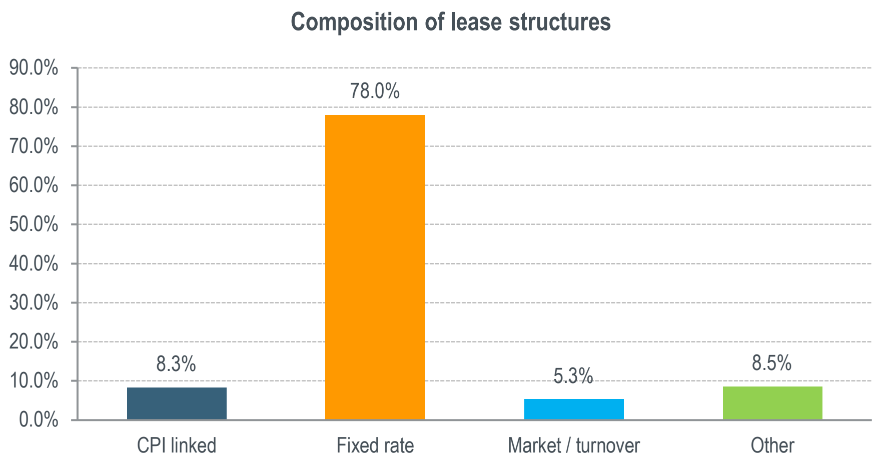


Property has delivered a positive income spread with a real income annual average return of 3.8% over the last 15 years
However, this spread is under threat with rising inflation if lease escalations do not cover CPI increases

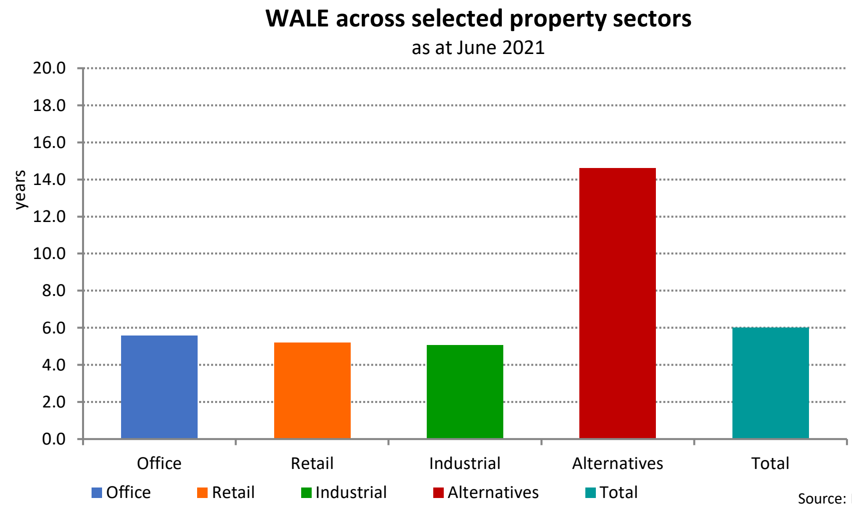
Property has delivered a positive capital spread with a real capital annual average return of 1.2% over the last 15 years
Correlations between nominal annual capital returns and annual CPI are relatively low. There is some empirical evidence that suggests that property returns are positively correlated in periods of high inflation.

Composition of lease structures and lease expiry profiles

Commercial property has been an inflation hedge delivering income protection and real capital growth



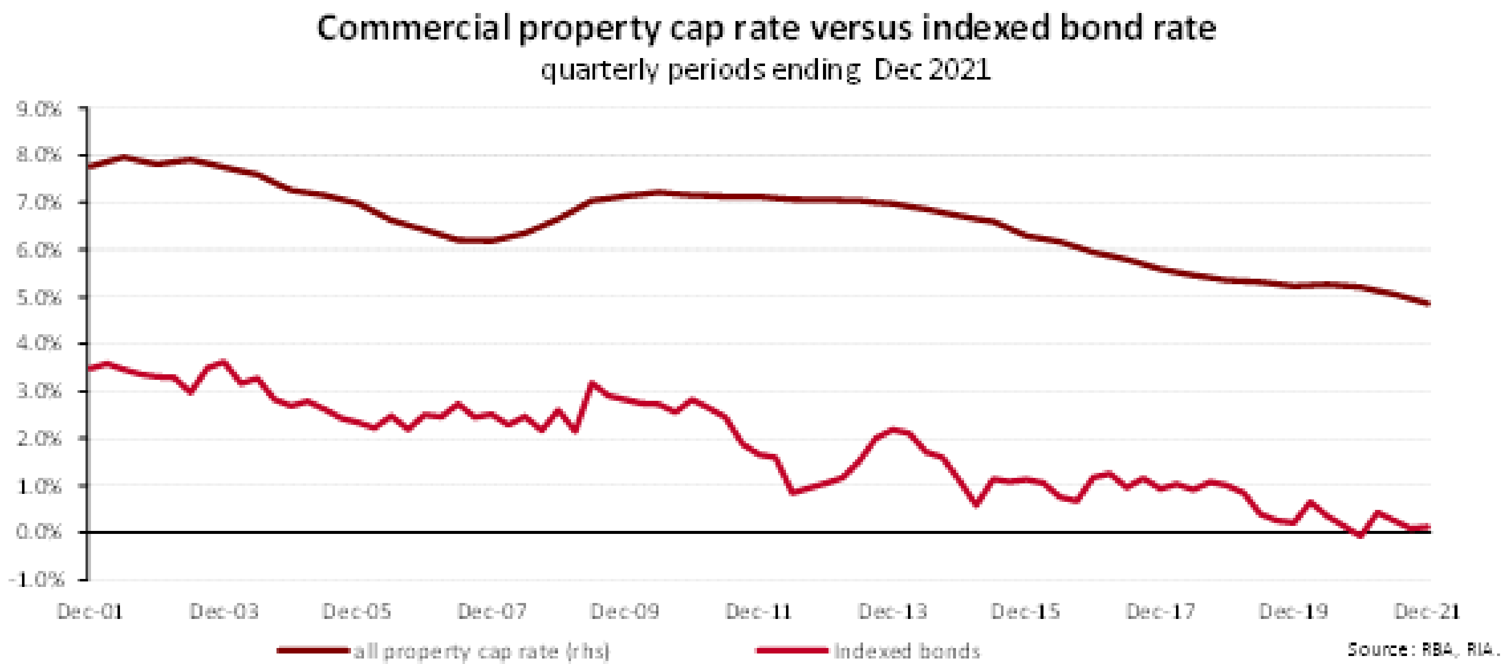
Source: RIA



Source: RIA

A close link between bond rate and asset pricing of commercial property

Rises in the bond rate is likely to translate into a higher capitalisation rate



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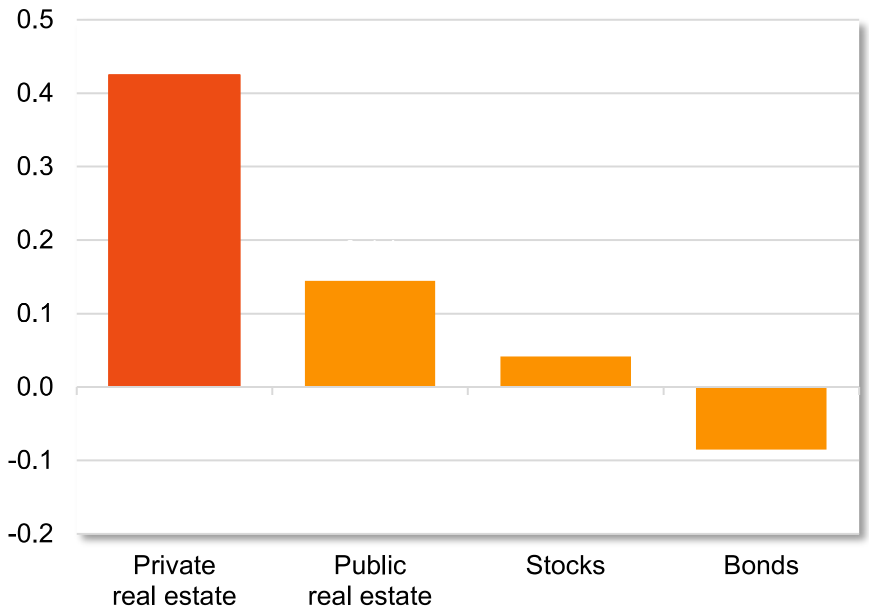
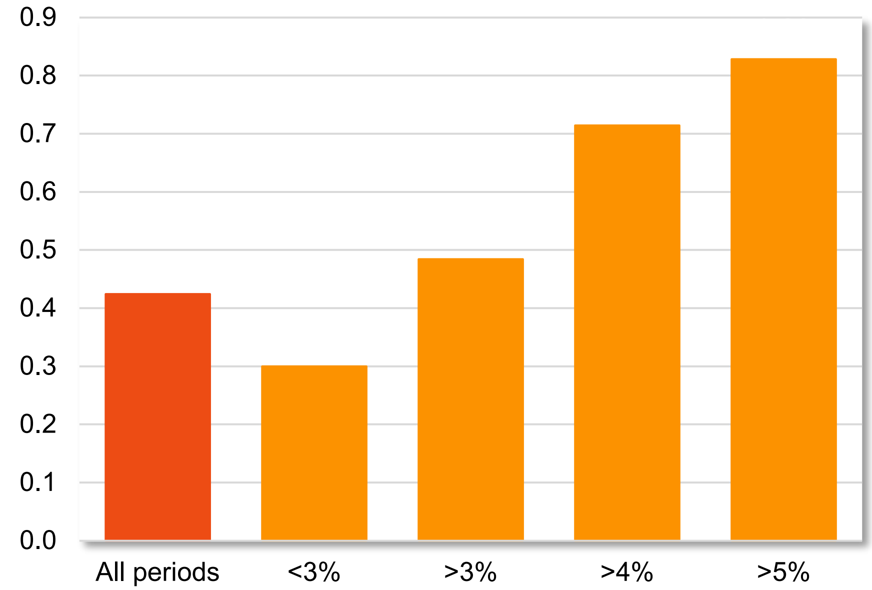
Michelle Foss

A proven inflation hedge, particularly in periods of strong inflation

Correlation of annual returns and inflation
1Q-1978 to 4Q-2021



Correlation between inflation and private real estate
1Q-1978 to 4Q-2021



Private real estate = NCREIF Property Index (NPI); Public Real Estate = NAREIT All Equity REIT Index; Stocks = S&P 500 Index; Bonds = Bloomberg US Aggregate Bond Index. Since inception returns for NPI are from 1Q-1978 to 4Q-2021. You cannot directly invest in an index. Source: Invesco Real Estate using data from NCREIF, and Moody's Analytics as of February 2, 2022.

Will real estate cap rates expand as interest rates rise?

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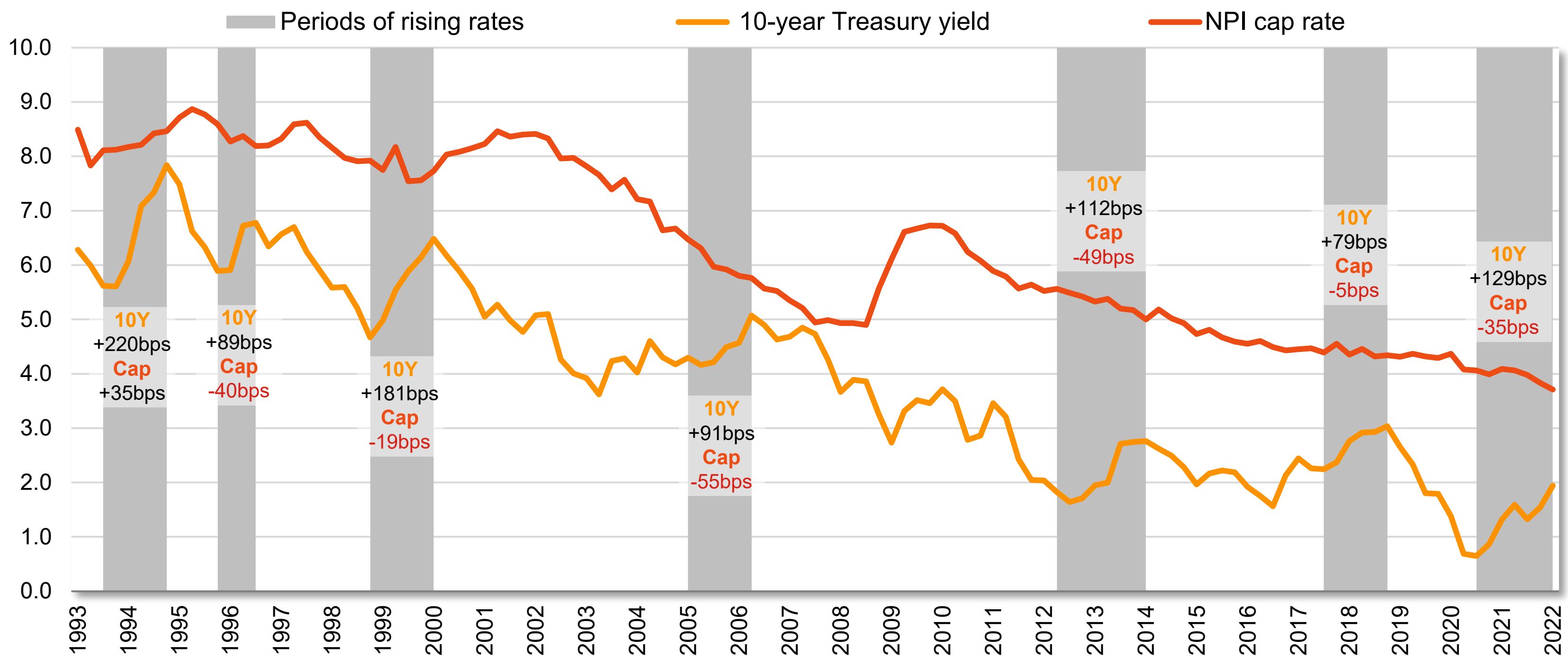
Strength of capital flows and macro economy more impactful in short term

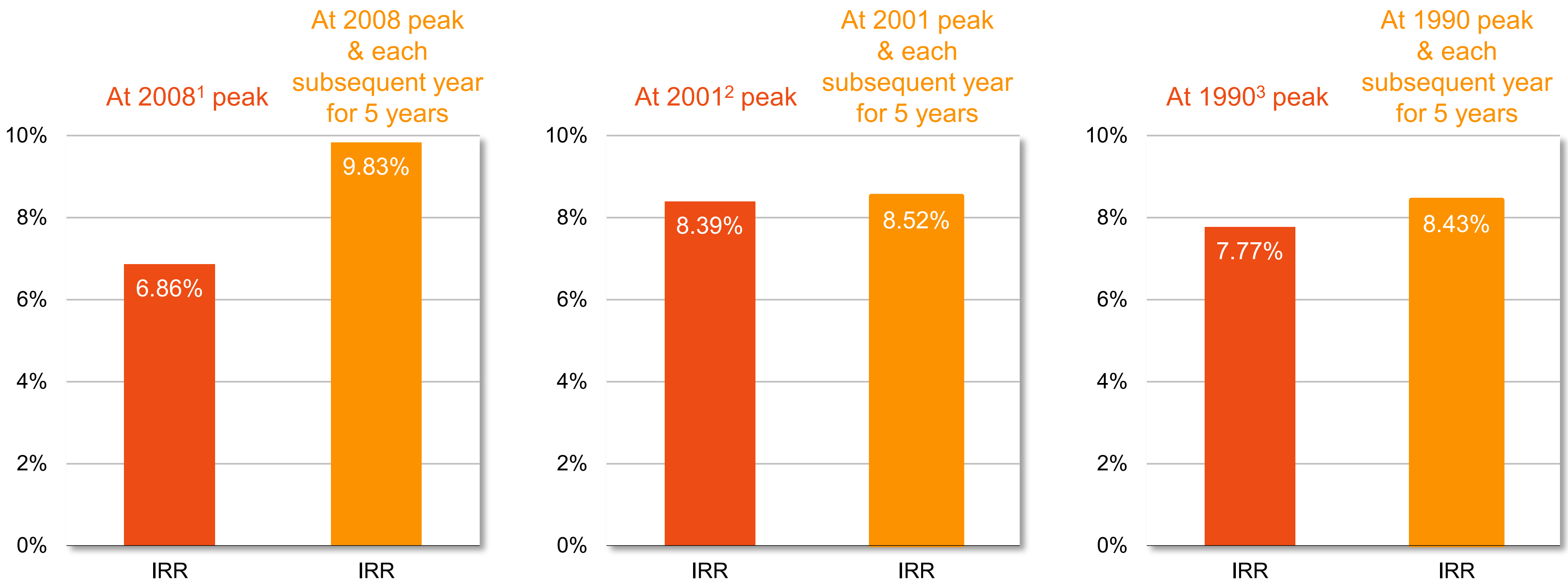
10-year Treasury yields and cap rates (%)



Periods of rising rates = periods when the 10-year Treasury yield moved higher for at least three consecutive quarters. NPI cap rate = current value cap rate. Source: Invesco Real Estate using data from Moody's Analytics, NCREIF, and RCA as of May 2022. Past performance in not indicative of future results.

The case for long-term investing in US core real estate

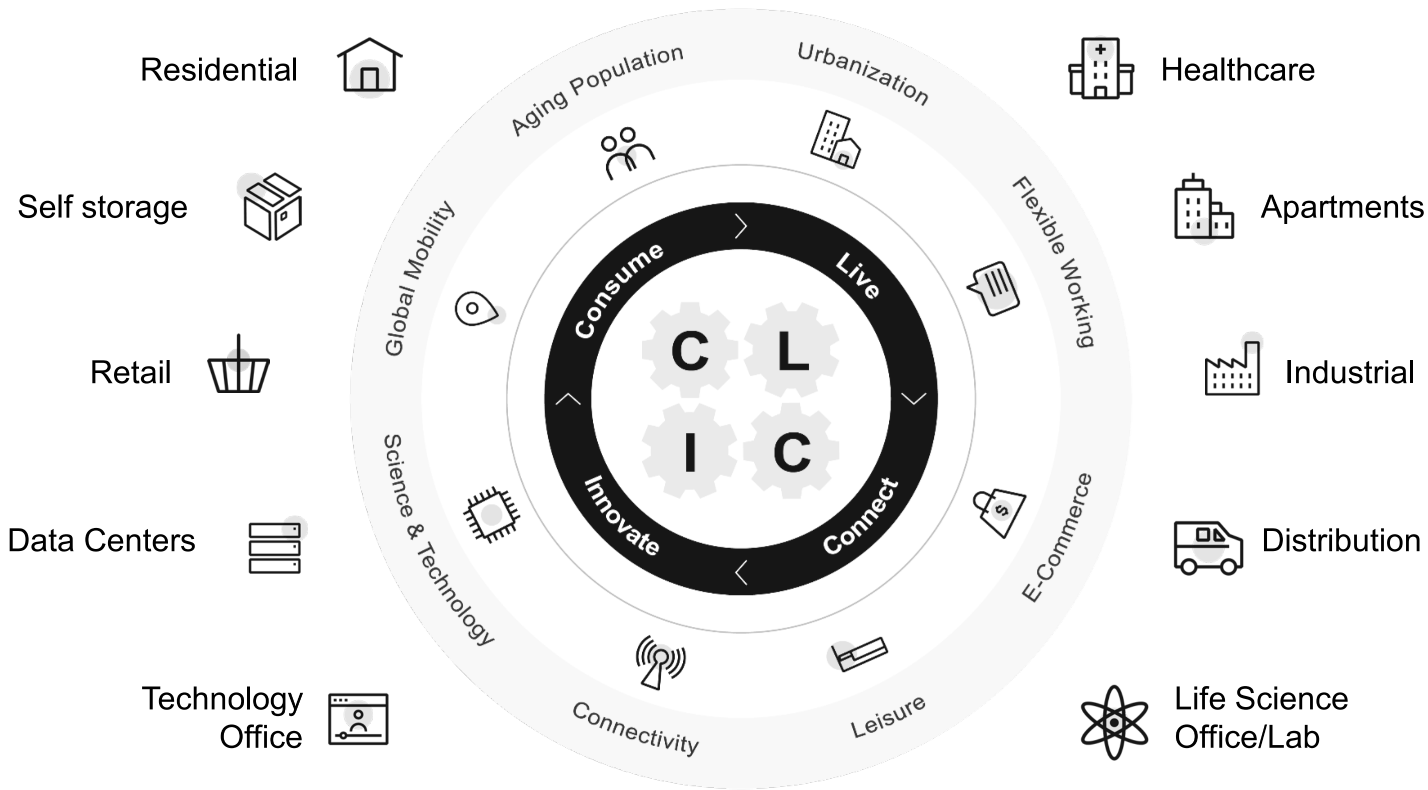
Investment program beginning at previous market peaks, if you invested in ODCE….



Source: NFI-ODCE and Invesco Real Estate as of March 31, 2022. 1. October 1, 2008, the quarter after two quarters of depreciation. 2. October 1, 2001, the quarter after two quarters of depreciation. 3. April 1, 1990, the quarter after two quarters of depreciation. Hypothetical $100M investment into the NFI-ODCE not including the re-investment of dividends. An investment cannot be made directly into an index. Please note that past performance is not a guide for future returns.

Opportunity: secular trends guide our thinking

Investing where we Consume, Live, Innovate, and Connect - CLIC



Source: Invesco Real Estate as of April 2022.

Focus on retail

Retail that e-commerce cannot provide – experiential and basic goods & services

Runway Playa Vista
Playa Vista, CA

AK Mall
Seoul, South Korea

Southside
London, UK

Music Lane
Austin, TX

Source: Invesco Real Estate as of April 2022.

Conclusion

Diversification across sectors and geographies help

- Where CPI+x% escalators exist, 100% inflation is passed through, BUT most rent escalators across retail, office and industrial range from fixed 3-5% p.a.
- Rental escalators provide short term protection to income at low-to-moderate levels of inflation. If inflation exceeds periods of >5% p.a. for a period of time, rents, absent any rental growth, will fall in real terms.
- Over the longer-term, rentals will revert to market, whether through lease expiries or renewals at market rate or through a cap-and-collar mechanism.

What should clients do?

Assess your portfolio’s susceptibility to inflationary pressures

- Understand cyclical v structural changes to real estate relative to fund objectives
- Assess your exposures today, fund by fund, asset by asset to understand your starting point
- Measure and map your portfolio by sector, geography and revenue for weak points
- Prioritise new property investments. Tap into meaningful, long-term demand to cope with inflationary scenarios over cycles. Deployment can take time, but setting a strategic direction and finding options (such as non-binding queues) will benefit investors over time

Thank you for joining us.

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