AUGUST 202 OBAL HRC ECONOR CYCLES







Equity markets around the world entered bear market territory in the second quarter marking the worst start to a year since the early 1960s and inflation is running at a four-decade high in most major markets around the world. Central banks in response have accelerated the pace of monetary policy tightening, which is leading to growing recession fears, higher volatility [1] (up ~67%) in the first half of 2022), and a widening of credit spreads. Through the first half of 2022, there were 124 global interest rate hikes compared to 175 interest rate cuts in 2020 and 2021 combined. Nearly every asset class has been impacted by tighter financial conditions.

Global REITs[2] declined 17.2% (USD) in the second guarter and 22.5% peak-to-trough for the first half of the year. Countries experiencing higher rates of inflation and more monetary policy tightening (or expectations of tightening) fared the worst in the quarter starting with Continental Europe which declined 26.3% (EUR).

The Continent is feeling the impact of higher energy and food prices that come with Russia's war against Ukraine and higher debt servicing costs with the ECB poised to raise interest rates. We believe economic growth is likely to slow on the Continent which is also contributing to the region's underperformance led by Sweden (-40.2% SEK) and Germany (-27.8% EUR).

Canadian REITs declined 18.4% (CAD) in the guarter driven by multifamily REITs due to lingering guestions around the tax treatment for investors in residential real estate. We anticipate further clarity around this issue by the end of 2022.

U.S. REITs slightly outperformed the global benchmark declining 16.1% (USD). Underlying property fundamentals in the United States (i.e., demand, supply, net absorption, occupancy, and market rents) are strong, but growing uncertainty around the pace of interest rate increases and the influence higher rates will have on future economic growth has led to multiple compression which negatively influenced share prices.

Asian markets were big outperformers in the second guarter with Singapore, Hong Kong and Japan outpacing the global REIT benchmark by 14.1%, 16.8%, and 19.0%, respectively (in local currency). Because Asian markets have yet to fully re-open, there is less demand for goods and services resulting in less inflation and less of a need to tighten financial conditions. In fact, the Bank of Japan remains steadfast in supporting the economy, equity markets, and the Yen through quantitative easing. Singapore is furthest along in terms of learning to "live with COVID" by relaxing mobility restrictions while Japan is looking to re-open its borders to more international visitors.

1. Chicago Board Options Exchange Volatility Index 2. FTSE EPRA NAREIT Developed Total Return Index. The country returns noted are their respective FTSE EPRA NAREIT regional index.

likely to see slower economic growth over the next 12 months in North America and Europe, due to tighter financial conditions. The Organization for Economic Cooperative Development (OECD) recently lowered its economic forecast and now projects global growth to decelerate sharply to around 3% this year and 2.8% in 2023. This is below the recovery, that was projected at the beginning of the year, of 4.5% in 2022 and 3.2% in 2023. That said, global growth is expected to remain positive, driven by a re-opening in Asia, led by China.

Given monetary policy works with a lag, we are

Europe, and in particular Germany, experienced one of the largest downward revisions to economic growth by the OECD (to 1.9% from 4.1%). The war is causing supply chain disruptions, higher energy costs, and higher food prices around the world, leading to an acceleration in inflation that is negatively impacting people's cost of living and leading to a decline in consumer confidence.

According to JP Morgan, global consumer confidence currently stands at 2.1 standard deviations, below its long-run average, and down from a recent peak of 0.5 standard deviations, above its long-term average at this time last year.

Lower consumer confidence is leading to a slowdown in retail sales and lower equity prices are leading to a decline in consumer net worth, all of which should result in slower demand for goods and a decline in inflation.

Although today's macro-economic environment feels tenuous, we believe a lot of negative sentiment has already been priced into global equities.

At the end of the second quarter, our valuation models point to global REITs trading at a 19% discount to forward NAV. Taking this one step further, our forward NAV incorporates a conservative 5% to 15% decline in asset values in North America, Europe, and Australia, three regions that have experienced the largest increases in the cost of debt year-to-date. From the start of the year through June 30, 2022, the implied cap rate on global REITs has expanded 62 basis points to 5.5% with the largest increases in the U.S. (93bps), Canada (71bps), Australia (68bps), and Europe (64bps). According to Bank of America Global Research, over the last three recessions (which includes the Great Financial Crisis) private market cap rates in the U.S. increased an average of 113 basis points from trough-to-peak. **That implies the public market has nearly priced (~82%) in how much cap rates typically expand in a recession.**

Cash flow valuations have been more influenced by the rise in interest rates as private market NAV's typically work with a lag. Over the first half of the year, global interest rates (as defined by changes in 10-year government bond yields) are up 136 basis points with the largest increases in Australia (199bps), Canada (179bps), the U.S. (150bps), and Germany (150bps). Higher interest rates have led to multiple compressions, driving down share prices. Cash flow multiples (defined by AFFO) have contracted ~3.5x (x = multiple points) or 14% globally, but ~5x or 17% in the U.S. and the Continent and 6x in the United Kingdom.

How are we thinking about the world today? To ascertain similarities across cycles, we analyzed each recession starting with the oil crisis in 1973 (see appendix). We used the U.S. economy as a guide, given its size and influence on the rest of the world. While no recession is entirely like the present day, there are some similarities that can help shape a view of what we can expect. Firstly, each recession has been preceded by a partial and full inversion of the yield curve. Secondly, when a partial inversion has happened, the monetary policy response has dictated whether a recession occurs or not (i.e., are financial conditions tightened further via higher interest rates). Thirdly, while we have had a negative GDP quarter, historically not every negative GDP has coincided with a recession (10 initial negative GDP prints, but only seven recessions).

Given that we have experienced a partial yield curve inversion, a negative GDP quarter, and the Federal Reserve continues to tighten financial conditions, a recession is likely to transpire at some point, but the timing is unclear as no recession has ever happened without a fully inverted yield curve.

In 1966, Nobel Prize economist Paul Samuelson said, "the stock market has predicted nine out of the last five recessions". It feels that way today with stocks down 20% to start the year yet job gains are still strong, wages continue to rise and over \$360 billion of capital sits on the sidelines ready to take advantage of opportunities when they present themselves. Where do we see the opportunities today? It's not often that the property types with the best operating fundamentals and strongest estimated profiles over growth the next two vears underperform, yet that is what has happened so far in 2022. We are buying "industry leaders" in beaten down growth-oriented property types (life science, residential, self-storage, industrial, and data centers) where valuations are more "in-line" with sector averages compared to what is typically premiums. There are several reasons why that has been the case.

First, these property types tend to be more widely owned by generalist investors and property specialists where mutual fund redemptions, hedge fund liquidations, and ETF outflows / increased short sales (all of which we have seen so far this year), create excess selling pressure, resulting in underperformance.

Second, these property types (life science, residential, self-storage, industrial, and data centers) trade at the lowest cap rate and highest multiple, such that changes in interest rates have a more profound impact on valuations. Globally, the implied cap rate for these property types is up on average ~135bps this year vs. ~55 basis points for all other sectors. From a cash flow perspective, the implied AFFO multiple for these "best of the best" growth-oriented property types are down ~8x vs. ~2x for all other sectors, with declines most pronounced in the United States.

Whether a recession is imminent or not, the path forward offers promise for REITs. Based on 50-years of historical recession data starting from the oil crisis in 1973, starting from the first negative quarterly GDP print (which happened in Q1 of this year) U.S. REITs delivered on average, a ~30% cumulative total return over the next two years and a ~50% cumulative total return over three years. Looking forward, we see opportunities to acquire "industry leaders" at attractive pricing and capitalize on this strong upside potential.

Recession is coming sooner/Or are we already in one

				REITS	U.S. F			Scenario	
T+36N (%	T+24 M (%)	T+12 M (%)	T+9M (%)	T+6M (%)	T+3M (%)	T-3M (%)	T-6M (%)	Event	Start
12.5	-18.3	-33.2	-17.6	-6.6	-13.3	5.3	-0.1	Neg. GDP -> Recession	09/30/1973
78.2	29.3	36.3	29.0	20.5	13.0	18.8	11.7	Neg. GDP -> Recession	06/30/1980
54.9	41.9	-7.1	-5.2	2.3	-12.8	7.3	15.8	Neg. GDP -> Recession	06/30/1981
91.4	70.4	48.4	34.6	24.9	22.0	8.7	-10.3	Neg. GDP -> Recession	12/31/1990
58.2	14.5	19.9	11.2	5.7	11.7	-0.6	5.0	Neg. GDP -> Recession	03/31/2001
29.9	6.8	-75.0	-39.4	-0.3	-4.8	1.6	-11.6	Neg. GDP -> Recession	03/31/2008
34.3	28.6	14.3	3.6	-11.6	3.7	6.2	13.9	Neg. GDP-> No Recession	03/31/2011
49.	36.5	29.9	29.7	25.9	15.2	-15.3	-11.6	Neg. GDP-> No Recession	09/30/2011
30.8	27.9	22.6	17.7	3.8	6.8	9.9	9.4	Neg. GDP-> No Recession	03/31/2014
	58.9	34.8	25.4	12.4	11.4	-30.6	-31.5	Neg. GDP -> Recession	03/31/2020
				-	-22.0	-3.7	12.0	Neg. GDP -> ?	03/31/2022
48.9	29.6	9.1	8.9	7.7	2.8	0.7	0.3	All	Average
38.2	31.0	22.3	17.0	6.0	8.6	0.3	3.9	Neg. GDP-> No Recession	
54.2	29.1	3.4	5.4	8.4	3.9	1.5	-3.0	Neg. GDP -> Recession	
59.0	32.8	16.5	12.9	9.9	5.4	1.5	-1.6	Neg. GDP -> Recession (ex- GFC)	

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Oil Crisis I

November 1973

		Gap	To N	ext Milesto	1e		Cumulative	
Oil Crisis I	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
Market Top	Dec - 72	2	-5.0	-4.0		-5.0	-4.0	-
Partial Inversion	Feb – 73	5	-1.7	0.5	-	-6.6	-3.5	
Full inversion	Jul – 73	4	-10.1	-11.3	-	-16.0	-14.4	-
Recession	Nov-73	6	-7.5	-6.0		-22.3	-19.6	-
End of QT	May-74	2	-8.6	-6.1		-29.0	-24.5	
QE	July-74	3	-3.3	-3.7	-	-31.3	-27.3	-
Recession + 3M	Oct-74	3	6.3	7.1	-	-27.0	-22.1	
Recession + 6M	Jan-75	3	14.0	8.0		-16.8	-15.9	
Recession + 9M	April-75	3	3.1	3.4	-	-14.2	-13.1	-
Recession + 12M	Oct-75	3	1.7	-10.3		-12.8	-22.0	-
Recession + 15M					-	-12.8	-22.0	-

From partial inversion to market top

- Length: NA rare case market top occurred first
- Upside (REITs): NA
- Initial recession drawdown (REITs): -27%

Oil Crisis II

January 1980

		Gap	To N	lext Milesto	ne		Cumulative	
Oil Crisis II	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
Partial Inversion	Aug – 78	2	-9.0	-14.4	3.1	-9.0	-14.4	3.1
Full Inversion	Oct-78	15	28.3	58.7	24.4	16.7	35.8	28.2
Recession	Jan - 80	1	0.0	-0.4	1.8	16.7	35.2	30.6
Market Top	Feb-80	1	-9.7	-15.5	1.8	5.4	14.3	32.9
End of QT	Mar-80	1	4.6	5.5	0.8	10.3	20.7	33.9
QE	Apr-80	3	15.3	24.9	2.8	27.1	50.7	37.7
Recession + 3M	Jul-80	3	6.0	12.4	4.2	34.7	69.4	43.5
Recession + 6M	Oct-80	3	3.5	-2.2	4.4	39.3	65.7	49.9
Recession + 9M	Jan-81	3	3.8	8.5	3.4	44.6	79.7	54.9
Recession + 12M	Apr-81	3	-0.2	7.0	3.8	44.4	92.4	60.9
Recession + 15M	Jul-81	3	-5.3	-5.7	3.9	36.7	81.3	67.1
Recession + 18M	Oct-81				-	-	-	-

From partial inversion to market top

- Length: 18 months
- Upside (REITs): +35%
- Initial recession drawdown (REITs): -16%

Oil Crisis III

July 1981

		Gap	To N	ext Milesto	ne		Cumulative	
Oil Crisis III	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
Partial Inversion	Aug-80	1	2.9	-2.2	1.2	2.9	-2.2	1.2
Full Inversion	Sep-80	2	12.7	11.5	3.5	16.0	9.0	4.8
Market Top	Nov-80	6	-3.1	3.2	7.4	12.3	12.5	12.6
End of QT	May-81	1	-0.6	8.6	1.4	11.6	22.2	14.1
QE	Jun-81	1	0.2	1.0	1.1	11.9	23.4	15.4
Recession	Jul-81	3	-5.3	-5.7	5.9	5.9	16.3	19.8
Recession + 3M	Oct-81	3	0.3	2.0	6.2	6.2	18.7	24.9
Recession + 6M	Jan-82	3	-1.6	0.4	4.5	4.5	19.2	27.9
Recession + 9M	Apr-82	3	-7.2	-6.8	-3.0	-3.0	11.0	30.2
Recession + 12M	Jul-82	3	24.9	23.1	21.1	21.1	36.7	32.9
Recession + 15M	Oct-82	3	9.7	10.3	32.9	32.9	50.9	36.3
Recession + 18M	Jan-83	-	-	-	-	-	-	-

From partial inversion to market top

- Length: 3 months
- Upside (REITs): +9%
- Initial recession drawdown (REITs): -6%

Early 90s Recession

July 1990

		Gap	To No	ext Milesto	ne		Cumulative	
Early 90s	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
Partial Inversion	Nov-88	2	9.1	2.8	1.6	9.1	2.8	1.6
Full Inversion	Jan-89	1	-2.5	-1.2	0.6	6.3	1.6	2.2
End of QT	Feb-89	4	11.0	4.6	2.6	18.0	6.3	4.8
QE	Jun-89	11	17.1	-11.2	6.2	38.3	-5.7	11.2
Market Top	May-90	2	-1.0	-1.4	0.8	36.9	-7.0	12.1
Recession	Jul-90	3	-14.3	-21.5	0.1	17.3	-27.0	12.2
Recession + 3M	Oct-90	3	13.6	16.3	-0.9	33.2	-15.1	11.1
Recession + 6M	Jan-91	3	9.8	13.3	0.0	46.2	-3.8	11.2
Recession + 9M	Apr-91	3	4.4	-3.3	-0.1	52.7	-7.0	11.1
Recession + 12M	Jul-91	3	2.0	-1.4	-2.0	55.7	-8.3	8.8
Recession + 15M	Oct-91	3	5.5	9.3	-3.7	64.4	0.3	4.9
Recession + 18M	Jan-92	-	-		-	-	-	-

From partial inversion to market top

- Length: 18 months
- Upside (REITs): -6%
- Initial recession drawdown (REITs): -23%

Dot Com

March 2001

		Gap	To N	ext Milesto	ne		Cumulative	
Dot Com	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
Partial Inversion	May-99	10	16.3	-10.7	8.9	16.3	-10.7	8.9
Market Top	Mar-00	2	-5.1	7.7	2.0	10.4	-3.9	11.1
End of QT	May-00	2	0.9	12.8	2.0	11.4	8.4	13.3
Full Inversion	Jul-00	6	-3.3	7.4	6.0	7.7	16.5	20.1
QE	Jan-01	2	-15.5	-1.9	1.6	-8.9	14.3	22.0
Recession	Mar-01	3	6.0	11.7	2.5	-3.5	27.7	25.0
Recession + 3M	Jun-01	3	-15.3	-6.1	1.6	-18.3	19.9	26.9
Recession + 6M	Sep-01	3	10.5	5.5	0.7	-9.7	26.5	27.8
Recession + 9M	Dec-01	3	0.4	8.7	1.5	-9.4	37.5	29.7
Recession + 12M	Mar-02	3	-13.9	3.4	1.6	-22.0	42.3	31.8
Recession + 15M	Jun-02	3	-18.0	-10.2	1.8	-36.0	27.8	34.1
Recession + 18M	Sep-02	-	-		-	-	-	

From partial inversion to market top

- Length: 10 months
- Upside (REITs): -11%
- Initial recession drawdown (REITs): NA

Great Financial Crisis

December 2017

		Gap	To N	lext Milesto	ne	Cumulative			
GFC	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)	
Partial Inversion	Dec-05	6	2.8	13.5	7.5	2.8	13.5	7.5	
End of QT	Jun-06	1	0.6	3.6	1.2	3.4	17.5	8.8	
Full Inversion	Jul-06	14	20.6	12.7	18.4	24.7	32.5	28.8	
QE	Sep-07	1	1.6	1.4	1.1	26.7	34.4	30.2	
Market Top	Oct-07	2	-4.8	-14.6	2.1	20.6	14.7	32.9	
Recession	Dec-07	3	-9.7	1.6	1.6	8.9	16.5	35.0	
Recession + 3M	Mar-08	3	-2.3	-4.8	0.6	6.4	10.9	35.8	
Recession + 6M	Jun-08	3	-8.3	4.5	-0.2	-2.4	15.9	35.5	
Recession + 9M	Sep-08	3	-22.9	-39.1	-8.5	-24.8	-29.4	24.0	
Recession + 12M	Dec-08	3	-10.3	-35.6	-7.5	-32.5	-54.5	14.7	
Recession + 15M	Mar-09	3	15.4	31.0	-5.3	-22.2	-40.4	8.6	
Recession + 18M	Jun-09	-	-			-	-	-	

From partial inversion to market top

- Length: 22 months
- Upside (REITs): +34%
- Initial recession drawdown (REITs): -15%

COVID Recession

February 2020

		Gap	To N	ext Milesto	ne		Cumulative	
COVID	Month	(Mth)	Equities (%)	REITS (%)	NCREIF (%)	Equities (%)	REITS (%)	NCREIF (%)
End of QT	Dec-18	3	13.2	15.4	1.8	13.2	15.4	1.8
Partial Inversion	Mar-19	2	-2.3	-0.4	1.0	10.6	15.0	2.8
Full Inversion	May-19	2	8.5	2.7	1.0	19.9	18.1	3.8
QE	Jul-19	6	9.0	6.1	2.7	30.8	25.2	6.6
Market Top	Jan-20	1	-8.2	-8.3	0.2	20.0	14.9	6.9
Recession	Feb-20	3	5.2	-15.4	-0.4	26.3	-2.8	6.4
Recession + 3M	May-20	3	14.8	7.4	0.2	45.0	4.4	6.6
Recession + 6M	Aug-20	3	4.5	6.5	1.0	51.5	11.2	7.7
Recession + 9M	Nov-20	3	5.6	8.4	1.5	60.0	20.5	9.3
Recession + 12M	Feb-21	3	10.4	13.4	2.9	76.6	36.6	12.5
Recession + 15M	May-21	3	7.8	8.8	4.6	90.3	48.6	17.7
Recession + 18M	Aug-21	-	-		-	-	-	

From partial inversion to market top

- Length: 10 months
- Upside (REITs): +10%
- Initial recession drawdown (REITs): -24%

- U.S. Equities: S&P 500

- U.S. REITS : FTSE EPRA/NAREIT U.S. Total Return Index, DOW Jones U.S. Select REIT Total Return Index; and

FTSE NAREIT All Equity (U.S.) REITs Total Return Index

- NCREIF: National Council of Real Estate Investment Fiduciaries



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Source: Bloomberg LP