OPEB Discussion Guide

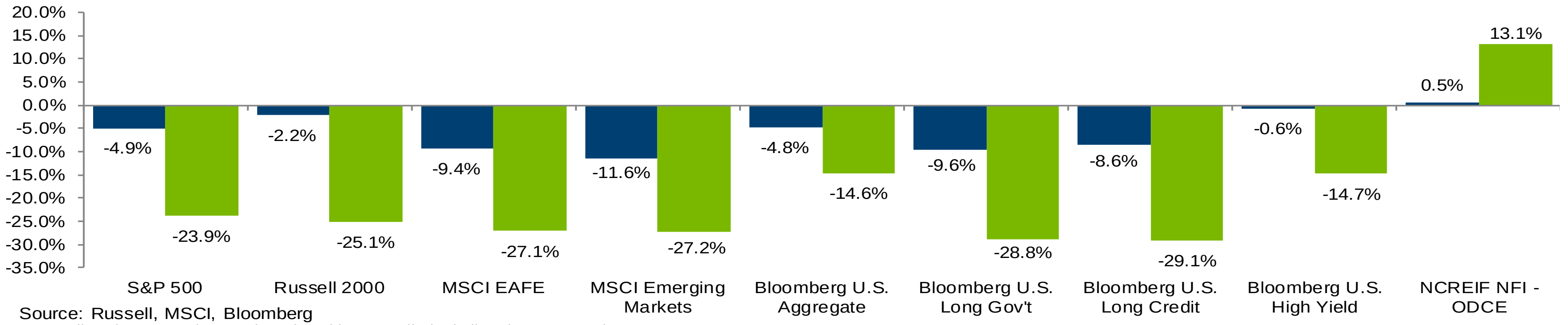
Town of Wilton
November 9, 2022

Contents

Market Highlights

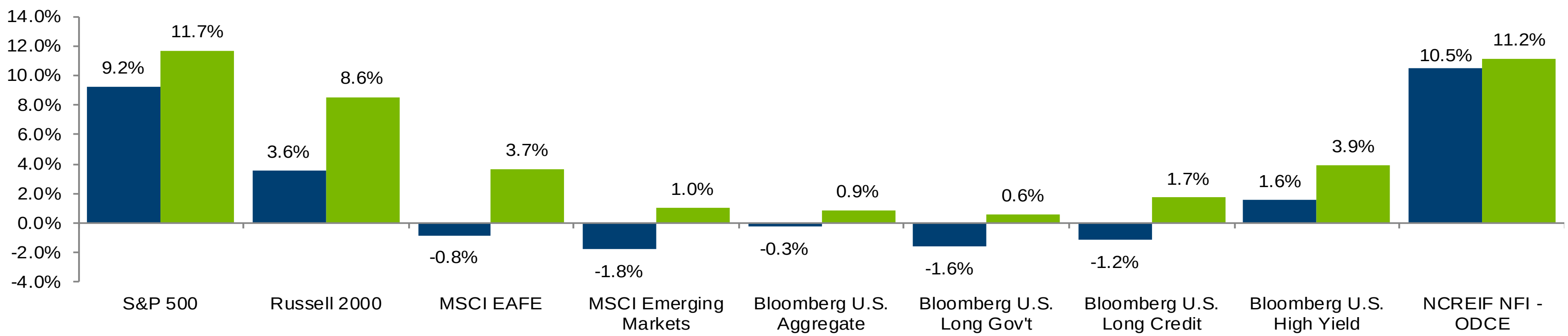
Market Highlights

SHORT TERM RETURNS
AS OF 09/30/2022



Source: Russell, MSCI, Bloomberg
MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

LONG TERM ANNUALIZED RETURNS
AS OF 09/30/2022



Source: Russell, MSCI, Bloomberg

Note: MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

Market Highlights

Returns of the Major Capital Markets

Period Ending 09/30/2022

	Third Quarter	YTD	1-Year	3-Year[1]	5-Year[1]	10-Year[1]
Equity						
MSCI All Country World IMI	-6.64%	-25.72%	-21.18%	3.64%	4.16%	7.25%
MSCI All Country World	-6.82%	-25.63%	-20.66%	3.75%	4.44%	7.28%
Dow Jones U.S. Total Stock Market	-4.56%	-24.92%	-18.05%	7.51%	8.48%	11.28%
Russell 3000	-4.46%	-24.62%	-17.63%	7.70%	8.62%	11.39%
S&P 500	-4.88%	-23.87%	-15.47%	8.16%	9.24%	11.70%
Russell 2000	-2.19%	-25.10%	-23.50%	4.29%	3.55%	8.55%
MSCI All Country World ex-U.S. IMI	-9.69%	-26.92%	-25.72%	-1.27%	-0.78%	3.19%
MSCI All Country World ex-U.S.	-9.91%	-26.50%	-25.17%	-1.52%	-0.81%	3.01%
MSCI EAFE	-9.36%	-27.09%	-25.13%	-1.83%	-0.84%	3.67%
MSCI EAFE (Local Currency)	-3.59%	-14.46%	-11.11%	2.51%	2.83%	7.44%
MSCI Emerging Markets	-11.57%	-27.16%	-28.11%	-2.07%	-1.81%	1.05%
Equity Factors						
MSCI World Minimum Volatility (USD)	-6.28%	-11.83%	17.60%	0.26%	4.54%	7.83%
MSCI World High Dividend Yield	-8.82%	-16.17%	-10.16%	1.98%	3.52%	6.67%
MSCI World Quality	-7.06%	-29.17%	-21.86%	6.92%	8.81%	10.45%
MSCI World Momentum	-5.60%	-26.94%	-22.67%	4.82%	7.67%	10.46%
MSCI World Enhanced Value	-10.39%	-21.97%	-18.70%	-0.11%	0.25%	6.19%
MSCI World Equal Weighted	-7.55%	-25.97%	-23.68%	0.61%	1.77%	6.64%
MSCI World Index Growth	-5.01%	-32.28%	-26.74%	6.60%	8.08%	10.10%
MSCI USA Minimum Volatility (USD)	-5.41%	-17.29%	-8.68%	2.94%	7.70%	10.66%
MSCI USA High Dividend Yield	-7.54%	-15.71%	-7.28%	3.23%	5.89%	9.80%
MSCI USA Quality	-7.38%	-29.23%	-21.40%	7.36%	10.36%	12.34%
MSCI USA Momentum	-3.03%	-26.34%	-23.57%	4.50%	7.97%	12.58%
MSCI USA Enhanced Value	-8.77%	-23.48%	-16.17%	2.82%	4.01%	10.01%
MSCI USA Equal Weighted	-4.74%	-24.34%	-18.75%	5.71%	6.84%	10.70%
MSCI USA Growth	-3.55%	-32.37%	-25.59%	10.62%	12.10%	13.50%
Fixed Income						
Bloomberg Global Aggregate	-6.94%	-19.89%	-20.43%	-5.74%	-2.32%	-0.93%
Bloomberg U.S. Aggregate	-4.75%	-14.61%	-14.60%	-3.26%	-0.27%	0.89%
Bloomberg U.S. Long Gov't	-9.60%	-28.77%	-26.60%	-8.48%	-1.62%	0.60%
Bloomberg U.S. Long Credit	-8.57%	-29.05%	-27.98%	-7.02%	-1.17%	1.73%
Bloomberg U.S. Long Gov't/Credit	-9.03%	-28.94%	-27.41%	-7.35%	-1.17%	1.35%
Bloomberg U.S. TIPS	-5.14%	-13.61%	-11.57%	0.79%	1.95%	0.98%
Bloomberg U.S. High Yield	-0.65%	-14.74%	-14.14%	-0.45%	1.57%	3.94%
Bloomberg Global Treasury ex U.S.	-9.08%	-24.71%	-25.80%	-8.85%	-4.36%	-2.78%
JP Morgan EMBI Global (Emerging Markets)	-4.20%	-22.24%	-22.23%	-6.10%	-2.31%	0.95%
Commodities						
Bloomberg Commodity Index	-4.11%	13.57%	11.80%	13.45%	6.96%	-2.14%
Goldman Sachs Commodity Index	-10.31%	21.80%	23.64%	12.19%	7.75%	-3.95%
Hedge Funds						
HFRI Fund-Weighted Composite[2]	-0.57%	-6.18%	-5.77%	6.18%	4.52%	4.61%
HFRI Fund of Funds[2]	0.72%	-5.92%	-5.51%	4.52%	3.30%	3.57%
Real Estate						
NAREIT U.S. Equity REITS	-9.94%	-28.13%	-16.41%	-2.05%	2.93%	6.26%
NCREIF NFI - ODCE	0.52%	13.08%	22.10%	12.37%	10.24%	10.92%
FTSE Global Core Infrastructure Index	-8.37%	-13.29%	-4.60%	1.74%	5.30%	7.86%
Private Equity						
Burgiss Private iQ Global Private Equity[3]			22.21%	23.77%	20.18%	16.03%

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

[1] Periods are annualized.

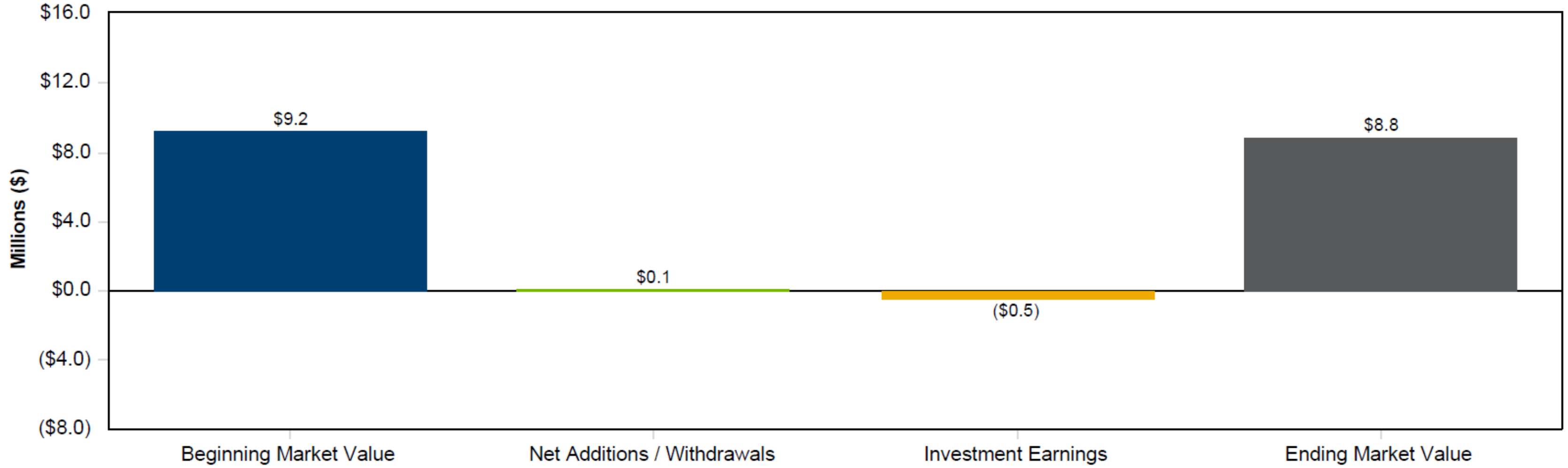
[2] Latest 5 months of HFR data are estimated by HFR and may change in the future.

[3] Burgiss Private iQ Global Private Equity data is as at March 31, 2022

OPEB Performance Summary

Total Plan Asset Summary

Change in Market Value
From July 1, 2022 to September 30, 2022

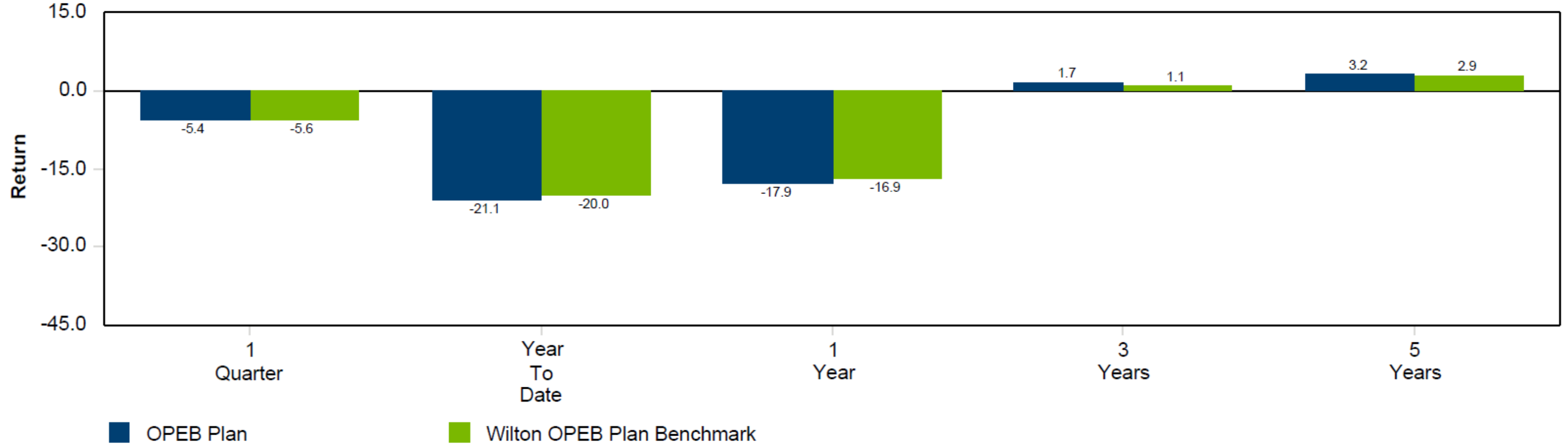


Summary of Cash Flow

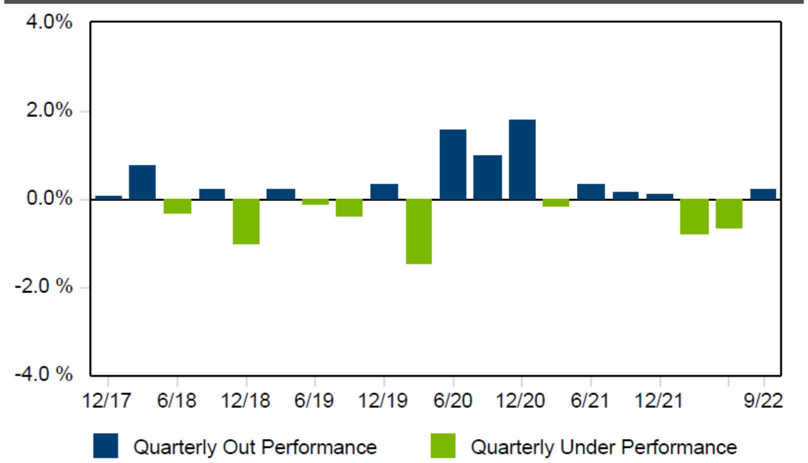
	1 Quarter	1 Year	Since Inception	Inception Date
Beginning Market Value	9,214,311	10,697,815	2,652,035	
+ Additions / Withdrawals	114,591	51,114	3,046,278	
+ Investment Earnings	-501,136	-1,921,163	3,129,453	
= Ending Market Value	**8,827,766**	**8,827,766**	**8,827,766**	

Total Plan Performance Summary

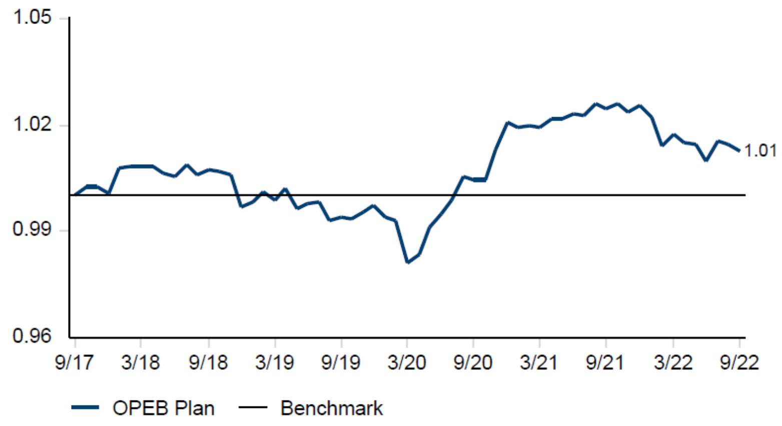
Return Summary



Quarterly Excess Performance

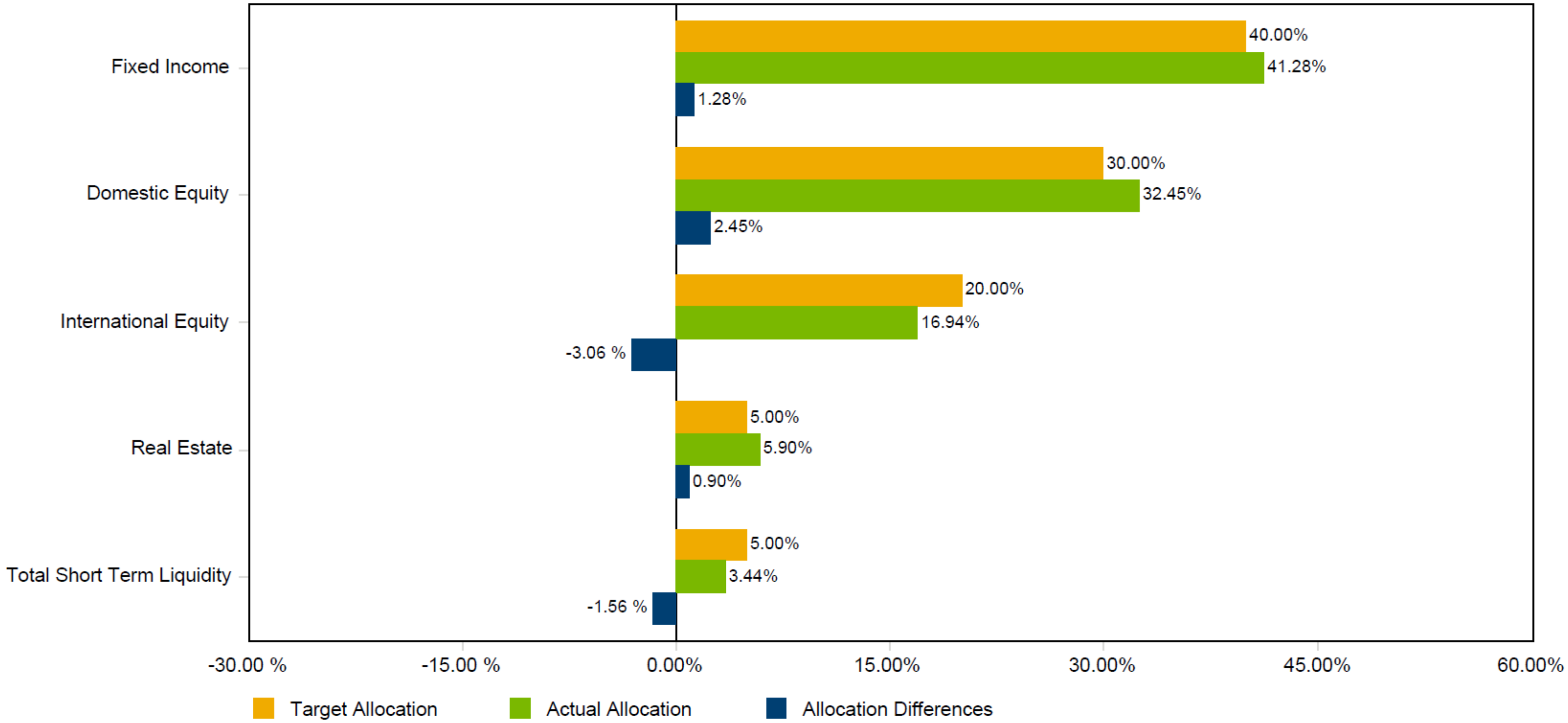


Ratio of Cumulative Wealth - 5 Years

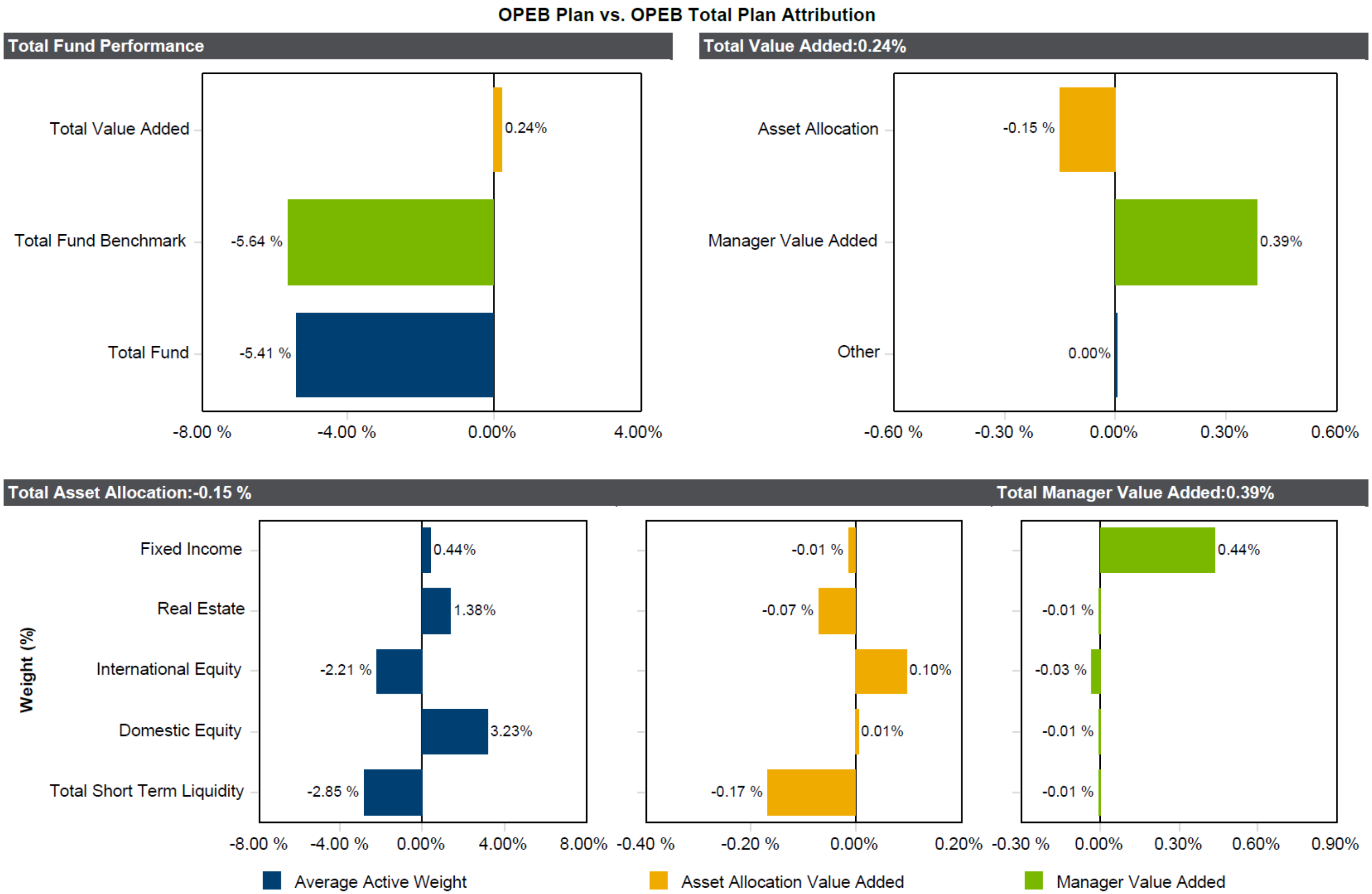


Asset Allocation as of September 30, 2022

	Market Value ($)	Current Allocation (%)	Target Allocation (%)	Differences (%)
OPEB Plan	8,827,765.67	100.00	100.00	0.00
Fixed Income	**3,643,789.13**	**41.28**	**40.00**	**1.28**
Domestic Equity	**2,864,388.16**	**32.45**	**30.00**	**2.45**
International Equity	**1,495,183.33**	**16.94**	**20.00**	**-3.06**
Real Estate	**520,632.93**	**5.90**	**5.00**	**0.90**
Total Short Term Liquidity	**303,772.12**	**3.44**	**5.00**	**-1.56**



OPEB Total Fund Attribution:
1 Quarter as of September 30, 2022



Performance as of September 30, 2022

	Allocation			Performance(%)							
	Market Value ($)	%	Policy(%)	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
OPEB Plan	8,827,766	100.0	100.0	-5.4	-21.1	-17.9	1.7	3.2	5.2	5.3	05/01/2012
Wilton OPEB Plan Benchmark				*-5.6*	*-20.0*	*-16.9*	*1.1*	*2.9*	*4.8*	*4.9*	
Fixed Income	**3,643,789**	**41.3**	**40.0**	**-3.7**	**-13.8**	**-13.7**	**-2.7**	**-0.1**	**1.2**	**2.2**	**07/01/2010**
OPEB Fixed Income Composite Benchmark				*-4.8*	*-14.6*	*-14.6*	*-3.2*	*-0.3*	*0.6*	*1.7*	
Vanguard Total Bond Market Index Adm	911,551	10.3		-4.7 (54)	-14.6 (35)	-14.7 (38)	-3.3 (64)	-0.3 (56)	0.5 (72)	-1.9 (62)	06/01/2019
Blmbg. U.S. Aggregate				*-4.8 (69)*	*-14.6 (37)*	*-14.6 (32)*	*-3.3 (64)*	*-0.3 (59)*	*0.5 (72)*	*-1.9 (63)*	
IM U.S. Broad Market Core Fixed Income (MF) Median				-4.6	-14.9	-15.0	-3.1	-0.2	0.8	-1.7	
Metropolitan West Total Return Bond Pl	717,105	8.1		-5.2 (95)	-16.2 (78)	-16.3 (77)	-3.2 (78)	-0.1 (65)	0.7 (85)	-1.9 (80)	06/01/2019
Blmbg. U.S. Aggregate				*-4.8 (79)*	*-14.6 (36)*	*-14.6 (35)*	*-3.3 (79)*	*-0.3 (78)*	*0.5 (95)*	*-1.9 (82)*	
IM U.S. Broad Market Core+ Fixed Income (MF) Median				-4.3	-15.0	-15.0	-2.6	0.1	1.1	-1.3	
PGIM Total Return Bond R6	548,567	6.2		-4.6 (64)	-16.8 (88)	-16.5 (81)	-3.7 (95)	-0.1 (73)	1.2 (36)	1.3 (39)	12/01/2015
Blmbg. U.S. Aggregate				*-4.8 (79)*	*-14.6 (36)*	*-14.6 (35)*	*-3.3 (79)*	*-0.3 (78)*	*0.5 (95)*	*0.6 (91)*	
IM U.S. Broad Market Core+ Fixed Income (MF) Median				-4.3	-15.0	-15.0	-2.6	0.1	1.1	1.1	
PIMCO Income Fund	1,466,566	16.6		-1.9 (24)	-10.8 (30)	-10.7 (31)	-0.3 (20)	1.2 (22)	3.2 (7)	-5.4 (31)	02/01/2021
Blmbg. U.S. Aggregate				*-4.8 (86)*	*-14.6 (64)*	*-14.6 (65)*	*-3.3 (76)*	*-0.3 (77)*	*0.5 (91)*	*-9.5 (77)*	
IM Multi-Sector General Bond (MF) Median				-2.9	-13.4	-13.5	-1.8	0.5	1.9	-7.2	
Domestic Equity	**2,864,388**	**32.4**	**30.0**	**-4.5**	**-24.9**	**-18.0**	**7.6**	**8.6**	**10.8**	**12.6**	**07/01/2010**
OPEB Domestic Equity Benchmark				*-4.4*	*-24.9*	*-18.0*	*7.6*	*8.6*	*10.9*	*12.6*	
Vanguard Total Stock Market Index Adm	2,864,388	32.4		-4.5 (39)	-24.9 (64)	-18.0 (64)	7.6 (31)	8.5 (23)	10.8 (18)	12.0 (15)	01/01/2012
*Vanguard Spliced Total Stock Market Index **				*-4.4 (38)*	*-24.9 (63)*	*-18.0 (64)*	*7.6 (31)*	*8.6 (22)*	*10.9 (18)*	*12.1 (15)*	
IM U.S. Multi-Cap Core Equity (MF) Median				-4.7	-23.8	-16.9	6.8	7.2	9.4	10.9	

*Consists of Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter. ** Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex. U.S. IMI Index through June 2, 2013; FTSE Global All Cap ex U.S. Index thereafter *** Consists of MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index thereafter.

Empower Results®

Performance as of September 30, 2022

	Allocation			Performance(%)							
	Market Value ($)	%	Policy(%)	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
International Equity	**1,495,183**	**16.9**	**20.0**	**-10.0**	**-29.4**	**-29.0**	**-1.0**	**-0.3**	**3.7**	**5.2**	**07/01/2010**
OPEB International Equity Composite Benchmark				*-9.8*	*-26.5*	*-25.2*	*-1.2*	*-0.7*	*3.4*	*4.2*	
Vanguard Total International Stock Index Adm	792,863	9.0		-10.5 (75)	-26.8 (35)	-25.2 (54)	-1.2 (46)	-0.7 (34)	3.4 (31)	3.3 (64)	05/01/2012
*Vanguard Spliced Total International Stock Index ** *				*-9.7 (44)*	*-26.5 (33)*	*-25.2 (52)*	*-0.9 (43)*	*-0.5 (20)*	*3.6 (17)*	*3.3 (61)*	
IM International Large Cap Core Equity (MF) Median				-9.8	-27.4	-25.2	-1.7	-1.0	2.7	3.4	
American Funds EuroPacific Growth R6	702,320	8.0		-9.3 (34)	-32.1 (91)	-32.9 (99)	-1.2 (47)	-0.2 (17)	3.8 (14)	2.2 (1)	09/01/2014
MSCI AC World ex USA Index (Net)				*-9.9 (52)*	*-26.5 (34)*	*-25.2 (50)*	*-1.5 (49)*	*-0.8 (39)*	*3.3 (35)*	*0.6 (59)*	
IM International Large Cap Core Equity (MF) Median				-9.8	-27.4	-25.2	-1.7	-1.0	2.7	0.7	
Real Estate	**520,633**	**5.9**	**5.0**	**-10.9**	**-27.4**	**-15.9**	**-0.9**	**3.5**	**5.2**	**8.5**	**07/01/2010**
OPEB Real Estate Benchmark				*-10.8*	*-27.9*	*-16.3*	*-1.1*	*4.1*	*6.1*	*9.4*	
Cohen & Steers Institutional Realty Shares	520,633	5.9		-10.9 (65)	-27.4 (26)	-15.9 (21)	0.4 (17)	5.8 (4)	6.7 (4)	2.4 (13)	02/01/2021
FTSE NAREIT All Equity REITs				*-10.8 (61)*	*-27.9 (36)*	*-16.3 (30)*	*-1.1 (46)*	*4.1 (34)*	*6.1 (13)*	*1.1 (47)*	
IM Real Estate Sector (MF) Median				-10.6	-28.6	-17.3	-1.5	3.5	5.0	0.7	
Total Short Term Liquidity	**303,772**	**3.4**	**5.0**	**0.2**	**0.2**	**0.2**	**0.4**	**0.8**	**0.6**	**0.4**	**01/01/2012**
Wells Fargo Government MM Fund	87,005	1.0		0.4	0.5	0.5	0.6	1.1	0.9	0.6	04/01/2012
90 Day U.S. Treasury Bill				*0.5*	*0.6*	*0.6*	*0.6*	*1.1*	*0.9*	*0.6*	
Webster Cash	216,768	2.5									

*Consists of Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter. ** Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex. U.S. IMI Index through June 2, 2013; FTSE Global All Cap ex U.S. Index thereafter *** Consists of MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index thereafter.

Aon Medium Term Views

Core Views

Central banks look intent to lean into policy tightening as slowdown intensifies

Even though there are signs that inflation is starting to peak and economic growth is slowing, the major central banks remain keenly focused on tightening monetary policy until inflation comes down closer to targets. This combination of drivers will keep headwinds to risky assets high. A change in the U.S. Federal Reserve's stance in particular would change conditions but this does not seem to be imminent.

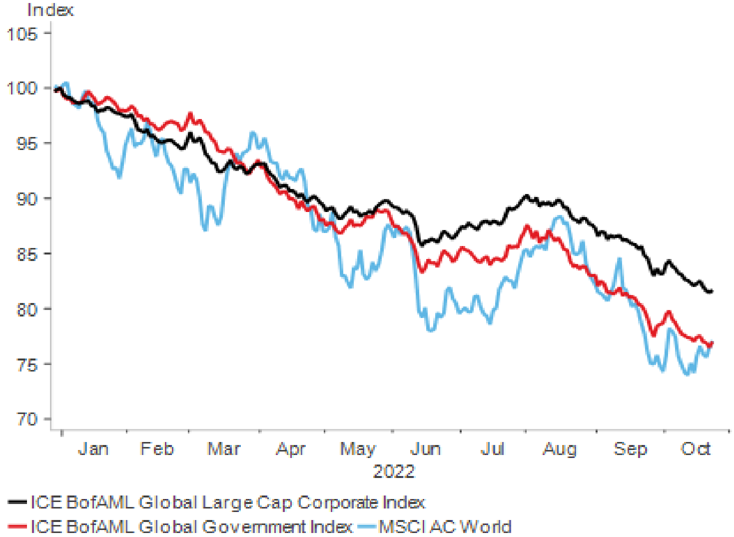
Equities and credit still challenged despite less expensive valuations

The rise in economic, geopolitical and liquidity risk in the last quarter has created significant market volatility, even in government bonds which normally play a more stable role in portfolios. We expect volatility to remain and return headwinds to continue despite more attractive valuations.

Focus on diversification* and defensive measures

As global financial conditions deteriorate, diversification away from traditional asset classes and towards defensive holdings within remaining traditional asset classes is still recommended.

Equities and Bonds both perform very poorly this year



Source: Macrobond
Note: Total return indices in USD terms, re-indexed to January 2022

*Diversification does not ensure a profit, nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility. The data and opinions referenced are as of 30/09/2022, and are subject to change due to client needs, suitability requirements and changes in the market or economic conditions that may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Actions

Some value in credit but position-building should be gradual

- Higher total yields have brought back value in some areas of credit, especially in higher quality investment grade bonds. However, economic conditions will remain difficult and we recommend gradual position-building only.

Not yet time to raise equity allocations

- Significant falls in equities have improved valuations but further downside risks remain and we remain cautious. We do not yet recommend increasing allocations above targets.

Focus on resilience

- Equities and bonds have both performed very poorly this year, making traditional diversifying strategies ineffective – there is the potential that this occurs more frequently. We therefore recommend allocations to diversifying* hedge funds and cash. Manager selection is likely to be even more crucial in this environment, particularly in private assets where we think performance across managers will be highly dispersed.

Moved high yield view in line with loans and other credit

After the strong relative performance of loans and wider spreads in high yield, we have moved our credit views in line as global economic headwinds gather

Downgraded real estate view

Economic weakness and higher interest rates have prompted the downgrade

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Recommended actions

Total Return Cross Asset Class Views

---	--	-	=	+	++	+++
		Equities	Core fixed income	Alternatives		
		Return-Seeking Fixed Income		Cash		

Equities are challenged by higher for longer policy rates as the global economy slows. We prefer gaining return-seeking exposure through alternative asset classes

Maintaining a neutral duration view as the upside and downside risks to yields are more balanced now

Relative Asset Class Views

Equity Regions

---	--	-	=	+	++	+++
		EAFE	Emerging	USA		

Global uncertainty and economic slowdown, coupled with higher interest rates, mean that a defensive stance remains appropriate

Equity Styles

---	--	-	=	+	++	+++
		Value	Quality	Low Vol.		
			Growth			

Defensive stance on equity styles is similarly maintained

Alternatives

---	--	-	=	+	++	+++
		Real Estate	Commodities	Diversifying Hedge Funds		
				Global Infra.		
				Selected Private Credit		

Real estate view downgraded as economic growth slows. Non-correlated alternatives still generally preferred

Return Seeking Credit

---	--	-	=	+	++	+++
		USD EMD		Selected ABS		
		Local EMD				
		Bank Loans				
		US High Yield				

We have brought HY bonds in line with loans and other credit sectors. Lower quality credit and EM debt remain under pressure as global growth weakens and financial conditions tighten

Core Fixed Income

---	--	-	=	+	++	+++
			Treasuries			
			Inv. Grade			
			TIPS			

No preference between nominal and inflation-linked bonds.

Currencies versus USD

---	--	-	=	+	++	+++
			EUR			
			GBP			
			JPY			
			EM			

The US dollar is unsustainably strong but risks still support the dollar in the near-term

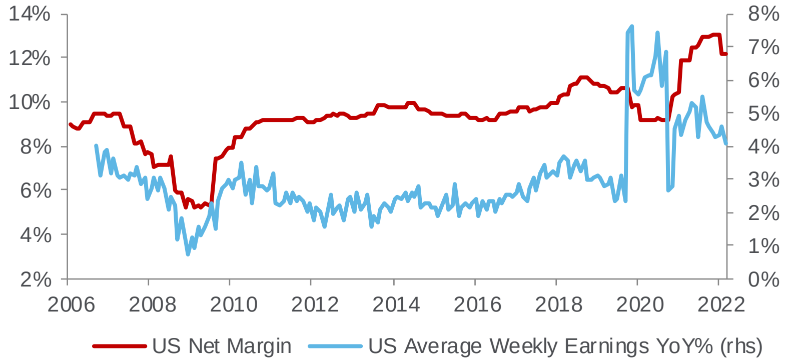
Please refer to the end of the document for interpretation guidelines.
The data and opinions referenced are as of 9/30/2022, and are subject to change due to client needs, suitability requirements and changes in the market or economic conditions that may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Equities

Renewed urgency to tighten policy is an important headwind to markets, despite better valuations

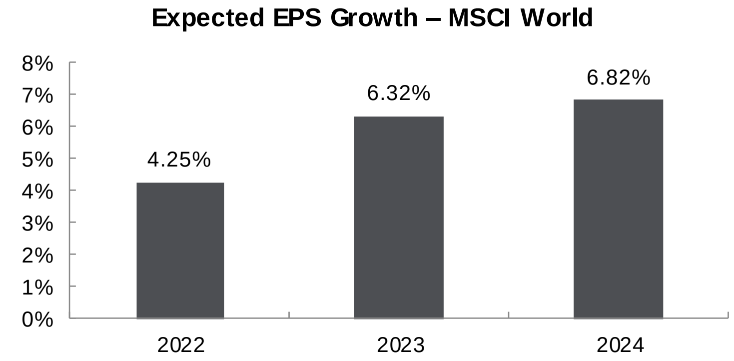
- In a continuation of the highly volatile and difficult market conditions this year, global equities initially rallied in the early part of the third quarter but fell precipitously from the middle of August onwards. The especially poor run in equities was triggered by a renewed determination by central banks to tighten monetary policy to lower inflation back towards their target. There are signs that inflation is peaking now. However, the slowdown in price increases will likely be frustratingly gradual.
- Market weakness has improved valuations markedly now, to the extent that no developed market is looking expensive relative to its history anymore. However, earnings growth forecasts are still relatively healthy – over 6% growth in MSCI World earnings per share is expected for next year. These expectations are not consistent with the increasingly likely prospect of a recession and also make the earnings-based valuations look cheaper than they might otherwise be. Higher inflation and the prospect of higher wage growth also pose an important threat to company profit margins.
- Analysts have been revising down their earnings estimates but certainly not to the extent that reflects the difficult period we may be experiencing in the coming months.
- Uncertainty remains significant and the degree of economic slowdown will matter, as will the trajectory of inflation and its impact on monetary policy. Overall, we remain cautious on equities.

We expect rising wages will cause company margins to fall



Source: Factset, Aon

Still healthy earnings expectations will not hold up if a recession bites



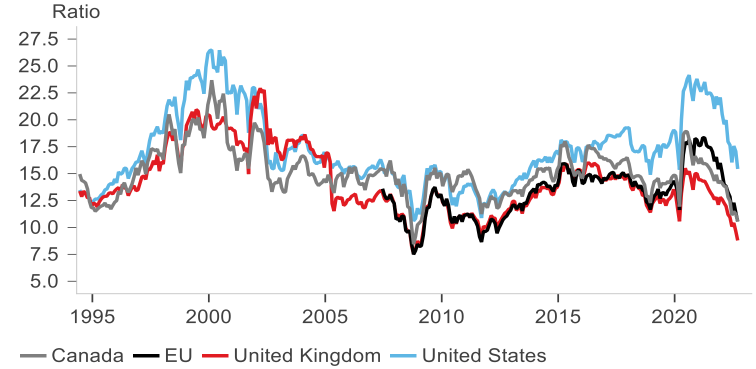
Source: Factset, Aon

Equities

Our defensive stance on equity styles and regions remains in place amid extreme uncertainty

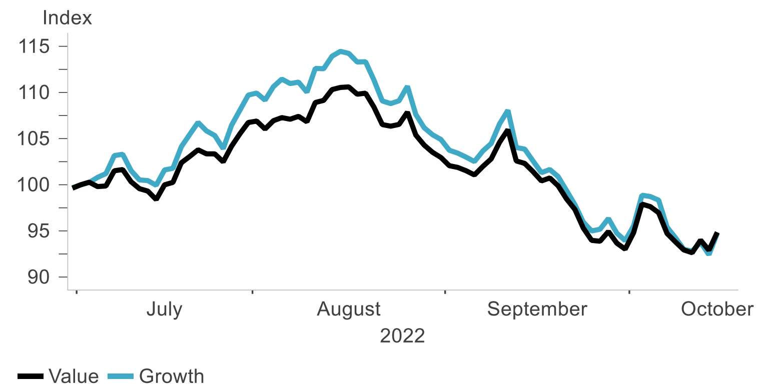
- We moved to preferring growth style equities relative to value last quarter in recognition of economic weakness and likely lower yields over the coming year. This call has been proven correct over the third quarter, but conditions changed once again as the quarter came to a close.
- In particular, a renewed focus on aggressive monetary policy tightening amid stubbornly high inflation has triggered another surge in bond yields and sharply lower equity markets. We have stated previously that rising yields tend to coincide with value stock outperformance as they tend to be more cyclical companies that benefit from improved economic growth (and hence higher yields). We have also said that growth stocks are especially challenged by higher yields as their earnings are expected further in the future and are discounted by a greater amount. With surging yields, does this indicate another period of consistent value outperformance? We doubt it.
- This is because rising yields are not a reflection of better economic performance, which is an important underlying driver of value stocks. Additionally, bond markets have been especially volatile, and we continue to think that yields will trend lower as growth weakens and inflation peaks. As we have stated previously, we must acknowledge the extreme uncertainty swirling around markets at the moment and conditions can change rapidly again.
- Meanwhile, we maintain our defensive overall stance on equity styles by preferring low volatility equities and on regions by preferring U.S. equities relative to Europe.

We believe that optimistic earnings forecasts make valuations appear falsely attractive (12m Forward PEs)



Source: Macrobond, MSCI indices

Growth outperformance in the first half of the quarter was reversed in the second half



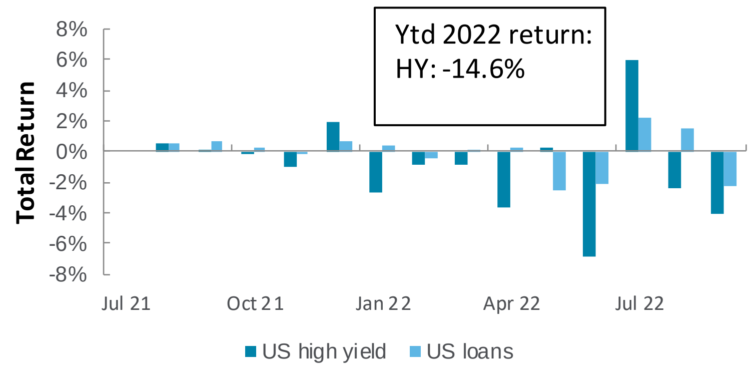
Source: Macrobond, MSCI AC World performance as at October 7 2022, reindexed, July 2022 = 100

Return-seeking credit

Moving high yield in line with other credit sectors but we remain negative on credit spreads

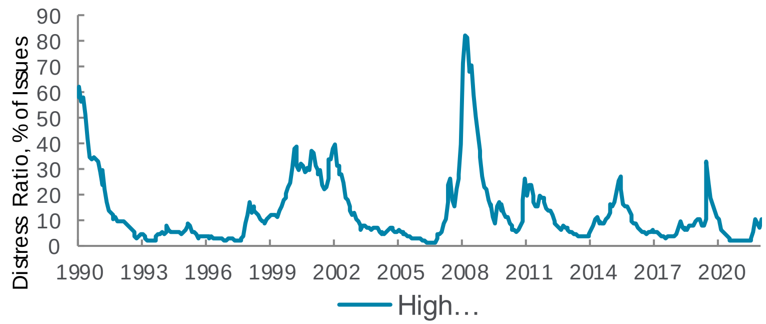
- Credit markets are starting to incorporate some form of slowdown in their valuations as spreads have widened substantially over the summer. However, we are still not at the point where those valuations look compelling enough to recommend any large allocations or moving back to target weights.
- We remain negative on high yield bonds. Credit spreads have widened above 500bps but this is a long way below the peaks reached in the previous three cycles - 2011 (885bps), 2016 (888bps) and 2020 (1082bps). As we expect corporate pricing power and profits to erode on weakening economic growth and rising wages, combined with the negative effects on earnings of a strong dollar for the US HY market, we think that high yield bonds will become more stressed.
- Leveraged loans continued to outperform high yield bonds in Q3, benefiting from their floating rates as policy rates were hiked. The 3-year loan yield has reached 11% but credit quality has deteriorated over recent years and borrowers in cyclical industries face the headwinds of high debt refinancing costs and a slowing economy. We have moved our loans view to be neutral with HY bonds.
- EM debt is vulnerable to tightening global financial conditions, particularly in those economies with high debt levels and current account deficits. This is already reflected to an extent in EM yield levels and exchange rates but we remain cautious.

Bank loans have continued to outperform high yield but this may not last in a recession



Source: Bloomberg, ICE BofAML

Strong corporate profits have contained credit market distress and investor loss so far



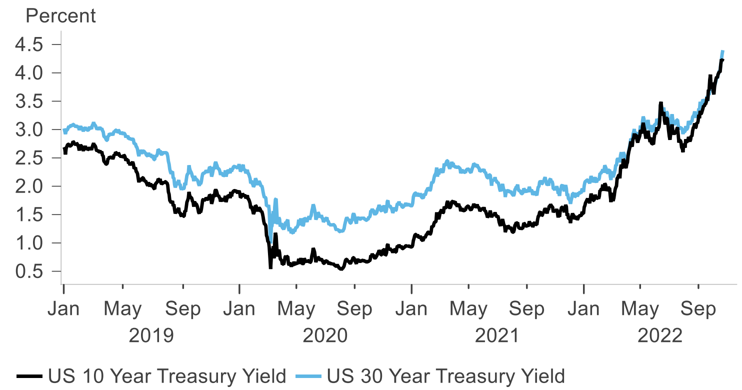
G10 bonds of developed market issuers.

Source: BofA Global Research

U.S. Treasury Bonds
Higher yields but volatility likely to persist

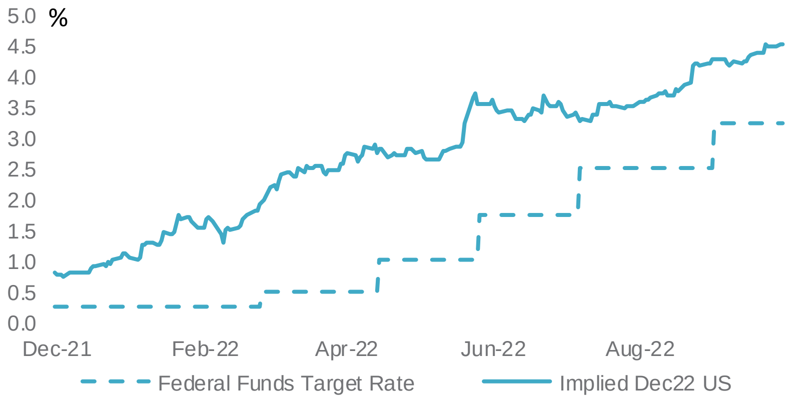
- The sell-off in Treasuries re-accelerated over the summer as inflation remained higher than expected and the Federal Reserve reiterated its intention to tighten monetary policy aggressively. As the economic backdrop has begun to deteriorate, the yield curve has moved into clear inversion territory.
- The ongoing volatility in yields was further exacerbated by developments in the UK, where the moves in UK gilts were the biggest experienced for over 30 years as an announcement of unfunded and untargeted tax cuts caused gilt yields to spike. Unusually, these tremors were felt in the U.S., which hints at growing investor concerns that higher interest rates may expose the vulnerabilities in other areas of the global markets too.
- Meanwhile, the Fed has indicated that it will need evidence that inflation is not only coming back to target but will stay at target before altering their monetary policy trajectory. Whilst economists expect base effects to mean that headline inflation will come down through 2023, core inflation could remain stubbornly high, which will require rates to remain elevated for longer in order to ensure inflationary pressures are removed from the system.
- Significantly higher yield levels and higher expected volatility suggest refreshing asset allocation strategy, but we are cautious about taking medium-term tilts away from strategic benchmarks given what we believe will remain a volatile environment for yields for the time being. We remain neutral on our duration view as well.

Yields have risen sharply since the start of August



Source: Macrobond. Data as at 20 October 2022

Implied policy rates for the end of 2022 continue to rise in the U.S.



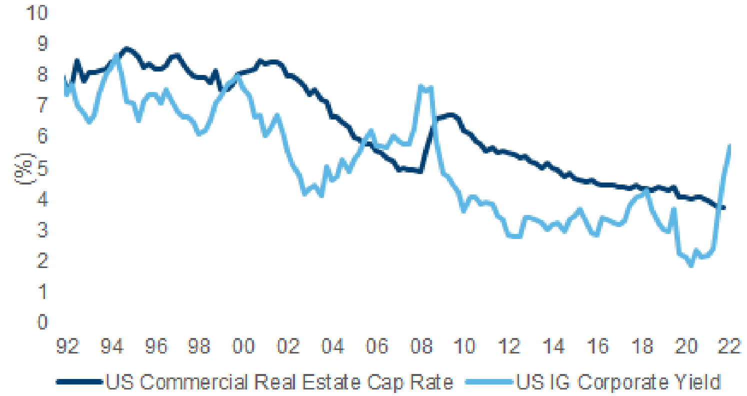
Source: Macrobond. Data as at October 2022

Alternatives

Private real estate looks vulnerable and our view has been downgraded

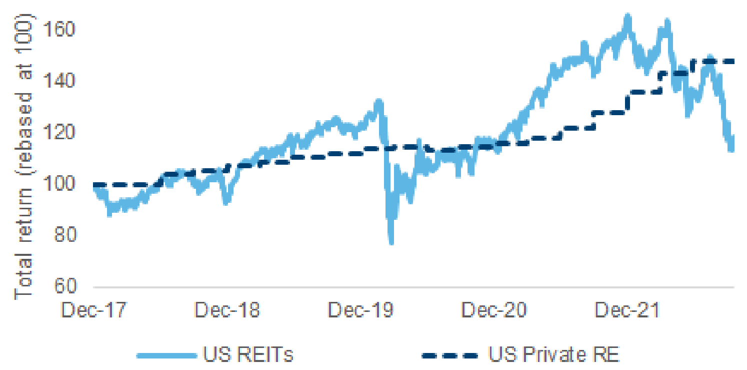
- Private Real Estate has recorded a strong first half of the year relative to other asset classes, continuing its bull run since mid-2020. The MSCI Global Property Fund index recorded a total return of 7.3% YTD to June, with US property (NCREIF) returning 8.7%.
- We think global private real estate valuations have yet to reflect the rising rates environment and the deteriorating macroeconomic outlook. Global financial conditions have tightened substantially since August, and **we are now downgrading our global real estate outlook.**
- IG borrowing costs have overtaken the income yields of property across major markets. Leverage within property funds will now be a net detractor to overall returns, a major headwind since many property acquisitions are financed by leverage. Credit will also be an attractive substitute for property among yield-seeking investors.
- Whilst we await Q3 property fund returns from other regions, listed REITs have corrected substantially across major markets. REITs are more volatile owing to their equity beta, higher leverage levels, and less favourable asset mix. However, REITs tend to lead the market during downturns as private property transactions tend to dry up, leading to stale property values.

US IG borrowing cost is now above property's income yield



Source: FactSet, ICE, NCREIF. As at 30 September 2022, RE data as at 30 June 2022.

Substantial correction seen in listed REITs YTD, but private property valuations has remained steady so far

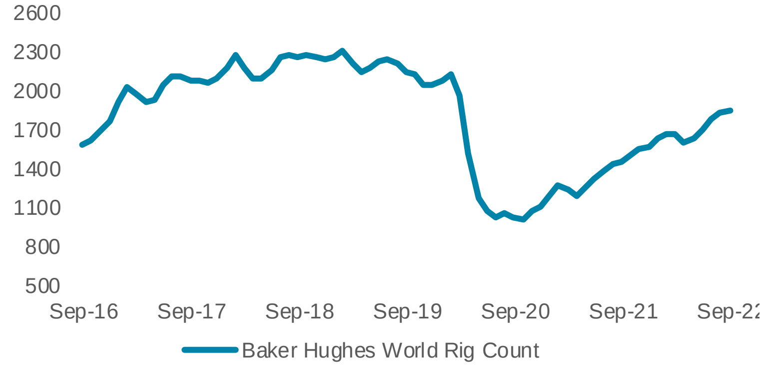


Source: FTSE NAREIT/EPRA indices, NCREIF. As at 30 September 2022, US private RE data as at 30 June 2022.

Alternatives
Commodities look set to remain volatile

- Commodities prices have risen sharply over the last two years driven by surging demand after the relaxation of pandemic-related lockdowns, global inflation reaching multi-decade highs and raw material prices being pushed up by the ongoing conflict in Ukraine. However, prices of both metals and energy have fallen in recent months as recession fears have mounted.
- Oil prices (Brent) have fallen substantially from a high of $139/bbl to $85/bbl at the time of writing. However, OPEC+ recently agreed to cut 2m barrels a day in oil production in an attempt to keep oil prices from falling due to weaker global demand. This cut is equivalent to 2% of global supply and threatens to further increase inflationary pressures across the globe.
- We expect energy prices to slowly ease over the medium term but supply will remain tight, suggesting volatility will continue to remain elevated into the upcoming winter, owing to the conflict in Ukraine.
- Industrial metals have fared poorly in the short term, due to the fears over an economic slowdown. The sector could perform well over the medium term but remain very sensitive to short-term economic conditions and the success and speed of an energy transition.
- We continue to believe passive strategic commodity exposure does not offer clients much value given the sensitivity of energy and metals to economic conditions but investment through active vehicles may provide diversification and benefit from potential supply and demand shocks within commodity markets.

The supply-side picture for energy markets has improved



Source: Bloomberg. As at 30 September 2022

Commodity prices have dropped recently but have stabilised

Source: Bloomberg. As at 30 September 2022

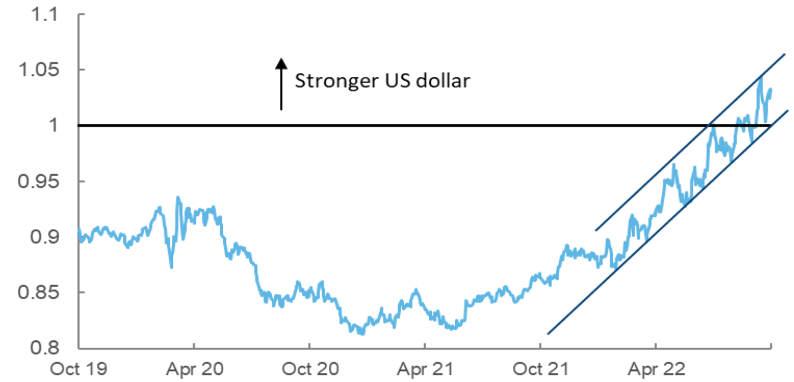
Empower Results®

Currencies

Risks support the US dollar in the short-term but it is now very overvalued

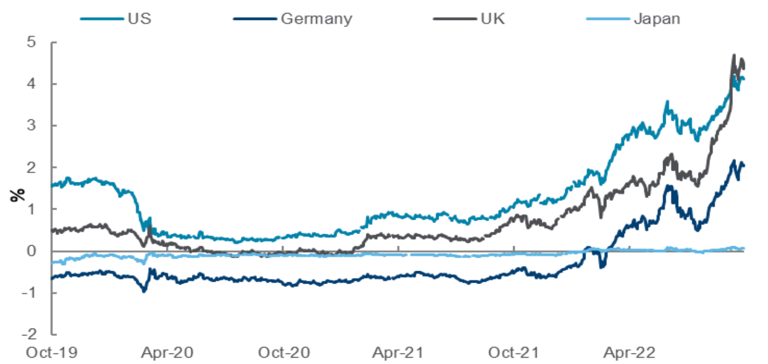
- The US dollar has surged further over the last quarter, back to levels from almost 20 years ago and breaching parity with the euro. The dollar has not been so overvalued in the last 30 years based on OECD purchasing power parity.
- However, its expensive valuation is continuing to be supported by the US Fed's tight monetary policy stance. The Fed funds futures market is expecting the fourth 75bps policy rate rise in November despite signs of peaking US inflation data as the Fed remains set on cooling the hot US labour market.
- The resulting dollar boost from higher US rates is creating increasing concern outside of the US. Japanese and Chinese authorities intervened in September in an attempt to put a floor under their currencies against the dollar. But more importantly, higher US real yields and the stronger dollar are tightening global financial conditions and exposing vulnerabilities in weaker economies, which could itself result in safe-haven demand for the dollar.
- Policy rate hike expectations are no lower in the Eurozone and are higher in the UK but rate hikes are proving impotent in the face of mounting concerns over the European energy crisis and the challenging policy backdrop in the UK. Sterling fell swiftly on the UK government's announcement of unfunded spending and tax cuts in September and remains vulnerable due to its policy contradictions and twin deficits.
- Short-term trends therefore remain supportive of the US dollar. Signs of a weaker labour market are required before the Fed will soften its monetary stance and the dollar starts to weaken over the medium-term as we expect.

The US dollar convincingly broke parity with the euro in September



Source: Bloomberg

5-year UK government bond yields have risen most strongly this year but they have been unable to support the pound



Source: Bloomberg

Appendix

Economic highlights

In Q3 2022 capital markets continued to be highly volatile, with the realisation that inflation would remain uncomfortably high forcing the major central banks to increase the pace of monetary policy tightening. Central bankers openly discussed the prospect of higher consumer prices and rate increases and triggering a recession, but remained steadfast in their efforts to bring inflation rates down towards targets.

By the end of the quarter, economic conditions seemed to have deteriorated the most in the Eurozone and the UK, whilst the U.S. economy has proven to be more resilient so far. Nonetheless, rapid interest rate increases are creating ever larger headwinds, not just domestically, but also globally. Some emerging market currencies are sitting near decade lows, whilst U.S. dollar strength is also increasing costs for energy importing countries.

We think that a global recession is probable at some point over the coming year. Meanwhile, we believe that inflation will peak this year in the developed world but will only gradually trend down towards 3% by the end of next year. Extreme uncertainty due to the war in Ukraine is making predictions especially difficult, however.

Weaker consumer optimism, especially in Europe

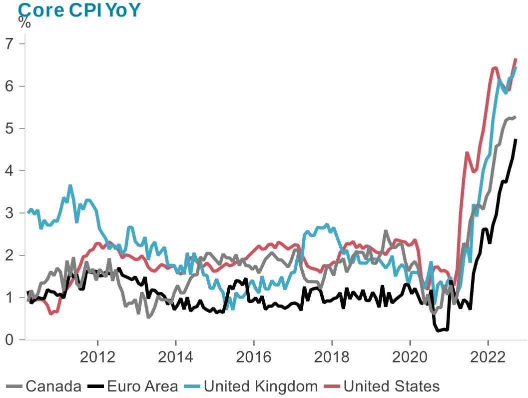
Consumer confidence surveys

US consumer strength stands in contrast to other developed economies

Retail Sales YoY

Are we seeing a definitive peak in core rates yet? Not clear

Core CPI YoY



Source: Macrobond

Economic highlights

USA

- The U.S. economy entered a technical recession as economic growth contracted for a second consecutive quarter in Q2. Annualized GDP fell by 0.6% over Q2 2022, following the 1.6% contraction in the previous quarter. However, other indicators paint a picture of resilience in the U.S. economy so far. Retail sales growth and employment remained relatively healthy over the quarter, for example.
- The U.S. annual consumer price index (CPI) rose 8.2% year on year in September, only slightly down from the 8.3% recorded in the previous month. However, monthly core CPI, which strips out volatile food and energy costs, accelerated to 6.6% year on year, which is the fastest pace in 40 years.
- The U.S. Federal Reserve (Fed) increased its benchmark interest rate by 150bps to a range of 3-3.25% over the quarter. Fed chair Jerome Powell indicated that monetary policy needs to be "more restrictive or restrictive for longer" to contain soaring inflation and also refused to rule out a recession. According to the median estimate on the Fed dot plot, officials expect the interest rate to reach 4.4% by the end of the year, before peaking at 4.6% next year.

Non-US Developed

- Eurozone GDP grew by a better than expected 0.6% over the quarter in Q2, similar to the first quarter, but more recent economic indicators are pointing to a slowdown amid energy concerns as the war in Ukraine rumbles on. Meanwhile, high gas prices pushed euro area inflation to a new record high of 9.1% in August. For their part, the ECB fully abandoned its previous reticence to tighten policy and raised its benchmark interest rates by 125bps to 1.25% over the quarter, the highest level since 2011. Furthermore, ECB president, Christine Lagarde, signalled several interest rate increases in the coming months to bring inflation down to the bank's target of 2%.
- Japanese GDP grew by 0.9% in Q2, surprising markets by its strength. Meanwhile, the government intervened to prop up the Yen for the first time this century after the currency tumbled to a 24-year low.
- UK GDP grew by 0.2% in Q2, but political and market developments dominated investor attention in Q3. In response to the new Prime Minister's package of tax cuts and energy cost support, sterling crashed to a record low and yields surged, prompting the Bank of England to intervene by buying Gilts to stabilize the market.

Emerging Markets

- Chinese GDP surprised the markets by contracting 2.6% in Q2 compared with the previous quarter. Much of this decline in activity was attributed to the lockdowns associated with China's ongoing zero-Covid policy, but housing market weakness and lower export demand have also been headwinds this year. Partly due to these factors but also due to the strength of the U.S. dollar, the renminbi has fallen sharply this year to levels not seen since the global financial crisis.
- Other countries have also been suffering economic slowdowns this year as well, including India and South Africa, with exporting economies facing lower demand for their commodities recently.
- Indeed, U.S. dollar strength and higher U.S. yields are combining to create a generalised risk-off environment and important headwinds for emerging markets.
- Furthermore, many emerging market currencies have been falling this year. This pressure will likely continue for as long as the Fed remains aggressive, and export demand weakens as the global economy moves towards recession.

View guidance

- - -	- -	-	=	+	++	+++
Large under-performance expected with highest conviction	More under-performance or stronger conviction	More likely to underperform	Weak conviction or no view on relative performance	More likely to outperform	More outperformance or stronger conviction	Large outperformance expected with highest conviction
• Target larger underweight • Bring forward selling plans and defer SAA buying implement-ation • Do not rebalance to target weight yet	• Target underweight • Bring forward selling plans and defer SAA buying implement-ation • Do not rebalance up to target weight yet	• Target small underweight to strategic weight • Prefer to avoid buying and selling on strength • Buying for SAA reasons fine, but add slowly or into weakness. • Consider partial rather than full rebalancing	• Target benchmark or strategic weight • Buying/ Selling both look ok coming from SAA changes or rebalancing	• Target small overweight to strategic weight • Prefer to accumulate • Selling for SAA reasons fine, but look to sell gradually • Slow rebalancing moves back to benchmark weight	• Target overweight • Bring forward buying plans and defer SAA selling implement-ation • Do not rebalance down to target weight yet	• Target larger overweight • Bring forward buying plans and defer SAA selling implement-ation • Do not rebalance to target weight yet

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