

TREASURER'S REPORT

1. **Division and Department:** Finance and Administration, Budget and Financial Planning, Treasury Management, Controller's Office, and Facilities Management
2. **General Fund Budget Performance:** Oakland University's (University) actual year-to-date (through Summer II and Fall 2022) enrollment, measured by student credit hours, is 7.2% below prior year actual and 2.0% above budget. Financial aid distributions are running slightly above budget and a preliminary review of General Fund expenditures to date shows no major spending variances in any division or unit. In accordance with the State of Michigan's Public Act 144 of 2022, the University will be receiving monthly State appropriation payments of \$5,523,809 which begin in October. Planning is underway to address the budgeted shortfall for fiscal year 2023 resulting from anticipated declines in enrollment, including cost containment measures, budget reductions, reserves, and use of the Higher Education Emergency Relief Fund (HEERF) grant from the federal government.

A monthly budget monitoring process managed by the Budget and Financial Planning Office helps ensure budget management accountability.

3. **Investment Performance:** The results of the University's working capital and endowment investment activities for FY2022 is presented in Attachments A and B, as prepared by Commonfund and UBS.

Investment performance associated with the working capital pool for the quarter ended June 30, 2022 was negative and better than the benchmark. Performance for FY2022, was also negative and better than the benchmark.

The University's endowment portfolio performance for the quarter ended June 30, 2022 was negative and slightly shy of the quarterly benchmark. Performance for FY2022 was also negative and below the fiscal year benchmark.

Final data from the NACUBO/TIAA FY2021 annual endowment survey revealed that the University's endowment portfolio exceeded the average investment performance for both similar sized university endowments and all university endowments, regardless of size, for all measured periods; one, three, five, ten, fifteen, and twenty years.

Liquidity of both the working capital and endowment investments remains strong. The University's investments are being managed according to the Board's policies. The University's Investment Advisors (i.e. Commonfund for working capital and UBS for the endowment) continue to adhere to a long-term investment strategy that focuses on outperforming identified benchmarks over time. The Advisors will make their annual presentation to the Board at the October 3, 2022 Formal Session.

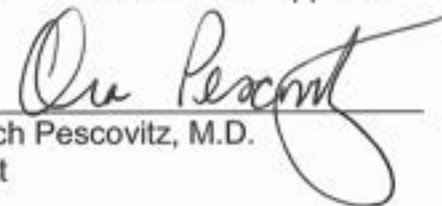
Treasurer's Report
Oakland University
Board of Trustees Formal Session
October 3, 2022
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4. **Debt Management:** The *Capital Debt Report, August 31, 2022* (Attachment D) shows the University's amount of outstanding principal, unamortized premiums, rate of interest, weighted average cost of capital, type of debt, annual debt service, maturity, purpose of each debt issuance, and information about the University's swap arrangement. The University's debt, which has a weighted average cost of capital of 3.552%, is being managed according to the Board's policies and approvals.
5. **Construction Report:** The *Construction Report, August 31, 2022* (Attachment E) includes budget information, source of funding, forecasted final costs, and comments for all ongoing capital projects over \$500,000, as required by Board policy. All projects have been properly approved and are within budget.
6. **University Reviews/Approvals:** The Treasurer's Report and attachments were prepared by the Budget and Financial Planning, Treasury Management, Controller, and Facilities Management Departments, and reviewed by the Treasury Committee, Interim Vice President for Finance and Administration and Treasurer to the Board of Trustees, and President.
7. **Recommendation:**
RESOLVED, that the Board of Trustees accepts the Treasurer's Report.
8. **Attachments:**
 - A. UBS – Oakland University Endowment Performance Review – Year Ended June 30, 2022
 - B. Commonfund – Oakland University June 30, 2022 Treasury Solutions Quarterly Investment Report
 - C. Cash and Investments Report, August 31, 2022
 - D. Capital Debt Report, August 31, 2022
 - E. Construction Report, August 31, 2022

Submitted to the President
on 9/28, 2022 by


James L. Hargett, CPA
Interim Vice President for Finance and Administration
and Treasurer to the Board of Trustees

Recommended on 9/29, 2022
to the Board of Trustees for Approval


Ora Hirsch Pescovitz, M.D.
President

Reviewed by:


Joshua D. Merchant, Ph.D.
Chief of Staff and
Secretary to the Board of Trustees



OAKLAND UNIVERSITY ENDOWMENT

Board Meeting – October 2022

Performance Review - Year Ended June 30, 2022

Presented By:
UBS Financial Services, Inc.

Rebecca S. Sorensen, CFP®, CIMA®
Senior Vice President – Wealth Management
Institutional Consultant
Wealth Advisor

Darin S McBride, CRPC®
Senior Vice President – Wealth Management
Senior Portfolio Manager

Mark Anderson
Senior Vice President – Wealth Management



Oakland University Endowment Investment and Market Review

October, 2022

Recap of the Fiscal Year ended June 2022

The one year period ended June 2022 was difficult and disappointing, with most asset classes suffering major losses. There really was no place to hide. The US and the world are facing multiple issues: inflation, rapidly rising interest rates, employment problems, continued COVID concerns, political unrest, the war in Ukraine, and increased tension between the US and China over Taiwan. Any one of these issues on its own would be problematic, but together they've caused havoc in the financial markets worldwide.

Whether we are in a recession or not isn't really clear, but we are likely in a period of slower growth which may continue until the many issues of the last few years are resolved.

For the OU Endowment portfolio, publicly traded Equities were down 19% for the fiscal year ended June 30, 2022 net of fees. Fixed income was down 9.81%. Hedge funds were down 27.99% with all the losses in the category coming from one manager, Alkeon Capital Management. Even with Alkeon's negative performance in 2022, the fund has contributed positively to the portfolio with an average annualized return of 6.36% since its addition to the portfolio in 2012. Private equity shows a positive return of 18.49% for the one year period ended June 30, 2022. Please note, however, that private equity reported performance returns always lag the current reporting period due to the difficulty of timely valuation of non-public entities. The reported net return for the endowment investment pool for the fiscal year ended June 30, 2022 was -15.14% compared to the 70% MSCI ACW-NR/30% BBG AGG benchmark return of -13.99% for the same period.

Going Forward

While the near-term outlook is uncertain, we think this is a time for investors to stay diversified. Longer term, we believe a combination of below-average equity valuations and above-average yields means attractive long-term returns for diversified portfolios. After the substantial decline in equities we've had over the past 9 months, we see attractive average annual returns in the 7% to 9% range over the next decade for US stocks. MSCI ACW valuations suggest long term annualized returns of 6% to 8%. Yields available in bond markets have improved significantly this year as well. Longer term through the rest of the decade, we see positive GDP growth, stronger job growth, and lower inflation.

We expect increased spending for improvements in public infrastructure, R&D, semi-conductor production, and energy transition. We see investors moving to quality and security – for healthcare, food sourcing, environment, and people. COVID showcased problems we have in health care. Ukraine brought global issues of food and energy sourcing to the world's attention.

The investment world continues the movement toward ESG investments (Environmental, Social, and Corporate Governance). Politics aside, most agree that our planet has a finite amount of natural resources that should be protected.

We anticipate that continued technology and health care innovations will push growth and economic efficiencies over the next decade and that high government debt throughout the world will work to keep interest rates relatively low on a long term basis.

Portfolio Recap

We serve as a fiduciary to the University for the management of the portfolio and continue to work closely with Jim Hargett and Susan Sarkisian to help ensure the long term success of the endowment. After the close of your fiscal year, we made changes to the portfolio, removing 5 underperforming managers and consolidating proceeds with existing managers within the portfolio that have consistently performed well against their benchmarks. We also replaced the majority of the Exchange Traded Funds within the portfolio with lower cost ETF options. Additionally, we invested 5% of the portfolio value in a Global Equity ESG sleeve.

After last year's board meeting and at your request, we provided a study of the diversity of UBS and the investment companies who manage the University's assets and reported back our findings to the Finance and Administration Office. We updated the information for this meeting. Of the investment companies managing assets for the OU Endowment portfolio, 37% include women and/or people of color in lead positions. The number jumps to 47% when we categorize by publicly traded fixed income and equity portfolios only.

The Oakland University Endowment Portfolio is well diversified with quality managers who are leaders in their investment categories. The portfolio holds sufficient cash balances to cover anticipated withdrawals for the coming year. Additionally, cash on hand covered all withdrawals for the fiscal year ended June 30, 2022. There was no need to sell into a down market.

For Oakland University's long-term endowment plan, we believe that a well-balanced diversified portfolio with an emphasis on equities continues to be appropriate given the time horizon of the portfolio. We are comfortable with the current allocation and managers and remain in compliance with the Oakland University Endowment Investment Policy Statement.

Sincerely,

UBS Wealth Strategy Group

Rebecca S. Sorensen, CFP, CIMA
Sr. Vice President – Wealth Management, US
Institutional Consultant

Darin McBride, CRPC
Sr. Vice President – Wealth Management, US
Sr. Portfolio Manager

Mark Anderson
Sr. Vice President - Wealth Management, US
Sr. Portfolio Manager



Oakland University Endowment Review - Period Ending June 30 2022

Endowment Fund	Manager	Index	June 30, 2022 Value	June 30, 2022 % Alloc	Quarter Return Net of Fees 3/31/22-6/30/22		Fiscal Yr Return Net of Fees 6/30/21-6/30/22		Account Number
					OU	Benchmark	OU	Benchmark	
Equities Total	Bahl & Gaynor LCV	S&P 500	7,939,204	6.3%	-10.02%	-16.10%	-3.91%	-10.62%	TZ00815
	MFS LCV	Russell 1000 V	12,816,526	10.2%	-9.69%	-12.21%	-5.53%	-6.82%	TZ00034
	Alger LCG	S&P 500	4,720,518	3.8%	-23.90%	-16.10%	-34.22%	-10.62%	TZ00824
	S&P 500 SPDR ETF	S&P 500	9,605,540	7.7%	-16.00%	-16.10%	-10.66%	-10.62%	TZ00824
	Loomis Sayles LCG	Russell 1000 G	9,089,445	7.3%	-22.67%	-20.92%	-25.77%	-18.77%	TZ00537
	MFS MCV	Russell MCV	4,573,130	3.7%	-12.49%	-14.68%	-6.48%	-10.00%	TZ00826
	Wm Blair SMG	Russell MCG	4,910,277	3.9%	-21.00%	-21.07%	-28.45%	-29.57%	TZ00837
	Russell Mid Cap ETF	Russell MCC	5,593,672	4.5%	-16.80%	-16.85%	-17.43%	-17.30%	TZ00837
	MFS New Discovery Value	Russell 2000 V	4,023,433	3.2%	-12.70%	-15.28%	-9.38%	-16.28%	TZ00827
	Russell 2000 ETF	Russell 2000	4,059,051	3.2%	-17.20%	-17.20%	-25.31%	-25.20%	TZ00827
	T. Rowe Price SCG	Russell 2000 G	3,758,766	3.0%	-16.94%	-10.25%	-23.52%	-33.43%	TZ00835
	American Fds SCW	MSCI World SMid Cap	4,106,546	3.3%	-19.35%	-16.90%	-32.50%	-20.07%	TZ00840
	American Fds International Gr	EAFE Free Net	2,809,270	2.2%	-14.70%	-14.51%	-27.93%	-17.77%	TZ00836
	MFS International Value	MSCI ACWI x US Net	3,633,092	2.9%	-15.15%	-13.73%	-22.42%	-19.42%	TZ00829
	MSCI EAFE ETF	EAFE Free Net	1,789,339	1.4%	-13.10%	-14.51%	-17.31%	-17.77%	TZ00836
	Am Fds New Wld	MSCI Emerg Mkt Eq Net	1,287,391	1.0%	-14.90%	-11.45%	-27.43%	-25.28%	TZ00796
	Invesco Dev Mkts	MSCI Emerg Mkt Eq Net	1,490,802	1.2%	-11.40%	-11.45%	-35.11%	-25.28%	TZ00796
	MSCI EM ETF	MSCI Emerg Mkt Eq Net	1,853,141	1.5%	-10.40%	-11.45%	-25.75%	-25.28%	TZ00796
			88,059,151	70.4%	-15.85%	-16.04%	-19.00%	-18.21%	
	FCI	BC GC	10,050,795	8.0%	-4.91%	-5.03%	-11.29%	-10.85%	TZ00811
Fixed Income Total	Lord Abbett High Yield	BoA High Yld Master II	1,074,137	0.9%	-10.70%	-9.97%	-14.54%	-12.66%	TZ00873
	Blackrock Strategic Income	BC Agg	3,123,312	2.5%	-2.73%	-4.69%	-5.99%	-10.29%	TZ00873
	SEK High Yield	BoA High Yld Master II	2,154,944	1.7%	-8.76%	-9.97%	-12.09%	-12.66%	TZ00812
	Fixed Income TRS	Bloomberg US Treasury Inflation N	3,238,575	2.6%	-6.15%	-6.08%	-5.26%	-5.14%	TZ00839
			19,641,763	15.7%	-5.56%	-5.96%	-9.81%	-10.12%	
Real Asset Total	AG Energy Credit	Private Equity	29,013	0.0%	0.00%	0.00%	20.29%	20.29%	TZ00223
			29,013	0.0%	0.00%	0.00%	20.29%	20.29%	
Hedge Funds Total	Alphakays	HFRF Fd Wgt Comp	969,769	0.8%	1.20%	-4.71%	10.19%	-5.60%	TZ00777
	Alkion	HFRF Eq Hedge	2,955,846	2.4%	-13.73%	-4.44%	-38.08%	-0.93%	TZ00836
	Blue Mountain	BoA High Yield II	29,033	0.0%	3.12%	-0.70%	0.77%	1.41%	TZ00535
			3,954,648	3.2%	-10.35%	-4.48%	-27.99%	-2.06%	
Private Equity Total	NB Crossroads	Private Equity	501,807	0.4%	0.00%	0.00%	0.40%	0.40%	TZ00778
	AI-Canyon Distressed	Private Equity	9,106	0.0%	-0.58%	-0.58%	-21.62%	-21.62%	TZ00707
	Portfolio Advisors 2017	Private Equity	2,547,371	2.0%	0.00%	0.00%	27.57%	27.57%	TZ00644
	Portfolio Advisors 2019	Private Equity	1,709,062	1.4%	0.00%	0.00%	22.16%	22.16%	TZ00874
	AI-StepStone Tactical Gr II	Private Equity	3,773,588	3.0%	0.00%	0.00%	26.24%	26.24%	TZ00643
	AI-Avenue Aviation Opp Fd II	Private Equity	1,253,491	1.0%	0.00%	0.00%	-2.74%	-2.74%	TZ00428
	Portfolio Advisors 2015	Private Equity	2,069,834	1.7%	0.00%	0.00%	18.33%	18.33%	TZ00717
			11,864,259	9.5%	0.00%	0.00%	18.49%	18.49%	
Money Market Total	UBS Government FundsUBS Bank	CG T-Bill	1,573,588	1.3%	0.01%	0.12%	0.02%	0.18%	TZ00818
Endowment Total		30% BBG Agg Bond; 70% MSCI AC World - NR				-12.44%		-13.99%	
	Returns gross of fees				-12.55%		-14.93%		
	Returns net of fees	Total	125,122,423	100.0%	-12.60%		-15.14%		

Presented by UBS Financial Services Inc. - The Wealth Strategy Group;
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The information is based upon the market value of your account(s) as of the close of business on June 30, 2022, is subject to daily market fluctuation and in some cases may be rounded for convenience.

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You have discussed the receipt of this individually customized report with your Financial Advisor and understand that it is being provided for informational purposes only. If you would like to revoke such consent, and no longer receive this report, please notify your Financial Advisor and/or Branch Manager.



Quarterly review & outlook

2Q22 into 3Q22

Chief Investment Office GWM

July 2022

This report has been prepared by UBS Financial Services Inc. (UBS FS).
Please see important disclaimers and disclosures at the end of this document.

Stocks & bonds had their **worst first half** in over 50 years...

Performance, select asset classes

	2Q22	YTD 2022	1Q22	2H21	FY 2021
Cash	0.1%	0.2%	0.0%	0.0%	0.0%
US Gov't FI (short)	-0.5%	-3.0%	-2.5%	-0.5%	-0.6%
US Gov't FI (intermediate)	-2.5%	-7.7%	-5.4%	-0.6%	-2.5%
US Gov't FI (long)	-12.1%	-21.7%	-10.8%	3.9%	-4.3%
US TIPS	-6.1%	-8.9%	-3.0%	4.2%	6.0%
US Municipal FI	-2.9%	-9.0%	-6.2%	0.5%	1.5%
US IG Corp FI	-6.9%	-13.8%	-7.4%	0.2%	-1.1%
US HY Corp FI	-10.0%	-14.0%	-4.5%	1.6%	5.3%
EM FI (Hard)	-11.4%	-20.3%	-10.0%	-1.1%	-1.8%
EM FI (Local)	-8.6%	-14.5%	-6.5%	-5.6%	-8.7%
US All-cap	-16.7%	-21.1%	-5.3%	9.2%	25.7%
US Large cap growth	-20.9%	-28.1%	-9.0%	12.9%	27.6%
US Large cap value	-12.2%	-12.9%	-0.7%	6.9%	25.2%
US Mid cap	-16.8%	-21.6%	-5.7%	5.4%	22.6%
US Small cap	-17.2%	-23.4%	-7.5%	-2.3%	14.8%
Int'l Developed Markets	-14.5%	-19.6%	-5.9%	2.2%	11.3%
Emerging Markets	-11.4%	-17.6%	-7.0%	-9.3%	-2.5%
Preferreds	-7.6%	-15.1%	-8.2%	0.3%	3.3%
MLPs	-7.4%	10.0%	18.8%	-5.2%	40.2%
US Real Estate	-17.0%	-20.2%	-3.9%	17.4%	43.2%
Senior loans	-5.3%	-5.5%	-0.2%	1.3%	3.5%

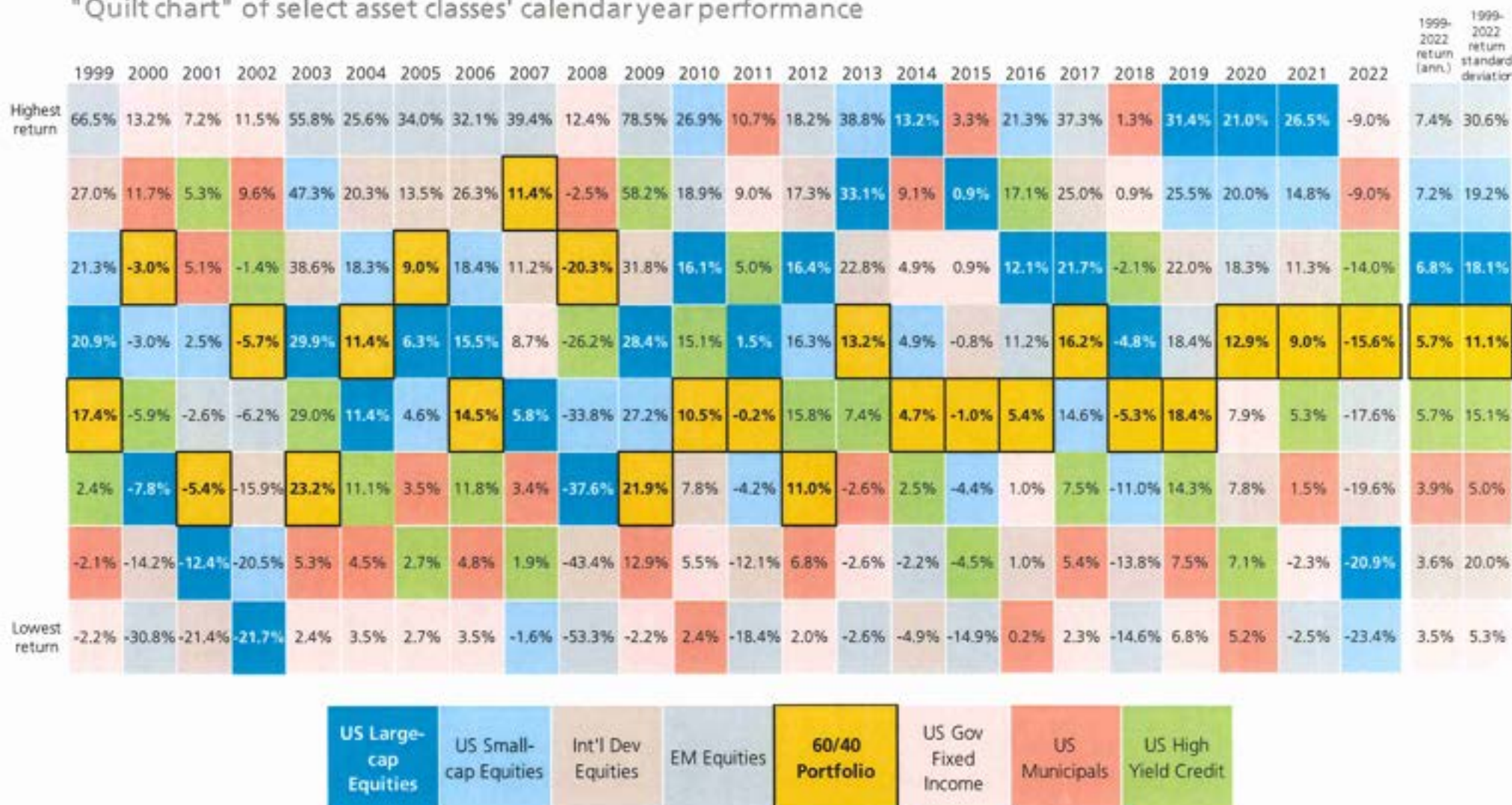
Source: Bloomberg, UBS, as of 30 June 2022



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...leaving balanced portfolios **down** in 2022.

"Quilt chart" of select asset classes' calendar year performance



Source: Bloomberg, UBS, as of 30 June 2022

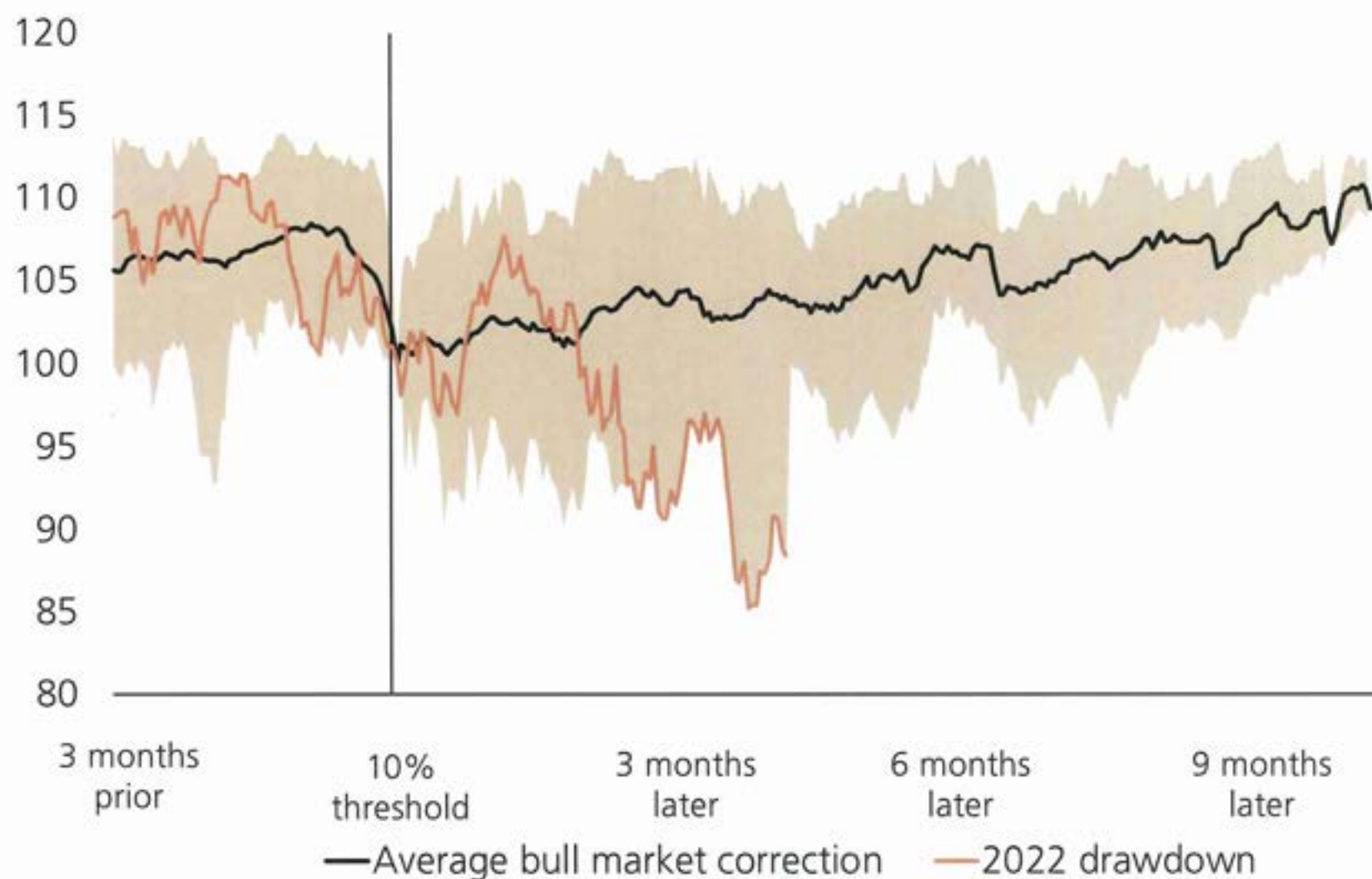
Note: The 60/40 portfolio is comprised of 40% US government bonds, 30% large cap US equities, 20% developed market international equities, and 10% emerging market equities. For periods prior to 2009, this illustration assumes that the Bloomberg Barclays EM Local Currency Government Total Return Index allocation (inception date of 4 July 2008) was invested fully in the Bloomberg Barclays EM USD Aggregate Total Return Index.



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The range of potential outcomes is wide...

S&P 500 price returns in all bull market corrections (losses of more than 10%, but less than 20%) since 1943
(Indexed to 100 = 10% drawdown threshold)



UBS

Source: Bloomberg, UBS, as of 29 June 2022.

...due to concerns around **higher inflationary pressures**...

Year-over-year Headline CPI
January 2021 - today



Source: Bloomberg, UBS, as of 30 June 2022



Global supply chain pressure index
in standard deviations away from average

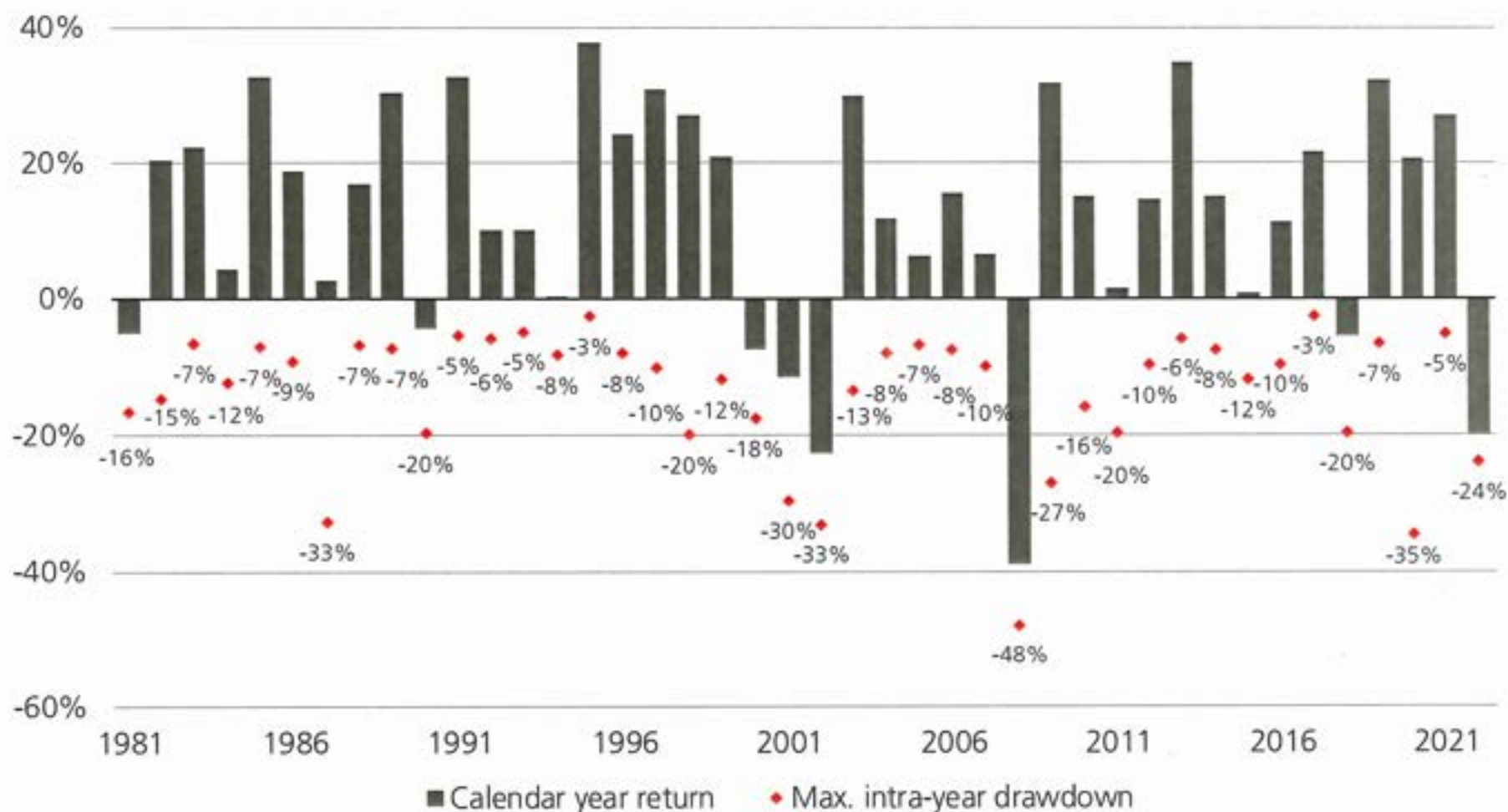


Source: Liberty Street Economics, NY Fed, UBS, as of 30 June 2022

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...but **drawdowns** are **common**, even in a bull market

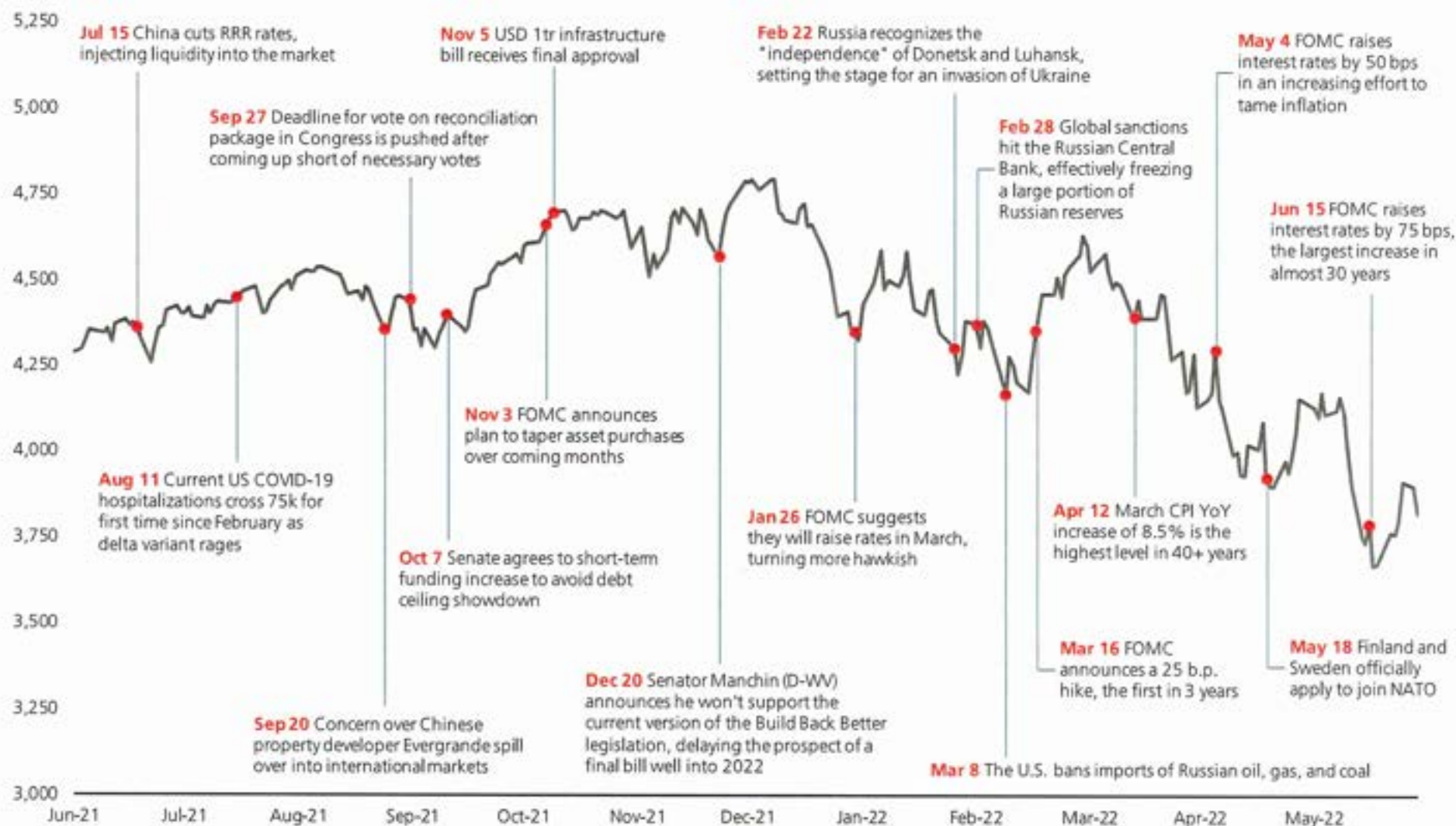
Index of US Large-Capstocks calendar year total returns and intra-year drawdowns



Source: Bloomberg, UBS, as of 28 June 2022.

Stocks hit their **lowest levels** of the year in June...

S&P 500 index level, with callouts for select news items



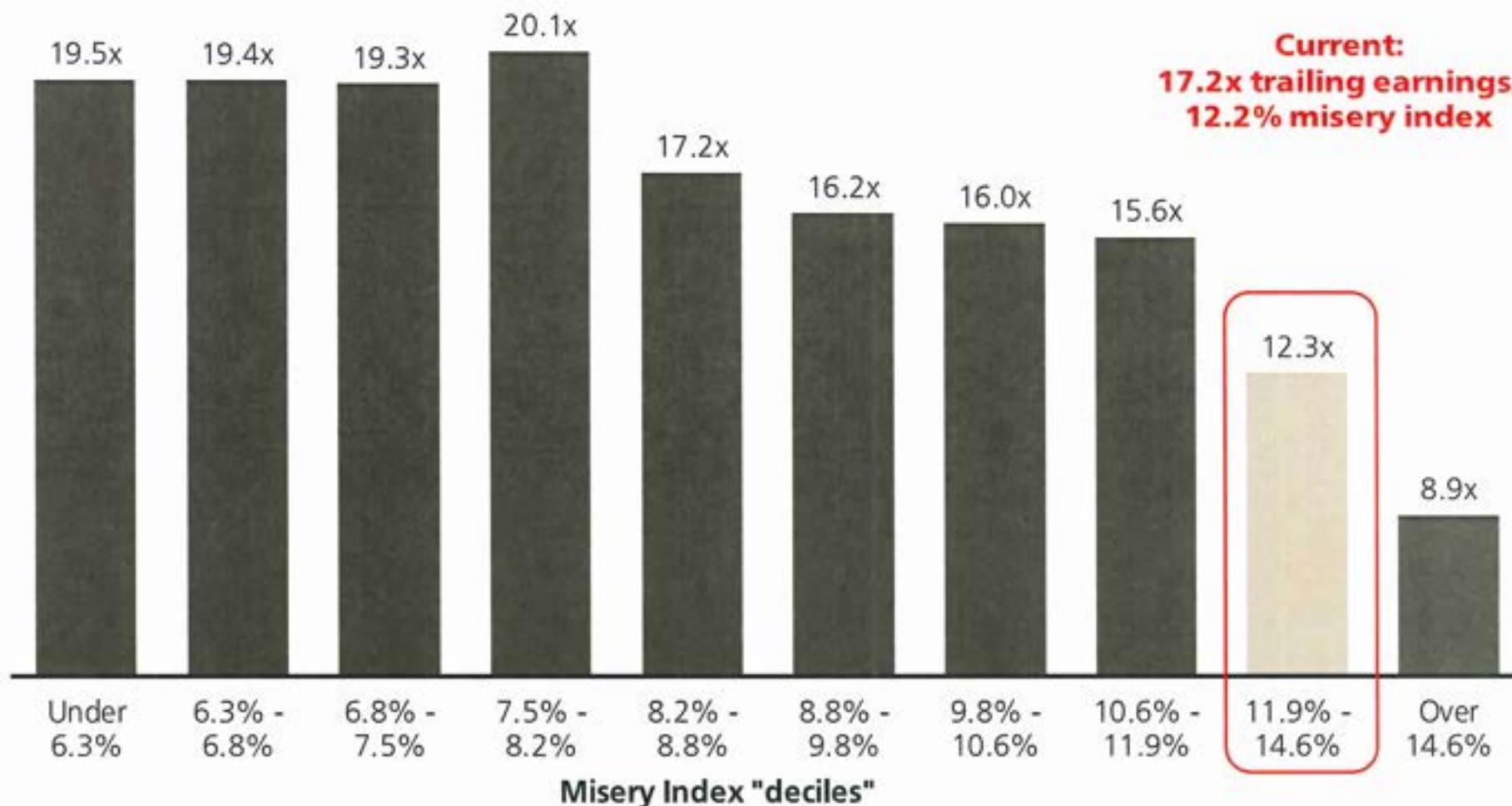
Source: Bloomberg, UBS, as of 28 June 2022



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...but equity valuations are looking through **near-term misery**

Average trailing S&P 500 P/E across Misery Index deciles. Misery Index = Inflation + Unemployment rates



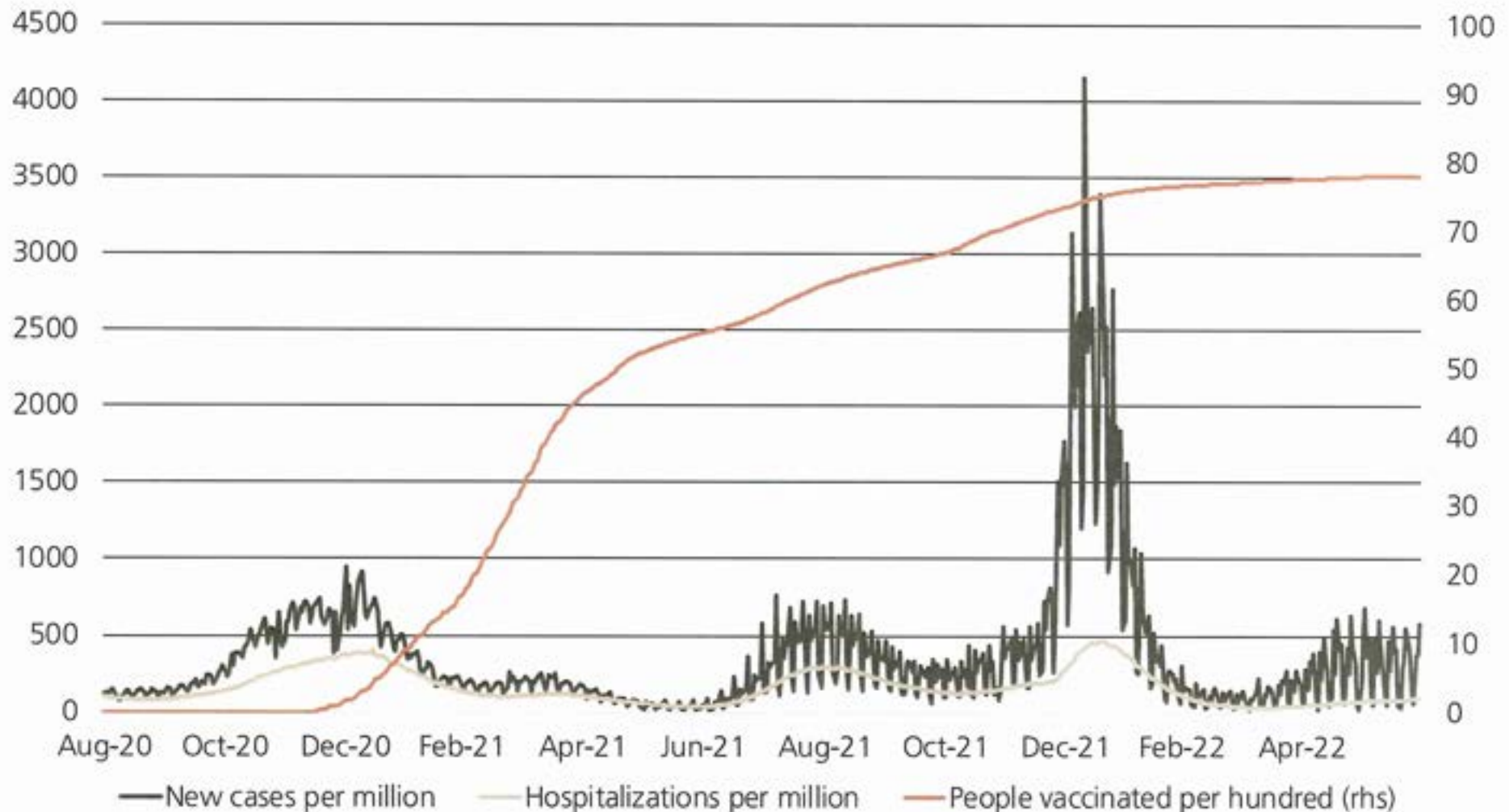
Source: Bloomberg, UBS, as of 30 June 2022



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COVID-19 cases have avoided major spikes in the US

US new cases and hospitalizations (lhs) against vaccinations (rhs)



Source: Our world in data, UBS, as of 30 June 2022

2Q22 economic review

- Recession fears reared their ugly head in 2Q22, and in response the S&P 500 fell as much as 24% from its 2022 high and the ten-year rate rose as high as 3.5% in June. Inflation readings have remained stubbornly high, with the May headline CPI print setting another high this year at 8.6% YoY. Market pricing for the fed funds rate has risen in response, with the market pricing in close to a 3.5% rate by December 2022. Faith in the Fed to navigate to a soft landing has deteriorated, with the Atlanta GDPNow forecast falling below -2% in June. That said, household balance sheets remain strong in our view, and the labor market recovery has been resilient.
- The momentum for tightening monetary policy is high, with the Federal Reserve hiking 75 bp at its most recent meeting, the largest such increase since 1994. Another 75 bp hike is expected at the upcoming July meeting.
- Many countries have been able to avoid lockdowns – and the associated economic damage – due to new variants of COVID-19 so far, but not all. China is one prominent country that has instituted widespread lockdowns throughout the country.

The market is pricing in swift rate hikes

Estimated fed funds rate by December 2022 based on fed funds futures



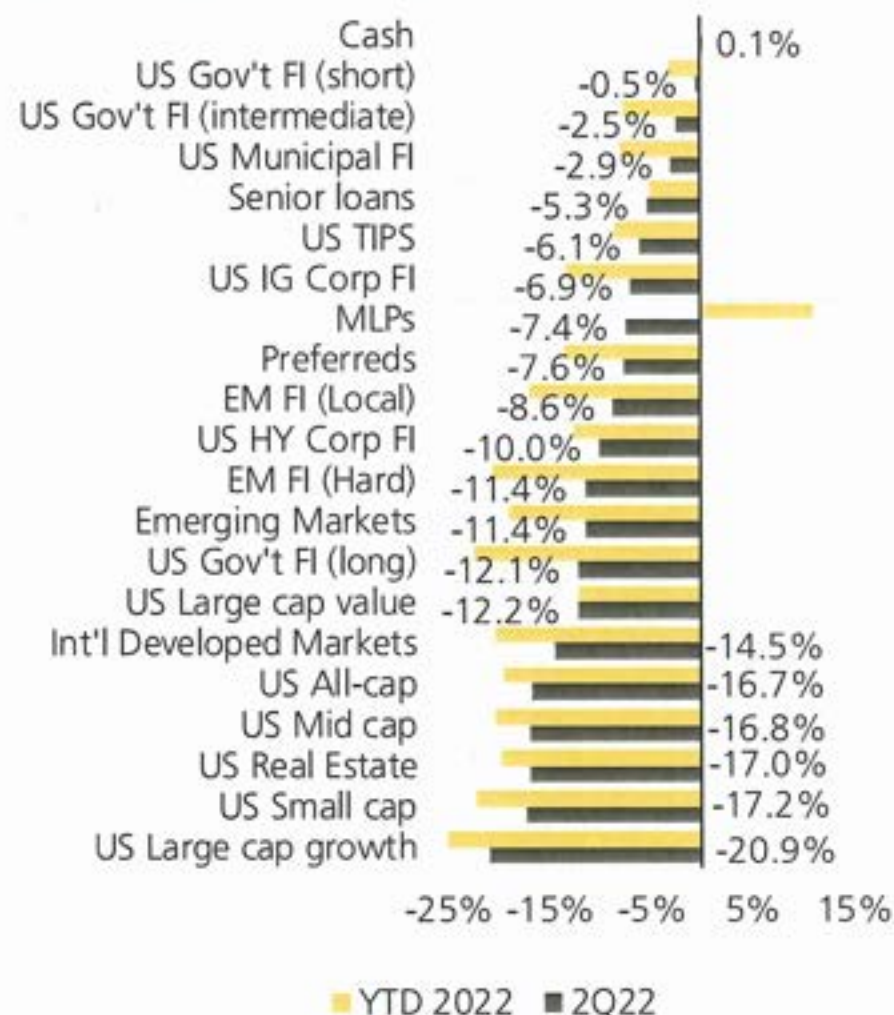
Source: Bloomberg, UBS, as of 30 June 2022

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2Q22 market review

- Equities** – Global stocks have fallen this year amid increasing concerns that aggressive monetary policy tightening to curb inflation could trigger a recession. The MSCI All Country World Index has fallen 22 % year-to-date, the S&P 500 has declined 23%, and the Nasdaq is down 31% as the rise in yields has weighed on the valuations of growth stocks in particular. The UK market has outperformed—MSCI UK is up 1%—helped by its orientation toward value and commodity-linked sectors like energy.
- Fixed income** – Global bond markets have suffered one of the worst starts to the year on record as investors priced in a faster pace of central bank policy tightening in response to elevated inflation. The 10-year US Treasury yield has risen to 3.26%, its highest level since 2011, while the 2-year yield is at 3.21%. The flattening—and brief inversion—of the US 2-year/10-year curve reflects mounting recession fears.
- Commodities** – Commodities have been the standout performer in the first half of 2022. The broad Bloomberg Commodity Index has risen 28% year-to-date on a total return basis, with energy leading the advance. Spot Brent crude prices are up 24% at around USD 115/bbl, driven in part by efforts to shift away from Russian supply.

Virtually all assets were down in the second quarter
Total return, callouts for 2Q22 returns



Source: Bloomberg, UBS, as of 30 June 2022

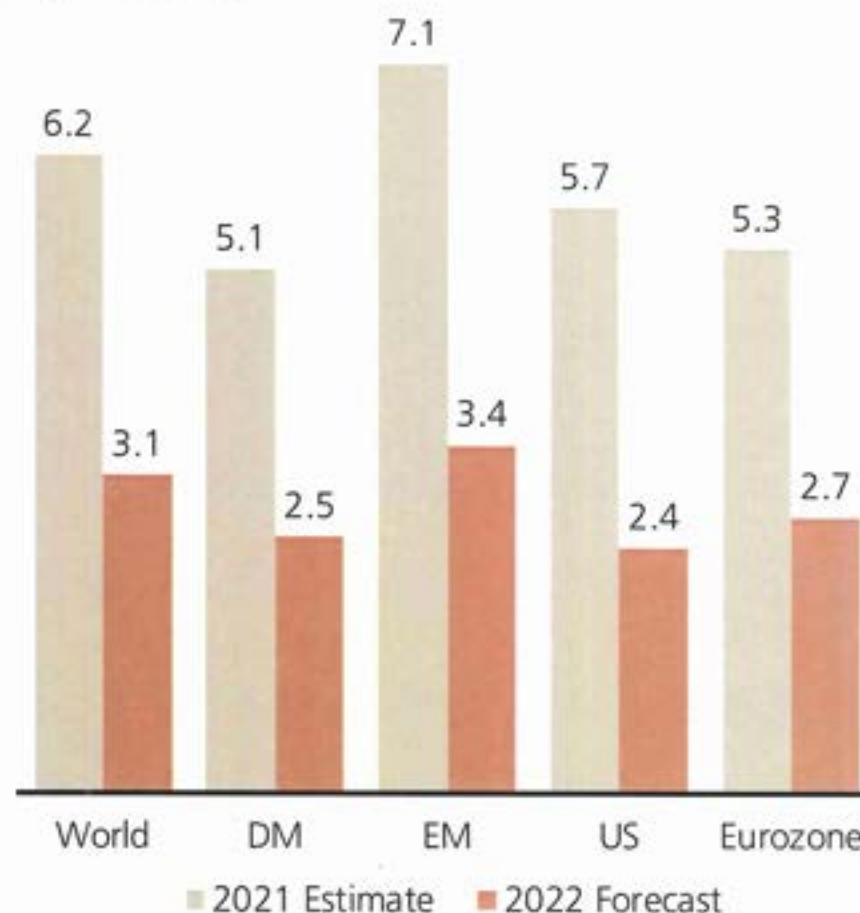
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3Q22 economic and market outlook

- **Overview** – Moving into the third quarter, fears of a recession are at the top of investors' minds as the Fed ventures forward on its path of hiking rates. Inflationary pressure remains elevated as supply struggles to keep up with demand and the war in Ukraine threatens further disruption. Businesses will pass along their higher costs to their customers. However, our base case is still no recession. Rising wage incomes and strong household balance sheets will support consumer spending. We expect bottlenecks to resolve in 2H22, and inflation should start to slow. We do not see further variants of the coronavirus posing too much of a threat to economic growth, and still expect positive GDP growth for the year.
- **Earnings and valuations** – Inflationary pressures and higher interest rates are weighing on US equities. The S&P 500 recently entered a bear market after hotter-than-expected inflation and renewed expectations that the Fed will have to be more aggressive to combat it. Given recent developments and our increased expectations for interest rates and Fed rate hikes, we revised down our S&P 500 price targets and EPS estimates.
- **Interest rates** – Interest rate volatility remains high given the growth and inflation mix and the fact that central banks are now looking to raise rates more rapidly and withdraw liquidity support. However, we would argue that much of that is now priced in.

GDP growth should start to normalize in 2022

Global and regional GDP y/y growth, with UBS forecasts, in % (annualized)



Source: UBS, as of 30 June 2022

The views expressed in this slide belong to CIO Americas, GWM

Given the uncertainty, we focus on **three scenarios...**

Upside	Central	Downside
• Inflation fears abate. Major central banks reduce accommodation less than the market expects. • Labor force participation rate improves as high wages attract more workers. • Supply-side bottlenecks are resolved as energy markets stabilize and China brings the pandemic under control. • The US economy grows above long-term trend in 2022. • The flow of Russian gas to Europe resumes to meet European energy demand in full. • Renewed momentum in Russia-Ukraine talks makes a cease-fire more likely. The threat of a broadening of the conflict diminishes. • Risk assets rally as geopolitical risk declines.	• Inflation falls gradually toward year-end. Major central banks continue to reduce accommodation. The Fed and ECB raise rates at most in line with market pricing. • Global economy slows on the back of higher energy costs and tighter financial conditions, but recession is avoided. • COVID-19 lockdowns in China do not widely disrupt global supply chains or US business activity. • Russian gas supply to Europe is reduced as part of Russia's standoff with the West. Despite pressure, a Eurozone-wide recession is avoided. • European reliance on Russian energy is reduced significantly by year-end. Sanctions are increased, and more pressure is applied on other countries to limit energy imports from Russia.	• Inflation stays high throughout 2022. Stagflation risks increase as wage-price spirals form. The Fed and ECB tighten policy more than markets expect. • COVID lockdowns in China exacerbate supply-side bottlenecks, hurting growth and boosting inflation. • US consumer spending contracts in real terms as inflation continues to outpace income growth. US experiences shallow recession in the next 12 months. • A prolonged cessation of Russian gas supply to Europe causes a Eurozone-wide recession with three consecutive quarters of economic contraction. • The conflict in Ukraine broadens due to the use of WMDs by Russia.

...which help us identify **opportunities** amid **uncertainty**

UBS CIO central, downside, and upside December 2022 expectations

Index	Current (01 July)	December 2022 forecasts, projected change		
		Central scenario	Upside scenario	Downside scenario
S&P 500	3,781	3,900 3.1%	4,500 19.0%	3,300 -12.7%
Euro Stoxx 50	3,448	3,400 -1.4%	4,000 16.0%	3,000 -13.0%
MSCI EM	1,001	1050 4.9%	1180 17.9%	850 -15.1%
Swiss Market Index	10,770	11,300 4.9%	12,200 13.3%	9,600 -10.9%
US IG spread (bps)	164	95 bps -69	45 bps -119	150 bps -14
US HY spread (bps)	589	375 bps -214	270 bps -319	700 bps 111
EM USD bonds spread (bps)	510	425 bps -85	300 bps -210	600 bps 90

Source: UBS, Bloomberg, as of 1 July 2022



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Recap

- Economic activity continues apace in most regions, though due to the volatility of incoming data, it is hard to get a precise read on the ongoing inflation and growth dynamics. We think continued strong equity earnings growth, resilient demand, and signs of potentially softening inflation in the second half of 2022 are enough to revert the recent trend of pessimism. That said, political and market risks abound, from the war in Ukraine, to new variants of COVID-19, to the Fed's plan to raise interest rates, and generationally high levels of consumer price inflation. Despite our conviction for rising asset prices in the medium term, **we expect market volatility to remain higher than recent history.**
- Tactically, **we see value in select equities and credit and commodity segments**, thanks to an economic expansion that is maintaining steam. High levels of uncertainty surrounding the war in Ukraine, the effect of sharply higher energy prices, and the Fed's shaky course to a soft landing provide tail risks
 - **Within fixed income**, we upgraded our view on **Agency MBS** to most preferred, as the coupon spread to Treasuries is at decade highs and with potential sales by the Fed priced in, the asset class is now cheap. Elsewhere we continue to like **preferreds** as spreads have widened to an attractive entry level.
 - **Within equities**, we have a preference for **value stocks over growth stocks**. With the backdrop of economic reopening, pent-up consumer demand, broadening economic activity, and higher interest rates, earnings for value companies should grow at an elevated rate.
 - **In commodity markets**, we see value in **oil**, which should benefit from tighter supplies and economic reopening.

Source: UBS, as of 30 June 2022

Appendix: Investment committees

Global Investment Process and Committee Description

The UBS investment process is designed to achieve replicable, high-quality results through applying intellectual rigor, strong process governance, clear responsibility, and a culture of challenge.

Based on the analyses and assessments conducted and vetted throughout the investment process, the Chief Investment Officer (CIO) formulates the UBS Wealth Management Investment House View (e.g., overweight, neutral, underweight stances for asset classes and market segments relative to their benchmark allocation) at the Global Investment Committee (GIC). Senior investment professionals from across UBS, complemented by selected external experts, debate and rigorously challenge the investment strategy to ensure consistency and risk control.

Global Investment Committee Composition

The GIC comprises top market and investment expertise from across all divisions of UBS:

- Mark Haefele (Chair)
- Paul Donovan
- Tan Min Lan
- Themis Themistodeous
- Bruno Marxer
- Adrian Zürcher
- Mark Andersen
- Solita Marcelli

GWMA Asset Allocation Committee Description

We recognize that a globally derived house view is most effective when complemented by local perspective and application. As such, UBS has formed a Wealth Management Americas Asset Allocation Committee (WMA AAC). WMA AAC is responsible for the development and monitoring of UBS WMA's strategic asset allocation models and capital market assumptions. The WMA AAC sets parameters for the CIO Americas, WM Investment Strategy Group to follow during the translation process of the GIC's House Views and the incorporation of US-specific asset class views into the US-specific tactical asset allocation models.

GWMA Asset Allocation Committee Composition

The GWMA Asset Allocation Committee comprises nine members:

- Solita Marcelli
- Jason Draho
- Leslie Falconio
- Laura Kane
- David Lefkowitz
- Dan Scarsaroli
- Tom McLoughlin
- Brian Rose

Appendix: Statement of risk

1. Equity markets are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions, and other important variables.
2. Bond market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables. Corporate bonds are subject to a number of risks, including credit risk, interest rate risk, liquidity risk, and event risk. Though historical default rates are low on investment grade corporate bonds, perceived adverse changes in the credit quality of an issuer may negatively affect the market value of securities. As interest rates rise, the value of a fixed coupon security will likely decline. Bonds are subject to market value fluctuations, given changes in the level of risk-free interest rates. Not all bonds can be sold quickly or easily on the open market. Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning any securities referenced in this report.
3. Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning preferred stocks. Preferred stocks are subject to market value fluctuations, given changes in the level of interest rates. For example, if interest rates rise, the value of these securities could decline. If preferred stocks are sold prior to maturity, price and yield may vary. Adverse changes in the credit quality of the issuer may negatively affect the market value of the securities. Most preferred securities may be redeemed at par after five years. If this occurs, holders of the securities may be faced with a reinvestment decision at lower future rates. Preferred stocks are also subject to other risks, including illiquidity and certain special redemption provisions.
4. Although historical default rates are very low, all municipal bonds carry credit risk, with the degree of risk largely following the particular bond's sector. Additionally, all municipal bonds feature valuation, return, and liquidity risk. Valuation tends to follow internal and external factors, including the level of interest rates, bond ratings, supply factors, and media reporting. These can be difficult or impossible to project accurately. Also, most municipal bonds are callable and/or subject to earlier than expected redemption, which can reduce an investor's total return. Because of the large number of municipal issuers and credit structures, not all bonds can be easily or quickly sold on the open market.

Appendix

Emerging Market Investments

Investors should be aware that Emerging Market assets are subject to, amongst others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and socio-political risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. CIO-A WM generally recommends only those securities it believes have been registered under Federal U.S. registration rules (Section 12 of the Securities Exchange Act of 1934) and individual State registration rules (commonly known as "Blue Sky" laws). Prospective investors should be aware that to the extent permitted under US law, CIO-A WM may from time to time recommend bonds that are not registered under US or State securities laws. These bonds may be issued in jurisdictions where the level of required disclosures to be made by issuers is not as frequent or complete as that required by US laws.

For more background on emerging markets generally, see the CIO-A WM Education Notes "Investing in Emerging Markets (Part 1): Equities", 27 August 2007, "Emerging Market Bonds: Understanding Emerging Market Bonds", 12 August 2009 and "Emerging Markets Bonds: Understanding Sovereign Risk", 17 December 2009.

Investors interested in holding bonds for a longer period are advised to select the bonds of those sovereigns with the highest credit ratings (in the investment grade band). Such an approach should decrease the risk that an investor could end up holding bonds on which the sovereign has defaulted. Sub-investment grade bonds are recommended only for clients with a higher risk tolerance and who seek to hold higher yielding bonds for shorter periods only.

Non-Traditional Assets

Non-traditional asset classes are alternative investments that include hedge funds, private equity, real estate, and managed futures (collectively, alternative investments). Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments, there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- **Hedge Fund Risk:** There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, "junk bonds," derivatives, distressed securities, non-U.S. securities and illiquid investments.
- **Managed Futures:** There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- **Real Estate:** There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- **Private Equity:** There are risks specifically associated with investing in private equity. Capital calls can be made on short no-tice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- **Foreign Exchange/Currency Risk:** Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in U.S. dollars, changes in the exchange rate between the U.S. dollar and the issuer's "home" currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a U.S. investor.

Appendix: explanations about asset allocations

Sources of strategic asset allocations and investor risk profiles

Strategic asset allocations represent the longer-term allocation of assets that is deemed suitable for a particular investor. The strategic asset allocation models discussed in this publication, and the capital market assumptions used for the strategic asset allocations, were developed and approved by the Global Wealth Management Americas Asset Allocation Committee (GWMA AAC).

The strategic asset allocations are provided for illustrative purposes only and were designed by the GWMA AAC for hypothetical US investors with a total return objective under five different Investor Risk Profiles ranging from conservative to aggressive. In general, strategic asset allocations will differ among investors according to their individual circumstances, risk tolerance, return objectives and time horizon. Therefore, the strategic asset allocations in this publication may not be suitable for all investors or investment goals and should not be used as the sole basis of any investment decision. Minimum net worth requirements may apply to allocations to non-traditional assets. As always, please consult your UBS Financial Advisor to see how these weightings should be applied or modified according to your individual profile and investment goals.

The process by which the strategic asset allocations were derived is described in detail in the publication entitled "2019 Capital Market Assumptions Update," published on 4 February 2019 by the GWMA AAC. Your Financial Advisor can provide you with a copy.

Deviations from strategic asset allocation or benchmark allocation

The recommended tactical deviations from the strategic asset allocation or benchmark allocation are provided by the Global Investment Committee and the Investment Strategy Group within CIO Americas, Wealth Management. They reflect the short- to medium-term assessment of market opportunities and risks in the respective asset classes and market segments. Positive/zero/negative tactical deviations correspond to an overweight/neutral/underweight stance for each respective asset class and market segment relative to their strategic allocation. The current allocation is the sum of the strategic asset allocation and the tactical deviation.

Note that the regional allocations on the Equities and Bonds pages in UBS House View are provided on an unhedged basis (i.e., it is assumed that investors carry the underlying currency risk of such investments) unless otherwise stated. Thus, the deviations from the strategic asset allocation reflect the views of the underlying equity and bond markets in combination with the assessment of the associated currencies. The detailed asset allocation tables integrate the country preferences within each asset class with the asset class preferences in UBS House View.

Asset allocation does not assure profits or prevent against losses from an investment portfolio or accounts in a declining market.

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UBS House View

Investment Strategy Guide

October 2022



'Year of Discovery' continues

Chief Investment Office
Global Wealth Management
US edition



Dear Reader,

The Fed has spoken. More rate hikes are coming until inflation falls convincingly, and the central bank is not going to blink even if higher unemployment is the undesirable outcome of its restrictive policy. The markets are listening. Yields on 10-year Treasuries have climbed to the highest level since 2011 on expectations of more rate hikes, the US dollar index is at 20-year highs, and stocks have tumbled as recession fears deepen.

The Fed's hawkish tone and the dollar's strength have also put central banks around the world on notice. The Bank of England, the Swiss National Bank, and Norway's central bank, to name a few, also lifted rates on Thursday. The outlier Bank of Japan left its ultra-low policy rate unchanged, but Tokyo was forced to intervene in the currency markets to shore up the yen for the first time in 24 years.

With the world's central banks simultaneously tightening policy, worries about a global recession continue to weigh on markets. The economic data out of the US has been resilient so far, with the labor market especially strong. But if the Fed were to raise rates as much as currently expected, the risk of a deeper recession in 2023 increases. As we highlight in our latest **House View Monthly Letter**, our base case remains that US growth will be below long-term trend for the next year, and possibly even negative. But a recession with a large increase in unemployment only occurs in our downside scenarios. We remain hopeful that inflation should moderate enough by year-end to allow the Fed to hike rates less than currently expected.



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CIO Monthly Livestream –
September:

6 October 2022
1:00 PM ET

[Tune in to the event here.](#)

But with inflation surprising to the upside recently, uncertainty remains around the peak for interest rates, the trough for earnings, and the outlook for energy prices. We kept our major asset class preferences the same this month, and continue to advise against any big market calls in one direction. Instead, we recommend investors keep their asset allocations closer to long-term strategic benchmarks. We advise tilts to higher-quality and more defensive assets, which have the ability to hold up better across a range of outcomes. Our **Asset Allocation Implementation** section provides more guidance on positioning across asset classes.

For tactical investors with a one- to two-year horizon, we have often highlighted themes focused on food security, cybersecurity, and energy security, which have garnered heightened interest since the war in Ukraine. For those with an even longer-term horizon, one additional theme likely to become increasingly relevant when it comes to international security is the space economy. Our **Thematic Spotlight** highlights our view that the broader space economy is at an inflection point and looks poised for further growth in the years ahead.

We hope this guide serves you well through these volatile times. As always, we encourage you to reach out to your financial advisor to understand more about how our guidance fits into your own financial goals.

Regards,

Solita Marcelli

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CIO Preferences

	Least preferred	Most preferred
Cash		⊖
Fixed Income		
US Gov't FI		⊖
TIPS		⊖
US Municipal		⊖
US IG Corp FI		⊖
US HY Corp FI		⊖
EM Hard Currency FI		⊖
EM Local Currency FI		⊖
Equity		⊖
US Large Cap Growth	⊖	
US Large Cap Value		⊕
US Mid Cap		⊖
US Small Cap		⊖
Int'l Developed Markets		⊖
Emerging Markets		⊖

Note: Our preferences represent the longer-term allocation of assets that is deemed suitable for a particular investor and were developed and approved by the Global Wealth Management Americas Asset Allocation Committee. Our preferences are provided for illustrative purposes only and will differ among investors according to their individual circumstances, risk tolerance, return objectives and time horizon. Therefore, our preferences in this publication may not be suitable for all investors or investment goals and should not be used as the sole basis of any investment decision. Minimum net worth requirements may apply to allocations to non-traditional assets. As always, please consult your UBS Financial Advisor to see how our preferences should be applied or modified according to your individual profile and investment goals.

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'Year of Discovery' continues

Volatility expected

Uncertainty remains around the peak for interest rates, the trough for earnings, and the outlook for energy prices. We expect markets to remain volatile.

Inflation persisting

Higher-than-expected US CPI data is weakening hopes of a rapid fall in inflation and undermining optimism about a soft landing.

Growth headwinds

Europe faces a combination of high inflation and negative growth, with Russia cutting off gas supplies. China's recovery continues to stutter, given its zero-COVID policy and real estate challenges.

Asset allocation

We stay invested but also selective, and focus our preferences on the themes of defensives, income, value, diversification, and security.



Mark Haefele

Global Chief Investment Officer
Wealth Management

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In our *Year Ahead* outlook, "A Year of Discovery," published in November 2021, we said that the process of discovery of a new balance between supply and demand across multiple markets would create uncertainty that investors would need to navigate.

More than 10 months on, that process continues to create volatility and uncertainty.

In the US, more persistent inflation in services and shelter is dashing hopes that a decline in gasoline prices and a normalization in goods supply would drive a sustained easing in price trends. Labor market supply remains short of pre-COVID trend levels, and the Federal Reserve remains committed to raising interest rates until inflation falls.

In Europe, at the time of writing, gas flows from Russia are less than 20% of their levels in prior years, and it seems likely that the measures to quickly reduce the region's energy intensity will mean more inflation and negative growth. News that Ukrainian forces have retaken parts of the country from Russian control is prompting a more aggressive response from Moscow.

In China, steps to cool the property market have resulted in a standoff between developers and homebuyers, crushing consumer confidence in a country in which property constitutes 70% of household wealth. A path forward from restrictive and reactive COVID-19 policies remains elusive.

What do we expect from here?

Once investors gain confidence in the rebalancing between supply and demand, the rebound is likely to be fast. Sharp, if fleeting, rallies in July and early September were examples of this in action and demonstrate why staying invested is the only way to avoid being caught on the sidelines by a sustained upturn. Our base case is also for markets to be higher by June 2023.

But with core US inflation remaining firm, winter in Europe approaching, and the 20th National Congress of China's Communist Party due next month, uncertainty

remains around the peak for interest rates, the trough for earnings, and the outlook for energy prices. We therefore think that the balance of this year of discovery will continue to be volatile. In this light, we stay invested but also selective, and focus our preferences on the themes of defensives, income, value, diversification, and security.

In the remainder of this letter, I review some of the global drivers of market uncertainty and volatility, and highlight where we recommend investing today.

US

Sticky inflation is undermining hopes of a soft landing.

Lower gasoline prices and signs of a slower pace of core inflation had brought hopes that a soft landing for the US economy was in sight. But those hopes are being dashed by recent data releases.

Inflation surprised to the upside in August as core CPI, which excludes food and energy, accelerated to 6.3% year-over-year from 5.9% in July. Perhaps most concerning, the drivers of inflation broadened. Both the Cleveland Fed's trimmed mean, which excludes the biggest price outliers in the CPI basket, and the Atlanta Fed's Sticky CPI series gained 0.6% in a month.

Meanwhile, the labor market remains tight. Job growth in August slowed to 315,000 new payrolls from 500,000 in July, and the unemployment rate ticked up to 3.7% from 3.5%. But absolute growth is still strong, jobless claims have actually started falling, and the labor market remains fundamentally unbalanced, with significantly greater demand for labor than available supply. Currently, there are around 6 million unemployed but 11.2 million job openings, according to the latest JOLTS data. Participation has been recovering and in August reached 62.4%, the highest since the pandemic, but it is still a full percentage point (or 1.6 million people) below pre-pandemic levels.

In our view, based on current data, the Fed will keep hiking rates aggressively.

In our view, based on current data, the Fed will keep hiking rates aggressively. It will likely need to see several months of subdued inflation—i.e., less than 0.2% month-over-month growth in core personal consumption expenditures (PCE) for at least three months—along with further evidence of a cooling labor market before softening its tone.

Continued near-term strength in labor markets is likely to give the Fed both the imperative and the confidence to raise rates in the months ahead. Market pricing now suggests a further 100–125 basis points in hikes before the end of the year, and a peak in the federal funds rate at 4.54% next spring.

Ultimately, we think the Fed will succeed in cooling inflation, allowing it to pause from rate hikes in early 2023. Inflation expectations are falling, suggesting that consumers and markets share the belief that the Fed will tame prices. Inflation expectations three years out fell to 2.8% in August, according to the New York Fed's Survey of Consumer Expectations, and 5-year breakeven inflation rates are at 2.52%.

It is difficult to avoid the conclusion that the Fed's aggressive rate hikes will cause at least some pain to the economy. Historically, we have never seen a significant decline in job vacancy rates without an increase in unemployment, and the impact on interest rate-sensitive sectors like housing, where data has already started weakening, will be important to watch. Against this backdrop, we need to prepare for downward revisions to earnings estimates in the months ahead, even if margins are being supported in the near term by lower rates of inflation in input costs (e.g., commodities) than in consumer prices.

In our base case, we think that equity markets are likely to remain range-bound and volatile.

Investor sentiment toward US equities is at a bearish extreme.

What does this mean for markets?

In our base case, we think that equity markets are likely to remain range-bound and volatile. Sentiment is already weak and appears to be pricing a contraction of as much as 10% in corporate earnings. This suggests at least some cushion for stocks if the corporate profit outlook weakens. Conversely, measures of the attractiveness of stocks relative to bonds are not at levels that suggest a substantial rally in stocks.

The equity risk premium (ERP) is the excess return investors can expect from investing in stocks compared with “risk-free” investments like Treasury bonds. The global ERP, based on earnings yield, stands at 300 basis points, which we estimate to be consistent with a 12-month forward price-to-earnings ratio of 14–15x, in line with the current level of 14.6x for the MSCI All Country World Index. Similarly, the global cost of equity—the rate of return an investor requires for an equity investment to be considered worth the risk—is currently 8.7%, a level that since 2001 has been associated with equities underperforming bonds.

The American Association of Individual Investors’ sentiment survey shows a ratio of bulls to bears that is more than 2 standard deviations below the long-term average. Since 1991, whenever negative sentiment has been this extreme in magnitude, it has been a contrarian indicator and has been followed by average positive returns of 9% over the following six months.

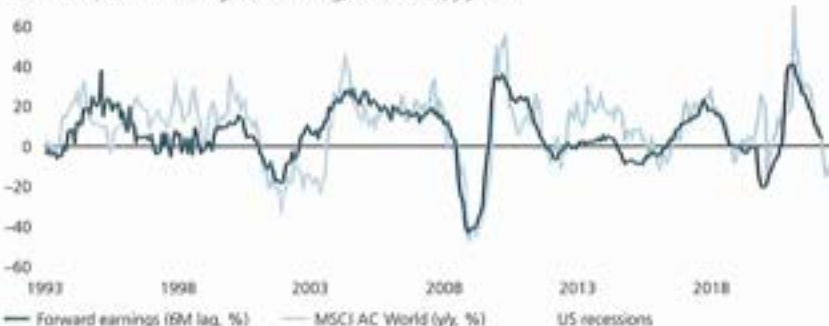
Forward earnings are closely correlated with equity performance (see chart). Global equities may already be discounting as much as a 10% contraction in 12-month forward earnings per share (EPS), and US equities a single-digit percentage contraction. But leading indicators of earnings growth (including the ISM index, the ratio of new orders to inventories, and Korean exports) currently point to a low-single-digit rate of growth in 2023.

Earnings could fall by more than 10% in the event of a recession that drives up unemployment—in previous recessions, global 12-month trailing earnings have contracted by 20–30% and US earnings by 15%. Our downside scenarios, which envisage a more significant US economic slowdown, have an S&P 500 price target of 3,300, consistent with an earnings contraction of 15%.

Figure 1

Stocks are already discounting an earnings slowdown

MSCI ACWI, forward earnings six-month lag, MSCI ACWI, y/y in %



Source: Refinitiv, Bloomberg, UBS, as of September 2022

The current backdrop does not lend itself to strong directional positioning on overall equity indexes.

We move the USD to most preferred this month.

We believe the war in Ukraine is likely to continue without a cease-fire in sight at least until winter.

Our forecast for MSCI ACWI EPS is for 2% growth in 2023, compared with a consensus of 6%. Revisions to consensus forward earnings estimates, which have started to weaken, reach a trough before earnings themselves. We will be monitoring the three-month change in 12-month forward earnings estimates for signs of extended negative sentiment (a contraction of 5–10%).

This backdrop does not lend itself to strong directional positioning on overall equity indexes. Instead, we prefer a selective approach tilted toward defensive, quality, and value stocks. We remain focused on those companies that we think can do well if earnings estimates start to fall—because they either are in defensive sectors, such as health-care and consumer staples, or already trade on more reasonable valuations than still highly valued growth stocks.

For bond markets, we think the 10-year US Treasury yield, at 3.53%, is likely already close to its highs for the cycle (our end-year forecast is 3.5%). If inflation declines, this will likely lead to lower expectations for Fed policy hikes, supporting bonds, while if inflation and rate expectations remain high, this will likely increase the potential severity of any future recession and raise the demand for hedging assets like long-term bonds. We keep a most preferred stance on high grade bonds and expect 10-year yields to fall to 3.25% by June 2023. Our US forecasts are consistent with a terminal fed funds rate in the mid-4% level.

As for the US dollar, it is exceptionally strong but likely to stay that way while the Fed is hiking more aggressively than other major central banks and while the US economy remains relatively resilient. We move the currency to most preferred this month and only expect it to start to weaken once the peak in US rates is more clearly in sight. As noted above, the Fed will want to see evidence of cooling in inflation and the labor market before signaling a pivot, so we will be monitoring the month-over-month trend in core PCE and the high-frequency unemployment data (initial and ongoing claims). The dollar will also likely strengthen if geopolitical tensions worsen, and we are tracking the Biden administration's approach toward China as well as the ongoing war in Ukraine.

Europe

After a period in which investors began to lose focus on the war in Ukraine as a key market driver, two developments have brought it back top-of-mind. First, Russia has halted all remaining flows of gas through Nord Stream 1, saying that supplies would not resume as long as sanctions were in place that prevented pipeline equipment from being repaired and maintained. Second, Ukraine's military success in regaining territory is prompting Russian escalation. Russia has announced the mobilization of a further 300,000 troops, and referendums will be held in Russian-controlled areas of Ukraine on becoming part of Russia from 23–27 September.

We believe the war in Ukraine is likely to continue without a cease-fire in sight at least until winter. Official statements from both sides currently suggest no room for negotiations. Ukraine has been emboldened by its recent battlefield success, and officials are underlining the objective of liberating all of Ukraine—including Crimea and the Donbas region. Russia, meanwhile, continues to vow it will gain control of the Donbas completely, and voices are growing among pro-Russian military commentators to increase the war effort. President Vladimir Putin this month acknowledged Chinese "concerns" about the war in Ukraine, but there is no indication that this suggestion of differences between Beijing and Moscow over the conflict is likely to hasten a cease-fire.

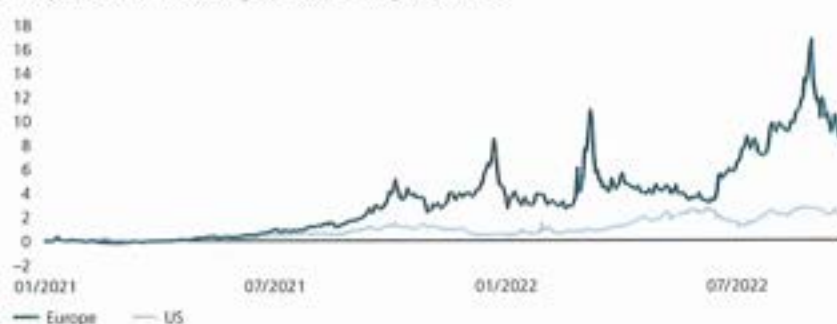
This means that ongoing disruptions of Russian gas supply to major European countries, including Germany, are our base case. And although the European Union has been filling up its gas storage more quickly than expected—storage levels are already above 80%—it will be insufficient to meet expected winter demand. The prospect of rationing looms.

If Russian gas supplies to Europe remain cut off (and for a lengthy period), companies are likely to be forced to curb gas-intensive activities, and supply chains would likely come under pressure, leading to a deeper Eurozone-wide recession in late 2022 to early 2023. Rising social discontent cannot be excluded as a secondary risk factor amid the ongoing cost-of-living crisis. The European Commission, however, has announced a package of proposed emergency measures, including a windfall profit levy on energy firms, liquidity support for power companies, and fiscal measures to try and soften the blow for consumers in many countries.

Figure 2

Europe is much more exposed to natural gas shortages than the US

Europe (Dutch) vs. US natural gas prices, percentage appreciation



Source: Bloomberg, UBS, as of September 2022

We think investors should prepare for higher energy prices—and not just for gas.

What does this mean for markets?

First, we think investors should prepare for higher energy prices—and not just for gas. Oil prices have declined in recent weeks due to lower demand expectations, but supplies remain tight, and, contrary to intentions, the proposed price cap on Russian oil might well lead to lower Russian supply. Officials in the Kremlin, including deputy prime minister Alexander Novak, have pointed out that Russia would not sell oil to countries adhering to a price cap. We see this as a credible threat, and if Russia were to withhold barrels from the market, we think oil prices could move above USD 150/bbl for an extended period. Our base case is for oil prices to rally to USD 110/bbl by the end of the year and to USD 125/bbl by March.

Second, European assets are likely to remain volatile and under pressure until we see either cease-fire talks or signs that Europe has secured sufficient alternative energy supplies to prevent rationing. Germany has recently announced plans for a fifth Floating Regasification Unit, allowing it to import more liquefied natural gas from around the world. However, the lag before new capacity is available means it will not prevent near-term economic pressure. We expect the euro to weaken relative to the US dollar and hold a least preferred stance on the British pound.

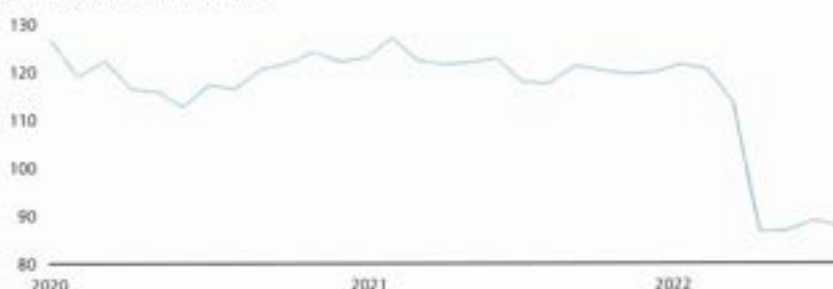
China

In China, COVID-related restrictions intensified in late August, with cities including Chengdu and Guiyang, and parts of Shenzhen, coming under temporary lockdown. These lockdowns have since been lifted. Nationwide, travel conditions have tightened marginally since August. Visitors to cities like Beijing face several rounds of PCR tests and a waiting period before they can join public gatherings. We anticipate tighter conditions will persist into the 20th National Congress in October.

Figure 3

Chinese consumer confidence has fallen to a low amid concerns about the economic recovery

China consumer confidence index



Source: National Bureau of Statistics, Bloomberg, UBS, as of September 2022

Meanwhile, the latest high-frequency data for the property market is still showing a 30–40% year-over-year decline in sales, similar to the rates of decline in July and August. More policy support from local governments has been announced, though this largely focuses on resuming the construction of suspended projects and ensuring the delivery of pre-bought housing units, rather than driving fresh sales. Most developers have indicated a low appetite for new investment for the coming months, suggesting that future construction activity is likely to remain weak.

In our base case, we do not expect the National Congress to herald any major change to the zero-COVID policy.

In our base case, we do not expect the National Congress to herald any major change to the zero-COVID policy, even if on-the-ground implementation may become less blunt over time. Neither do we expect any large-scale property or fiscal stimulus to be announced, as the government does not aim to bail out developers. In our base case, we expect property sales to remain subdued in the fourth quarter, though with narrowing rates of year-over-year decline relative to the first three quarters. That said, greater investment in infrastructure and in strategically important sectors is likely to be unveiled in the coming months, and this should help offset some of the macroeconomic drag from property market weakness.

A potential wildcard that could put further downward pressure on the Chinese economy and Chinese asset prices is the possibility of more trade and investment restrictions between the US and China, on national security grounds. Over the past month, the US has already imposed restrictions on the export of some artificial intelligence chips by Nvidia and AMD, and limited exports of some semiconductor manufacturing equipment. President Joe Biden has also signed an executive order blocking certain investments by China into technology in the US. Further measures in this direction could have an additional negative effect on US-China trade, capital flows, and geopolitical relations.

What does this mean for markets?

Many companies have highlighted that the macro environment represents their biggest challenge, and market expectations of economic recovery in China have repeatedly been postponed. Investors are therefore likely to stay nervous about the potential for a sustainable economic recovery in China until we see some combination of larger fiscal measures to support the economy, greater certainty about potential US national security measures, and changes to property and COVID-19 policies that could alleviate some of the key risks.

Revisions to forward earnings estimates in China have now been negative for around a year. This trend will likely need to turn positive to instill market confidence in China's medium- to long-term earnings growth prospects.

We believe investors should align their portfolio with China's already announced priorities of supply chain security and decarbonization, as well as in sectors that support Beijing's industrial upgrade ambitions and dual circulation strategy. That said, we acknowledge the risk that the US may look to curb some of these ambitions with restrictions in critical sectors like semiconductors, particularly as the midterm elections near in November.

US dollar: Further near-term strength likely

One of the most significant market trends over the past month has been the strength in the US dollar, which has reached multi-decade highs against the British pound, euro, and Japanese yen, as well as a number of emerging market currencies, including the Korean won, sparking discussions about intervention.

The dollar is now highly valued. Real effective exchange rates are close to their highs from the year 2000, and the currency is "expensive" in purchasing power parity terms, in particular relative to the euro, pound, and Swedish krona.

Yet we think the dollar bull market is not over yet. The US is in the singular position of having both high inflation and more resilient economic growth than some of its peers, meaning the Fed has both the cause and the license to increase interest rates further and faster than other major central banks, expanding the US dollar's interest rate advantage. The dollar is also a rela-

tive "safe haven," particularly in a world in which energy security is a key consideration. Also, given that the Biden administration is tightening restrictions on trade with China, we note that, historically, the dollar has tended to strengthen when geopolitical tensions between the US and China flare.

What should investors do?

We have moved the USD to most preferred this month. We think that investors should tilt cash and bond allocations toward US dollars. We believe this will provide outperformance, portfolio diversification, and decent income over the coming months. The Swiss franc offers an alternative, if lower-yielding, safe haven.

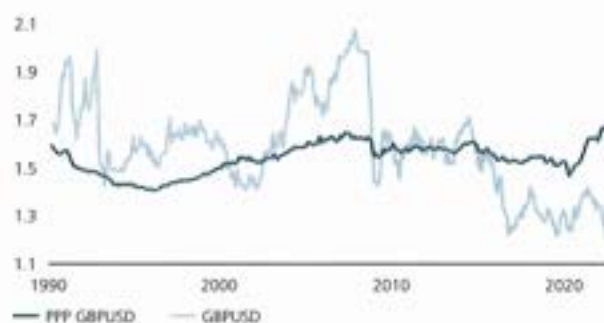
Longer term, given that we believe the Fed will be successful in cooling inflation, we expect the USD to start to weaken in 2023 once the peak in US rates is more clearly in sight.

USD is "expensive" in terms of purchasing power parity

EURUSD and GBPUSD vs. PPP



Source: Bloomberg, UBS, as of September 2022



Key targets for June 2023

	Spot*	Upside	Base case	Downside
MSCI AC World	716	920	780	650
S&P 500	3,790	4,800	4,200	3,300
EuroStoxx 50	3,492	4,400	3,700	3,000
MSCI China	61	80	70	59
US 10y Treasury yield	3.53	3.5	3.25	1.5
US 10y breakeven yield	2.37	3.0	2.25	1.5
US high yield spread**	487bps	300bps	600bps	750bps
US IG spread**	122bps	60bps	150bps	200bps
EURUSD	0.98	1.03	0.98	0.90
Commodities (CMCI Composite)	1,845	2,300	2,156	1,593
Gold	USD 1,674/oz	USD 1,400–1,500/oz	USD 1,650/oz	USD 1,800–2,100/oz

* Spot prices as of market close of 21 September 2022

** During periods of market stress, credit bid-offer spreads tend to widen and result in larger ranges.

Note: The asset class targets above refer to the respective macro scenarios. Individual asset prices can be influenced by factors not reflected in the macro scenarios.

Source: UBS, as of September 2022

Key scenarios and asset class impact

Current environment	Over the past month, markets moved closer to CIO's base case view. As fixed income investors continued to price in more front-loaded tightening by the Fed, equity markets were increasingly coming to terms with the prospect of further earnings downgrades on the back of tighter financial conditions. As a result, equities gave back some of their gains from the July relief rally. Based on market levels at the time of writing, we expect global stocks to return around 9% by June 2023 in our base case, broadly in line with long-run historical averages. Economic data in the US, particularly the labor market, has been strong, with some activity indicators surprising positively. A notable exception was core CPI inflation, which came in higher than expected. However, the Fed's hawkish tone has helped reduce inflation expectations. In Europe, gas storage levels increased ahead of schedule, initially relieving concerns about a deeper energy-induced recession; but the outlook soured again as Russia announced plans for partial military mobilization and membership referendums for some of its occupied territories in Ukraine. On balance, we believe that the developments over the past month point to more resilient economic activity in the near term, but also stronger upside risks to inflation into 2023. Accordingly, we increase the probability of the "head fake" outcome within our downside scenario, while proportionately reducing the probability of the "slump" path.			
Scenarios (June '23)	Upside	Base case	Downside	
Probability	20%	50%	10% ("slump" path, previously: 20%)	20% ("head fake" path, previously: 10%)
Market path	Equity markets could rally past prior highs by June if inflation resumed easing ahead of expectations, reducing fears of a Fed-induced recession. Softer inflation could allow the Fed to pause at a lower policy rate, further lifting expectations for economic growth and corporate earnings.	In our base case, equity markets are likely to reach June 2023 slightly higher from current levels. Markets are pricing in near-term economic weakness followed by an easing of financial conditions from 2023, broadly in line with our view. We believe investors tend to underestimate the willingness of central banks to tighten policy in the face of high inflation, which is likely to lead to elevated volatility and further valuation pressure in the near term.	Equity markets may be pushed back into bear territory if growth expectations deteriorated much further from here. If inflation remained high for longer despite a weakening economy, the Fed could be compelled to take the policy rate much higher than it originally set out, putting more pressure on the economy into 2023. Equity markets would likely trend lower throughout the next 6-12 months. Safe-haven investments could remain under pressure in the near term as inflation stays elevated but would likely start to rally once markets became confident that inflation was coming under control.	Risk assets could initially rally toward end-2022 on better-than-feared economic indicators and expectations of inflation becoming contained. However, economic strength may eventually turn into a negative, with the Fed opting to take the policy rate much higher than originally expected as inflation persists. A deeper US recession by late 2023 would eventually become the market's base case view, pushing stocks back into bear market territory by the middle of next year. The path of US Treasury markets would depend on how successful the Fed is perceived to be at controlling inflation. Treasury yields could take longer than June 2023 to fall to our downside scenario targets if inflation starts to be perceived as a longer-term issue.
Fundamental developments	The economic drag from gas shortages in the Eurozone may prove less significant than previously expected as gas rationing proves amply effective, gas imports from the US and Norway remain strong, or an agreement is reached over Ukraine. Fiscal and monetary easing in China may prove stronger than expected or more effective at lifting economic growth. Wage growth in the US may start to consistently outpace inflation, supporting consumption.	The Eurozone and the UK are likely to experience recessions on a six- to 12-month horizon. In the US, GDP growth is likely to slow below trend and possibly also turn negative in the coming quarters. The economic slowdown in developed markets is likely to be counterbalanced in part by a moderate reacceleration of activity in China.	High energy prices could keep headline inflation numbers elevated longer than expected. US consumption could contract strongly in the coming months as inflation outpaces wage growth and consumer savings are depleted. Slowing international trade may put further pressure on Chinese growth. Russia might cut Europe off from gas supply entirely and permanently, leading to a deeper Eurozone recession in late 2022 or early 2023.	After a few months of better-than-expected economic data, a slowdown in US economic activity would eventually lead to falling corporate earnings, rising default rates, and falling commodity prices. The Fed's determination to slow the economy should eventually bring down inflation. However, in the worst-case scenario, the normalization of Fed policy could be further delayed if long-term inflation expectations started to rise uncontrollably, turning inflation into a multiyear or even a multi-decade problem.

Source: UBS, as of September 2022

Investment ideas

The relative strength in the US economy both reduces the risk of recession in the near term and increases the chance that the Fed lifts interest rates further and faster, raising the risk of recession later. With this in mind, we have reduced the probability of our “slump” scenario and have increased the probability of our “head fake” scenario from 10% to 20%.

A sustained rally in risk assets is likely to require clear evidence that inflation is on a downward trend and that economic growth risks are well understood. Until there is greater certainty, we expect more volatility. In this environment, we recommend that investors stay invested but also selective, and build a portfolio that can prepare for a variety of eventualities, focused on the themes of defensives, income, value, diversification, and security.

Investment idea

Add defensive exposure	Central bank tightening, the threat of energy shortages in Europe, and COVID-related mobility restrictions in China all present headwinds to global growth. As a result, we favor tilting allocations toward parts of the market that should prove more resilient in the event of slowing economic activity. Within equities, this includes healthcare and consumer staples. The global healthcare and consumer staples sectors have outperformed the MSCI ACWI by 6 and 9 percentage points, respectively, this year. In fixed income, we favor high-quality bonds and resilient credits. Within currencies, we like the Swiss franc and the US dollar. Capital protection strategies can also help make overall portfolios more defensive.
Seek income opportunities	At a time of heightened market volatility, the potential to earn more predictable returns is more highly valued. We see opportunities for investors to add income to their portfolios across stocks (e.g., quality income—high dividend stocks with solid fundamentals), fixed income, volatility-selling strategies in currencies and commodities, and real estate.
Invest in value	Periods of elevated inflation have historically been associated with outperformance by value stocks relative to growth stocks. This year the MSCI AC World value index has outperformed the comparable growth index by 13 percentage points. We favor global value and the UK equity market, which has a high exposure to value sectors. In addition, we expect energy stocks—a value sector with attractive cash returns—to benefit from higher oil prices in the months ahead.
Seek uncorrelated hedge fund strategies	It has been difficult for investors to earn positive returns in 2022. But one bright spot has been hedge funds, with some strategies, like discretionary macro, performing particularly well. With inflation and central bank policy continuing to drive both equities and bonds, we recommend investors diversify into hedge funds to navigate market uncertainty.
Find value in private markets	Some private market funds are likely to revise down net asset value estimates, as a result of the decline in growth equity valuations this year. But putting fresh capital to work in private markets following declines in public market valuations has historically been a rewarding strategy. In the current environment, we favor value-oriented strategies to build up private market exposure.
Position for the era of security	While we retain a least preferred stance on growth stocks, we expect the era of security and the global transition toward stability and sustainability to continue to generate attractive long-term opportunities. Plans to improve energy security, environmental security, food security, and technological security are likely to be among the key long-term growth drivers in the years to come, supporting investments in areas ranging from greentech to agricultural yield solutions.



Mark Haefele
Chief Investment Officer
Global Wealth Management

Asset allocation implementation

The UBS House View is our current assessment of the global economy and financial markets, with corresponding investment recommendations. The asset allocation implementation of this view can vary based on the portfolio types and objectives.

Our tactical asset class preferences

+ Most preferred

- US large-cap value
- UK equities
- Australia equities
- US agency MBS
- Commodities
- Oil

- Least preferred

- Gold
- US large-cap growth equities
- US government intermediate bonds

Implementation guidance

Over the past month, August core CPI inflation increased more than expected and major central banks appear to have adopted a mindset of bringing down inflation almost irrespective of the cost. The implication is that the outlook for the economic and market cycle has shifted, with a greater probability of a deeper recession in 2023. However, the US economy continues to show resiliency, especially the labor market that has softened only marginally. Taken together, our base case continues to be that US growth will be below long-term trend for the next year, and possibly even negative, but a recession with a large increase in unemployment only occurs in our downside scenarios. Market pricing for the peak federal funds rate has gone up almost 90bps in the past month, but we think inflation could moderate enough by year-end to allow the Fed to hike rates less than currently expected.

We expect risk assets to continue to trade in their ranges for the past five months, and stay volatile as the market adjusts expectations based on incoming data. The story for markets has not changed, with a tight labor market and high inflation pressuring the Fed to proceed in tightening financial conditions in its battle to slow growth and cool the economy. This will not change until inflation is clearly declining in a sustainable way to an acceptable level. Very tactical investor sentiment has become pessimistic again, and positioning has lightened up. Thus, any good news could cause a bigger rally than bad news could cause declines.

We kept our major asset class preferences the same this month, and continue to advise against any big market calls in one direction. Instead, we recommend investors keep their asset allocations closer to long-term strategic benchmarks. We advise tilts to higher quality and more defensive assets, which have the ability to hold up better across a range of outcomes. The possibility of a

soft landing with inflation staying higher than the previous cycle favors allocations to commodities and value stocks, which we express through geographical and sector calls.

Equities

In our intra-US equity preferences, we maintain our value preference and keep large-cap growth stocks as least preferred. Value stocks tend to outperform in periods of above-average inflation, which has not shown signs of slowing yet. Growth stocks' out-performance over the summer months has extended their lofty valuation premium versus value stocks, which trade at a large discount relative to growth. Growth stocks have underperformed value this year when broad equities have fallen on fears around higher interest rates, growth concerns, and recession worries. Growth stock valuations also still look elevated relative to real interest rates and from a historical perspective.

We made no changes to our US equity sector preferences, maintaining a defensive positioning. The most preferred sectors are: consumer staples (earnings growth for the sector should be more resilient relative to the market, and relative valuations are reasonable given the sector's defensiveness), energy (attractive free cash flow yield and stands to benefit from persistent under-investment in energy exploration production), and healthcare (drug pricing reform lifts a long-standing overhang, providing earnings clarity). Our least preferred sectors are materials (it tends to underperform when the USD is rising and global economic growth is slowing) and consumer discretionary (higher mortgage rates and elevated inflation are impacting discretionary spending).

Within international equities, UK and Australia remain most preferred. The two countries have the highest earnings momentum among developed markets, the highest 2022 earnings growth, and the highest dividend yield (above 4%). We believe the UK and Australia are also attractively valued. Within emerging markets, we like Brazilian equities, which are relatively cheap and stand to benefit from higher commodity prices. The country also has low vulnerability to external funding and a superior dividend yield compared to most peers.

Fixed income

Treasury yields have hit decade highs as the market has priced in a higher peak in the fed funds rate, which is now about 4.6% reached in May 2023. We expect the 10-year yield to trade between about 2.8% and 3.6%, and near the high end of the

range in a soft landing, only gradually declining once inflation has clearly moderated. The yield may occasionally move above 3.6%, driven by hawkish headlines or heavy supply. The 2-year/10-year yield curve has inverted close to its intra-year low of -58bps, and we expect this to go lower as the Fed continues to reiterate its goal of price stability. We maintain a neutral view on US government bonds and would fund tactical positions in risk assets with intermediate-duration bonds to stay roughly in line with overall market duration.

We maintain an "up in quality" allocation in fixed income while the Fed stays on a hawkish path. US agency MBS stays most preferred, having gotten support from Chair Jerome Powell who said that MBS sales by the Fed are not in sight for the near term. With current coupon spread to Treasury yields above average and the potential MBS sale from the Fed already priced in, MBS still looks cheap. Volatility is a risk factor, but as the economy slows, the up-in-quality allocation will benefit from both spread and duration. While we advise against adding credit risk, we see opportunity in high yield bonds relative to "down in quality" asset classes such as senior loans. Loans have outperformed this year and fund flows may dissipate, while high yield offers an attractive yield with the highest cushion to rising interest rates in five years. With the 10-year yield above 3.5%, we think it is time to shift from floating rate to fixed rate.

Real assets

Global recession risk is a headwind for commodity prices, but we keep commodities and oil as most preferred because we expect global demand to hold up in our base case, while supplies are constrained by very limited spare capacity and shrinking inventories. We see the recovery in commodity prices being broad-based across energy, industrial metals, and agriculture. In addition, commodities are still a geopolitical hedge against further oil supply disruptions, and as a hedge against our "head fake" bear case scenario materializing. We did reduce our year-end price target for Brent oil from USD 125 to USD 110 per barrel, as lockdowns in China and elevated oil exports from Russia may ease market tightness in the near term. But even a small supply disruption could result in prices reaching or surpassing USD 150 per barrel.

We remain least preferred on gold. Gold has historically struggled in environments in which central banks are tightening policy to slow the economy, which remains the case across the developed world. We expect gold to fall to USD 1,600 per ounce in the second half of 2022, rising only to USD 1,650 in 1H23.

Our preferences

	Least preferred	Most preferred
Cash		
Fixed Income		
US Gov't FI		
US Gov't Short		
US Gov't Intermediate	–	
US Gov't Long		
TIPS		
US Agency MBS		+
US Municipal		
US IG Corp FI		
US HY Corp FI		
Senior Loans		
Preferreds		
CMBS		
EM Hard Currency FI		
EM Local Currency FI		
Equity		
US Equity		
US Large Cap Growth	–	
US Large Cap Value		+
US Mid Cap		
US Small Cap		
Int'l Developed Markets		
UK		+
Eurozone		
Japan		
Australia		+
Emerging Markets		
Other		
Commodities		+
Gold	–	
Oil		+
MLPs		
US REITs		

Bull Market Monitor

Equity markets have fallen as the Fed takes more aggressive action



Current status

We judge that the economy is in late-cycle, with growth slowing and the Fed hiking rates to curtail inflation. We also judge that it is not in recession despite negative GDP growth in 1H22. Downside risks are high.



What's new?

COVID-19 case counts, hospitalizations, and deaths have been gradually trending lower. With few government restrictions in place and many people returning to more normal lifestyles, the economic impact has been limited. Economic data for August was mixed. The ISM Manufacturing PMI was unchanged at 52.8, while the Services PMI edged up to 56.9, up from 56.7 in July. Nonfarm payrolls increased by 315,000, but the unemployment rate rose to 3.7% as more people returned to the labor market. Industrial production fell 0.2% month-over-month. CPI slowed to 8.3% year-over-year from 8.5% in July as gasoline prices fell, but core inflation was stronger than expected.

The Fed raised rates by 75 basis points on 21 September, setting the fed funds target range at 3–3.25%. It also signaled at least another 100bps of hikes by year-end. This has caused financial conditions to tighten further.

The yield curve is inverted, with the 2-year Treasury yield around 40bps higher than the 10-year. Spreads on corporate bonds widened over the past month. Mobility indicators suggest there is little residual impact from the pandemic.



What are we watching?

We are looking at a wide range of indicators to gauge the strength of consumer demand, inflation, and labor market conditions. We are watching developments in Ukraine and the implications for financial markets. We continue to monitor the pandemic in China and activity levels at its factories and ports.



What are the investment implications?

This backdrop does not lend itself to strong directional positioning on overall equity indexes. Instead, we prefer a selective approach tilted toward defensive, quality, and value stocks.

Key cycle indicators

The cycle indicators gauge whether the economy is overheating and if financial conditions are restricting growth. These determine our assessment of where we are in the cycle.

▼ Current ▼ Previous

Economic indicators

Growth (relative to potential)



Labor market



Mobility (relative to normal)



Inflation (relative to 2%)



Financial indicators

Monetary policy



Yield curve



Credit conditions



Each indicator is evaluated relative to a neutral level that is sustainable over time in order to determine whether the economy is at risk of overheating or if financial conditions will start to restrict growth.

The space economy: From moonshots to mission critical

Each year, our annual *Thematic Guide* publication offers investors an opportunity to look past the day-to-day stresses of the market and focus on secular trends that are likely to shape the investment landscape over the next 10 years and beyond. Our thematic framework assesses broad, macroeconomic drivers that will influence supply and demand for a number of industries going forward, and then uses these megatrends to identify pockets of opportunity. This year, our recently published guide notes how the unfortunate geopolitical crisis stemming from Russia's war in Ukraine has shed new light on several longer-term investment (LTI) themes focused on food security, cybersecurity, and energy security. These topics form the basis of what we are calling an "era of security." But when we think even further out into the future, one additional theme is likely to become increasingly relevant when it comes to international security: *the space economy*.

It's been over 60 years since the launch of Sputnik 1 kicked off a heated "space race" between two world powers, but the competitive spirit between nations has persisted, and the role of space infrastructure has become even more pronounced in modern warfare. For an example, look no further than Ukraine's reliance on Starlink to replace failed terrestrial communication systems. Military operations have long relied on space technologies for communication, navigation, and general surveillance capabilities, but in recent years the focus has increasingly turned to more advanced uses such as missile detection and anti-satellite systems.

The importance of critical space infrastructure has spurred ample government funding for the defense industry, including USD 24.5bn in Space Force funding in the FY2023 defense budget request. This would mark a 40% increase year-over-year, if approved. We expect space-based systems to be among the fastest-growing components of the Department of Defense's modernization budget, compounding at a double-digit rate through the end of the decade. The US is not alone in recognizing the importance of space. NATO has declared space a domain of operations, and France has established a space command within its air force. We see missile detection and tracking and satellite de-

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fense as two strategic priorities, and the US is currently progressing on the next-generation Overhead Persistent Infrared System for early missile warnings. US companies are also working on ways to protect and encrypt communications in order to shore up protection against the threat of cyberattacks.

Unsurprisingly, military operations are not the only competitive aspect of space. Nations are rushing to explore the potential for space-based solar power, and billionaire entrepreneurs are facing off with one another in the race to commercialize space tourism. These moonshot ideas once seen as science fiction have become more realistic on the back of technological advancement, significantly lower launch costs, and robust private spending. While uncertainty is high and failure risks run large, these developments support our view that the broader space economy is at an inflection point and looks poised for further growth in the years ahead, albeit with delays expected in the interim.

For tactical investors, we believe the era of security offers several opportunities, outlined in our report "Security takes center stage". For those with a longer time horizon, see the full "Space economy" report for more information, as well as our recently published *Thematic Guide* for the full suite of CIO's longer-term investment.

Tactical themes

Tactical equity themes capture opportunities that cannot be expressed through size, sector, and style allocations. Instead, our thematic lists reflect groupings of securities that we view as well positioned to benefit from a common set of drivers. Drivers for tactical themes include macroeconomic forces, policy changes, geopolitical events, temporary mispricing of opportunities (valuations), or timely factors. Our tactical themes span across asset classes, including equity, fixed income, and commodities.

US equity

Resilient spending: We've put together a list of companies we expect to benefit from an increase in spending.

Pricing power standouts: Companies with pricing power should be better able to offset any potential increase in input prices.

Reopening America: We identify companies well positioned for the economic recovery.

Time for quality: With uncertainty over the outlook for economic growth likely to persist, in conjunction with a flat yield curve, we believe high-quality stocks are particularly well positioned.

Note: For each US equity theme, a stock list is available and updated monthly in our report "Tactical US Equity Themes".

International equity

ESG matters in emerging markets: Incorporating ESG considerations into EM equity investment decisions may provide a competitive edge.

EM internet and e-commerce: We see an opportunity in high-quality and structurally attractive emerging market internet and e-commerce stocks.

Fixed income

Yield opportunities in Latin America: This theme is constructed around a basket of Latin American bonds that have the potential to outperform the ICE BofA Corporate IG index.

Taxable munis: Taxable munis can be attractive to taxable fixed income buyers for three principal reasons.

Enhancing liquidity strategy return potential with MLCs: Market-linked certificates of deposit can offer some limited upside exposure to stocks while providing a "floor" to prevent capital losses if they are held to maturity.

Short-duration Pan-American bonds: This theme provides a list of issuers domiciled in the US and Latin America with relatively short maturities in the corporate bond market.

Alternatives

Event-driven strategies: Event-driven strategies can represent attractive ways to capitalize on corporate actions.

Opportunities in dislocated credit markets: Stress in the credit market has expanded the opportunity for hedge fund and private managers to deploy capital toward dislocations.

Highlighted global themes

Greentech goes global: We bring together our best investment ideas from several CIO regional greentech themes.

22 for '22: Identifying the "new normal" in 2022 should bring multiple opportunities for investors, including reopening, restocking, and a return to expansion.

30 for 30: This stock list seeks exposure to secular growth companies in the greentech, 5G+, fintech, and healthtech spaces.

ABCs of technology: We believe three major foundational technologies—artificial intelligence, big data, and cybersecurity—are at inflection points.

Security takes center stage: The Russian invasion of Ukraine will likely have a meaningful and long-term impact on security considerations that will affect conventional defense spending, cyberspace, as well as energy, food, and semiconductor supplies. This theme identifies companies that are leveraged to these trends.

Long-term themes

Longer-term themes are expected to unfold over a longer time horizon, perhaps over the course of a decade or longer. These themes are based on secular trends that, CIO anticipates, will endure over multiple business cycles. Longer-term themes extend beyond the time frame of our strategic asset allocation. CIO developed a thematic investment framework based on three megatrends:

The global population is expected to reach almost 10 billion by 2050 from the current 7.3 billion. The vast majority of this population growth will occur in low- and middle-income countries.

The number of people aged 60 and older will exceed the number of those under 25 in developed countries by 2030. Urban populations in emerging economies are forecast to climb by 78% in the years to 2050.

Read more in our [Thematic guide](#).

Global economic outlook

Global growth is slowing as central bank tightening gains traction, making it easier for the supply side to catch up with demand. This should allow inflation to slow sharply in 2023, but growth is likely to remain subdued. In the US, the Fed has raised rates by 300 basis points so far this year and projects another 125bps by year-end, creating downside risks for growth. Europe also faces risks due to soaring energy prices driven by a reduction in supplies from Russia.

Economic outlook summary

Brian Rose, PhD
Senior Economist Americas

CIO view

Probability: 50%*

Consumers use savings to smooth consumption

- Demand for durable goods continues to normalize, increasing disinflation forces. Inventory levels increase significantly for many products, suggesting that production growth will slow over the coming months. Mercantile trade growth also slows as global demand shifts from goods to services.
- Where demand moderates, price trends move quickly into disinflation as profit margins are pressured. These disinflation forces partly offset commodity price-related inflation to moderate headline inflation rates. In many cases, consumers' spending power will not be as negative as the headline inflation numbers suggest because of structural changes. This suggests a bias to positive revisions for economic data. Consumers also have different reactions to price increases compared to historical norms, e.g., cutting fuel consumption more aggressively, as flexible work allows increased sensitivity, but ignoring higher prices for vacations. This complicates economic analysis, which tends to rely on historical relationships as a guide to the future.
- The decline in demand for goods is not enough to weaken the demand for labor, though increasing labor supply (as consumers try to boost household incomes) may result in unemployment rising with a higher participation rate. There is some evidence of individuals taking more than one job to offset negative real incomes.

Positive scenario

Probability: 20%*

More resilience from consumer demand

Consumer spending continues to rise as higher-income households' savings are put to work and a more rapid recovery in the labor market leads to a faster improvement in household incomes—with signs of a rising labor share of GDP. Real incomes stabilize quickly, and unrecorded incomes from new forms of employment create positive consumption surprises.

Global growth in 2022 expected to be 2.9%

	Real GDP growth in %			Inflation in %		
	2021	2022F	2023F	2021	2022F	2023F
US	5.7	1.6	0.7	4.7	7.9	3.2
Canada	4.6	3.0	1.0	3.4	6.4	2.3
Brazil	4.6	2.2	1.7	8.3	9.3	3.9
Japan	1.7	1.5	1.6	-0.2	2.2	1.5
Australia	4.9	4.0	1.9	2.9	6.5	4.4
China	8.1	2.7	4.6	0.9	2.2	1.8
India	8.7	7.0	6.0	5.5	6.7	5.0
Eurozone	5.3	2.9	0.8	2.6	8.1	4.1
Germany	2.6	1.4	0.3	3.2	8.6	4.6
France	6.8	2.5	0.9	2.1	5.8	3.1
Italy	6.6	3.3	0.9	1.9	7.6	2.7
Spain	5.1	4.6	2.0	3.0	8.8	4.1
UK	7.4	3.4	-0.4	2.6	8.8	5.1
Switzerland	4.2	2.4	0.6	0.6	3.1	2.1
Russia	4.7	-6.0	-3.0	6.7	13.7	4.0
World	6.2	2.9	2.6	3.9	8.1	4.4

Source: Reuters EcolWin, IMF, UBS, as of 22 September 2022

Note: In developing the CIO economic forecasts, CIO economists work in collaboration with economists employed by UBS Investment Research. Forecasts and estimates are current only as of the date of this publication and may change without notice.

Negative scenario

Probability: 30%*

Negative real wages drive negative consumption

Inflation is slower to fall, leading to a prolonged period of negative real wages and falling wage share of GDP. Fears over job security increase, leading to a desire to hold precautionary savings. Consumer spending starts to decline in line with real wages. Poor-quality data or policy error leads to a delayed central bank response to weaker demand.

*Scenario probabilities are based on qualitative assessment.

Equities

Within global equities, we prefer the UK and Australia to global stocks. Across sectors, we like global energy and healthcare stocks. We are keeping industrials, consumer discretionary, and listed real estate at least preferred. Across styles, we prefer value and quality income to growth. Despite the recent sell-off, we see further volatility ahead. Even though valuations are more reasonable now, there is scope for more valuation compression should inflation come in stronger than expected or growth disappoint.

Eurozone

NEUTRAL

We are neutral on Eurozone equities in our global asset class universe. Given the region's cyclical, proximity to the Russia-Ukraine war, and reliance on Russian energy exports, we see a higher risk to Eurozone profits than other developed market countries'. This has already been largely reflected in valuations, which have also come under pressure from a sharp increase in government bond yields and credit spreads. Current valuations look fair to us.

EURO STOXX 50 (index points, current: 3,492)	June 2023 target
House view	3,700
Positive scenario	4,400
Negative scenario	3,000

Japan

NEUTRAL

We are neutral on Japanese equities in our global asset class universe, as they continue to experience volatility due to the uncertainty around the global macro outlook (i.e., a hawkish Federal Reserve and higher inflation). However, Japanese corporate earnings remain relatively solid, supported by a weaker yen and a recovery in domestic consumption, thanks to the reopening of the economy. We raise our net profit growth forecast to 8% for FY2022 and 3% for FY2023 on the back of the weaker yen.

TOPIX (index points, current: 1,921)	June 2023 target
House view	2,000
Positive scenario	2,200
Negative scenario	1,600

Emerging markets

NEUTRAL

We are neutral on emerging market (EM) equities in our global asset allocation. EM stocks face a challenging global backdrop amid more-hawkish-than-expected global central banks, a strengthening US dollar, weak growth in China, and elevated geopolitical uncertainty. In this environment, we see further downside risks to earnings growth prospects. Hence, despite exhibiting undemanding valuations, emerging market stocks are likely to deliver modest mid-single-digit positive returns through mid-2023 in our central scenario.

MSCI EM (index points, current: 932)	June 2023 target
House view	1,100
Positive scenario	1,180
Negative scenario	850

UK

MOST PREFERRED

UK equities remain most preferred in our global equity preferences. The UK index continues to benefit from its high exposure to both commodity-related and defensive sectors. In light of its attractive valuation, we expect this trend to continue. We recommend a broad-based exposure to the UK equity market as we believe that sector leadership will be more mixed in the coming months.

FTSE 100 (index points, current: 7,238)	June 2023 target
House view	7,700
Positive scenario	8,100
Negative scenario	6,300

Note: All current values as of 21 September 2022

US Equities

US equities have come under renewed pressure driven by hawkish Fed rhetoric, higher interest rates, downward earnings revisions, and broader-than-expected inflation pressures. In our view, the path from here will be largely driven by the Fed. The more the central bank increases interest rates, the greater likelihood that economic growth slows and recession risks rise. A fed funds rate above 4% increases downside risks for S&P 500 profit growth.

David Lefkowitz, CFA; Nada Lovell; Matt Torrey

US equities overview

NEUTRAL

In the near term, risk-reward appears somewhat balanced. Heading into 3Q earnings season, stocks are near the low end of their recent range, suggesting cautious sentiment ahead of reporting season, and earnings results could still be somewhat resilient. However, some of the most economically sensitive companies have preannounced weaker-than-expected results—a sign that economic conditions may be softening. Going forward, the most important driver of equities will likely be inflation trends, and we expect markets to remain choppy and reliant on the outlook for inflation and the Fed.

US equities – sectors

We maintain a defensive bias within sectors. Consumer staples earnings should be more resilient as macro headwinds persist. Valuations are reasonable. Despite outperforming, the energy sector has a very attractive free cash flow yield and should benefit from persistent under-investment in energy exploration and production. Drug pricing reform removes an overhang on healthcare and provides earnings clarity. Consumer discretionary is at risk from a slowdown in consumer spending, especially as mortgage rates continue to rise. A strong US dollar typically weighs on the performance of the materials sector.

US equities – size

We remain benchmark-weight across size segments. Smaller size segments typically underperform late in the economic cycle, which best describes the current environment. However, valuations are near the lowest levels relative to large-caps in at least 40 years, mitigating relative downside risks. This also suggests that both small- and mid-caps will likely produce better returns than large-caps over the next decade.

US equities – style

We maintain our preference for value over growth. Historically, value stocks outperform during periods of higher-than-average inflation. Although we believe inflation has peaked, it is likely to remain higher than normal. Additionally, earnings for value companies tend to outpace growth companies when nominal GDP (which includes inflation) growth is strong. Finally, relative to interest rates, growth stock valuations appear lofty versus value stocks.

S&P 500 (index points, current: 3,790)

June 2023 target

House view	4,200
Positive scenario	4800
Negative scenario	3,300

Note: All current values as of 21 September 2022

Figure 1

Maintain a defensive bias in our sector positioning

	Least preferred	Neutral	Most preferred
US Equities			
Communication services		⊖	
Consumer discretionary	⊖		
Consumer staples			⊕
Energy			⊕
Financials		⊖	
Healthcare			⊕
Industrials		⊖	
Information technology		⊖	
Materials	⊖		
Real estate		⊖	
Utilities		⊖	

Note: Tactical preferences from benchmark (S&P 500)

Source: UBS, as of 22 September 2022

Figure 2

Recent value outperformance is small relative to history

Russell 1000 Value relative to Russell 1000 Growth



Source: Bloomberg, UBS, as of 31 August 2022

Bonds

Our central scenario assumes that the Fed will continue to hike rates at each of its remaining meetings this year, that there will be some moderation in GDP growth, and that inflation, if it has not already peaked, will peak over the coming months. But we expect inflation to stay well above the Fed's 2% target throughout the year. With global central banks tightening, yields may move slightly higher in the short term, only to contract as restrictive Fed policy impacts economic conditions.

Alejo Czerwinski; Leslie Falconio; Kathleen McNamara, CFA, CFP; Barry McAlinden, CFA; Frank Sileo, CFA

Government bonds

NEUTRAL

The 10-year US Treasury yield reached 3.68%, as a restrictive Fed and an intervening Bank of Japan impact the US rates market. With the Fed's terminal rate higher than our original expectation, yields are moving higher. We believe they will come down as the economy slows.

US 10-YEAR YIELD (current: 3.6%)	June 2023 target
House view	3.25%
➤ Positive scenario	1.5%
➤ Negative scenario	3.5%

US investment grade corporate bonds

NEUTRAL

The IG index yield touched a new cycle high of 5.3%. While the higher yield level is appealing, our preferred approach at this juncture is to continue looking at select opportunities in the short end of the yield curve, which are less sensitive to elevated bond market volatility. IG bonds with one- to three-year maturities provide an average yield of 4.8%. On fundamentals, credit metrics are solid, but there are downside risks to earnings as global growth slows.

US IG SPREAD (current: 147bps)	June 2023 target
House view	175bps
➤ Positive scenario	90bps
➤ Negative scenario	225bps
Benchmark: ICE BofA	

Emerging market bonds

NEUTRAL

We continue to recommend a strategic allocation to emerging market debt and see near-term value on select short-duration bonds. In our base case, the USD should begin to soften over the next six to 12 months, allowing for an emerging market comeback, although investors need to be mindful that the range of possible outcomes remains large. The two key risks for the asset class are a faster-than-expected tightening of US monetary policy and a sharper slowdown in Chinese economic growth.

EMBIG DIV. / CEMBI DIV. SPREAD (current: 507bps / 369bps)	June 2023 target
House view	450bps / 350bps
➤ Positive scenario	300bps / 280bps
➤ Negative scenario	600bps / 550bps

Note: Current values as of 21 September 2022

US high yield corporate bonds

NEUTRAL

We have a neutral view on high yield as we anticipate that ongoing uncertainty due to slowing economic growth, geopolitical events, cost inflation, and the Fed's hiking cycle are likely to result in wider spreads over the next six months. We maintain our preference for up-in-quality allocations. However, on a relative value basis, we have a preference for high yield versus leveraged loans, as we see more headwinds in the loan market which has markedly outperformed HY year-to-date.

USD HY SPREAD (current: 489bps)	June 2023 target
House view	600bps
➤ Positive scenario	300bps
➤ Negative scenario	750bps

Municipal bonds

NEUTRAL

Over the past month, muni yields moved higher, reflecting a more hawkish Fed. At the same time, net cash outflows from muni mutual funds resumed and performance suffered. In the fourth quarter, we expect tax-loss selling activity to increase given the large negative total returns witnessed thus far in 2022. We prefer positioning in high-quality muni credits that can exhibit resilience through an economic downturn. Current AAA 10-year muni-to-Treasury yield ratio: 85% (last month: 82%).

Additional US taxable fixed income (TFI) segments

Agency bonds

Higher-grade spreads such as agency debt have remained relatively stable since the greater-than-expected CPI report on 13 September. With 5-year spreads at a mere 10bps, we do not see value within the sector except for the higher-quality rating. As growth likely slows into 2023, agency debt may warrant a more favorable outlook; for now, however, we maintain a preference for agency MBS versus agency bonds. Current spread is +10bps to the 5-year (versus +10bps last month)

Mortgage-backed securities (MBS)

MOST PREFERRED

Volatility continues to be a headwind for agency MBS, but we maintain our preferred allocation to the sector with spreads at 2010 wides (not including March 2020). Allocating to higher quality remains our core theme, and the AAA nature of agency MBS, combined with wide spreads and increasing positive convexity, fits within our objective. We do not believe the Fed will sell MBS out of its portfolio in 2022; however, recent spread widening is compensating investors for the near-term risk. We wait for volatility to subside into year-end and spreads to compress. Current spread is +146bps to the 5-year and 10-year Treasury blend (versus +138bps last publication)

Preferred securities

NEUTRAL

Caution near-term; opportunity long-term: We expect discounts to persist until Treasury rates move meaningfully lower from here. 2022 performance demonstrates that preferred investors should use both fixed-rate and variable-rate preferreds with ladder call dates (favoring high reset spreads), given the level of uncertainty in the economic backdrop. Current valuations provide a better entry point for long-term investors with absolute yields at the upper end of the historical range and relative yields in line with the 20-year average.

Non-US developed fixed income

NEUTRAL

Over the past month, bond yields in non-US developed markets moved substantially higher as central banks hiked rates to combat inflation. On foreign exchange markets, the dollar benefited from aggressive Fed rhetoric, hurting bond prices in dollar terms. These factors combined to produce negative returns for the asset class. With yields still mostly lower than in the US, non-US developed fixed income remains unattractive. We do not recommend a strategic asset allocation position on the asset class.

Treasury Inflation-Protected Securities (TIPS)

We have remained cautious regarding the TIPS market with the expectation that real yields would rise in 2022. Granted, the level of real yields, which recently broke the 2018 high in both the five- and 10-year area, has moved beyond our expectations, poorly impacting overall TIPS performance. Although TIPS are becoming cheap, particularly in the 10-year area of the curve, we await better clarity regarding the Fed's terminal rate. Current 10-year breakeven inflation rate of 2.38% (2.65% last publication)

Figure 1

UBS CIO interest rate forecast

In %

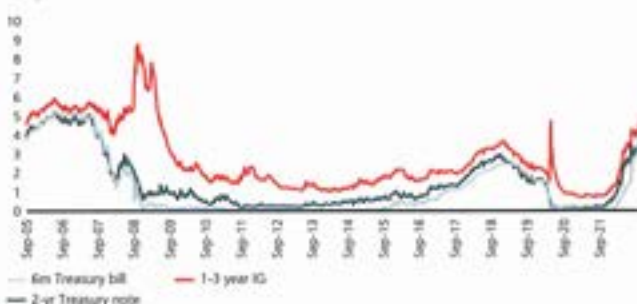
US Treasury	Current	Dec-22	Mar-23	Jun-23	Sep-23
2-year	4.05	4.0	4.0	3.5	3.3
5-year	3.77	3.8	3.5	3.3	3.0
10-year	3.53	3.5	3.5	3.3	3.0
30-year	3.5	3.5	3.5	3.5	3.3

Source: Bloomberg, UBS, as of 23 September 2022

Figure 2

Short-end yields reach 15-year high while short-end corporates yield 4.8%

Yield, in %



Source: ICE BofA, UBS, as of 20 September 2022

Commodities and listed real estate

While China's recovery has disappointed so far, we think it could offset the slowdown in demand expected in the US and Europe next year. Moreover, given years of underinvestment, supply challenges in both oil and metal should underpin prices while agriculture faces ongoing weather-related risks. In the absence of a deeper recession globally, we target a mid-teens rate of return over the next six to 12 months. Investors are advised to stay long on commodities, with a preference for an active exposure strategy. Investors not keen on taking long exposure and have a lower risk appetite may engage in yield strategies, such as volatility-selling with commodities as the underlying asset.

Dominic Schröder, CFA, CAIA; Giovanni Staunovo; Thomas Veraguth; Wayne Gordon

Commodities

🟢 MOST PREFERRED

Precious metals: We reiterate our bearish view on gold as upside surprises to US inflation caused markets to lift rate hike expectations by the Fed. Higher US bond yields (largely driven from the real side), quantitative tightening, and a strong US dollar likely drive further outflows from the investment side in the short run. We recommend investors protect the downside of their longer-term holdings.

GOLD (current: 1,674.00/oz)

June 2023 target

🔴 LEAST PREFERRED

House view	USD 1,650/oz
📈 Positive scenario	USD 1,800–2,100/oz
📉 Negative scenario	USD 1,400–1,500/oz

Crude oil: We still believe that the oil market will tighten and prices will rise over the coming quarters, supported by the following factors. First, the end of sales from OECD countries' strategic oil reserves will remove more than 1mbpd of supply later this year. Second, we expect oil demand to be bolstered globally by oil's increasing use to generate electricity, reflecting the rising prices or reduced availability of gas and coal. Last, the European Union intends to cut its dependence on Russian waterborne crude imports by 5 December and refined products by 5 February. We still believe this will result in a production drop in Russia, as not all Russian oil that heads to the EU (2.8mbpd in August) can be rerouted to other nations.

BRENT (current: USD 89.83/bbl)

June 2023 target

🟢 MOST PREFERRED

House view	USD 125/bbl
📈 Positive scenario	USD 140–170/bbl
📉 Negative scenario	USD 70–100/bbl

Note: Current values as of 21 September 2022

Base metals: Stringent COVID restrictions, frequent local lockdowns, and the crackdown on property developers have weighed on China's economic activity this year. The country's August data was better than feared, but we do not expect a comprehensive solution to distress in the property market until 2023. The supply side remains uncertain in the face of energy shortages.

Agriculture: La Niña forecast for a third year: Crop prices have been mixed despite a bullish September USDA report. Short-term, we see markets focused on seasonal factors like harvests, a pickup in Russian wheat exports, a strong USD, the direction in crude oil markets, and demand-related risks. Moreover, the dry Midwest outlook also favors a fast-paced harvest. These factors make it difficult to sustain any upside momentum in the near term. That said, global weather agencies forecast a La Niña event for 2022–23—a triple-barrel event that has only occurred twice since 1950 and is associated with floods, droughts, storms, and fires. Hence, we see risks to agricultural production and higher price volatility in 1H23. We also expect upside to livestock prices in 1H23 as US herd size is expected to decline further next year.

Listed real estate

Favor quality and strong balance sheets. Value stocks have catch-up potential, but we see a lack of immediate triggers. Further, we seek exposure to companies with superior earnings growth, as earnings visibility remains high for them. We continue to like developers, but we also favor REITs with strong balance sheets and low leverage. We think Asian developers and selected US companies have superior return potential. By contrast, we expect expensive Japanese REITs to underperform and see better opportunities in Singapore. While rather cheaply valued, we do not expect UK real estate to perform well over the next month.

RUGL Index (current: USD 5,664)

June 2023 target

House view	USD 6,700
📈 Positive scenario	USD 6,900
📉 Negative scenario	USD 6,000

Foreign exchange

We are upgrading the USD and CAD from neutral to most preferred.

Thomas Flury, Strategist

The US dollar has reached its strongest level for many decades, rallying significantly in response to large rate hikes by the Federal Reserve and to rising global geopolitical concerns. The latest data releases and Federal Open Market Committee communication in September signal that the Fed might continue on the same tightening path for some months to come. Inflation seems more sticky than we, the Fed, and the broader markets expected earlier this year. We are upgrading the USD from neutral to most preferred, given we see more tightening ahead, higher US interest rates, and little likelihood geopolitical concerns will fade any time soon. We also lift the Canadian dollar to most preferred given the currency should be supported for the same reasons as the USD and, in our view, will most likely appreciate relative to its largest trading partner. We keep the Swiss franc at most preferred. In Switzerland, the rate hike cycle is still in its early stages and the Swiss National Bank typically uses CHF appreciation to limit imported inflation.

We are keeping the euro as least preferred. The European Central Bank's rate hike plan does not yet appear terribly convincing as defragmentation risk might lead to a quick rise in Italian yields when the ECB tightens monetary policy. As it stands, European rates appear too low to compensate for the risks related to the war, while growth concerns related to energy supply shortages weigh on the euro. The Bank of England faces a similar dilemma to the ECB. Growth concerns challenge rate hike prospects,

while high inflation suggests that higher yields are needed to rein in rising inflation expectations. We keep the yen at neutral. Despite trading at depressed levels, there is no immediate catalyst for a strong yen rebound, with the Bank of Japan staying dovish and Japan's trade balance still under pressure.

In Asia, the Chinese yuan is likely to stay under pressure in the near term amid continued divergence in US-China monetary policy. Elsewhere, we think the Singapore dollar should continue to outperform regional peers thanks to the central bank's policy of gradual, trade-weighted currency appreciation.

The latest inflation release in the US proved unfavorable to the currencies of Latin American and EMEA economies. Their central banks will have to decide whether a potentially more hawkish Fed should be matched, and how local currency weakness affects the domestic inflation outlook. Tightening global monetary conditions and weakening global growth will likely keep emerging market currencies vulnerable, even though we do not exclude rallies at times of improving risk sentiment. For a sustainable turnaround, we would need to see increasing signs of a decline in global inflation and fewer worries around lockdowns in China. For currencies in Central and Eastern Europe, Russia's increasing use of energy export disruptions to pressure its adversaries adds a significant downside risk.

FX strategy

	Least preferred	Neutral	Most preferred
USD		⊖ → ⊕	
EUR	⊖		
JPY		⊖	
GBP	⊖		
CHF			⊕
CAD		⊖ → ⊕	

FX forecasts

	Current	Dec 2022	Mar 2023	Jun 2023	Sep 2023
EURUSD	0.99	0.96	0.96	0.98	1.02
USDJPY	144	145	142	135	130
GBPUSD	1.13	1.10	1.10	1.14	1.19
USDCHF	0.97	0.96	0.95	0.92	0.88
USDCAD	1.34	1.32	1.30	1.28	1.26
AUDUSD	0.67	0.66	0.69	0.72	0.74
NZDUSD	0.59	0.57	0.59	0.61	0.62
USDSEK	11.02	11.46	11.46	11.02	10.20
USDNOK	10.30	10.42	10.42	9.69	8.82

Sources: SDX Financial Information, UBS, as of 21 September 2022

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Based on the analyses and assessments conducted and vetted throughout the investment process, the Chief Investment Officer (CIO) formulates the UBS Wealth Management Investment House View at the Global Investment Committee (GIC). Senior investment professionals from across UBS, complemented by selected external experts, debate and rigorously challenge the investment strategy to ensure consistency and risk control.

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- Solita Marcelli
- Paul Donovan
- Tan Min Lan
- Themis Themistocleous
- Bruno Marxer (*)
- Adrian Zuercher
- Mark Andersen

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- Alejo Czerwonko
- Jason Draho (chair)
- Leslie Falconio
- David Lefkowitz
- Brian Rose
- Daniel Scansaroli

(*) Business area distinct from Chief Investment Office Global Wealth Management

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Explanations about asset classes

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Statement of risk

Equities – Stock market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables.

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Appendix

Investors should be aware that Emerging Market assets are subject to, among others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and sociopolitical risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. CIO Americas, WM generally recommends only those securities it believes have been registered under Federal US registration rules (Section 12 of the Securities Exchange Act of 1934) and individual State registration rules (commonly known as "Blue Sky" laws). Prospective investors should be aware that to the extent permitted under US law, CIO Americas, WM may from time to time recommend bonds that are not registered under US or State securities laws. These bonds may be issued in jurisdictions where the level of required disclosures to be made by issuers is not as frequent or complete as that required by US laws.

For more background on emerging markets generally, see the CIO Americas, WM Education Notes "Investing in Emerging Markets (Part 1): Equities," 27 August 2007, "Emerging Market Bonds: Understanding Emerging Market Bonds," 12 August 2009 and "Emerging Markets Bonds: Understanding Sovereign Risk," 17 December 2009.

Investors interested in holding bonds for a longer period are advised to select the bonds of those sovereigns with the highest credit ratings (in the investment-grade band). Such an approach should decrease the risk that an investor could end up holding bonds on which the sovereign has defaulted. Subinvestment-grade bonds are recommended only for clients with a higher risk tolerance and who seek to hold higher-yielding bonds for shorter periods only.

Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments; there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund, and should consider an alternative investment fund as a supplement to an overall investment program.

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There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.

There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.

There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.

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Oakland University

October 3, 2022

Treasury Solutions Quarterly Investment Report

commonfund

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Quarterly Investment Report

Portfolio Highlights

- The Oakland University Treasury Solutions portfolio returned -4.58 percent for the quarter and -4.69 percent for fiscal year 2022. The final value of the portfolio was \$270,679,267. Looking forward, although it is difficult to envision a quick resolution to the current market dislocation, it is important to reaffirm the benefits of a long-term strategic investment policy. It is natural for investors to fall victim to recency bias and focus on short-term portfolio volatility. The financial markets are a real-time indicator of how much the investing environment is changing however, we believe the current volatility will prove episodic.
- For the quarter, the Contingent Asset Portfolio and Intermediate Term Fund underperformed the ICE BAML 1-3-year index. The Intermediate Term Fund returned -0.70 percent while its benchmark returned -0.50 percent. The Contingent Asset Portfolio, LLC returned -0.56 percent. Generally, exposure to spread sectors detracted from return as short-term ABS, MBS, CMBS and investment grade corporates underperformed duration-adjusted U.S. Treasuries. The High-Quality Bond Fund returned -4.95 percent for the quarter underperforming the Bloomberg Barclays Capital U.S. Aggregate Bond Index, which returned -4.69 percent. The funds' overweight to spread sectors detracted from return as corporate credit, MBS, CMBS and Yankee bonds (U.S. dollar-denominated sovereign emerging market bonds) posted negative excess returns. Security selection within the residential and commercial mortgage-backed strategy mitigated some of this underperformance.
- The funds' duration positioning was slightly overweight relative to the benchmark, which dampened return as U.S. Treasury yields increased during the quarter.
- In the core allocation, the Core Equity Fund returned -16.43 percent for the quarter underperforming the -16.10 percent return of the S&P 500 Index. The fund's active strategy, Wellington's Large Cap Research Equity, underperformed the S&P 500 by 65 basis points. Sector allocation was additive while stock selection detracted from relative returns. Consumer discretionary stock selection and the overweight to the underperforming retailing industry cost 40 basis points. Communication Services stock selection and overweight to the media & entertainment group also was an impediment to relative performance. The Strategic Solutions Equity Fund (low volatility equities) returned -9.78 percent for the quarter. Sector allocations were additive to relative returns, benefiting from the fund's overweight to the more defensive sectors- consumer staples, utilities, and health care. The underweight to consumer discretionary offset the cost of underweighting energy during the quarter. Overall, the strategy's diversified approach to sector exposure and emphasis on lower risk stocks assisted performance in a quarter where uncertainty took hold.

Past performance is not indicative of future results.

Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks and Performance.

Economic Commentary

- A year ago, as the world continued to emerge from the pandemic lockdowns, economic data was broadly positive and corporate earnings were supported by the consumer. Businesses were reopening at a brisk pace while accumulated personal savings was the dry powder set to propel domestic growth. It was evident that monetary and fiscal policy efforts deployed at the depths of the pandemic had served their purpose, although the accelerating inflation that emerged would be the next obstacle that global central banks would have to confront. Now, it is evident they were too slow to act. This notion became more apparent to investors as the new calendar year began with inflation reaching 7 percent – and it has continued to rise since. It is tempting to draw parallels to past market environments with the hopes of finding the outcome and optimal solution. However, whether it is a tech bubble, credit crisis or pandemic, each situation, and each remedy, is unique. The United States is in an inflationary environment not experienced in over 40 years. The era of zero rates that fueled risk assets is coming to an end as the business cycle moves past its peak.
- While supply chain woes are often cited as the main culprit of rising inflation, recent data shows that multiple components, including food, energy, shelter, and wages, are to blame. As a result, despite the Federal Reserve embarking on quantitative tightening via interest rate increases and a reduction in the balance sheet, there is still a lot of work the central bank must do to lower prices. The labor market and wage growth are too strong for the Fed to justify slowing its hiking cycle. The challenging economic circumstances have also dispelled the idea that market volatility will result in the execution of the "Fed Put" to protect investors. Consumer sentiment data shows long term inflation expectations rising to 3.1 percent, which suggests that higher inflation is becoming anchored in the eyes of the consumer. All of this will make the I OMC's task more challenging.

Economic Indicators	3/31/2022	6/30/2022
Gross Domestic Product	6.9% (4Q21)	-1.6% (1Q22)
Unemployment Rate	3.6%	3.6%
Consumer Price Index (yoy)	8.5%	9.1%
CPI excl Food and Energy (yoy)	6.5%	5.9%
Real Personal Consumption Expenditures	2.5% (4Q21)	1.8% (1Q22)

Source: Bloomberg

Past performance is not indicative of future results.

Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks and Performance.

Capital Markets

- In the second quarter, markets were weak across the developed world and mixed within the emerging markets. Global equity markets, as measured by the MSCI ACWI, lost -15.7 percent in 2Q2022. The S&P 500 underperformed other developed markets as inflation measures continued to rise, and the Federal Reserve enacted a more aggressive policy response. Domestically, value indices continued to outperform for the quarter albeit with the large reversal in June. Developed international equities (-14.7 percent) underperformed the emerging markets (-11.5 percent). A deeper dive into regional allocations show Canada returning -15.8 percent, Europe losing 14.5 percent and Japan down 14.6 percent. China was the only positive emerging market, showing improvement in economic activity and a small increase in business confidence after Shanghai lifted its lockdown. It is believed that the recovery in the services industry will likely take longer than for goods, as consumers are still unwilling or unable to go out as much as before given China's strict Zero-COVID policy.
- The fixed income markets have been challenging in 2022. The Bloomberg Barclays Aggregate Index lost 4.7 percent in the 2Q2022 and is down 10.4 percent year-to-date. The benchmark index is on pace to have its worst year ever, partially due to a selloff in U.S. Treasuries. After a benign decade of relatively low interest rates, investors have seen rates increase almost 200 basis points across the U.S. Treasury curve. Only recently have the corporate credit markets begun to follow suit as corporate yields have started to move higher on the expectation of increased credit risk. At the June FOMC meeting, central bankers voted to increase the Federal Funds rate by 75 basis points, the largest rate hike since 1994, moving market expectations for the remainder of the year and signaling an increased commitment to bringing down inflation. Ultimately, one of the most effective tools the central bank has is communication coupled with policy actions, as they remain steadfast in the goal of achieving price stability.

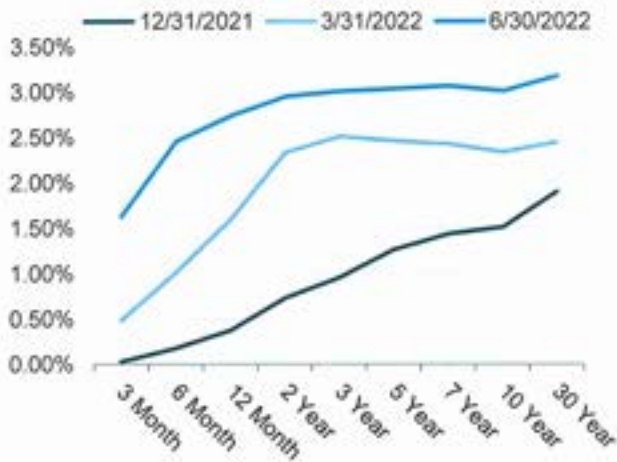
Other Markets	12/31/2021	3/31/2022	6/30/2022
S&P 500 Index	4766	4530	3785
WTI Lt Crude (\$/barrel)	\$75.21	\$100.28	\$105.76
US Dollar Index	95.67	98.31	104.69
BAML High Yield Credit Index	1578.79	1507.53	1357.20
Volatility Index	17.2	20.6	28.7

Source: Bloomberg

Past performance is not indicative of future results.

Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks, and Performance.

U.S. TREASURY YIELD CURVE



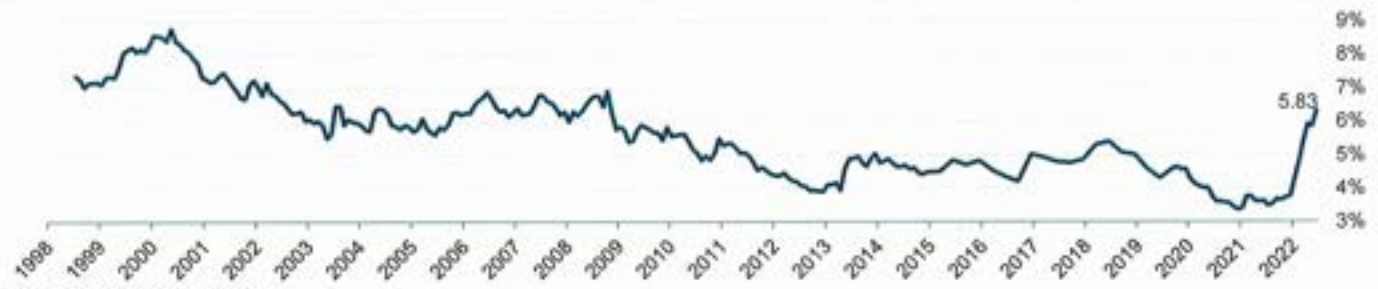
Source: Bloomberg

COMPOSITE CREDIT SPREADS



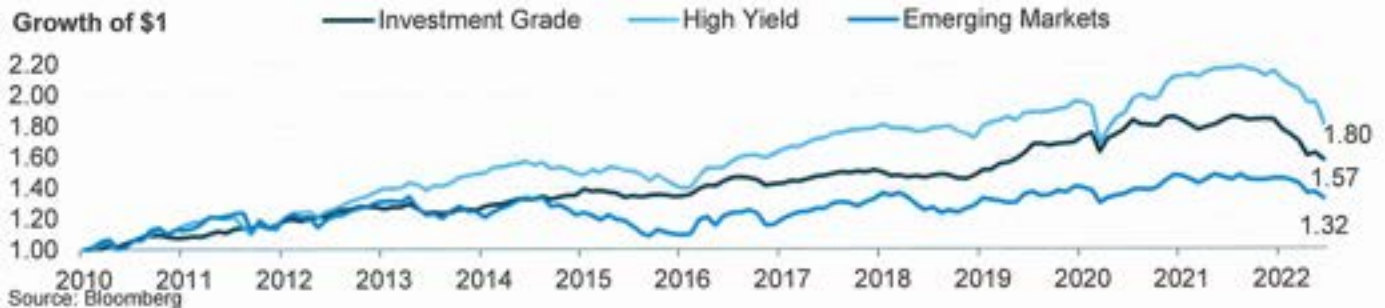
Source: Bloomberg, Moody's

30-YEAR FIXED MORTGAGE RATE



Source: Bloomberg, Bankrate

BLOOMBERG CREDIT INDICES



Source: Bloomberg

Past performance is not indicative of future results.

Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks and Performance.

Investment Report

PERFORMANCE – TREASURY SOLUTIONS

As of June 30, 2022

Performance Item	MTD	QTD	CYTD	FYTD	3 Years	5 Years
State Street Inst US Govt Money Mkt Fund	0.09	0.17	0.18	0.18	0.50	0.99
ICE BofA ML 3-Month US T-Bill Index	0.06	0.13	0.16	0.18	0.58	1.06
Total Liquidity Funds	0.09	0.17	0.18	0.18	0.50	0.99
Intermediate Term Fund	-0.55	-0.70	-3.12	-3.72	0.32	1.12
ICE BofA Merrill Lynch (ML) 1-3 Yr Treasury	-0.58	-0.50	-2.83	-3.29	0.24	0.94
Income Research & Management	-0.56	-0.68	-2.95	-3.45	0.61	1.28
MetLife Investment Management, LLC	-0.65	-0.69	-2.91	-3.29	0.54	1.23
Sit Investment Associates	-0.36	-0.63	-3.50	-4.14	0.29	1.47
CF Contingent Asset Portfolio, LLC	-0.28	-0.56	-2.03	-2.51	0.30	1.01
ICE BofA Merrill Lynch (ML) 1-3 Yr Treasury	-0.58	-0.50	-2.83	-3.29	0.24	0.94
Sit Investment Associates	-0.12	-0.39	-2.07	-2.75	0.71	1.56
MetLife Investment Management, LLC	-0.21	-0.21	-0.68	-0.70	0.82	
MD Sass Investors Services	-0.40	-0.90	-3.03	-3.37	0.26	
High Quality Bond Fund	-1.64	-4.95	-10.81	-10.95	-0.78	1.16
Bloomberg Barclays US Aggregate Bond Index	-1.57	-4.69	-10.35	-10.29	-0.93	0.88
Rimrock Capital Management	-0.91	-3.48	-8.51	-8.52	-0.19	1.65
Income Research & Management	-1.48	-4.71	-10.26	-10.44	-0.42	1.25
Western Asset Management Company	-2.20	-5.97	-12.63	-12.62	-1.07	1.25
Total Contingency	-0.78	-1.90	-5.07	-5.50	0.00	1.17
Core Equity Fund	-8.39	-16.43	-20.18	-11.62	9.40	9.86
S&P 500 Index	-8.25	-16.10	-19.96	-10.62	10.60	11.31
CF Direct Management Core Equity	-10.21	-17.93	-21.60	-12.46	11.55	
Wellington Management Company LLP	-8.55	-16.75	-20.39	-12.71		
CF Strategic Solutions Equity Fund, LLC	-4.90	-9.78	-13.75	-2.91	7.61	9.30
S&P 500 Index	-8.25	-16.10	-19.96	-10.62	10.60	11.31
Martingale Asset Management	-4.88	-9.71	-13.63	-2.61	8.04	9.68
Time Weighted Return	-2.10	-4.58	-7.60	-4.69	2.56	3.85
Traditional Benchmark	0.26	0.67	1.15	1.90	2.07	2.60
Policy Benchmark	-2.50	-5.00	-7.68	-5.14	3.00	3.77

Source: Commonfund Client Reporting Portal. Please see Important Notes | Performance Comparisons.

Composite Schemes and Weightings:

Policy Benchmark: 7/1/2014 to 06/30/2022 35.0% ICE BofA Merrill Lynch (ML) 1-3 Yr Treasury; 25.0% S&P 500 Index; 25.0% 3 Month Tbill; 15.0% Bloomberg Barclays US Aggregate Bond Index

Traditional Benchmark: 7/1/2014 to 6/30/2022 100.0% 3 Month Tbill + 150

Note: Manager Performance depicted is net of the sub-advisor's management fees and expenses, and gross of Commonfund Fund fees and expenses.

The Fund periodically makes changes to its managers. There can be no assurance that the Fund will continue to invest with any of the listed managers.

Third party managers' investment approach and portfolio construction are subject to change and are governed by the Fund's Offering Documents or Investment Management Agreement.

Third party returns provided by Oakland University. Past performance is not indicative of future results.

Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks and Performance.

FUND ALLOCATION – TREASURY SOLUTIONS

As of June 30, 2022

	Target Allocation %	6/30/2022 Allocation %	6/30/2022 Market Value (\$)
Total Liquidity Funds	25.00	29.50	\$ 79,843,265.84
Fifth Third Bank	25.00	15.10	\$ 40,882,819.14
Comerica Bank		0.00	\$ 4,733.04
JPM Cash - MMA Account		1.87	\$ 5,071,859.66
State Street Inst US Govt Money Mkt Fund		12.52	\$ 33,883,854.00
Total Contingency	50.00	49.30	\$ 133,419,569.74
Intermediate Term Fund	20.00	20.11	\$ 54,441,668.17
CF Contingent Asset Portfolio, LLC	15.00	14.51	\$ 39,279,963.43
High Quality Bond Fund	15.00	14.67	\$ 39,697,938.14
Total Core	25.00	21.21	\$ 57,416,432.10
Core Equity Fund	10.00	7.84	\$ 21,230,176.33
CF Strategic Solutions Equity Fund, LLC	15.00	13.37	\$ 36,186,255.77
Total Portfolio	100.00	100.00	\$ 270,679,267.68

Source: Commonfund Client Reporting Portal

Note: The Fund periodically makes changes to its managers. There can be no assurance that the Fund will continue to invest with any of the listed managers. Third party managers' investment approach and portfolio construction are subject to change and are governed by the Fund's Offering Documents or Investment Management Agreement.

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MANAGER ALLOCATION AND PERFORMANCE – TREASURY SOLUTIONS

As of June 30, 2022

	Fund Breakdown	AUM	Bucket % AUM	Fund % AUM	Fund % of Sub	Mgr. % AUM	QTD June 22
Liquidity Funds		\$79,843,266	29.50%				
State Street US Govt Money Market		\$33,883,854		12.5%	42.4%	12.5%	0.17%
JP Morgan MMKT		\$5,071,860		1.9%	6.4%	1.9%	0.01%
Comerica Bank		\$4,733		0.0%	0.0%	0.0%	0.00%
Dexia Credit		\$0		0.0%	0.0%	0.0%	X
Fifth Third Bank		\$40,882,819		15.1%	51.2%	15.1%	0.06%
Contingency Funds		\$133,419,589	49.30%				
Intermediate Term Fund		\$54,441,668		20.1%	40.8%		-0.70%
Income Research & Management	40%	\$21,776,667				8.0%	-0.68%
MetLife Investment Management, LLC	35%	\$19,054,584				7.0%	-0.69%
Sit Investment Associates	24%	\$13,066,000				4.8%	-0.63%
High Quality Bond Fund		\$39,697,937		14.7%	29.8%		-4.95%
Income Research & Management	42%	\$16,673,134				6.2%	-4.71%
Rimrock Capital Management	21%	\$8,336,567				3.1%	-3.48%
Western Asset Management Company	37%	\$14,688,237				5.4%	-5.97%
Contingent Asset Portfolio		\$39,279,963		14.5%	29.4%		-0.56%
MetLife Investment Management, LLC	34%	\$13,355,188				4.9%	-0.21%
MD Sass Investors Services	35%	\$13,747,987				5.1%	-0.90%
Sit Investment Associates	31%	\$12,176,789				4.5%	-0.39%
Core Funds		\$57,416,432	21.21%				
Strategic Solutions Equity Fund		\$36,186,256		13.4%	63.0%		-9.78%
Martingale Asset Management	100%	\$36,186,256				13.4%	-9.71%
Core Equity Fund		\$21,230,176		7.8%	37.0%		-16.43%
CF Direct Management Core Equity	60%	\$12,738,106				4.7%	-17.93%
Wellington Management Company LLP	40%	\$8,492,071				3.1%	-16.75%
Total Assets		\$270,679,267					

Source: Commonfund Client Reporting Portal. Please see Important Notes | Performance Comparisons.

Note: Manager Performance depicted is net of the sub-advisor's management fees and expenses, and gross of Commonfund Fund fees and expenses. The Fund periodically makes changes to its managers. There can be no assurance that the Fund will continue to invest with any of the listed managers. Third party managers' investment approach and portfolio construction are subject to change and are governed by the Fund's Offering Documents or Investment Management Agreement.

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Returns are depicted net of fees. Please see Important Notes | Market Commentary, Benchmarks and Performance.

MANAGER ALLOCATION AND PERFORMANCE – TREASURY SOLUTIONS

As of August 31, 2022

	Fund Breakdown	AUM	Bucket % AUM	Fund % AUM	Fund % of Sub	Mgr. % AUM	QTD August-21
Liquidity Funds		\$99,304,119	34.1%				
State Street US Govt Money Market		\$33,993,024		11.7%	34.2%	11.7%	0.32%
JP Morgan MMKT		\$5,074,386		1.7%	5.1%	1.7%	0.04%
Comerica Bank		\$4,648		0.0%	0.0%	0.0%	0.00%
Dexia Credit				0.0%	0.0%	0.0%	X
Fifth Third Bank		\$60,232,061		20.7%	60.7%	20.7%	0.04%
Contingency Funds		\$133,034,950	45.7%				
Intermediate Term Fund		\$54,309,135		18.6%	40.8%		-0.24%
Income Research & Management	40%	\$21,723,654				7.5%	-0.10%
MetLife Investment Management, LLC	35%	\$19,008,197				6.5%	-0.14%
Sit Investment Associates	24%	\$13,034,192				4.5%	-0.50%
High Quality Bond Fund		\$39,493,819		13.6%	29.7%		-0.51%
Income Research & Management	42%	\$16,587,404				5.7%	-0.29%
Rimrock Capital Management	21%	\$8,293,702				2.8%	-1.70%
Western Asset Management Company	37%	\$14,612,713				5.0%	-0.01%
Contingent Asset Portfolio		\$39,231,996		13.5%	29.5%		-0.12%
MetLife Investment Management, LLC	34%	\$13,338,879				4.6%	0.37%
MD Sass Investors Services	35%	\$13,731,199				4.7%	-0.04%
Sit Investment Associates	31%	\$12,161,919				4.2%	-0.58%
Core Funds		\$59,013,051	20.3%				
Strategic Solutions Equity Fund		\$36,822,851		12.6%	62.4%		1.76%
Martingale Asset Management	100%	\$36,822,851				12.6%	1.82%
Core Equity Fund		\$22,190,200		7.6%	37.6%		4.52%
CF Direct Management Core Equity	60%	\$13,314,120				4.6%	4.76%
Wellington Management Company LLP	40%	\$8,876,080				3.0%	4.33%
Total Assets		\$291,352,120					

Source: Commonfund Client Reporting Portal. Please see Important Notes | Performance Comparisons.

Note: Manager Performance depicted is net of the sub-advisor's management fees and expenses, and gross of Commonfund Fund fees and expenses.

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Important Notes

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PERFORMANCE | OPEN-END INVESTMENT PRODUCTS

Unless otherwise indicated, performance of open-end Investment Products shown is unaudited, net of applicable management, performance and other fees and expenses, presumes reinvestment of earnings and excludes

investor specific sales and other charges. Fees may be modified or waived for certain investors. Please refer to an Investment Product's Prospectus or the Investment Manager's Form ADV Part 2A for more information regarding the Investment Product's fees, charges and expenses. An investor's actual performance and actual fees may differ from the performance information shown due to, among other factors, capital contributions and withdrawals or redemptions, different share classes and eligibility to participate in "new issues."

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HYPOTHETICAL PORTFOLIOS AND HYPOTHETICAL RESULTS | GENERALLY

Certain asset-allocation framework depicted in this presentation is hypothetical and does not represent the investment performance or the actual accounts of any or investors ("Hypothetical Portfolio").

Performance of Hypothetical Portfolios and other composite performance results (based on sector attribution and other dissections and combinations of actual Investment Product performance) should be considered hypothetical results (collectively, "Hypothetical Results"). Hypothetical Portfolios and Hypothetical Results do not reflect actual trading or performance by an Investment Product or an investor, or a recommendation on the part of an Investment Manager or CSI to any particular investor; nor should they be considered as indicative of the skills of the Investment Adviser. Hypothetical Portfolios and Hypothetical Results are provided for illustrative purposes only and do not guarantee past or future investment results. Hypothetical Results are based on assumptions, and do not reflect the impact that economic and market factors may have on investment decisions for an Investment Manager. Differences between the hypothetical assumptions and an actual investment are material and decrease substantially the illustration value of any Hypothetical Results. Hypothetical Portfolios may not take into account the goals, risk tolerance and circumstances of each investor. An investment decision should not be based on Hypothetical Results.

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Benchmarks and financial indices are shown for illustrative purposes only. They provide general market data that serves as point of reference to compare the performance of Investment Product's with the performance of other securities that make up a particular market. Such benchmark and indices are not available for direct investment and their performance does not reflect the expenses associated with the management of an actual portfolio, the actual cost of investing in the instruments that comprise it or other fees. An Investment Product's investment objective is not restricted to the securities and instruments comprising any one index. No representation is made that any benchmark or index is an appropriate measure for comparison. For a list of commonly used indices, please visit www.commonfund.org/important-disclosures. This list may not represent all available indices or those indices used in this material.

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Portfolio, volatility or return targets or objectives, if any, are used solely for illustration, measurement or comparison purposes and as an aid or guideline for prospective investors to evaluate a particular Investment Product's strategy, volatility and accompanying information. Such targets or objectives reflect subjective determinations of an Investment Manager based on a variety of factors including, among others, the Investment Product's investment strategy and prior performance (if any), volatility measures, portfolio characteristics and risk, and market conditions. Volatility and performance will fluctuate, including over short periods, and should be evaluated over the time period indicated and not over shorter periods. Actual volatility and returns will depend on a variety of factors including overall market conditions and the ability of an Investment Manager to implement an Investment Product's investment process, investment objectives and risk management. Performance targets or objectives should not be relied upon as an indication of actual or projected future performance; such targets or objectives may not be achieved, in whole or in part. For a list of commonly used measures of risk, please visit www.commonfund.org/important-disclosures.

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Past performance is not indicative of future results. An investor may lose all or a substantial portion of their investment in an Investment Product.

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Oakland University
Cash and Investments Report
August 31, 2022

Attachment C

	Fair Market Value August 31, 2021	Fair Market Value August 31, 2022	Strategic Allocation 8/31/2022	Total Return Month Ending August 31, 2022	Benchmark Month Ending August 31, 2022	Total Return Qtr. Ending June 30, 2022	Benchmark Qtr. Ending June 30, 2022
Working Capital ⁽¹⁾							
Commonfund Core Equity Fund	\$ 28,380,038	\$ 22,190,200	7.62%	-3.96%	-4.08%	-16.43%	-16.10%
Commonfund Strategic Solutions Fund	42,348,512	36,822,851	12.64%	-3.42%	-4.08%	-9.78%	-16.10%
Equities Total	70,728,550	59,013,051	20.25%	-3.62%	-4.08%	-12.24%	-16.10%
Commonfund Contingent Asset Portfolio	48,294,385	39,231,996	13.47%	-0.57%	-0.72%	-0.56%	-0.50%
Commonfund Intermediate Bonds	64,849,426	54,309,135	18.64%	-0.87%	-0.72%	-0.70%	-0.50%
Commonfund High Quality Bonds	46,252,966	39,493,819	13.56%	-2.74%	-2.83%	-4.95%	-4.69%
Fixed Income Total	159,396,767	133,034,950	45.66%	-1.34%	-1.35%	-1.92%	-1.75%
Fifth Third Concentration	65,906,513	60,232,061	20.67%	0.02%	0.02%	0.06%	0.06%
Commonfund State Street	25,961,574	33,993,024	11.67%	0.19%	0.18%	0.17%	0.13%
JPM, Dexia	6,364,503	5,079,034	1.74%	0.02%	0.02%	0.01%	0.00%
Cash and Cash Equivalents Total	98,232,591	99,304,119	34.08%	0.08%	0.07%	0.10%	0.09%
Working Capital Pool Total	\$ 328,357,907	\$ 291,352,119	100.00%	-1.32%	-1.42%	-3.51%	-4.25%
Endowment ⁽²⁾							
Sm Cap Core - MFS	\$ 9,830,754	\$ 7,725,382	5.98%			-15.06%	-17.20%
Sm Cap Growth - T. Rowe Price	5,067,750	3,331,110	2.58%			-16.94%	-19.25%
Md Cap Value - MFS	5,023,750	5,564,377	4.31%			-12.49%	-14.68%
Md Cap Growth - William Blair/MFS & ETF	14,003,151	10,921,089	8.46%			-18.90%	-21.07%
Lg Cap Value - Bahl & Gaynor/ ESG UBS	8,606,618	5,598,826	4.33%			-10.02%	-16.10%
Lg Cap Value - MFS	14,184,257	14,668,117	11.36%			-9.69%	-12.21%
Lg Cap Growth - Alger Spectra/ S&P 500	19,018,114	15,372,503	11.90%			-18.92%	-16.10%
Lg Cap Growth - Loomis	12,822,282	14,314,689	11.08%			-22.67%	-20.92%
Int'l Core - EuroPac American Funds /ETF	6,179,457	3,307,686	2.56%			-14.10%	-14.50%
Int'l Value - MFS	4,853,888	3,299,026	2.55%			-15.15%	-13.73%
Sm Cap World - American Funds	6,322,450	2,214,930	1.71%			-19.35%	-16.90%
Developing Markets - Oppenheimer/Amer Fds	6,275,634	4,528,123	3.51%			-12.01%	-11.45%
Equities Total	112,188,105	90,845,857	70.34%			-15.85%	-16.04%
Fixed Income Core - FCI	11,433,788	9,376,451	7.26%			-4.91%	-5.03%
Fixed Income - High Yield SEIX	2,471,872	2,355,079	1.82%			-8.76%	-9.97%
Fixed Income - Strat Inc - BlackR, Lord Abbett	4,599,619	4,633,140	3.59%			-4.92%	-4.69%
Fixed Income - Global - Fr Temp/TIPS	3,504,782	4,697,521	3.64%			-6.15%	-1.10%
Fixed Income Total	22,010,041	21,062,190	16.31%			-5.56%	-5.96%
Alphakeys Millennium Hedge Fund	1,736,823	982,033	0.76%			1.20%	-4.71%
Alkeon Hedge Fund	4,713,639	2,899,628	2.25%			-13.73%	-4.44%
Blue Mountain Hedge Fund	102,642	25,989	0.02%			3.12%	-0.70%
Hedge Total	6,553,104	3,907,650	3.03%			-10.35%	-4.48%
Energy Fund- Goldman Sachs/ AG	24,119	29,013	0.02%			0.00%	0.00%
Real Assets Total	24,119	29,013	0.02%			0.00%	0.00%
Private Equity - Canyon Distressed	289,584	509	0.00%			-0.58%	-0.58%
Private Equity - Avenue Aviation	1,322,349	1,253,491	0.97%			0.00%	0.00%
Private Equity - StepStone	2,462,517	3,187,701	2.47%			0.00%	0.00%
Private Equity - NB Crossroads	557,919	491,807	0.38%			0.00%	0.00%
Private Equity - Portfolio Advisors, 2015	1,815,885	2,231,131	1.73%			0.00%	0.00%
Private Equity - Portfolio Advisors, 2017	1,581,520	2,539,690	1.97%			0.00%	0.00%
Private Equity - Portfolio Advisors, 2019	1,065,321	1,852,382	1.43%			0.00%	0.00%
Private Equity Total ⁽³⁾	9,095,095	11,556,711	8.95%			0.00%	0.00%
Cash	2,315,354	1,754,572	1.36%			0.01%	0.12%
Endowment Pool Total	\$ 162,185,817	\$ 129,155,993	100.00%			-12.60%	-12.44%

Oakland University
Cash and Investments Report
August 31, 2022

Comments:

The working capital pool is lower than the previous year primarily due to CARES/HEERF funds received in FY2022.
The endowment pool is lower than the previous year primarily due to unrealized investment losses.

⁽¹⁾ The Commonfund serves as the advisor for the University's Working Capital pool.

⁽²⁾ UBS serves as the advisor for the University's Endowment pool.

⁽³⁾ Private Equity performance is not benchmarked, therefore, the benchmark comparison is set to actual. Investments for private equities are in various of stages funding with more than half of committed capital having a

Benchmarks for Investments are:

For Equities: S&P 500 (Relative Weighted)

For Fixed Income: B of A Merrill Lynch 1-3 Year Treasury Index, Barclays Capital US Aggregate Bond Index (Relative Weighted)

For Cash and Cash Equivalents: Bo A Merrill Lynch 0-3 Month Treasury Bill Index

For Endowment Equities: Russell 2000, Russell 200 Growth, Russell Mid Cap Growth & Value, Russell 1000 Growth & Value, S&P 500, MSCI ACWI XUSus, MSCI - Emerging Markets (Relative Weighted)

For Endowment Fixed Income: Barclays Government Credit Index, Barclays Agg Bond, BoA-ML High Yield Master II, Barclays Bloomberg US Tips (Relative Weighted)

For Endowment Hedge Funds: HFRI Fund Wgt Comp Index, HFRI Fund of funds Comp Index, HFRX Equity Hedge, BoA-ML High Yield II (Relative Weighted)

For Endowment Real Assets: Lipper Glb Nat Res

For Endowment Cash: US T-Bill (90 Day)

Returns are reported net of fees, benchmarks are shown gross.

* Weighted Average using the month end balances.

**Oakland University
Capital Debt Report
August 31, 2022**

	Amount	Rate of Interest	Interest Type	FY 23 Debt Service	Expires	Bond Rating	Purpose	Underwriter
Bonded Indebtedness:								
Variable Rate Demand Bonds, Series 1998	\$ 3,720,000	1.680%	Variable	\$ 38,397	2023	Aa2	Sharf Golf Course	Comerica
General Revenue Refunding Bonds, Series 2008	35,945,000 ⁽²⁾	3.373%	Variable/Hedged	3,422,714	2031	Aa2	AVN, Pawley, OC Expansion, Elec. Upgrade, Parking Deck I	Lehman
General Revenue Bonds, Series 2013A	49,575,000	4.028%	Fixed	1,863,500	2043	A1	Oakview, Parking Deck II, Upper Play Fields	BOAML, 5/3rd
Unamortized Premium	3,394,634							
General Revenue Refunding Bonds, Series 2013B	8,445,000	2.995%	Fixed	2,302,259	2026	A1	Recreation and Athletics Center	5/3rd, BOAML
General Revenue Refunding Bonds, Series 2014	22,190,000	3.562%	Fixed	2,071,255	2039	A1	HHB, Infrastructure Projects	JPM Chase
Unamortized Premium	2,043,327							
General Revenue Refunding Bonds, Series 2016	105,310,000	3.656%	Fixed	7,503,022	2047	A1	Hillcrest, Oakland Center, Other Capital Projects	Citigroup, PNC, 5/3rd, Stifel
Unamortized Premium	13,984,413							BOAML, PNC
General Revenue Bonds, Series 2019	77,880,000	3.307%	Fixed	5,200,417	2050	A1	South Foundation, Varner, Dodge, Wilson, Research	
Unamortized Premium	16,054,134						CHP, Anibal Fitzgerald	
General Revenue Refunding Bonds, Series 2022A	32,155,000	3.469%	Fixed	2,366,279	2042	A1	Engineering Center	BOA Securities
Unamortized Premium	5,282,125							
Other Capital Debt:								
2005 ESA II Loan	6,282,376	3.785%	Fixed	1,302,687	2027		Energy Services Agreement II	
2014 Central Heating Co-Gen	11,399,167	3.880%	Fixed	1,403,375	2031	A1	Combined Heat and Power Co-Generation System	
Unamortized Premium	6,634,561							
	<u>\$ 400,294,737</u>	<u>3.552%</u> ⁽¹⁾		<u>\$ 27,473,906</u>				

⁽¹⁾ Weighted Average Cost of Capital

⁽²⁾ The 3.373% interest rate is the synthetic fixed interest rate paid to the swap counterparty. The variable interest rate for the bonds resets weekly and is hedged with a LIBOR based rate.

Debt covenant compliance:

The University has a general revenue covenant in many of its borrowing agreements including bonded debt and other capital debt.

These covenants are consistent in all University debt agreements and commit the University to maintain "General Revenues" to exceed the sum of twice the annual debt service on senior debt and one times annual debt service on subordinate debt each fiscal year. The University is in compliance with its debt service covenant ratio requirements.

	Counterparty	Current Notional Amount	Termination Present Value	Expires	Counterparty Rating	Purpose/Comment
Debt-Based Derivative:						
Interest Rate Swap - Synthetically Fix 2008 Bonds	Dexia Credit Local	35,945,000	\$ (2,301,404)	2031	Baa3	Low variable rates = High termination costs.

The Interest Rate Swap fixes the interest rate paid to the counterparty on the 2008 bond issue at 3.373% for the life of the bond issue (and the swap agreement).

The Termination Present Value is dynamic, changing daily depending on interest rates and eventually becoming zero at the end of the swap agreement.

Bond Ratings:

The rating on the variable rate bonds reflects the current rating of the letter of credit provider, JP Morgan Chase Bank.

The rating on the fixed rate bonds reflects the University's underlying credit rating at the time the bonds were issued.

Oakland University's underlying credit rating, according to Moody's Investors Service's Global Rating Scale, is A1 - Stable.

Oakland University
CONSTRUCTION REPORT
August 31, 2022

Attachment E

Item	Projects in Progress - over \$500,000	JCOS Approval/Notification Required		Original Budget	Revised Project Budget	Actual Expenditures to Date	Forecast of Final Cost	Source of Funding
1	VAR-2019 Renovation Fund Number: 70023 Status: Construction in progress - 60% complete Board of Trustees Approved: December 7, 2020 Projected Completion Date: September 2023	Yes	12/31/2020	\$ 14,800	\$ 45,000,000	\$ 20,866,224	\$ 45,000,000	\$ 45,000,000 - #70046 2019 General Revenue Bonds
2	SFH Renovation and Expansion Fund Number: 70009 Status: Construction in progress Board of Trustees Approved: April 8, 2019, February 7, 2022 Projected Completion Date: March 2024	Yes	6/30/2019	\$ 40,000,000	\$ 44,200,000	\$ 3,375,820	\$ 44,200,000	\$ 30,000,000 - State of MI Capital Outlay Appropriation \$ 10,000,000 - #70046 2019 General Revenue Bonds \$ 4,200,000 - #24350 Capital Projects Supplement
3	1500 University Drive Fund Number: 71025 Status: Design Phase - In Progress Board of Trustees Approved: April 14, 2022 Projected Completion Date: August 2024	Yes	6/30/2022	\$ 25,000,000	\$ 25,000,000	\$ 8,160,444	\$ 25,000,000	\$ 25,000,000 - TBD
4	WH Renovation & Expansion (Project S.U.C.C.E.S.S.) Fund Number: 70285 Status: Construction in progress - 98% complete Board of Trustees Approved: February 7, 2019 Projected Completion Date: December 2022	Yes	6/30/2019	\$ 833,710	\$ 20,535,000	\$ 17,575,956	\$ 20,535,000	\$ 5,760,000 - #70228 2016 General Revenue Bonds \$ 14,775,000 - #70046 2019 General Revenue Bonds
5	OU Research Facility Fund Number: 70058 Status: Construction in progress Board of Trustees Approved: June 21, 2021 Projected Completion Date: August 2023	Yes	12/31/2020	\$ 75,000	\$ 20,315,800	\$ 12,642,662	\$ 20,315,800	\$ 11,790,800 - #24350 Capital Projects Supplement - Renovation \$ 4,809,200 - #70046 2019 General Revenue Bonds - Renovation \$ 3,715,800 - #70046 2019 General Revenue Bonds - Purchase
6	ODH - OUWBSOM Renovation Fund Number: 71017 Status: Design Phase - In Progress Board of Trustees Approved: June 13, 2022 Projected Completion Date: August 2024	Yes	6/30/2022	\$ 9,700,000	\$ 9,700,000	\$ 72,623	\$ 9,700,000	\$ 9,700,000 - #22484 OUWBSM Dean's Discretionary Fund
7	MBH Visitor Center/Event Venues Fund Number: 70078 Status: Design Phase - In Progress Board of Trustees Approved: February 7, 2022 Projected Completion Date: TBD	Yes	6/30/2022	\$ 50,000	\$ 5,500,000	\$ 222,442	\$ 5,500,000	\$ 5,325,330 - #24557 MBH Welc Ctr & Tent Venue Financing \$ 110,177 - #70203 MBE Maintenance Reserve \$ 64,493 - #30286 MBE Interpretive Facilities Fund
8	CHP-HTHW Replace to Hill House Fund Number: 70053 Status: Construction in progress Board of Trustees Approved: August 3, 2020 Projected Completion Date: September 2023	Yes	6/30/2020	\$ 488,840	\$ 5,000,000	\$ 4,837,307	\$ 5,000,000	\$ 5,000,000 - #70046 2019 General Revenue Bonds
9	DH-2019 Renovation Fund Number: 70050 Status: Complete; Closeout in progress Board of Trustee Approved: August 12, 2019 Projected Completion Date: October 2022	Yes	12/31/2019	\$ 3,000,000	\$ 3,000,000	\$ 2,932,867	\$ 3,000,000	\$ 3,000,000 - #70046 2019 General Revenue Bonds

Oakland University
CONSTRUCTION REPORT
August 31, 2022

Attachment E

Item	Projects in Progress - over \$500,000	JCOS Approval/Notification Required		Original Budget	Revised Project Budget	Actual Expenditures to Date	Forecast of Final Cost	Source of Funding
10	Business School Expansion Fund Number: 70233 Status: On Hold Board of Trustee Approved: Design only February 22, 2016 Projected Completion Date: TBD	Yes	6/30/2016	\$ 1,968,500	\$ 1,968,500	\$ 1,034,519	\$ 1,968,500	\$ 1,968,500 - # TBD
11	Main Campus Buildings Dampers Replacement Fund Number: 70044 Status: Complete; Closeout in progress Projected Completion Date: October 2022	No		\$ 970,000	\$ 970,000	\$ 661,627	\$ 970,000	\$ 970,000 - #35571 CARES / HEERF Grant
12	Sharf Patio Expansion Fund Number: 70090 Status: Complete; Closeout in progress Projected Completion Date: October 2022	No		\$ 250,000	\$ 940,000	\$ 917,194	\$ 940,000	\$ 940,000 - #44254 - Steve Sharf Clubhouse
13	EH - Renovation 2022 Fund Number: 71033 Status: Design Phase - In Progress Projected Completion Date: TBD	No		\$ 931,938	\$ 931,938	\$ -	\$ 931,938	\$ 755,107 - #10997,11386,11624,11622 Various SBA Funds \$ 176,831 - #38005 SBA Gift Fund
14	HAM-HVAC Unit Replacement Fund Number: 70100 Status: Complete; Closeout in progress Projected Completion Date: October 2022	No		\$ 389,400	\$ 874,000	\$ 711,655	\$ 874,000	\$ 874,000 - #35571 CARES / HEERF Grant
15	RAC Energy Saving Fund Number: 70250 Status: 92% Complete Projected Completion Date: December 2022	No		\$ 364,305	\$ 859,541	\$ 771,546	\$ 859,541	\$ 859,541 - #14685 FY17 Excess Debt Service
16	Main Campus Bldgs Exhaust Fan Replacement Fund Number: 70081 Status: Construction Phase - 90% Complete Projected Completion Date: May 2023	No		\$ 776,000	\$ 776,000	\$ 531,252	\$ 776,000	\$ 776,000 - #35571 CARES / HEERF Grant
17	MSC-LED Lighting Fund Number: 70067 Status: Construction in progress Projected Completion Date: December 2022	No		\$ 386,945	\$ 521,929	\$ 27,578	\$ 521,929	\$ 383,899 - #24350 Capital Projects Supplement \$ 138,030 - #14982 Purchased Utilities
18	Replace Water Main Phase II Fund Number: 71005 Status: Construction to begin in Spring 2023 Projected Completion Date: August 2023	No		\$ 510,000	\$ 701,000	\$ 51,640	\$ 701,000	\$ 701,000 - #24810 Plant Renewal Supplement
TOTAL PROJECTS IN PROGRESS				\$ 85,709,438	\$ 186,793,708	\$ 75,413,356	\$ 186,793,708	

Notes:

- A. Revised Project Budget equals the Original Budget plus all approved changes to the budget.
- B. Projects are added to the report when a funding source has been identified, a plant fund is authorized for the project, and the project is proceeding.
- C. The project status will be reported as CLOSED when the Actual Expenditures to Date equals the Forecast of Final Costs, work order system ties to Banner, and no additional expenditures or work are anticipated on the project.
- D. A project whose status has been reported as CLOSED to the Board will be removed from the report for the next Board meeting.