

McKnight Brain Research Foundation

Period Ending March 31, 2023

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Table of Contents

- I. Executive Summary
- II. Investment Review
- III. Economic Overview

Executive Summary

Executive Summary

Asset Allocation

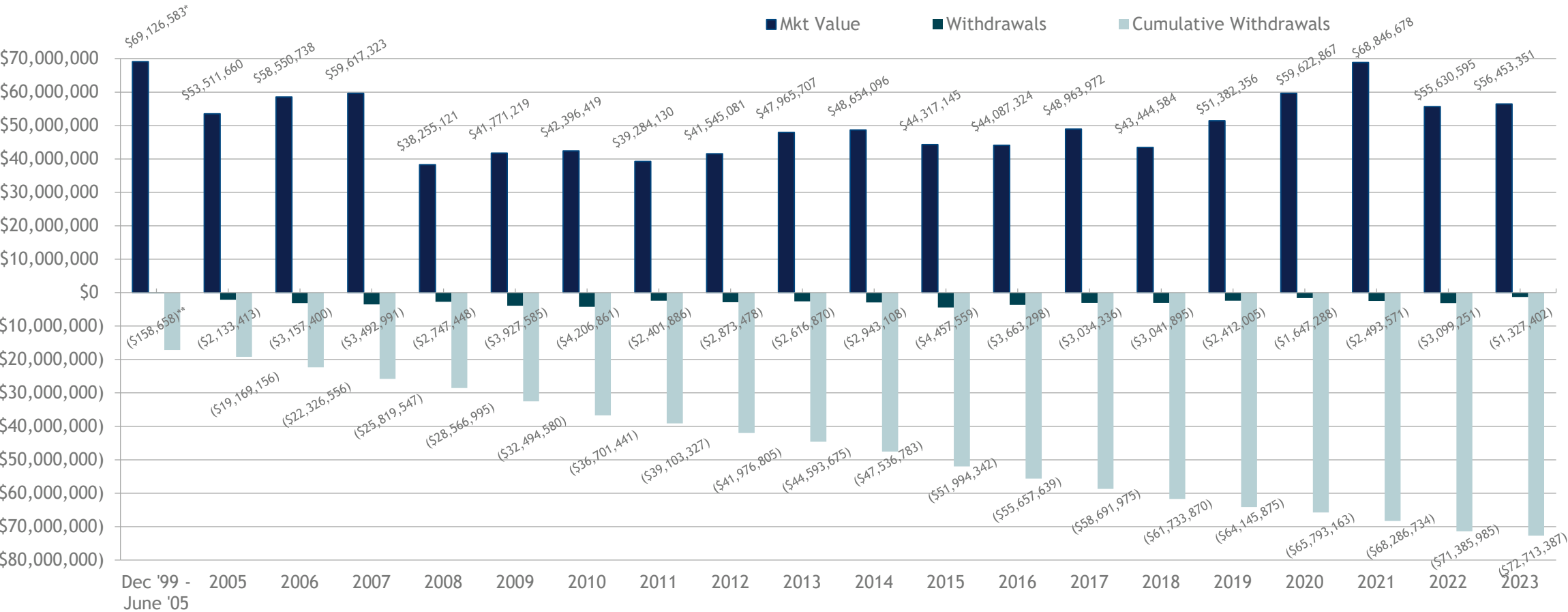
- The Foundation has a 74.0% target to public equity, a 6.0% target to fixed income (including cash) and a 20.0% target allocation to alternative assets (including a 8.0% allocation to private equity).
- As of Quarter end, the public equity allocation was 68.8%, the allocation to fixed income (including cash) was 9.9% and the allocation to alternative investments was 21.3%.

Portfolio Performance

- For the Quarter period ending March 31, 2023 the total return for the portfolio was 3.98% versus 5.41% for the Investment Policy Statement Index.
- For the 1 Year period ending March 31, 2023 the total return for the portfolio was -5.38% versus -6.28% for the Investment Policy Statement Index.

Investment Review

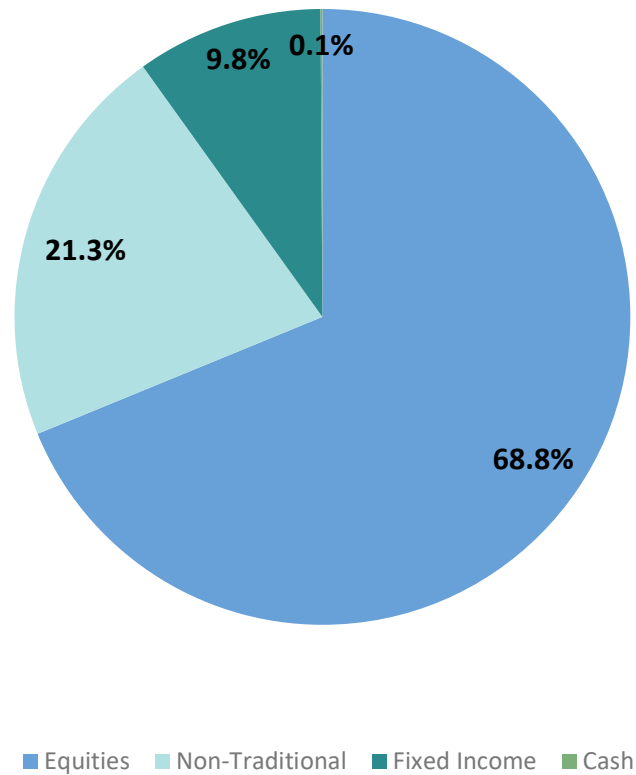
Historical Market Values and Distributions



Source: First Rate Advisor
* As of December 1999
** From December 2004 - June 2005

Portfolio Composition

McKnight Brain Research Foundation



Period Ending March 31, 2023							
Assets	Current Market Value	Current Allocation	Prior Allocation	Δ in Allocation	Target Allocation	Range	Variance from Target
Total Portfolio	\$56,453,351	100.0%	100.0%		100.0%		
Total Equities	\$38,838,901	68.8%	68.5%	0.3%	74.0%		-5.2%
Large Cap Equities	\$31,231,888	55.3%	55.2%	0.1%	57.0%	30-60%	-1.7%
Hartford Dvnd & Grwth-F	\$4,312,716	7.6%	7.9%	(0.3%)			
Vanguard Value ETF	\$7,425,760	13.2%	14.0%	(0.8%)			
Vanguard Russell 1000 Growth Index I	\$2,620,415	4.6%	4.2%	0.4%			
Vanguard Institutional Index	\$16,872,997	29.9%	29.1%	0.8%			
Mid Cap Equities	\$536,280	0.9%	1.0%	(0.0%)	5.0%	5-14%	-4.1%
Vanguard Mid-Cap Value ETF	\$536,280	0.9%	1.0%	(0.0%)			
Smid Cap Equities	\$1,072,879	1.9%	2.0%	(0.1%)	0.0%		
Eaton Vance Atlanta Capital SMID-Cap R6	\$1,072,879	1.9%	2.0%	(0.1%)			
Small Cap Equities	\$2,919,217	5.2%	5.2%	0.0%	7.0%	0-15%	-1.8%
iShares Russell 2000 ETF	\$1,284,480	2.3%	2.3%	(0.0%)			
iShares S&P Small-Cap 600 Value ETF	\$1,634,737	2.9%	2.9%	0.0%			
International Developed Equities	\$3,078,637	5.5%	5.2%	0.3%	5.0%	5-15%	0.5%
Artisan International Value Instl	\$2,368,523	4.2%	4.0%	0.2%			
Vanguard International Growth Adm	\$710,114	1.3%	1.2%	0.1%			
Total Fixed Income	\$5,515,626	9.8%	9.8%	0.0%	6.0%	0-20%	3.8%
Dodge & Cox Income	\$1,307,496	2.3%	2.7%	(0.4%)			
iShares Core US Aggregate Bond ETF	\$1,193,588	2.1%	2.5%	(0.3%)			
SPDR® Blmbg 1-3 Mth T-Bill ETF	\$3,014,542	5.3%	4.6%	0.7%			
Total Non-Traditional	\$12,069,402	21.3%	21.2%	0.1%	20.0%	10-30%	1.3%
Hedge	\$7,861,508	13.9%	13.6%	0.3%	12.0%	10-30%	1.9%
Lighthouse Global Long/Short	\$3,070,536	5.4%	5.4%	0.0%			
Generation IM Sustain SLTNS	\$100,000	0.2%	0.0%	0.2%			
Lighthouse Diversified	\$2,672,975	4.7%	4.7%	0.0%			
Lighthouse Credit Opportunities	\$2,017,996	3.5%	3.5%	0.1%			
Private Equity	\$4,207,894	7.5%	7.6%	(0.2%)	8.0%	0-10%	-0.5%
Svb Cap Strategic Investo	\$377,598	0.7%	0.7%	0.0%			
Hcp Private Equity Master	\$757,350	1.3%	1.4%	(0.0%)			
Spring Harbour 2013	\$344,140	0.6%	0.7%	(0.1%)			
HarbourVest 2015	\$396,773	0.7%	0.7%	(0.0%)			
HarbourVest 2016	\$381,280	0.7%	0.7%	(0.0%)			
HarbourVest 2017	\$410,257	0.7%	0.7%	(0.0%)			
HarbourVest 2018	\$513,796	0.9%	0.9%	(0.0%)			
HarbourVest 2019	\$418,145	0.7%	0.8%	(0.0%)			
HarbourVest 2022	\$50,000	0.1%	0.0%	0.1%			
HarbourVest 2020	\$382,498	0.7%	0.7%	0.0%			
HarbourVest 2021	\$176,057	0.3%	0.3%	(0.0%)			
Total Cash	\$29,423	0.1%	0.5%	(0.4%)			

Investment Performance

Period Ending March 31, 2023						
Assets	Quarter/YTD	1 Year	3 Years	5 Years	7 Years	10 Years
Total Portfolio	3.98%	-5.38%	14.43%	7.97%	9.61%	8.98%
2023 Efficient Frontier Target ⁽¹⁾	5.41%	-6.28%	15.00%	7.79%	9.11%	8.80%
Spending Policy Benchmark	--	10.10%	9.70%	9.00%	8.90%	8.60%
65% Russell 3000 / 35% Barclays Agg	5.70%	-7.25%	11.04%	7.11%	8.10%	8.10%
Total Equities	4.98%	-7.58%	17.62%	8.51%	10.90%	10.23%
Domestic Equities	4.52%	-7.85%	17.44%	9.15%	11.50%	11.25%
International Equities – Developed	10.71%	1.93%	20.72%	9.35%	10.72%	8.44%
Total Fixed Income	2.07%	-3.44%	-1.94%	0.16%	1.25%	1.00%
Total Non-Traditional	1.60%	0.50%	12.06%	9.41%	9.09%	8.42%
Private Equity (As of 9/30/2022)	--	-4.65%	19.30%	17.39%	17.20%	17.55%

2023 Efficient Frontier Target consists of: 57% S&P 500 / 5% Russell MidCap / 7% Russell 2000 / 5% MSCI EAFE / 6% Bloomberg Barclays US Aggregate TR / 20% HFRI Fund of Funds Composite Index
 *Efficient Frontier Returns prior to July 1, 2022 correspond to previous efficient frontier targets.

- (1) Average 1 Year BRDPI Inflation of 4.1% + 5% Distribution + 1% Expenses = 10.1%
 (2) Average 3 Year BRDPI Inflation of 3.7% + 5% Distribution + 1% Expenses = 9.7%
 (3) Average 5 Year BRDPI Inflation of 3.0% + 5% Distribution + 1% Expenses = 9.0%
 (4) Average 7 Year BRDPI Inflation of 2.9% + 5% Distribution + 1% Expenses = 8.9%
 (5) Average 10 Year BRDPI Inflation of 2.6% + 5% Distribution + 1% Expenses = 8.6%
 BRDPI Inflation index last updated Mar 2022

Source: First Rate Advisor and Morningstar. Returns greater than one year are annualized

Manager Performance

Period Ending March 31, 2023						
Assets	Ticker Symbol	Allocation	Quarter/YTD	1 Year	3 Years	5 Years
Large Cap Equity		55.3%				
Vanguard Russell 1000 Growth Index I	VRGWX	4.6%	14.34%	-10.96%	18.50%	13.59%
<i>Russell 1000 Growth</i>			14.37%	-10.90%	18.58%	13.66%
Vanguard Institutional Index	VINIX	29.9%	7.49%	-7.76%	18.57%	11.16%
<i>S&P 500</i>			7.50%	-7.73%	18.60%	11.19%
Vanguard Value ETF	VTV	13.2%	-0.98%	-3.96%	18.71%	8.85%
<i>CRSP US Large Cap Value</i>			-1.00%	-3.95%	18.73%	8.87%
Hartford Dividend and Growth F	HDGFX	7.6%	0.79%	-7.12%	18.98%	10.16%
<i>Russell 1000 Value</i>			1.01%	-5.91%	17.93%	7.50%
Mid Cap Equity		0.9%				
Vanguard Mid-Cap Value ETF	VOE	0.9%	-0.36%	-8.25%	20.85%	6.60%
<i>CRSP US Mid Cap Value</i>			-0.36%	-8.23%	20.89%	6.63%
Small Cap Equity		5.2%				
iShares S&P Small-Cap 600 Value ETF	IJS	2.9%	2.97%	-7.08%	24.95%	6.05%
<i>S&P 600 Value</i>			3.05%	-6.81%	25.26%	6.30%
iShares Russell 2000 ETF	IWM	2.3%	2.76%	-11.63%	17.41%	4.63%
<i>Russell 2000</i>			2.74%	-11.61%	17.51%	4.71%
Smid Cap Equity		1.9%				
Eaton Vance Atlanta Capital SMID-Cap R6	ERASX	1.9%	0.99%	-3.30%	19.95%	9.61%
<i>Russell 2500</i>			3.39%	-10.39%	19.42%	6.65%

Source: Morningstar

Manager Performance

Period Ending March 31, 2023						
Assets	Ticker Symbol	Allocation	Quarter/YTD	1 Year	3 Years	5 Years
International Equity		5.5%				
Vanguard International Growth Adm	VWILX	1.3%	12.50%	-6.81%	13.48%	6.54%
MSCI ACWI ex US			6.87%	-5.07%	11.80%	2.47%
Artisan International Value Instl	APHKX	4.2%	10.18%	5.89%	21.66%	7.22%
MSCI EAFE			8.47%	-1.38%	12.99%	3.52%
Fixed Income		9.8%				
Dodge & Cox Income	DODIX	2.3%	3.13%	-3.03%	0.13%	1.93%
iShares Core US Aggregate Bond ETF	AGG	2.1%	3.13%	-4.75%	-2.77%	0.88%
Bloomberg Barclays US Aggregate Bond			2.96%	-4.78%	-2.77%	0.91%
SPDR® Blmbg 1-3 Month T-Bill ETF	BIL	5.3%	1.05%	2.44%	0.77%	1.23%
Barclays Short Treasury 1-3 Month			1.10%	2.60%	0.91%	1.38%
Non-Traditional - Hedge		13.7%				
Lighthouse Global Long/Short LTD		5.4%	0.45%	3.13%	8.57%	5.14%
Standard Deviation			--	3.73%	7.10%	7.23%
Lighthouse Credit Opportunities LTD		3.6%	0.62%	0.41%	18.36%	8.03%
Standard Deviation			--	5.60%	9.34%	10.99%
Lighthouse Diversified LTD		4.7%	-0.61%	1.92%	12.57%	3.79%
Standard Deviation			--	3.10%	5.36%	9.54%
MSCI ACWI			7.31%	-7.44%	15.36%	6.93%
Standard Deviation			--	22.59%	18.04%	17.75%
Bloomberg Barclays US Aggregate Bond			2.96%	-4.78%	-2.77%	0.91%
Standard Deviation			--	9.70%	6.29%	5.46%

Source: Morningstar

Private Equity Summary

Period Ending September 30, 2022											
Account	Commit.	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commit	DPI (dist /takedowns)	RVPI (RV/takedowns)	TVPI (TV / takedown)	Takedown (takedowns/ commit)	IRR
Private Equity	\$5,500,000	\$3,985,227	\$3,120,307	\$4,274,294	\$7,394,601	\$1,514,773	78.30%	107.25%	185.55%	72.46%	17.20
Hall Capital 2011	\$1,000,000	\$900,000	\$1,310,007	\$787,350	\$2,097,357	\$100,000	145.56%	87.48%	233.04%	90.00%	14.08
SpringHarbour 2013	\$500,000	\$432,500	\$588,355	\$405,679	\$994,034	\$67,500	136.04%	93.80%	229.83%	86.50%	18.27
HarbourVest 2015	\$500,000	\$457,500	\$503,734	\$429,161	\$932,895	\$42,500	110.11%	93.81%	203.91%	91.50%	20.90
HarbourVest 2016	\$500,000	\$385,000	\$325,633	\$408,295	\$733,928	\$115,000	84.58%	106.05%	190.63%	77.00%	21.74
HarbourVest 2017	\$500,000	\$362,500	\$222,366	\$436,418	\$658,784	\$137,500	61.34%	120.39%	181.73%	72.50%	22.81
HarbourVest 2018	\$500,000	\$360,000	\$77,488	\$536,839	\$614,327	\$140,000	21.52%	149.12%	170.65%	72.00%	27.59
HarbourVest 2019	\$500,000	\$289,848	\$57,023	\$400,221	\$457,244	\$210,152	19.67%	138.08%	157.75%	57.97%	33.87
HarbourVest 2020	\$500,000	\$340,000	\$35,701	\$374,180	\$409,881	\$160,000	10.50%	110.05%	120.55%	68.00%	23.71
HarbourVest 2021	\$500,000	\$142,500	\$0	\$149,003	\$149,003	\$357,500	0.00%	104.56%	104.56%	28.50%	9.45
SVB Capital	\$500,000	\$315,379	\$0	\$347,148	\$347,148	\$184,621	0.00%	110.07%	110.07%	63.08%	9.19

Period Ending March 31, 2023											
Account	Commit.	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commit	DPI (dist /takedowns)	RVPI (RV/takedowns)	TVPI (TV / takedown)	Takedown (takedowns / commit)	IRR
Private Equity	\$7,000,000	\$4,230,677	\$3,309,114	--	--	\$2,769,323	78.22%	--	--	60.44%	--
Hall Capital 2011	\$1,000,000	\$900,000	\$1,340,007	--	--	\$100,000	148.89%	--	--	90.00%	--
SpringHarbour 2013	\$500,000	\$432,500	\$649,894	--	--	\$67,500	150.26%	--	--	86.50%	--
HarbourVest 2015	\$500,000	\$457,500	\$536,122	--	--	\$42,500	117.19%	--	--	91.50%	--
HarbourVest 2016	\$500,000	\$385,000	\$352,648	--	--	\$115,000	91.60%	--	--	77.00%	--
HarbourVest 2017	\$500,000	\$362,500	\$248,527	--	--	\$137,500	68.56%	--	--	72.50%	--
HarbourVest 2018	\$500,000	\$360,000	\$77,488	--	--	\$140,000	21.52%	--	--	72.00%	--
HarbourVest 2019	\$500,000	\$309,848	\$59,099	--	--	\$190,152	19.07%	--	--	61.97%	--
HarbourVest 2020	\$500,000	\$355,000	\$42,383	--	--	\$145,000	11.94%	--	--	71.00%	--
HarbourVest 2021	\$500,000	\$172,500	\$2,946	--	--	\$327,500	1.71%	--	--	34.50%	--
HarbourVest 2022	\$500,000	\$50,000	\$0	--	--	\$450,000	0.00%	--	--	10.00%	--
SVB Capital	\$500,000	\$345,829	\$0	--	--	\$154,171	0.00%	--	--	69.17%	--
Generation Fund IV	\$1,000,000	\$100,000	\$0	--	--	\$900,000	0.00%	--	--	10.00%	--

Total Value = Residual Value + Distributions
 Distributed to Paid in (DPI) = Distributions / Takedowns
 Residual Value to Paid in (RVPI) = Residual Value / Takedowns
 Total Value to Paid in (TVPI) = Total Value / Takedowns
 % Funded = Takedowns / Commitment

Active Manager Peer Group Comparison

Period Ending March 31, 2023					
Assets	Ticker	Morningstar Category	Benchmark		
				3 Year	5 Year
Large Cap Value					
Hartford Dividend and Growth	HDGFX	Large Cap Value	<i>Russell 1000 Value - Total Return</i>	47	9
<i>Russell 1000 Value - Total Return</i>		Large Cap Value		62	56
SMID Cap Core					
Eaton Vance Atlanta Capital SMID	ERASX	SMID Cap Core	<i>Russell 2500 - Total Return</i>	71	20
<i>Russell 2500 - Total Return</i>		SMID Cap Core		75	44
Large Cap International Growth					
Vanguard International Growth	VWILX	International Large Cap Growth	<i>MSCI ACWI Ex USA Growth</i>	4	2
<i>MSCI ACWI Ex USA Growth</i>		International Large Cap Growth		65	81
Large Cap International Value					
Artisan International Value Instl	APHKX	International Large Cap Value	<i>MSCI ACWI Ex USA Value</i>	11	14
<i>MSCI ACWI Ex USA Value</i>		International Large Cap Value		70	57
Intermediate-Term Bond					
Dodge and Cox Income	DODIX	Intermediate-Term Bond	<i>Bloomberg Barclays US Aggregate</i>	15	7
<i>Bloomberg Barclays US Aggregate</i>		Intermediate-Term Bond		92	56

Source: Morningstar

Attribution Analysis

Period Ending March 31, 2023										
Assets	Benchmark	Weights (%)		Asset Quarterly Returns			Weight vs. Target	Allocation	Style Allocation	Selection
		Target	Active ⁽¹⁾	Index	Style Index ⁽³⁾	Portfolio				
Large Cap Equities	S&P 500 Index	57.0	55.2	7.5	5.0	5.0	(1.80)	-0.04	-1.35	-1.37
Vanguard Russell 1000 Growth	Russell 1000 Growth Index		4.4	14.4		14.3			0.30	0.00
Vanguard Institutional Index	S&P 500 Index		29.5	7.5		7.5			0.00	0.00
Vanguard Value	CRSP US Large Value Index		13.6	-1.0		-1.0			-1.16	0.00
Hartford Dividend and Growth	Russell 1000 Value Index		7.7	1.0		0.8			-0.50	-0.02
Mid Cap Equities	Russell MidCap Index	5.0	2.9	4.1	2.3	0.6	(2.10)	0.02	-0.05	-0.10
Vanguard Mid Cap Value	CRSP US Mid Value Index		0.9	-0.4		-0.4			-0.04	0.00
Eaton Vance Atlanta Capital SMID	Russell 2500 Index		2.0	3.4		1.0			-0.01	-0.05
Small Cap Equities	Russell 2000 Index	7.0	5.2	2.7	2.9	2.9	(1.80)	0.05	0.01	0.01
iShares Russell 2000	Russell 2000 Index		2.3	2.7		2.8			0.00	0.00
iShares S&P 600 Value	S&P 600 Value		2.9	3.1		3.0			0.01	0.00
International Equities	MSCI EAFE	5.0	5.3	7.1	8.1	10.7	0.30	0.01	0.06	0.19
Artisan International Value	MSCI EAFE		4.1	8.5		10.2			0.06	0.07
Vanguard International Growth Adm	MSCI ACWI ex US		1.2	6.9		12.5			0.00	0.07
Non-Traditional	HFRI FoF Composite	20.0	21.3	0.7	1.1	0.1	1.30	-0.06	0.08	-0.12
Lighthouse Global Long/Short	HFRX Equity Hedge		5.4	0.8		0.5			0.01	-0.02
Lighthouse Credit Opportunities	HFRI Distressed Restructuring Index		3.5	1.3		0.6			0.02	-0.02
Lighthouse Diversified	HFRI FoF Diversified		4.7	0.6		-0.6			0.00	-0.06
Hall Capital			1.3							
Spring Harbour			0.7							
HarbourVest 2015			0.7							
HarbourVest 2016			0.7							
HarbourVest 2017			0.7							
HarbourVest 2018			0.9							
HarbourVest 2019			0.8							
HarbourVest 2020			0.7							
HarbourVest 2021			0.3							
HarbourVest 2022			0.1							
Generation IM Fund IV			0.1							
SVB Capital			0.7							
Fixed Income (including cash)	Barclays Aggregate	6.0	10.1	1.9	2.0	2.1	4.10	-0.14	0.01	0.02
Dodge & Cox Income	Barclays Aggregate		2.5	3.0		3.1			0.03	0.00
iShares Core US Aggregate	Barclays Aggregate		2.3	3.0		3.1			0.03	0.00
SPDR 1-3 Month T-Bill	Barclays 1-3 Month T-Bills		5.0	1.1		1.1			-0.04	0.00
Cash Equivalent	91 Day T-Bill		0.3	0.9		1.1			0.00	0.00
Period End Static Return⁽⁴⁾		100.0	100.0	5.3		3.7 ⁽²⁾		-0.16	-1.25	-1.38
Total Return⁽⁵⁾				5.4		4.0				

Economic Overview

Performance summary as of March 31, 2023

Truist Advisory Services, Inc.

Value style and defensive sectors underperformed during the first quarter as growth style outperformed

Index % Total Return	MTD	QTD	YTD	1 Yr
MSCI ACWI (net)	3.08	7.31	7.31	-7.44
S&P 500	3.67	7.50	7.50	-7.73
MSCI EAFE (net)	2.48	8.47	8.47	-1.38
MSCI Emerging Markets (net)	3.03	3.96	3.96	-10.70
Dow Jones Industrials	2.08	0.93	0.93	-1.98
Bloomberg Commodity Index	-0.21	-5.36	-5.36	-12.49
Bloomberg Aggregate	2.54	2.96	2.96	-4.78
ICE BofA US High Yield	1.13	3.72	3.72	-3.56
Bloomberg Municipal Bond Blend 1-15 Year	1.94	2.27	2.27	1.61
ICE BofA Global Government xUS (USD Unhedged)	4.34	2.94	2.94	-13.14
ICE BofA Global Government xUS (USD Hedged)	2.40	3.19	3.19	-5.09

Rates (%)	3/31/23	12/31/22	9/30/22	6/30/22	3/31/22
Fed Funds Target	5.00	4.50	3.25	1.75	0.50
Libor, 3-Month	5.19	4.76	3.75	2.28	0.96
T-Bill, 3-Month	4.75	4.41	3.23	1.64	0.51
2-Year Treasury	4.06	4.41	4.20	2.93	2.28
5-Year Treasury	3.60	4.00	4.03	3.00	2.42
10-Year Treasury	3.49	3.87	3.79	2.97	2.32
30-Year Treasury	3.68	3.96	3.76	3.12	2.45
Bloomberg Aggregate (YTW)	4.40	4.68	4.75	3.72	2.92
Bloomberg Municipal Bond Blend 1-15 Year	2.87	3.18	3.73	2.82	2.36
ICE BofA US High Yield	8.50	8.95	9.58	8.93	6.02
Currencies	3/31/23	12/31/22	9/30/22	6/30/22	3/31/22
Euro (\$/€)	1.09	1.07	0.98	1.05	1.11
Yen (¥/\$)	133.09	131.95	144.75	135.86	121.37
Pound (\$/£)	1.24	1.20	1.12	1.21	1.32
Commodities	3/31/23	12/31/22	9/30/22	6/30/22	3/31/22
Crude Oil (WTI)	75.67	80.26	79.49	105.76	100.28
Gold	1,986	1,826	1,672	1,807	1,954
Volatility	3/31/23	12/31/22	9/30/22	6/30/22	3/31/22
CBOE VIX	18.70	21.67	31.62	28.71	20.56

U.S. style % total returns (S&P indexes)					
Month			YTD		
Value	Core	Growth	Value	Core	Growth
1.31	3.67	5.85	5.17	7.50	9.63
-5.33	-3.21	-1.13	2.51	3.81	5.04
-6.40	-5.16	-3.97	3.05	2.57	2.14
Large					
Mid					
Small					



Data Source: Truist IAG, FactSet.

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Three keys to 2023

2022 was one of the most challenging years in history for capital markets. We see three keys for 2023:



Remain *defensive*

Recession risk is elevated, and equity and credit valuations are un compelling. Overweight fixed income relative to equities.



Remain *tactical*

We expect volatile markets that will provide investment opportunities.



Remain *open-minded*

We find ourselves in an unprecedented post-pandemic backdrop. The historical playbook may be challenged, and a wide range of potential outcomes persists.



Upside Catalysts

Economy avoids recession and inflation declines quickly

Earnings hold up better than expected

Improvement in China's economy boosts global economy

Progress on Russia/Ukraine war

Depressed sentiment/light positioning propel stocks higher



Downside risks

Deeper and longer recession

Valuations overshoot to the downside

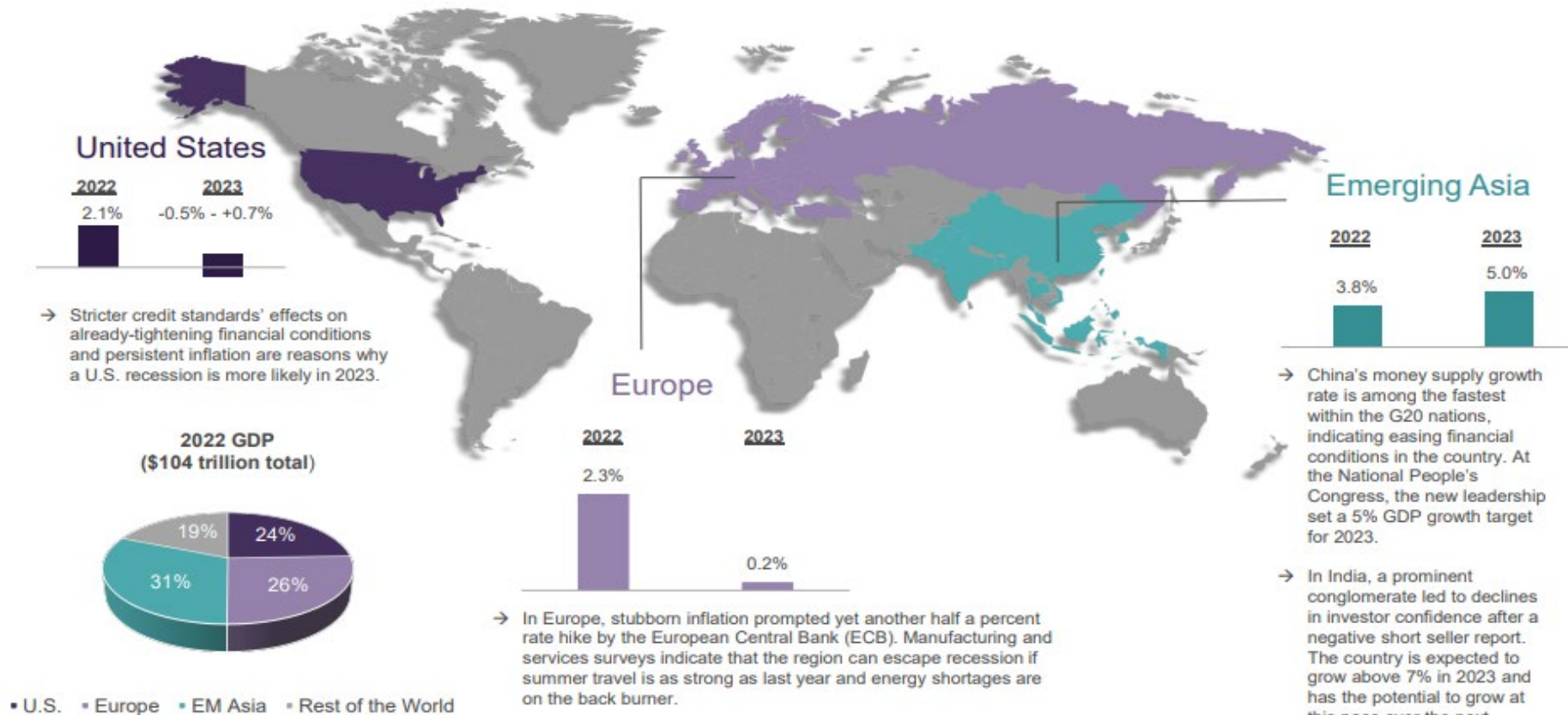
Inflation stays sticky; Fed raises rates higher than expected

Earnings weaker than expected

Banking turmoil spreads

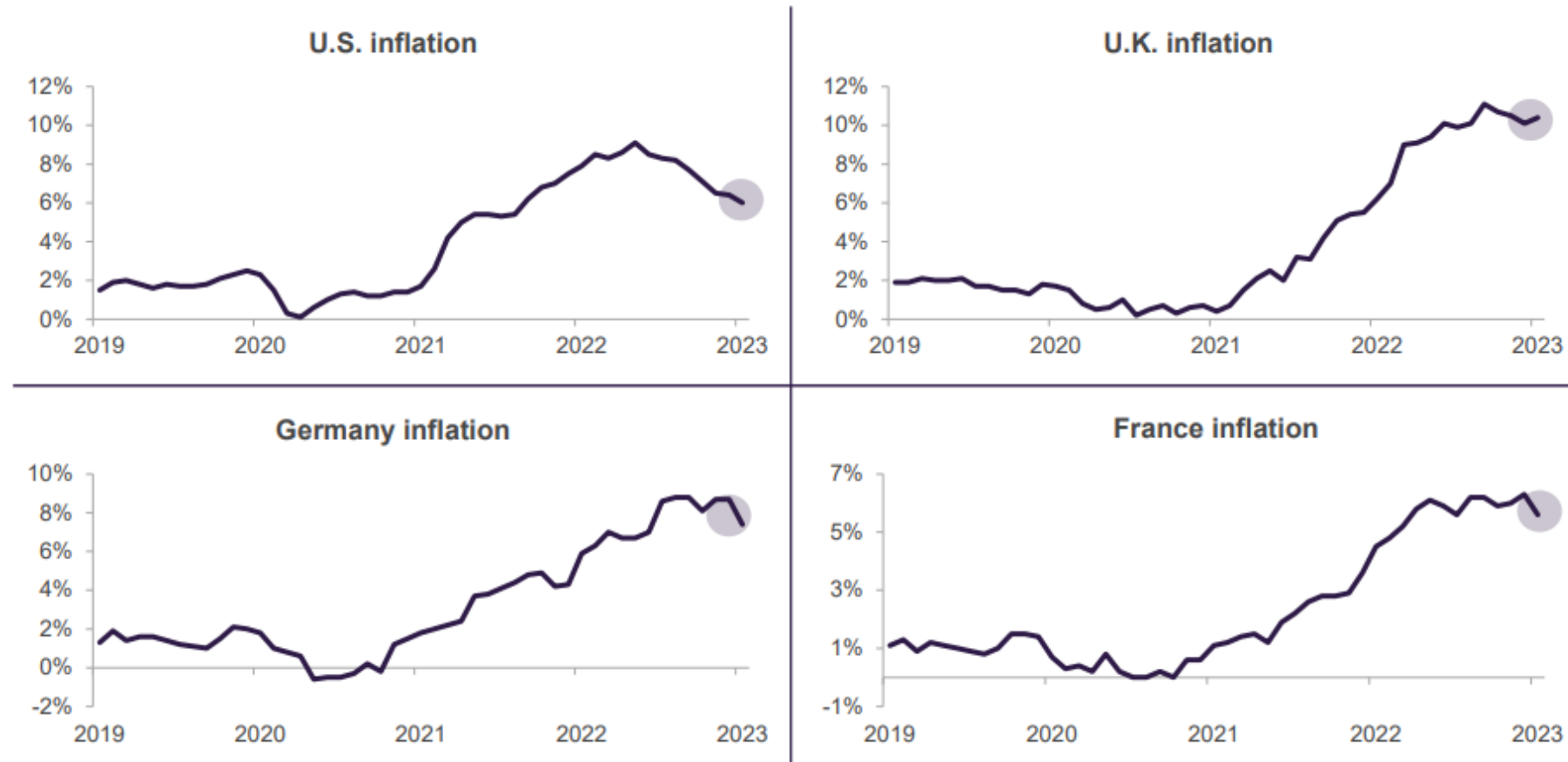
Geopolitical risks escalate

Global growth set to slow in 2023



Data source: Truist IAG, 2022 global macro estimates from the International Monetary Fund, regional growth estimates from Bloomberg. Europe includes developed countries and economies considered to be "emerging," such as Russia, Turkey, and Ukraine.

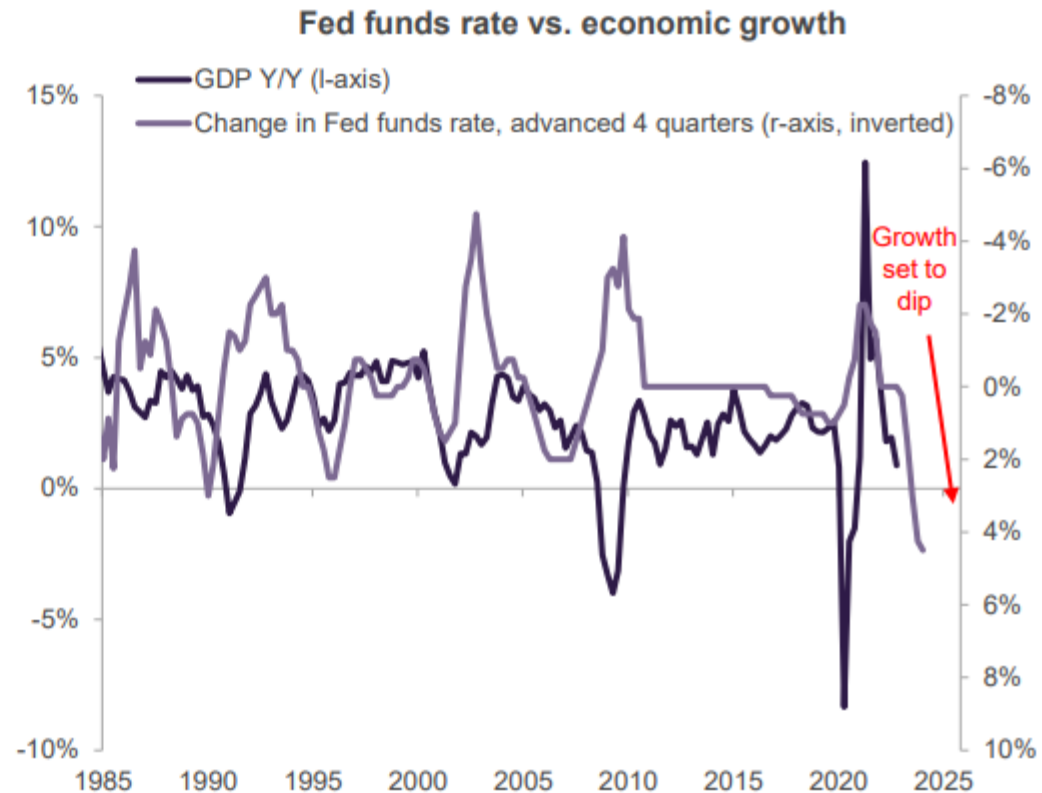
Inflation moderating globally but still stubbornly high



Data source: Truist IAG, Bloomberg. Data as of February 2023 for the U.S. and U.K. and as of March 2023 for Germany and France.

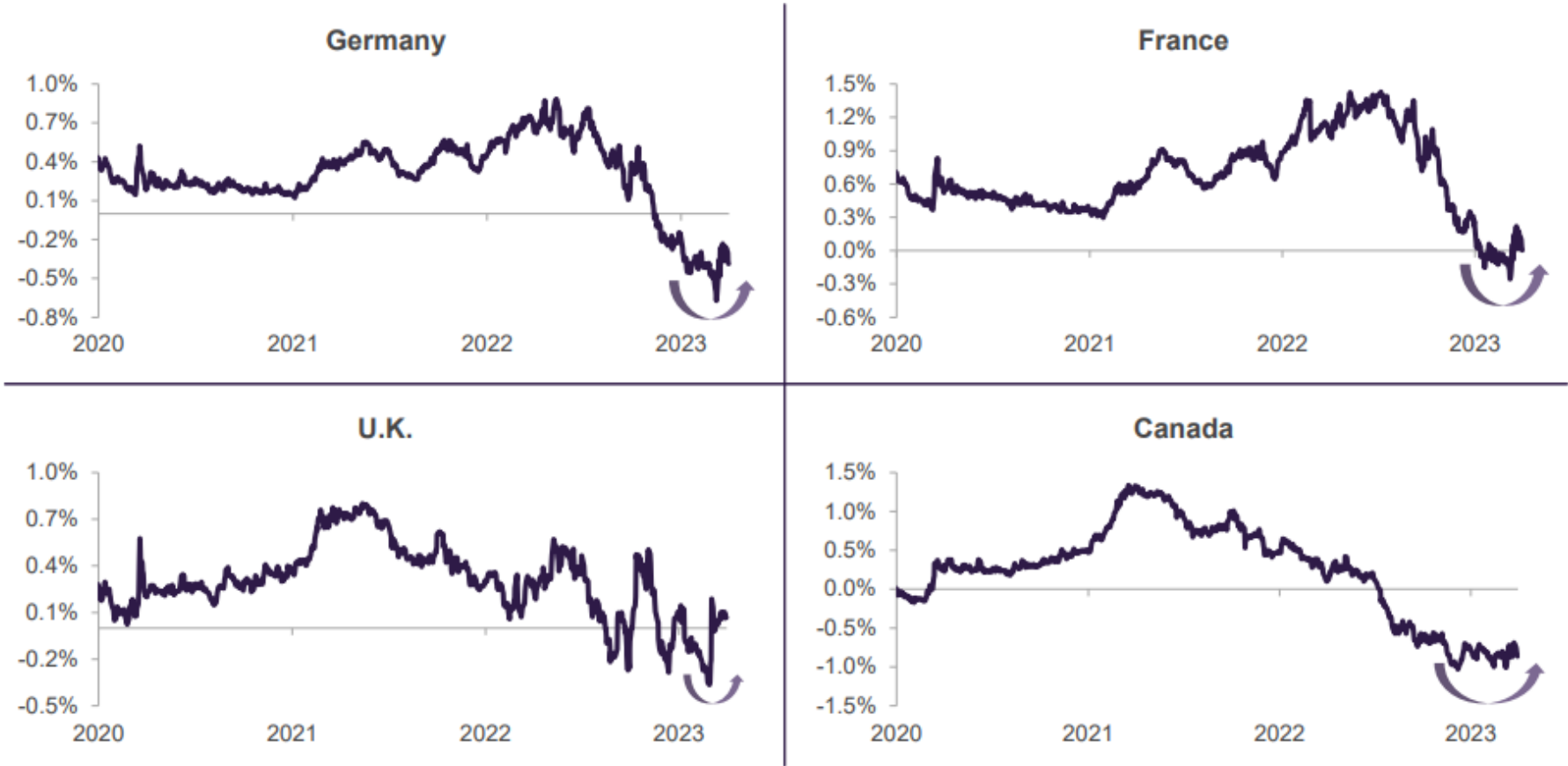
Lagged effects of higher rates likely to weigh on U.S. economy

The Federal Reserve (Fed) aggressively raised rates during 2022 to combat inflation. While prevailing interest rates – such as mortgages, auto loans, and credit cards – have dramatically increased and slowed economic growth, the lagged effects of those rate increases remain a headwind to growth in 2023.



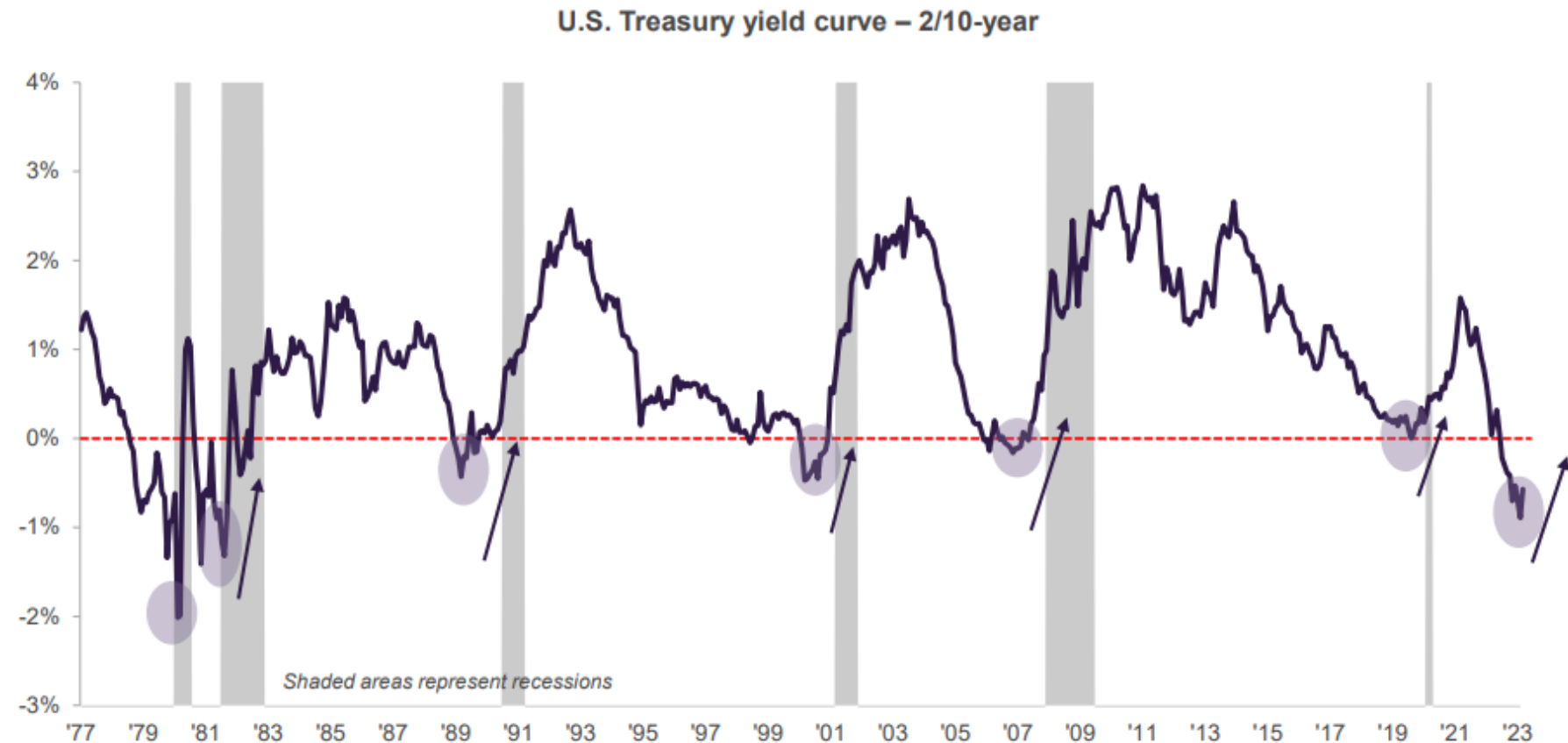
Data source: Truist IAG, Haver, Bloomberg. Economic growth as measured by year-over-year change of real gross domestic product (GDP).

Global bond yield curves now steepening



Data source: Truist IAG, FactSet

Yield curve re-steepening consistent with late-stage economic cycle



Data source: Truist IAG, Bloomberg.

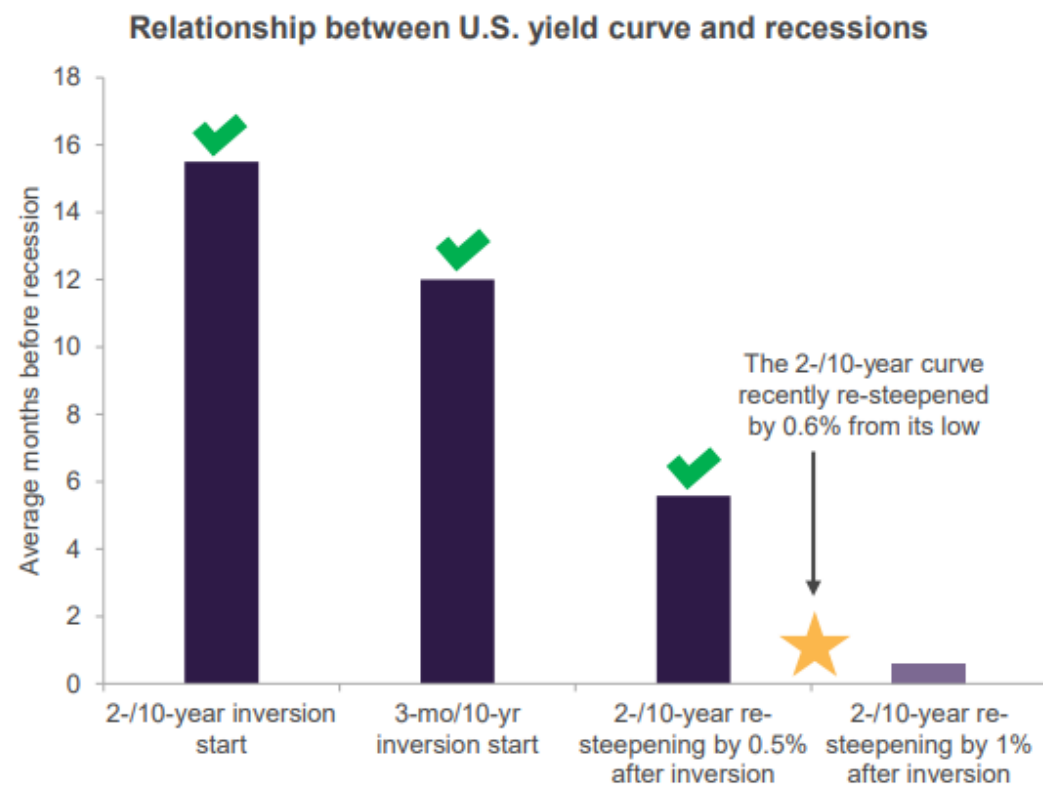
Past performance does not guarantee future results.

Yield curve re-steepening consistent with late-stage economic cycle

Following yield curve inversions, the 2-/10-year U.S. Treasury yield curve tends to re-steepen as the economy shows signs of weakness and short yields drop in anticipation of future Fed rate cuts.

On average, when the 2-/10-year curve has re-steepened by 0.5%, a recession has arrived within roughly six months (with one false signal in 1998 when a recession was avoided).

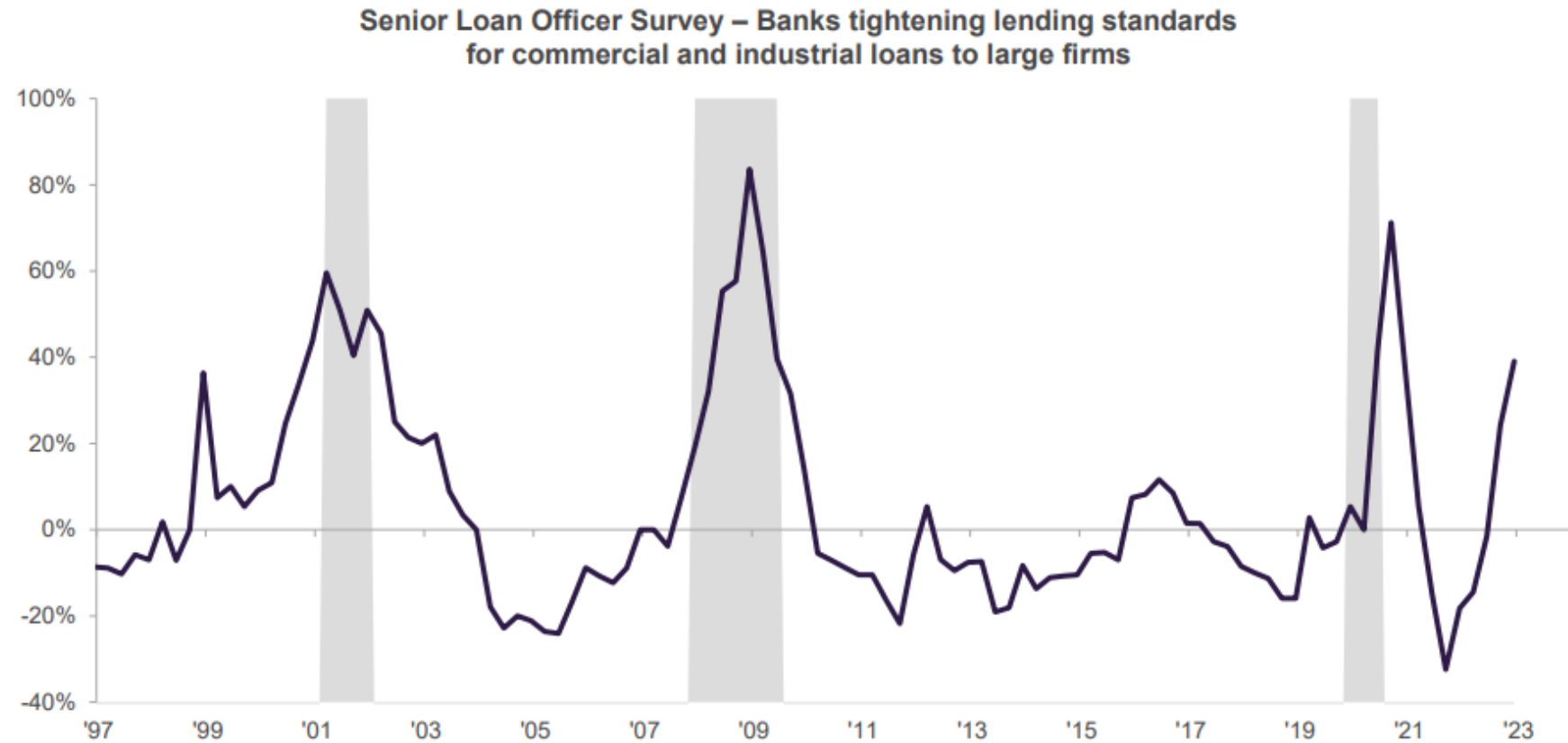
However, when the curve has re-steepened by more than 1%, it has reliably signaled an imminent recession, with no false signals, since the late 1970s.



Data source: Truist IAG, Bloomberg.

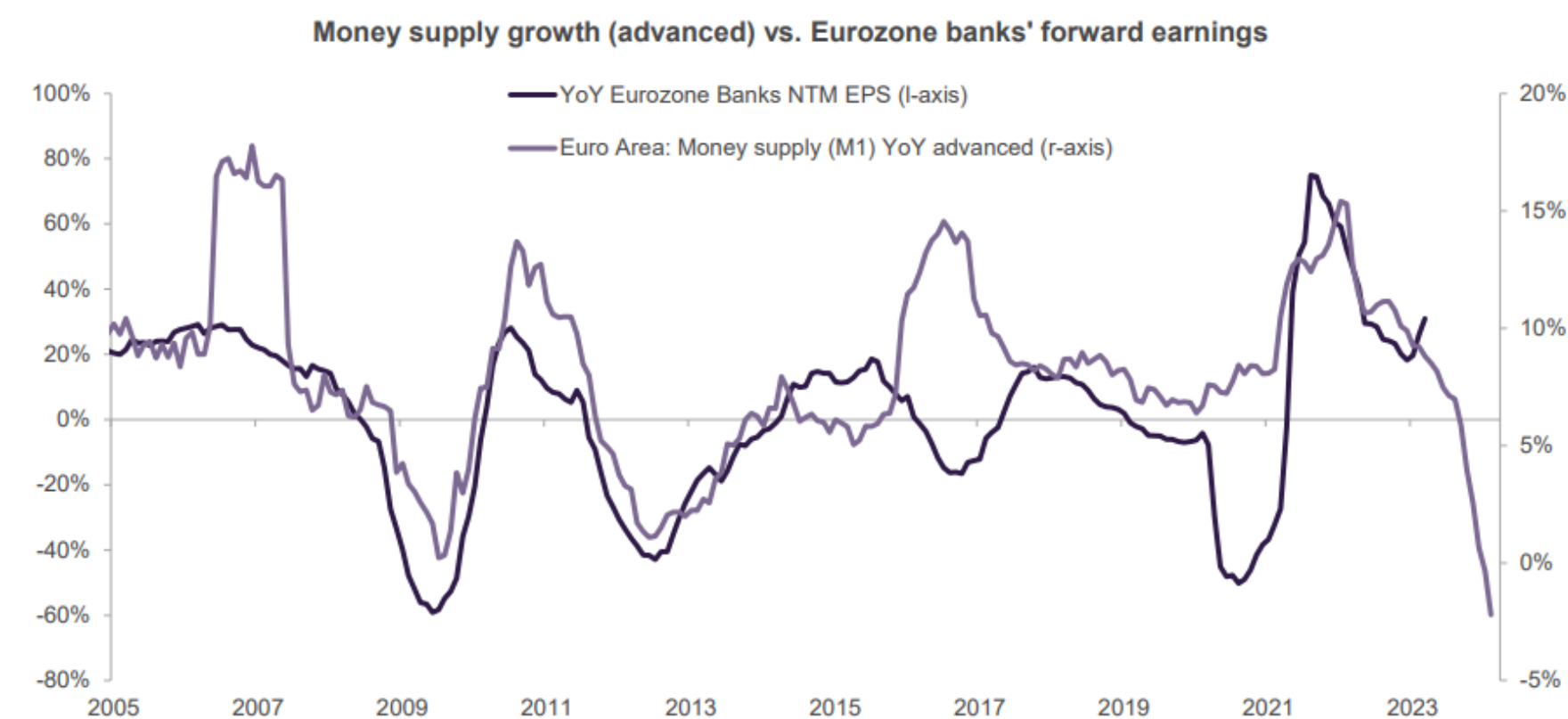
Past performance does not guarantee future results.

Bank lending standards only going to get tighter



Data source: Truist IAG, Haver; Gray bars = recession. Past performance does not guarantee future results.

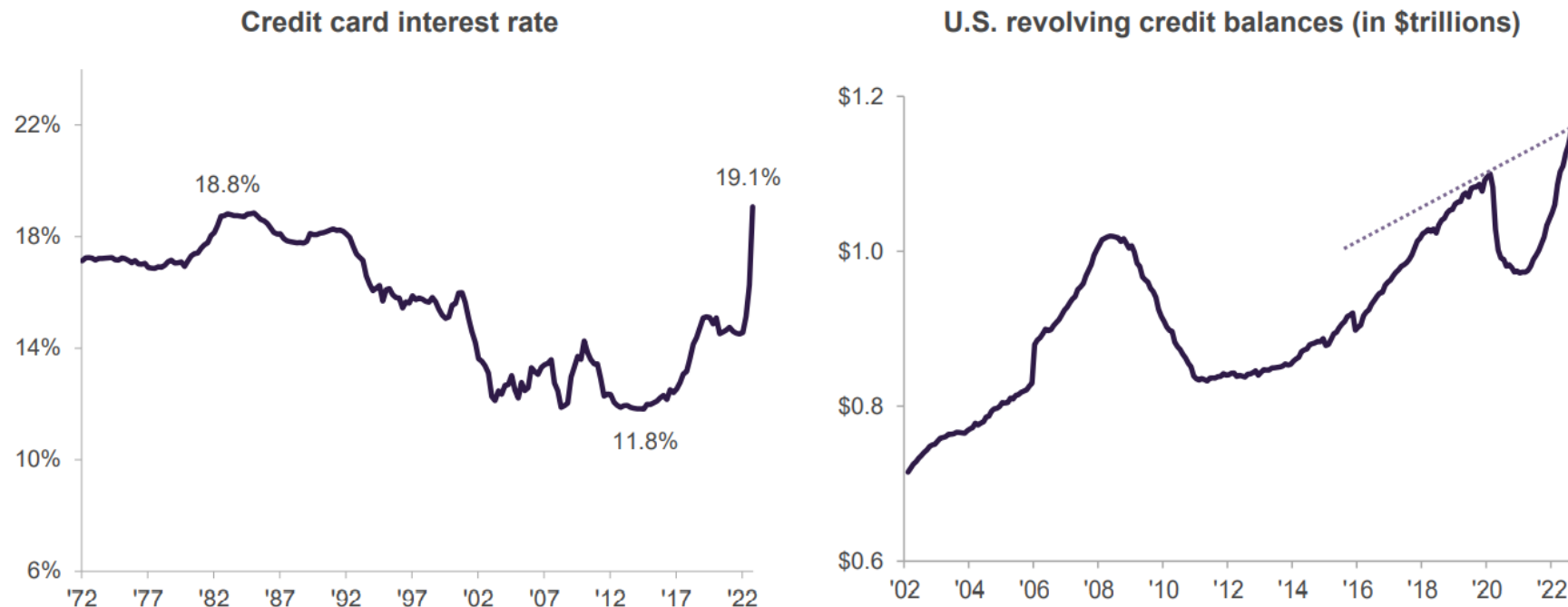
Eurozone banks have downside earnings risks



Data source: Truist IAG, MSCI, FactSet, Haver.

Credit card rates spike as balances jump back to prior trend

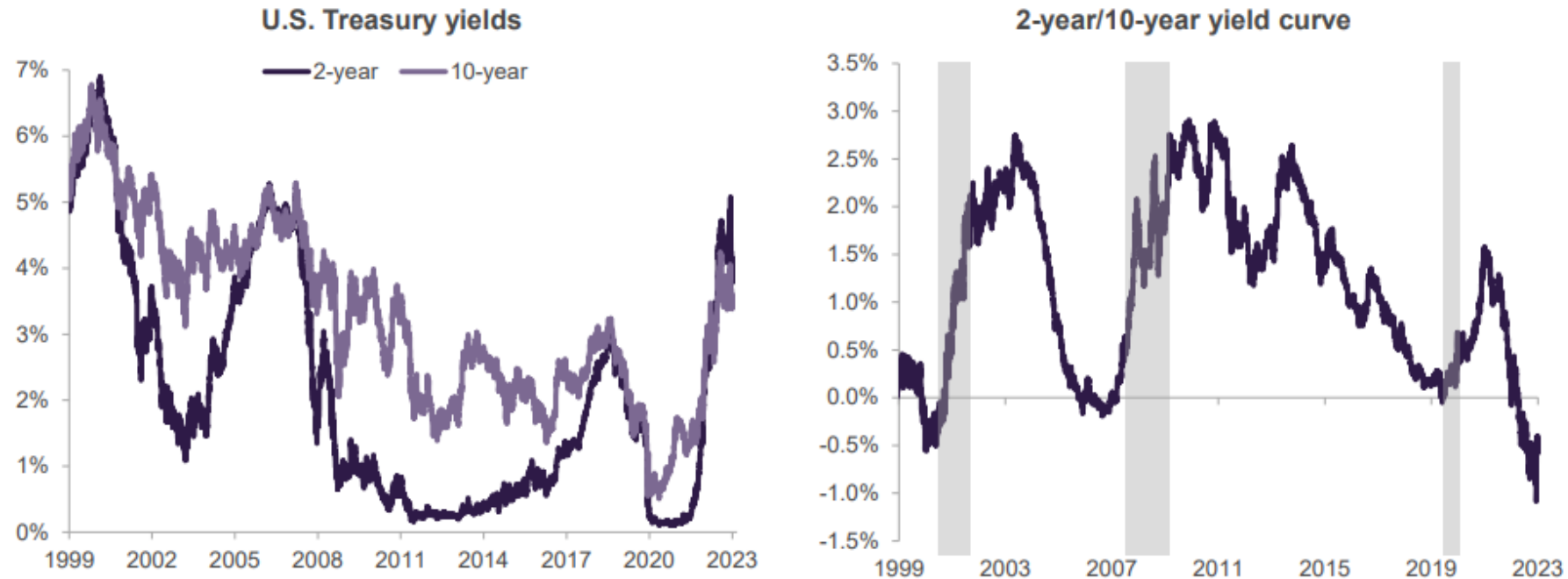
Higher interest rates have propelled consumer interest rates to multi-decade highs. Credit card rates spiked to 19.1%, while card balances are now above the pre-pandemic trend.



Data source: Truist IAG, Haver, Federal Reserve Board, Bureau of Economic Analysis; monthly data through December 2022.

Banking industry and economic concerns are transforming the yield curve

In March, U.S. Treasury yields plummeted across the curve, particularly towards the front end of the curve, as traders increased bets the Fed would initiate cuts by the summer. The sharper decline in shorter-dated yields steepened the curve to its highest point since November. This so-called "bull steepening" tends to signal an approaching end to Fed rate hikes and growing economic risk.



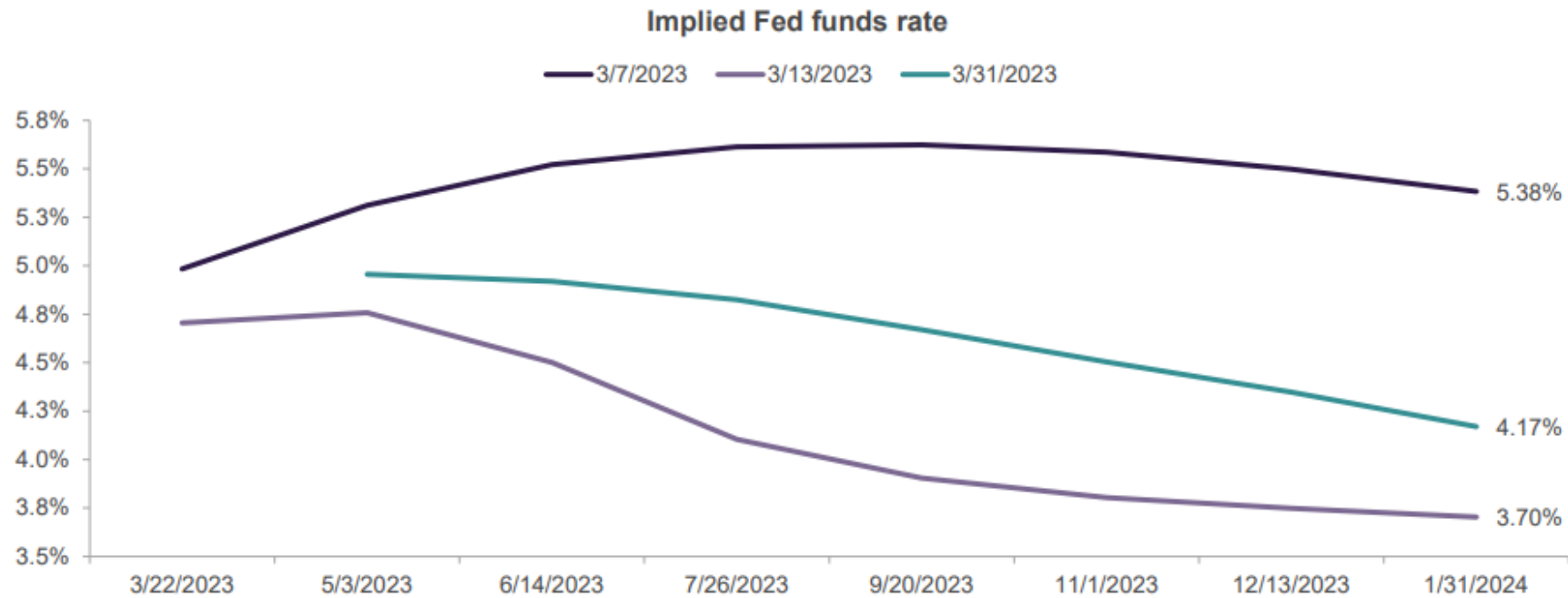
Data source: Truist IAG, Bloomberg

Past performance does not guarantee future results.

Shaded areas represent recessions.

Fed expectations transformed by banking industry challenges

Although contagion fears within the banking system have eased in recent weeks, Fed funds futures are now predicting policymakers will cut the Fed funds rate successively beginning in mid-summer. The dramatic shift is predicated on tighter lending standards and elevated interest rates forcing the Fed into a more accommodative stance.



Data source: Truist IAG, Bloomberg.

Market implied Fed funds rate derived from Fed funds futures pricing

Past performance does not guarantee future results.

Geopolitical risks to continue shaping 2023

China / U.S.	Russia & Ukraine	U.S.	Europe	Middle East
- Taiwan President Tsai Ing-wen's visit to the U.S. creates another point of provocation between China and the U.S. - After President Xi's visit to Moscow, it is still unclear how China can play a significant role in a peace process with Ukraine. - The Chinese internet services giant Alibaba announced its plan to split the company into six independent units. - The Chinese video-sharing platform TikTok is being pressured by the U.S. authorities to change its ownership if it wants to keep operations in the U.S.	Chinese President Xi met with his counterpart in Moscow. China has been promoting a 12-point peace plan with no backing from Ukraine. - Russia announced new plans to install tactical nuclear weapons in Belarus. - Finland's bid to join NATO received another approval, this time from Hungary. - The first consignment of German Leopard 2 tanks arrived in Ukraine. - According to Ukrainian sources, Russia's losses amount to over 200,000.	The U.S. debt ceiling is the new battleground since the midterm election resulted in a split government. - Since 1960, the debt ceiling has been amended 78 times and, in many cases, negotiations ran until the last minute, risking a prolonged government shutdown, or more importantly, a default on legal obligations. - Current revenues are expected to cover only 80% of spending. The U.S. fiscal deficit is projected to be 5.5% of GDP in 2022 and 4.5% in 2023.	Reverberations from Credit Suisse's collapse and its forced merger with UBS were felt in the global banking sector. France - President Macron's retirement age change led to a nationwide protest that disrupted daily life. U.K. / Scotland - Humza Yousaf became the leader of the Scottish National party, paving the way for him to become Scotland's first minister. Italy & France - France and Italy joined forces to supply air defense systems to Ukraine.	In Israel, Benjamin Netanyahu shelved his planned overhaul of the country's judiciary following nationwide strikes. Iraq and Egypt are falling into a deeper currency crisis due to an acute U.S. dollar shortage, causing a sharp fall in local currencies. The U.S. publicly identified Iran as the primary supplier of drones to Russia to be used in Ukraine. In Turkey, President Erdogan is facing fierce and growing opposition to another term as president. The first round of the presidential election is scheduled for May 14.

Source: Truist IAG

Since WWII, stocks have never bottomed before a recession began

Since WWII, stocks have never bottomed before a recession started. To be fair and to keep an open mind, the 25% peak-to-trough decline in 2022 was in line with the median market decline during recessions, and the Fed's forward guidance likely accelerates historical trends.

Still, even if stocks don't make new lows, the upside also appears to be capped given current full valuations and earnings risks.

Recession start	Recession end	Recession duration	# of months S&P 500 bottomed <u>after</u> recession started	# of months S&P 500 bottomed <u>before</u> recession ends
Nov-48	Oct-49	11	7	5
Jul-53	May-54	10	2	9
Aug-57	Apr-58	8	2	6
Apr-60	Feb-61	10	6	4
Dec-69	Nov-70	11	5	6
Nov-73	Mar-75	16	10	6
Jan-80	Jul-80	6	2	4
Jul-81	Nov-82	16	13	4
Jul-90	Mar-91	8	2	6
Mar-01	Nov-01	8	6	2
Dec-07	Jun-09	18	14	4
Feb-20	Apr-20	2	1	1
Average		10	6	5

Data source: Truist IAG, FactSet, NBER; Past performance does not guarantee future results

Stocks vacillating between risk-on & risk-off within broader choppy range

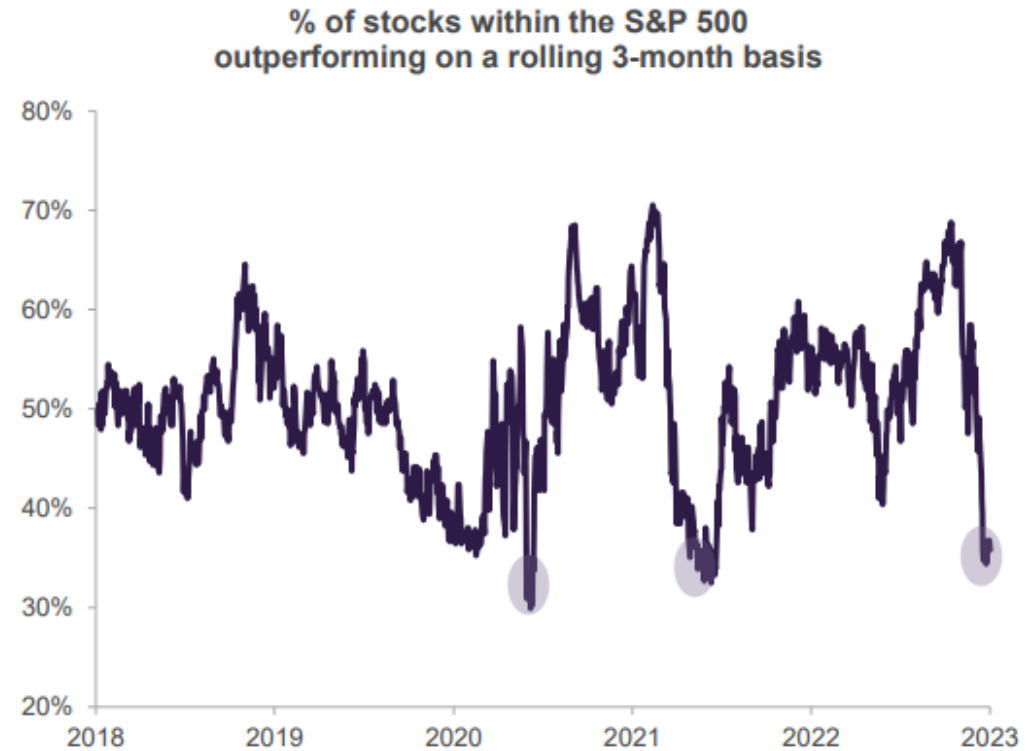
As investor sentiment swings from hard economic landing to soft landing, from sticky inflation to lower inflation, and from believing the Fed will keep rates higher for longer to the potential of a pivot, the market has swung back and forth from pessimism to optimism.



Data source: Truist IAG, FactSet. Past performance does not guarantee future results.

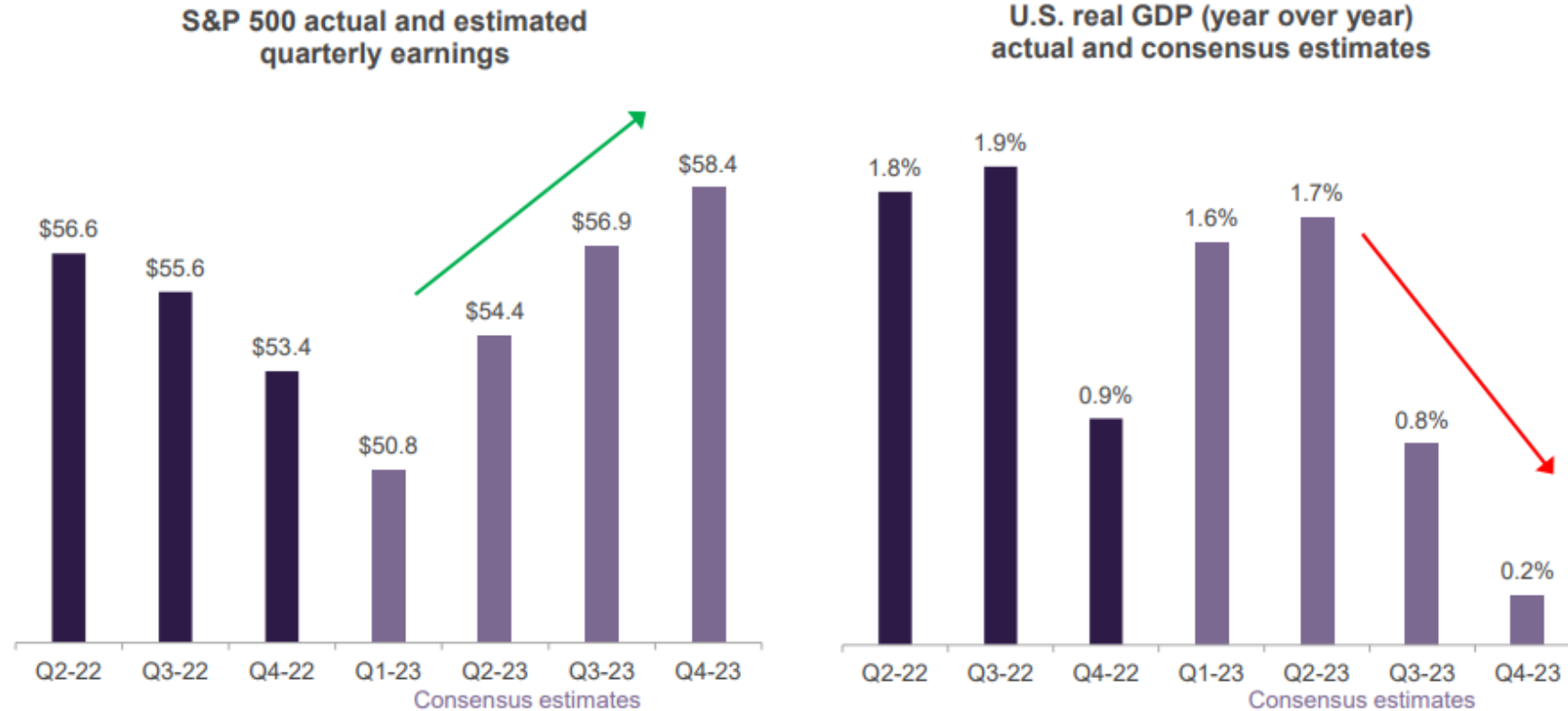
Narrowing market leadership

Strength in the mega cap growth stocks has aided market performance this year, given their large weighting in market indices. However, market strength is less apparent below the surface as only 36% of stocks within the S&P 500 are outperforming the index itself over the past three months.



Data source: Truist IAG, FactSet. Past performance does not guarantee future results.

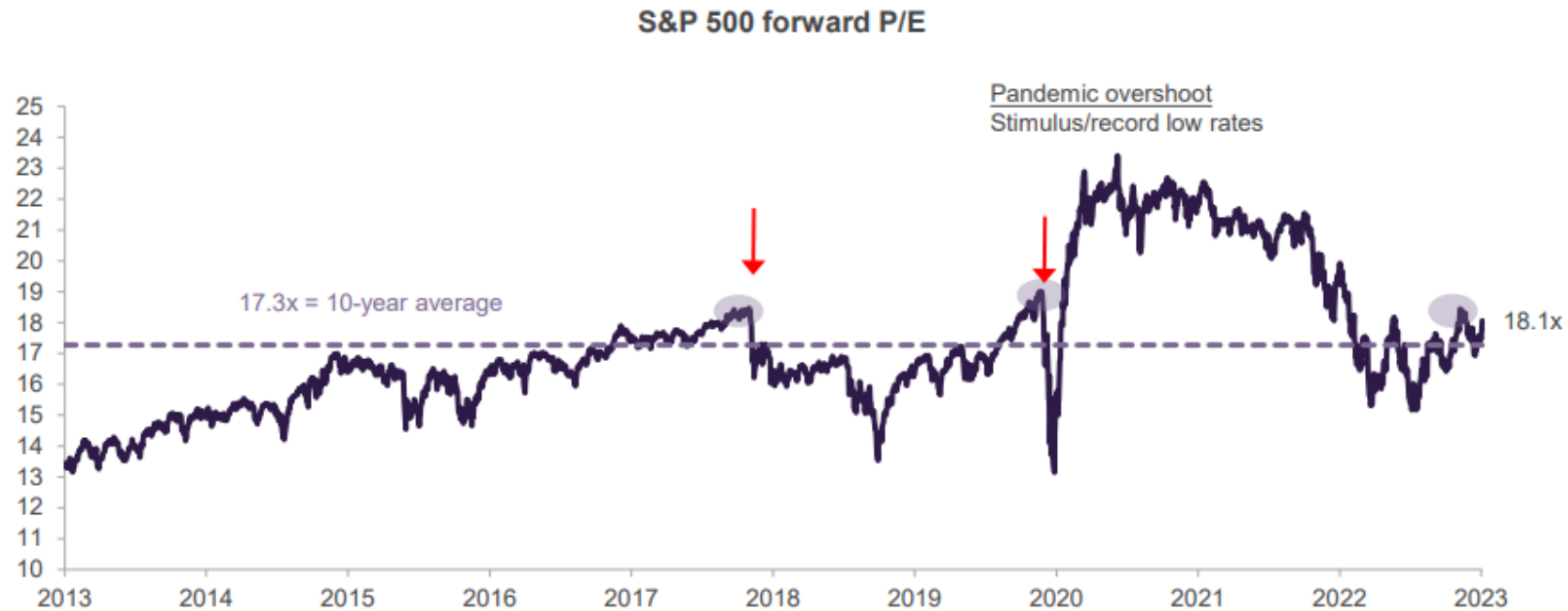
Disconnect between consensus earnings estimates that are expected to reach a record in the 2nd half vs. a material projected economic slowdown



Data source: Truist IAG, FactSet. Bloomberg consensus GDP estimates

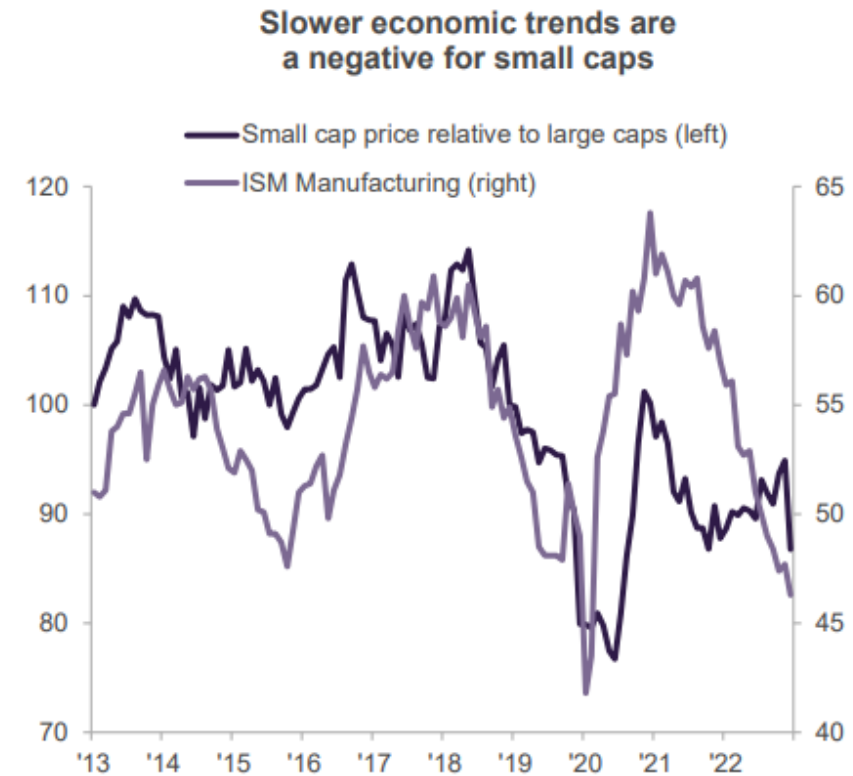
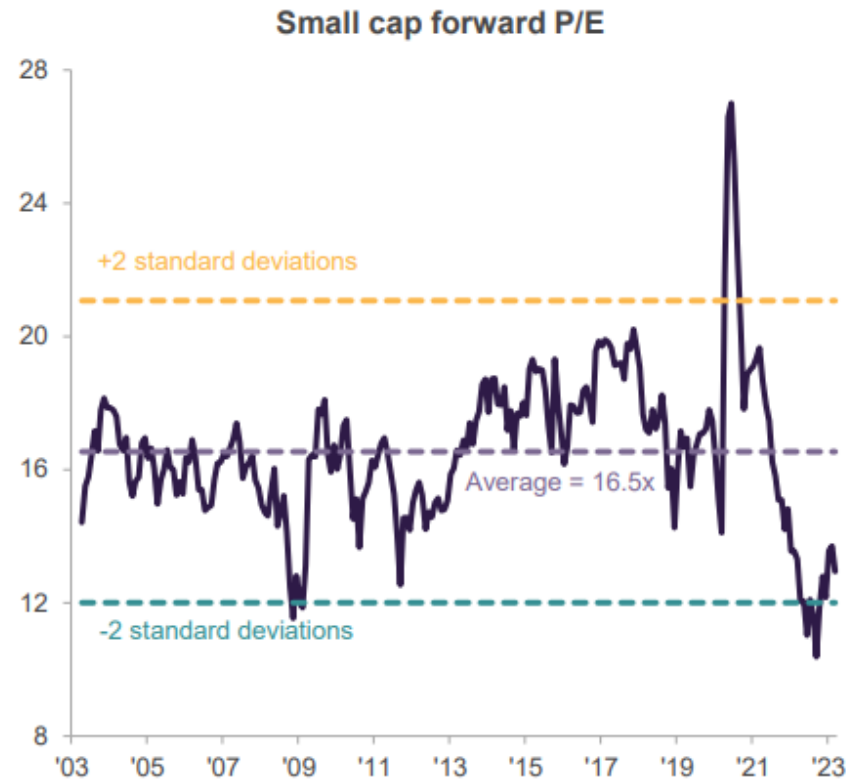
Valuations have rebounded toward the top end of the pre-pandemic range

The S&P 500's forward P/E has rebounded to 18.1x. The highest level it has reached over the past decade, excluding the pandemic overshoot, has been 18.5x.



Data source: Truist IAG, FactSet. Past performance does not guarantee future results.

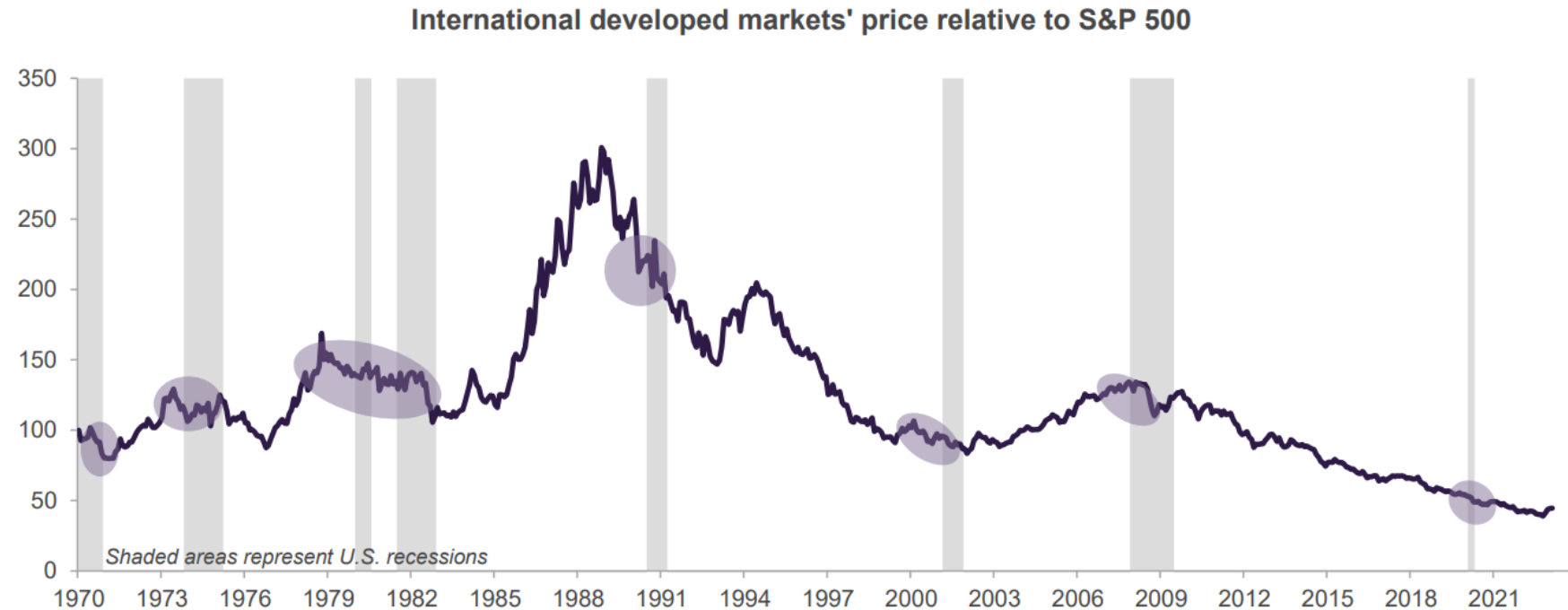
Small caps – Attractive valuations offset by expected economic slowdown



Data source: Truist IAG, FactSet. Small Caps = S&P SmallCap 600, Large Caps = S&P 500. Investments in small-sized companies may involve greater risks than in those of larger, better-known companies. Returns on investments in stocks of small companies could trail the returns on investments in stocks of larger companies. Past performance does not guarantee future results. Past performance does not guarantee future results.

International developed markets tend to underperform the U.S. during economic slowdowns

Historically, the U.S. tends to outperform during periods of a global slowdown, and we still have concerns around Europe's ability to withstand the significant rate hikes underway with the European Central Bank.



Data source: Truist IAG, Haver, FactSet, MSCI. International developed markets = MSCI EAFE.

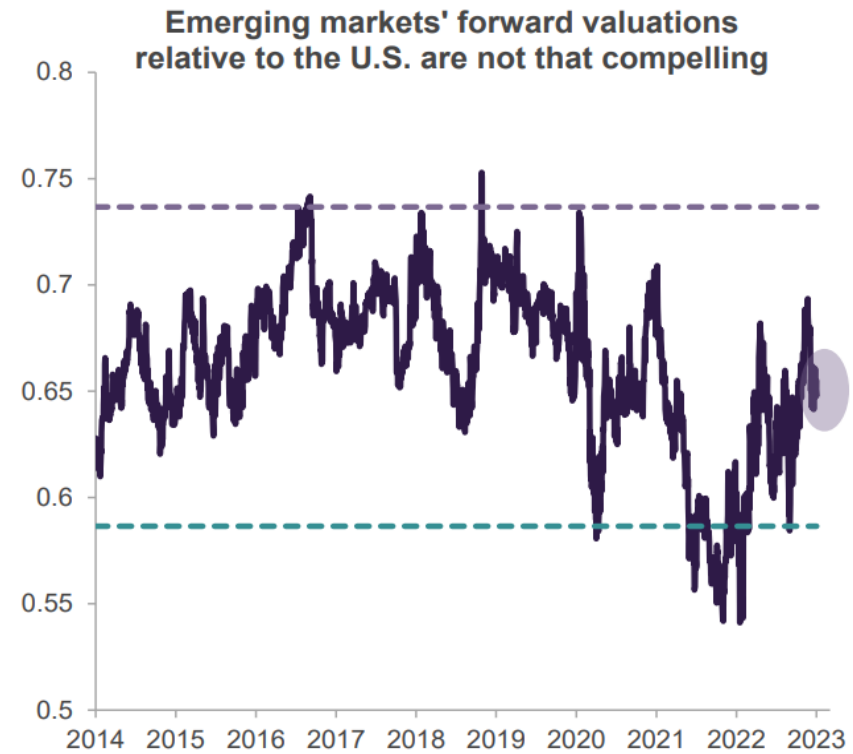
After finding a low in February, the U.S. dollar has been range bound



Data source: Truist IAG, Bloomberg

U.S. dollar = U.S. Dollar Index

China economic policy uncertainty remains high while EM valuations neutral

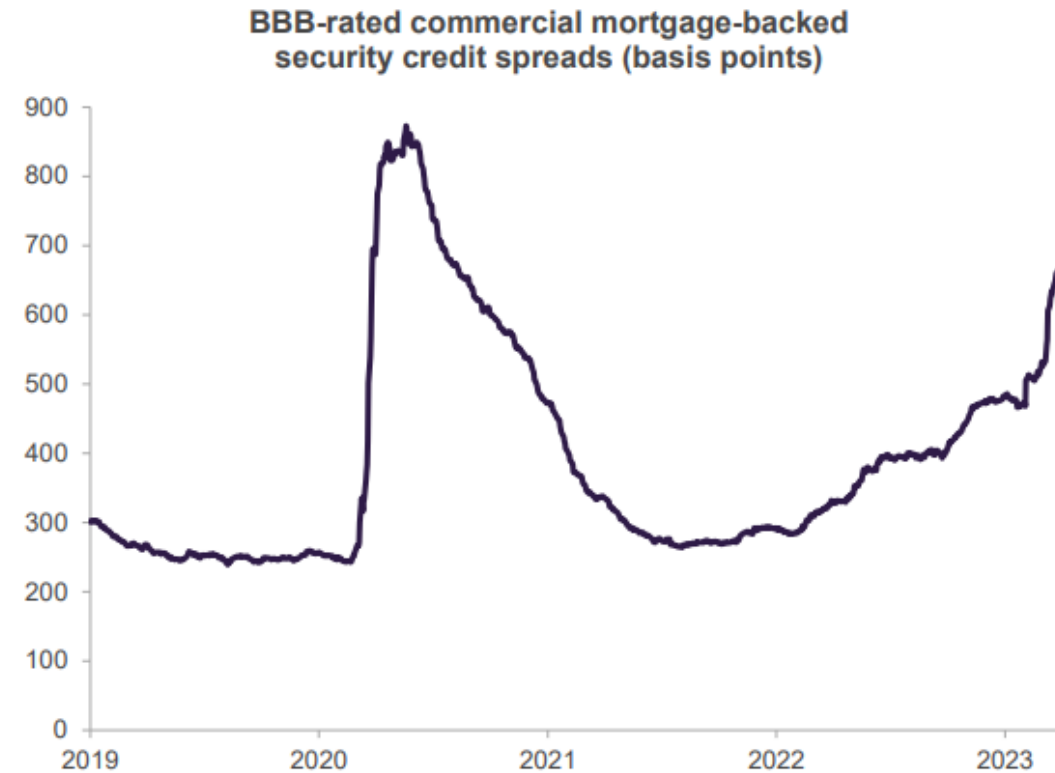


Data source: Truist IAG, Bloomberg, FactSet, MSCI. Emerging markets = MSCI EM; U.S. = MSCI USA

The China Economic Policy Uncertainty Index from Baker, Bloom and Davis is constructed using a scaled frequency count of articles about policy-related economic uncertainty in the South China Morning Post, Hong Kong's leading English-language newspaper

Commercial real estate pressured by office and retail properties

Sentiment is souring within commercial mortgage-backed securities (CMBS), as evidenced by their recent spread widening versus U.S. Treasuries. In particular, office and retail properties have been severely disrupted by post-pandemic work and shopping trends. We expect other areas within the CMBS sector, such as multi-family housing and mixed-use properties, to fare better.



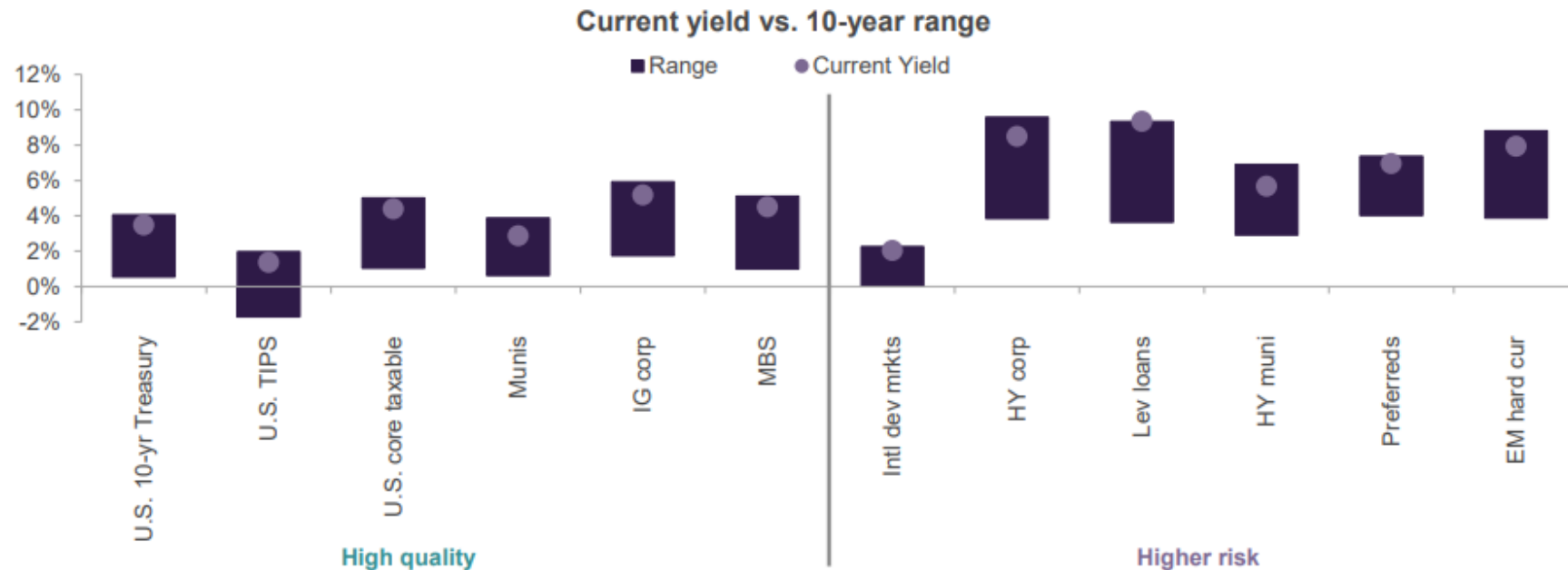
Data source: Truist IAG, Bloomberg. One basis point = 0.01%.

BBB-rated commercial mortgage-backed security spreads = Bloomberg CMBS Investment Grade BBB Average OAS

Past performance does not guarantee future results.

Keep it simple with a focus on high quality

Many fixed income asset classes have yields at or near 10-year highs – from high-quality sectors, such as U.S. Treasuries and mortgage-backed securities, to high yield corporate bonds and preferreds. With growing risks to the U.S. economy, we favor high quality fixed income – an important source of ballast for portfolios. While yields have become more attractive for higher risk fixed income sectors, spreads in general are susceptible to further widening given our expectation for an economic slowdown.



Data source: Truist IAG, FactSet, LSTA. Yield to worst shown except for preferreds (yield to maturity).

U.S. 10-Yr Treasury = Bloomberg U.S. Treasury Bellwethers (10-Yr), U.S. Core Taxable = Bloomberg U.S. Aggregate, Municipals = Bloomberg Municipal Bond 1-15 Year, U.S. Corporates = Bloomberg U.S. Corporate IG, MBS = Bloomberg U.S. MBS, Intl Dev Mkts = ICE BofA Global Government ex U.S., HY Corp = ICE BofA U.S. High Yield, Lev Loans = Morningstar LSTA U.S. Leveraged Loan 100 Index, HY Muni = Bloomberg Municipal High Yield, Preferreds = ICE BofA Fixed Rate Preferred, EM Hard Cur = Bloomberg EM USD Aggregate – Sovereign. Past performance does not guarantee future results. Investing in the bond market is subject to certain risks, including market, interest rate, issuer and inflation risk – investments may be worth more or less than the original cost when redeemed. The value of most bond strategies and fixed income securities are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and more volatile than securities with shorter durations – bond prices generally fall as interest rates rise, and values rise when interest rates decline. Past performance does not guarantee future results.

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