

2023

Thornburg Investment Management: **Observations in Global and Growth Equities**

Sean Sun, CFA | Portfolio Manager and Managing Director

Nicholas Anderson, CFA | Portfolio Manager and Managing Director

Presenters



Sean Sun, CFA
Portfolio Manager and Managing Director
19 years experience

Sean Sun is portfolio manager for Thornburg Investment Management. He joined the firm in 2012 as an equity research analyst and was promoted to associate portfolio manager in 2015 and portfolio manager in 2017.

Sean holds an MBA with concentrations in finance and entrepreneurship from the University of Chicago Booth School of Business and a BA in economics from the University of California at Berkeley, where he was a Regents' and Chancellor's Scholar. He is also a CFA charterholder. Prior to joining Thornburg, Sean held portfolio analysis and modeling positions at Bank of America. Prior to business school, he was a product manager at HSBC.



Nicholas Anderson, CFA
Portfolio Manager and Managing Director
11 years experience

Nicholas Anderson is a portfolio manager for Thornburg Investment Management. He joined the firm in 2016 as an equity research analyst, was promoted to senior equity research analyst in 2020, an associate portfolio manager in early 2021, and portfolio manager in late 2021.

Nick holds an MBA with honors from the University of Chicago Booth School of Business and a BA with honors from the University of North Carolina at Chapel Hill, where he was a Robertson Scholar. Prior to joining Thornburg, Nick worked for Prudential plc and Eastspring Investments in Hong Kong, Vietnam, and Singapore. He is a CFA charterholder.



MARKET UPDATE



Key Themes:

- Economic Resilience
- International Outperformance
- Lack of Market Breadth

Markets Started 2023 with a Host of Uncertainties

Many of 2022's macro challenges remain unresolved

2022 ISSUES	...	2023 OUTLOOK
Inflation	...	Improving
China COVID Lockdowns	...	Reopened, but growth underwhelming
Supply Chain Disruptions	...	Normalizing
Energy Crisis in Europe	...	Better
Monetary Policy Tightening	...	Moderating, then improving
GDP and Earnings Growth	...	Mixed but recession risks increasing
Debt Levels/Fiscal Support	...	Worsening
Russia-Ukraine War	...	Uncertain/Unresolved
Geopolitical Risk	...	Uncertain/Unresolved

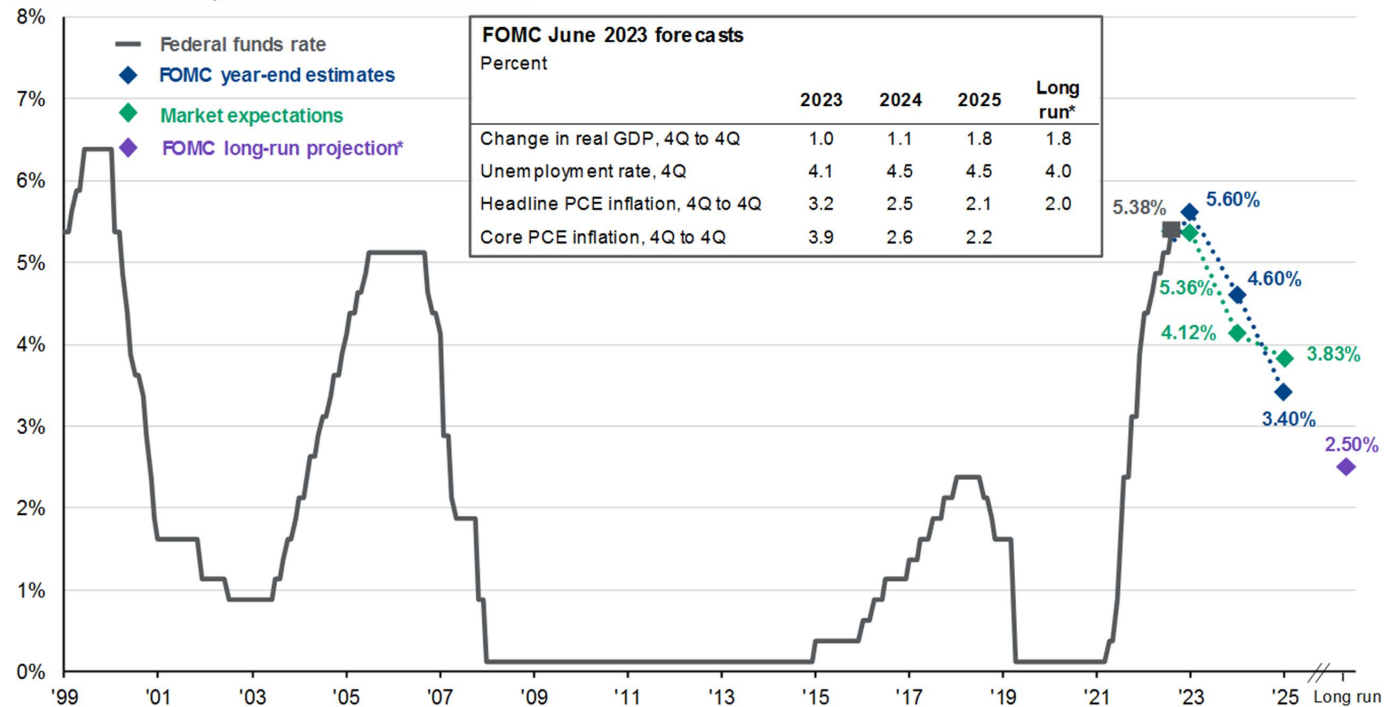
And The Fed Has Been on a Historically Rapid Tightening Cycle

The Fed Funds rate went from 0% in late 2021 to 5.5% today

FOMC and Market Expectations for the Federal Funds Rate

Federal funds rate expectations

FOMC and market expectations for the federal funds rate

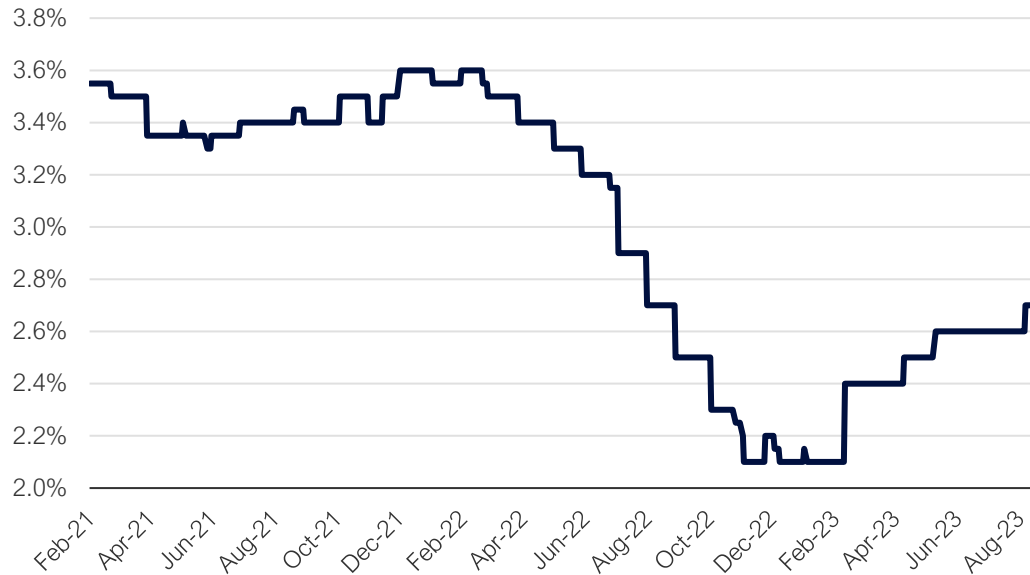


Source: JP Morgan Asset Management

Despite These Headwinds, Global Economic Growth Has Remained Resilient

Global equities have posted strong gains in 2023, led by Information Technology.

GLOBAL GDP FORECASTS HAVE RISEN THROUGHOUT THE YEAR



MSCI ACWI SECTOR

2023 RETURNS

Information Technology	44.3%
Communication Services	33.8%
Consumer Discretionary	29.9%
MSCI ACWI	18.5%
Industrials	17.3%
Financials	10.5%
Materials	10.3%
Consumer Staples	5.6%
Energy	4.6%
Real Estate	4.0%
Health Care	2.3%
Utilities	1.7%

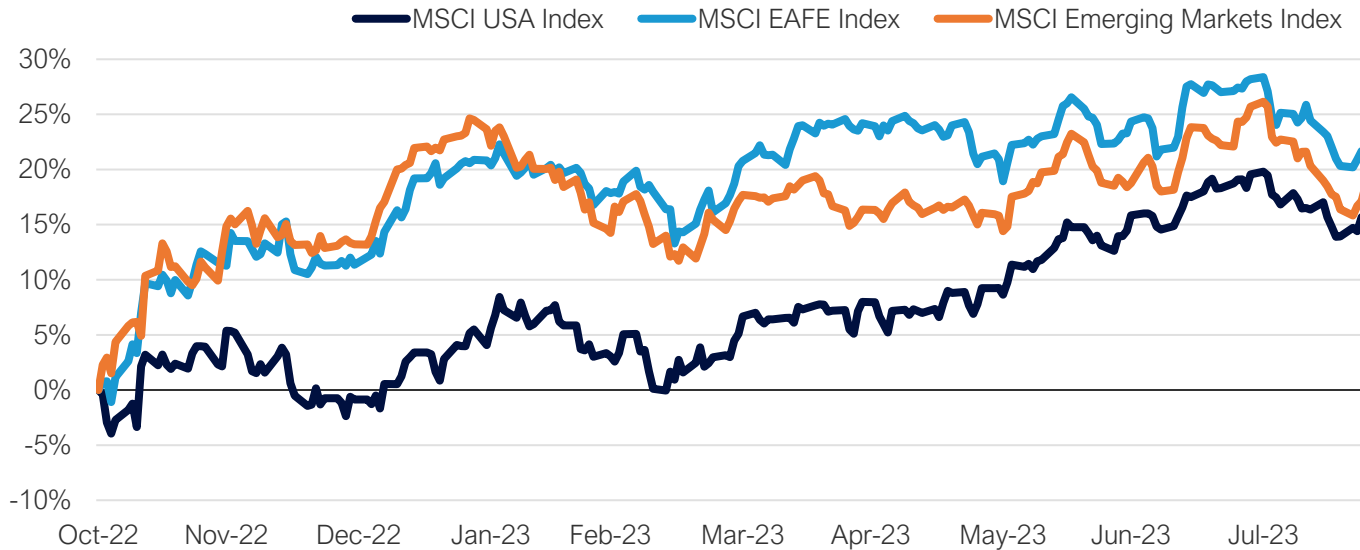
Past performance does not guarantee future results.

Source: Bloomberg as of 7/31/2023

International Has Outperformed Since Last Fall

Despite this year's U.S. tech rally, International stocks have beaten U.S. stocks since October's bottom

MSCI U.S. vs. EAFE vs. EMERGING MARKETS TOTAL RETURN, INDEXED TO 10/31/22



Total Return Since October 2022

MSCI USA Index	14.87%
MSCI EAFE Index	20.11%
MSCI Emerging Markets Index	17.25%

Past performance does not guarantee future results.

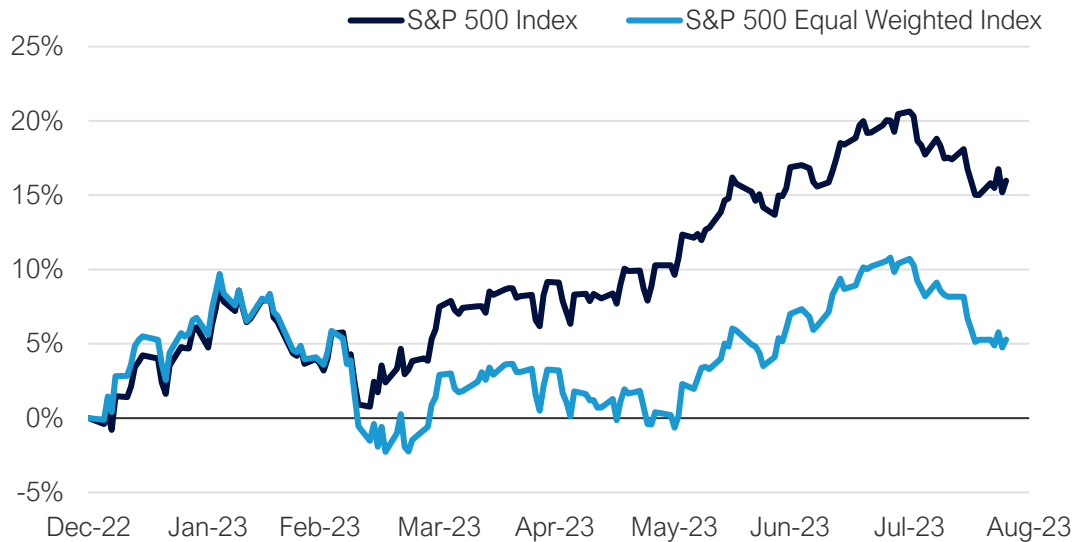
Source: MSCI, Bloomberg, as of 8/25/2023

Markets Have Been Driven by a Narrow Set of Winners

A few mega-cap stocks have driven U.S. market returns this year, the same is true ex-US but less extreme

S&P 500 vs. S&P 500 EQUAL WEIGHT INDEX

S&P 500 Index +10% vs. S&P 500 Equal Weight Index -1% YTD (as of 8/25/2023)



MSCI U.S. INDEX TOP CONTRIBUTORS

Just 10 companies account for ~78% of the market's return

Stock	Average Weight	Return YTD	% of Index Return (cumulative)
Apple	7.1%	40%	15%
Nvidia	3.0%	222%	29%
Microsoft	5.6%	37%	41%
Amazon	2.8%	61%	50%
Meta Platforms	1.4%	145%	57%
Tesla	1.5%	92%	62%
Alphabet (A and C)	3.4%	50%	67%
Eli Lilly	0.9%	52%	74%
Broadcom	0.8%	58%	76%
Adobe	0.5%	58%	78%

Past performance does not guarantee future results.

Source: Bloomberg, MSCI, as of 8/25/2023

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**GROWTH
INVESTING
UPDATE**



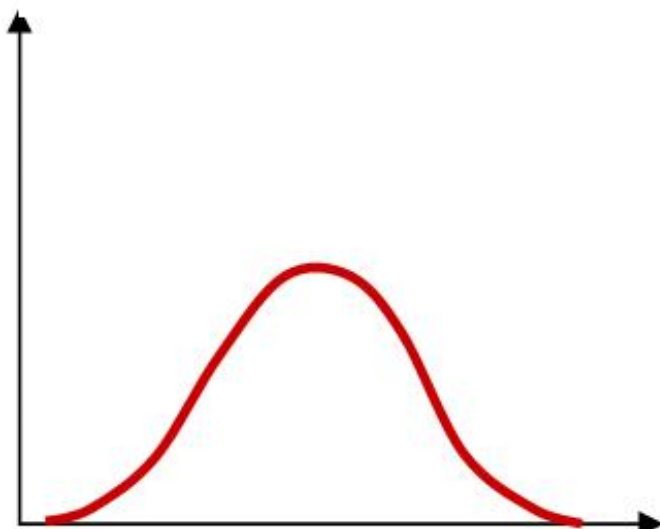
Key themes:

- Power Law in Stock Markets
- AI Platform Shift

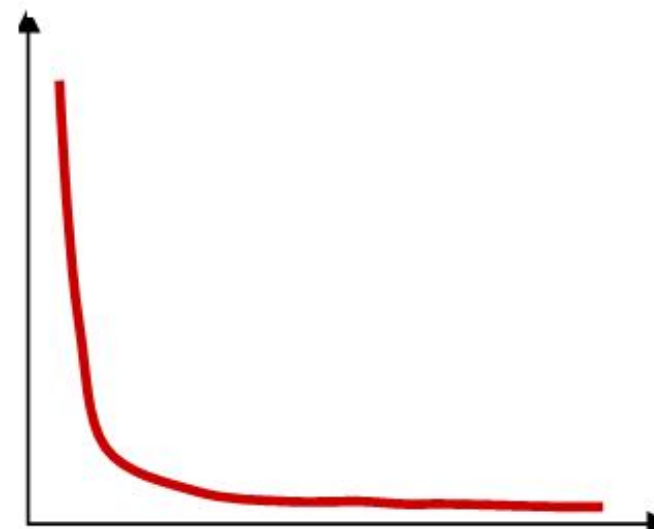
Markets Are Driven by a Power Law

Market averages are pulled higher by a few positive outliers, while most stocks are far below average

Normal Distribution

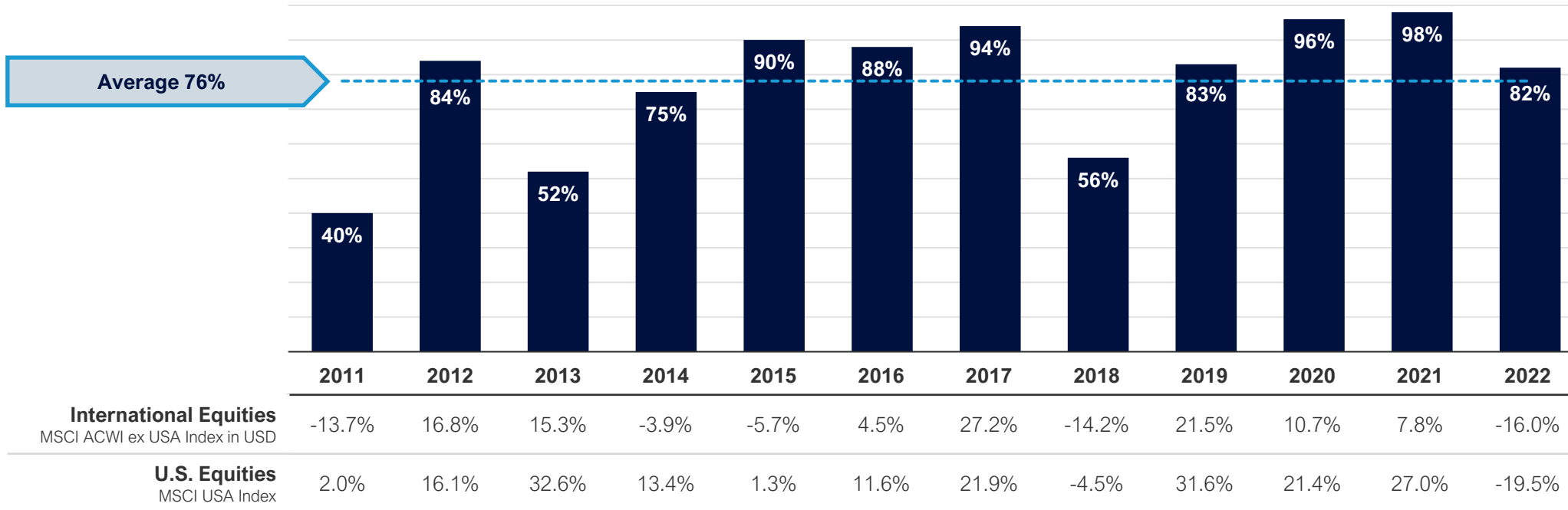


Power Law Distribution



Many Exceptional “Power Law” Stocks Exist outside the U.S.

Annual percentage of the 50 best-performing stocks globally that were non-U.S.



Past performance does not guarantee future results.

Source: Bloomberg, Thornburg Investment Management, as of 8/31/2023

Chart shows the percentage of the top 50 performers in the MSCI ACWI Index in each calendar year which are non-U.S.

What causes the power law effect?

Compounding + Competition

COMPOUNDING
is a multiplicative process



This produces extreme
positive skewness at long horizons

COMPETITION
erodes profits

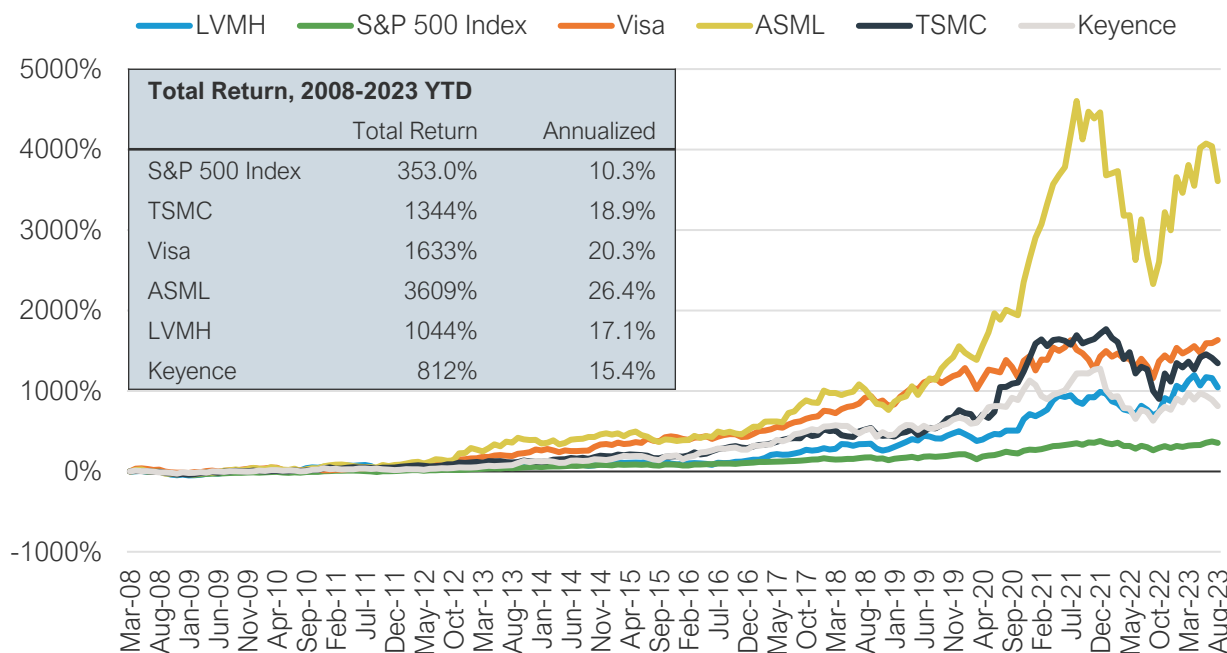


Few companies have a
durable competitive advantage

What are the characteristics of “power law” stocks?

Dominant businesses in structurally growing markets with high returns are good candidates for exceptional returns.

Company	Source of durable growth
	World-leading semi foundry exposed to all key technology demand trends (e.g. cloud, EVs)
	Growth in nominal payment volume (inflation + volume) plus cash-to-card transition runway
	Monopoly supplier of advanced lithography equipment required to produce cutting-edge chips
	Desirable, irreplicable luxury brands targeting affluent consumer with near zero price elasticity
	Sophisticated factory automation tools, high ROI on labor replacement/augmentation



Past performance does not guarantee future results.

Source: Bloomberg, Thornburg Investment Management, as of 8/25/2023

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Artificial Intelligence is Driving a Step-Change in Corporate Behavior

AI is a transformational theme that will impact companies and markets for years

NVIDIA SHARE PRICE vs. Estimated EPS

Stock is up dramatically, but so are earnings estimates



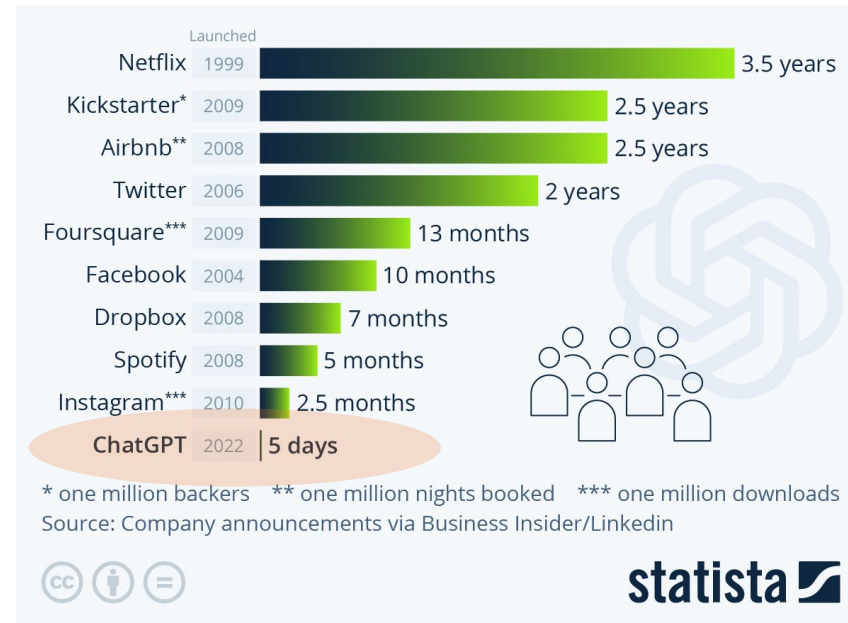
Past performance does not guarantee future results.

Source: Bloomberg, Statista

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TIME IT TOOK FOR SELECTED ONLINE SERVICES TO REACH 1 MILLION USERS

ChatGPT reached 1m users in 5 days



AI is a Once-a-Decade Technology Platform Shift

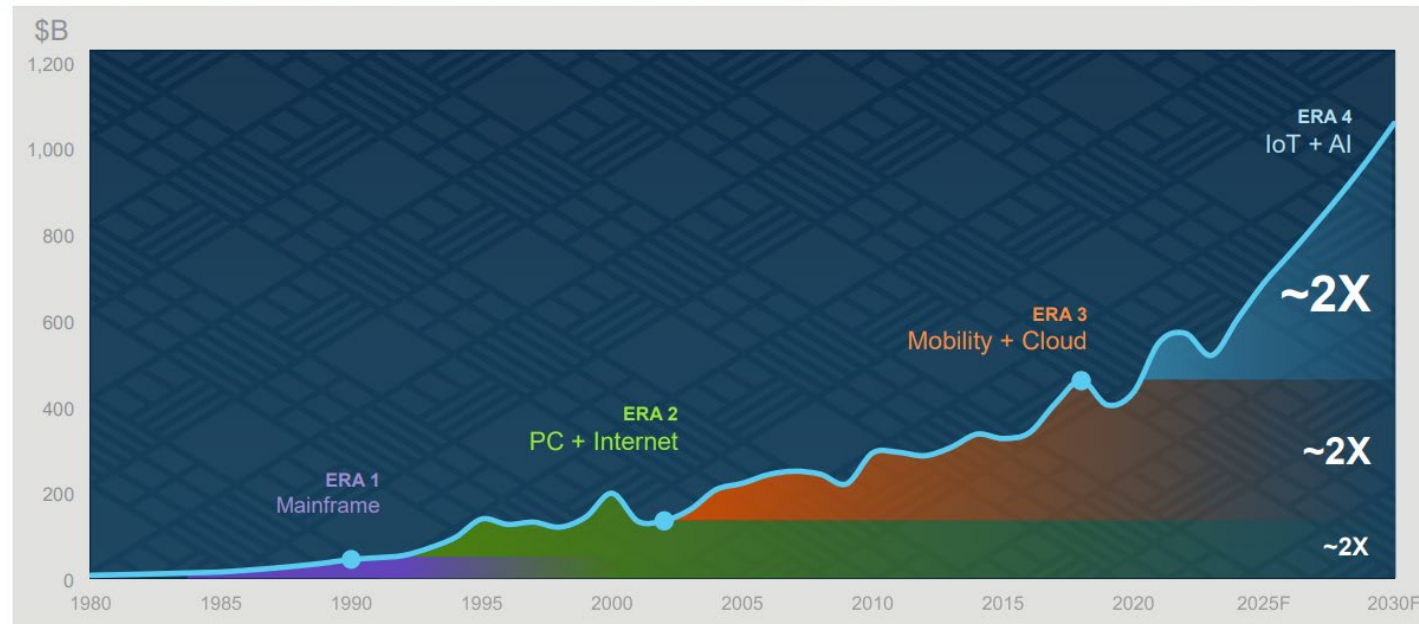
Platform shifts drive competitive destruction and major wealth creation



Semiconductors are The “Picks and Shovels” of AI

Each computing era roughly doubles the size of the semiconductor market

Path to a \$1T Semiconductor Industry



Source: Applied Materials, Semiconductor Industry Association



MARKET OUTLOOK

Key themes:

- Positioning for Potential Recession
- Quality + Growth = Defense + Offense
- Are international equities turning the corner?

Quality Outperforms During Recessionary Periods

MSCI Style Index performance during recessionary periods from 2001-2022



Quality as a Factor Outperforms in Recessions

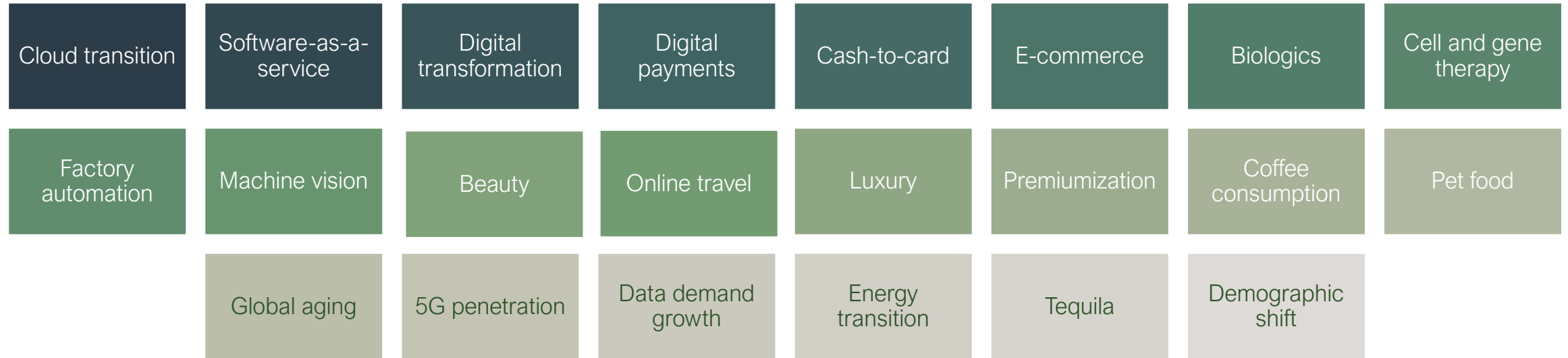
Research by Investment Metrics shows that the “Quality” Factor has historically outperformed during recessionary periods

Past performance does not guarantee future results.

Source: Style Analytics, Investment Metrics, October 2001 to December 2022.

When Growth is Scarce, It Becomes More Valuable

Portfolio is diversified across a range of drivers of idiosyncratic growth

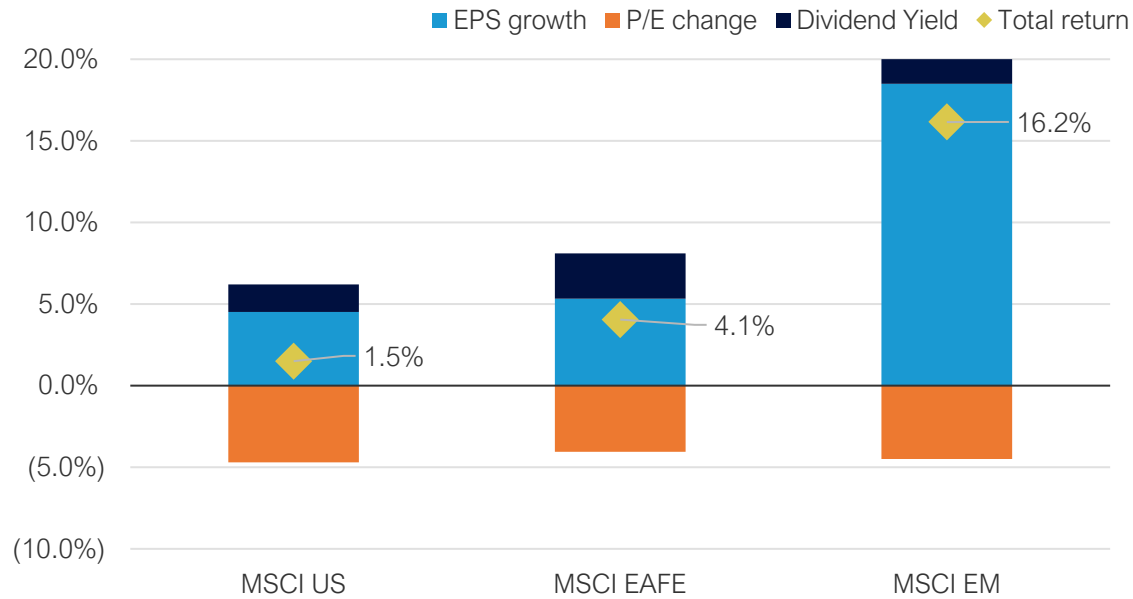


Diversification does not assure or guarantee better performance and cannot eliminate the risk of investment losses.

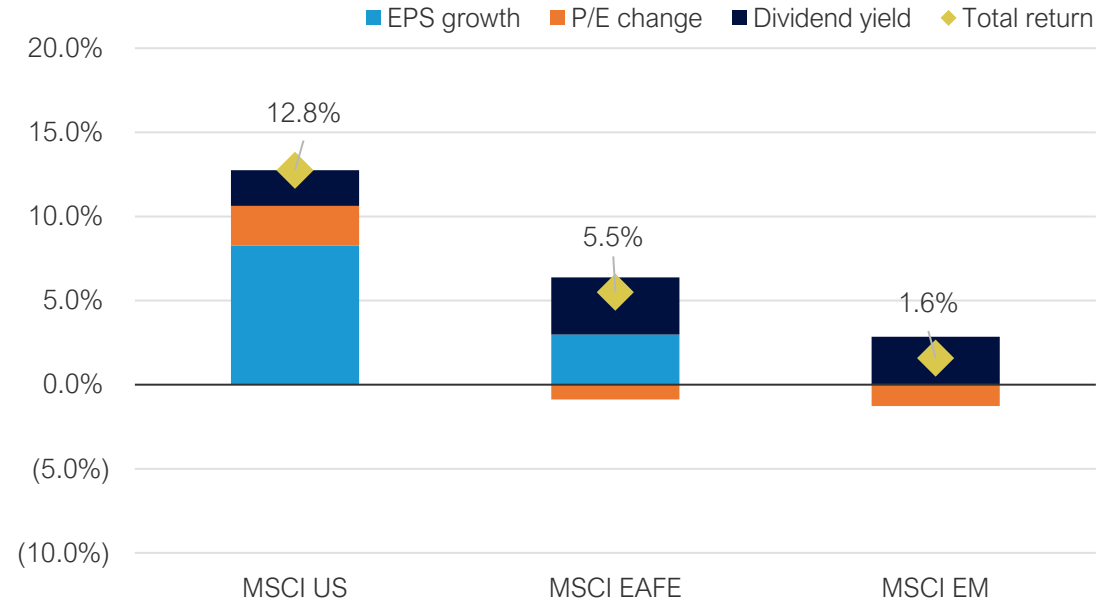
Dissecting Drivers of U.S. vs. International Cycles

The S&P 500 Index was roughly flat for a decade following the dot-com bubble while international stocks outperformed

RETURN DRIVERS: 2000 TO 2010, ANNUALIZED



RETURN DRIVERS: 2010 TO PRESENT, ANNUALIZED



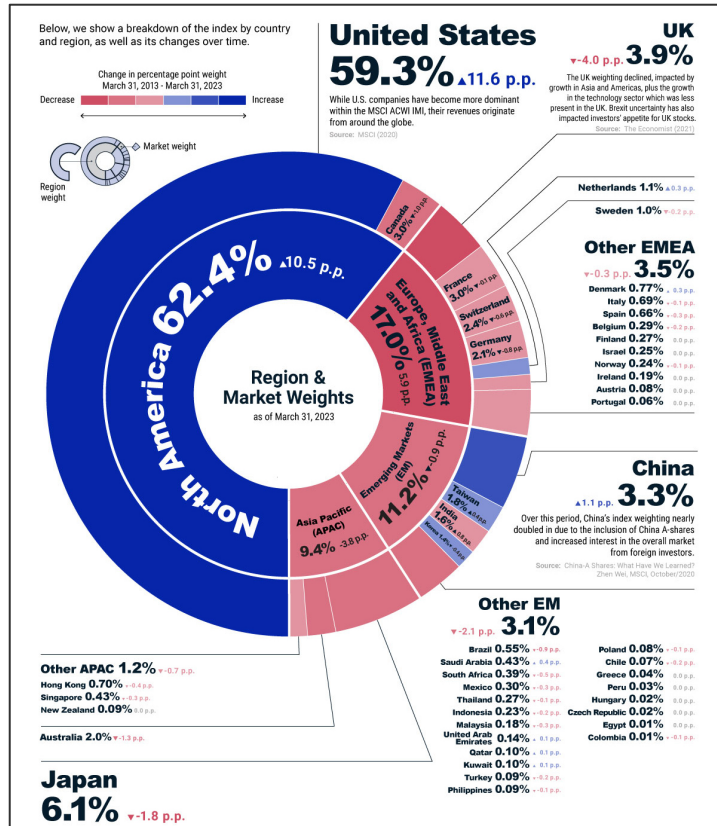
Past performance does not guarantee future results.

Source: Bloomberg, Bernstein Research

How overweight U.S. are you?

Most U.S. investors will be caught offside if International outperformance continues

INFOGRAPHIC



MSCI ACWI INDEX - REGION / COUNTRY WEIGHTS

Region	Country			
62.4%	North America	59.3%	United States	
		3.1%	Canada	
17.0%	EMEA	3.9%	UK	
		3.0%	France	
		2.4%	Switzerland	
		2.1%	Germany	
		5.6%	Other EMEA	
	11.2%	Emerging Markets	3.3%	China
			1.8%	Taiwan
		1.6%	India	
		4.5%	Other EM	
9.4%	APAC	6.1%	Japan	
		2.0%	Australia	
		1.3%	Other APAC	

Source: MSCI, as of 12/31/2022



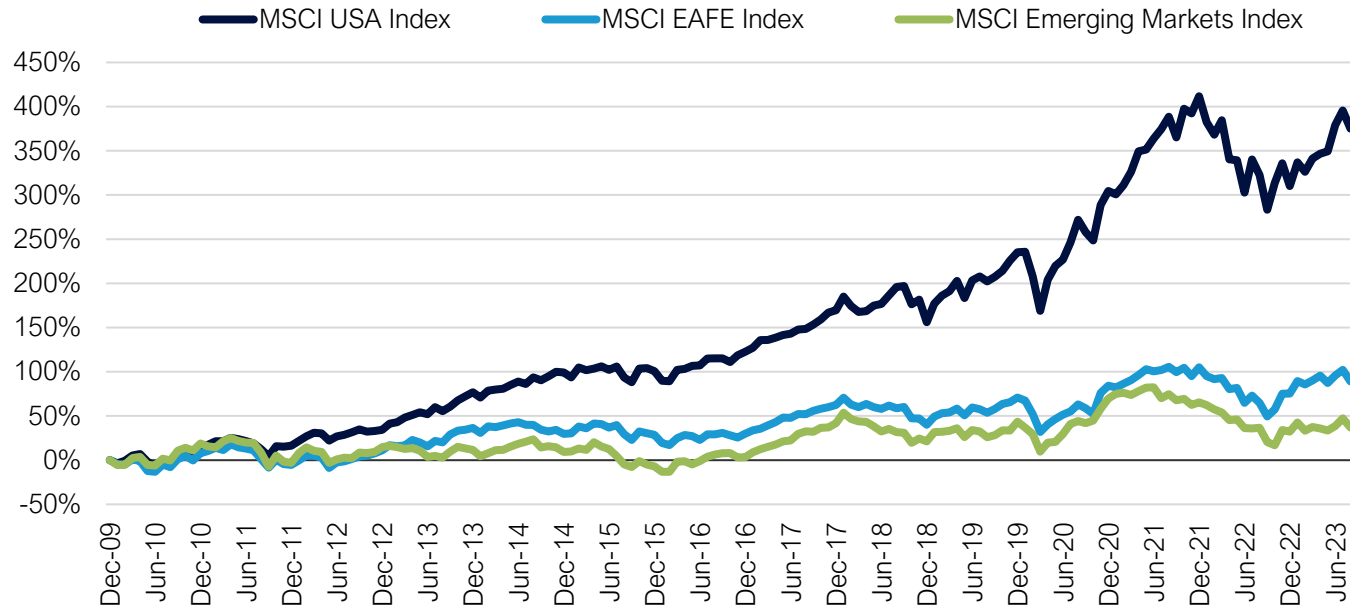
APPENDIX



Is the U.S. market's winning streak on borrowed time?

U.S. stocks have dominated since the 2009 Global Financial Crisis

MSCI U.S. vs. EAFE vs. EMERGING MARKETS TOTAL RETURN, INDEXED TO 2010



December 2009 through August 25, 2023

	Total Return	Annualized
MSCI USA Index	375.09%	12.09%
MSCI EAFE Index	89.13%	4.78%
MSCI Emerging Markets Index	36.92%	2.33%

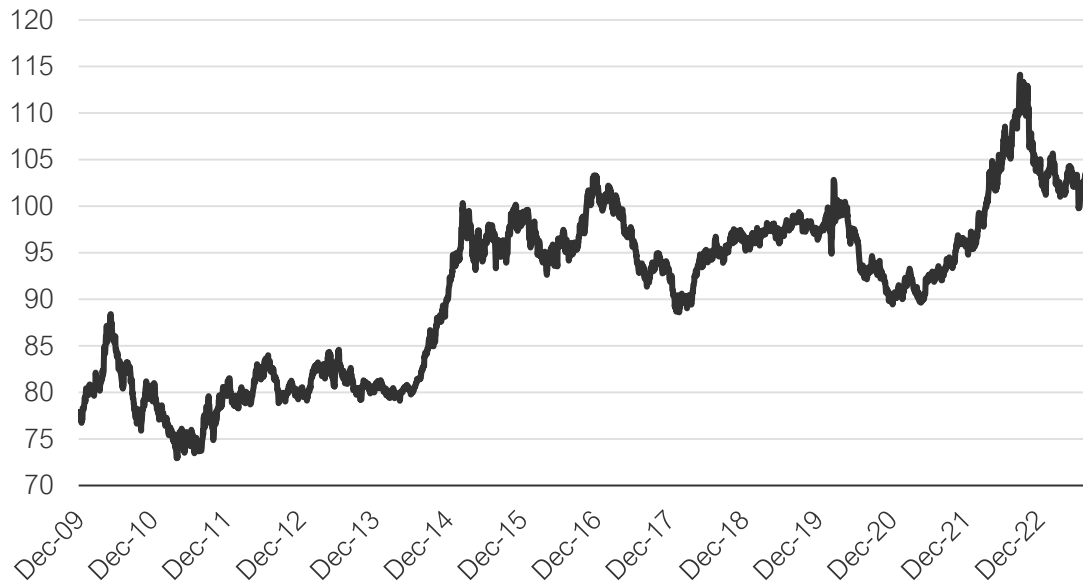
Past performance does not guarantee future results.

Source: MSCI, Bloomberg, as of 8/25/2023

Currency Was a Significant Tailwind

U.S. dollar has appreciated ~2% per annum since 2010 and is now trading above fair value

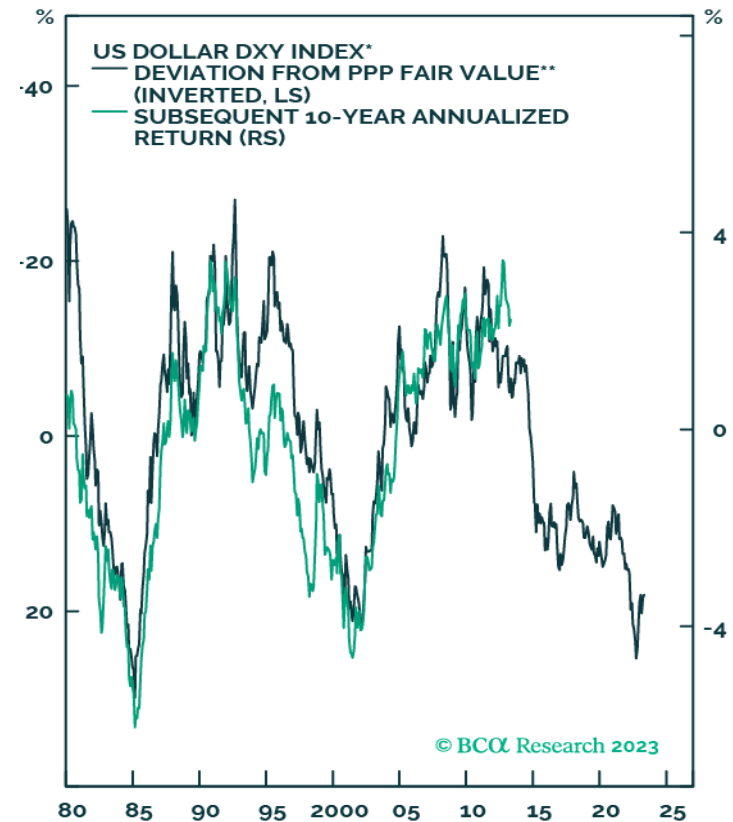
US DOLLAR INDEX: 34% CUMULATIVELY OR 2% PER ANNUM FROM 2010 TO 2023



Past performance does not guarantee future results.

Source: Bloomberg and BCA Research, as of August 25, 2023

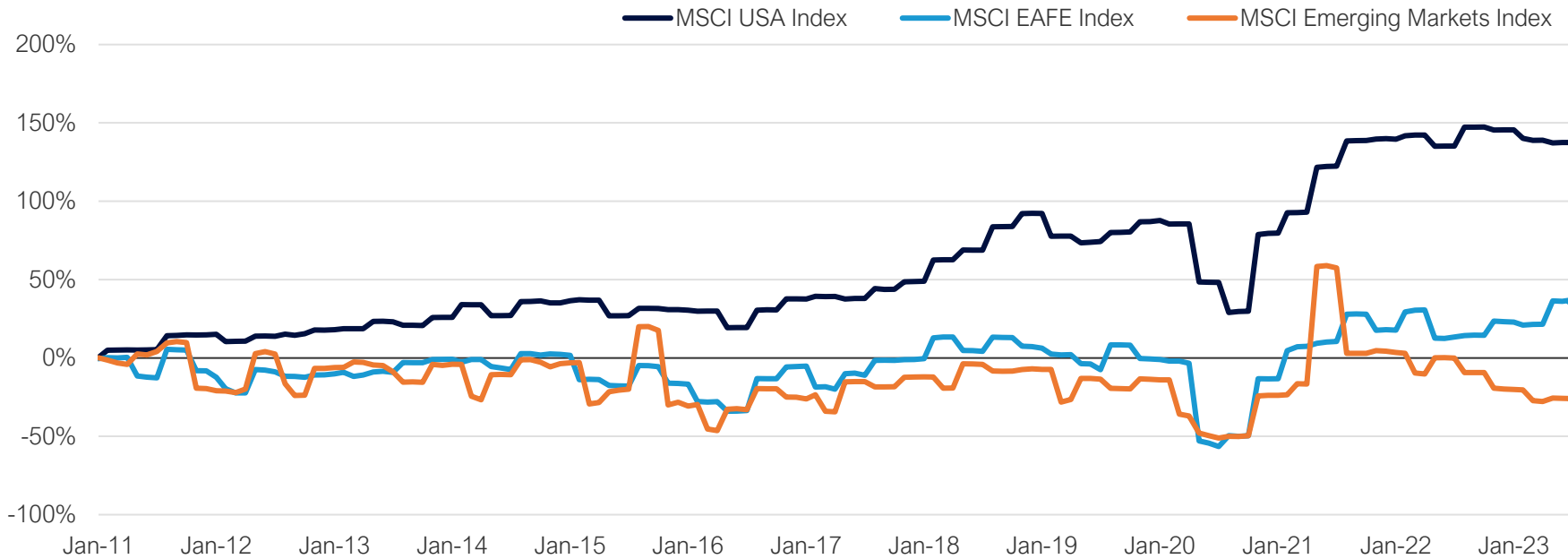
DOLLAR IS TRADING CIRCA 20% ABOVE ITS PPP EXCHANGE RATE



The Main Driver Was Simply Better Fundamentals

In the long run, earnings growth drives stocks and stock markets

MSCI U.S. vs. EAFE vs. EMERGING MARKETS EPS GROWTH, 2010 TO 2023



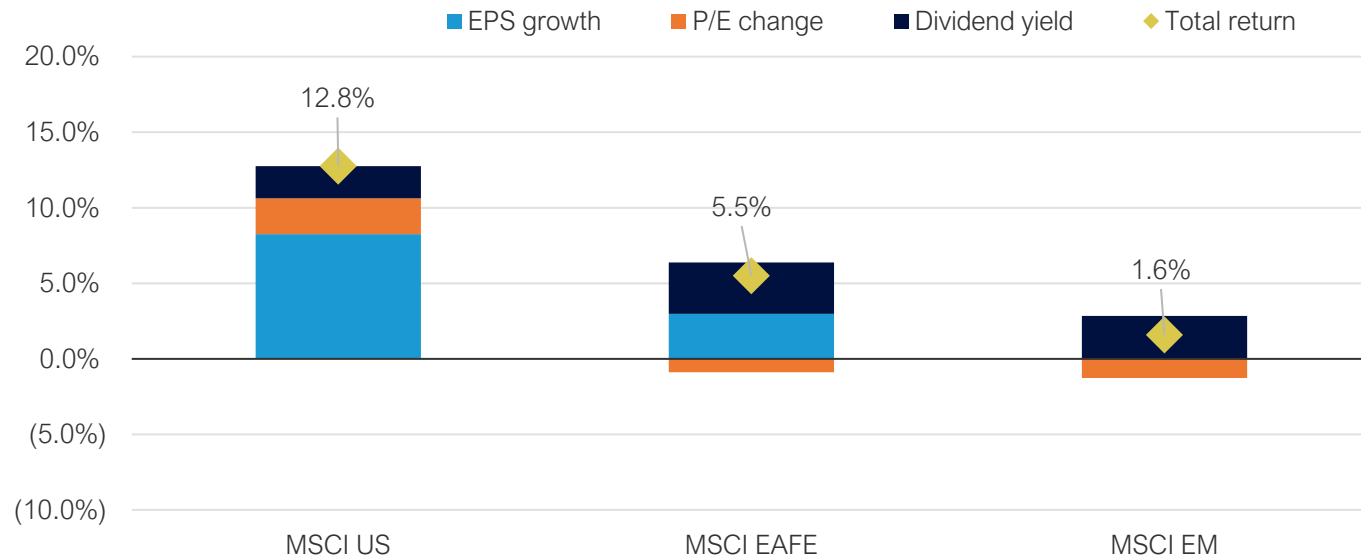
Past performance does not guarantee future results.

Source: Bloomberg, as of 8/25/2023

Summing Up the Drivers

The most significant driver of U.S. outperformance was superior earnings growth, helped by multiple expansion and currency strength

DECOMPOSITION OF TOTAL RETURN (USD), ANNUALIZED, 2010 TO 2023



INDEX	EPS Growth	P/E Change	Dividend Yield	Total Return
MSCI USA	8.3%	2.4%	2.1%	12.8%
MSCI EAFE	3.0%	-0.9%	3.4%	5.5%
MSCI Emerging Markets	0.0%	-1.3%	2.8%	1.6%

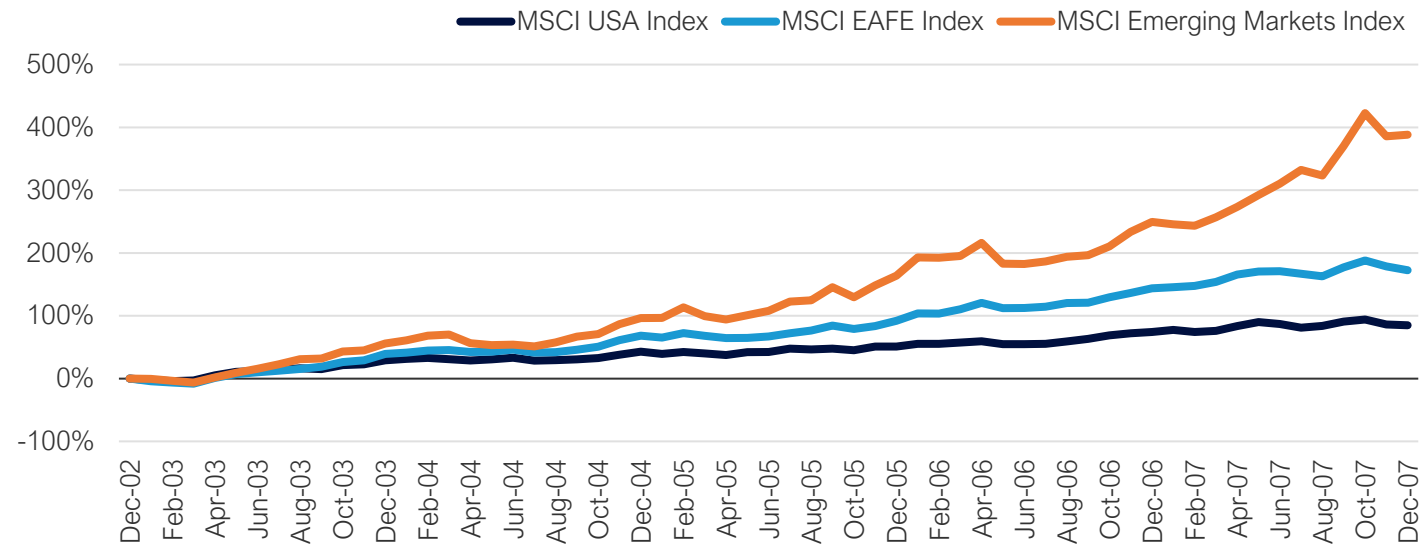
Past performance does not guarantee future results.

Source: Bloomberg

The Last Big International Cycle Was Pre-GFC

From 2002 to 2007, international outperformed U.S. by ~100% and EM outperformed U.S. by >300%

MSCI U.S. vs. EAFE vs. EMERGING MARKETS TOTAL RETURN, INDEXED TO 2002



December 2002 to December 2007

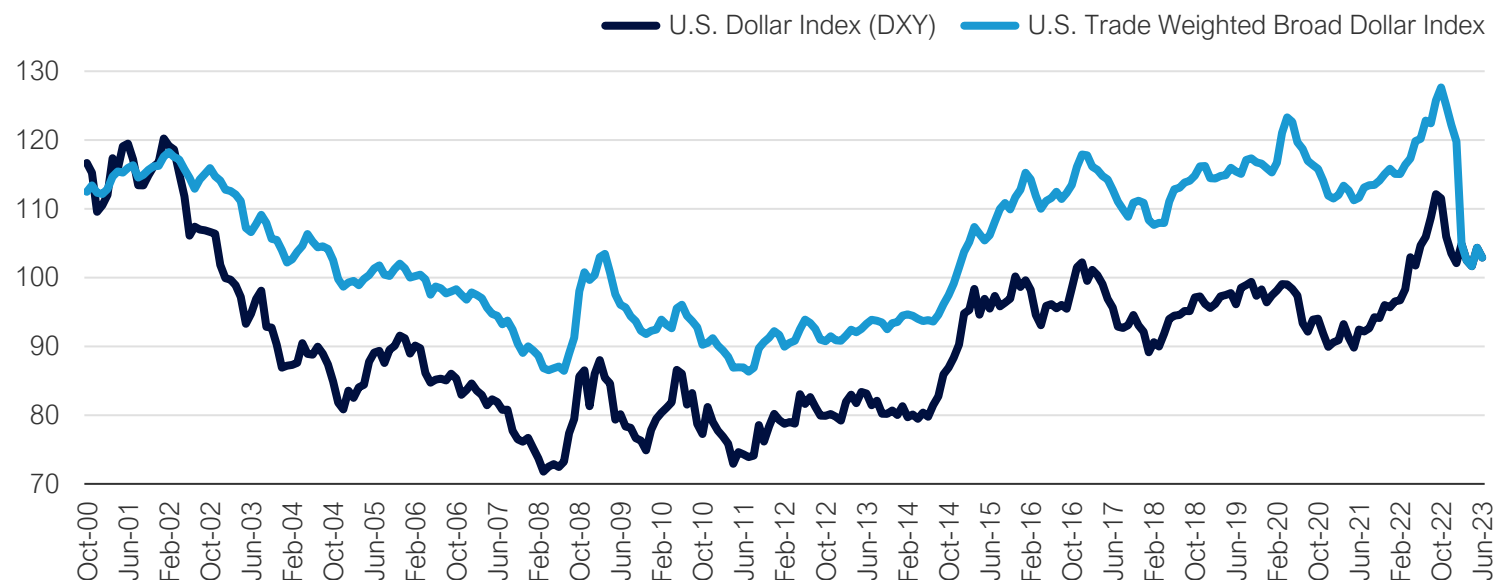
	Total Return
MSCI USA Index	85.01%
MSCI EAFE Index	172.41%
MSCI Emerging Markets Index	388.36%

Past performance does not guarantee future results.

Source: Bloomberg

The Last Cycle Coincided with USD Weakening from Overvalued Levels

MSCI ACWI ex-U.S. outperformed S&P 500 by 125% in 2002-2007 when DXY was down 36%



- U.S. Dollar Index (DXY) last peaked in Jan-02
- Relative performance of ACWI ex-U.S. vs. S&P 500 turned the same month
- From Jan-02 through Oct-07 International outperformed U.S. by 125%
- 40% of Intl's performance 2002-2007 was USD weakness (DXY down 36%)

Past performance does not guarantee future results.

Source: Bloomberg



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