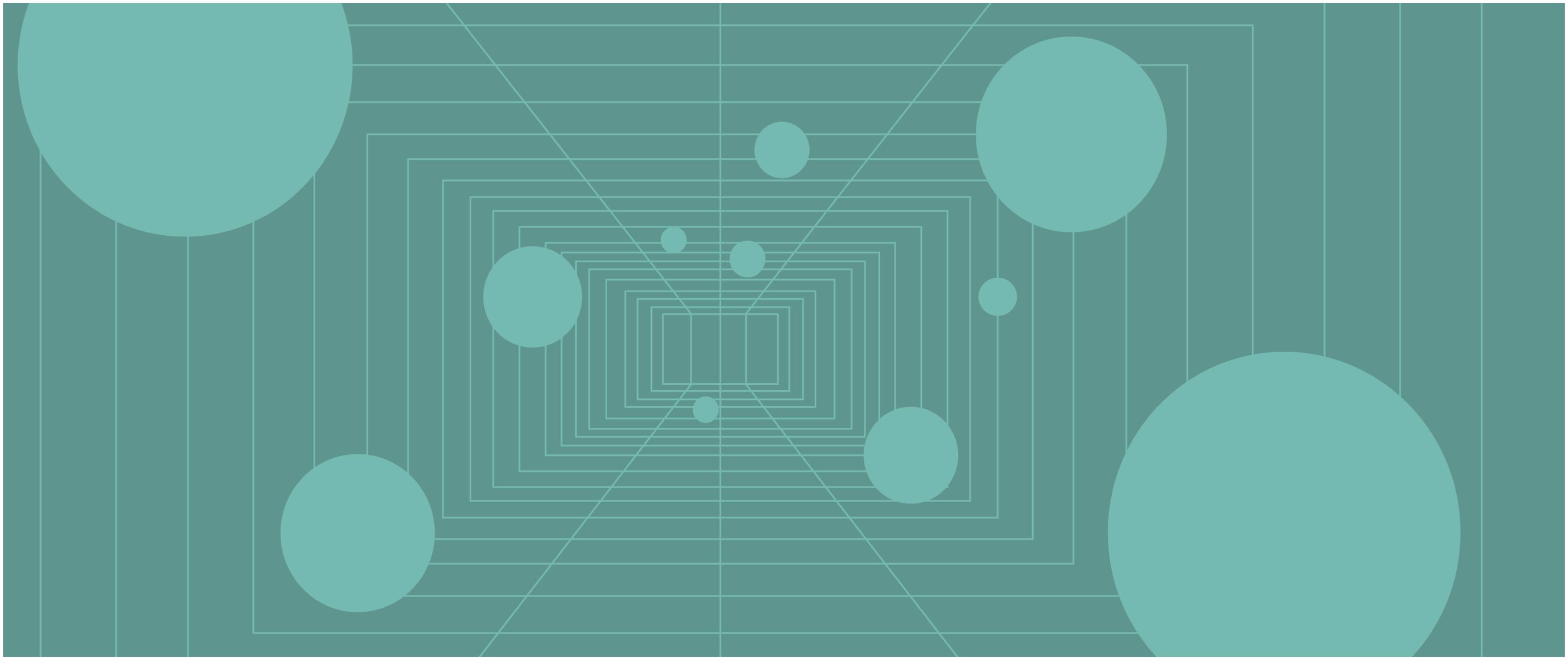
DECADES OF DATA: EMERGING MARKETS

1987–2021



CAMBRIDGE
ASSOCIATES

Executive Summary

- **The MSCI Emerging Markets Index geographic composition has shifted dramatically over time.** Today, the Asia sub-region dominates the index with a nearly 80% weight; however, at index inception in the late 1980s, Asia made up less than 50% of index market capitalization. Latin America moved the opposite direction, constituting 8% of the index today versus nearly 50% at inception. The largest countries in the Asia region—China (32%), Taiwan (16%), India (12%), and Korea (12%)—make up nearly 75% of the broader index market capitalization. Just ten years ago, China represented only 18% of the index. Changes in the MSCI Emerging Markets Index composition over time are a defining characteristic as local markets open to international investors. A prime example is China, whose investable equity universe has been reshaped by the inclusion of domestically listed A-shares in benchmark indexes.
- **The range of historical emerging markets equity returns is typically wider than that of developed markets across time periods.** Emerging markets exhibited a wider range of returns over one-, five-, ten-, and 20-year trailing periods relative to developed markets, in both nominal and real terms. As in developed markets, the range of investment results narrows as holding periods increase. Emerging markets equities exhibited greater potential upside over all trailing periods, but, somewhat surprisingly, less downside over ten- and 20-year periods. For investors that can stomach short-term volatility, emerging markets allocations proved fruitful in the long run, outpacing inflation.
- **Higher volatility has resulted in a wider distribution of calendar year returns for emerging markets relative to those of developed markets.** While emerging markets are more likely to deliver stellar results in any given year, having achieved 50%+ gains in six calendar years since 1988, negative performance occurs more frequently and with greater severity than in developed markets. Emerging markets declined in 2021, in contrast to gains for their developed counterparts. Emerging stocks were buffeted by weak Chinese equity performance stemming from a regulatory crackdown. However, emerging and developed markets tend to move the same direction in any given calendar year, with performance diverging between gains and losses in only eight of 34 years since 1988. In these years emerging markets typically decline while developed markets advance. There has been only one calendar year across the available history when emerging stocks gained and developed shares declined.

Executive Summary (continued)

- **During periods of market stress, emerging markets equity drawdowns are typically more severe than those of developed markets.** Over rolling five-year periods, maximum drawdowns for emerging markets stocks are generally worse relative to developed markets. The late-1990s Asian and Russian financial crises and the 2008–09 Global Financial Crisis (GFC) produced two severe emerging markets equity drawdowns. The COVID-19 drawdown's magnitude was similar for emerging and developed markets, with both segments declining roughly 34% peak-to-trough in USD terms in early 2020. Corrections, defined as a peak-to-trough sell-off of more than 10%, are common occurrences in any given five-year period for emerging and developed markets alike.

- **Earnings growth is the primary contributor to emerging markets equity total return over time, exceeding dividend reinvestment by 1.9x, while valuation multiple rerating has detracted from performance.** Higher dividend yields in emerging markets translated to a higher return contribution from dividend reinvestment relative to developed markets. Somewhat surprisingly, despite the nascent nature of emerging markets (and thus the expectation of higher earnings growth), earnings growth contribution lagged that of developed markets over the common period. Valuation multiple contraction has been a drag on emerging markets performance. However, valuation mean reversion diminishes multiple rerating's impact relative to earnings growth and dividend reinvestment.

- **Emerging markets have outperformed developed counterparts since inception, but relative performance cycles are significant in magnitude and span multiple years.** Emerging markets outperformed developed equivalents by nearly 300% cumulative in two outperformance cycles since 1987, which lasted roughly seven and 12 years, respectively. The 2000's commodity boom boosted earnings per share (EPS) in heavily resource-exposed emerging markets, helping drive outperformance versus developed markets. Emerging markets have experienced a sustained drawdown vis-à-vis developed markets since relative performance peaked in September 2010 following the GFC, underperforming by nearly 7% annualized over that time. The current period has not been as severe as the cycle ended in early 1999, which saw emerging markets lag developed counterparts by 73% cumulative (26% annualized) in just over four years.

Executive Summary (continued)

- **Starting normalized valuations are a useful guide in setting longer-term return expectations.** For emerging markets, initial valuations, such as our cyclically adjusted price-to–cash earnings ratio, exhibit a strong relationship with subsequent ten-year returns, with an R^2 value of 0.56. However, the relationship weakens over shorter time horizons, with an R^2 of 0.22 versus subsequent five-year return periods. It should be noted that all normalized price/earnings ratios in the top decile of historical observations occurred during the 2006–08 lead-up to the GFC; other starting valuation decile ranges show a wider subsequent returns distribution.

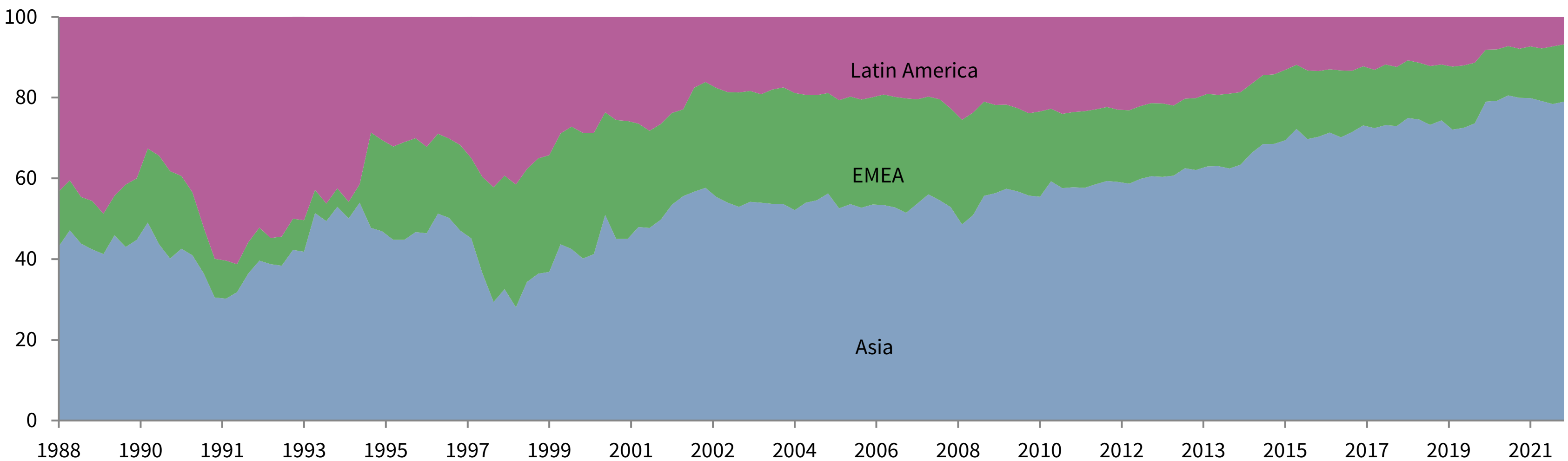
- **Bear markets occur more frequently in emerging markets relative to developed markets but are similar in magnitude to developed bears.** The average bear market length and drawdown in emerging and developed markets is roughly the same. On the other hand, bull market lifespans in developed markets are about twice as long as those in emerging markets but show roughly the same upside. One common characteristic of bull markets across emerging and developed markets is that they are, on average, longer in duration than their respective bear markets and tend to have a higher performance magnitude in absolute terms. This is consistent with the observation that equity markets are generally upwardly trending over time.

- **Inflation for emerging markets economies is generally higher than developed counterparts, but the spread has stabilized in recent decades.** High inflation plagued emerging markets economies in the late-1980s/early-1990s period, due largely to hyperinflation in the Latin American countries Argentina and Brazil. From 1988–1995, year-over-year inflation in emerging markets exceeded that of the United States by more than 40 percentage points (ppts), on average, according to an equal-weighted basket of inflation measures for countries within the MSCI Emerging Markets Index. Over the past 20 years, however, inflation was 2.4 ppts higher than the United States, on average. In fact, in 2021, emerging markets inflation relative to the United States fell to one of its lowest levels on record. This was, in part, driven by surging inflation in the United States. Moreover, several emerging countries did not experience a similar post-pandemic inflationary spike, namely China and Taiwan. Median emerging markets inflation in 2021 was 5.8%, based on those countries in the index at year-end, compared to 7.0% for the United States.

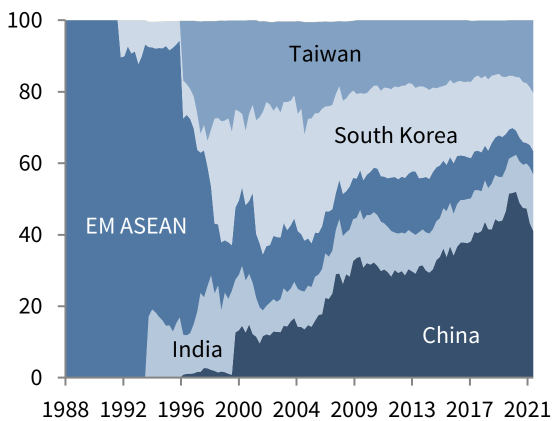
The emerging markets index country composition is dynamic over time

GEOGRAPHIC EXPOSURES OVER TIME

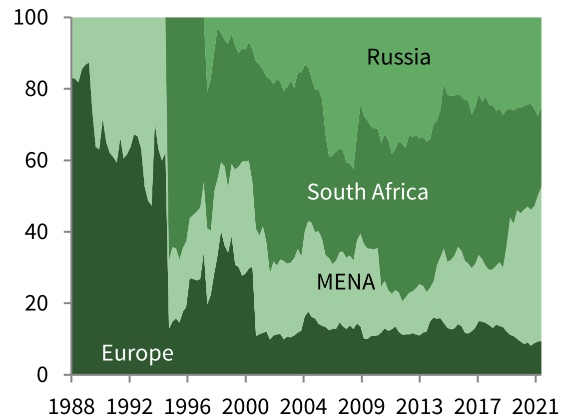
1988–2021 • Percent (%)



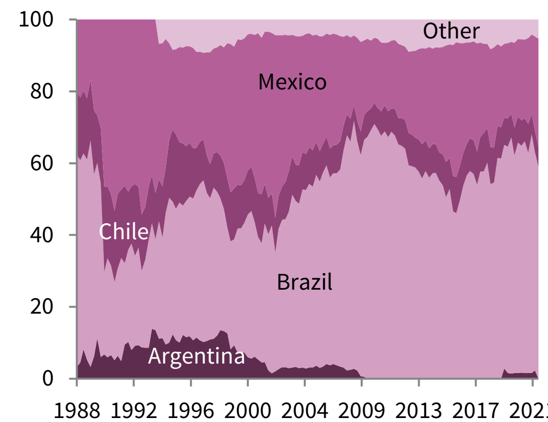
EM Asia



EM Europe, Middle East & Africa



EM Latin America



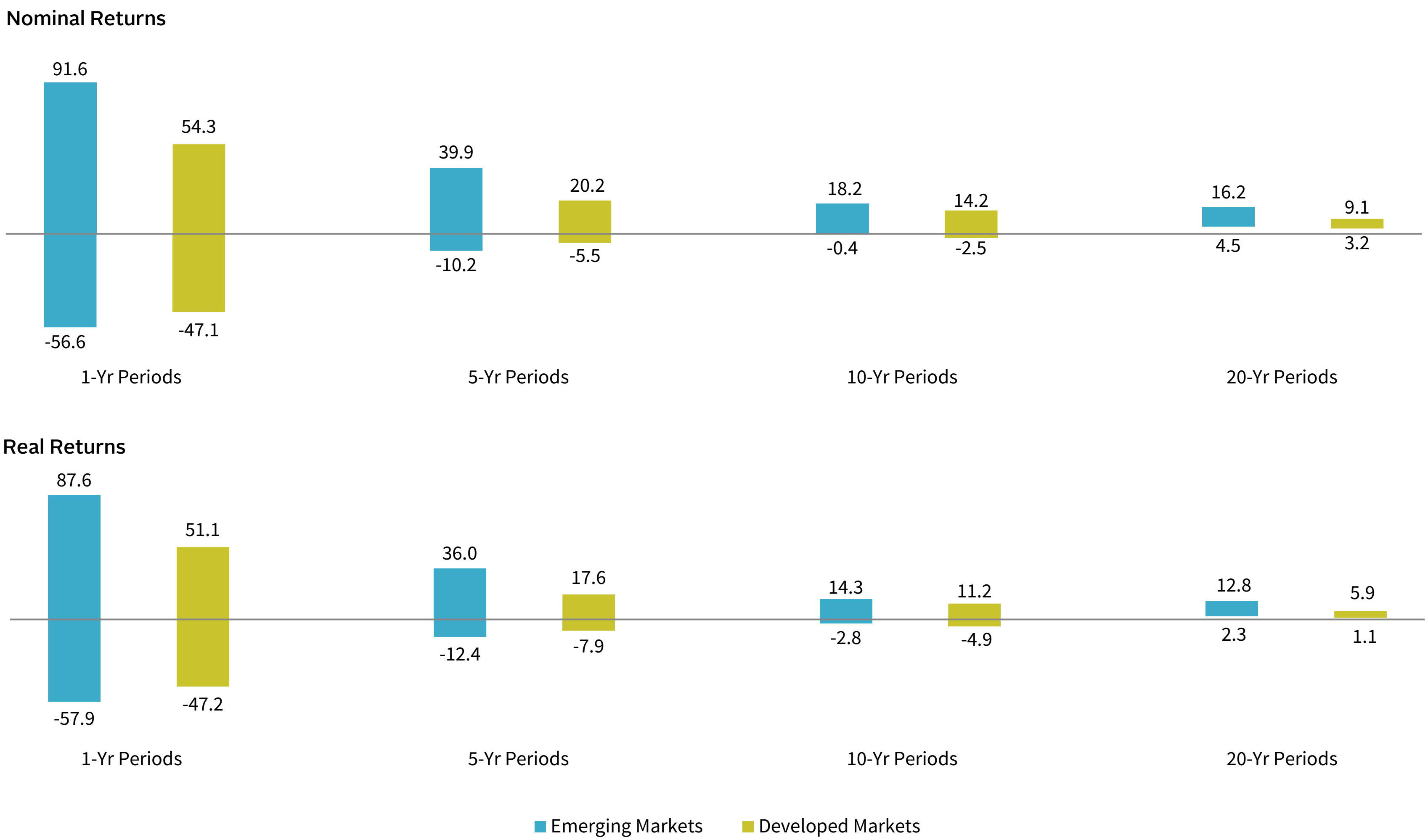
Sources: FactSet Research Systems and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Notes: EM ASEAN includes Indonesia, Malaysia, the Philippines, and Thailand. Europe includes Czech Republic, Greece, Hungary, Poland, and Portugal. MENA includes Egypt, Israel, Jordan, Morocco, Kuwait, Qatar, Saudi Arabia, Turkey, and the United Arab Emirates. Other in the Latin America chart includes Colombia, Peru, and Venezuela. Percentage may not total to 100 due to rounding or exclusion of countries carrying marginal index weights. Data are quarterly. Argentina, Israel, Jordan, Morocco, Pakistan, Portugal, Sri Lanka, and Venezuela were all once included in the index, but have since been reclassified.

Emerging markets saw a wider return distribution than developed markets across all horizons

RANGE OF EQUITY RETURNS FOR VARIOUS ROLLING MONTHLY TIME HORIZONS

1987–2021 • Average Annual Compound Return (%) • US Dollar



Sources: MSCI Inc., Thomson Reuters Datastream, and US Department of Labor - Bureau of Labor Statistics. MSCI data provided "as is" without any express or implied warranties.

Notes: Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Calendar year returns in emerging markets can be more extreme than in developed markets

DISTRIBUTION OF CALENDAR YEAR RETURNS

1988–2021 • US Dollar

Emerging Markets

Positive Years: 56%

Negative Years: 44%

-50+	-50 to -40	-40 to -30	-30 to -20	-20 to -10	-10 to 0	0 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50+
					2021						
					2014		2020				2009
				2018	2013		2019				2003
				2015	2002		2016		2017		1999
				2011	2001		2012		2007		1993
				1997	1995		2010		2006		1991
2008		2000	1998	1990	1994	1996	1992	2004	2005	1988	1989

Developed Markets

Positive Years: 74%

Negative Years: 26%

-50+	-50 to -40	-40 to -30	-30 to -20	-20 to -10	-10 to 0	0 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50+
								2021			
								2019			
								2017			
							2020	2013			
							2012	2009			
							2010	2006			
						2016	2004	1999			
				2002	2018	2014	1997	1998			
				2001	2015	2007	1996	1995			
				2000	2011	2005	1991	1993			
	2008			1990	1992	1994	1989	1988	2003		

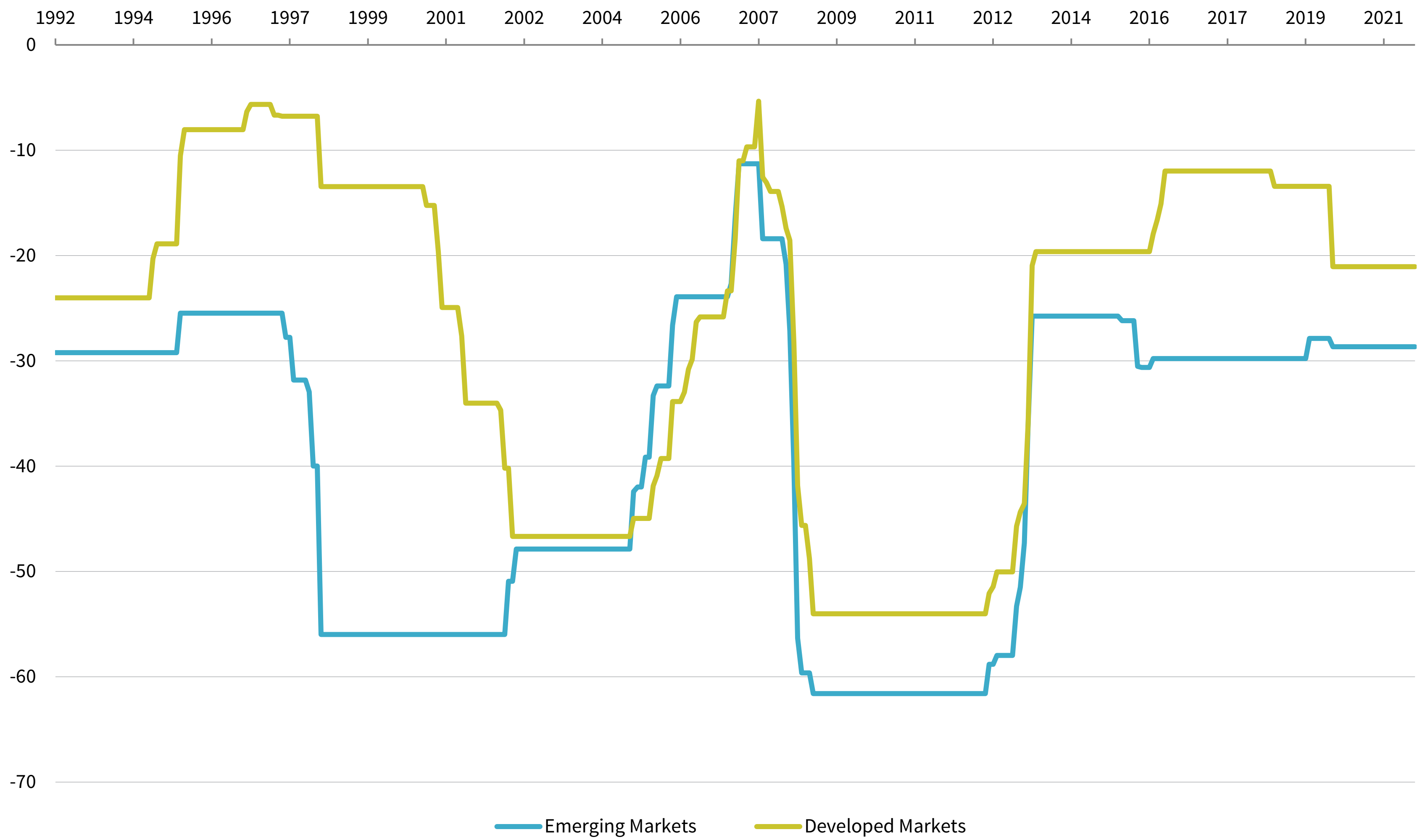
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Emerging markets experience deeper drawdowns than developed markets

ROLLING MONTHLY 5-YR MAXIMUM DRAWDOWN OF EQUITIES

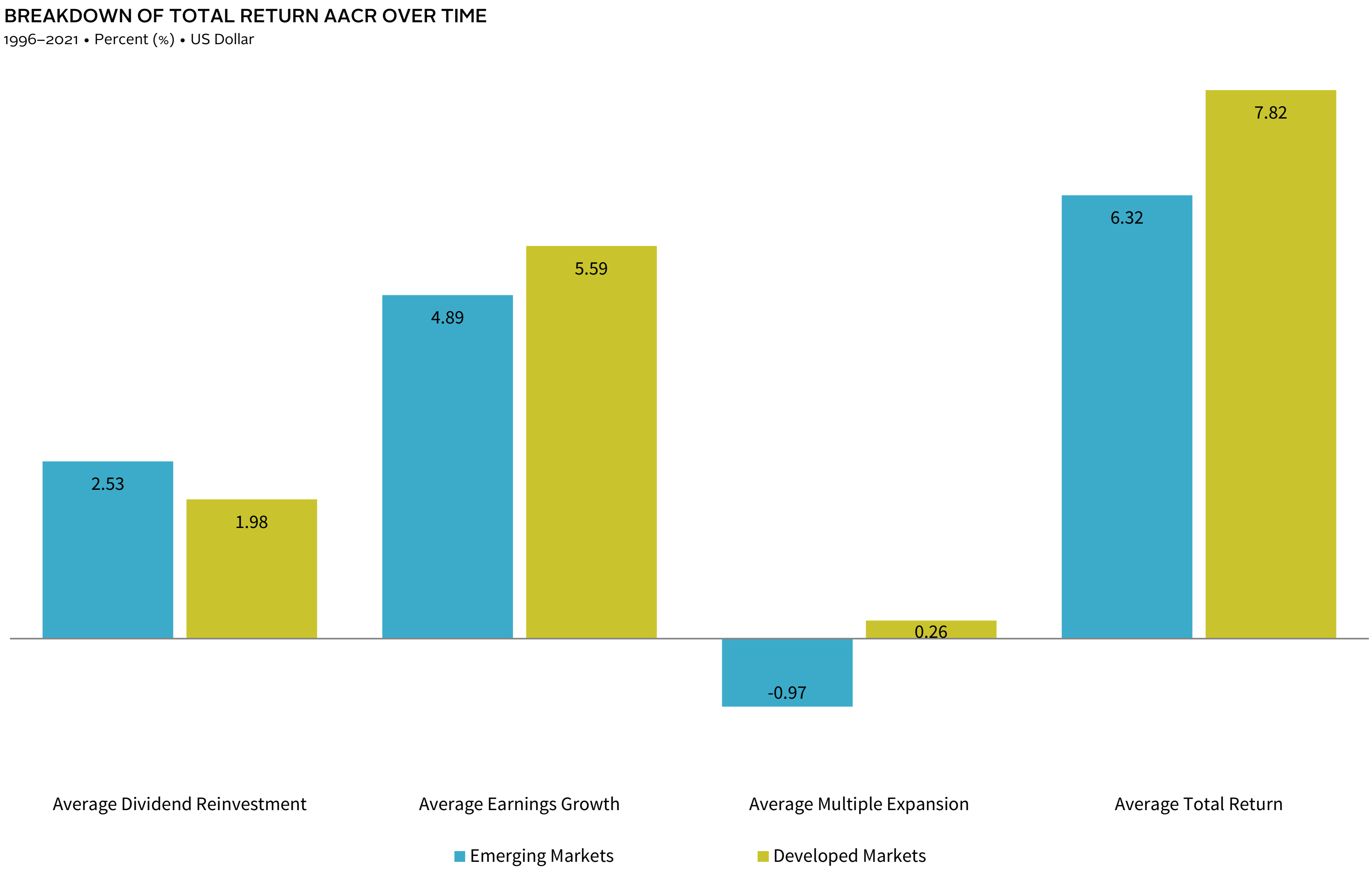
1992–2021 • Percent (%) • US Dollar



Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Data are monthly and begin on January 31, 1988. Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Components of equity returns are relatively similar in emerging and developed markets



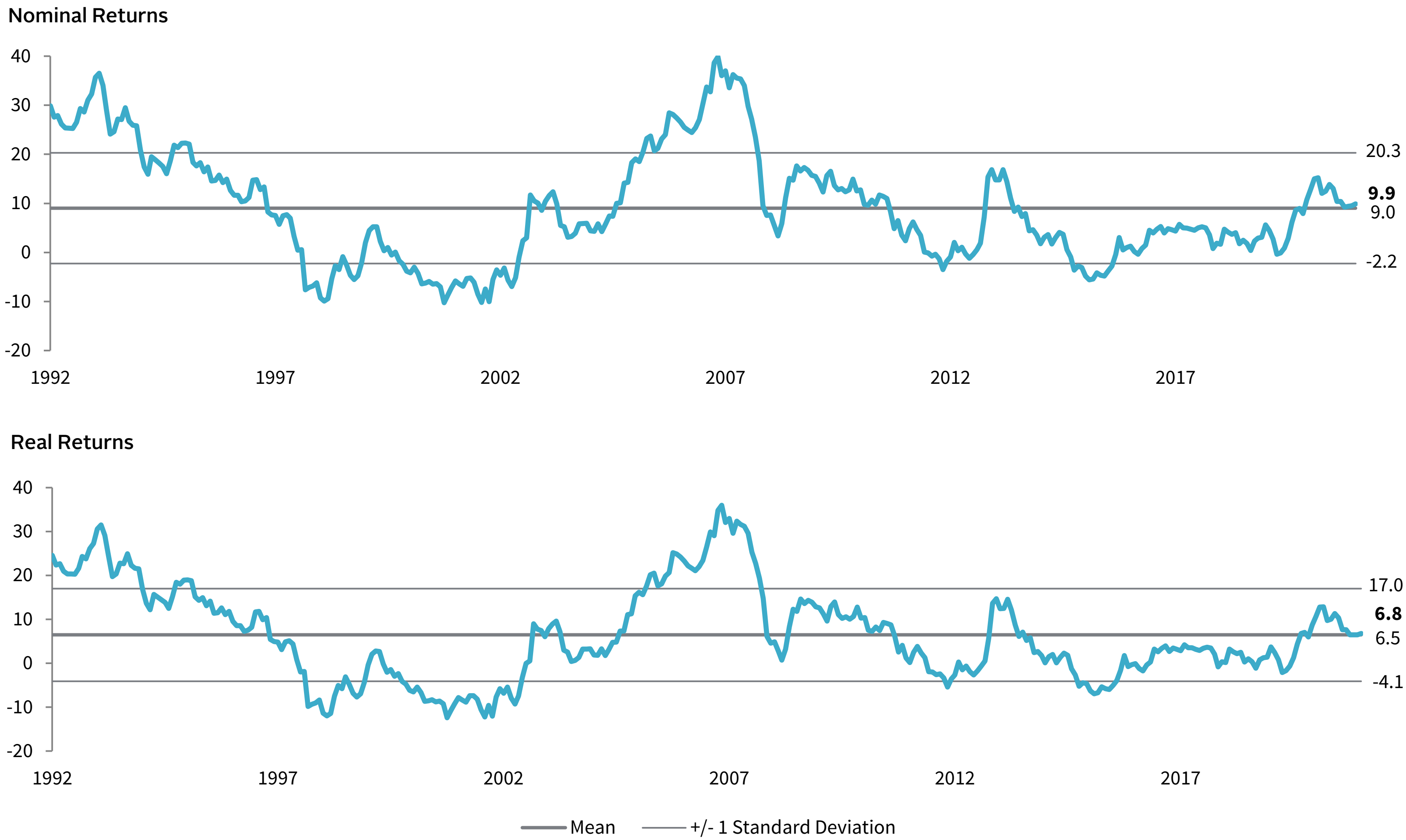
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Figures will not sum exactly to total return calculation due to the effect of combining cross terms. Averages are geometrically annualized over the data period. Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Emerging markets returns exhibit mean reversion, though the process is not smooth

ROLLING MONTHLY TOTAL RETURN 5-YR AACR

1992–2021 • Percent (%) • US Dollar



Sources: MSCI Inc., Thomson Reuters Datastream, and US Department of Labor - Bureau of Labor Statistics. MSCI data provided "as is" without any express or implied warranties.

Notes: Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Relative performance cycles versus developed markets typically last for several years

Sources: MSCI Inc. and Research Affiliates. MSCI data provided "as is" without express or implied warranties.

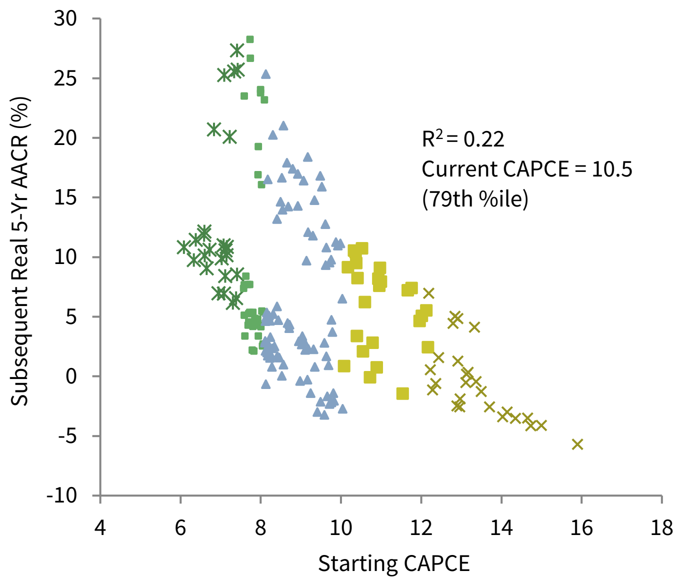
Notes: Data are monthly. Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes.

Starting valuations are a useful guide in setting longer-term return expectations

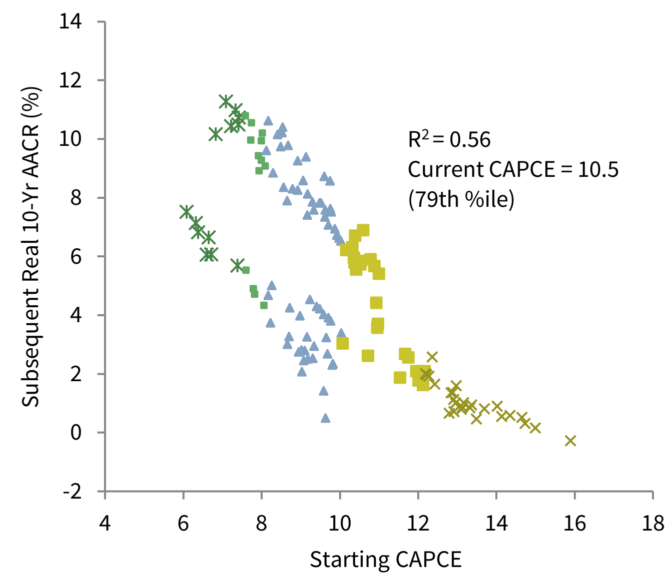
RELATIONSHIP BETWEEN CYCLICALLY ADJUSTED PRICE-TO–CASH EARNINGS RATIOS AND SUBSEQUENT REAL 5- AND 10-YR AACRS

August 31, 2000 – December 31, 2021 • Returns in Local Currency

Initial Valuation and Subsequent 5-Yr AACR



Initial Valuation and Subsequent 10-Yr AACR



P/CE Ratio Percentile	Starting Cyclically Adjusted Price-to–Cash Earnings Ratio			Subsequent Real 5-Yr AACR (%)			Starting Cyclically Adjusted Price-to–Cash Earnings Ratio			Subsequent Real 10-Yr AACR (%)		
	Median	High	Low	Median	High	Low	Median	High	Low	Median	High	Low
0–10	7.1	7.4	6.1	10.6	27.3	6.2	6.8	7.4	6.1	7.5	11.3	5.7
10–25	7.8	8.1	7.6	5.3	28.2	2.1	7.9	8.1	7.6	9.3	10.8	4.3
25–75	8.9	10.0	8.1	3.9	25.3	-3.2	9.2	10.0	8.1	6.6	10.6	0.5
75–90	10.8	12.2	10.1	6.7	10.7	-1.5	10.8	12.2	10.1	4.9	6.9	1.6
90–100	13.1	15.9	12.2	-0.9	7.0	-5.7	13.1	15.9	12.2	0.9	2.6	-0.3
Overall	**8.7**	**15.9**	**6.1**	**4.9**	**28.2**	**-5.7**	**9.6**	**15.9**	**6.1**	**4.9**	**11.3**	**-0.3**

Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

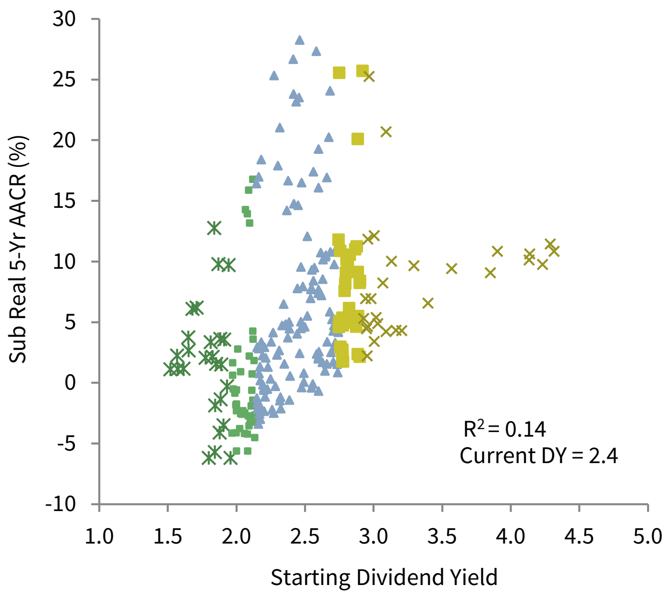
Notes: Data are monthly. The last full five-year period was January 1, 2017 to December 31, 2021, and the last full ten-year period was January 1, 2012 to December 31, 2021. Total return data prior to January 1, 2001, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes. Data are in local currency terms.

Dividend yields are not statistically related to subsequent performance

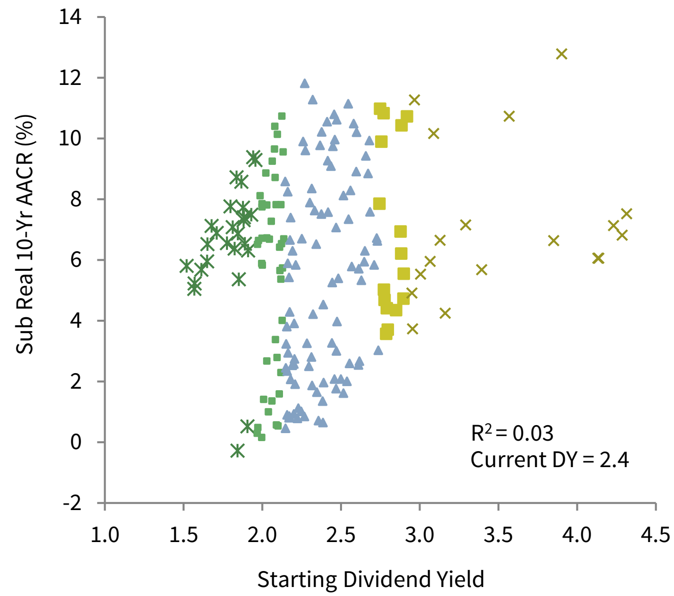
RELATIONSHIP BETWEEN DIVIDEND YIELDS AND SUBSEQUENT REAL 5- AND 10-YR AACRS

September 30, 1995 – December 31, 2021 • Returns in Local Currency

Dividend Yield and Subsequent 5-Yr AACR



Dividend Yield and Subsequent 10-Yr AACR



Dividend Yield Percentile	Starting Period Dividend Yield (%)			Subsequent Real 5-Yr AACR (%)			Begin Period Dividend Yield (%)			Subsequent Real 10-Yr AACR (%)		
	Median	High	Low	Median	High	Low	Median	High	Low	Median	High	Low
0–10	1.8	2.0	1.5	1.8	12.8	-6.2	1.8	2.0	1.5	6.7	9.4	-0.3
10–25	2.1	2.1	2.0	-1.9	16.8	-5.6	2.1	2.1	2.0	6.5	10.7	0.2
25–75	2.5	2.7	2.1	4.2	28.2	-3.4	2.4	2.7	2.1	5.4	11.8	0.5
75–90	2.8	2.9	2.7	5.5	25.7	1.7	2.8	2.9	2.7	5.9	11.0	3.6
90–100	3.1	4.3	2.9	8.7	25.3	2.2	3.3	4.3	3.0	6.6	12.8	3.7
Overall	**2.5**	**4.3**	**1.5**	**4.1**	**28.2**	**-6.2**	**2.3**	**4.3**	**1.5**	**6.3**	**12.8**	**-0.3**

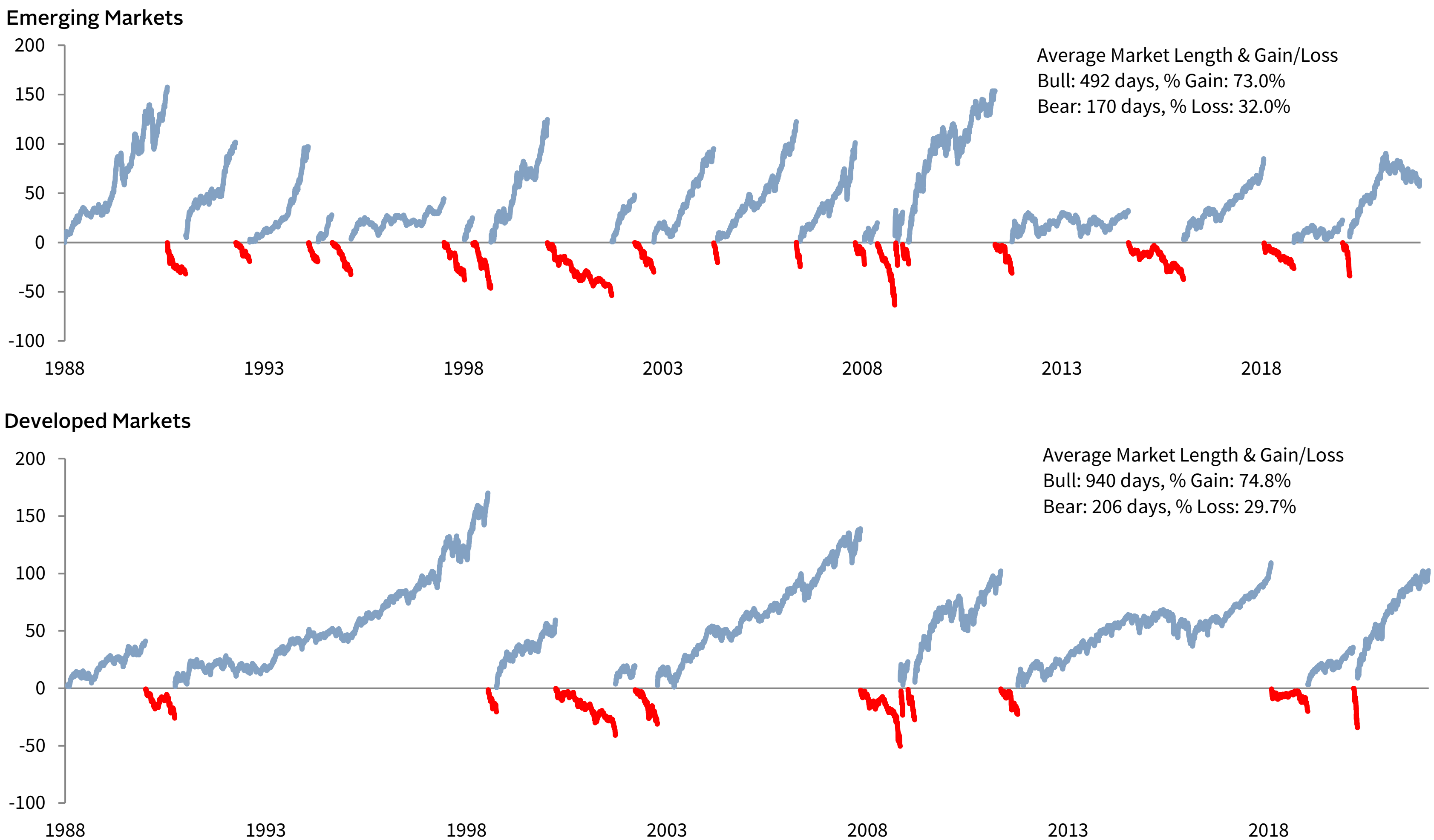
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties

Notes: Data are monthly. The last full five-year period was January 1, 2017, through December 31, 2021. The last full ten-year periods was January 1, 2012, through December 31, 2021. Total return data prior to January 1, 2002, are gross of dividend taxes. From January 1, 2001 to present, total return data are net of dividend taxes. Data are in local currency terms. In USD terms, the R^2 are 0.12 (5-yr) and 0.03 (10-yr).

Bull and bear market cycles turn more frequently in emerging markets

HISTORICAL LENGTH OF BULL/BEAR MARKET CYCLES

January 1, 1988 – December 31, 2021 • US Dollar • Percent (%)



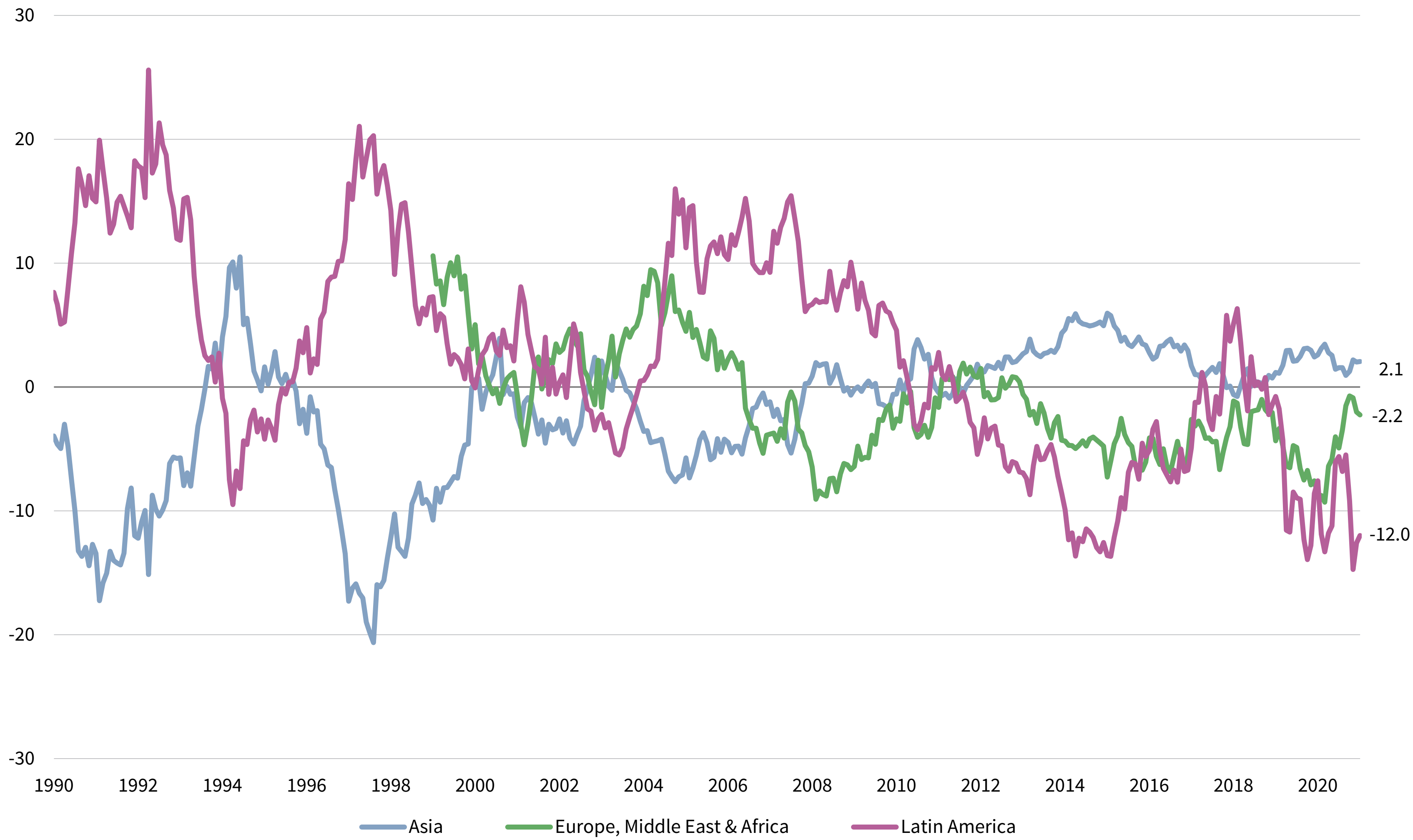
Sources: MSCI Inc., Ned Davis Research Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Bull/bear markets are based on price return data and are cumulative. Bull/bear markets are defined by +19%/-19% return periods.

Performance leadership among major EM regions shifts over time

ROLLING 3-YR RELATIVE PERFORMANCE BETWEEN EM REGIONS AND BROAD INDEX

December 31, 1990 – December 31, 2021 • US Dollar • Percent (%)



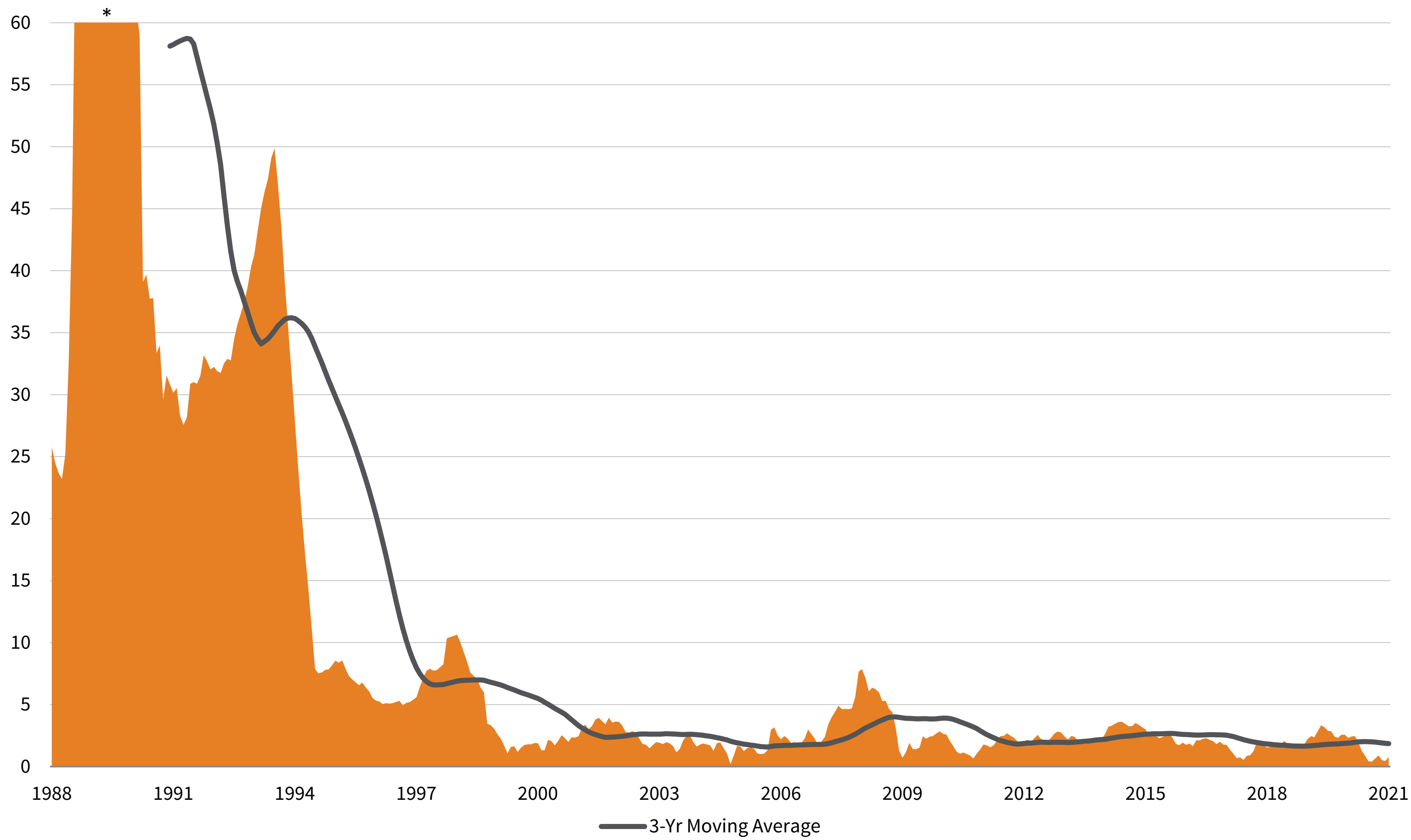
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Data are monthly. Returns are total returns gross of dividend taxes.

Inflation differential versus developed markets has stabilized and fell to near record lows in 2021

TRAILING 12-MONTH EM–US INFLATION DIFFERENTIAL

December 31, 1988 – December 31, 2021 • Percent (%)



* Capped for scaling. Trailing 12-month inflation differential peaked at 123% in March 1990.

Sources: MSCI Inc., National Sources, and US Department of Labor – Bureau of Labor Statistics.

Note: EM inflation reflects an equal-weighted basket of countries within the MSCI EM Index.

Contributors to this report include Stuart Brown, Sean Duffin, Brendan Castleman, Ilona Vdovina, and Graham Landrith.