DECADES OF DATA: UNITED KINGDOM

1900–2022

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Key Points

- Basing investment decisions on the extrapolation of capital markets returns from recent, relatively short periods is a common mistake. A core tenet of our research process is to "know the history," which is the underlying theme of our Decades of Data publication.
- UK equity investors are compensated for the additional risk of holding stocks in the long run. UK equities have also consistently outpaced inflation over long-term holding periods.
- Earnings growth and dividend reinvestment are the primary contributors to equity returns, while the impact of valuation rerating is ultimately negligible due to mean reversion.
- Starting equity valuations are a useful indicator for long-term subsequent equity returns. For bonds, starting yields are a reasonable proxy for setting nominal return expectations.
- We also provide context around the historic market environment in 2022, including the inflation surge to 40-year highs, record bond market declines, and equity market drawdown.

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Executive Summary

- **Basing investment decisions on the extrapolation of capital markets returns from recent, relatively short periods is a common mistake.** Viable conclusions about long-term expected returns cannot be drawn from return data for periods shorter than several decades, and even then, investors should be mindful that long-term statistics are beginning- and end-point sensitive and that returns are more variable than commonly assumed. Still, consideration of shorter time periods within a longer-term context can provide a powerful framework for evaluating current market conditions.

- **UK equities (0.3%) outperformed global peers in 2022, but bonds (-20.2%) suffered historically steep declines. Asset returns were buffeted by surging inflation, tightening central bank policy, and slowing economic growth.** Although UK equity performance was weak by historical standards, it benefited from large exposures to the energy sector and relatively low-tech sector weights. In addition, UK stock valuations were low heading into 2022, eliminating a headwind faced by other regions. UK gilts, on the other hand, posted their largest nominal declines on record, exceeding the prior mark set in 1974. Rapidly rising yields led to a brief crisis in the gilt market—catalyzed largely by hedged pension schemes—which further pressured bond returns. While gilt performance rebounded strongly following the drawdown in 1974, we should note that ten-year yields were significantly more elevated in that period versus today. Yields averaged around 15% in 1974, versus just 3.7% at year-end 2022. This serves as an important reminder that understanding the unique differences across time periods is vital when using historical episodes as a guide.

- **UK consumer price inflation was a prominent market theme in 2022.** Inflation accelerated to a peak of 11.1% year-over-year (YOY) in October, the highest rate since 1982. The inflationary spike resulted from a confluence of factors including the strong post-COVID demand recovery, supply-chain constraints, and Russia's invasion of Ukraine that catalyzed higher commodity prices. Resurgent consumer prices bucked their long-term downtrend since the high inflation environment of the 1970s and 1980s. In fact, October's inflation reading was nearly 5x its trailing ten-year average, a reversal that was nearly unprecedented and the largest since 1952. This rapid inflation spike was a key factor behind the increased correlation of equity and bond returns. And although inflation climbed to extreme levels based on recent memory, higher levels were reached historically. Inflation peaked at nearly 27% YOY in 1975.

Executive Summary (continued)

- **Recent UK equity returns have struggled to keep up with their long-term average.** For the full history analyzed (1900–2022), investors in UK equities have earned an 8.6% nominal average annual compound return (AACR). Over the past ten years, however, UK equities posted a nominal AACR of 6.5%. However, timing mattered: monthly rolling ten-year AACRs reached their highest point this cycle in February 2019 at 11.2%, which was the strongest ten-year return period since the period ending March 2002. The February 2019 peak coincided with the period when the largest declines during the Global Financial Crisis (GFC) fell out of the data set, beginning in March 2009 when the FTSE® All-Share Index hit its trough. This highlights the impact of beginning- and end-point sensitivity and reminds investors that even over periods as long as ten years, returns can be skewed by short-term market fluctuations. Above-average performance proved to be short-lived, however, as trailing ten-year returns for UK equities have been below their long-term average since August 2019.
- **Equities have consistently outpaced inflation over the long term.** Across all rolling 50-year periods since 1900, real AACRs for UK stocks ranged from 2.0% to 8.2%, whereas the range for benchmark government bonds (-1.8% to 3.5%) and cash (-1.1% to 2.0%) indicated the potential for diminished purchasing power. Benchmark UK government bonds and cash produced full-period AACRs of 4.8% and 4.5%, respectively, since 1900, which represents a significantly narrower spread vis-à-vis the average inflation rate of 3.7% per annum. Interestingly, UK government bonds had a lower minimum real return over the very long term relative to cash, which is likely a result of greater duration risk.
- **Over the long term, UK equity investors are typically compensated for the additional risk of holding stocks.** Since 1900, UK equity returns exceeded bond returns during 72% of all five-year periods, 77% of all ten-year periods, and 93% of all 25-year periods (calculated on a nominal basis using rolling monthly data). While equities tend to outperform in the long term, underperformance over rolling five-year periods is not uncommon, as equities are more volatile and prone to larger drawdowns than bonds. Such periods are a reminder of the ballast fixed income allocations have traditionally provided portfolios in terms of diversification. The events in 2022 have challenged the conventional wisdom, although the key differentiator in this episode was that bond yields started at historically low levels. In such cases, investors may need to consider other avenues to effectively diversify portfolios.

Executive Summary (continued)

- **Earnings growth and dividend reinvestment are the primary contributors to equity total return over time, while valuation multiple rerating is ultimately negligible due to mean reversion.** Earnings growth provided the highest degree of return contribution, on average, but can be highly volatile (especially during periods of economic decline) relative to the steady stream of reliable income provided by dividends. For the three years available in the current decade, valuation expansion and dividend reinvestment have accounted for the lion's share of the positive return, while earnings have contracted. Dividend reinvestment's contribution to UK equity performance has been stable relative to the United States. In the past two decades, dividend reinvestment averaged 3.6% versus 4.7% in the roughly four-decade period from 1960 to 2001. Over the full historical period, dividend reinvestment averaged 4.4%.
- **Starting valuations are a useful indicator for long-term (10+ years) subsequent equity returns.** Normalized valuations and subsequent returns have a stronger relationship over long time periods (e.g., ten-year subsequent returns), but starting valuations alone do not completely explain subsequent returns—many factors can influence equity performance. Since 1979, our cyclically adjusted price-to–cash earnings (CAPCE) ratio for the United Kingdom has explained 71% of the variation in subsequent ten-year real returns, a strong yet imperfect guide to future returns. At year-end 2022, UK equity valuations ended in the 16th percentile of historical observations. When UK equity valuations have been between the 10th and 25th percentiles, the median subsequent ten-year real return for has been nearly 9% annualized.
- **High- or low-valuation environments alone are not a catalyst for market reversals and may persist for several years.** Waiting for valuations to revert to mean can be an exercise in frustration. UK equities provide a fitting example. Since mid-2008, valuations have been below the 50th percentile 98% of the time, based on our CAPCE ratio distribution dating back to the late 1970s. Low valuations provide what famed investment analyst Benjamin Graham called "a margin of safety." High valuations, on the other hand, typically price in lofty projections for the future, providing little room for error. Despite uncertainty regarding the timing of market reversals, the historical record for UK equities is clear—periods of low valuations are followed by higher long-term subsequent returns, while periods of high valuations are followed by poorer long-term returns.

Executive Summary (continued)

- **Equity dividend yields are an important driver of equity total returns but are not a useful valuation indicator.** In the United Kingdom, higher starting dividend yields (i.e., lower equity prices relative to dividends) have typically been associated with higher subsequent ten-year returns relative to long-term averages. Dividend yields are currently in the 36th percentile of the historical distribution, where subsequent real ten-year returns historically have been about 5% annualized. Dividend yields fail to capture the whole picture, however, as many other factors influence equity market returns. While dividend yields fall short in terms of forecasting ability, the importance of dividend reinvestment as a driver of total return should not be understated. In fact, since the 1960s, UK companies managed to maintain a net positive average dividend growth rate during recessions, even as earnings growth stalled in these periods given their sensitivity to the economic cycle.
- **Subsequent nominal ten-year UK bond returns generally track the starting yield, suggesting that yields are a reasonable proxy for forward return expectations.** Since hitting all-time lows in July 2020, UK ten-year gilt yields have climbed nearly 360 basis points (bps), ending 2022 at 3.67%, which has improved their forward return prospects. In fact, when yields historically were +/- 50 bps from today's starting levels, subsequent nominal ten-year AACRs notched a median of more than 2% annualized. Falling yields were a boon for UK bond investors for the past 40+ years, with UK gilts returning 9.9% annualized since 1974, but that paradigm reversed sharply in 2022. While bonds proved to be a poor diversifier given their low yields heading into today's environment, future returns are likely to look better given the steep backup in yields.

Executive Summary (continued)

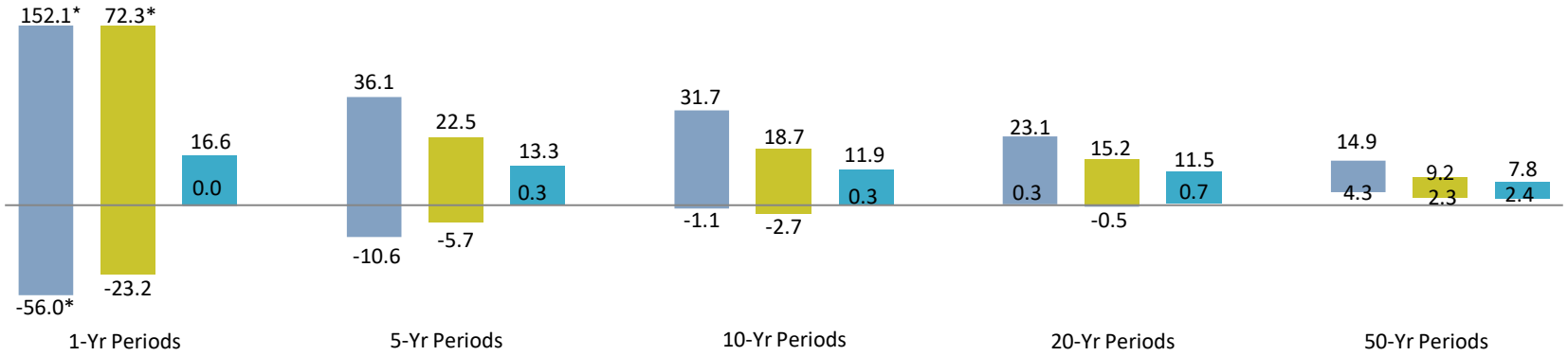
- **The relationship between the level of UK gilt yields and equity market valuations in the United Kingdom is unclear.** Many have argued in recent years that high equity valuations, particularly in the United States, are justified (or at least in part explained) by the low level of Treasury yields. The reasoning is straightforward; when discount rates fall, the present value of future cash flows increases, thus pushing up valuations. However, this is not the case for UK equities. Since 1979, ten-year UK gilt yields have explained only 6% of the variation in equity market valuations. Despite a sustained gilt yield decline following the GFC, UK equity valuations struggled to rise above their historical median. The UK equity market composition—namely outsized exposure to value-oriented financials and natural resources–linked stocks—may explain the depressed valuations in the post-crisis period. Given the historical evidence, investors must consider the drivers of changes in interest rates, rather than their outright levels, and what impact such drivers may have on equity markets.
- **The relationship between asset prices and inflation is complex and nuanced.** UK equities fared best amid moderate inflation, exhibiting limited downside when inflation ranges from 2.9% to 4.4%. However, the highest inflationary periods have created a volatile environment for stocks, experiencing their widest rolling three-year return range during top decile inflationary periods. Median nominal bond performance remains positive during periods of high inflation, as higher yield levels historically have helped offset any capital losses as bond prices fell. However, bond markets do suffer in real terms during the highest bouts of inflation when price levels increase 5% annualized or more. Equities and bonds generate stronger results during environments of decelerating inflation, whereas commodities and natural resources equities fare better during periods of accelerating inflation.

The range of investment returns narrows as holding periods increase

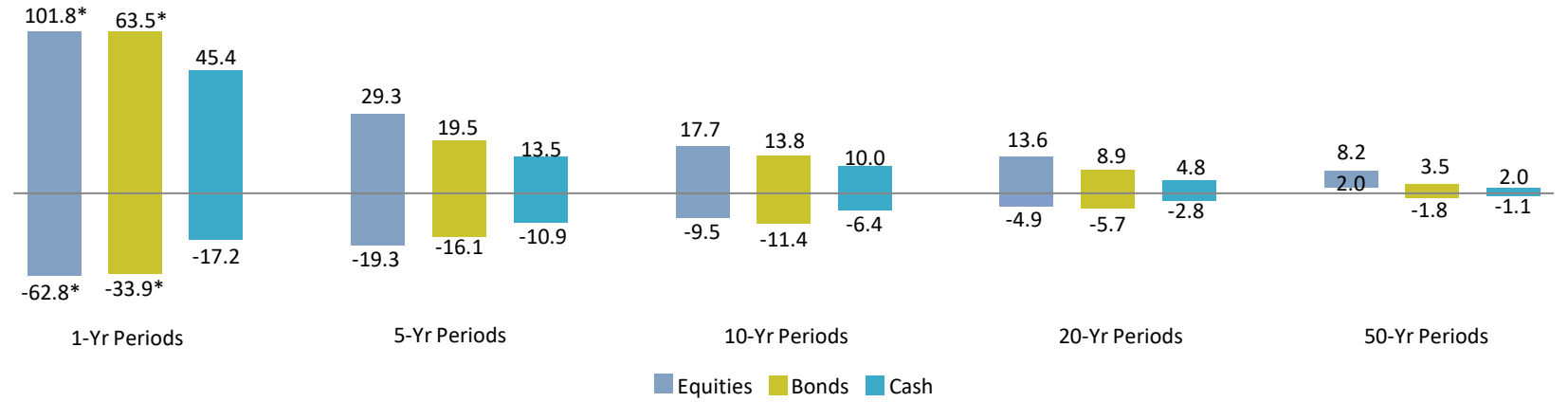
RANGE OF EQUITY, BOND, AND CASH RETURNS FOR VARIOUS ROLLING MONTHLY TIME HORIZONS

1900–2022 • Average Annual Compound Return (%)

Nominal Returns



Real Returns



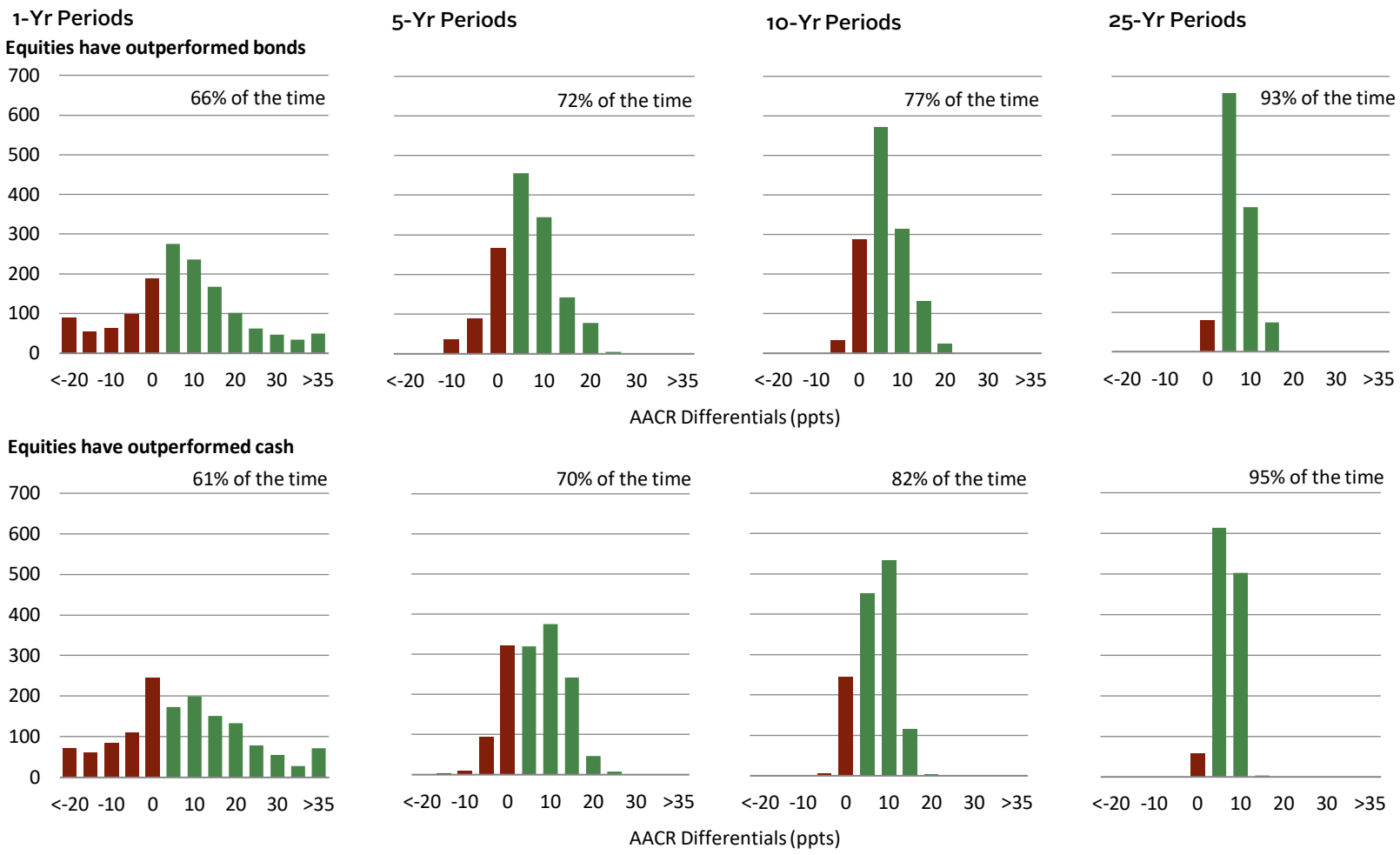
* Axis capped for scaling purposes.

Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Note: The one-year high real cash return of 45.4% occurred in 1921 and was caused primarily by severe deflation in the postwar period rather than high cash yields, which yielded an average of 5% during the year.

Equities outperform bonds and cash over the long term, but can underperform in the short run

EXCESS RETURNS OF EQUITIES OVER BONDS AND CASH

1900–2022 • Number of Rolling Monthly Periods

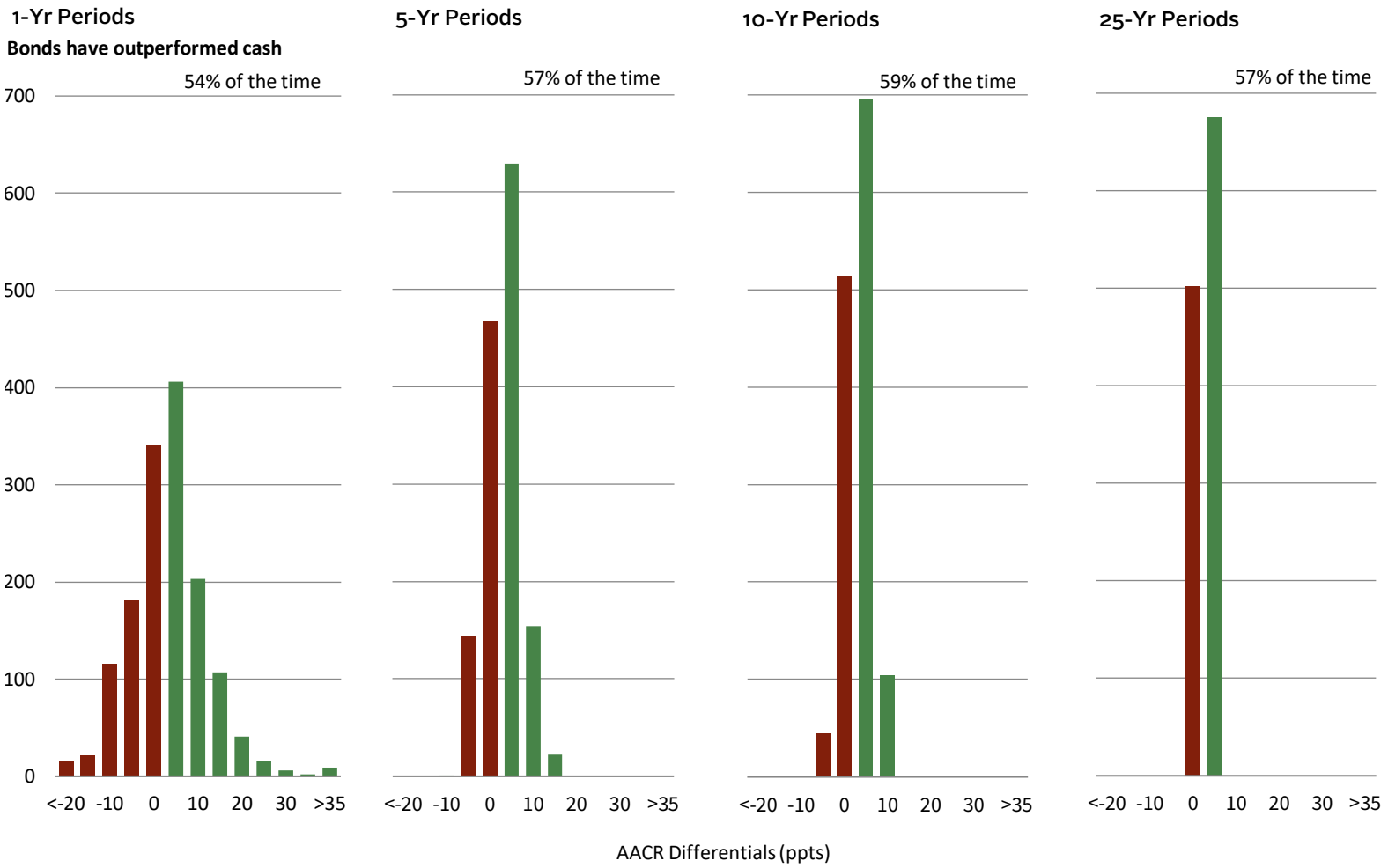


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Notes: Buckets represent ranges of 5 percentage points each with the label denoting the high end of the range, inclusive. For example, the "0" bucket corresponds to the number of rolling monthly periods in which the excess return of equities over bonds/cash was greater than -5 but equal to or less than zero.

Bonds' outperformance over cash is inconsistent over the short and long term alike

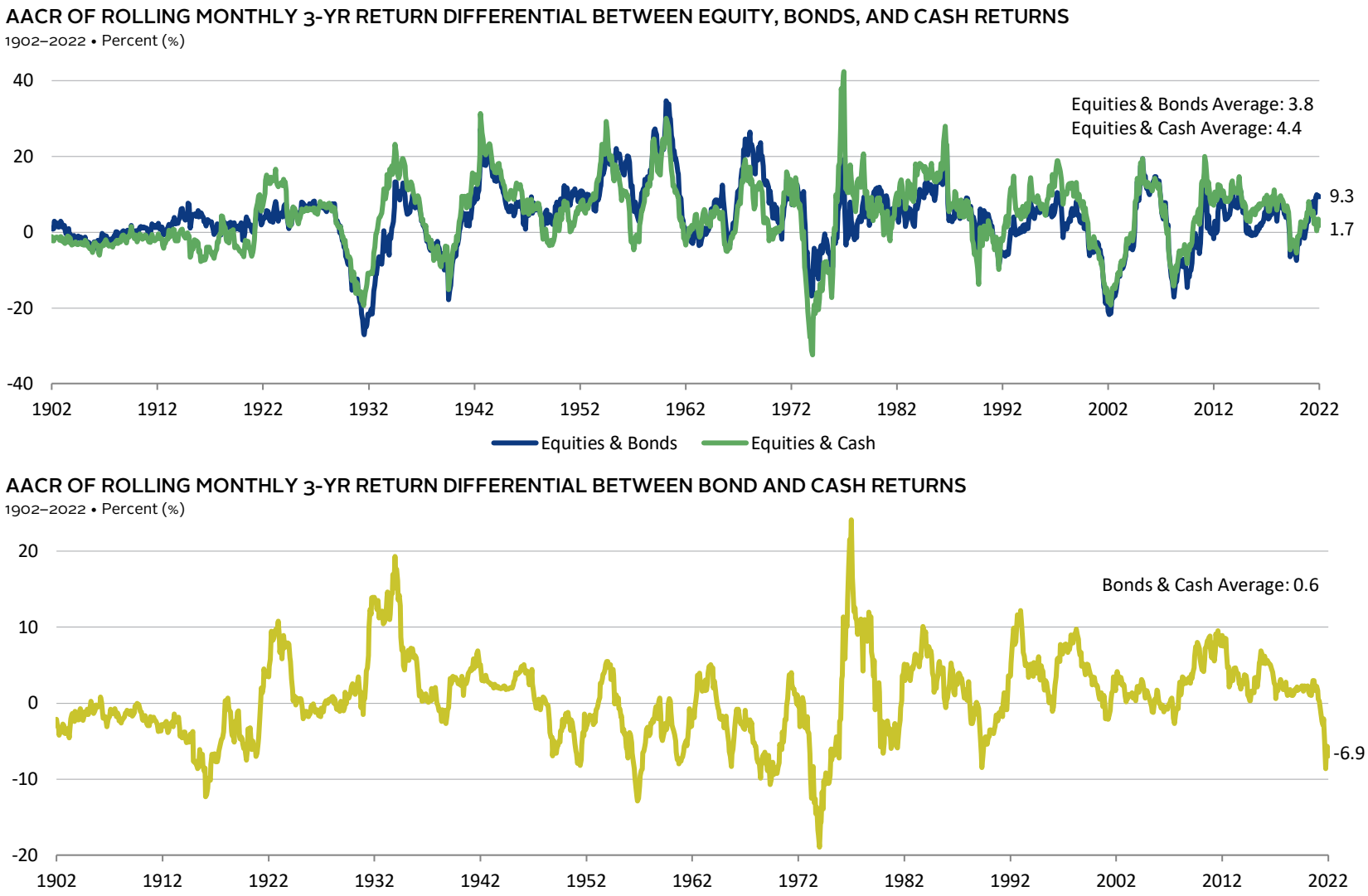
EXCESS RETURNS OF BONDS OVER CASH

1900–2022 • Number of Rolling Monthly Periods



Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.
Notes: Buckets represent ranges of 5 percentage points each with the label denoting the high end of the range, inclusive. For example, the "0" bucket corresponds to the number of rolling monthly periods in which the excess return of bonds over cash was greater than -5 but equal to or less than zero.

Equities outperform bonds and cash by a wide margin; bonds outperform cash to a lesser degree

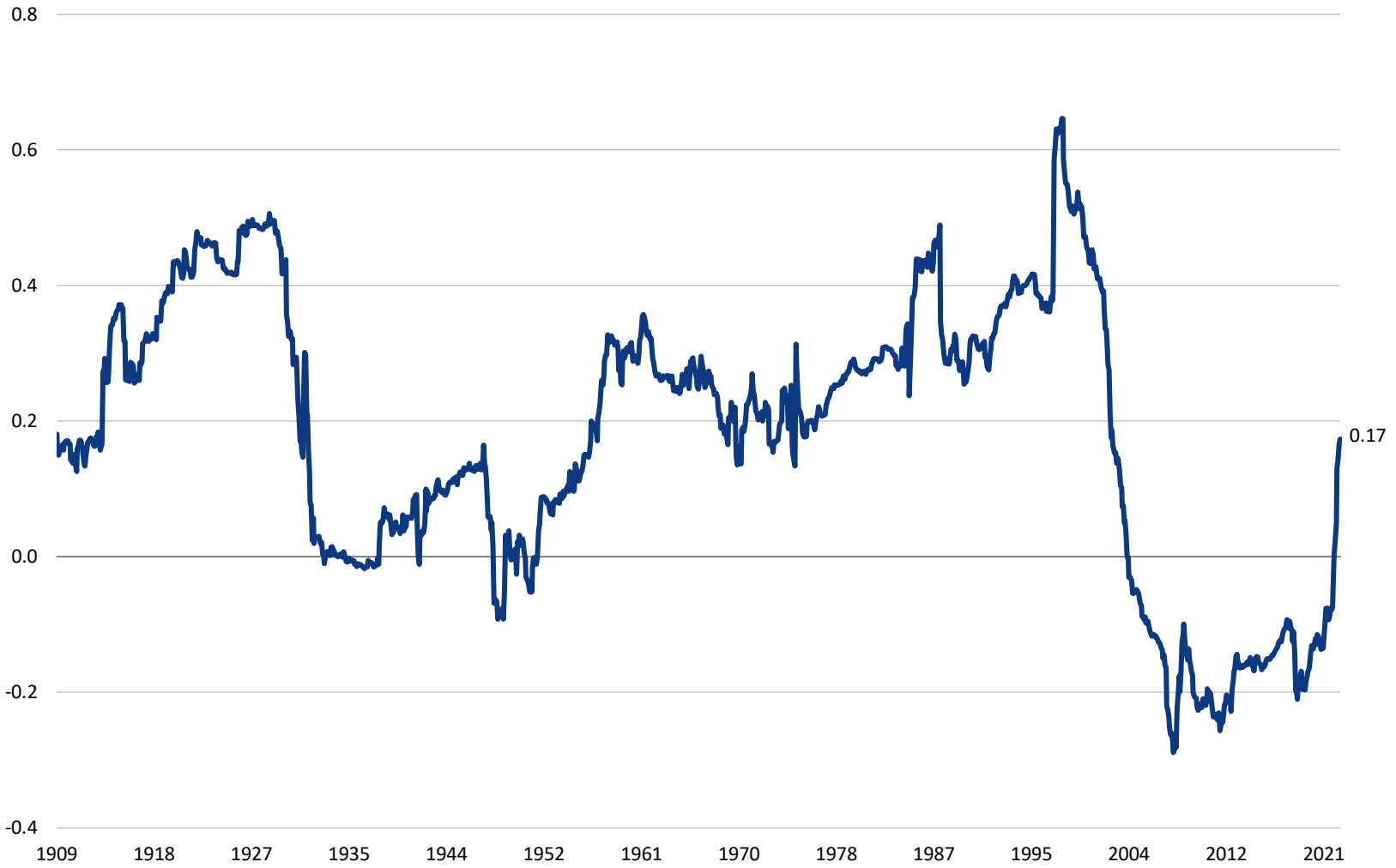


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.

Stock-bond correlation has increased rapidly, due in part to sharply higher inflation rates

ROLLING 10-YR CORRELATIONS OF STOCK AND BOND RETURNS

December 31, 1909 – December 31, 2022 • Correlation Coefficient

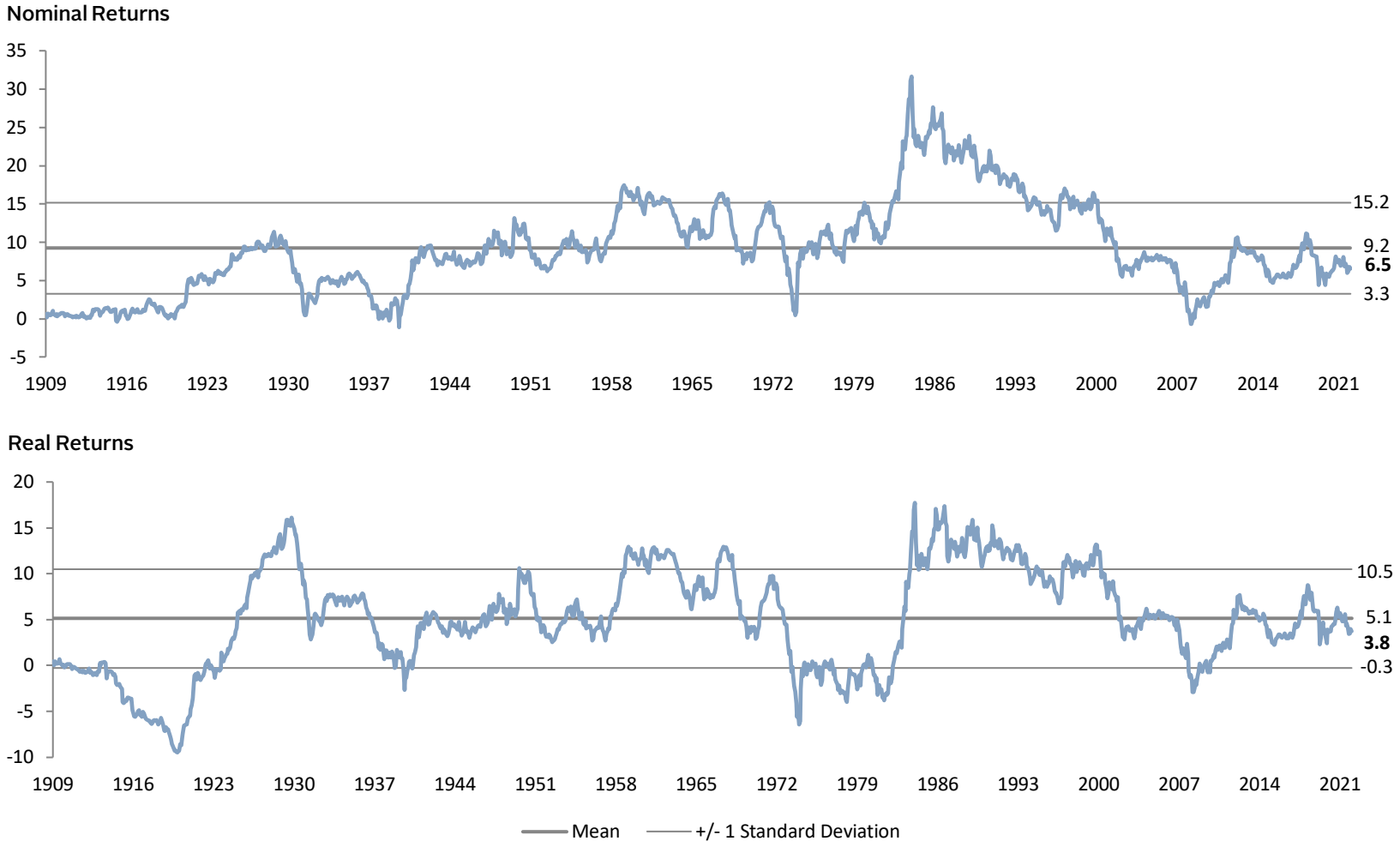


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Notes: Data begin on January 31, 1900. All return data are monthly.

Real equity performance tends to cycle about long-term averages

ROLLING MONTHLY EQUITY TOTAL RETURN 10-YR AACR

1909–2022 • Percent (%)

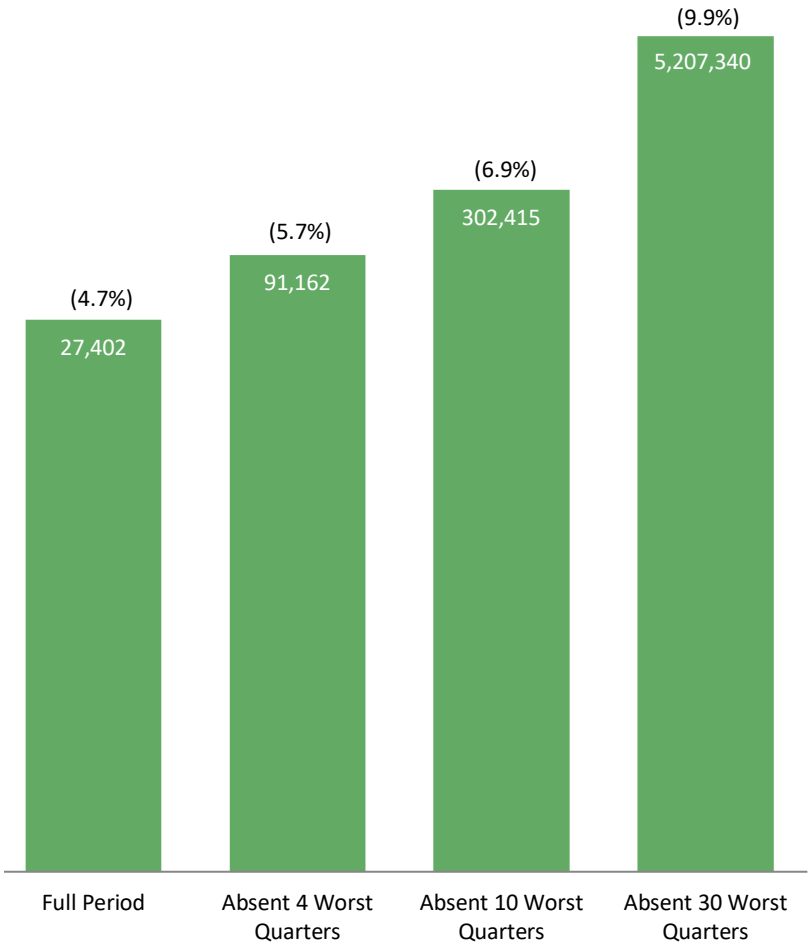


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.

Attempting to time the market is a risky proposition

CUMULATIVE REAL WEALTH ABSENT WORST QUARTERS

1900–2022 • January 1, 1900 = 1 • AACR (%) in Parentheses



CUMULATIVE REAL WEALTH ABSENT BEST QUARTERS

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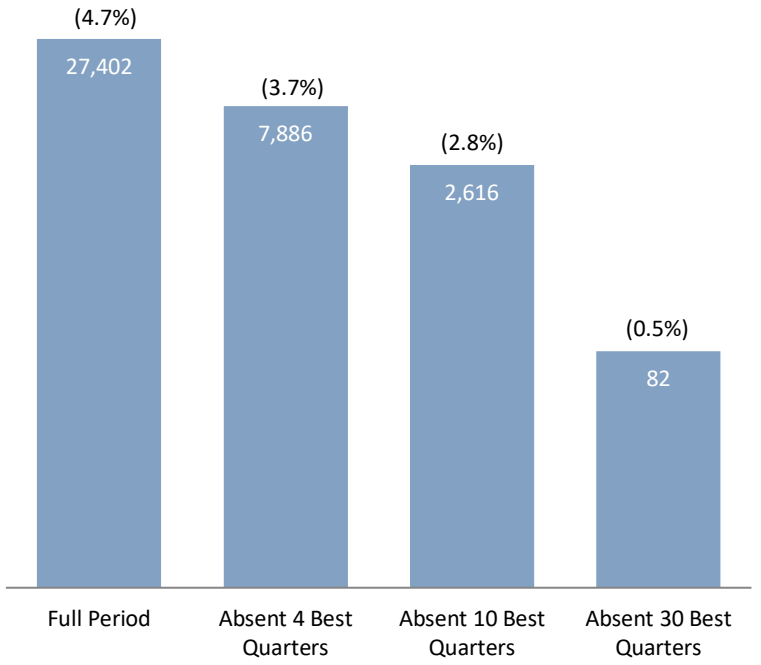
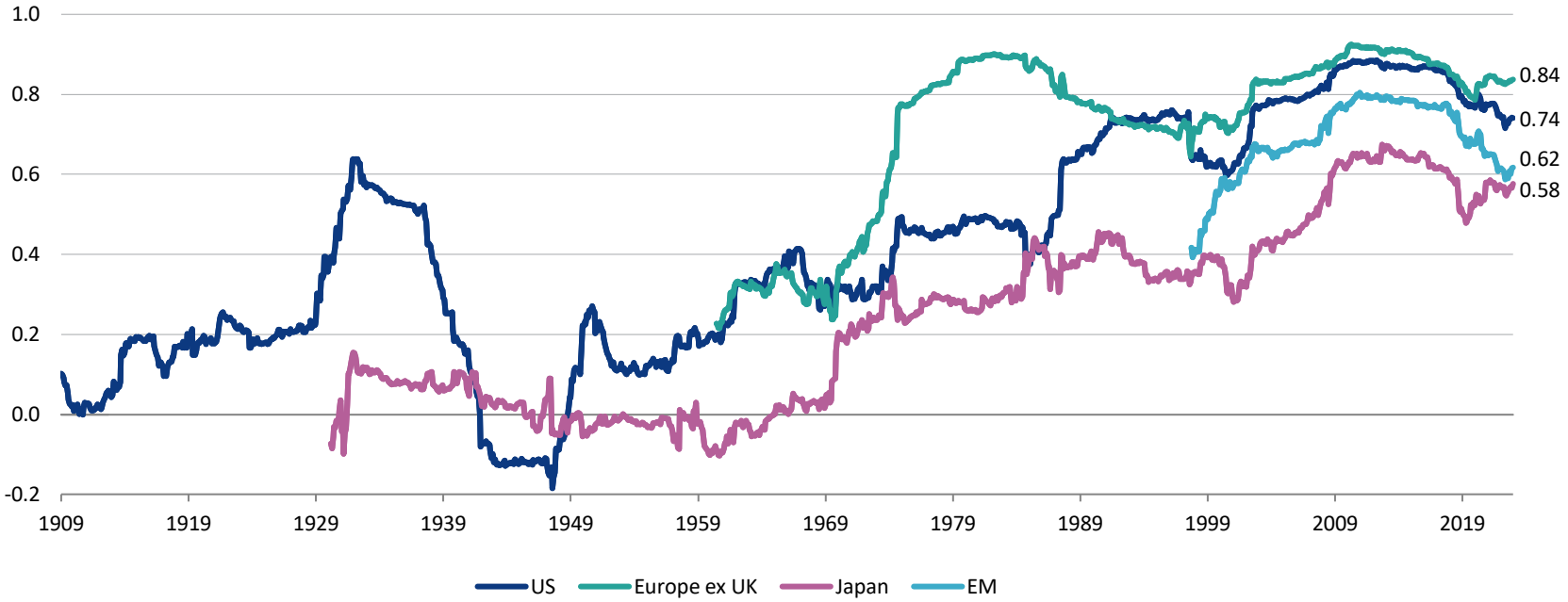


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Note: Cumulative real wealth is shown on a logarithmic scale.

UK equity market correlations with other regions increased in recent decades

ROLLING 10-YR CORRELATIONS: UK EQUITY VS GLOBAL PEERS

December 31, 1909 – December 31, 2022 • Correlation Coefficient



CORRELATION MATRIX

January 31, 1900 – December 31, 1959

	UK	US	Japan
UK	1.00		
US	0.20	1.00	
Japan	-0.01	-0.03	1.00

CORRELATION MATRIX

January 31, 1960 – December 31, 2022

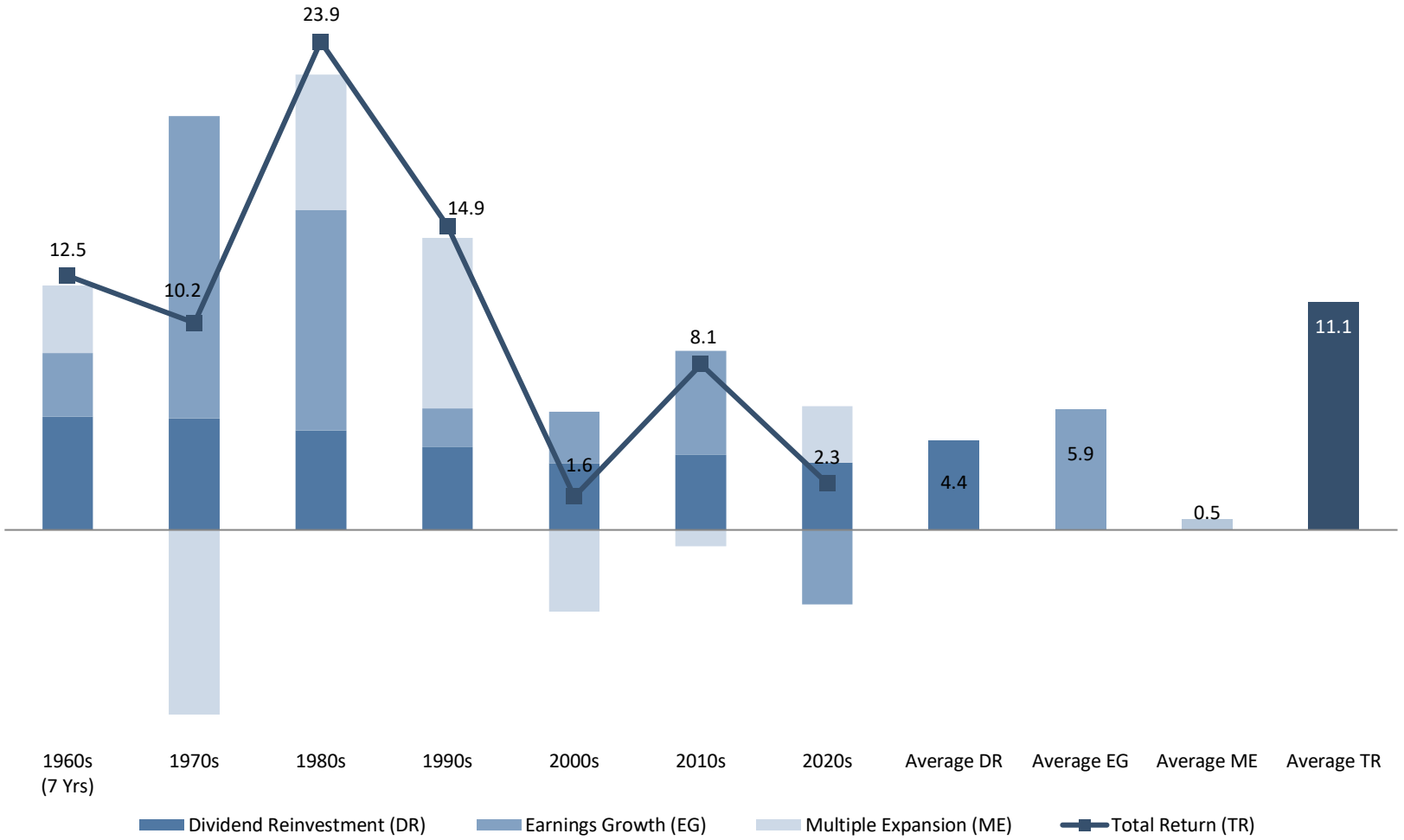
	UK	US	Europe ex UK	Japan	EM
UK	1.00				
US	0.59	1.00			
Europe ex UK	0.73	0.68	1.00		
Japan	0.36	0.42	0.49	1.00	
EM	0.63	0.66	0.63	0.50	1.00

Sources: FTSE International Limited, Global Financial Data, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Data for the UK and US begin on January 31, 1900. Data for Japan begin on January 31, 1921. Data for Europe ex UK begin on January 31, 1951. Data for EM begin on January 31, 1988. All return data are monthly. EM returns are in USD terms. All other returns are in local currency.

Earnings growth and dividend reinvestment drive equity market returns in the long run

BREAKDOWN OF TOTAL RETURN AACR OVER TIME

1963–2022 • Percent (%)

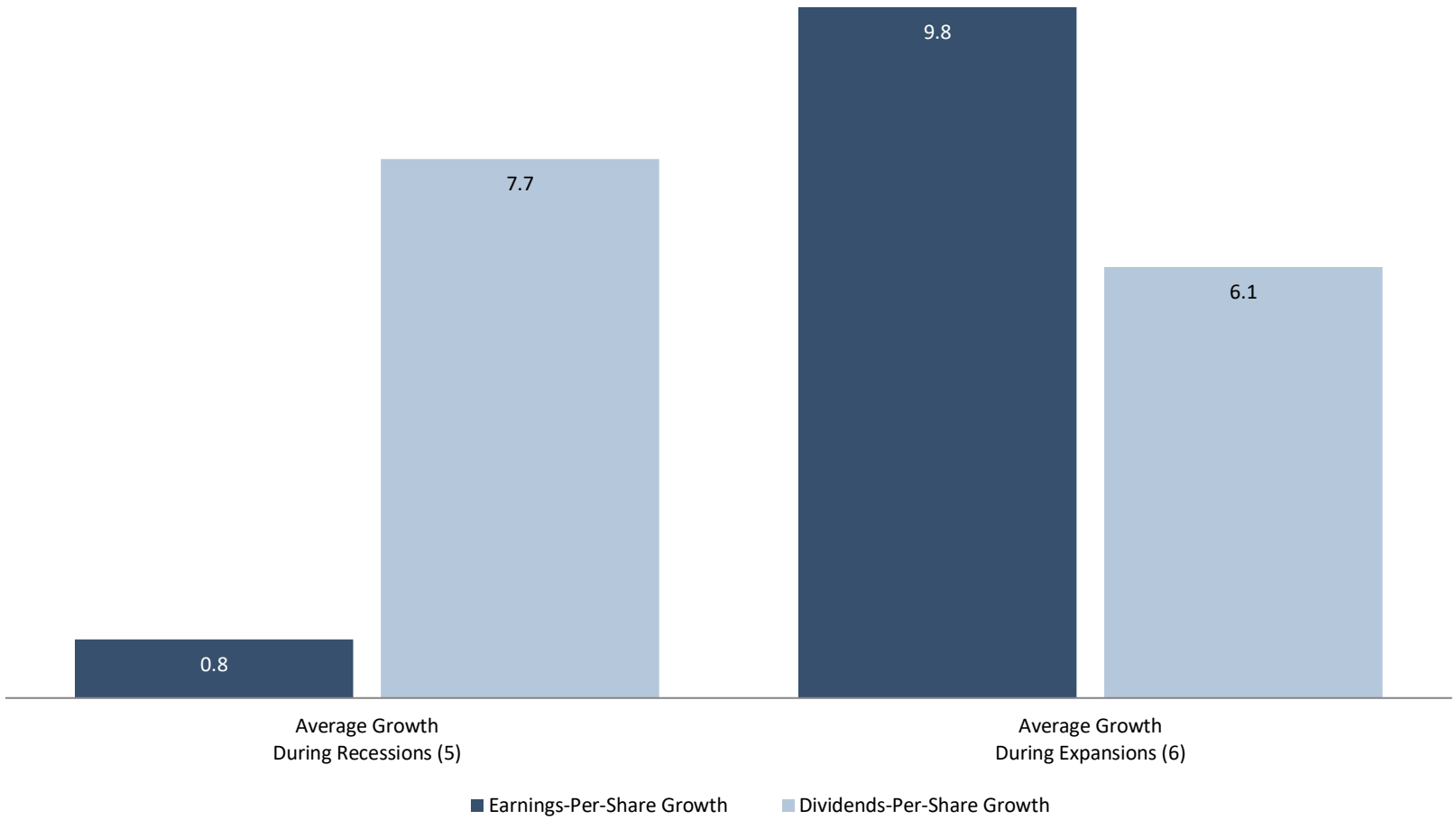


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Note: Figures will not sum exactly to total return calculation because of combining cross terms.

UK companies have managed to grow dividend payouts during recessions and expansions alike

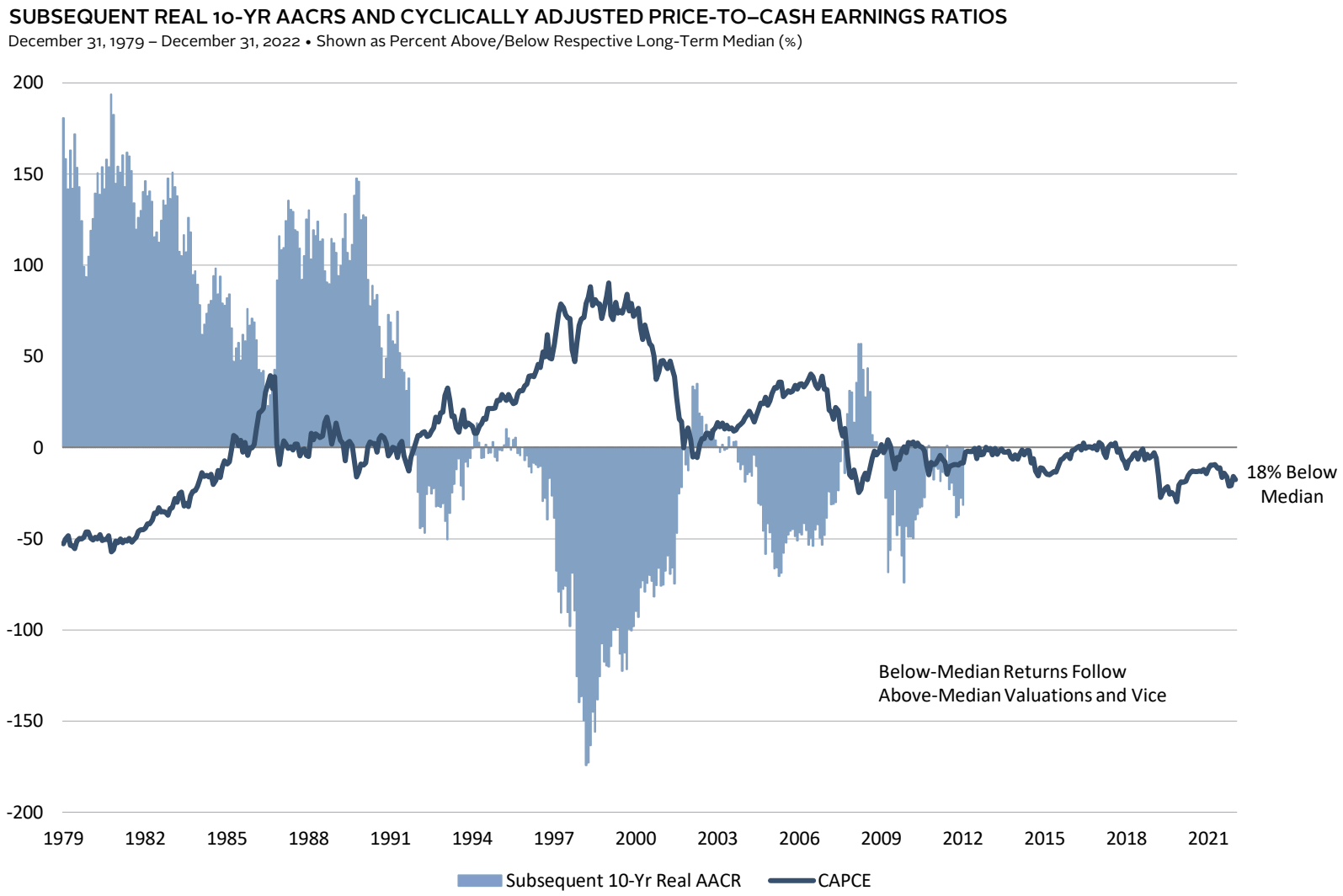
EPS AND DIVIDENDS PER SHARE YEAR-OVER-YEAR CHANGE

1962–2022 • Percent (%)



Sources: Economic Cycle Research Institute, FTSE International Limited, and Thomson Reuters Datastream.
Notes: Recessions and expansions defined by Economic Cycle Research Institute business cycle peak-to-trough dates. Numbers in parentheses indicate the number of recessions and expansions experienced over the period.

Elevated starting valuations portend weak subsequent returns and vice versa



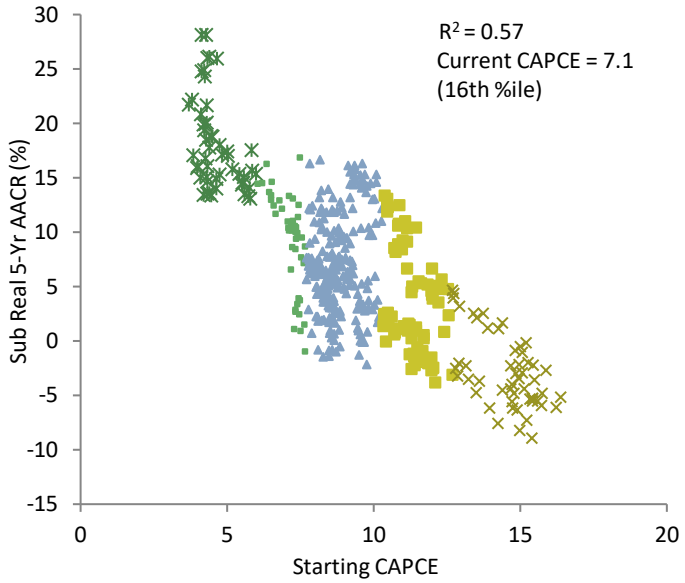
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Chart shows percent above/below median for returns and valuations. Line shows point-in-time cyclically adjusted price-to–cash earnings (CAPCE) ratios. Bars are based on monthly data and show subsequent rolling ten-year real average annual compound returns (AACRs) as a percentage above/below the long-term median ten-year real return of 5.0% since 1979. For example, the first data point shows that the real AACR for the period 1980–89 was 180.8% above the median ten-year real return.

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

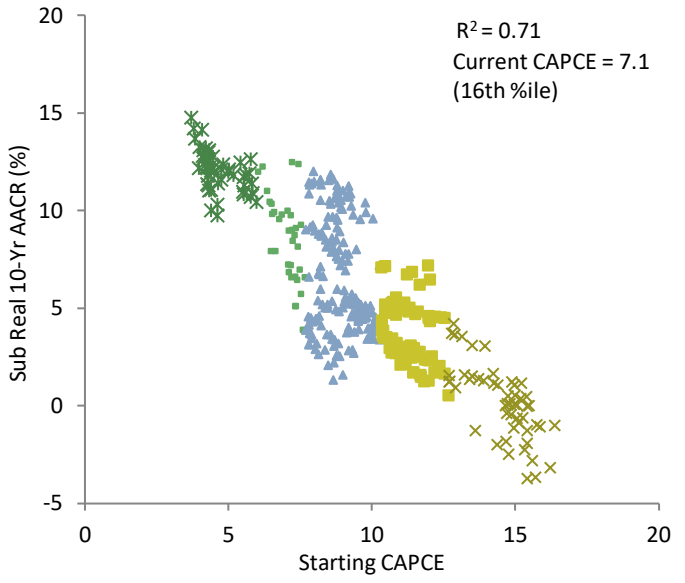
RELATIONSHIP BETWEEN CYCLICALLY ADJUSTED PRICE-TO–CASH EARNINGS RATIOS AND SUBSEQUENT REAL 5- AND 10-YR AACRS

December 31, 1979 – December 31, 2022

Initial Valuation and Subsequent 5-Yr AACR



Initial Valuation and Subsequent 10-Yr AACR



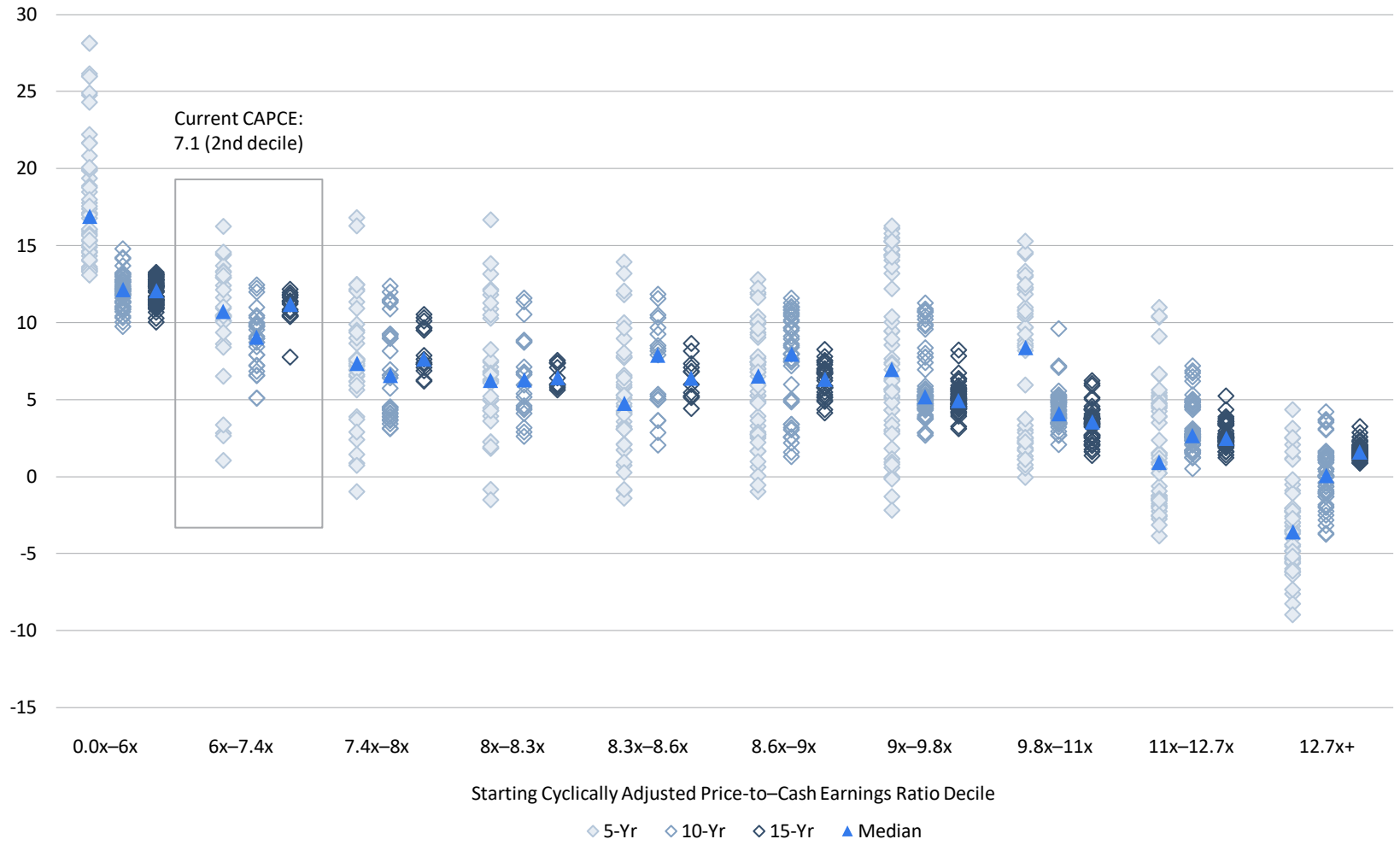
P/CE Ratio Percentile	Starting Cyclically Adjusted Price-to–Cash Earnings Ratio			Subsequent Real 5-Yr AACR (%)			Starting Cyclically Adjusted Price-to–Cash Earnings Ratio			Subsequent Real 10-Yr AACR (%)		
	Median	High	Low	Median	High	Low	Median	High	Low	Median	High	Low
0–10	4.4	6.0	3.7	16.9	28.1	13.1	4.4	6.0	3.7	12.1	14.8	9.7
10–25	7.3	7.7	6.0	10.3	16.8	-1.0	7.2	7.7	6.0	8.9	12.5	3.9
25–75	8.7	10.3	7.7	6.4	16.7	-2.2	8.8	10.3	7.7	5.2	12.0	1.3
75–90	11.3	12.7	10.3	1.8	13.3	-3.8	11.3	12.7	10.3	3.2	7.2	0.5
90–100	14.8	16.4	12.7	-3.5	4.6	-9.0	14.8	16.4	12.7	0.1	4.2	-3.7
Overall	**8.8**	**16.4**	**3.7**	**6.1**	**28.1**	**-9.0**	**9.2**	**16.4**	**3.7**	**5.0**	**14.8**	**-3.7**

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, 2018, to December 31, 2022, and the last full ten-year period was January 1, 2013, to December 31, 2022.

Starting normalized valuations are more meaningful as holding periods increase

DISTRIBUTION OF SUBSEQUENT REAL RETURNS FROM STARTING NORMALIZED VALUATION DECILES

December 31, 1979 – December 31, 2022 • Subsequent Real Return AACR (%)



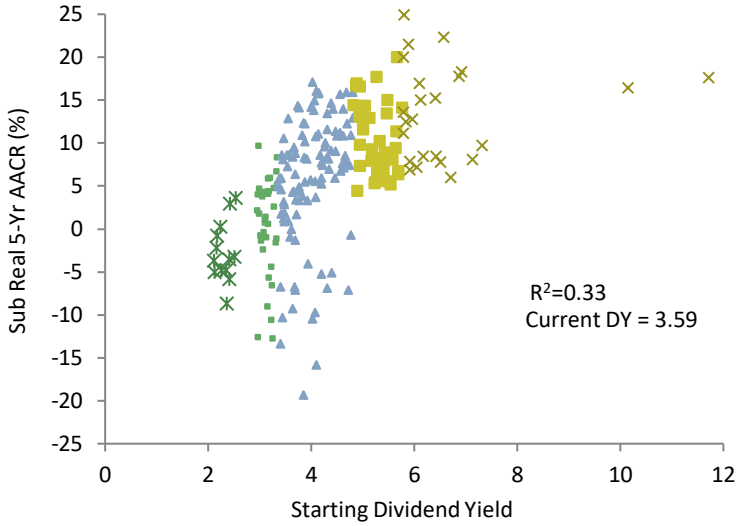
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Data are monthly. The last full five-year period was January 1, 2018, to December 31, 2022, the last full ten-year period was January 1, 2013, to December 31, 2022, and the last full 15-year period was January 1, 2008, to December 31, 2022.

Dividend yield is a key driver of return, but the relationship with subsequent performance is weak

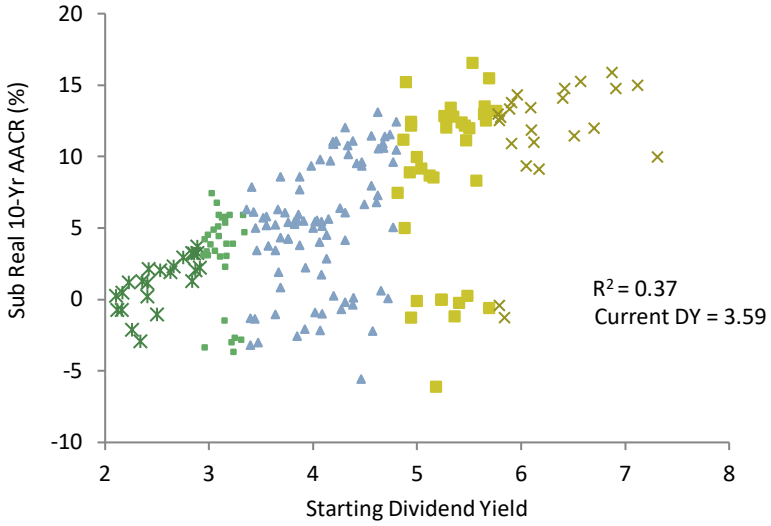
RELATIONSHIP BETWEEN DIVIDEND YIELDS AND SUBSEQUENT REAL AACRS

Second Quarter 1962 – Fourth Quarter 2022

Dividend Yield and Subsequent 5-YR AACR



Dividend Yield and Subsequent 10-YR AACR



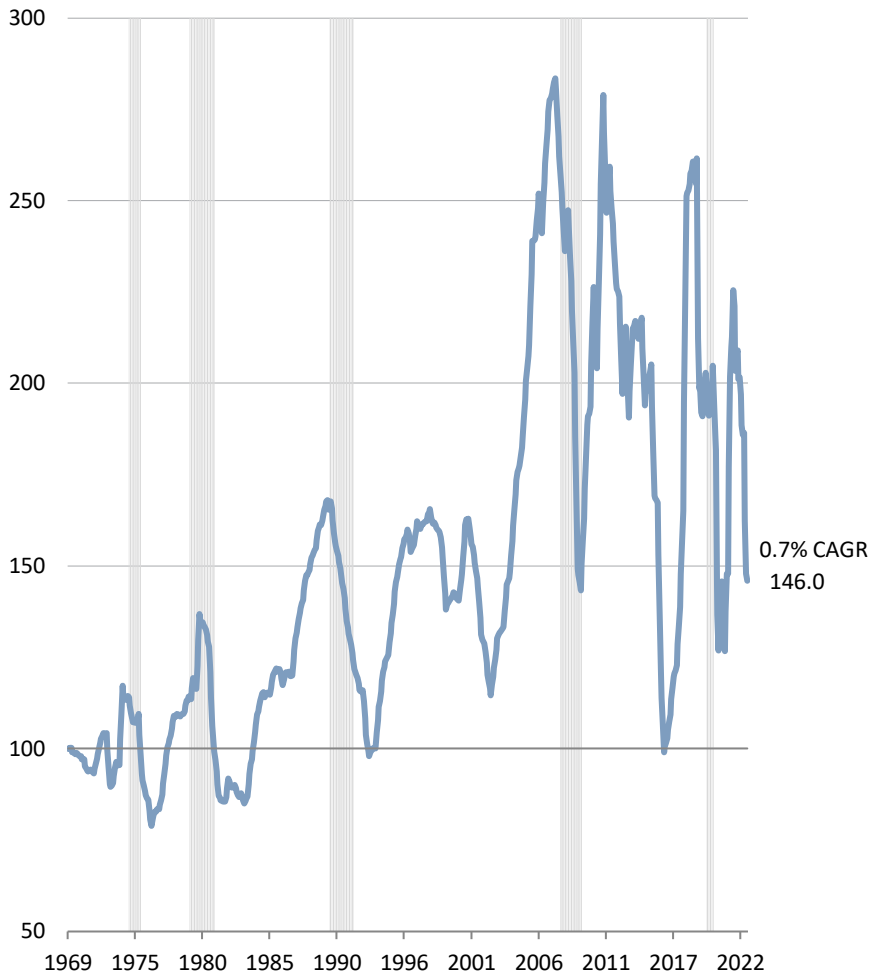
Dividend Yield Percentile	Starting Period Dividend Yield (%)			Subsequent Real 5-Yr AACR (%)			Starting Period Dividend Yield (%)			Subsequent Real 10-Yr AACR (%)		
	Median	High	Low	Median	High	Low	Median	High	Low	Median	High	Low
0–10	2.3	2.5	2.1	-3.5	3.6	-8.7	2.5	2.9	2.1	1.3	3.7	-2.9
10–25	3.2	3.3	3.0	1.2	9.6	-12.7	3.1	3.3	3.0	3.9	7.4	-3.7
25–75	4.0	4.8	3.4	7.4	17.1	-19.3	4.1	4.8	3.4	5.5	13.1	-5.6
75–90	5.3	5.8	4.8	9.8	27.1	4.4	5.3	5.8	4.8	11.1	16.5	-6.1
90–100	6.1	11.7	5.8	13.6	29.1	6.0	6.1	11.7	5.8	13.0	17.7	-1.3
Overall	**4.0**	**11.7**	**2.1**	**6.7**	**29.1**	**-19.3**	**4.1**	**11.7**	**2.1**	**5.4**	**17.7**	**-6.1**

Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Notes: Data are quarterly. The last full five-year period was first quarter 2018 through fourth quarter 2022. The last full ten-year period was first quarter 2013 through fourth quarter 2022. Outliers are not shown on graph but are included in R^2.

UK equity earnings trend stalled post-2007 as return on equity deteriorated

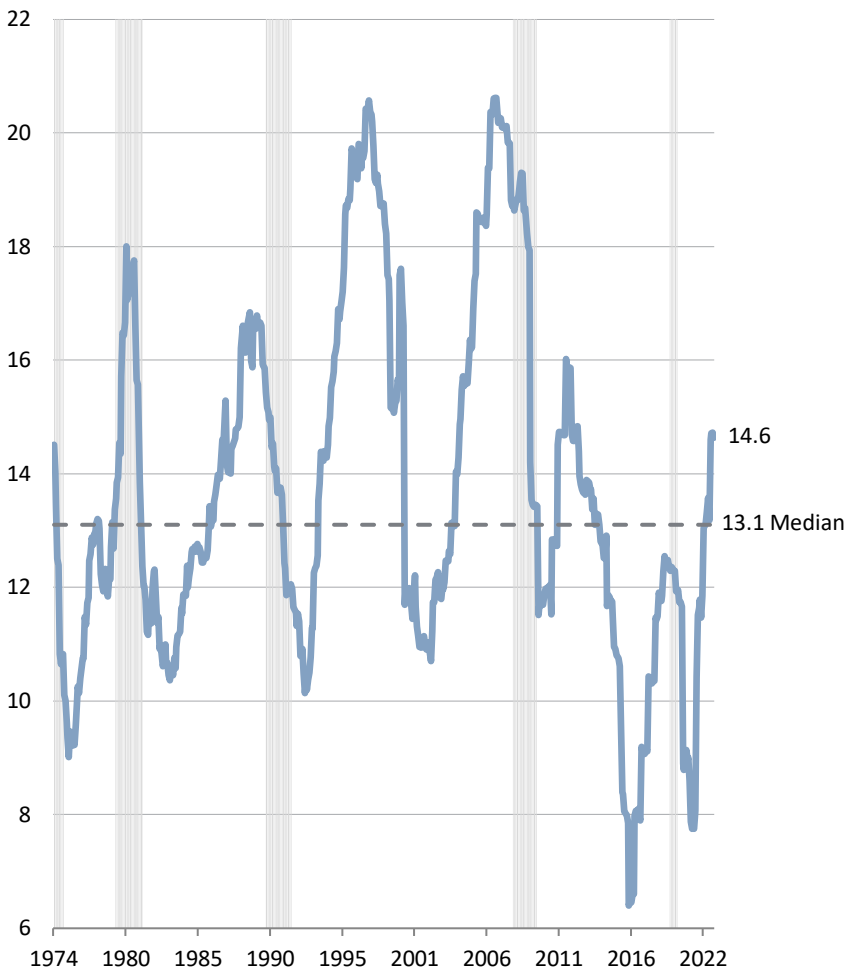
REAL EARNINGS PER SHARE OVER TIME

December 31, 1969 – December 31, 2022 • December 31, 1969 = 100



RETURN ON EQUITY

December 31, 1974 – December 31, 2022 • Percent (%)

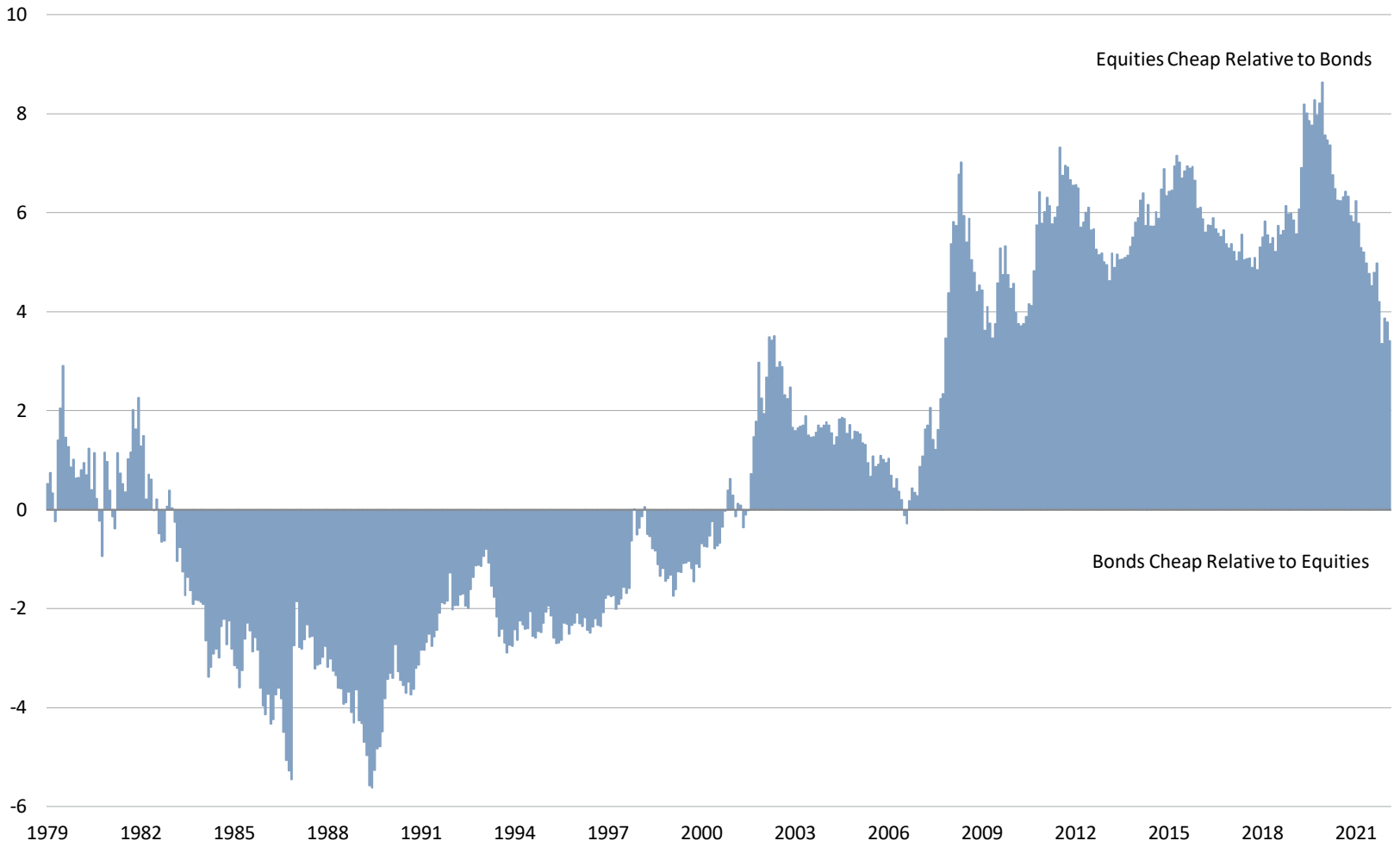


Sources: FTSE International Limited, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Real earnings per share is based on the FTSE All-Share Index and return on equity is based on the MSCI UK Index. Recessions are defined by the Economic Cycle Research Institute business cycle peak-to-trough dates.

The relationship between equity and bond valuations has shifted over time

SHILLER EARNINGS YIELDS VERSUS 10-YR BOND YIELDS

1979–2022

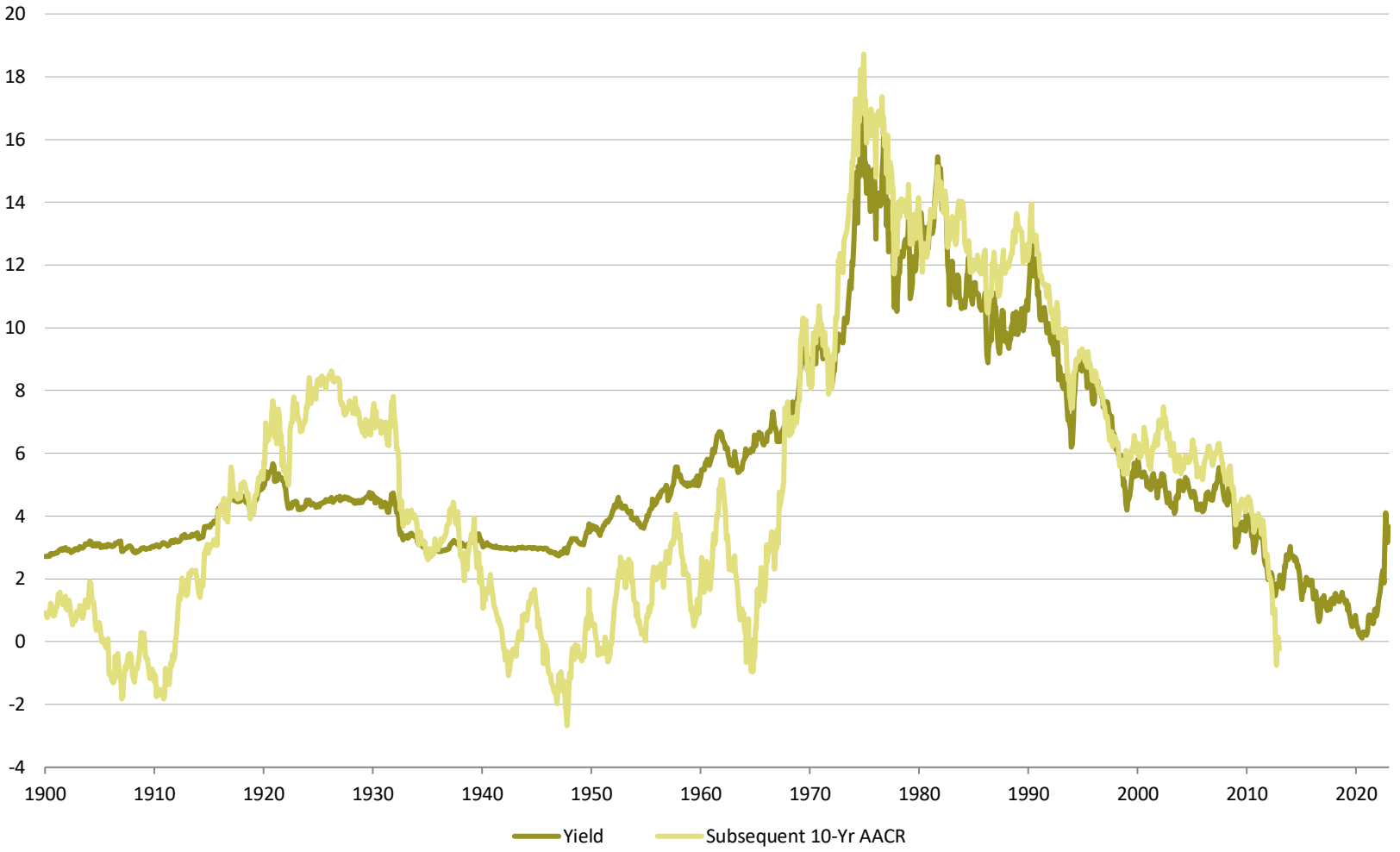


Sources: Global Financial Data, Inc., MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Data are monthly. Chart shows the spread between the normalized earnings yields and ten-year bond yields calculated as earnings yield minus bond yield. Normalized earnings yields are based on the Shiller P/E ratio.

Starting bond yields are a reasonable barometer for prospective nominal returns

RELATIONSHIP BETWEEN GOVERNMENT BOND YIELDS AND SUBSEQUENT 10-YR AACRS

1900–2022 • Percent (%)



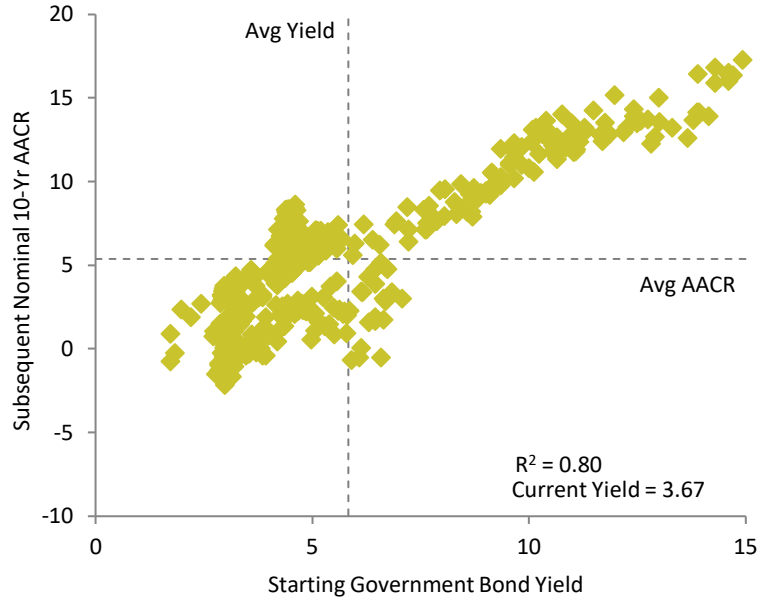
Source: Global Financial Data, Inc.
Notes: Data are monthly. The last full ten-year period was January 1, 2013, to December 31, 2022.

The starting yield-subsequent return relationship is weaker when accounting for inflation

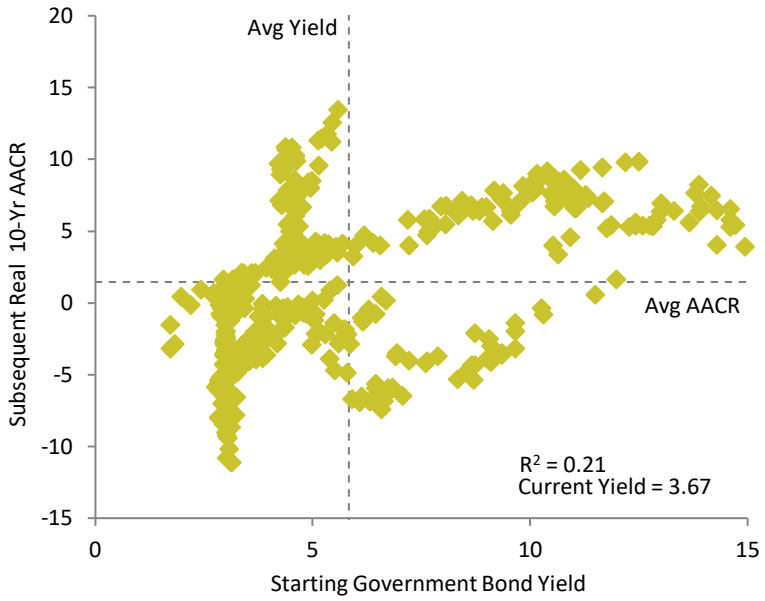
RELATIONSHIP BETWEEN GOVERNMENT BOND YIELDS AND SUBSEQUENT 10-YR AACRS

1900–2022 • Percent (%)

Nominal Returns



Real Returns



Yield Quartiles	Starting Period Government Bond Yields			Subsequent Nominal 10-Yr AACR (%)			
	Mean	High	Low	Mean	High	Low	Std Dev
First	2.95	3.23	1.73	0.76	4.34	-2.15	1.67
Second	4.00	4.55	3.23	4.03	8.41	-0.57	2.63
Third	5.46	7.57	4.55	4.71	8.62	-0.66	2.31
Fourth	10.90	17.24	7.60	12.00	18.72	7.12	2.58
Overall	**5.83**	**17.24**	**1.73**	**5.37**	**18.72**	**-2.15**	**4.72**

	Starting Period Government Bond Yields			Subsequent Real 10-Yr AACR (%)			
	Mean	High	Low	Mean	High	Low	Std Dev
First	2.95	3.23	1.73	-2.87	1.62	-11.13	3.36
Second	4.00	4.55	3.23	1.99	10.86	-6.58	4.72
Third	5.46	7.57	4.55	1.91	13.47	-7.41	5.15
Fourth	10.90	17.24	7.60	4.78	9.84	-5.38	4.20
Overall	**5.83**	**17.24**	**1.73**	**1.45**	**13.47**	**-11.13**	**5.19**

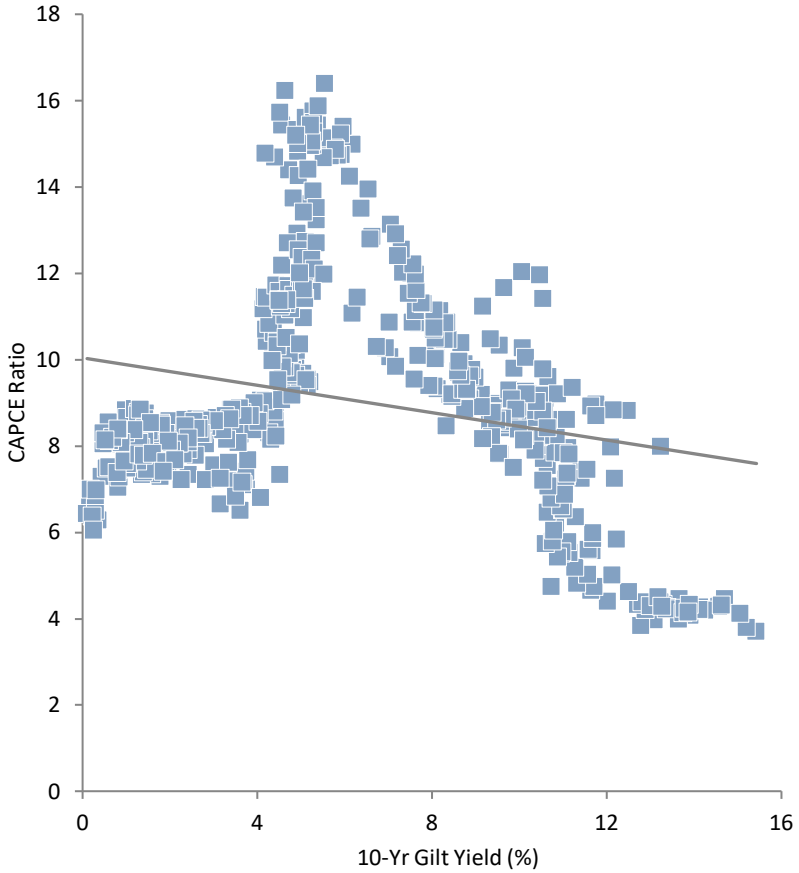
Source: Global Financial Data, Inc.
Notes: Data are quarterly. The last full ten-year period was first quarter 2013 through fourth quarter 2022.

Recent low gilt yields have not led to higher equity valuations for UK markets

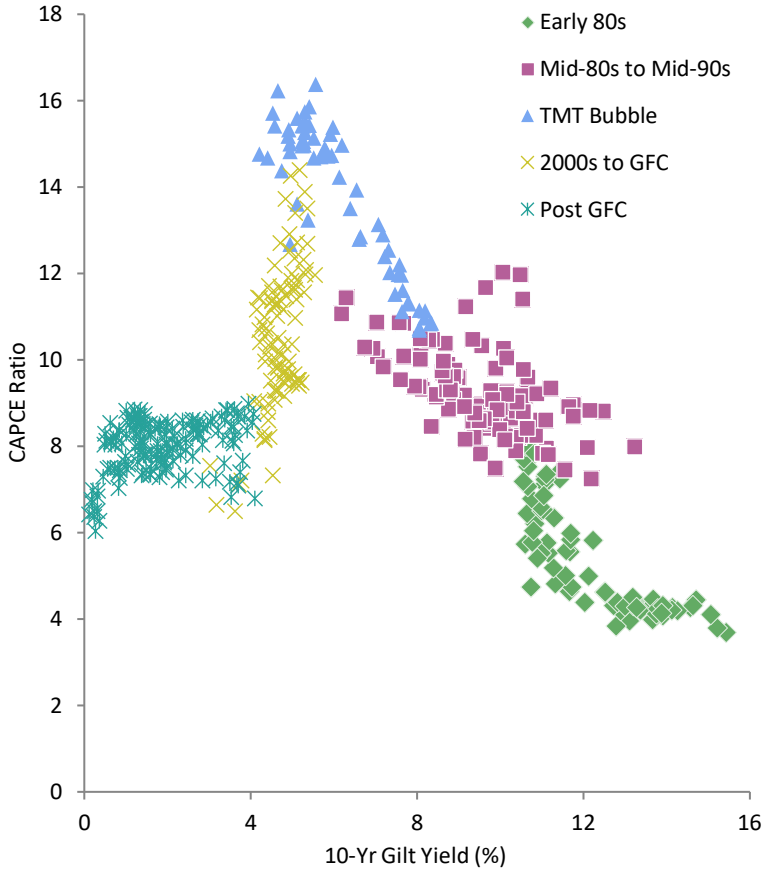
RELATIONSHIP BETWEEN EQUITY VALUATIONS AND 10-YR GILT YIELDS

December 31, 1979 – December 31, 2022

Full Period



By Market Environment

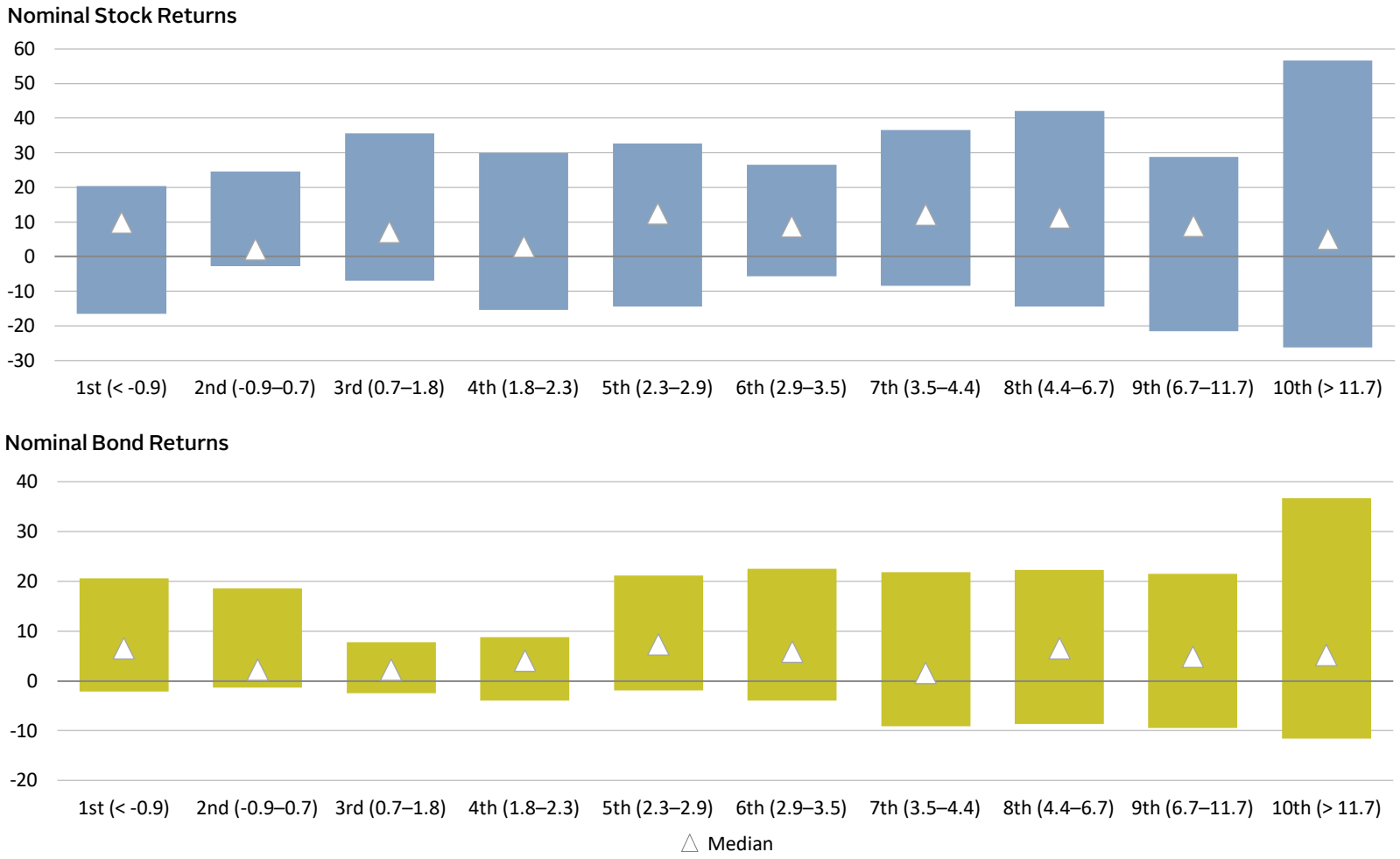


Sources: Global Financial Data, Inc., MSCI Inc, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: "TMT Bubble" refers to the late-1990s period of rising equity prices, particularly for internet-related companies. This period is also commonly referred to as the "dot-com" bubble. TMT stands for technology, media, and telecommunications. Data are monthly.

High inflation has historically created a volatile environment for equities and bonds alike

ROLLING 3-YR NOMINAL STOCK AND BOND RETURNS BY INFLATION DECILE

January 31, 1900 – December 31, 2022 • AACR (%)

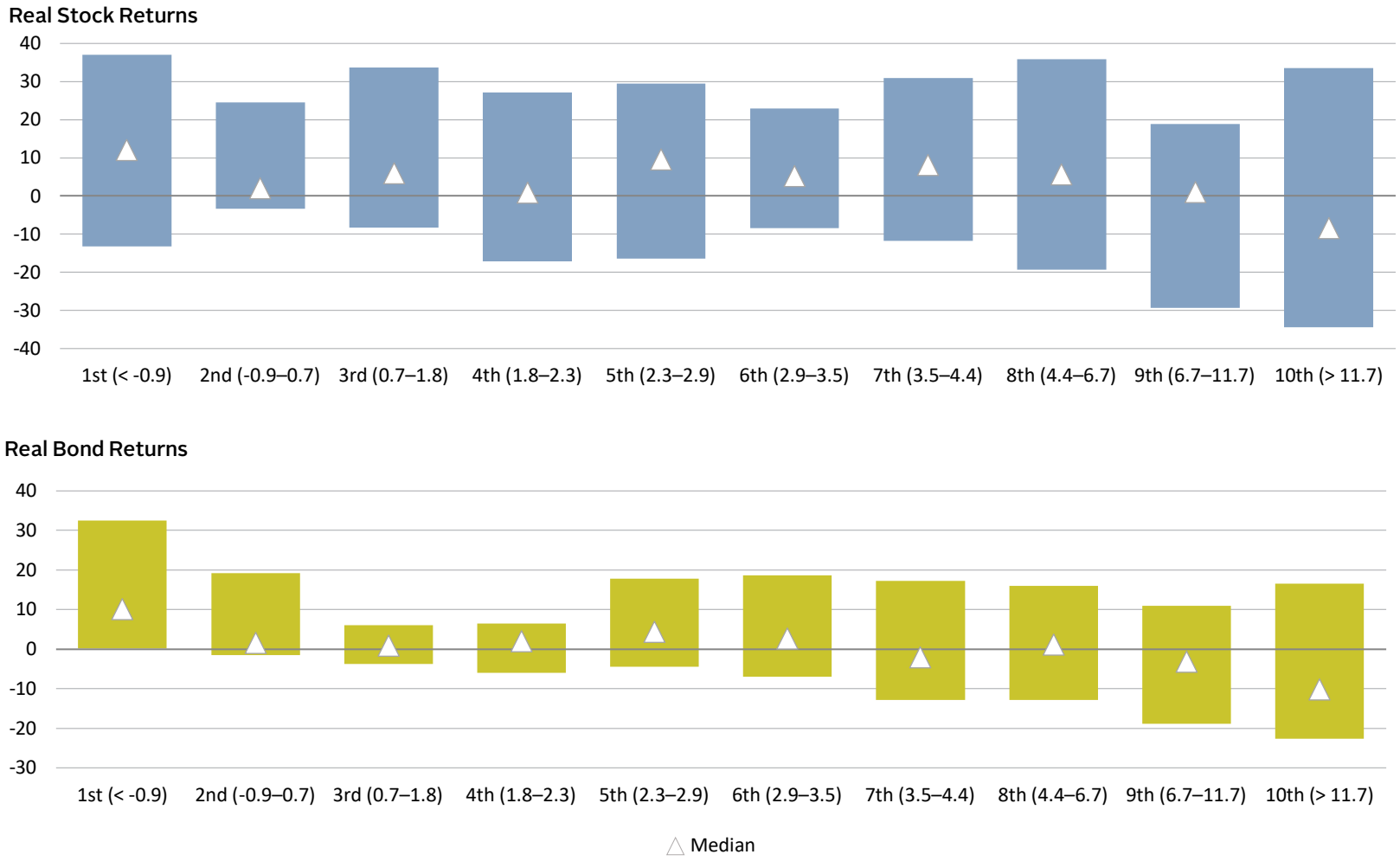


Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Note: X-axis data in parentheses are inflation ranges by decile.

High inflation significantly erodes equity and bond returns in real terms

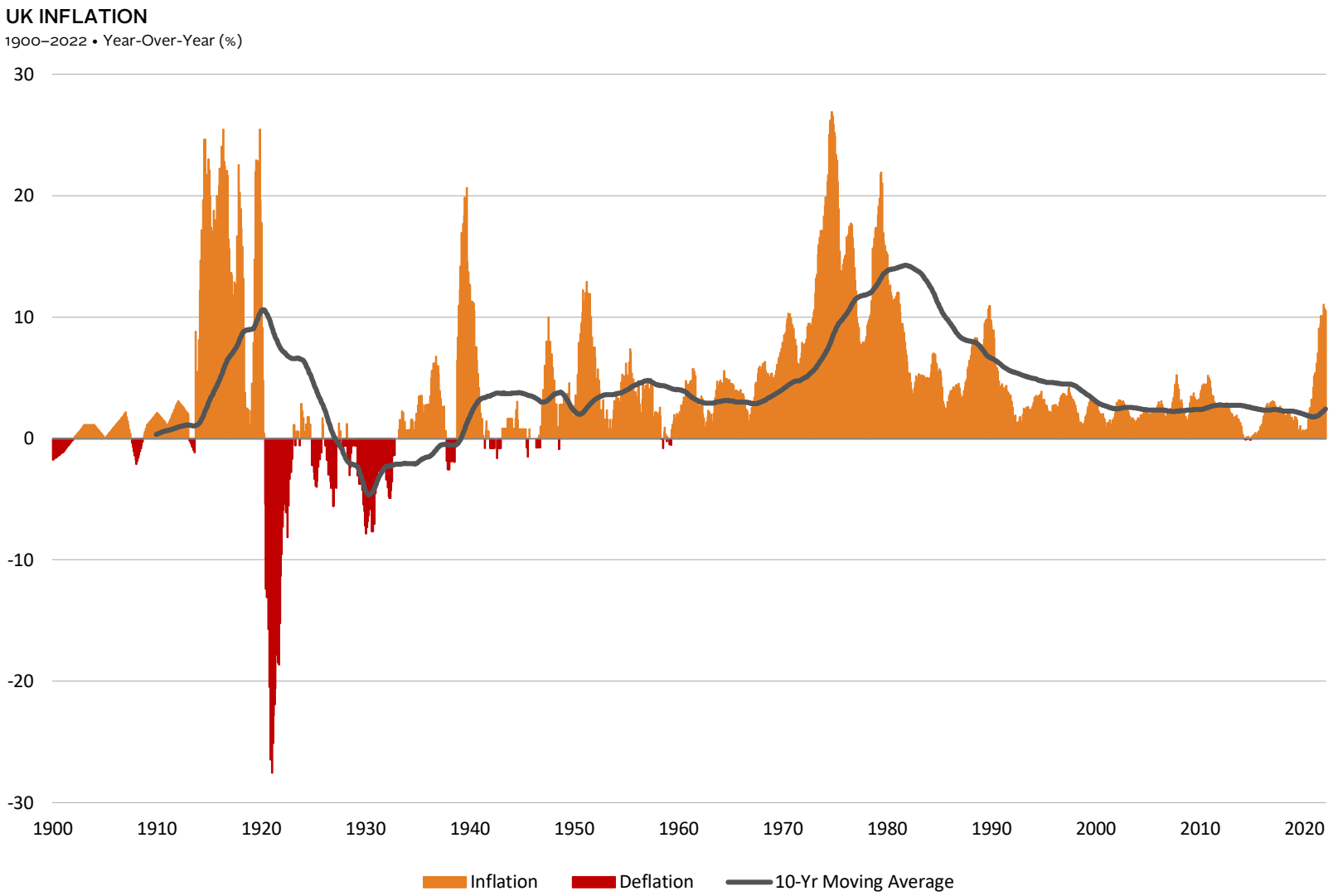
ROLLING 3-YR REAL STOCK AND BOND RETURNS BY INFLATION DECILE

January 31, 1900 – December 31, 2022 • AACR (%)



Sources: FTSE International Limited, Global Financial Data, Inc., and Thomson Reuters Datastream.
Note: X-axis data in parentheses are inflation ranges by decile.

UK inflation spiked in 2022 but has reached higher levels over the long-term history

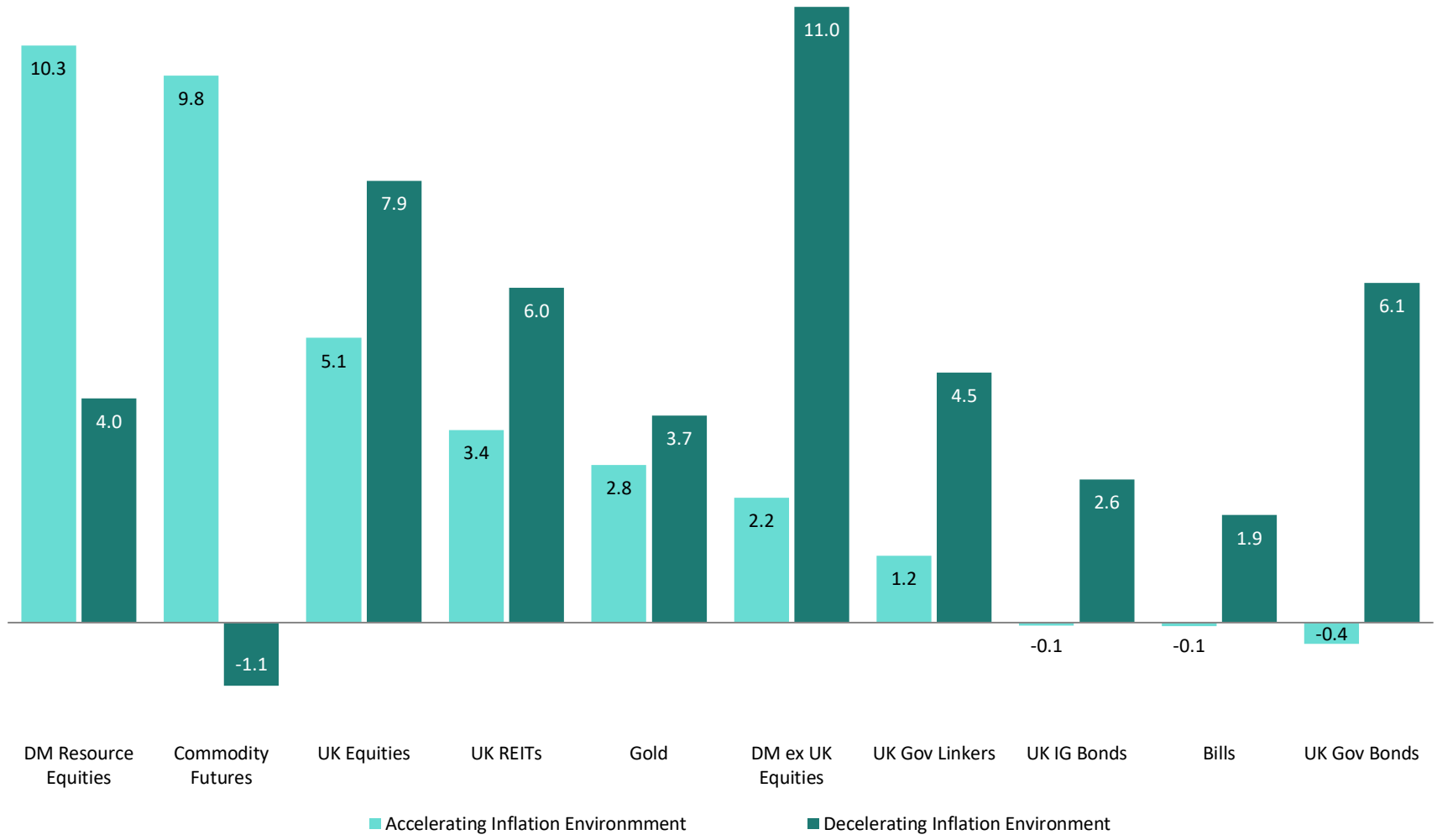


Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.
Notes: Data are monthly. Moving average begins ten years after the first monthly observation.

UK equities and gilts enjoy stronger returns in decelerating inflation environments

REAL RETURNS ACROSS DIFFERENT INFLATIONARY ENVIRONMENTS

1976–2022 • Percent (%)



Sources: Bloomberg Index Services Limited, FTSE International Limited, Global Financial Data, Inc., London Bullion Market Association, MSCI Inc., National Association of Real Estate Investment Trusts, ONS - Office for National Statistics - United Kingdom, Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: An accelerating (decelerating) inflation environment is when the annual change in the inflation rate is positive (negative). Returns are adjusted by inflation and are arithmetic averages across environments. UK Gov Linkers data starts in 1982, and UK IG corporate bond data starts in 1999.

Graham Landrith, Mark Sintetos, and Ilona Vdovina also contributed to this report.