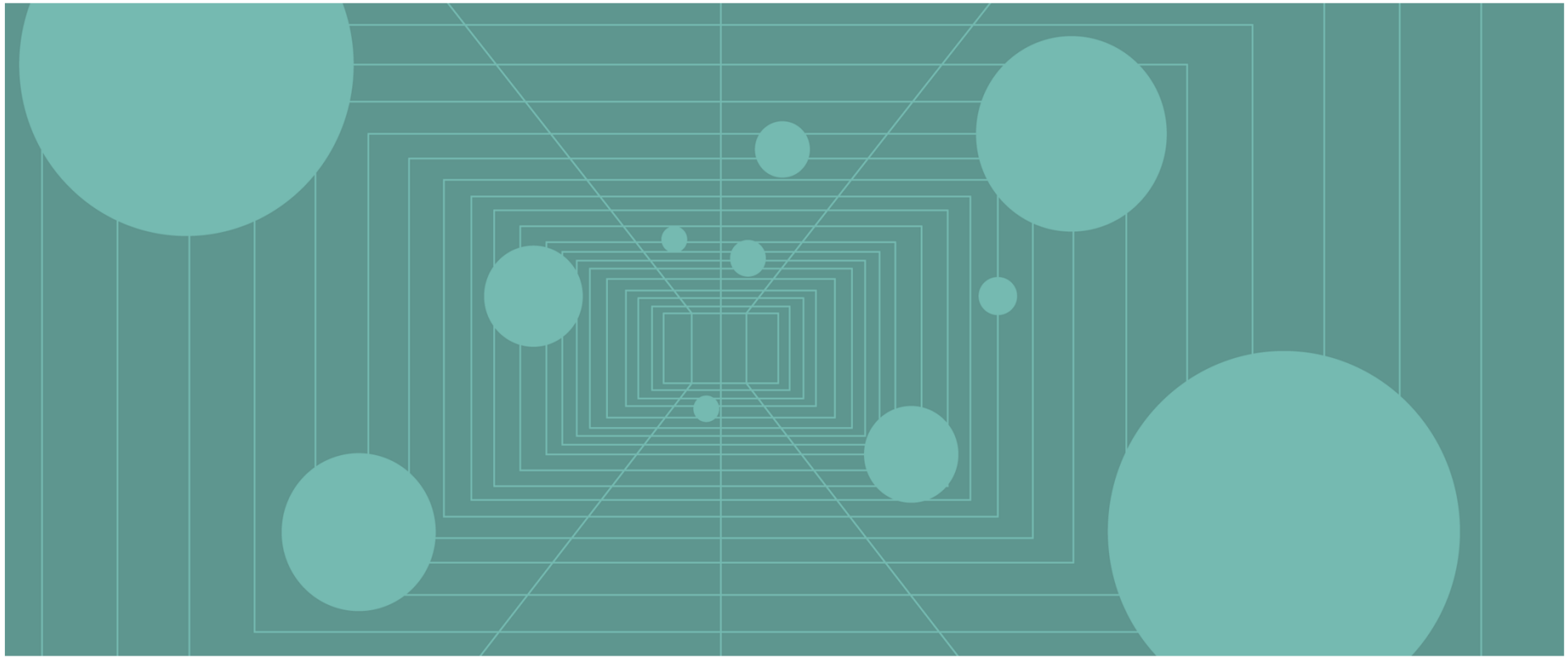
DECADES OF DATA: SWITZERLAND

1900–2019



CAMBRIDGE ASSOCIATES

Executive Summary

- **Basing investment decisions on the extrapolation of capital market 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.
- **Swiss equities (30.6%) advanced in 2019 to new all-time highs, in contrast to negative performance in 2018.** Swiss shares gained the most since calendar year 2005, with 2019's performance ranking in the 86th percentile of historical calendar year returns since 1920. Such strong performance for Swiss stocks is not necessarily uncommon. In fact, Swiss equities gained 30% or more in 17 out of 100 calendar years since 1920, nearly one-fifth of the time. Additionally, Swiss stocks earned double-digit returns in 53 calendar years over that same timespan, more than half of the time. Investors might reasonably expect a market pullback in the subsequent year following such strong returns; however, the data show that strong performance can continue. In fact, in the initial calendar year following 30%+ market gains, Swiss stocks posted double-digit positive returns in nine out of 16 years, while only declining in two of those years, for an overall subsequent calendar year average of about 13%.
- **In the decade closed at the end of 2019, Swiss equities posted returns above their average over the very long term.** Investors in Swiss stocks have earned a nominal average annual compound return (AACR) of 8.6% over the past ten years. For the full period analyzed, Swiss equities (1920–2019) have posted a nominal AACR of 7.7%. However, timing mattered; monthly rolling ten-year AACRs reached 10.8% through February 2019, which was their strongest ten-year rolling return since the period ended October 2006. One major reason that the period through February 2019 posted elevated returns is that the worst months from the global financial crisis (GFC) fell out of the data set, as the ten-year window began when Swiss equities hit a nadir in March 2009. 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.

Executive Summary (continued)

- **Equities and bonds outpaced inflation over very long-term periods, generating positive inflation-adjusted returns at the lower end of the returns range.** Over rolling 50-year periods, real AACRs for Swiss stocks ranged from a low of 2.4% to a high of 7.3%, and Swiss bonds ranged from 0.4% to 3.2%. The return range for cash (-0.9% to 1.7%), on the other hand, indicated greater potential for diminished purchasing power over certain periods. Equities and bonds, however, never lost out to inflation over the very long term. Inflation in Switzerland has averaged 1.5% annually since 1920, one of the lowest rates among developed economies. Benchmark Swiss government bonds and cash produced full-period AACRs of 4.3% and 2.5%, respectively, since 1920, which is a significantly narrower spread vis-à-vis inflation relative to stocks versus inflation. Still, relatively low inflation allowed bonds to consistently gain in real terms over long-term periods, which is a unique characteristic compared to the other regions we studied.

- **Over the long term, Swiss equity investors have a high probability of being compensated for the additional risk of holding stocks.** Since 1920, Swiss equity returns exceeded bond returns in 70% of all five-year periods, 72% of all ten-year periods, and 96% of all 25-year periods (calculated on a nominal basis using rolling monthly data). While equities tend to outperform in the long term, there have been sustained periods of underperformance over rolling five-year periods since 1920, as volatile equities are prone to larger drawdowns than bonds. Such periods are a reminder of the ballast fixed income allocations provide to portfolios in terms of diversification.

- **Earnings growth is the primary contributor to equity total return over time, while relatively low dividend yields and the effects of valuation mean reversion diminish the impact of dividend reinvestment and multiple rerating.** Earnings growth provided the highest degree of return contribution since 1969, on average, but can vary significantly from decade to decade. Dividends provide a steady stream of reliable income, but their contribution has averaged less than 2%. Swiss dividend yields are among the lowest relative to other major developed markets we studied based on averages since 1969, higher than only Japan. However, Swiss dividend yields are the most constant, exhibiting the lowest variability compared to other markets. In the decade closed at the end of 2019, contributions from earnings growth were the strongest on record and exceeded that of dividend reinvestment by nearly 5x, while multiple contraction detracted from performance for the first time since our data began.

Executive Summary (continued)

- **Starting valuations are a useful indicator for long-term (ten+ years) subsequent equity returns, but the relationship is somewhat weaker over shorter time horizons.** 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 Switzerland has explained 82% of the variation in subsequent ten-year real returns, a strong yet imperfect guide to future returns. At December 31, 2019, Swiss equity valuations ended in the 79th percentile of historical observations, and from this valuation decile the median subsequent ten-year real return for Swiss equities has been only about 3% per annum.
- **High- or low-valuation environments alone are not a catalyst for market reversals and may persist for several years; waiting for valuations to mean revert can be an exercise in frustration.** 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 Swiss 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.
- **Swiss equity dividend yields are not statistically related to subsequent performance; normalized valuations are the more useful indicator.** Swiss dividend yields explained only 6% of the variation in subsequent ten-year real AACRs over the past 50 years, which pales in comparison to the explanatory power of normalized valuations. For example, from the 2019 year-end dividend yield of 2.8%, the range of subsequent Swiss equity real ten-year returns was about 20 percentage points (ppts), which does not instill confidence in forecasting exercises based on dividend yields. Swiss equity dividend yields are low relative to other developed regions, and the most constant over time, which helps explain their paltry relationship with subsequent performance. In Switzerland, dividend yields fail to capture the whole picture, as many other factors influence equity market returns.

Executive Summary (continued)

- **Subsequent nominal ten-year Swiss bond returns closely track the starting yield.** Swiss bond yields remained negative and near historical lows at the end of 2019, implying that future long-term returns may in fact fall below zero. In August 2019, Swiss ten-year government bond yields fell to their lowest month end levels on record (-1.01%) and ended the year at -0.47%. There is no comparable period of such low-yield levels in Switzerland, but if the strong correlation between starting yields and subsequent performance observed since 1915 (correlation coefficient=0.86) is a guide, Swiss bonds are likely to post negative returns in the ensuing ten years. The better news is that price inflation in Switzerland has been virtually nonexistent in recent years. While investors benefited from falling yields over the past 40+ years, with Swiss bonds returning 4.6% annualized since 1974, effectively paying to lend money in today's low-yield environment may lead to future losses.

- **Although rising interest rates are commonly viewed as detrimental to equity prices, this is not necessarily the case**—the drivers of change in interest rates, rather than their outright levels or the amount of changes in the rates, are what impact equity returns. Stocks can rise amid rising bond yields if such yields reflect improving growth conditions or increasing consumer confidence. In addition, there is effectively no relationship between starting Swiss three-month bill yields and subsequent equity returns. Still, we have very few data points on subsequent equity performance from such low starting interest rate levels, but history suggests that bill yields are not an important consideration in developing a Swiss equity outlook.

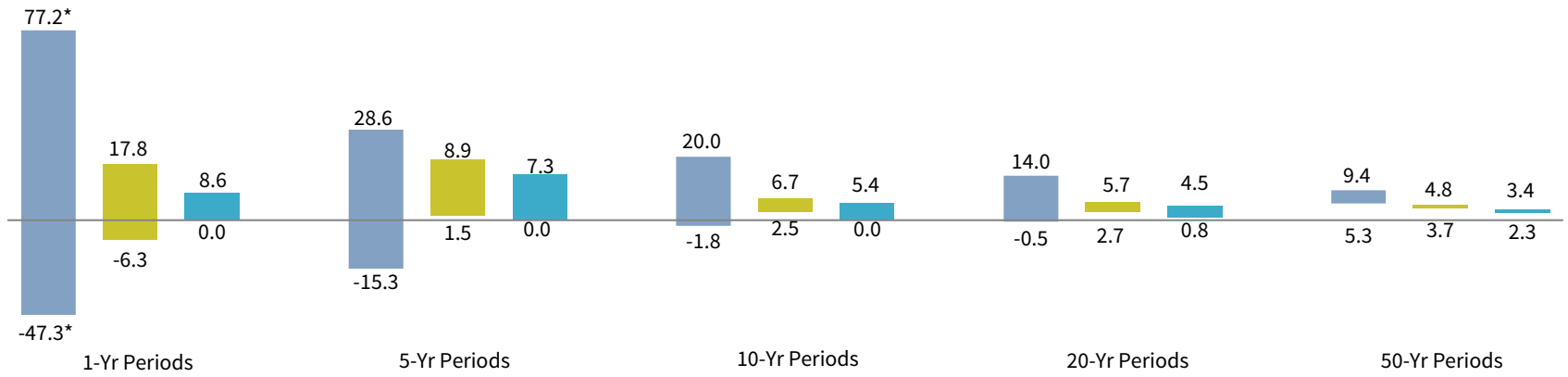
- **The Swiss economy has enjoyed a sustained expansion since the Great Recession, which is now the longest since at least the 1960s.** But growth has been slow relative to past cycles, and equity earnings per share (EPS) have yet to retake pre-GFC levels. Real EPS levels for Swiss equities peaked in September 2007 and remain more than 20% below such levels as of year-end 2019. A sluggish economy and weak sales growth are the likely culprits, as one profitability metric, return on equity, has remained mostly above historical median levels since 2009. While many market participants focus on the US yield curve as a leading economic indicator, the Swiss yield curve (ten-year/three-month yield spread) also tends to flatten or invert prior to economic downturns. The Swiss curve has flattened since the end of the last recession and inverted in August 2019 for the first time since 1993, based on month-end levels.

The range of investment returns narrows as holding periods increase

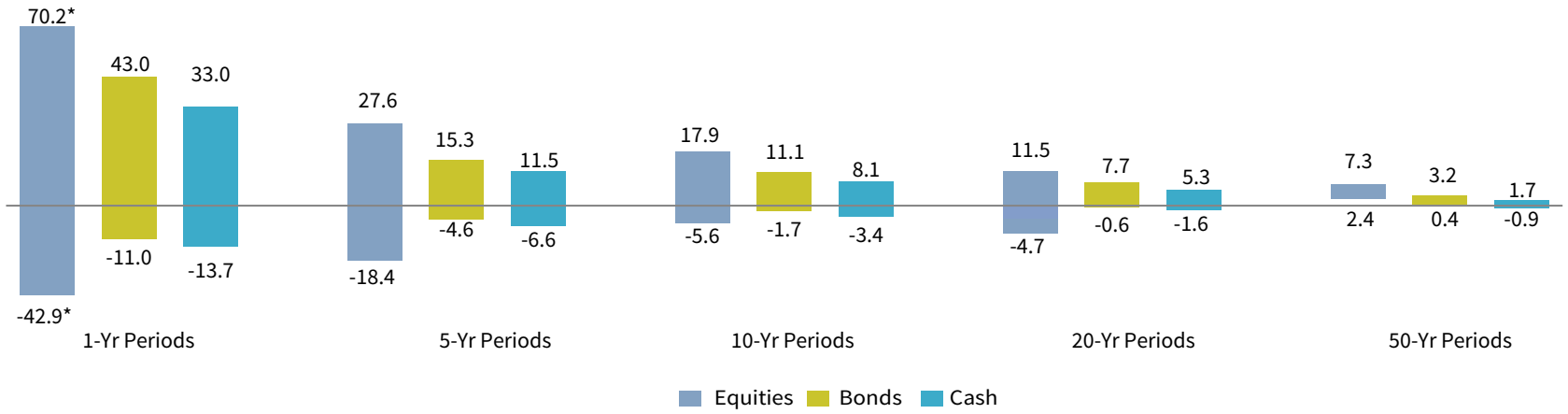
RANGE OF EQUITY, BOND, AND CASH RETURNS FOR VARIOUS ROLLING MONTHLY TIME HORIZONS

1920–2019 • Average Annual Compound Return (%)

Nominal Returns



Real Returns



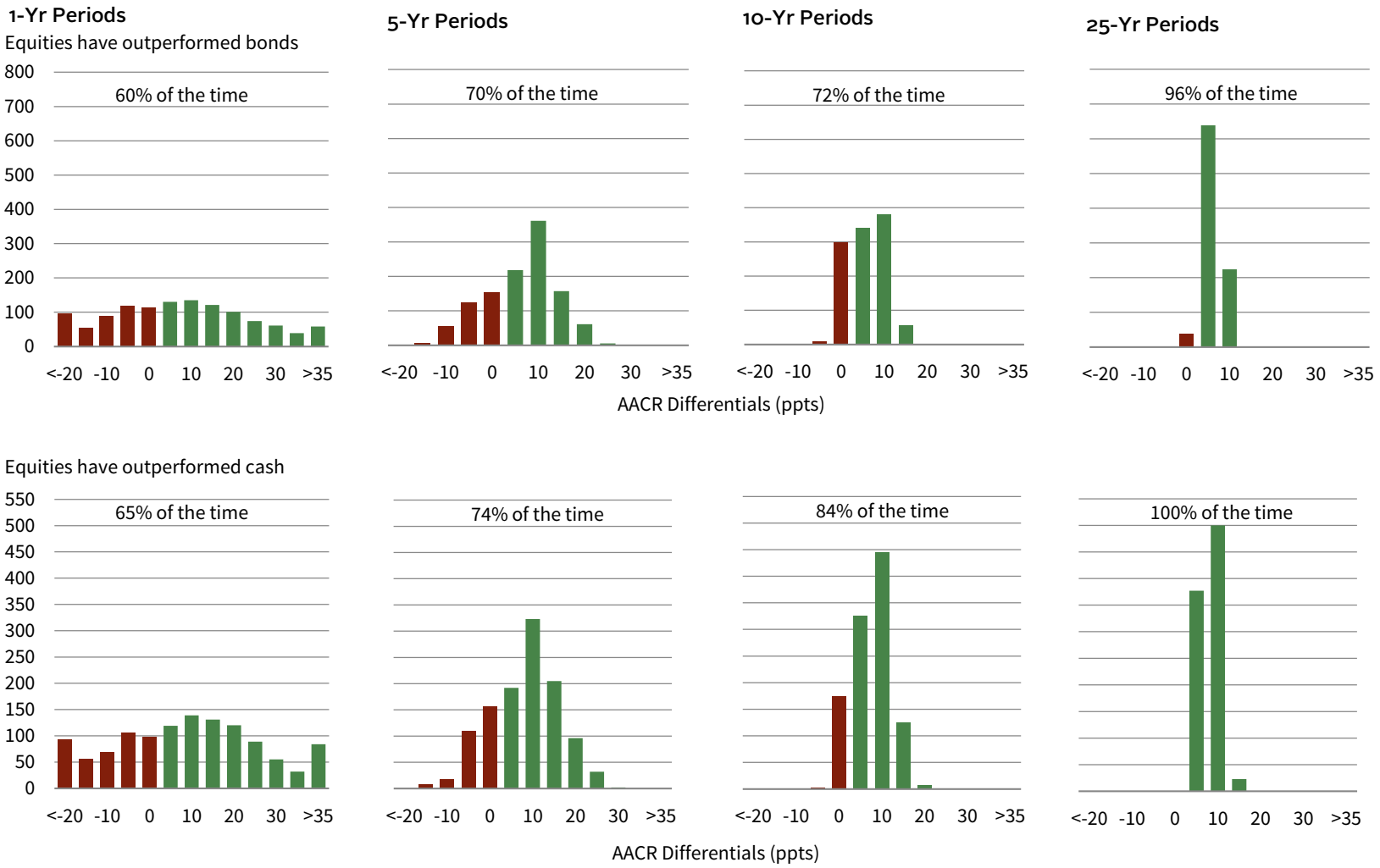
* Axis capped for scaling purposes.

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

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

EXCESS RETURNS OF EQUITIES OVER BONDS AND CASH

1920–2019 • Number of Rolling Monthly Periods



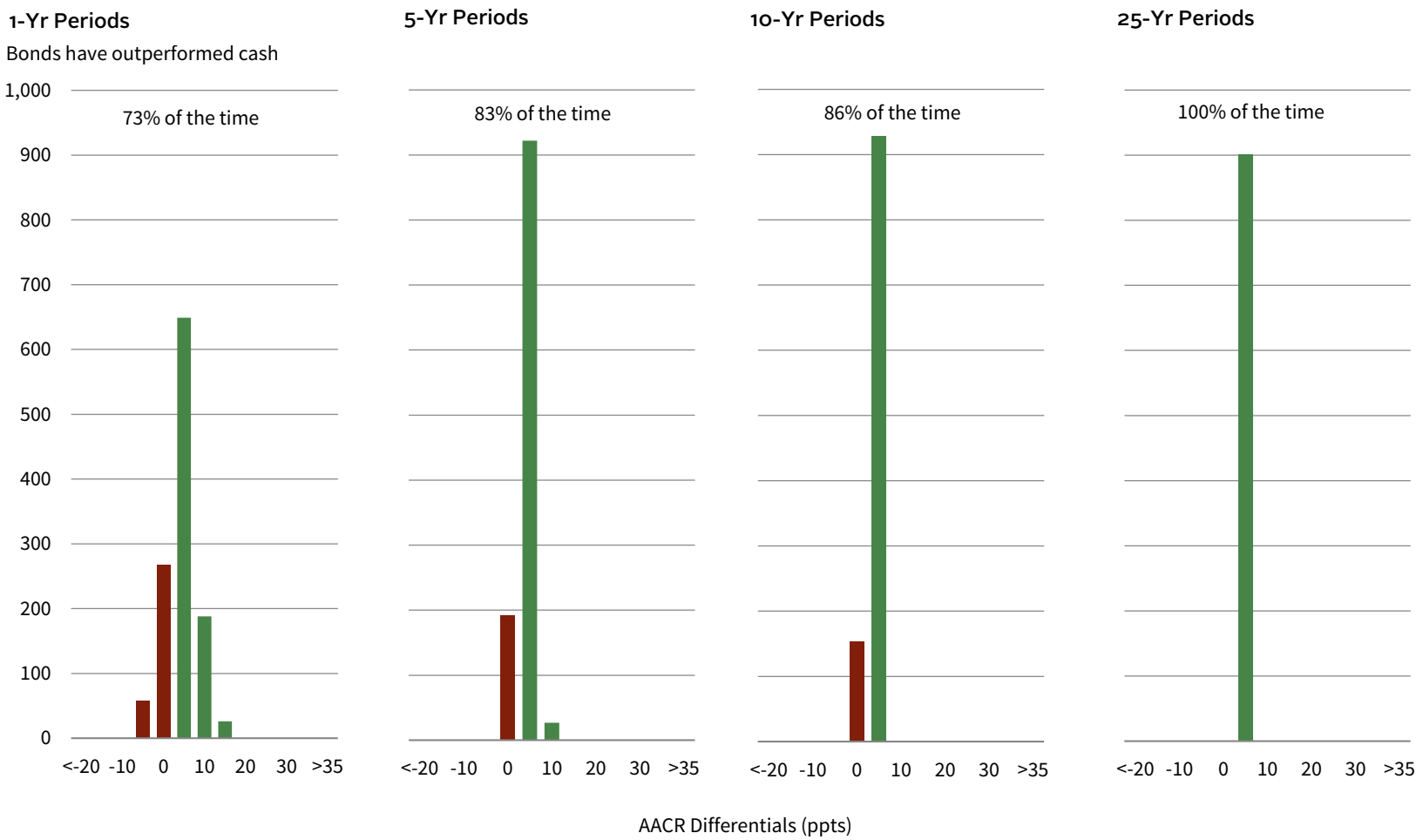
Sources: Global Financial Data, Inc.

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.

Swiss bonds generally outperform cash, and consistently so over the long term

EXCESS RETURNS OF BONDS OVER CASH

1920–2019 • Number of Rolling Monthly Periods



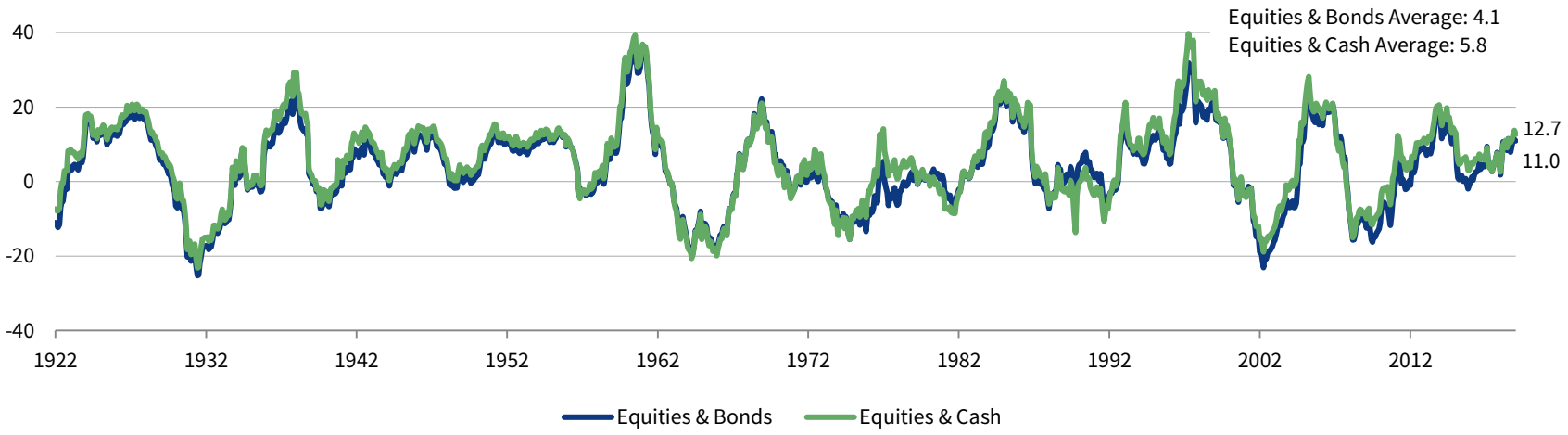
Source: Global Financial Data, Inc.

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

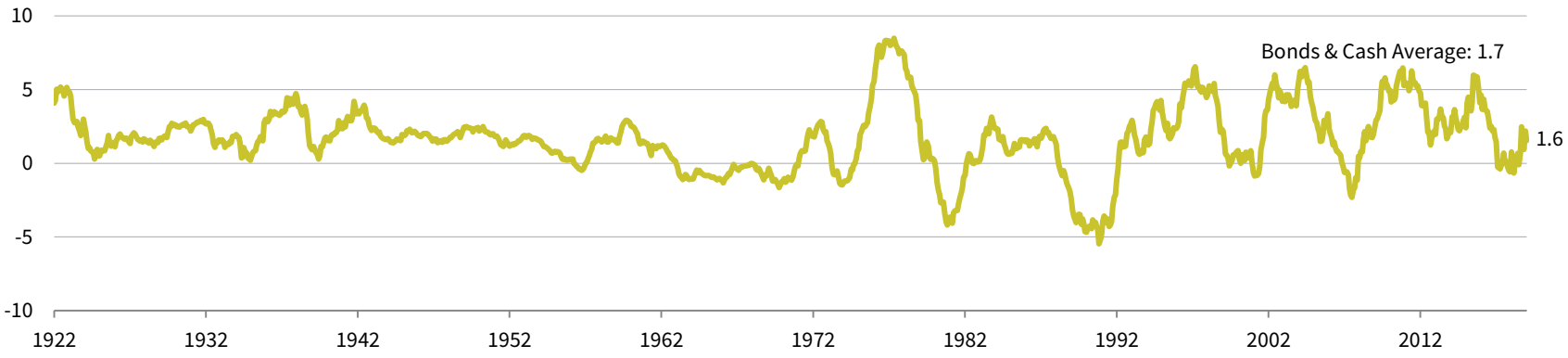
AACR OF ROLLING MONTHLY 3-YR RETURN DIFFERENTIAL BETWEEN EQUITY, BOND, AND CASH RETURNS

1922–2019 • Percent (%)



AACR OF ROLLING MONTHLY 3-YR RETURN DIFFERENTIAL BETWEEN BOND AND CASH RETURNS

1922–2019 • Percent (%)

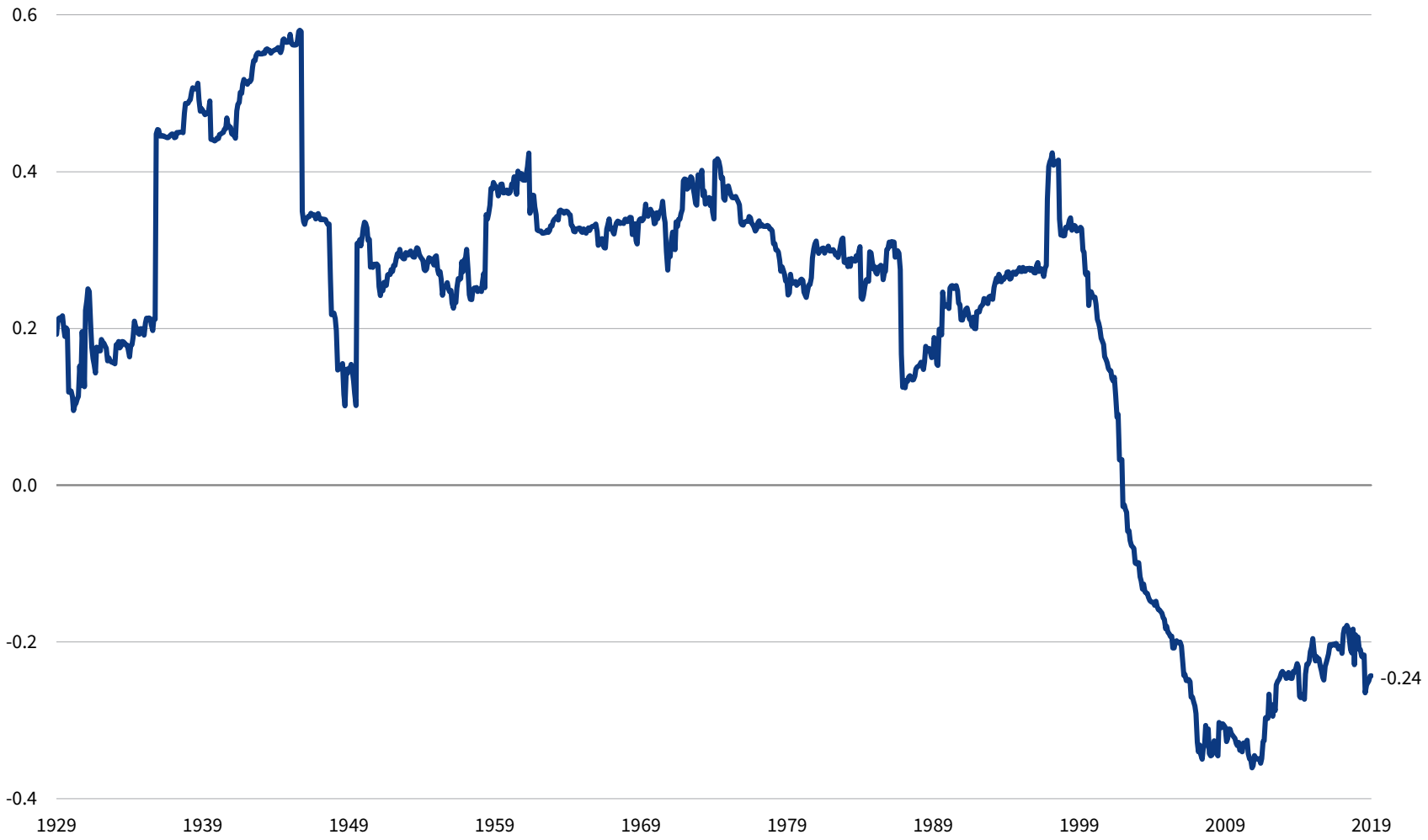


Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.

Stock and bond correlation remains near historical lows

ROLLING 10-YR CORRELATIONS OF STOCK AND BOND RETURNS

December 31, 1929 – December 31, 2019 • Correlation Coefficient



Sources: Global Financial Data, Inc.

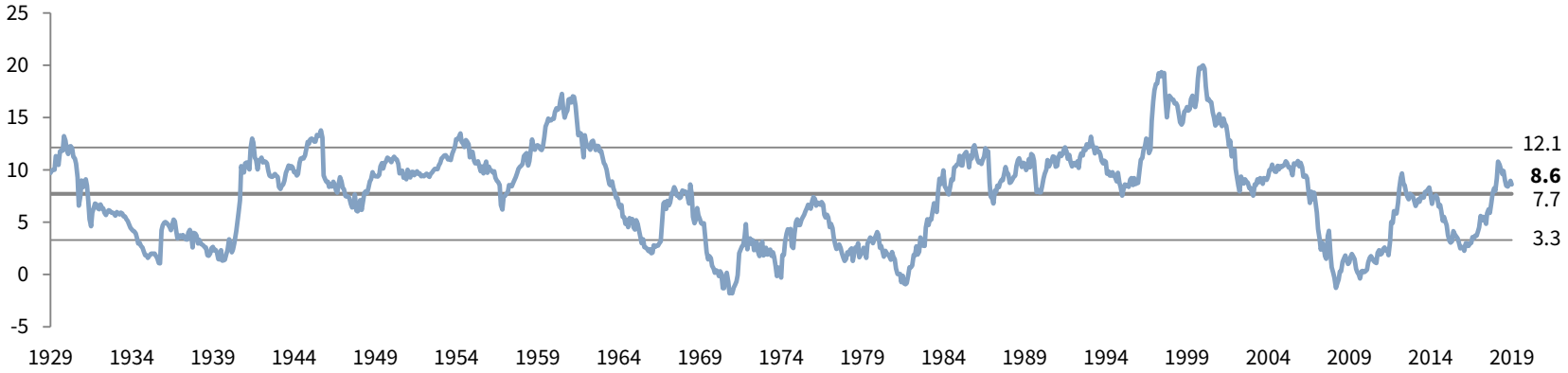
Notes: Data begin on January 31, 1920. All return data are monthly.

Equity performance tends to cycle about the long-term average

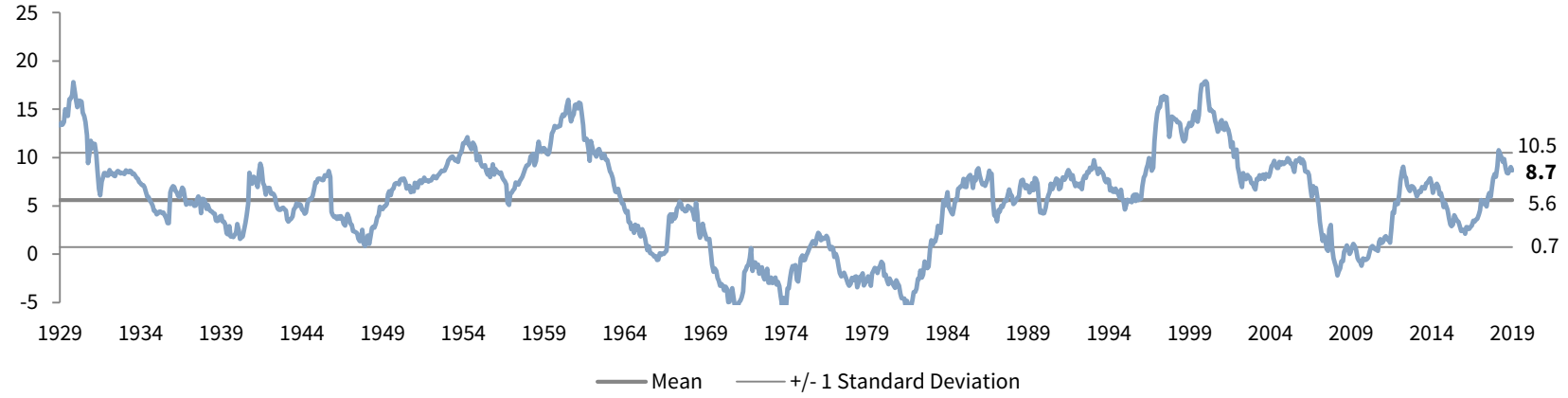
ROLLING MONTHLY EQUITY TOTAL RETURN 10-YR AACR

1929–2019 • Percent (%)

Nominal Returns



Real Returns

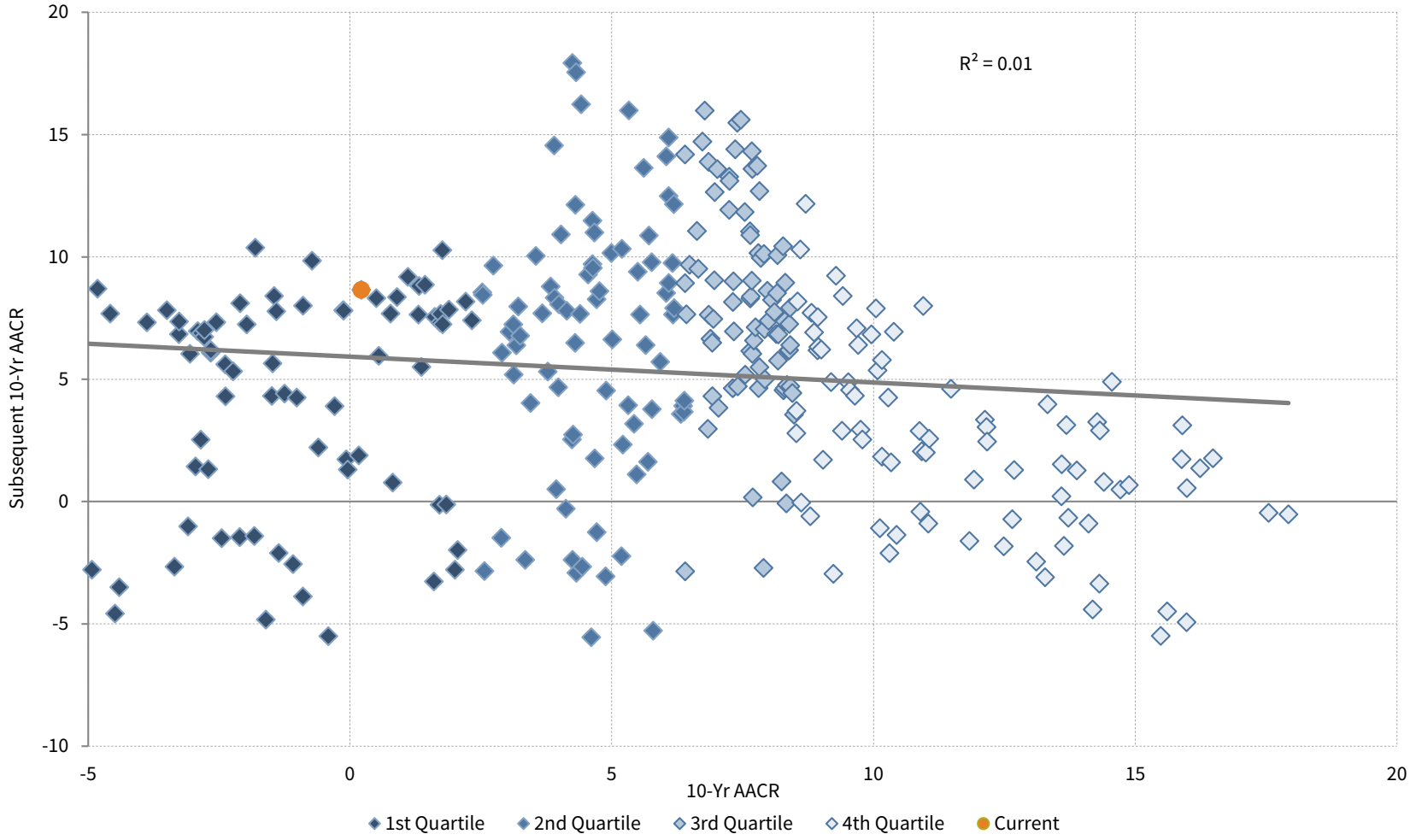


Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.

Effectively no relationship between past and future equity performance

RELATIONSHIP BETWEEN ROLLING QUARTERLY 10-YR EQUITY REAL AACR AND SUBSEQUENT 10-YR EQUITY REAL AACR

1920–2019 • Percent (%)

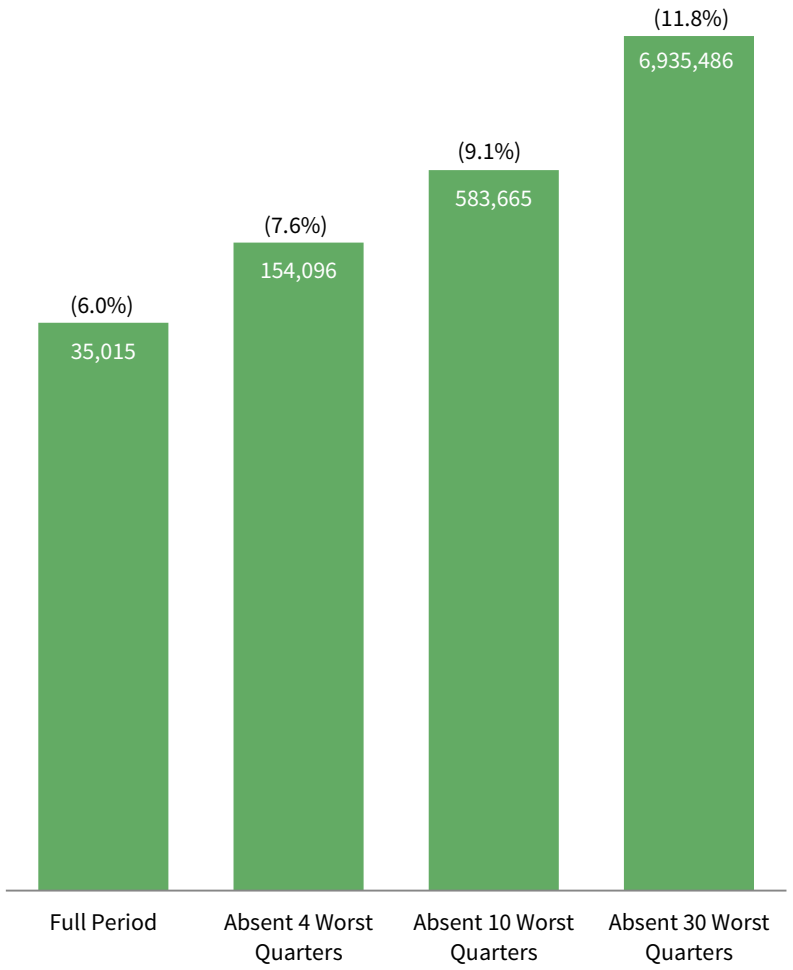


Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.

Attempting to time the market carries significant risk

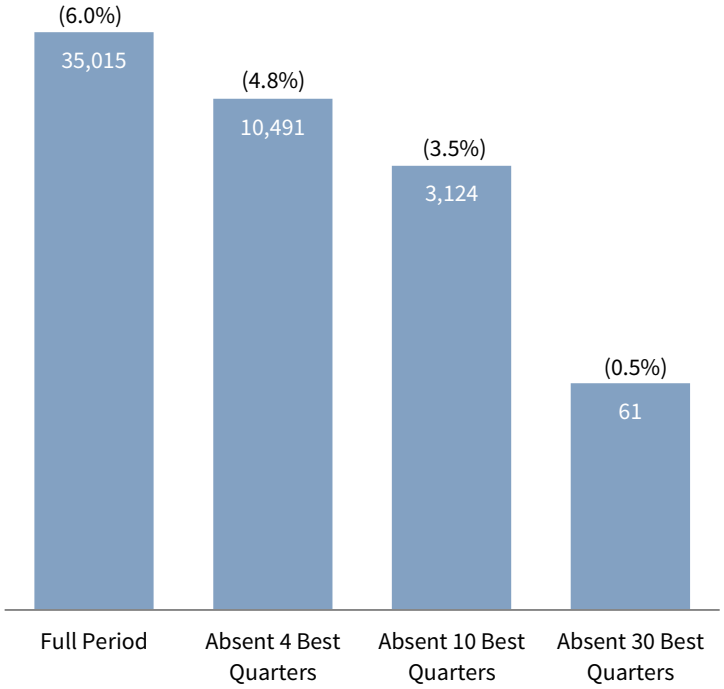
CUMULATIVE REAL WEALTH ABSENT WORST QUARTERS

1920–2019 • January 1, 1920 = 100 • AACR (%) in Parentheses



CUMULATIVE REAL WEALTH ABSENT BEST QUARTERS

1920–2019 • January 1, 1920 = 100 • AACR (%) in Parentheses

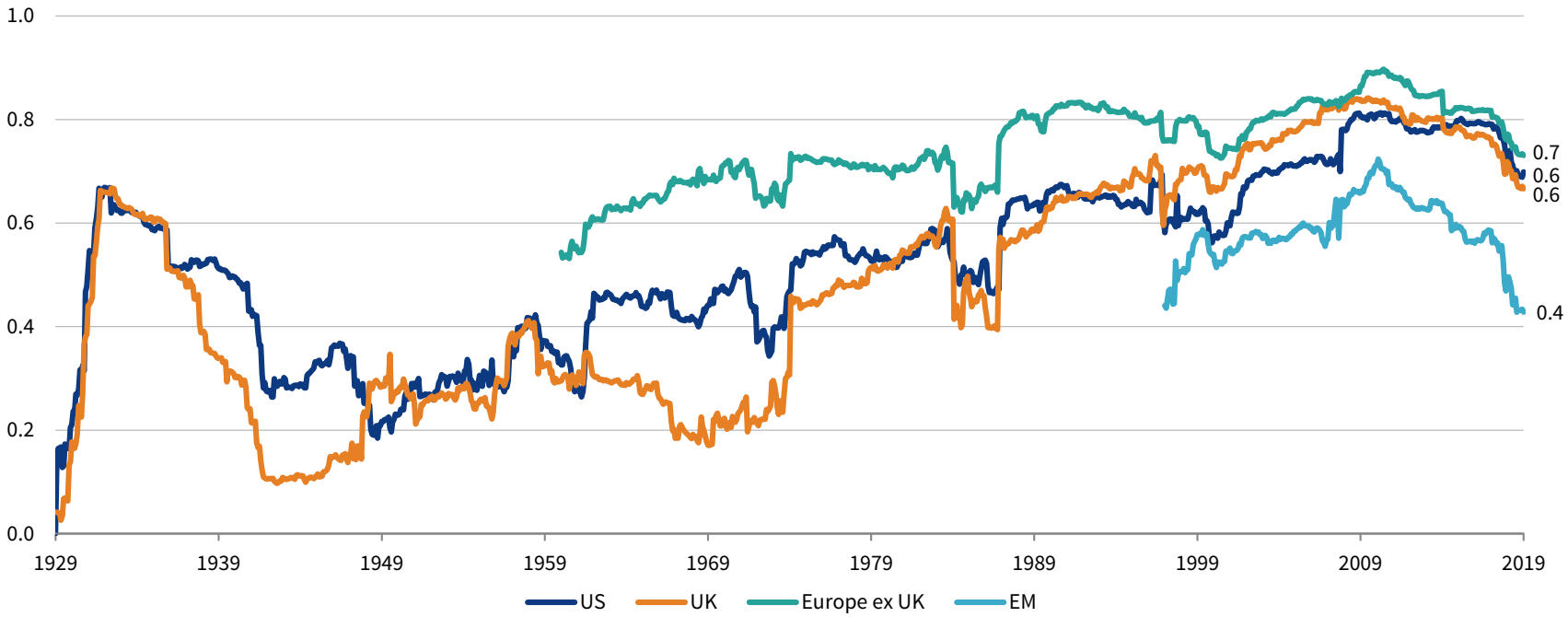


Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.
Note: Cumulative real wealth is shown on a logarithmic scale.

Interregional equity correlations trended up in recent decades, but inflected lower post-GFC

ROLLING 10-YR CORRELATIONS: SWITZERLAND EQUITY VS GLOBAL PEERS

December 31, 1929 – December 31, 2019 • Correlation Coefficient



CORRELATION MATRIX

January 31, 1920 – December 31, 1969

	Switzerland	US	UK	Europe ex UK
Switzerland	1.00			
US	0.38	1.00		
UK	0.25	0.21	1.00	
Europe ex UK	0.60	0.36	0.25	1.00

CORRELATION MATRIX

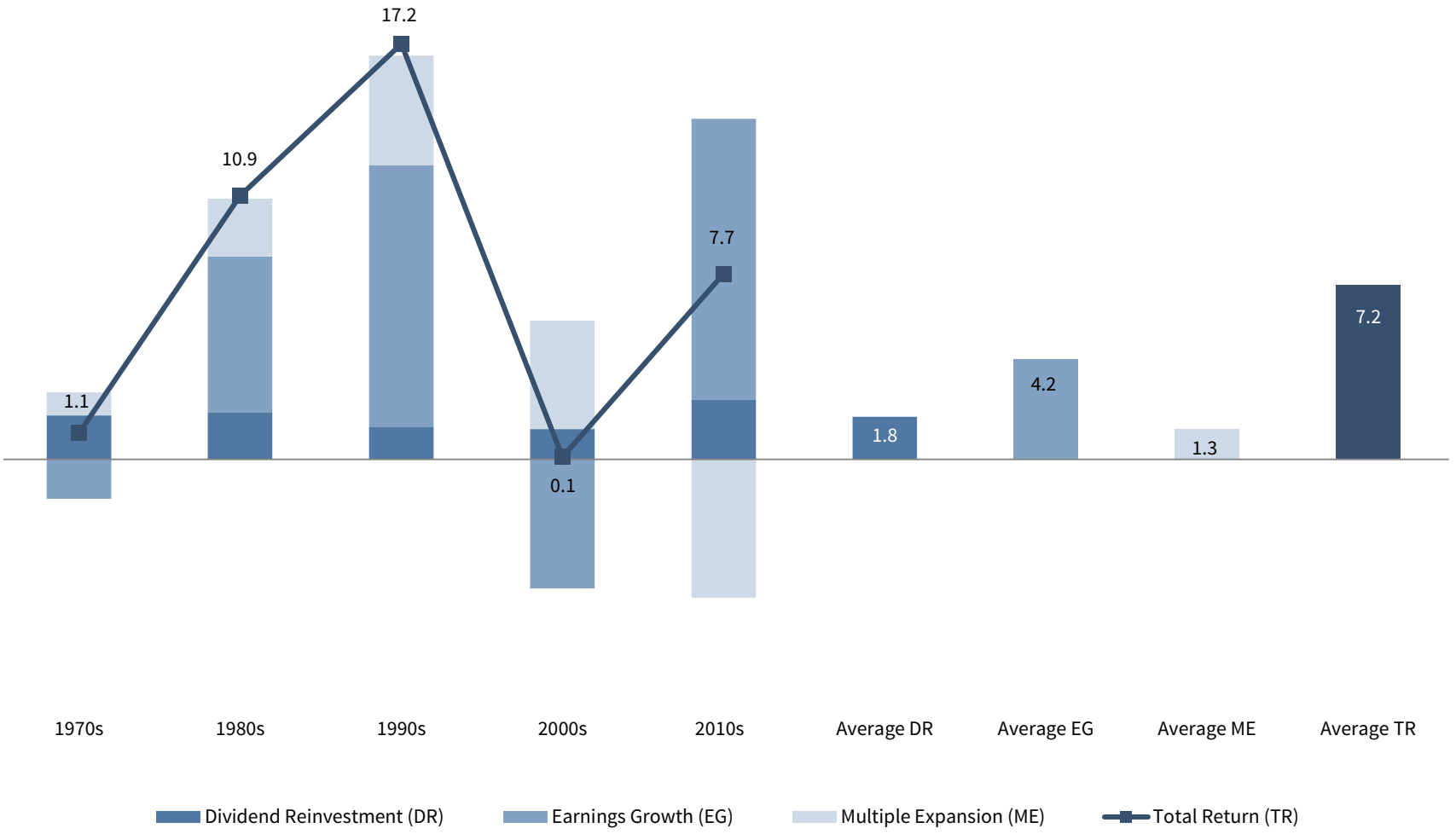
January 31, 1970 – December 31, 2019

	Switzerland	US	UK	Europe ex UK	EM
Switzerland	1.00				
US	0.65	1.00			
UK	0.61	0.62	1.00		
Europe ex UK	0.77	0.70	0.77	1.00	
EM	0.53	0.67	0.62	0.63	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 Switzerland, US, and UK begin on January 31, 1920. Data for Europe ex UK begins on January 31, 1951. Data for EM begins on January 31, 1988. All return data are monthly. EM returns are in USD terms. All other returns are in local currency.

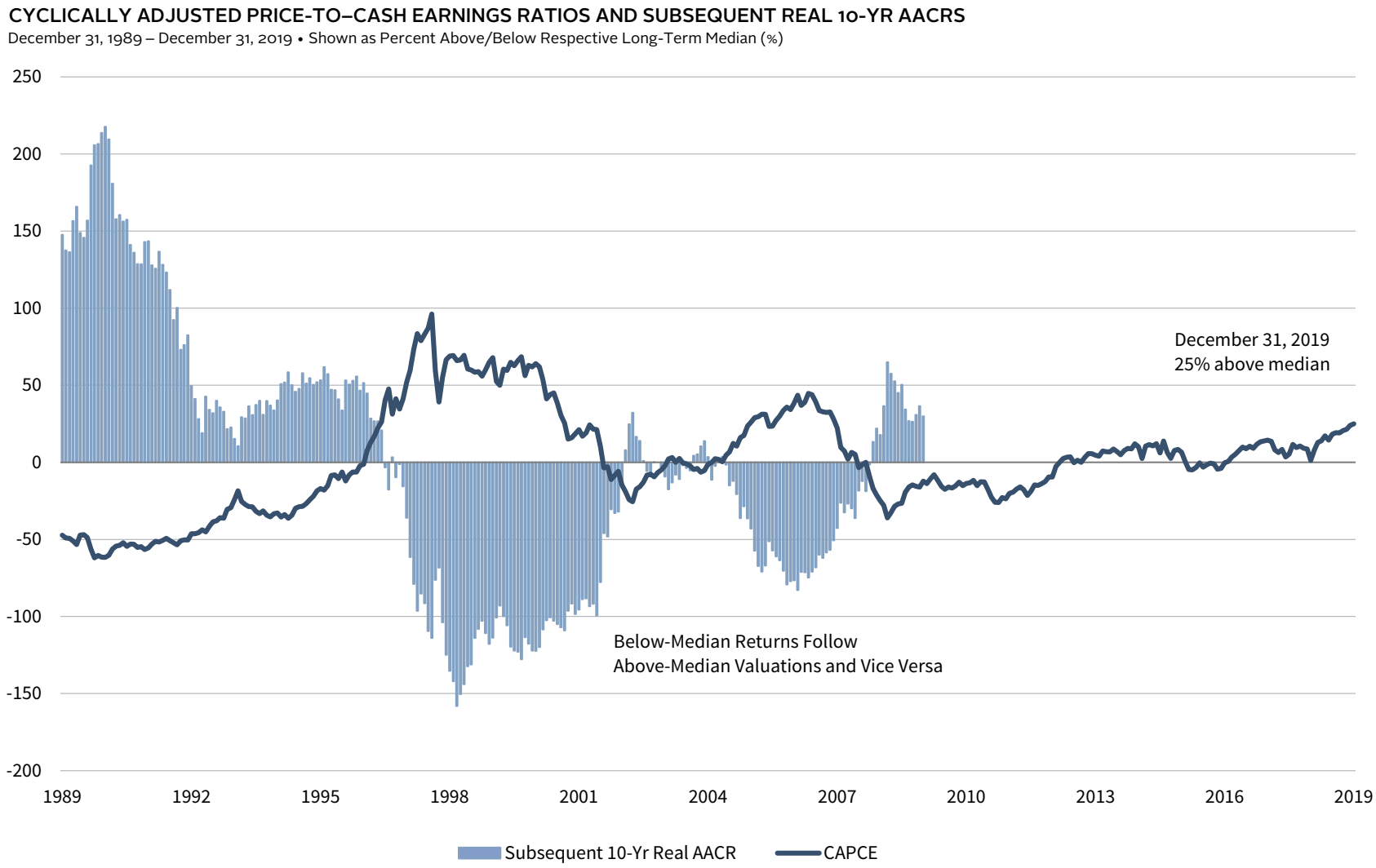
Earnings growth is volatile across decades, but strongest return contributor on average

BREAKDOWN OF TOTAL RETURN AACR OVER TIME: SWITZERLAND
1970–2019 • Percent (%)



Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Note: Figures will not sum exactly to total return calculation due to the effect of combining cross terms.

High valuations imply weak subsequent returns and vice versa



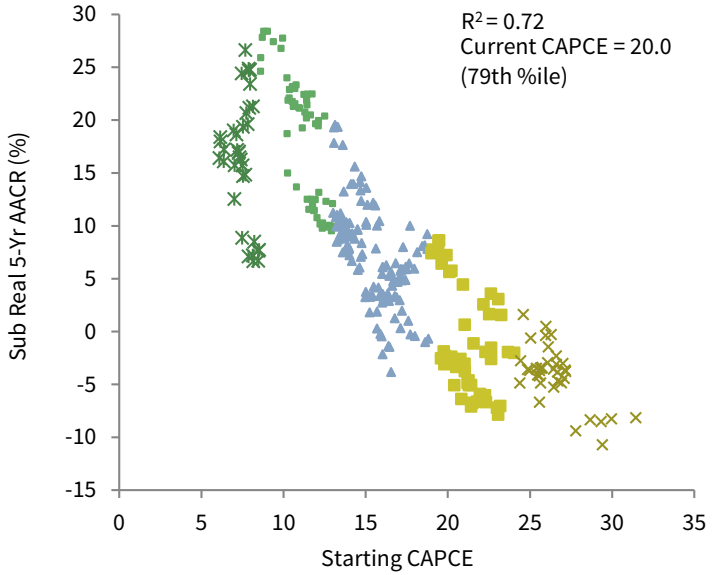
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Chart shows percent above/below median for returns and valuations. Line shows point-in-time cyclically adjusted price-to–cash earnings (CAPCE) ratios. Bars are based on monthly 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 5.9% since 1989. For example, the first data point shows that the real AACR for the period 1989–99 was 147.6% above the median ten-year real return.

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

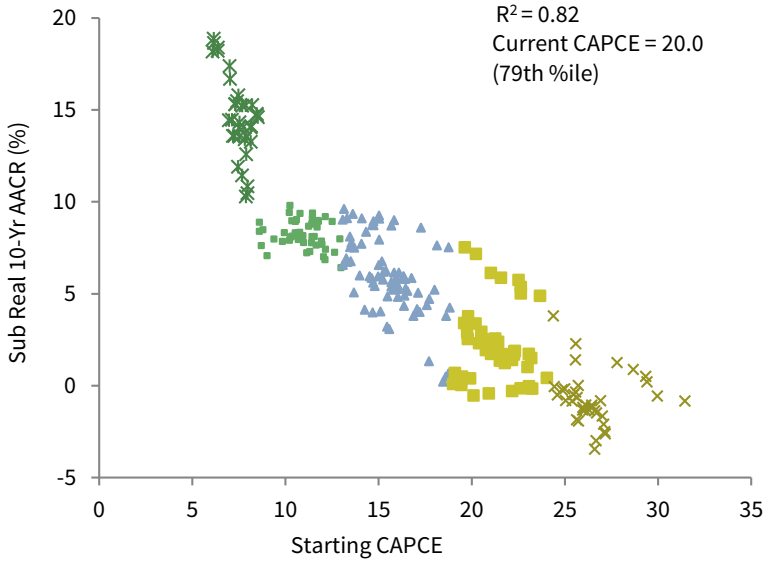
RELATIONSHIP BETWEEN CYCLICALLY ADJUSTED PRICE-TO–CASH EARNINGS RATIOS AND SUBSEQUENT REAL 5- AND 10-YR AACRS

December 31, 1979 – December 31, 2019

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	7.5	8.5	6.1	17.0	26.6	6.7	7.5	8.5	6.1	14.5	18.9	10.3
10–25	11.4	13.0	8.6	20.4	28.4	9.5	11.1	13.0	8.6	8.1	9.8	6.4
25–75	15.3	18.8	13.0	7.5	19.6	-3.8	15.5	18.8	13.1	5.9	9.6	0.2
75–90	21.2	24.0	19.0	-2.4	8.6	-7.9	21.2	24.0	19.0	1.9	7.5	-0.5
90–100	26.1	31.4	24.4	-3.7	1.6	-10.7	26.1	31.4	24.4	-0.8	3.8	-3.5
Overall	**15.2**	**31.4**	**6.1**	**7.6**	**28.4**	**-10.7**	**15.6**	**31.4**	**6.1**	**5.9**	**18.9**	**-3.5**

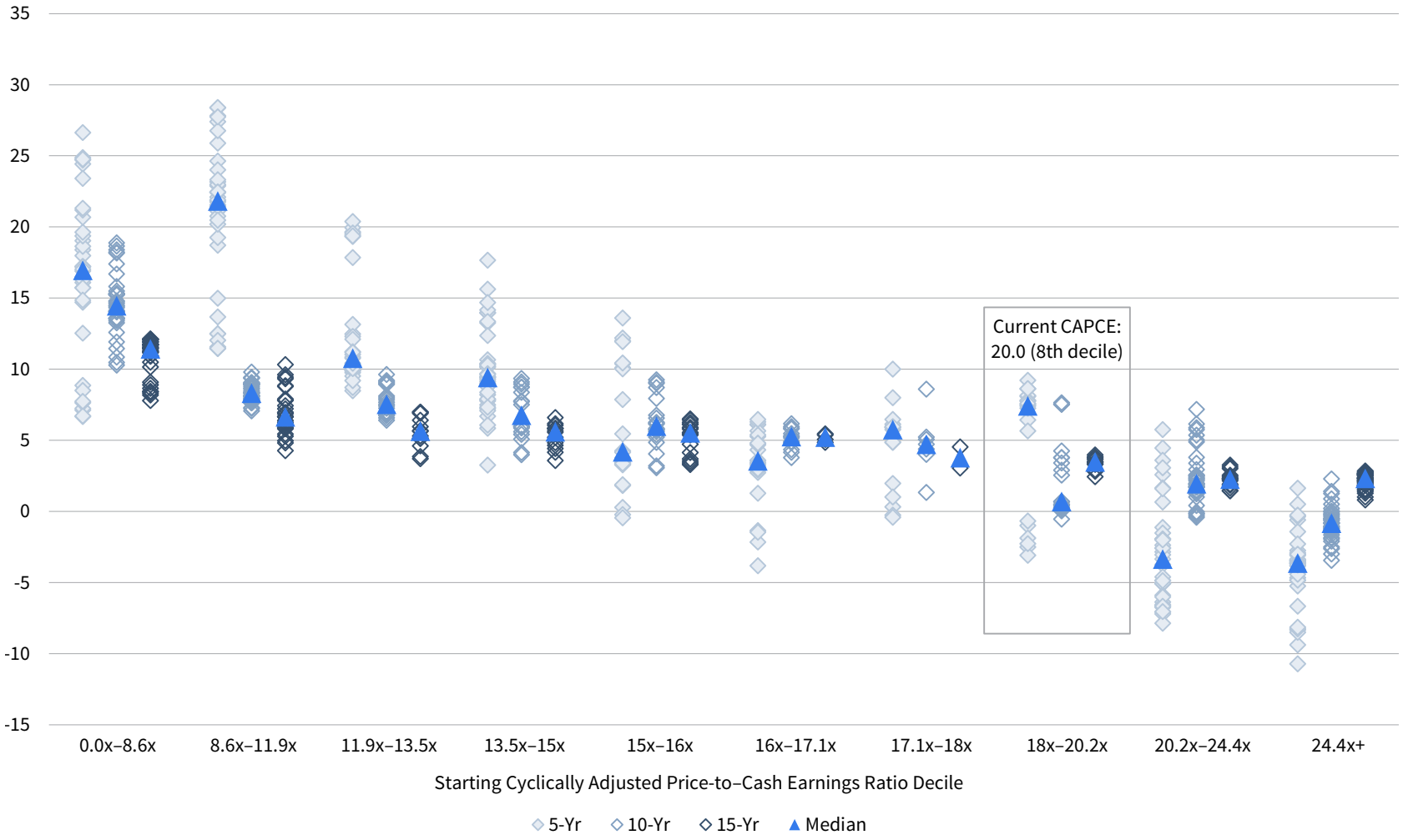
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Data are monthly. The last full five-year period was January 1, 2015, to December 31, 2019, and the last full ten-year period was January 1, 2010, to December 31, 2019.

Starting normalized valuations are more meaningful as holding periods increase

DISTRIBUTION OF SUBSEQUENT REAL RETURNS FROM STARTING NORMALIZED VALUATION DECILES

December 31, 1989 – December 31, 2019 • Subsequent Real Return AACR (%)



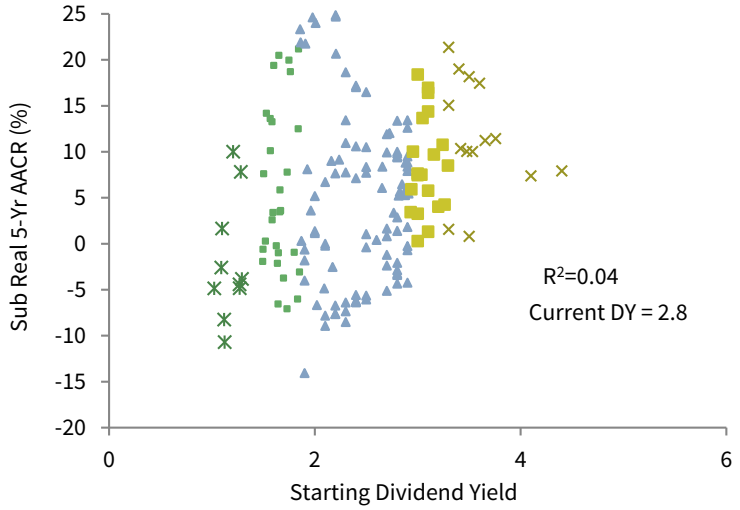
Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without and express or implied warranties.
Notes: Data are monthly. The last full five-year period was January 1, 2015, to December 31, 2019, the last full ten-year period was January 1, 2010, to December 31, 2019, and the last full fifteen-year period was January 1, 2005, to December 31, 2019.

No statistical relationship between Swiss equity dividend yields and subsequent performance

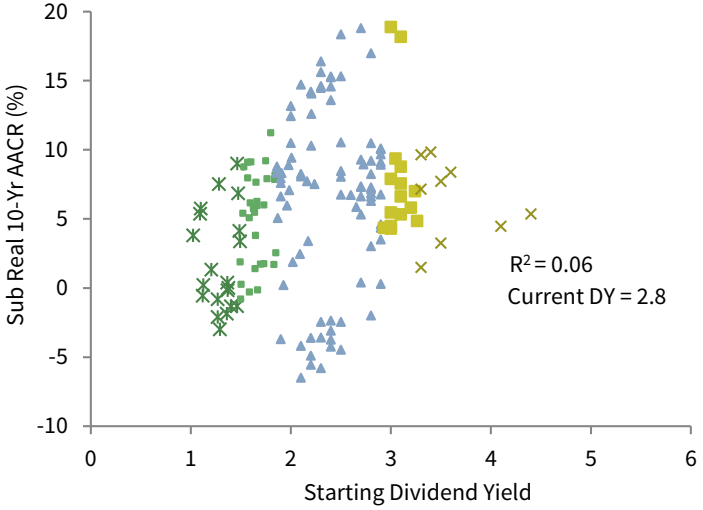
RELATIONSHIP BETWEEN DIVIDEND YIELDS AND SUBSEQUENT REAL AACRS

Fourth Quarter 1969 – Fourth Quarter 2019

Dividend Yield and Subsequent 5-YR AACR



Dividend Yield and Subsequent 10-YR AACR



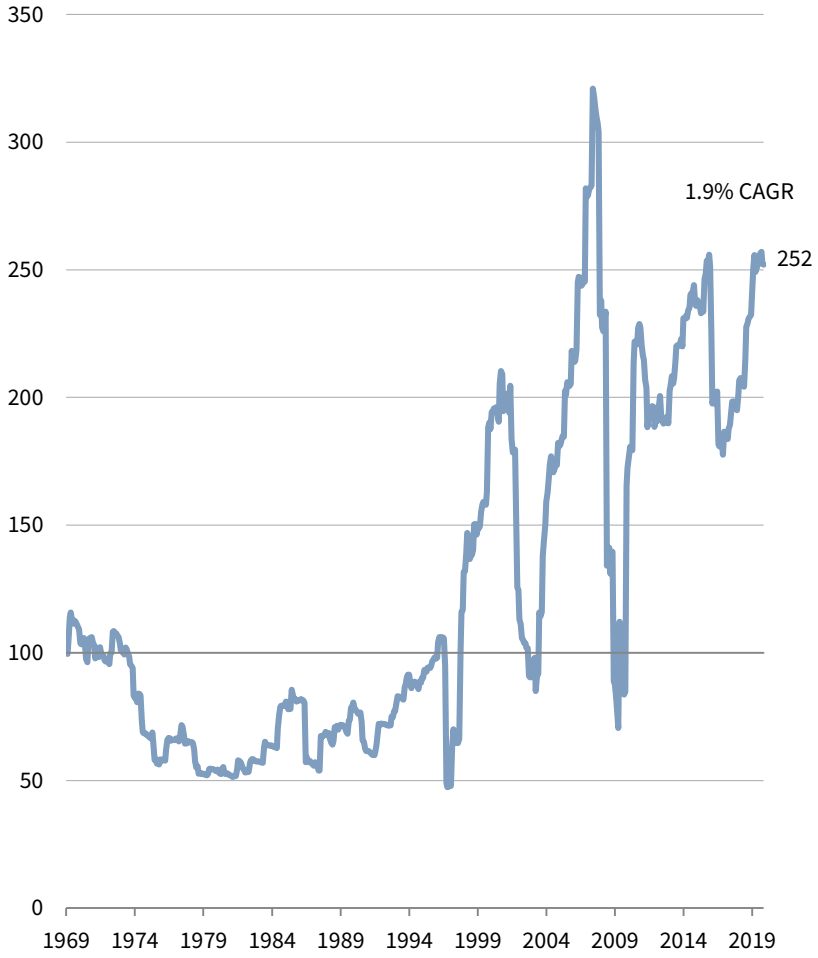
Dividend Yield Percentile	Starting Period Dividend Yield (%)			Subsequent Real 5-Yr AACR (%)			Starting Period Dividend Yield (%)			Subsequent Real 10-Yr AACR (%)		
	Median	High	Low	Median	High	Low	Median	High	Low	Median	High	Low
0–10	1.2	1.3	1.0	-4.1	10.0	-10.7	1.3	1.5	1.0	0.3	9.0	-3.0
10–25	1.6	1.9	1.5	3.5	26.8	-7.1	1.6	1.9	1.5	5.8	11.2	-0.8
25–75	2.5	2.9	1.9	5.2	28.4	-14.1	2.4	2.9	1.9	7.5	18.8	-6.5
75–90	3.1	3.3	2.9	7.6	18.4	0.3	3.1	3.3	2.9	6.6	18.9	4.3
90–100	3.5	4.4	3.3	10.8	21.4	0.8	3.5	4.4	3.3	7.2	9.8	1.5
Overall	**2.4**	**4.4**	**1.0**	**5.8**	**28.4**	**-14.1**	**2.2**	**4.4**	**1.0**	**6.6**	**18.9**	**-6.5**

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 quarterly. The last full five-year period was first quarter 2015 through fourth quarter 2019. The last full ten-year period was first quarter 2010 through fourth quarter 2019.
Outliers are not shown on graph but are included in R^2.

Swiss real earnings remain below GFC peak despite above-median return on equity

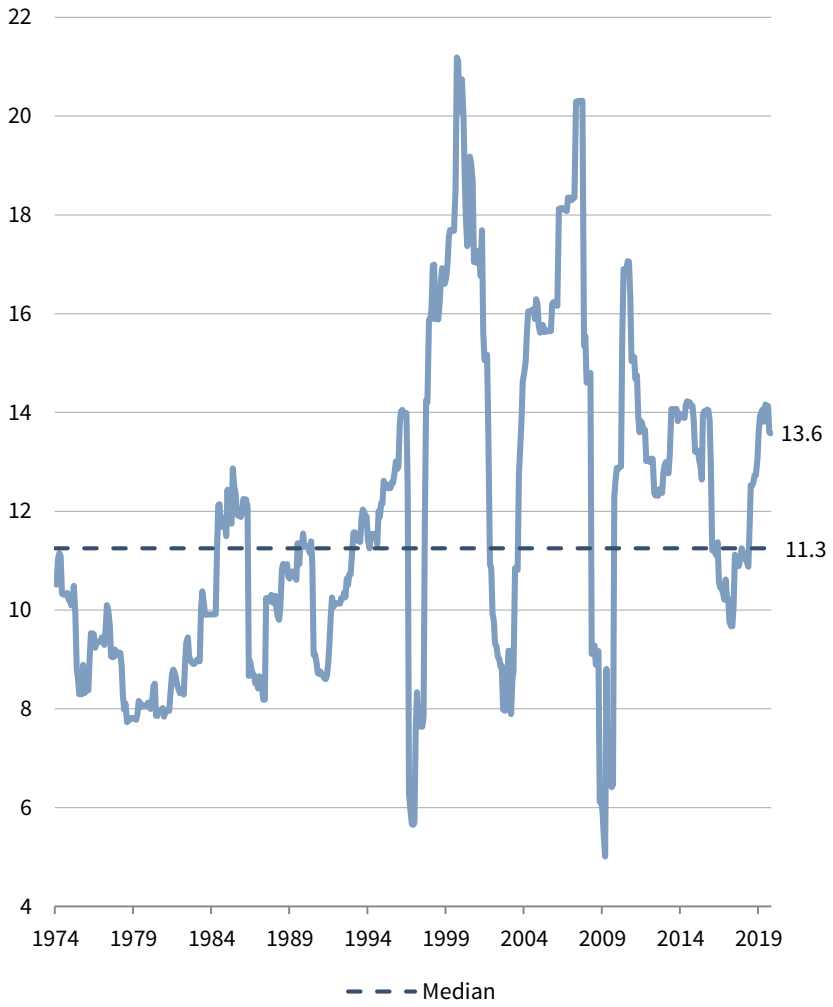
REAL EARNINGS PER SHARE OVER TIME

December 31, 1969 – December 31, 2019 • December 31, 1969 Cumulative Wealth = 100



RETURN ON EQUITY

December 31, 1974 – December 31, 2019 • Percent (%)

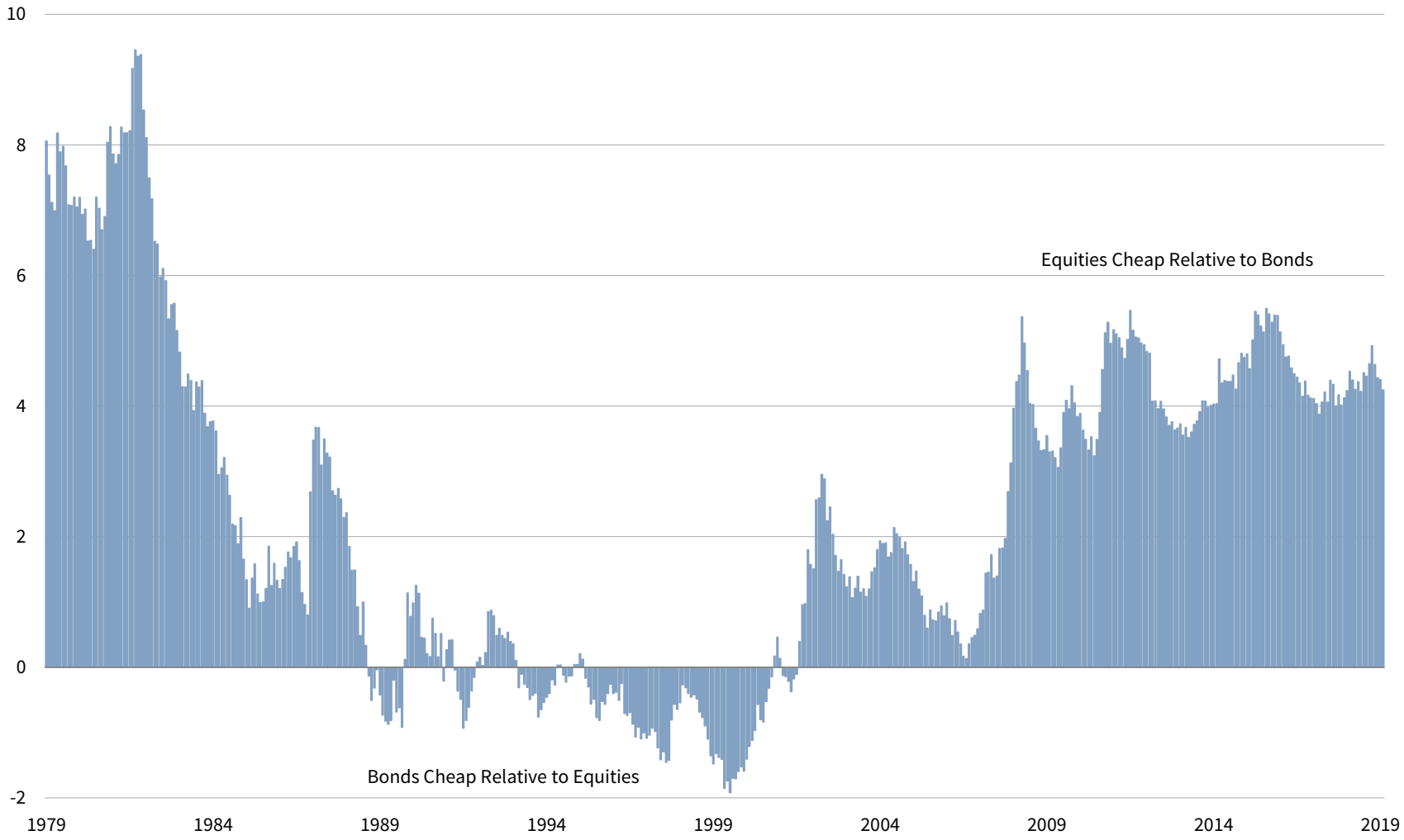


Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Note: Real earnings per share and return on equity are based on the MSCI Switzerland Index.

Post-GFC low-yield environment has made equities more attractive to bonds on a valuation basis

SHILLER EARNINGS YIELDS VS 10-YR BOND YIELDS

1979–2019



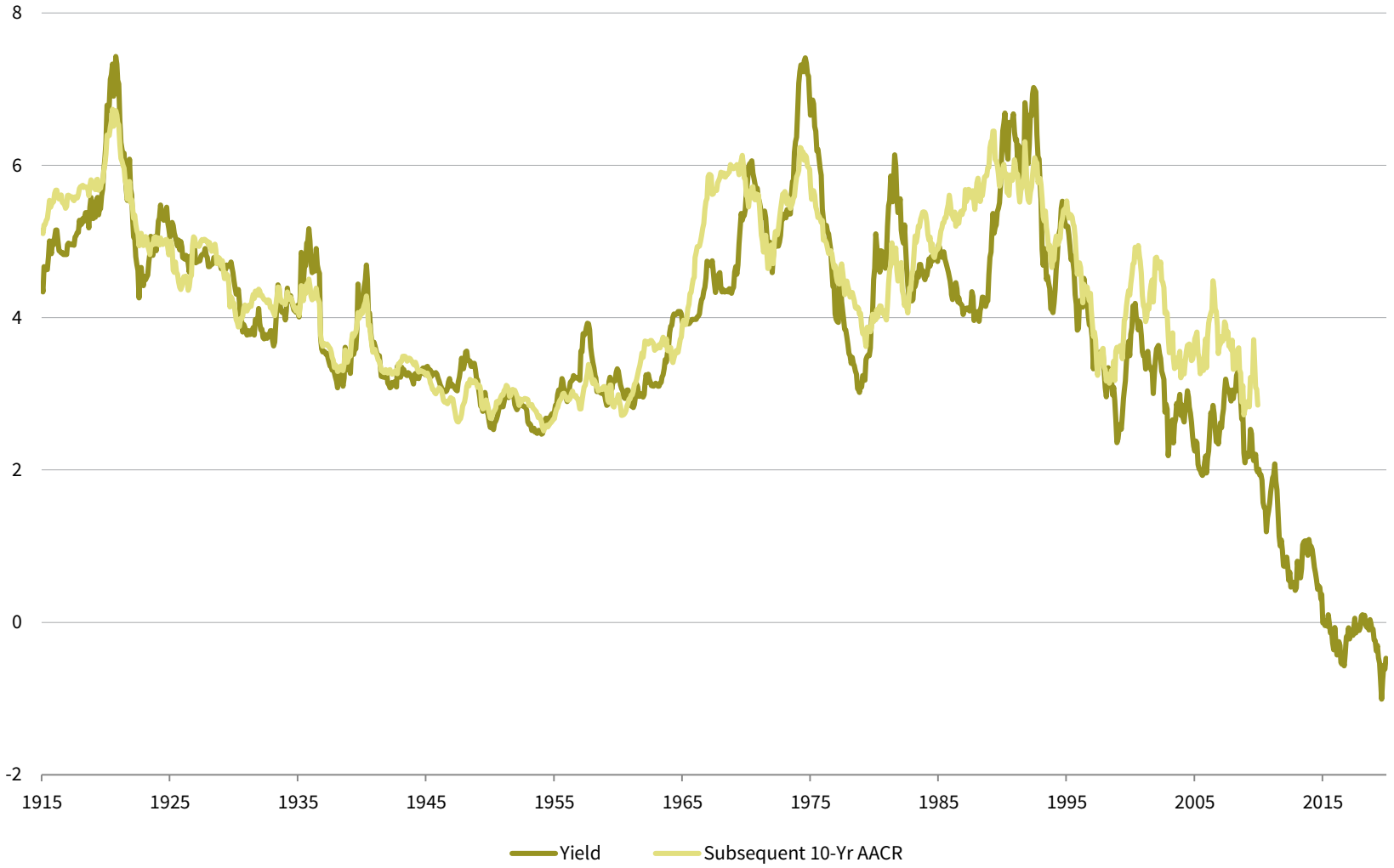
Sources: Global Financial Data, Inc., MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

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 Swiss bond yields are an informative guide to subsequent returns

RELATIONSHIP BETWEEN TREASURY BOND YIELDS AND SUBSEQUENT 10-YR AACRS

1915–2019 • Percent (%)



Source: Global Financial Data, Inc.

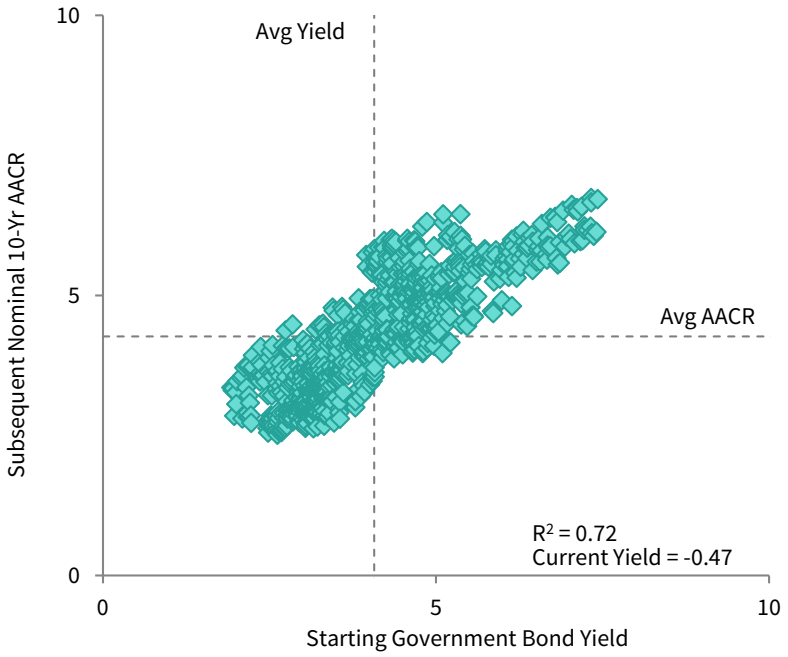
Notes: Data are monthly. The last full ten-year period was January 1, 2010, to December 31, 2019.

All-time low starting yields imply low subsequent nominal and real returns for bonds

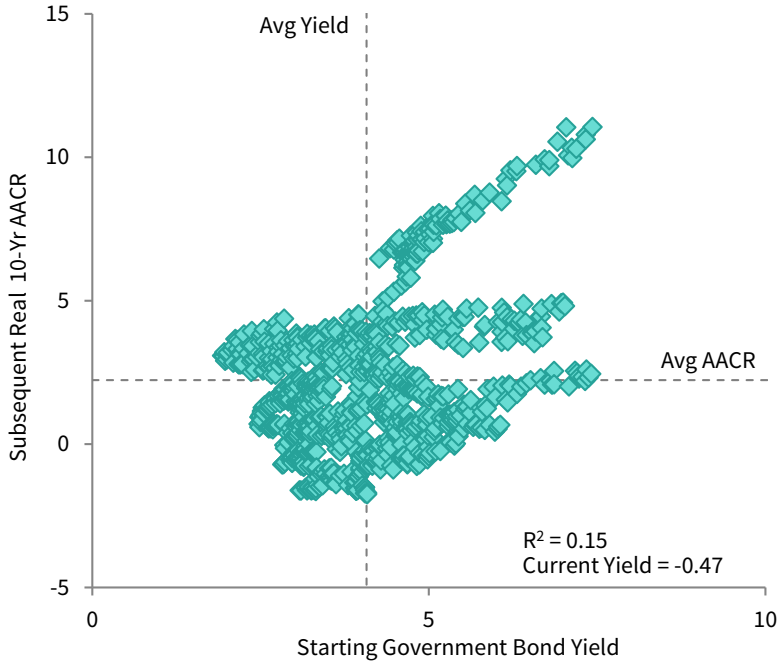
RELATIONSHIP BETWEEN GOVERNMENT BOND YIELDS AND SUBSEQUENT 10-YR AACRS

1920–2019 • 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	2.80	3.17	1.93	3.21	4.48	2.51	0.42
Second	3.48	3.95	3.17	3.66	5.72	2.66	0.53
Third	4.39	4.77	3.96	4.84	6.01	3.41	0.65
Fourth	5.62	7.43	4.78	5.36	6.74	3.97	0.61
Overall	**4.07**	**7.43**	**1.93**	**4.27**	**6.74**	**2.51**	**1.03**

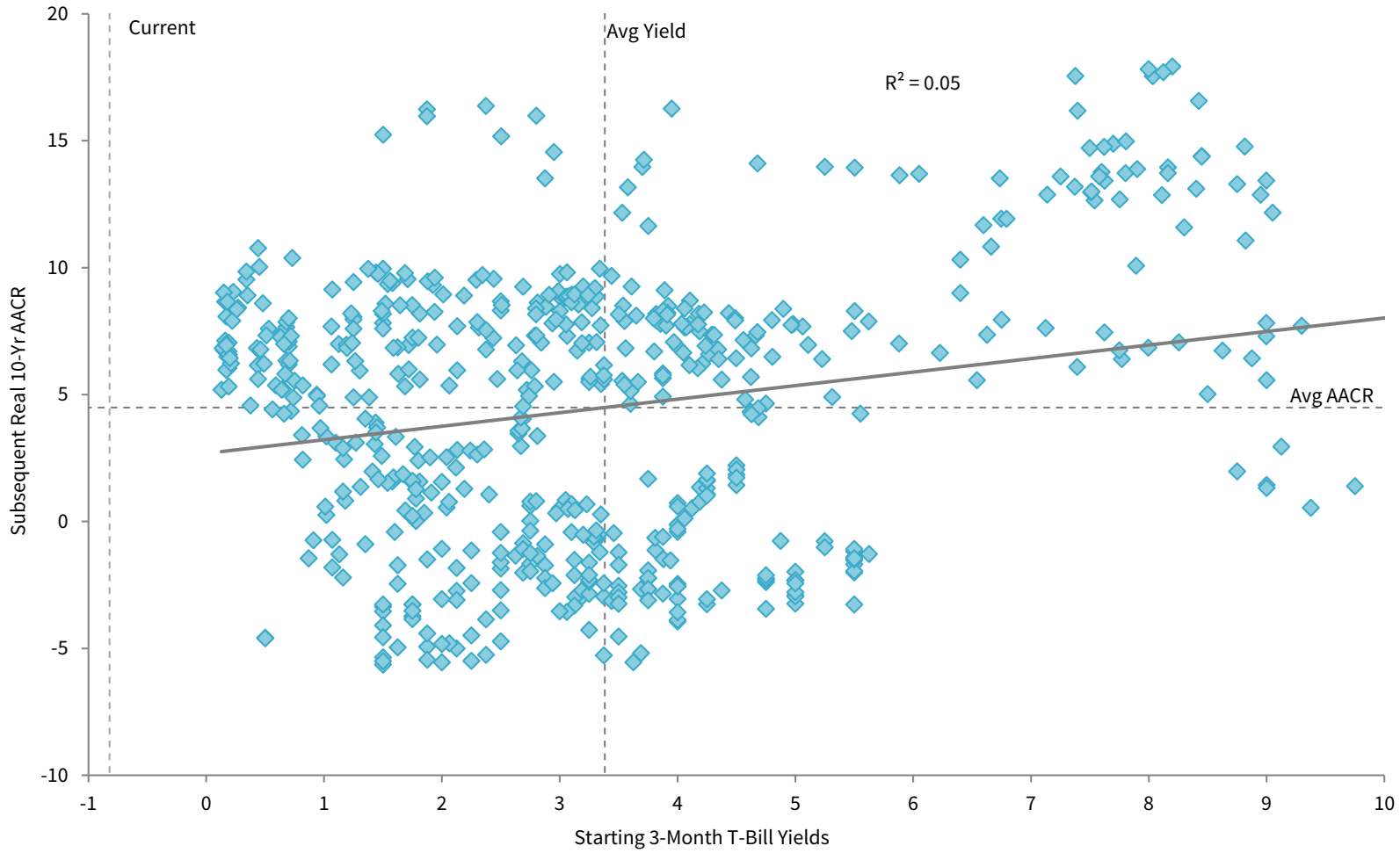
Yield Quartiles	Starting Period Government Bond Yields			Subsequent Real 10-Yr AACR (%)			
	Mean	High	Low	Mean	High	Low	Std Dev
First	2.80	3.17	1.93	1.65	4.37	-1.62	1.39
Second	3.48	3.95	3.17	1.19	4.53	-1.63	1.67
Third	4.39	4.77	3.96	2.22	7.27	-1.74	2.44
Fourth	5.62	7.43	4.78	3.87	11.05	-0.76	3.07
Overall	**4.07**	**7.43**	**1.93**	**2.23**	**11.05**	**-1.74**	**2.46**

Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.
Notes: Data are monthly. The last full ten-year period was January 1, 2010, to December 31, 2019.

Starting short-term interest rates are not related to future equity performance

RELATIONSHIP BETWEEN TREASURY BILL YIELDS AND SUBSEQUENT REAL 10-YR EQUITY AACRS

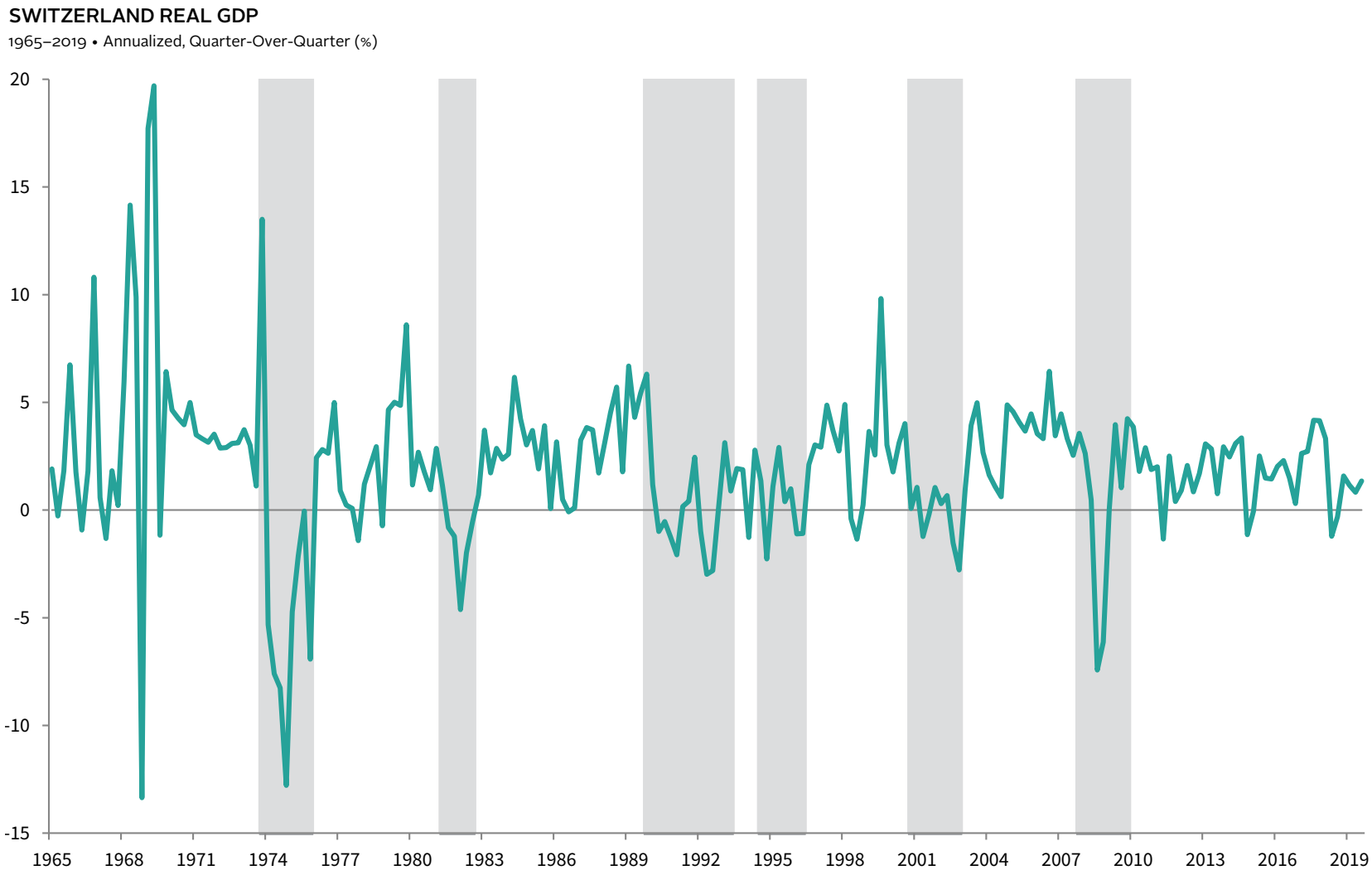
April 30, 1960 – December 31, 2019 • Percent (%)



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

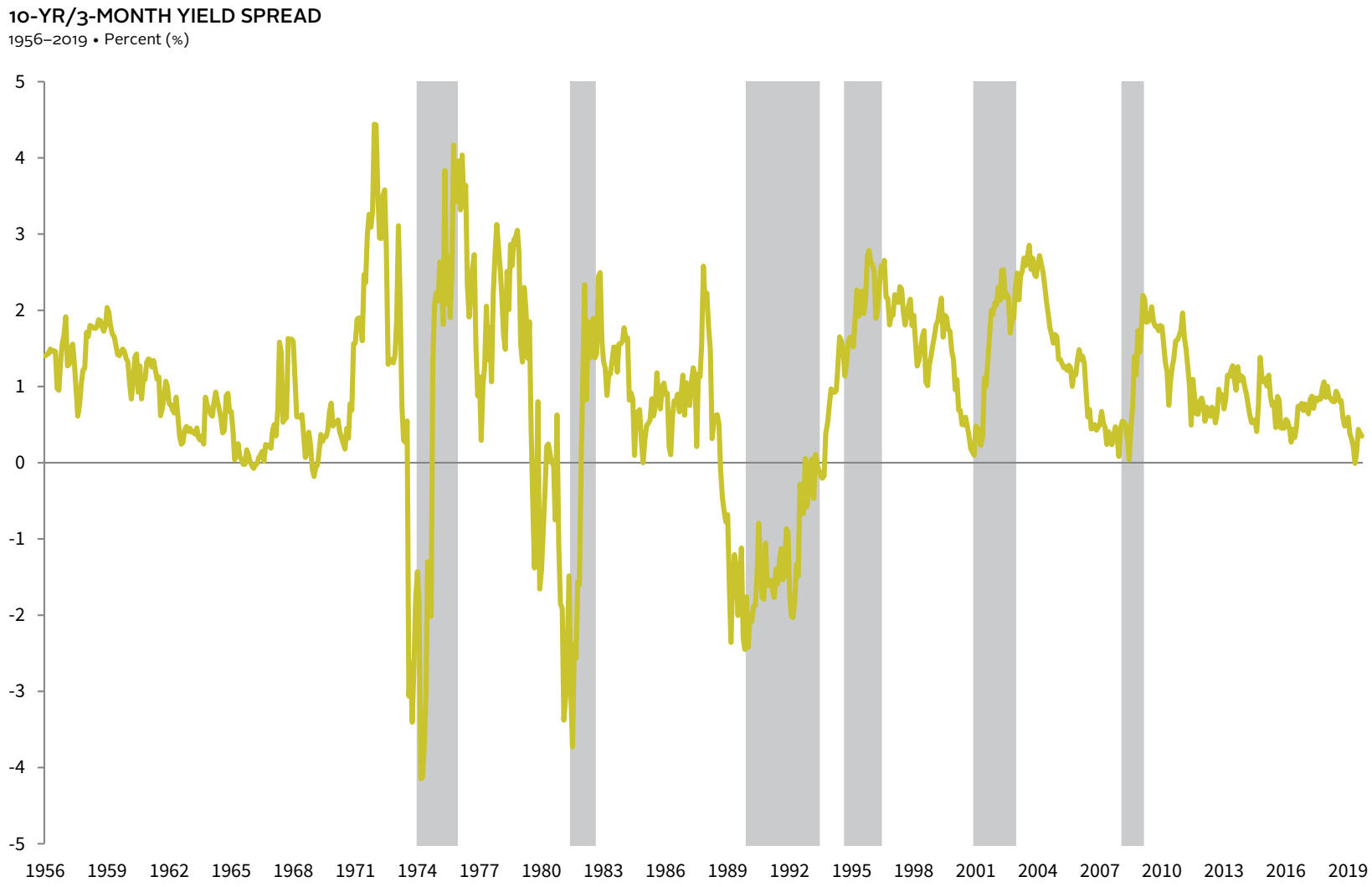
Notes: Data are monthly. The Swiss Treasury Bill yields data are represented by a spliced series of THree-Month Time Deposits, Three-Month Interbank rates, and Three-Month Treasury Bill yields. The last full ten-year period was January 1, 2010, to December 31, 2019.

Current expansion is historically long, but also one of the weakest



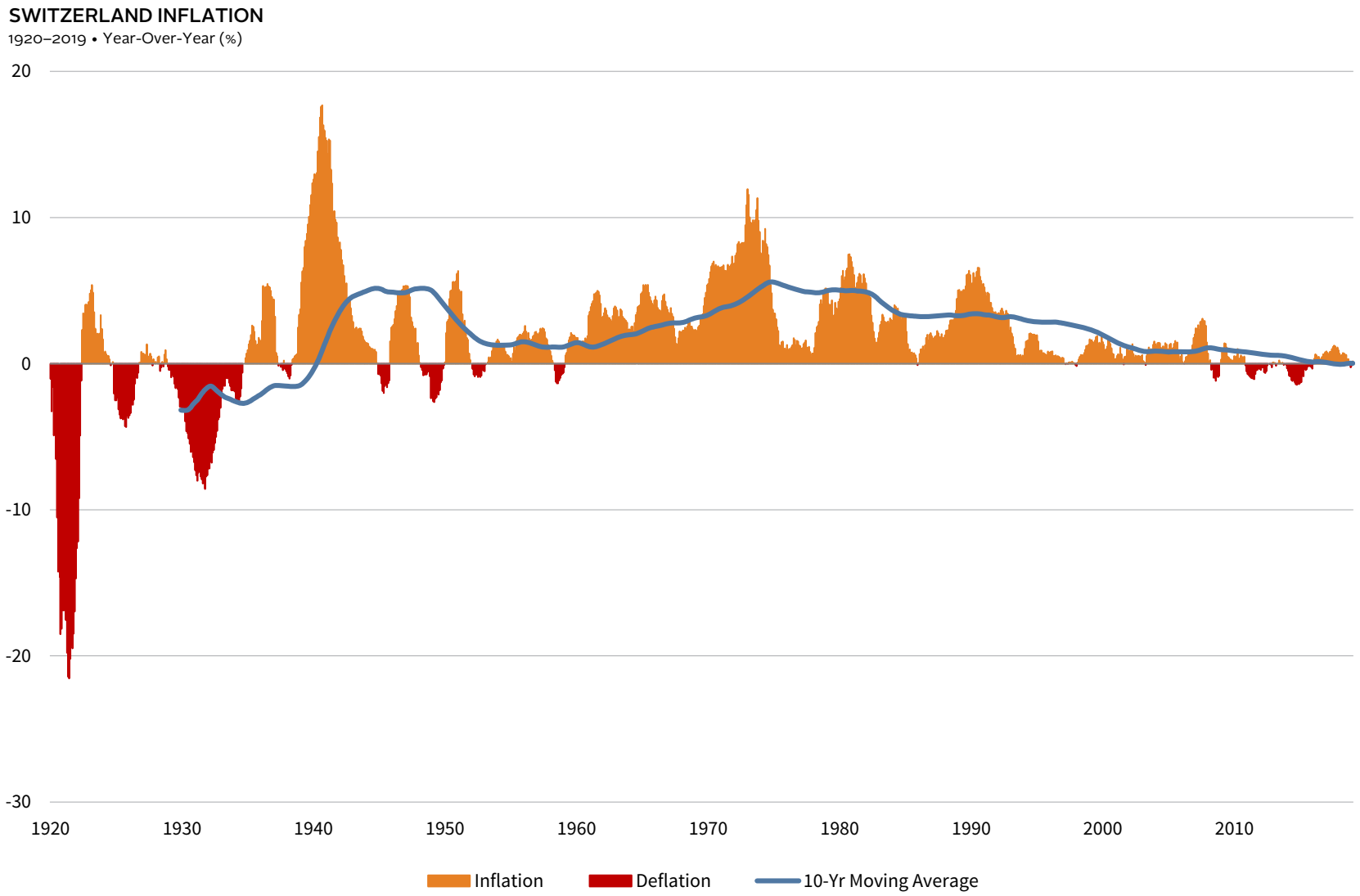
Sources: Economic Cycle Research Institute (ECRI) and OECD.
Note: Gray bars are recessions defined by ECRI business cycle peak-to-trough dates.

Swiss yield curve flattens or inverts prior to economic downturns



Sources: Economic Cycle Research Institute (ECRI) and Global Financial Data, Inc.
Notes: Data are monthly. Gray bars are recessions defined by ECRI business cycle peak-to-trough dates.

Swiss inflation has fallen to near zero as deflationary periods have been common this century



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

CAMBRIDGE ASSOCIATES

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