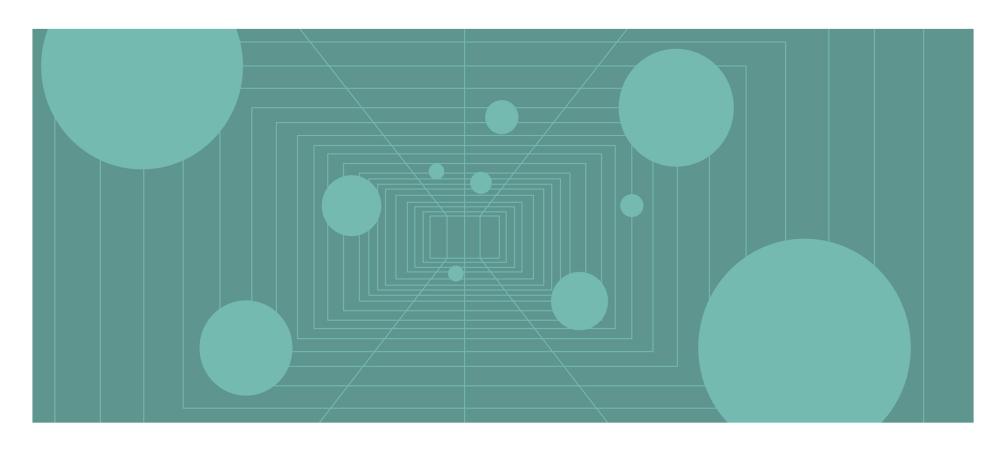
# DECADES OF DATA: EUROPE EX UK

1900-2020





### **Executive Summary**

- The COVID-19 pandemic and lockdown measures imposed across the globe to combat the virus' spread caused historic declines in economic activity and sharp movements in asset prices during 2020. In first quarter, the Euro STOXX Index declined 38% in just 20 trading days, sending market volatility to levels only observed in prior periods of market stress such as the Great Inflation of the mid-1970s, the Black Monday crash of 1987, and the Global Financial Crisis (GFC) of 2008–09. While the drawdown's speed and associated market gyrations were extreme, the subsequent recovery was just as extraordinary. Eurozone stocks recovered their pre–COVID-19 peaks after a little more than one year (275 trading days), significantly faster than the 469 days it took stocks to recover from the 1987 crash (Eurozone equities never regained their pre-GFC peak levels). All told, Eurozone equities ended the year where they started, returning 0.2% following a 52% gain from their COVID-19 crisis nadir, as forward-looking market participants discounted a speedy return to economic normalcy amid significant monetary and fiscal accommodation and an unprecedented vaccine development effort.
- The real economy also suffered unparalleled setbacks. Eurozone real GDP plummeted 11.6% quarter-over-quarter in second quarter 2020, the steepest decline since at least 1995 when official records begin. The GDP decline was driven largely by consumer spending, which fell more than 12%—also the largest decline on record—with consumer prices falling into deflation on a year-over-year basis. Virus containment measures toppled manufacturing activity as well, with industrial production falling roughly 30% year-over-year in April 2020. The Eurozone economy contracted again in fourth quarter following a brief rebound in third quarter, as new virus variants and climbing case numbers forced renewed lockdown measures, stifling economic activity once again.
- There are many reasons why economic cycles can turn, including aggregate supply/demand shocks, financial market spillover to the real economy, and psychological factors. The COVID-19 crisis is unique in that it created shocks on three fronts: supply, demand, and financial. Lockdown measures that imposed curbs on daily life impacted aggregate supply/demand, while lack of liquidity and seizing credit roiled financial markets. Even before the COVID-19 pandemic, there were signs the business cycle had grown overextended. By late 2019, Eurozone economic growth had ground to a halt, unemployment reached the lowest levels in a decade, and both industrial and consumer confidence waned. Additionally, the German yield curve—an indicator of the economic cycle—tightened to its flattest level since the period preceding the GFC, signaling heightened risk of an economic slowdown.

- 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.
- Recent Eurozone equity returns have struggled to keep up with their long-term average. Investors in Eurozone stocks have earned a nominal average annual compound return (AACR) of 6.4% over the past ten years. For the full period analyzed, Eurozone equities (1951–2020) have fared better, posting a nominal AACR of 10.3%. Recent below-average performance has persisted for some time; the rolling ten-year AACR for Eurozone equities has been below the full period average for the past 14 years. However, investors should bear in mind that rolling AACR analyses are sensitive to beginning- and end-point timing, even over ten-year periods. Monthly rolling ten-year AACRs reached 9.9% through February 2019, which was their strongest ten-year rolling return since the period ended May 2007, but still below average. One major reason that period posted relatively stronger returns is that the worst months from the GFC fell out of the data set, as the ten-year window began when Eurozone equities hit a nadir in March 2009.
- Eurozone equities, bonds, and cash all outpaced inflation over very long-term periods, based on data since the mid-twentieth century. Over rolling 50-year periods, real AACRs for Eurozone stocks ranged from a low of 3.7% to a high of 8.7%, outpacing inflation by the widest margin. Eurozone bonds and cash also gained in real terms, even during the weakest performance periods, with returns ranging from 1.8% to 3.5% and from 0.3% to 0.8%, respectively. Eurozone inflation has averaged 3.7% annually since 1950, roughly in line with other developed economies. For comparison, benchmark Eurozone government bonds and cash produced full-period AACRs of 5.9% and 3.7%, respectively, over the same time span, which is a significantly narrower spread vis-à-vis inflation relative to stocks versus inflation. Still, given today's unprecedented low yields, Eurozone cash may have a more difficult time outpacing inflation in the years ahead. With negative central bank policy rates, even low inflation can eat away at purchasing power.

- Over the long term, Eurozone equity investors have a high probability of being compensated for the additional risk of holding stocks. Since 1950, Eurozone equity returns exceeded bond returns during 68% of all five-year periods, 76% of all ten-year periods, and 95% 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 periods of underperformance over rolling five-year periods, as volatile equities are prone to larger drawdowns than bonds. Such periods are a reminder of the ballast fixed income allocations can provide to portfolios in terms of diversification, though today's historically low-yield environment has challenged this conventional wisdom.
- Earnings growth and dividend reinvestment are the primary contributors to equity total return over time, while the effects of valuation mean reversion diminish the impact of 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 is weaker in magnitude, comprising only about half the contribution provided by earnings. In 2020, earnings contracted significantly but were offset by strong multiple expansion as stock prices shrugged off weak underlying fundamentals, leading to roughly flat performance for the year overall.
- 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 Europe ex UK stocks has explained 74% of the variation in subsequent ten-year real returns, a strong yet imperfect guide to future performance. At December 31, 2020, Europe ex UK equity valuations ended in the 83rd percentile of historical observations, and from this valuation decile, the median subsequent ten-year real return for equities has been only about 1.4% 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 Eurozone 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.
- Europe ex UK equity dividend yields are not statistically related to subsequent performance; normalized earnings multiples are the more useful indicator. Europe ex UK dividend yields explained only 18% of the variation in subsequent ten-year real AACRs over the past 50 years, which pales in comparison to the explanatory power of normalized earnings multiples. For example, from the 2020 year-end dividend yield of 2.2%, the historical range of subsequent Europe ex UK equity real ten-year returns was about 15 percentage points, which highlights that many other factors influence equity market returns. Despite the weak statistical relationship, dividend yields and subsequent returns display the expected positive relationship, in that 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. 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, during recessionary periods since 1969, the earnings contraction for Europe ex UK companies was seven times lower than the dividend contraction, on average. While earnings growth is more sensitive to the economic cycle, dividends provide a relatively more stable tailwind to total returns.
- Subsequent nominal ten-year Eurozone bond returns closely track the starting yield. Eurozone bond yields turned negative in 2019 and ended 2020 at all-time lows (-0.30%), creating a challenging environment for future long-term returns. There is no comparable period of such low yield levels in the Eurozone, but if the strong correlation between starting yields and subsequent performance observed since 1970 (correlation coefficient=0.82) is a guide, Eurozone bonds are likely to post flat to negative returns in the ensuing ten years. Additionally, from these levels even low price inflation would result in losses in real terms. While investors benefitted from falling yields over the past 40 years, with Eurozone bonds returning 7.2% annualized since 1981, they may need to consider other avenues for defensive portfolio diversification in today's environment. During the COVID-19—driven equity market sell-off, European bonds with negative yields provided poor returns, highlighting their reduced capacity as a defensive hedge.

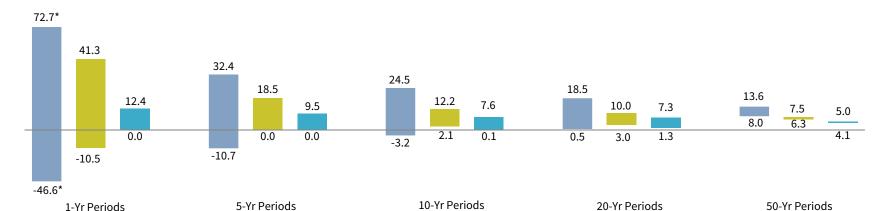
- There is a distinct negative relationship between the level of government bond yields and equity market valuations in European markets. Many have argued in recent years that high stock valuations, particularly in the United States, are justified (or at least in part explained) by the low level of government bond yields. The reasoning is straightforward; when discount rates fall, the present value of future cash flows increases, thus pushing up valuations. However, government bond yields do not tell the whole story. Since 1979, ten-year European government bond yields have explained roughly 40% of the variation in equity market valuations, but they do not account for the other half. This implies that investors must also be discounting hopeful expectations for the future and are willing to pay up for growth in today's low-growth environment. While the negative relationship exists overall, there can be periods when equity valuations and yields move together. For example, in the early 2000s period preceding the GFC, there was a positive relationship, in that equity valuations and yields both increased. Given the possibility of differences across market environments, 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. Due to the extraordinary amount of fiscal and monetary stimulus extended in response to the COVID-19 crisis, asset markets have begun to price in expectations for inflation to rise, a dynamic commonly dubbed the "reflation trade." This level of policy accommodation has also led investors to begin considering the possibility that inflation could surprise to the upside, potentially to levels last seen during the late 1970s/early 1980s era. Inflation's impact on Eurozone equity returns is unclear; median stock performance is the lowest during seventh-decile inflationary periods, but equities experienced the largest downside during fourth-decile inflationary environments. Also, while the highest inflationary periods eat away at nominal returns, upside and median performance across the other inflationary deciles are largely similar. In nominal terms, bonds exhibit limited downside during periods of high inflation, as higher yield levels help offset any capital losses as bond prices fall. However, bond markets do suffer in real terms when consumer price levels increase 3% annualized or more.

### The range of investment returns narrows as holding periods increase

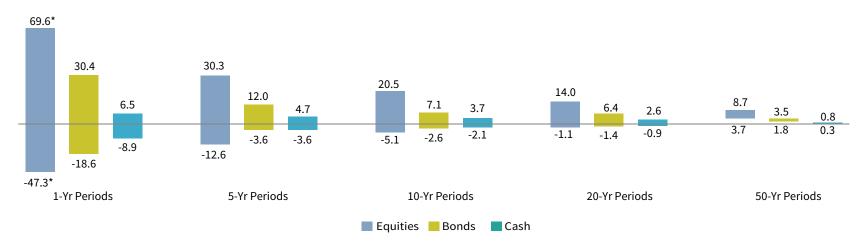
#### RANGE OF EQUITY, BOND, AND CASH RETURNS FOR VARIOUS ROLLING MONTHLY TIME HORIZONS

1951-2020 • Average Annual Compound Return (%)

#### **Nominal Returns**



#### **Real Returns**



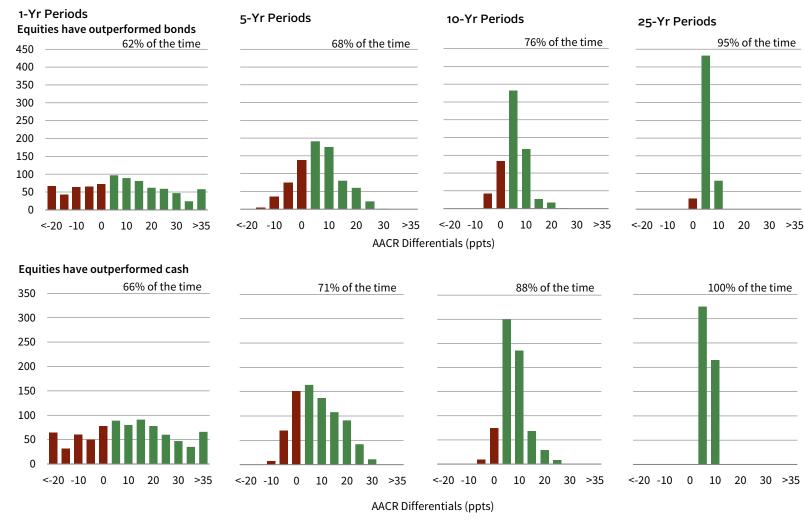
<sup>\*</sup> Axis capped for scaling purposes.

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

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

#### **EXCESS RETURNS OF EQUITIES OVER BONDS AND CASH**

1951-2020 • Number of Rolling Monthly Periods

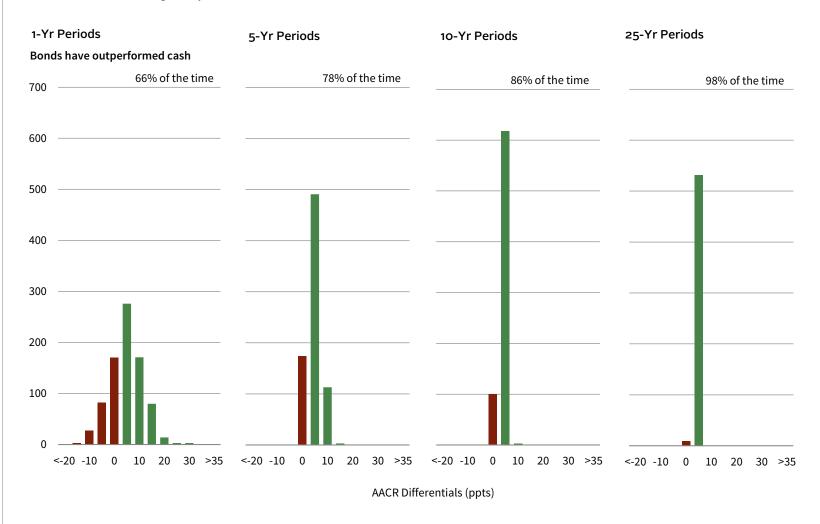


Source: Global Financial Data, Inc.

### Eurozone bonds tend to outperform cash, particularly over longer periods

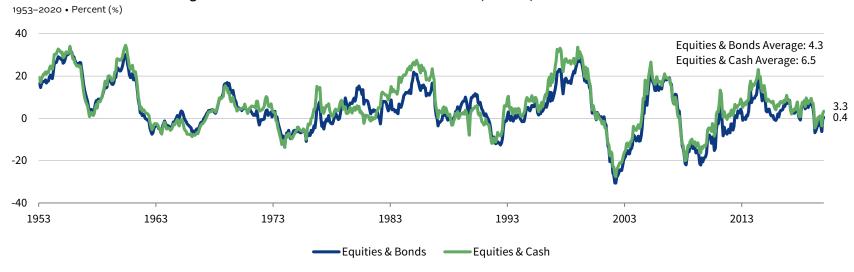
#### **EXCESS RETURNS OF BONDS OVER CASH**

1951–2020 • Number of Rolling Monthly Periods

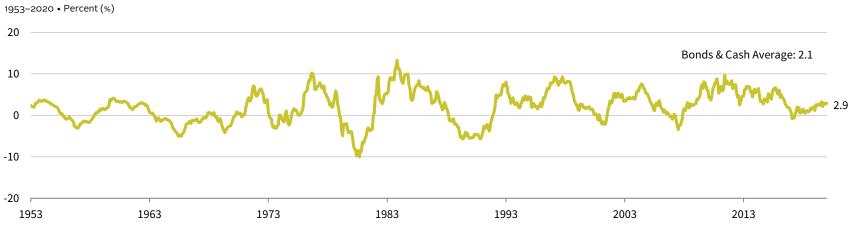


### Equities outperform bonds and cash by a wide margin; bonds outperform cash to a lesser degree

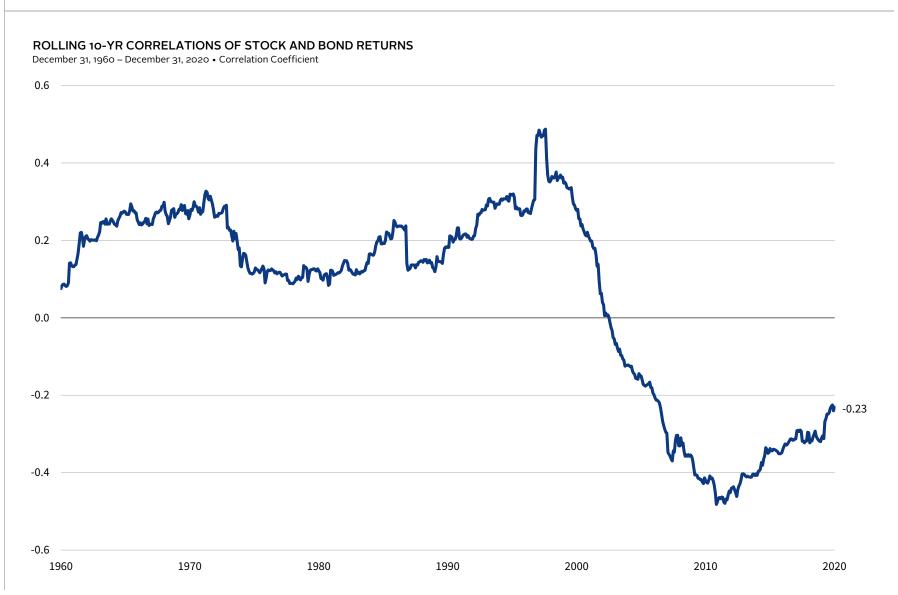
### AACR OF ROLLING MONTHLY 3-YR RETURN DIFFERENTIAL BETWEEN EQUITIES, BONDS, AND CASH RETURNS



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



### Stock and bond correlation increased in the last decade but remains negative

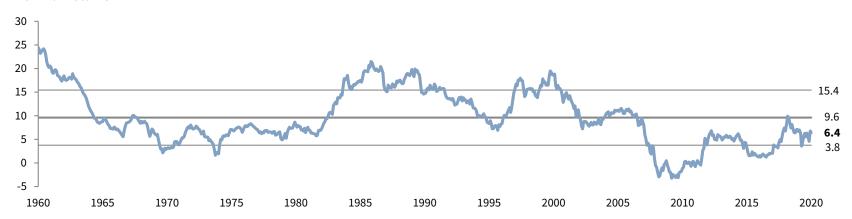


### Equity performance exhibits mean reversion, but above- or below-average returns can persist

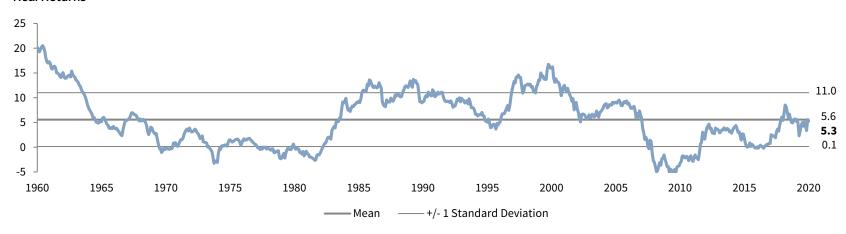
#### **ROLLING MONTHLY EQUITY TOTAL RETURN 10-YR AACR**

1960-2020 • Percent (%)

#### **Nominal Returns**



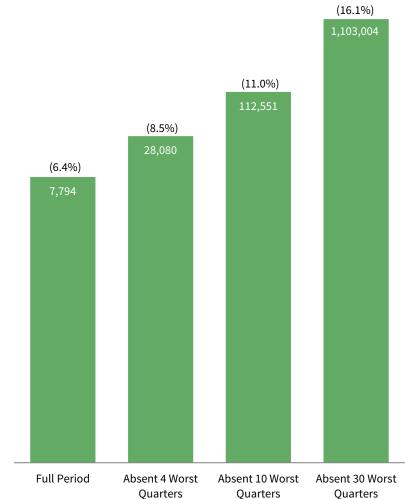
#### Real Returns



### Attempting to time the market carries significant risk

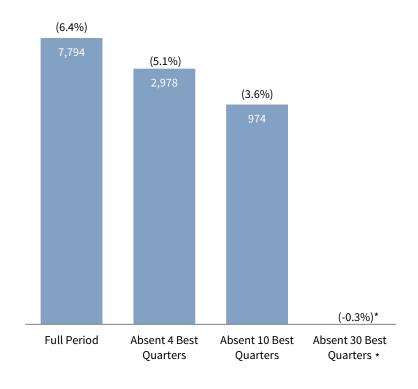
#### **CUMULATIVE REAL WEALTH ABSENT WORST QUARTERS**

1951–2020 • January 1, 1951 = 1 • AACR (%) in Parentheses



#### **CUMULATIVE REAL WEALTH ABSENT BEST QUARTERS**

1951-2020 • January 1, 1951 = 1 • AACR (%) in Parentheses



<sup>\*</sup> Cumulative real wealth absent 30 best quarters is -19.

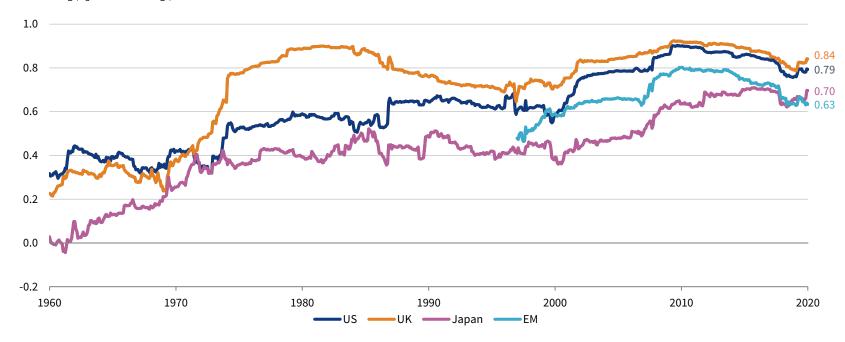
Sources: Global Financial Data, Inc. and Thomson Reuters Datastream.

Note: Cumulative real wealth is shown on a logarithmic scale.

### Interregional equity correlations recently increased, but turned slightly lower in the past decade

#### ROLLING 10-YR CORRELATIONS: EUROPE EX UK EQUITY VS GLOBAL PEERS

December 31, 1960 - December 31, 2020 • Correlation Coefficient



#### **CORRELATION MATRIX**

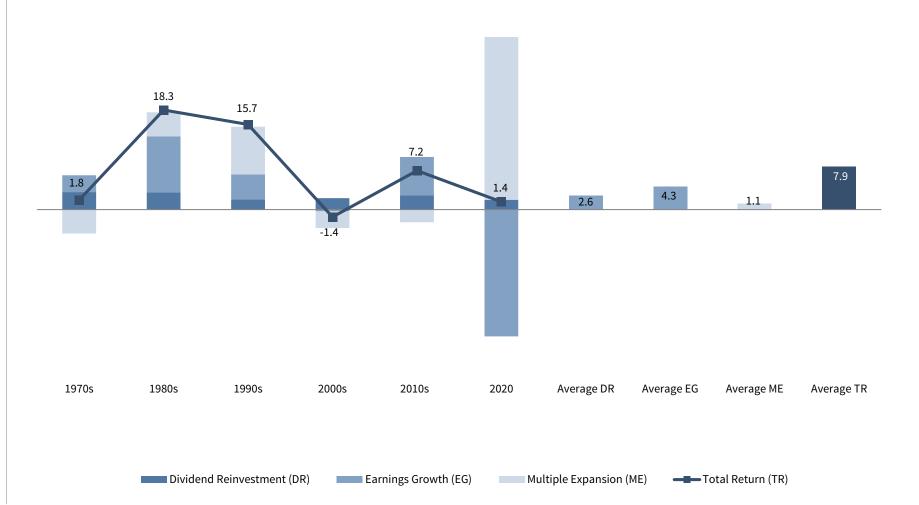
January 31, 1951 - December 31, 2020

	Europe ex UK	US	UK	Japan	EM
Europe ex UK	1.00				
US	0.65	1.00			
UK	0.69	0.56	1.00		
Japan	0.43	0.35	0.31	1.00	
EM	0.64	0.67	0.63	0.50	1.00

### Earnings growth and valuation multiple rerating vary over time; dividends are more stable

#### BREAKDOWN OF TOTAL RETURN AACR OVER TIME

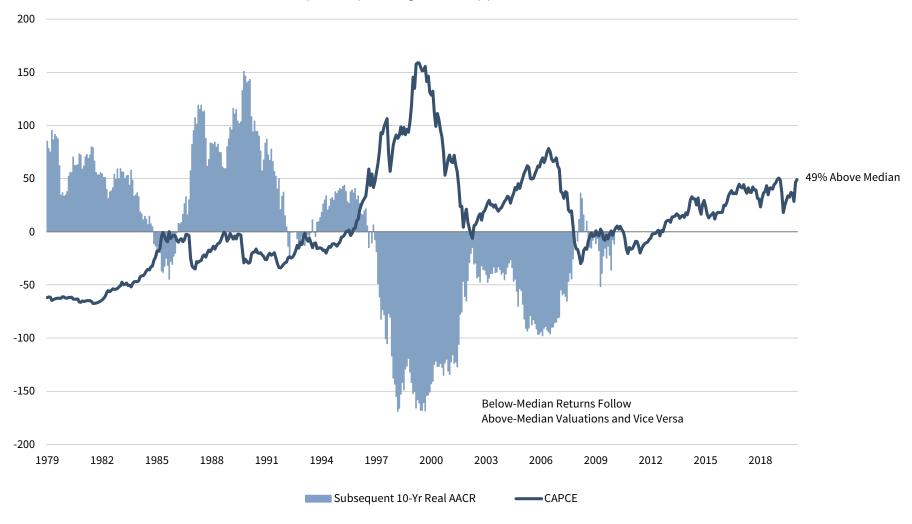
1970-2020 • Percent (%)



### High valuations imply weak subsequent returns and vice versa

#### CYCLICALLY ADJUSTED PRICE-TO-CASH EARNINGS RATIOS AND SUBSEQUENT REAL 10-YR AACRS

December 31, 1979 – December 31, 2020 • Shown as Percent Above/Below Respective Long-Term Median (%)



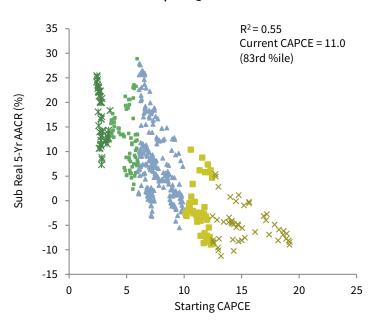


### Starting valuations are a useful guide in setting long-term equity return expectations

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

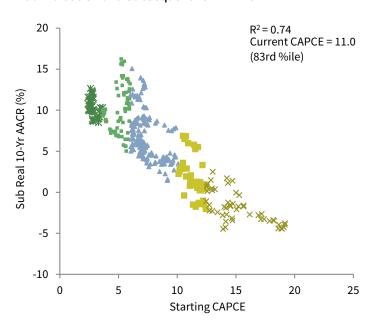
December 31, 1979 - December 31, 2020

#### Initial Valuation and Subsequent 5-Yr AACR



### Initial Valuation and Subsequent 10-Yr AACR

Starting Cyclically Adjusted

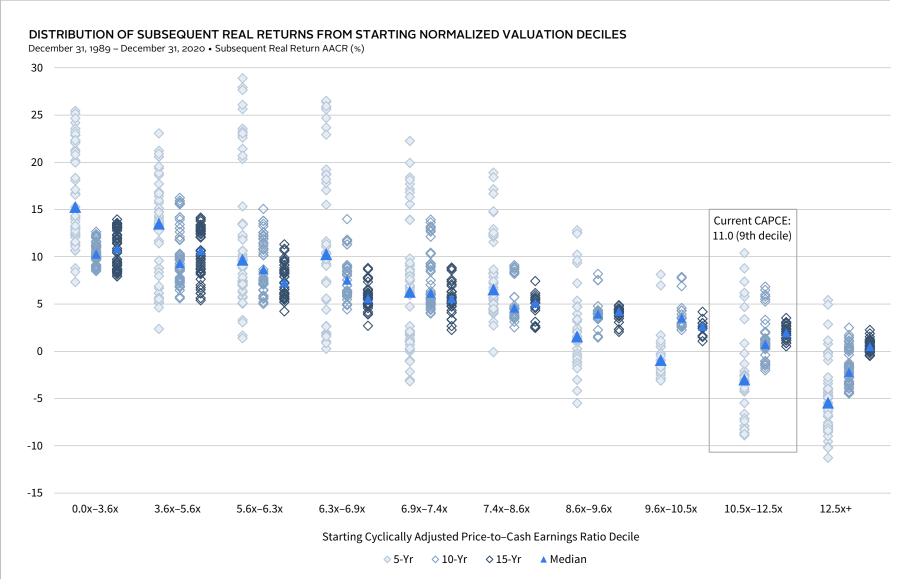


		Starting	Cyclically A	Adjusted	Subsequent Real				
P/CE Ratio		Price-to-	Cash Earniı	ngs Ratio		5-Yr AACR (%)			
į	Percentile	Median	High	Low	Median	Median High Low			
	0-10	2.8	3.6	2.4	14.8	25.4	7.3		
	10-25	5.3	6.0	3.7	12.9	28.9	2.4		
	25-75	7.2	10.1	6.0	6.6	27.9	-5.5		
	75–90	11.6	12.5	10.1	-2.6	10.4	-8.9		
	90–100	14.6	19.2	12.5	-5.2	5.4	-11.3		
	Overall	7.1	19.2	2.4	6.9	28.9	-11.3		

0	0,	,		'				
Price-to-	o–Cash Earni	ngs Ratio	10-Yr AACR (%)					
Median	dian High Low		Median	High	Low			
2.8	3.6	2.4	10.3	12.7	8.5			
5.3	6.0	3.7	9.9	16.2	5.0			
7.1	10.1	6.0	6.1	15.1	1.4			
11.6	12.5	10.1	1.1	6.9	-2.0			
14.6	19.2	12.5	-2.2	2.5	-4.5			
7.0	19.2	2.4	6.5	16.2	-4.5			
5.3 7.1 11.6 14.6	6.0 10.1 12.5 19.2	3.7 6.0 10.1 12.5	9.9 6.1 1.1 -2.2	16.2 15.1 6.9 2.5	5.0 1.4 -2.0 -4.5			

Subsequent Real

### Starting normalized valuations are more meaningful as holding periods increase

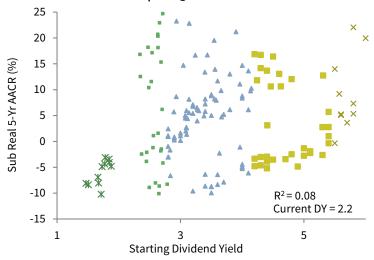


### Dividend yields exhibit positive relationship with subsequent returns, but statistical fit is weak

#### RELATIONSHIP BETWEEN DIVIDEND YIELDS AND SUBSEQUENT REAL AACRS

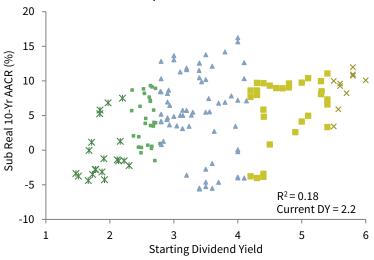
Fourth Quarter 1969 – Fourth Quarter 2020

#### Dividend Yield and Subsequent 5-YR AACR



### Dividend Yield and Subsequent 10-YR AACR

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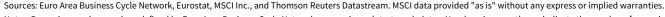


		Sta	Starting Period			Subsequent Real			
Dividend Yield		Divi	Dividend Yield (%)				5-Yr AACR (%)		
	Percentile	Median	High	Low		Median High Lo			
Ī	0-10	1.7	1.9	1.5		-4.9	-3.1	-10.2	
	10-25	2.6	2.8	2.3		3.9	26.1	-10.1	
	25–75	3.4	4.1	2.8		5.0	28.9	-9.9	
	75–90	4.6	5.4	4.2		-0.3	16.9	-5.2	
	90-100	6.0	6.6	5.5		12.3	24.7	-0.3	
	Overall	3.4	6.6	1.5		4.7	28.9	-10.2	

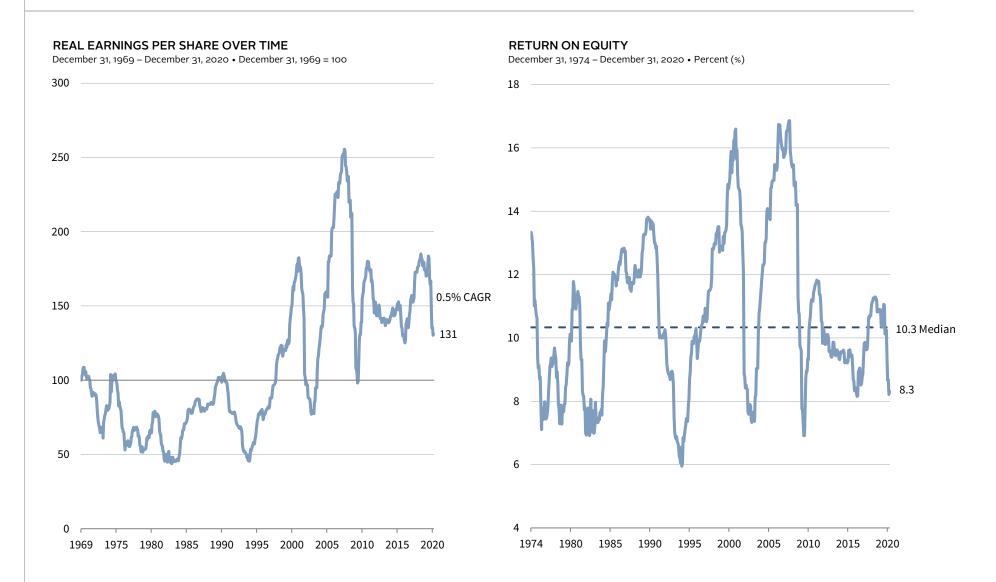
Sta	arting Perio	oa	Subsequent Real			
Divi	dend Yield	(%)	10-Yr AACR (%)			
Median	High	Low	Median High		Low	
1.9	2.3	1.5	-1.5	7.5	-4.4	
2.6	2.8	2.3	4.0	9.3	-1.5	
3.4	4.1	2.8	5.6	16.2	-5.6	
4.7	5.4	4.2	8.0	11.1	-4.0	
6.0	6.6	5.5	10.1	12.7	3.4	
3.4	6.6	1.5	5.8	16.2	-5.6	

### Dividend payouts are more resilient than earnings during recessionary periods

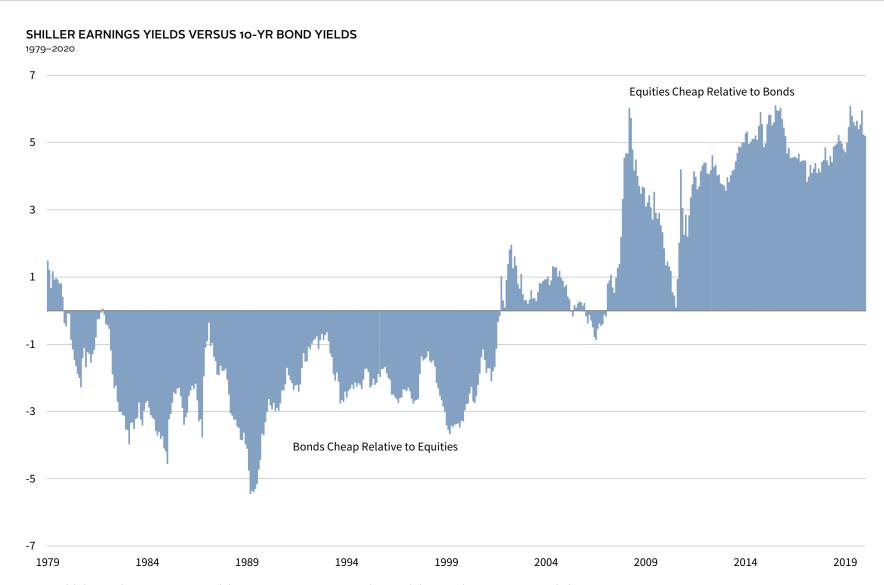
MSCI EUROPE EX UK EARNINGS PER SHARE AND DIVIDENDS PER SHARE YEAR-OVER-YEAR CHANGE 1969-2020 • Percent (%) 10.3 6.3 -1.1 -7.8 Average Growth During Recessions (6) Average Growth During Expansions (6) ■ Earnings-Per-Share Growth ■ Dividends-Per-Share Growth



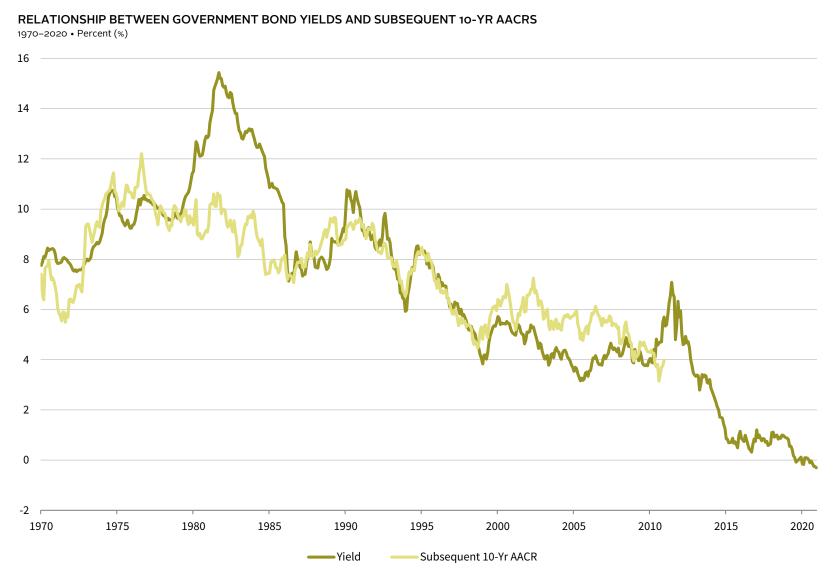
### EPS uptrend faltered post-GFC as ROE struggled to hold above median



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



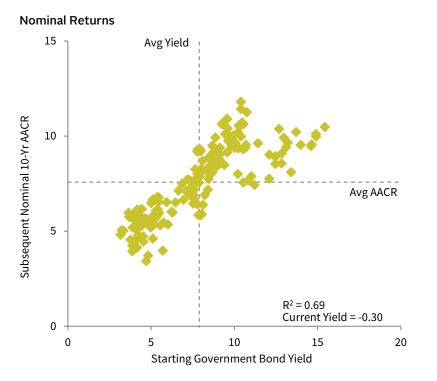
### Starting bond yields are a useful guide to subsequent returns; today's low yields pose a headwind

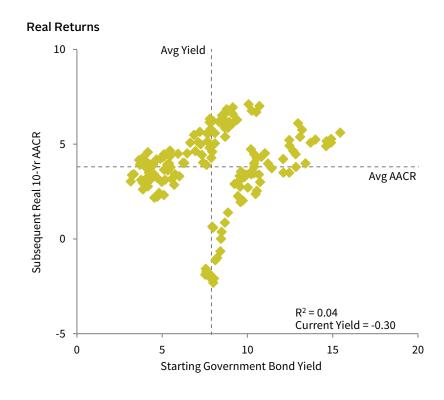


### Inflation erodes the relationship between starting yields and subsequent performance

#### RELATIONSHIP BETWEEN GOVERNMENT BOND YIELDS AND SUBSEQUENT 10-YR AACRS

1970-2020 • Percent (%)





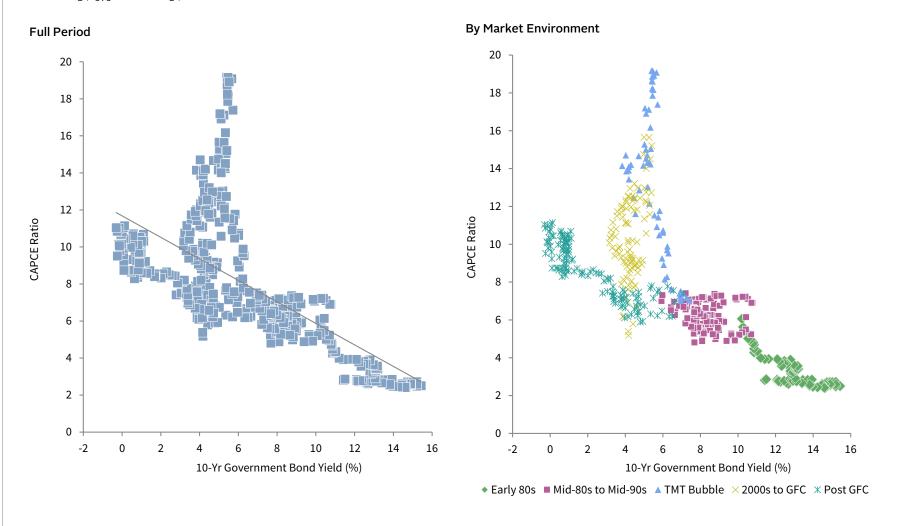
	Sta	arting Perio	S	Subsequent Nominal				
Yield	Government Bond Yields				10-Yr AACR (%)			
Quartiles	Mean	High	Low	Mean	High	Low	Std Dev	
First	4.22	5.11	3.16	5.22	6.67	3.43	0.74	
Second	6.68	7.93	5.11	6.78	9.28	3.98	1.06	
Third	8.81	9.82	7.94	8.82	10.91	5.83	1.21	
Fourth	11.85	15.44	9.94	9.50	11.80	7.43	1.06	
Overall	7.89	15.44	3.16	7.58	11.80	3.43	1.98	

	Star	ting Perio	d	Subsequent Real						
G	overnm	ent Bond	Yields		10-Yr AACR (%)					
М	ean	High	Low	Mean	High	Low	Std Dev			
	4.22	5.11	3.16	3.46	4.58	2.18	0.64			
	6.68	7.93	5.11	3.71	6.33	-2.07	2.24			
	8.81	9.82	7.94	3.55	6.94	-2.31	2.82			
1	1.85	15.44	9.94	4.51	7.10	2.37	1.18			
•	7.89	15.44	3.16	3.81	7.10	-2.31	1.95			

### Low bond yields are generally associated with higher equity valuations

### RELATIONSHIP BETWEEN EQUITY VALUATIONS AND 10-YEAR GOVERNMENT BOND YIELDS

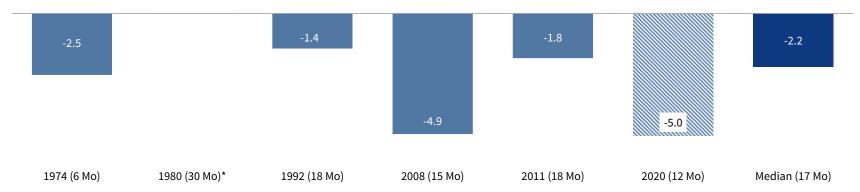
December 31, 1979 - December 31, 2020



### COVID-19 crisis caused worse-than-average economic and stock market price declines

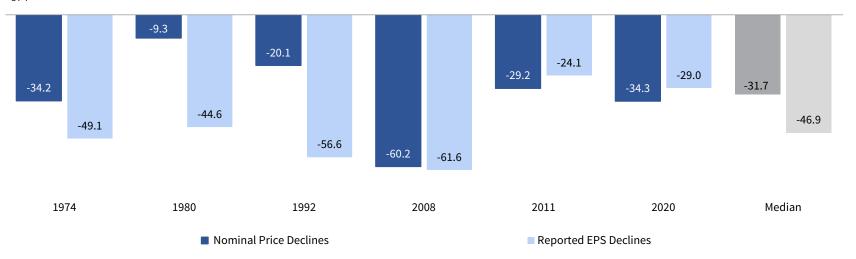
#### MAGNITUDE AND LENGTH OF EUROZONE RECESSIONS

1974-2020



#### PEAK-TO-TROUGH DECLINE IN MSCI EUROPE EX UK PRICES AND EARNINGS PER SHARE AROUND RECESSIONS

1974-2020



\*GDP fully recovered before the Euro Area Business Cycle Network called an end to the recession.

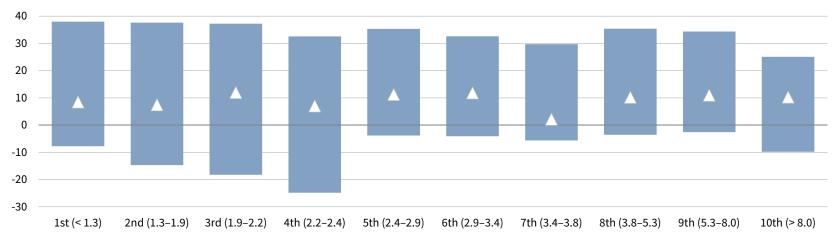
Sources: Euro Area Business Cycle Network, Eurostat, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

## Median equity returns are similar across regimes; higher yields support bonds during inflationary bouts

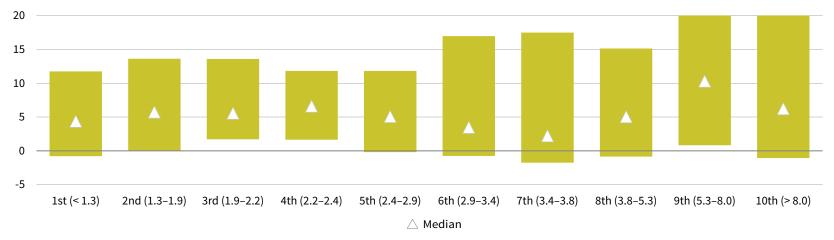
### ROLLING 3-YR NOMINAL STOCK AND BOND RETURNS BY INFLATION DECILE

January 31, 1951 - December 31, 2020 • AACR (%)

#### **Nominal Stock Returns**



#### **Nominal Bond Returns**

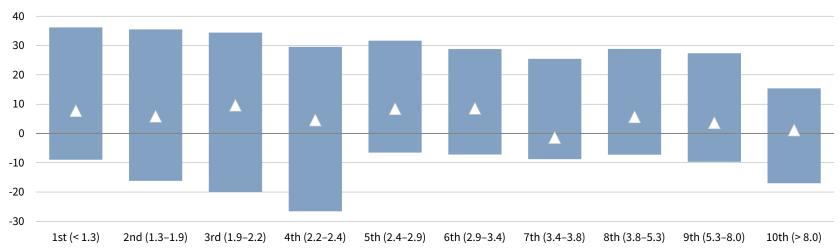


### High Inflation diminishes bond performance, while equities are relatively resilient

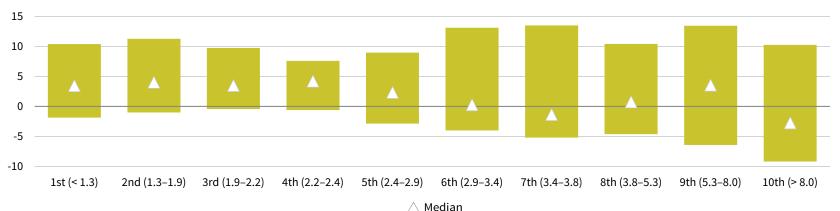
#### ROLLING 3-YR REAL STOCK AND BOND RETURNS BY INFLATION DECILE

January 31, 1951 - December 31, 2020 • AACR (%)

#### **Real Stock Returns**



#### **Real Bond Returns**





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