

An aerial, black and white photograph of a train traveling through a dense forest. The train is positioned diagonally across the frame, moving from the bottom left towards the top right. The surrounding forest is thick with trees, and the train tracks are visible as a narrow path cutting through the woods. The overall mood is serene and somewhat isolated.

# Breaking with the past: the new face of financial markets in 2023 and beyond

Aiming to enable continuous investor  
success under changed conditions

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# Introduction

Financial markets today, in late 2022, are in the midst of a structural break. This may precipitate a regime change that will alter essential market risk-return features taken for granted over the past few decades: low inflation, low volatility, and low correlations. As this new market regime unfolds, investors' needs will shift, and investment solutions must adapt to new conditions to continue delivering attractive investment outcomes.

Above-average investment outcomes hinge on the quality of forecasts that inform investment processes of both discretionary and systematic investment strategies. However, predictive quality rapidly deteriorates when large paradigm shifts are underway. While they are rare, structural breaks in financial markets are notoriously difficult to identify and time as they tend to come with high market stress. As a result, they not only cloud human judgment due to behavioral distortions but also wreak havoc on quantitative models because of erratic data behavior.

The current structural break is being brought about by a well-known culprit: inflation. As inflation worms its way back into the economy and markets, it effects a structural break in real interest rates because central bank policy is forced to focus on price stability at the expense of economic growth—much to the chagrin of today's liquidity-accustomed investors.

The future face of markets largely depends on whether inflation will be able to settle in. Currently, there are many reasons why it will, in which case investors will have to grapple with the following three fundamental changes rippling through the grid of financial markets:

- Higher interest rates
- Higher volatility
- Higher correlations

In response, financial assets are re-pricing giving rise to an increased need for systematic exploitation of real return sources, enhanced flexibility, and intelligent risk control as investors continue to seek steady returns and capital protection.

This paper will explain the reasons why the current structural break is occurring, outline the characteristics of the new regime, and demonstrate how systematic strategies can integrate the features needed to succeed in a profoundly changed market environment.



# Key Takeaways

**In late 2022, we are in the middle of a structural break in real interest rates brought about by inflation, which triggers a regime change in financial markets.**

**Structural breaks are difficult to time but identifying them is essential to maintaining high predictive quality in qualitative and quantitative investment strategies alike.**

**There are compelling reasons for inflation to stay above central-bank targets for a prolonged period.**

**Consequently, markets are likely to no longer enjoy unlimited central bank support forcing them to grapple with long-forgotten challenges:**

- higher interest rates
- higher volatility
- higher correlations

**For continuously successful investment results, systematic investment strategies must adapt to changed conditions and be able to:**

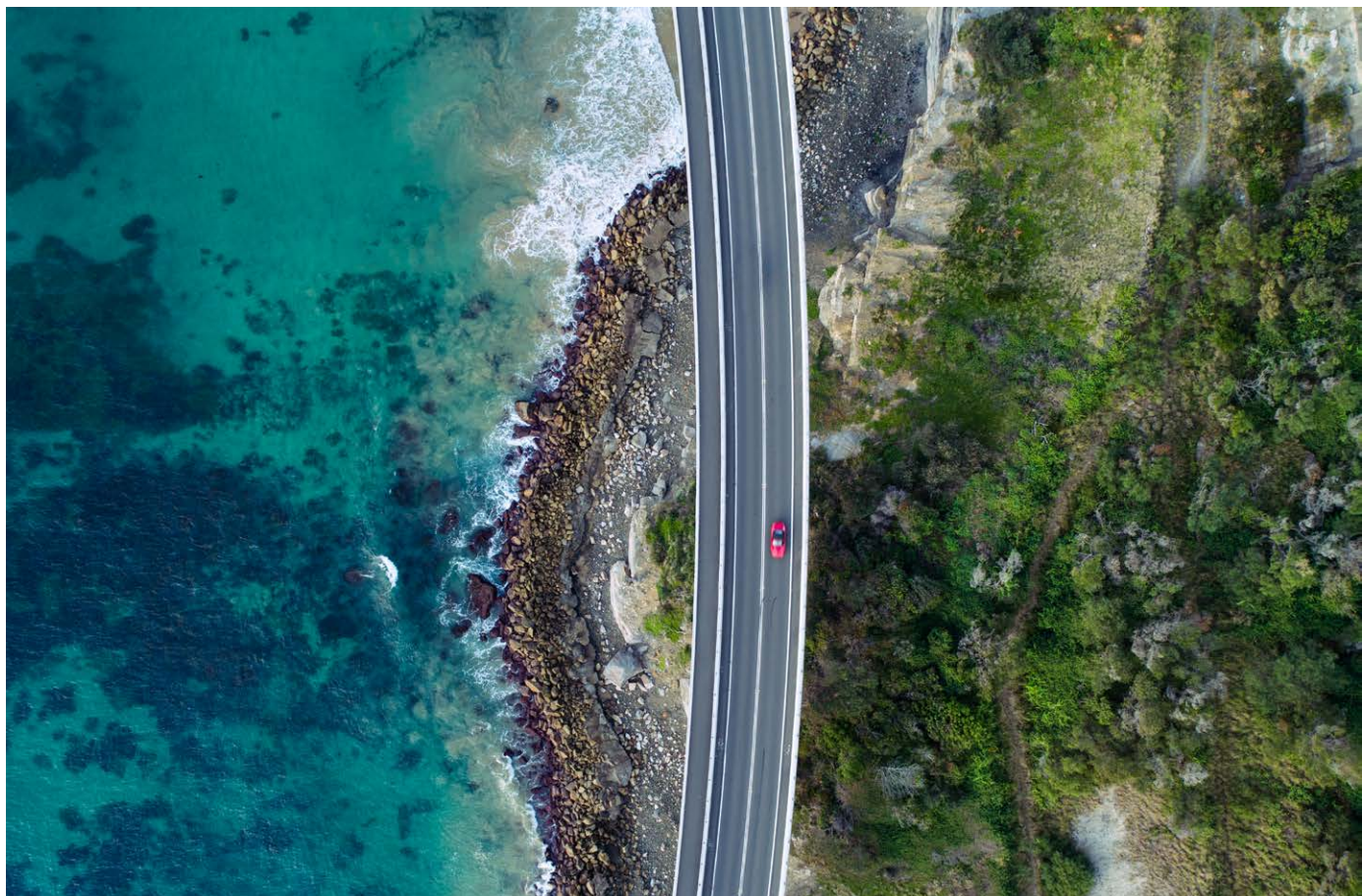
- exploit real return sources with active risk premia management as asset prices are stripped of easy money driving liquidity-induced gains
- increase flexibility to make use of directional market moves by means of cross-asset, trend-following components
- control risk with precise volatility targeting and intelligent risk management

# Predictive quality determines investment success

Success in investing largely hinges on the quality of forecasts that inform investment approaches. This means that the more certain we can be about the future behavior of asset classes, the more return we can harvest and the more risk we can avoid for the benefit of steady wealth creation over time. Contrary to common thinking, predictive quality in investing is not a black or white affair since small improvements in predictive quality can significantly increase the economic benefit for the investor.<sup>1</sup>

High predictive accuracy is often considered the holy grail in the investment industry. However, the degree to which investors can harness their predictive power is affected by a broad range of factors. An important one is behavioral bias, such as overconfidence, that impairs an investor's decision-making abilities and may lead to losses or missed return opportunities.

Another essential factor, albeit one that is widely underestimated, is the macroeconomic environment we operate in since there are times when it is simply more difficult to formulate high-quality predictions on asset prices. Generally, volatile market environments caused by high macroeconomic uncertainty are not conducive to making accurate predictions. Especially when structural breaks occur, predictive power becomes elusive as macroeconomic uncertainty fuels increased data variability and parameter instability. This is because long-standing relationships between data variables change suddenly, yet permanently—and most likely in a non-linear fashion. Chart 1 on page 6 presents evidence of this phenomenon. On average, forward-looking US GDP estimates by professional forecasters diverged by 0.4% from Q4 1968 to Q3 2022. However, when macroeconomic uncertainty is high due to destabilizing factors, such as inflation or exogenous



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<sup>1</sup> Campbell, J.Y. and Thompson, S.B. (2007) "Predicting excess stock returns out of sample: Can anything beat the historical average?," *Review of Financial Studies*, 21(4), pp. 1509 – 1531. Available at [doi.org/10.1093/rfs/hhm055](https://doi.org/10.1093/rfs/hhm055).

## “Identifying structural breaks and adjusting for them is crucial to maintaining the quality of quantitative models, which is the ultimate determinant of the investor’s long-term economic benefit.”

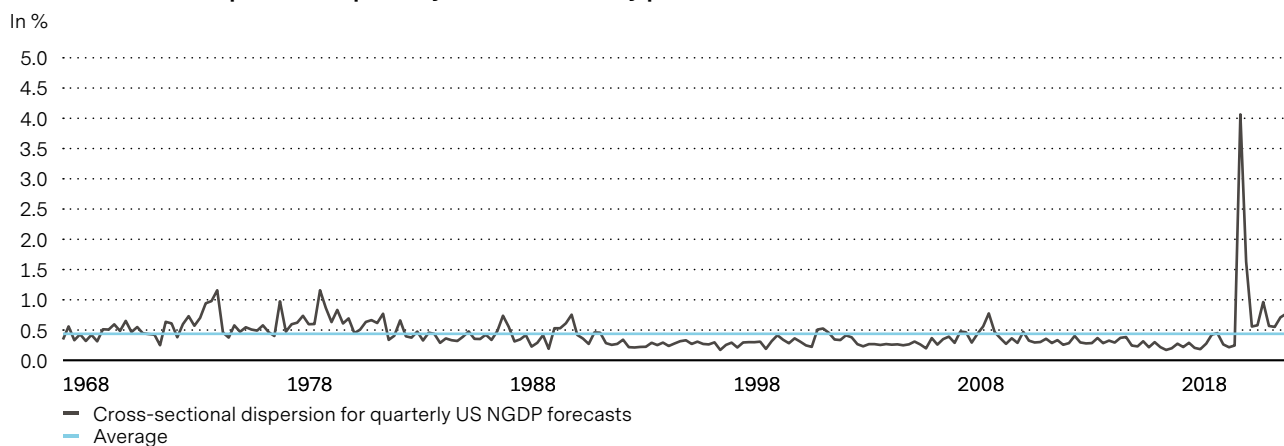
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shocks, these numbers climbed to over 1% in the 70s and early 80s and even 4% in the most recent Covid-19 crisis. Unsurprisingly, also at the close of Q3 2022, disagreement over the future of the economy is high with dispersion in GDP estimates of 0.82%.

If data becomes erratic, both discretionary and systematic investment approaches will be put to the test and may reach their predictive limits, which could impact their ability to generate optimal investment results. Quantitative models are particularly reliant on structural stability as they are exclusively driven by data on financial market variables and their inter-relationships. While short-term predictions (within the range of weeks) are often part of this process, models do not form an opinion on future market dynamics. In addition, quant models pursue rules-based approaches to investing based on their individual configuration, which enables consistent model behavior irrespective of the prevailing market environment. The rigidity

of the investment process is somewhat mitigated by a continuous re-parametrization of the model as old data is either replaced with new data in a rolling average process over time or diminished in importance as the data window continuously expands with new data points coming in daily. However, in times of high data inconsistencies, re-parametrization takes time as the model digests new data points, which exposes the investor to prolonged stress periods that may encourage disadvantageous behavior, such as premature market exits that lock in losses for good. Therefore, identifying structural breaks and adjusting for them by means of model recalibration is crucial to maintaining the quality of quantitative models, which is the ultimate determinant of the investor’s long-term economic benefit.

**Chart 1: Relative dispersion of quarterly GDP forecasts by professional forecasters**



The chart shows the cross-sectional dispersion for quarterly forecasts for nominal gross domestic product in the US from Q4 1968 until Q3 2022.

Source: Federal Reserve Bank Philadelphia, Vontobel Asset Management.

# Structural breaks: What are they and how can we identify them?

Structural breaks are fundamental, and long-lasting changes in economic time series. In financial markets, they may mark the onset of a high-volatility regime, the end of a high-asset-returns environment, or a paradigmatic shift in correlations between major asset classes. Ignoring such breaks can lead to false predictions, erroneous recommendations and, in a worst-case scenario, model failure.

The good news is that structural breaks occur much less frequently than most people think. The bad news is that they can only be detected after they have already happened. This is because data analysis is by nature backward-looking. Simply put, there is no such thing as future data. So, no quantitative model can tell us when a structural break is happening in real time. Data patterns can only be identified once they have established themselves. By that time, the break has already occurred and the pain it brought has already been absorbed by markets. To shorten the pain, complementing quantitative models with an economic opinion derived from fundamental analysis may be necessary to make timely model adjustments with the goal of enabling continuously successful investment results by way of systematic strategies.

Much ink has been spilled on how to identify regime changes in financial markets data. Indeed, not many variables lend themselves to structural data analysis. Among the main candidates for structural break detection (real interest rates, the equity premium, volatility levels, and correlations), real interest rates stand out as the most useful indicators for structural breaks. In a 2005 study, David Rapach and Mark Wohar analyzed the trajectory of real interest rates in 13 countries from Q4 1960 to Q3 1998 and found extensive evidence for the occurrence of 3–4 structural breaks in all geographies over a 40-year time span.<sup>2</sup> In most cases, changes in real interest rates coincided with changes in the inflation rate for the particular country.

By way of comparison, an analysis of the US equity premium could only determine one single structural break in the 1940s, after which point in time equity investing became a lot less risky but also less rewarding. Volatility breaks are more frequent with approximately 1–2 occurrences in the US every 20 years. The same holds true for correlations.<sup>3</sup>

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<sup>2</sup> Rapach, D.E. and Wohar, M.E. (2005) "Regime changes in international real interest rates: Are they a monetary phenomenon?," *Journal of Money, Credit, and Banking*, 37(5), pp. 887–906. Available at [doi.org/10.1353/mcb.2005.0057](https://doi.org/10.1353/mcb.2005.0057).

<sup>3</sup> Kim, C.-J., Morley, J.C. and Nelson, C.R. (2005) "The structural break in the equity premium," *Journal of Business & Economic Statistics*, 23(2), pp. 181–191. Available at [doi.org/10.1198/073500104000000352](https://doi.org/10.1198/073500104000000352). Schwert, G.W. (1988) "Why does stock market volatility change over time?" Available at [doi.org/10.3386/w2798](https://doi.org/10.3386/w2798).

# The next structural break in real interest rates is happening now

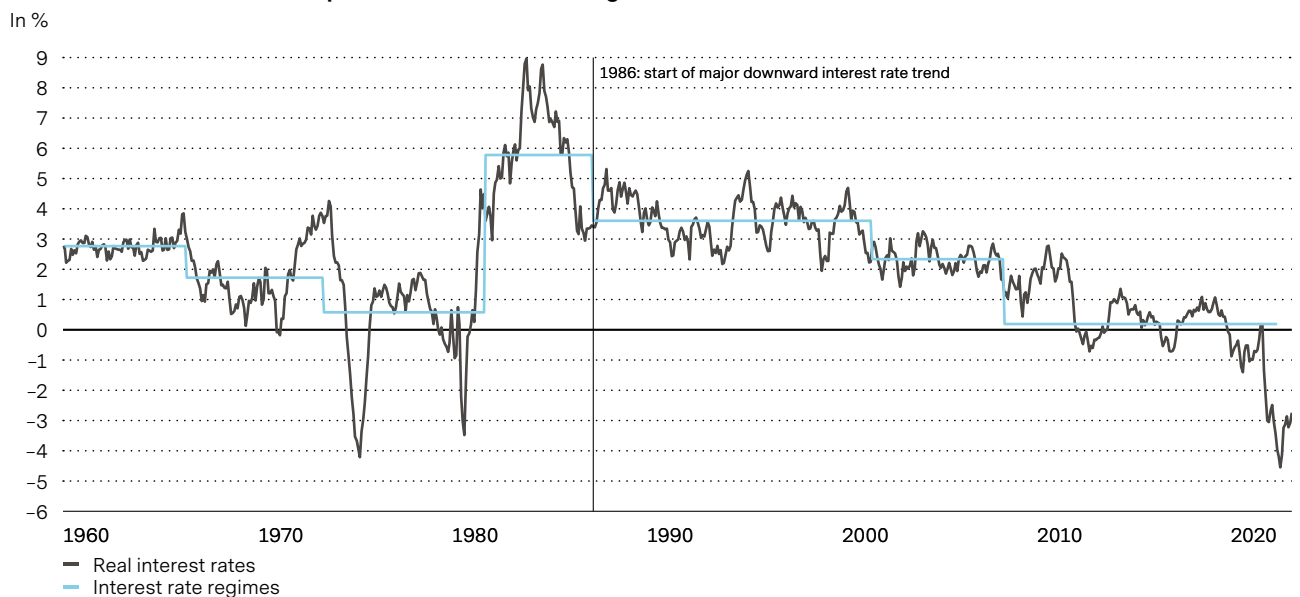
If changes in real interest rates driven by inflation are the most useful harbinger of structural breaks, we are now, in late 2022, right in the middle of one. As structural breaks only become fully apparent ex-post, this assessment is based on fundamental economic analysis and forward-looking estimates.

The US experienced four major interest rate regimes between 1960 and 1998. According to Rapach and Wohar, the end dates of each regime were Q1 1966, Q1 1973, Q2 1981 and Q4 1986. As chart 2 shows, three more interest rate regimes can be identified since then with a new regime rolling in now.

The last major interest rate trend spanning several regimes was initiated by U.S. Federal Reserve Chairman Paul Volcker (tenure: 1979–1986) and later perpetuated by Alan Greenspan (tenure: 1986–2006). With their policies, they sent real interest rates on a prolonged downward movement culminating in rates becoming stuck in deep negative territory after the Global Financial Crisis (GFC). Volcker waged a war against inflation; however, inflation could only be tamed by changing Fed policy from targeting interest rates to targeting money supply. Subsequently,

Greenspan's policies paved the way for the equity market becoming a dominant factor in setting monetary policy—even though he argued ferociously against it. Greenspan was adamant that central bankers refrain from counteracting asset price bubbles while they were building up. Instead, he advocated tackling the market fallout once these bubbles had burst. However, with this recommendation, he unwittingly opened the door to what has become known today as the so-called “Fed Put.” This is a silent promise by the Fed's policy makers, and later by other central bankers, to adapt their policy paths to equity market developments to cushion the consequences of market shocks. By lowering interest rates and injecting liquidity into the system, central banks have been able to halt asset price declines and reverse market corrections. Much to investors' relief, the Fed's concern for equity market health was behind the rationale for counteracting the dot-com crisis of 2000, the GFC of 2008, the European sovereign debt crisis of 2010 and, most recently, the Covid-19 market fallout. This shows that Greenspan's successors perpetuated his policy and investors started taking central bank policy as a backstop to market declines for granted.

**Chart 2: The US is on the cusp of a new interest rate regime in 2022**



The chart shows the trajectory of real interest rates in the US from 31.12.1959 – 30.09.2022. Until 31.12.1961, Shiller data on the US stock market and the CAPE ratio were used, subsequently 10-Year US Treasuries were used. Until Q4 1986, Rapach's and Wohar's study (2005) was used to mark interest rate regimes, then business cycles reference data from the National Bureau of Economic Research Source was applied.

Source: Bloomberg, [econ.yale.edu/~shiller/data.htm](http://econ.yale.edu/~shiller/data.htm), National Bureau of Economic Research, Rapach, D.E. and Wohar, M.E. (2005) "Regime changes in international real interest rates: Are they a monetary phenomenon?," *Journal of Money, Credit, and Banking*, 37(5), pp. 887 – 906, Vontobel Asset Management.



This policy has had manifold direct and indirect consequences on financial markets as well as the real economy. The main ones are:

- Low to non-existing consumer price inflation
- Declining interest rates reaching record-low levels
- Low volatility
- Low correlations

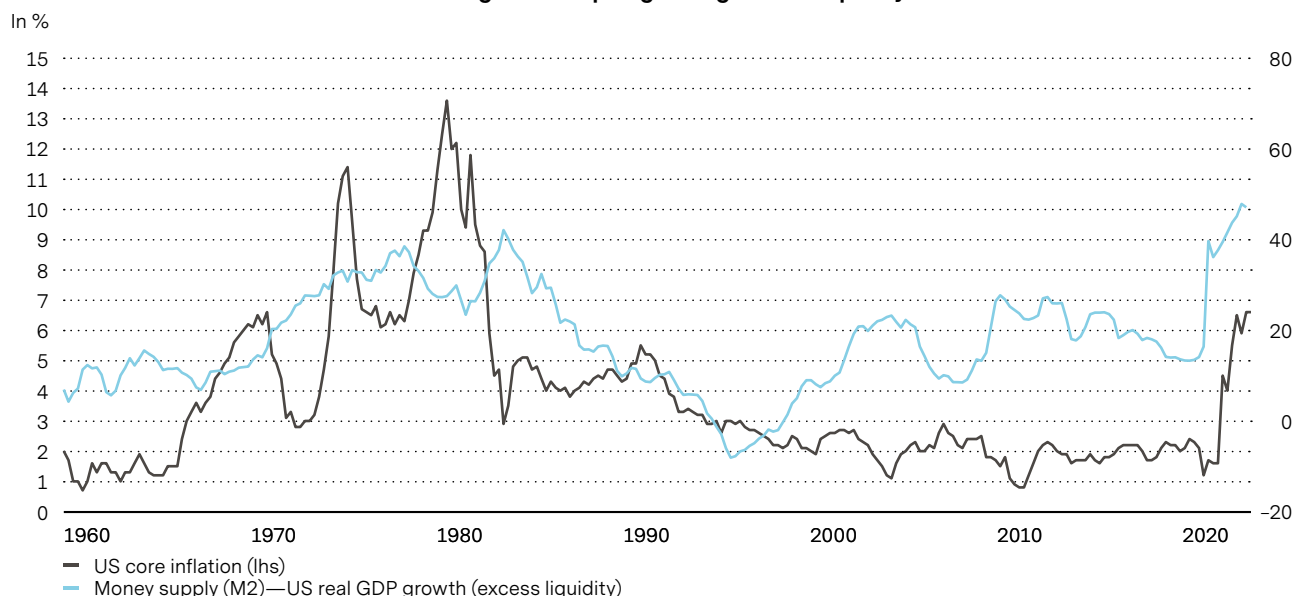
Today, these features are often attributed to a period called the Great Moderation (1986–2021)<sup>4</sup> which is a time of calm and stability that followed the more raucous times of the Great Inflation (1965–1982) which was marked by severe recessions, price instability and monetary policy uncertainty. Despite central-bank policy acting as a main driver of the Great Moderation, other factors such as globalization, economic de-regulation, digitalization, economies shifting away from manufacturing towards services, open international trade, geopolitical stability, as well as ample commodity supply, enabled accommodative monetary policy measures to take broad-based effects across markets and the economy.

The Great Moderation's deflationary tendencies deserve extra attention since inflation is the main trigger for structural breaks in real interest rates. Over the past three decades, consumer price inflation has been largely dormant despite large increases in money supply and low unemployment, which contradicts established macro-economic theories (see chart 3). While consumer price and wage growth remained low, asset prices started to soar as a result of the flood of central-bank money inundating markets. So, inflation remained confined to the asset space, which is not as dangerous as consumer price inflation to the well-being of an economy (barring major asset price bubbles bursting).<sup>5</sup>

**“If changes in real interest rates driven by inflation are the most useful harbinger of structural breaks, we are now, in late 2022, right in the middle of one.”**

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Chart 3: US inflation remained low for a long time despite growing excess liquidity



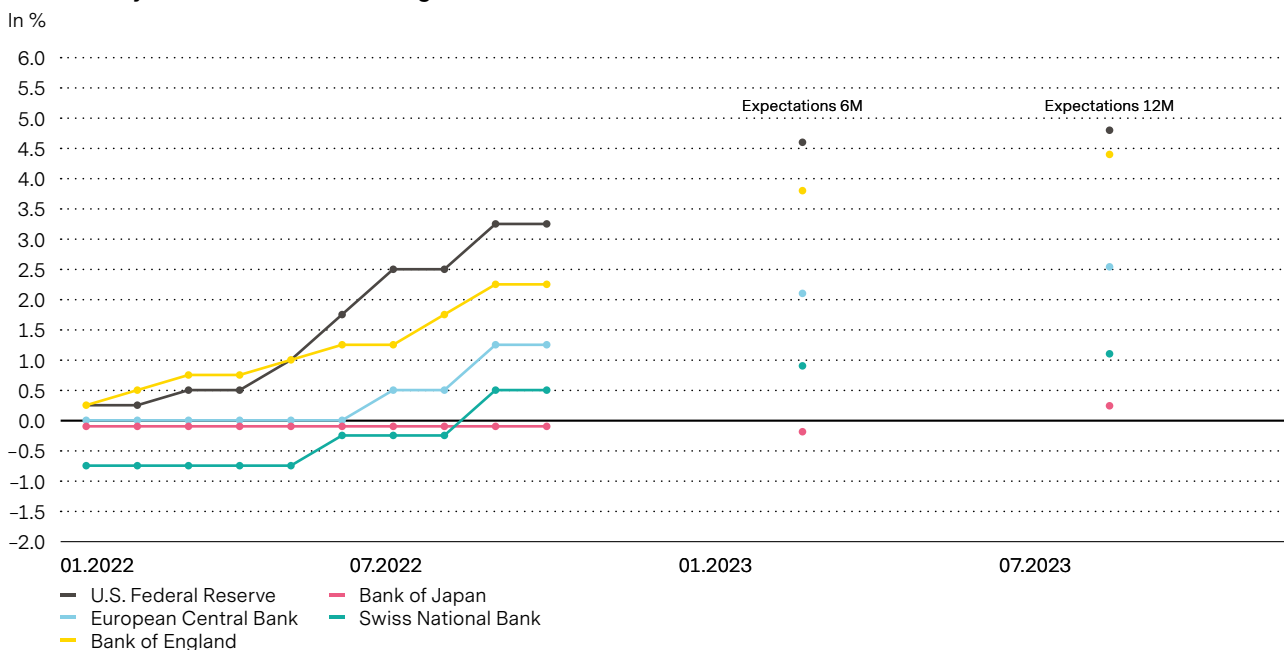
Source: Refinitiv Datastream, Vontobel Asset Management.

Opinions as to the reasons for this unusual phenomenon diverge, citing factors such as structural labor market changes, digitalization, globalization, and supply overhang in commodity markets driving down prices. However, one school of thought points to central banks' increased efficiency in anchoring market participants' inflation expectations. By becoming increasingly transparent over time regarding their envisaged monetary policy path, central banks created the now prominent and well-known tool of "forward guidance." This way, central banks became more credible and predictable, helping market participants form more reliable expectations around interest rates and inflation.<sup>6</sup> This is particularly significant since investors' inflation expectations play a major role in asset price developments and the question of whether or not inflation is allowed to take a foothold in the financial system. Once people start counting on higher inflation in the future and start basing their personal and corporate decisions on that assumption, inflation is hard to get rid of as it becomes ingrained in the economy.

effort to stem inflation—disregarding economic growth and equity market reaction. After inflation started popping up in early 2021, due to the effects of pandemic-related fiscal and monetary stimulus and pent-up demand, it was largely dismissed as temporary by the Fed and other central banks. However, after the Russian invasion of Ukraine, which exacerbated an already strained situation in commodity markets and global supply chains, inflation started to soar, prompting the Fed to hit the brakes. Since then, the Fed has embarked on a strategy of monetary tightening vowing to re-establish price stability, if necessary, at the expense of growth. Within the space of merely seven months, the Fed has raised interest rates from 0.25% to 4% (as of November 2022) and it is far from done. Depending on how stubborn inflation proves to be, US interest rates could approach 5% by 2024 (see chart 4). The speed and magnitude of these changes are difficult to digest for markets and the economy alike, especially after a prolonged period of growth-friendly central-bank policies.

After being wrapped in cotton wool during the Great Moderation, investors were caught off guard when central banks broke their age-old promise of the "Fed Put" in early 2022 by raising interest rates aggressively in an

**Chart 4: Major central banks are hiking interest rates**



The chart shows policy rate changes of major central banks in percent as well as market expectations on interest rate levels in 6 and 12 months as of 31.10.2022. Interest rate expectations are derived from the respective overnight interest rate swaps (OIS).

Source: Refinitiv Datastream, Vontobel Asset Management

<sup>4</sup> The exact start and end dates of the Great Moderation are debated in academic literature. Some point to the Global Financial Crisis of 2008 as marking the end of the period. However, in hindsight, most research agrees that the GFC turned out to be an outlier in a long period of financial market and macroeconomic stability. Source: [federalreservehistory.org/essays/great-moderation](https://federalreservehistory.org/essays/great-moderation).

<sup>5</sup> Asset prices are not taken into account for the Consumer Price Index (CPI).

<sup>6</sup> [federalreservehistory.org/essays/great-moderation#:~:text=Reducing%20inflation%20and%20establishing%20basic,good%20luck%2C%20and%20good%20policy.](https://federalreservehistory.org/essays/great-moderation#:~:text=Reducing%20inflation%20and%20establishing%20basic,good%20luck%2C%20and%20good%20policy.)

# Inflation has many reasons to stick around

Interest rate changes of high speed and big magnitude may be precursors to structural changes altering the face of financial markets. A lasting change in interest rates hinges on the question of how stubborn inflation will turn out to be. Even if large deflationary trends are still underway, such as continued technological progress and digitalization, there are four compelling reasons to believe that inflation will not retreat as quickly as investors hope:

1. **Risk of supply-side shocks lingers on:** After Covid-related lockdowns caused the first economic supply-side shock since the 1980s, the Russia-Ukraine war continues with no resolution in sight, fueling severe disruptions to energy supply and prices. As long as this situation continues and alternative energy sources remain scarce, it will be difficult for prices of manufactured goods and other commodities to come down from elevated levels. That is, unless there is a broad-based reduction in demand plunging the global economy into a recession.

In addition, tensions between the US and China around Taiwan have flared up, threatening global trade in general, and semi-conductor supply in particular. Finally, the transition to a green economy harbors the risk of more supply-side shocks as an economic carbon-zero transformation requires high amounts of metals, energy, and other commodities. Due to lacking infrastructure and currently low inventory levels, it is doubtful if the volumes needed for a frictionless transition can be provided by commodity producers in the short to medium term.

2. **Economic overstimulation fuels wage growth:** Due to the pandemic-related overstimulation of many economies, wages have started to rise, gradually increasing their share of national income. Therefore, the pressure on corporations to pass rising costs on to the consumer to maintain margins has risen. Not all companies will succeed in this endeavor, but essential goods and services are likely to have higher price tags as the consumer is less inclined or able to cut spending on those. Once the inflationary input cost-wages-consumer price circle has closed, inflation has formally established itself in the system, leading to an elevated price level over the longer run.

3. **Near-shoring increases production costs:** Since the GFC, the world has entered a period of “slowbalization”, or stagnant global trade, measured as a share of global GDP which is a trend that rose to renewed popularity under the Trump administration. Back in 2008/2009, the main catalyst was global banks being pushed to deleverage for the sake of systemic stability. Now, persistent geopolitical risks and crises have increased awareness that international production hubs and far-away trade dependencies may disrupt longwinded supply chains, severely affecting business results. This has been driving the momentum of bringing production facilities closer to home. However, near-shoring leads to higher production costs and, ultimately, higher consumer prices as producers are shifting away from lowest price producers for the sake of supply chain and production stability.

4. **Inflation is a remedy to ballooning government debt:** Rising indebtedness of governments around the globe limits the ability of central banks to fight inflation by way of rate hikes. Policy tightening, which usually translates into higher yields at the long end of the bond curve, leads to higher debt servicing costs, making it more expensive for governments to issue new debt. Also, default risks cannot be ruled out as has been revealed by the European Central Bank’s rate hike in July 2022 of 50 bps, the first in 11 years, which triggered substantial spread widening between yields of Italian vs. German government debt, for example. Moreover, inflation might prove a practical way to deal with rising governmental debt burdens, as the real value of outstanding government debt falls when inflation is on the rise. Even though this circumstance won’t prevent policy normalization from happening, since exorbitant inflation would disincentivize lenders to grant loans, “measured” inflation could still turn out to be a welcome solution to the huge piles of global government debt.







# Markets with a new face: 2023

As outlined above, inflation has many reasons to stick around. While this does not mean that inflation won't budge from current levels of around 8 to 10%,<sup>7</sup> it does mean that it will take time to bring it down and it may stay markedly above central banks' target of 2% over a prolonged period. Elevated inflation profoundly impacts how the economy and financial markets work, which suggests that we are now witnessing the emergence of a new regime characterized by (1) higher interest rates, (2) higher volatility and (3) higher correlations that will transform investors' needs and investment approaches alike.

## 1. Higher interest rates

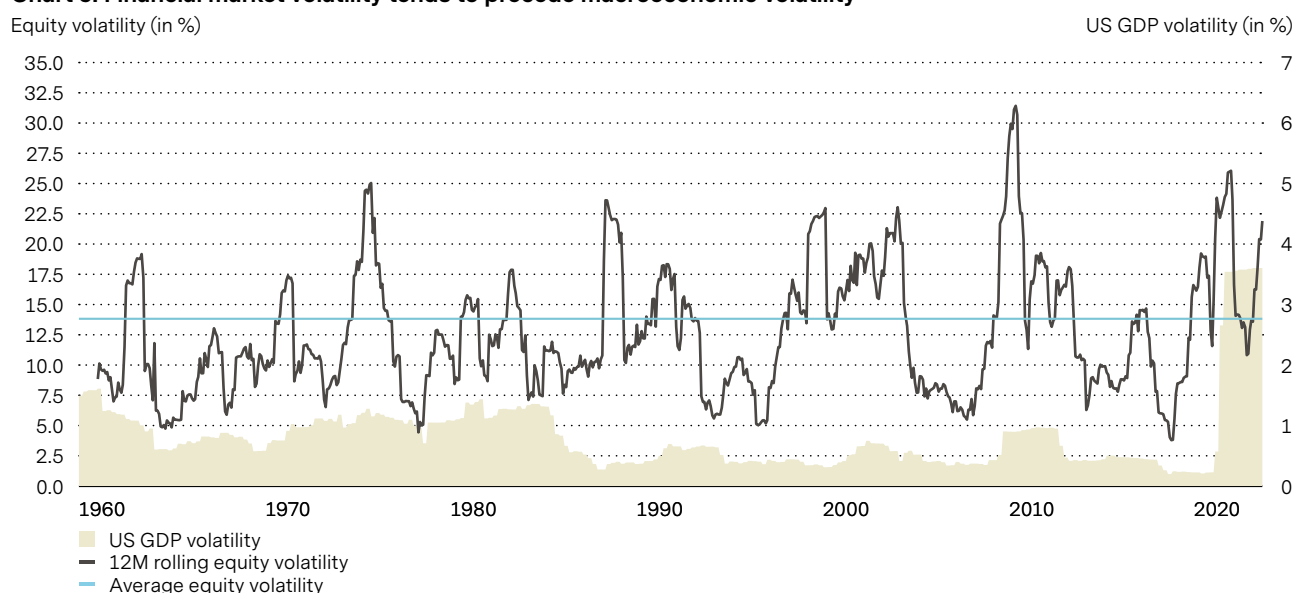
The hawkish pivot in central-bank policy has stripped asset prices of a major tailwind that was responsible for much of their steep rise over the past decades. This will change the make-up of systematic risk driving asset prices going forward.

Inflation-induced monetary tightening, especially when done with urgency, is bad news for both major asset classes: equities and bonds. This is because liquidity withdrawal by means of rate hikes means an increase in the discount factor that is applied to the future cash flows of

both assets to obtain their present value. As bonds pay a fixed coupon, rising rates make their predetermined cash flows less attractive so their prices decline when rates go up. Plus, when inflation is elevated, it eats into the value of their future cash flows. For equities, the picture is mixed as they depend on the interplay between discount factor and long-term growth rate. As long as the rate hikes don't thwart growth, equities can handle monetary tightening quite well. Some sectors can even provide inflation protection along the way.

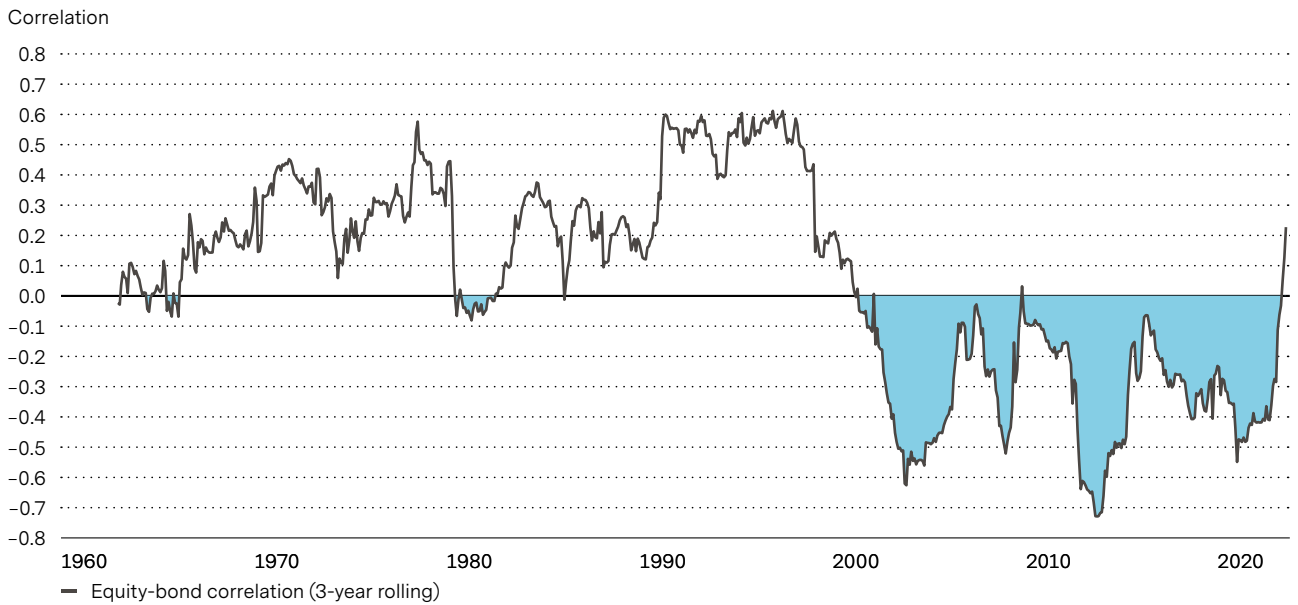
So, monetary tightening is generally a bitter pill to swallow for markets. But when it stops, thanks to easing inflation and digestion of the reality of a higher interest rate level by markets and the real economy, the demand for risky assets should increase again. Cash and cash-like investments are also likely to rise to prominence under the new regime. However, instead of being carried by liquidity-induced gains, asset prices will increasingly rely on systematic risk factors, which drive real returns. Whereas central bank liquidity tends to fuel nominal returns, real returns result exclusively from taking systematic risk that cannot be diversified away.

**Chart 5: Financial market volatility tends to precede macroeconomic volatility**



US GDP volatility is calculated by the standard deviation of quarterly US GDP growth rates. Until 31.12.1987, Shiller data on the US stock market was used, subsequently total returns on the S&P500 were used.

Source: [econ.yale.edu/~shiller/data.htm](http://econ.yale.edu/~shiller/data.htm), Refinitiv Datastream, Vontobel Asset Management.

**Chart 6: Correlations crept back into positive territory in 2022**

For equities until 31.12.1987, Shiller data on the US stock market was used, subsequently total returns on the S&P500 were used. For bonds until 31.12.1979, Shiller data on the US stock market, subsequently total returns on US 7-10-year Treasuries were used.

Source: econ.yale.edu/~shiller/data.htm, Refinitiv Datastream, Vontobel Asset Management.

**“The hawkish pivot in central-bank policy has stripped asset prices of a major tailwind. This will change the make-up of systematic risk driving asset prices going forward.”**

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## 2. Higher financial market volatility

As long as central banks are in inflation-fighting mode, financial market volatility is likely to remain high due to less predictable central bank behavior. Since the late 1980s, inflation has been disappearing as a factor not only from markets but also from the decision-making process of central banks. Most central banks have price stability and economic growth as explicit or implicit mandates<sup>8</sup> so, when inflation ducked out, the equation they had to solve became a lot easier. When markets, as a precursor for the real economy, declined, central banks readily softened the blow with a more accommodative stance. However, inflation has now complicated their problem-solving and added uncertainty to their reaction function as managing the tradeoff between inflation and growth is not a straightforward endeavor. Uncertain monetary policy paths translate into financial market volatility as markets react sensitively to any central bank guidance and communication in anticipation of the most likely ensuing economic trajectory. Since financial markets tend to anticipate economic news, market volatility tends to precede macroeconomic volatility. This, in turn, leads to shorter business cycles driving a more dynamic trading environment (see chart 5 on p. 13).

<sup>7</sup> In September 2022, inflation stood at 9.2% and 9.9% in the US and the Eurozone respectively.

<sup>8</sup> The Fed targets both price stability and unemployment, whereas the ECB officially has been mandated to only keep inflation on target.

<sup>9</sup> Time period: 31.12.2021–30.06.2022, for US equities the S&P500 index (total returns) and for US bonds the J.P. Morgan Government Bond Index were used.

### 3. Higher correlations

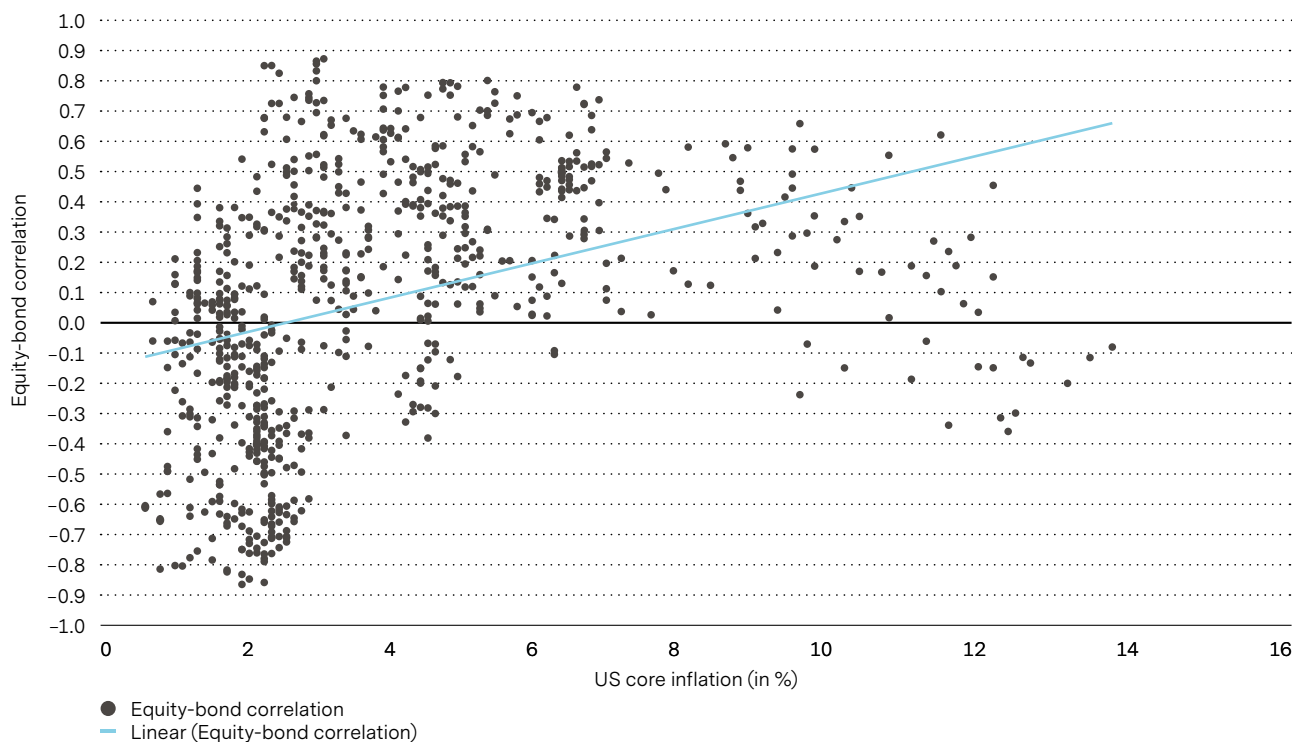
Surges in inflation often go hand in hand with rapid increases in expected short-term rates, which, as explained above, have negative effects on equities and bonds alike, prompting them to move increasingly in tandem. This causes higher correlations, not only between these two asset classes but also within them, across regions as well as sectors. After a long period of on-average negative equity-bond correlations, their behavior started to run more in parallel again in early 2021 due to increased realized and expected inflation numbers. Correlations continued to climb this year when both US equities and bonds fell by 20% and 12%<sup>9</sup> respectively in the first half of the year in reaction to the abrupt about-face performed by central banks early this year (see chart 6). Whenever central banks are behind the curve, inflation is overshooting, which is predominantly bad for bonds, often leading to overtightening by central banks, which is bad for equities. Generally, 3% inflation seems to be a sensitive threshold, which, when breached, pushes equity-bond correlations into positive territory (see chart 7). Inflation levels higher than 3% tend to be viewed as negative for the economy, motivating central bank activism, which fuels similar behavior in equities and bonds.

With these three features – higher interest rates, higher volatility, and higher correlations—the new regime will expose investors to increased risks and changed return sources. Risks rise mainly for two reasons: on the one hand, increased volatility drives up variation in returns, which encourages less-than-optimal investor behavior because of disadvantageous human biases becoming activated. On the other hand, increased correlations reduce diversification potential in the market, reinforcing the effects of overall elevated volatility levels in multi-asset portfolios. Finally, as liquidity dissipates, asset price gains will become more reliant on real return factors rather than nominal ones. To enable continued investor success under this new set of characteristics, investment strategies will have to exhibit the following capabilities:

- Systematic real return source exploitation
- Increased flexibility
- Intelligent risk control

The following outlines how systematic investment strategies can integrate these capabilities and add value for investors under profoundly changed market conditions.

**Chart 7: Equity-bond correlations rise with inflation**



For equities until 31.12.1987, Shiller data on the US stock market was used, subsequently total returns on the S&P500 were used. For bonds until 31.12.1979, Shiller data on the US stock market, subsequently total returns on US 7-10-year Treasury bonds were used.

Source: [econ.yale.edu/~shiller/data.htm](http://econ.yale.edu/~shiller/data.htm), Refinitiv Datastream, Bloomberg, Vontobel Asset Management.

# How to be successful under the new regime with systematic investment strategies

## a. Higher interest rates: Systematic real return source exploitation with active risk premia management

Hawkish central banks have removed easy money and with it an easy return driver for risky assets whose gains will become increasingly reliant on systematic risk driving real returns instead, as described on p. 13. To reap the benefits of these returns for a portfolio, investment strategies must carefully dissect the drivers that make up the prevailing composition of systematic risk and seek exposure to them, resulting in an asset allocation that varies over time in a continuous optimization process.

Active risk premia management has the necessary capacity to achieve such a careful re-attunement to real returns drivers because it can identify sources of excess return over the risk-free rate, which as described on p. 13, is likely to settle on a higher level. It can harvest real excess return sources on a systematic basis by way of evaluating the market's prevailing risk tolerance, which is reflected in economic variables such as the TED-, term, and credit spreads as well as the dividend yield.<sup>10</sup> These variables offer a clean and daily reflection of the economic environment driving asset prices and can be accessed via algorithms devoid of behavioral biases harvesting their return potential.

### What are risk premia?

Risk premia encompass an asset's excess return over the risk-free rate. They are what compensates investors for taking on systematic risk—either in the form of entrepreneurial risks in equities or interest rate and inflation risk in bonds.

Systematic risk premia management is a long-term approach because risk premia fluctuate hand in hand with the business cycle. Since 1986, equities have been posting 5–6% of excess returns p.a., albeit with fluctuations as large as -40% and +60% (see chart 8). In a

similar vein, excess bond returns are 3–4% in the same time period but with less variability (see chart 9). In the future, European equities have an excess return potential of about 4 to 5% over the next five years according to our estimates. For the same timeframe, US equities may return 3–4% as they carry less risk in terms of economic and political fragmentation and have a more predictable inflation trajectory thanks to higher central-bank credibility.<sup>11</sup>

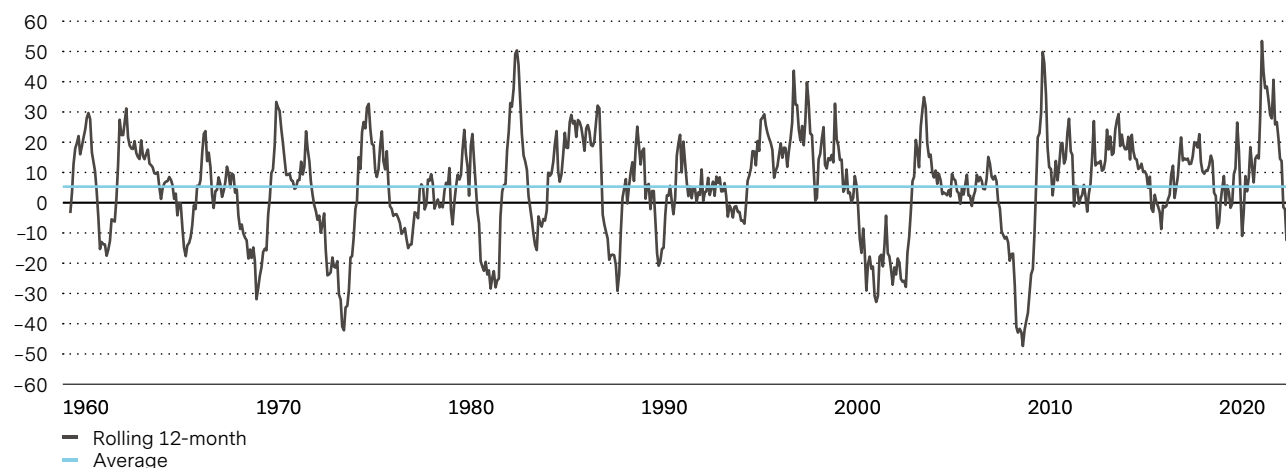
## b. Higher volatility: Enhanced flexibility thanks to trend following

As long as central banks are hiking rates to fend off inflation, increased volatility will be part of the game, since inflation-induced tightening cycles tend to go hand in hand with monetary and macroeconomic uncertainty. This process, which we currently estimate to take between one and two years, will require constant predictive power and reactive model signals that are able to convert volatile market movements into portfolio returns at a fast pace. Strategies such as trend-following models can be useful in this endeavor. Trend-following models buy assets that are rising and sell those that are falling based on the assumption that the market tends to move in trends that repeat themselves over time. Since these models do not predict trends and are indifferent as to why they are happening, they act purely based on market price data and technical indicators such as trend lines. By riding the wave of the trend, these strategies have the potential to capture big price moves in the market and avoid major losses, improving risk-adjusted returns as measured by Sharpe ratios. The conditions for this strategy to be successful are strong directional movements in asset prices that are driven by fundamental factors and that are large and long-lasting enough for them to take effect. This strategy invests and divests once the trend has already begun or ceased, meaning it misses out on the first bits of return and incurs small losses at the onset of downward trends. Therefore, whipsaw patterns in markets limit the profitability of trend-following.



**Chart 8: US equity risk premium (rolling 12-month returns, 1960 – 2022)**

US equity risk premium in %

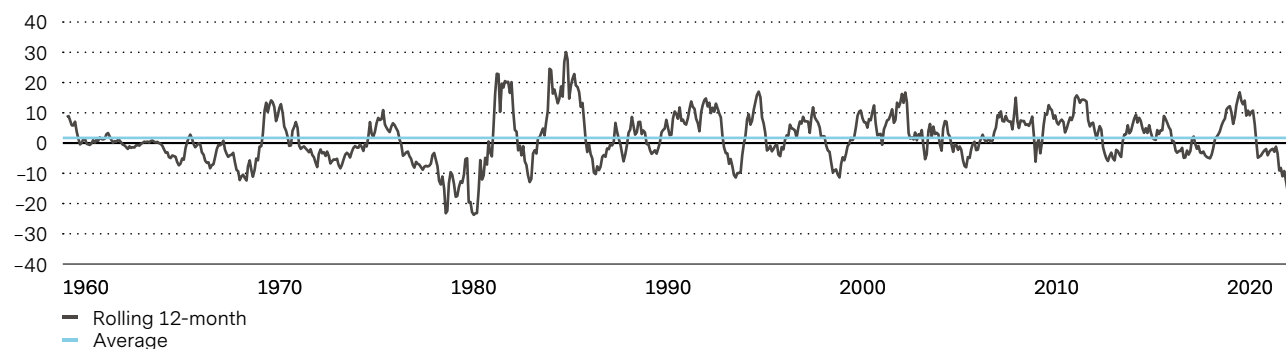


The chart shows the US equity risk premium which is calculated as the difference between the rolling 12-month return on US equities and the US short-term rate. For equities until 31.12.1987, Shiller data on the US stock market was used, subsequently total returns on the S&P500 were used. For US short-term rates the 3-month Treasury Bill was used until 31.12.1974, then USD 1-month LIBOR.

Source: econ.yale.edu/~shiller/data.htm, FRED, Refinitiv Datastream, Vontobel Asset Management.

**Chart 9: US fixed income risk premium (rolling 12-months returns, 1960 – 2022)**

US bond risk premium in %



The chart shows the difference between the rolling 12-months return on US 7-10-year Treasury bonds and the US short-term rate. For bonds until 31.12.1979, Shiller data on the US stock market was used, subsequently total returns on US 7-10-year Treasury bonds were used. For US short-term rates the 3-month Treasury Bill was used until 31.12.1974, then USD 1-month LIBOR.

Source: econ.yale.edu/~shiller/data.htm, FRED, Refinitiv Datastream, Vontobel Asset Management.

<sup>10</sup> The TED spread mirrors liquidity supply and systemic risks. The term spread is a gauge of the economic outlook while the credit spread reflects the re-financing environment for companies. The dividend yield is a proxy for equity valuations in the market. Together, these variables give a comprehensive picture of the prevailing economic environment.

<sup>11</sup> Estimates as of 30.09.2022. Source: Vontobel Asset Management.

## “As long as central banks are hiking rates to fend off inflation, increased volatility will be part of the game, since inflation-induced tightening cycles tend to go hand in hand with monetary and macro-economic uncertainty”

Sven Schubert, PhD

Head of Macro Research Vescore

While Brian Hurst, Yoa Hua Ooi and Lasse Pedersen (2017) have shown in a simulated performance analysis that trend-following strategies can post robust returns across many different markets, including rising and falling interest rates, recessions, stagflation and expansion, their performance during high-inflation and/or higher-than-average volatility is of particular note. Between 1920 and 1929, which was a time marked by monetary tightening to curb stock market speculation precipitating the Great Depression, these strategies returned 20.8% above the risk-free rate. Similarly, in the 70s, the era of Great Inflation, they generated 27.4%. In both instances, the strategies achieved a Sharpe ratio greater than one.<sup>12</sup> These findings point towards trend-following strategies’ renewed potential today as an attractive alpha source in systematic investment approaches under the new regime, provided their mechanisms are firmly embedded in algorithm construction.

### c. Higher correlations: Higher risk control with precise volatility targeting and intelligent risk management

As rate hikes affect equities and bonds alike via the negative effect on the discount factor applied on their future cash flows, these two asset classes tend to move in tandem when monetary tightening is underway (see p. 15 for more detail). Higher correlations reduce the potential for diversification across asset classes and therefore increase portfolio risk, resulting in more volatile returns over time. In the case of absolute risk targets, such as maximum loss restrictions, the only way to meet investor goals under high-correlation regimes is to reduce market exposure. In conventional portfolios, this comes at the expense of returns in the long run. Modern systematic investment strategies, however, can still achieve attractive returns by applying flexible exposures as a volatility targeting tool.

As dynamic exposure management adds a layer of complexity to increased market volatility, intelligent risk management tools are needed to keep return trajectories as smooth as possible and to optimize the portfolio’s risk-return profile over time. Traditional volatility forecasting methods, such as 21-day or 252-day volatility estimates, often exhibit two weaknesses due to their backward-looking nature, impairing efficient portfolio management:

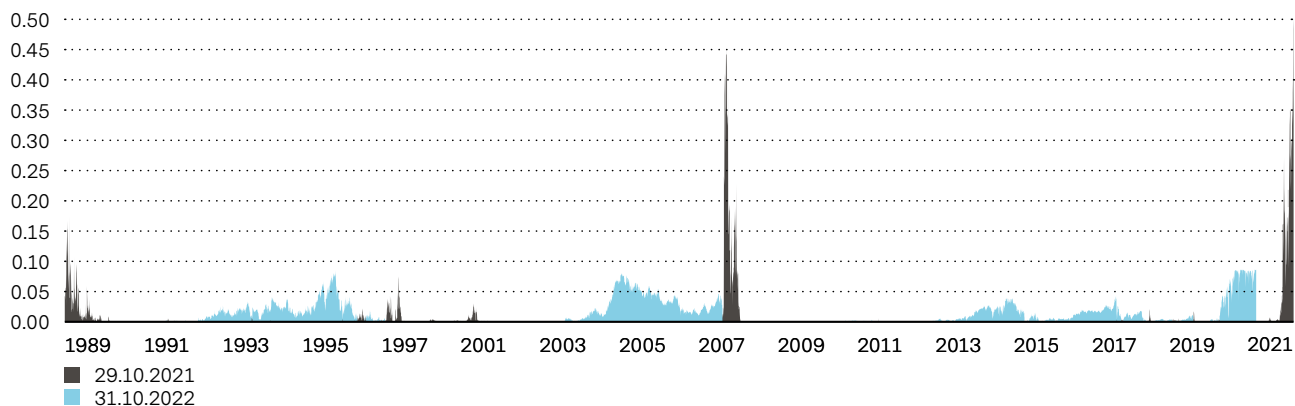
- strong bias towards past negative tail events resulting in elevated estimates for prolonged periods, which restricts the portfolio’s ability to take risk for too long
- sudden memory loss leading to sudden spikes in portfolio risk, which runs the risk of premature re-exposure to the market

To qualify as intelligent, volatility estimation tools must be slow-moving in calm market periods and highly adaptive in stress periods remedying these weaknesses. In an effort to achieve this, Vescore’s State-Dependent Risk Management (SDRM) blends volatility clustering of the recent past with experience by comparing the present risk environment with past instances (see chart 10). By identifying and weighting similar past periods, the tool derives a forward-looking volatility estimate for the current portfolio composition and intervenes in case volatility limits are breached. As long as portfolio volatility remains on target, the allocation is given carte blanche to harvest the full return potential of its exposure. This kind of risk control can improve risk-adjusted returns over the long run.

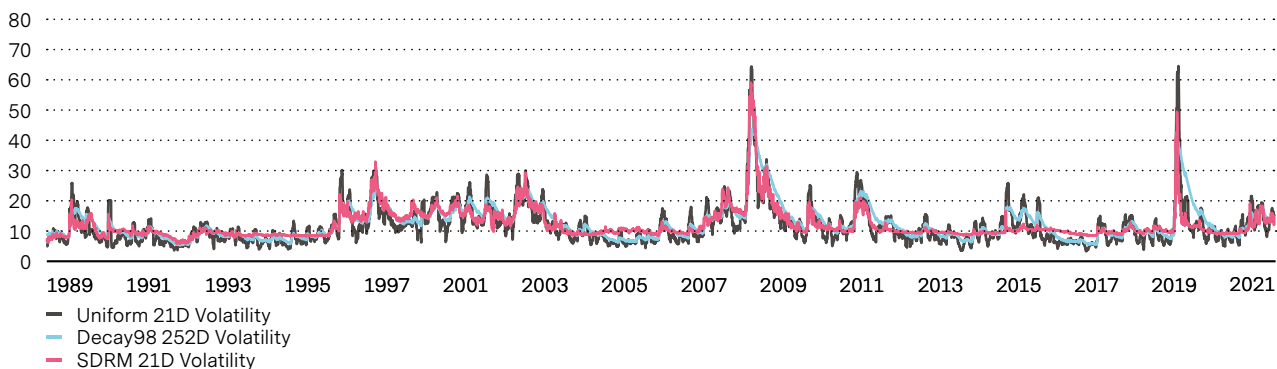
<sup>12</sup> Brian Hurst, Yoa Hua Ooi and Lasse Pedersen, A Century of Evidence on Trend-Following Investing, Journal of Portfolio Management (2017). Returns mentioned are gross of cost and fees.

### Chart 10: Vescore's State-Dependent Risk Management provides forward-looking guidance on volatility levels

Similarity weighting in %



Volatility p.a. in %



SDRM (State-Dependent Risk Measurement) measures the expected volatility over the next 21 days by weighting the past environments given the similarity to today. That means the closer a particular date in the past is to today the more weight is assigned to that date. In case a pre-defined volatility threshold (conditional on the current allocation) is exceeded, the volatility will be reduced by decreasing the risk exposure of the portfolio. The above chart shows the similarity weighting as of 31.10.2022. The below chart plots traditional volatility estimates against estimates calculated by SDRM for a 1/N equity index.

Source: Vontobel Asset Management.



# Conclusion

**As markets transition towards a new regime, the coming decade will be markedly different from the last, because inflation has triggered a structural break in real interest rates. While the nature of excess return sources won't change, their risk-free baseline rate will—along with correlations and volatility levels. This has important consequences for the way successful investment strategies will go about tapping return sources and managing risks. As long as changed market conditions are considered, the evolution of asset prices should continue to harbor strong value for investors who are willing to let go of outdated assumptions and engage with the new face of markets in 2023 and beyond.**



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