

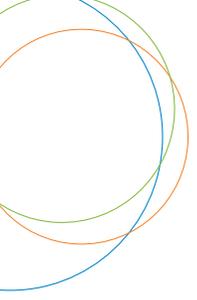


Quarterly Outlook

All eyes on interest rates

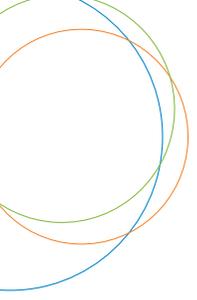
September 2023





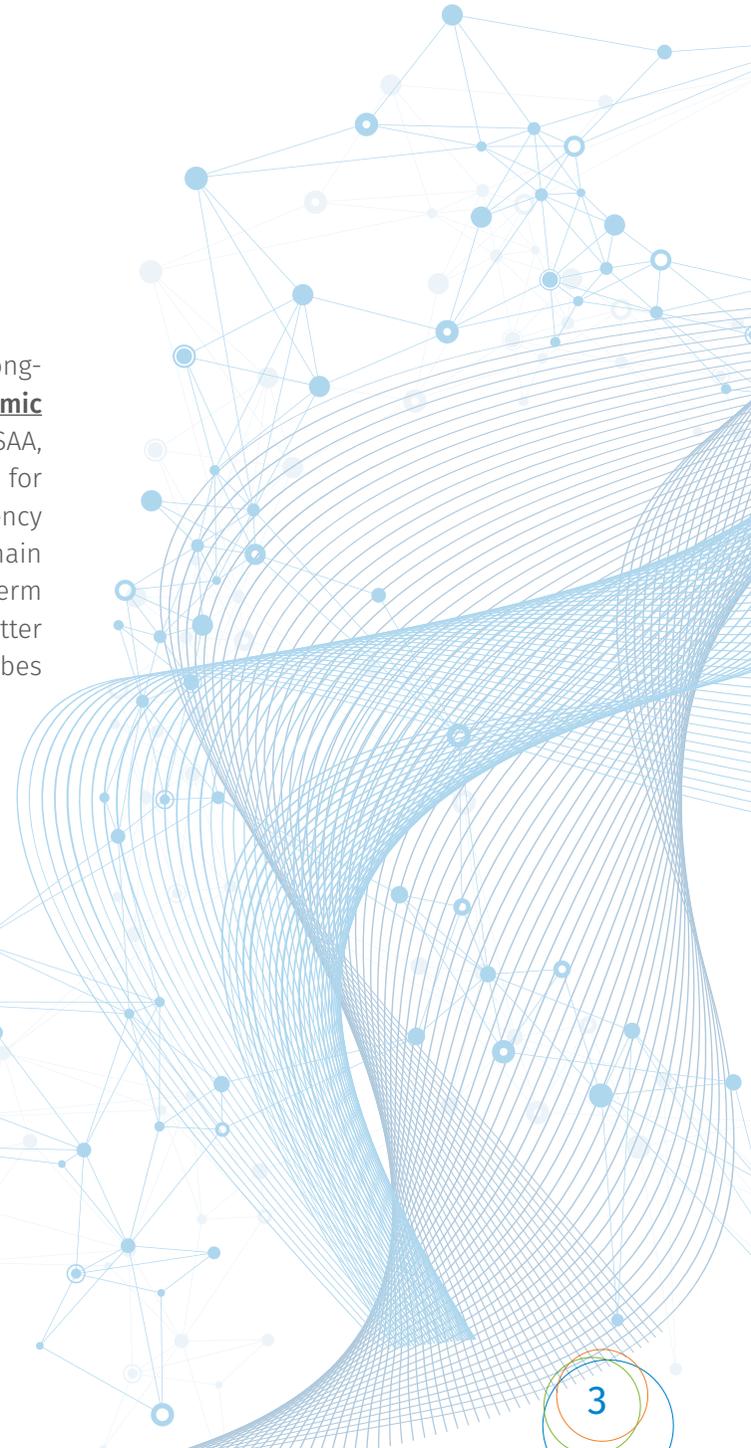
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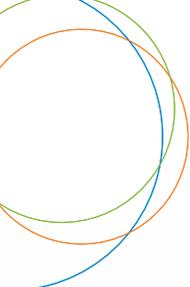
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Introduction

The Ortec Finance Economic Scenario Generator is a global model that integrates short-, medium- and long-term investment horizons consistently across all asset classes and economies **[1: Ortec Finance Economic Scenario Generator]**. This enables multiple investment and risk management applications like ALM, SAA, ORSA, and ECAP to be served with a single model. It provides realistic stochastic risk and return scenarios for all relevant time horizons and balance-sheet-level applications in a single calibration, bringing consistency and efficiency to enterprise-wide investment decision-making and risk management. The frequency domain methodology employed in the model isolates long-term (“trend” or 10-year horizon), medium-term (“business cycle” or annual horizon), and short-term (“momentum” or intra-year) return dynamics for better understanding and reflection of financial risk and return characteristics over time. This document describes the Ortec Finance economic outlook with the information available at the end of September 2023.





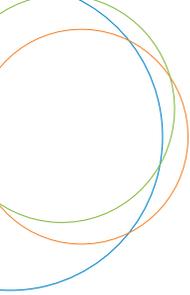
Markets adjust to “higher for longer” interest rates

In the third quarter, headline inflation declined on lower energy costs and moderating food price inflation. Despite declining headline inflation figures, core inflation remained mostly stable and above central bank targets, registering only a slight decline in some regions. US growth remained steady on strong consumer demand and accommodative fiscal policy, but more responsive indicators showed signs of slowing as consumer and producer confidence declined. Growth in the UK and Eurozone was sluggish, while the economic outlook for China remained gloomy on weak consumer demand and turmoil in the property market.

Oil prices increased sharply throughout the third quarter, driven by a combination of stronger than expected demand from developed economies and a push by Russia and Saudi Arabia to tighten supply. Although inflation expectations remained stable against the background of rising fuel prices, the latter could result in more drag on economic activity going forward.

Despite signs of slowing economic activity and moderating headline inflation, central banks resumed tightening with the European Central Bank implementing a further 50bps of hikes and the Federal Reserve and the Bank of England hiking by 25bps. Moreover, central banks indicated that, although they're approaching the end of the tightening cycle, they might need to maintain their current policy rates for longer in the face of persistent core inflation. Forward guidance over “higher for longer” interest rates, alongside concerns over (US) expansionary fiscal policy triggered a sharp increase in long-term interest rates in the Eurozone and especially the US. Additionally, inflation expectations remained largely in check, translating to a sharp increase in real interest rates, pointing towards a significant tightening in financial conditions. Although the end of the hiking cycle of central banks might be in sight, the recent rise in long rates shows that the adjustment of economies and financial markets to prolonged restrictive monetary policy is still ongoing.

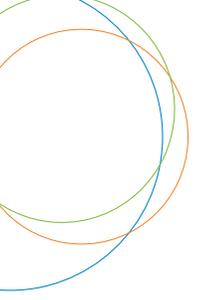




Momentum outlook improves after a weak quarter for equities and bonds

During the third quarter, capital markets adjusted to “higher for longer” interest rates. Long rates increased by roughly 75bps in the US and 50bps in Germany, causing high duration government bonds to severely underperform. Additionally, most developed markets equities fell in the face of tightening financial conditions and the surge in oil prices, registering their first negative quarter of 2023. Emerging markets equities also declined amid concerns on Chinese economic activity and renewed stress in property markets. The exceptions were the energy-heavy UK equity index benefitting from higher oil prices and Japanese equities supported by yen weakness boosting exports.

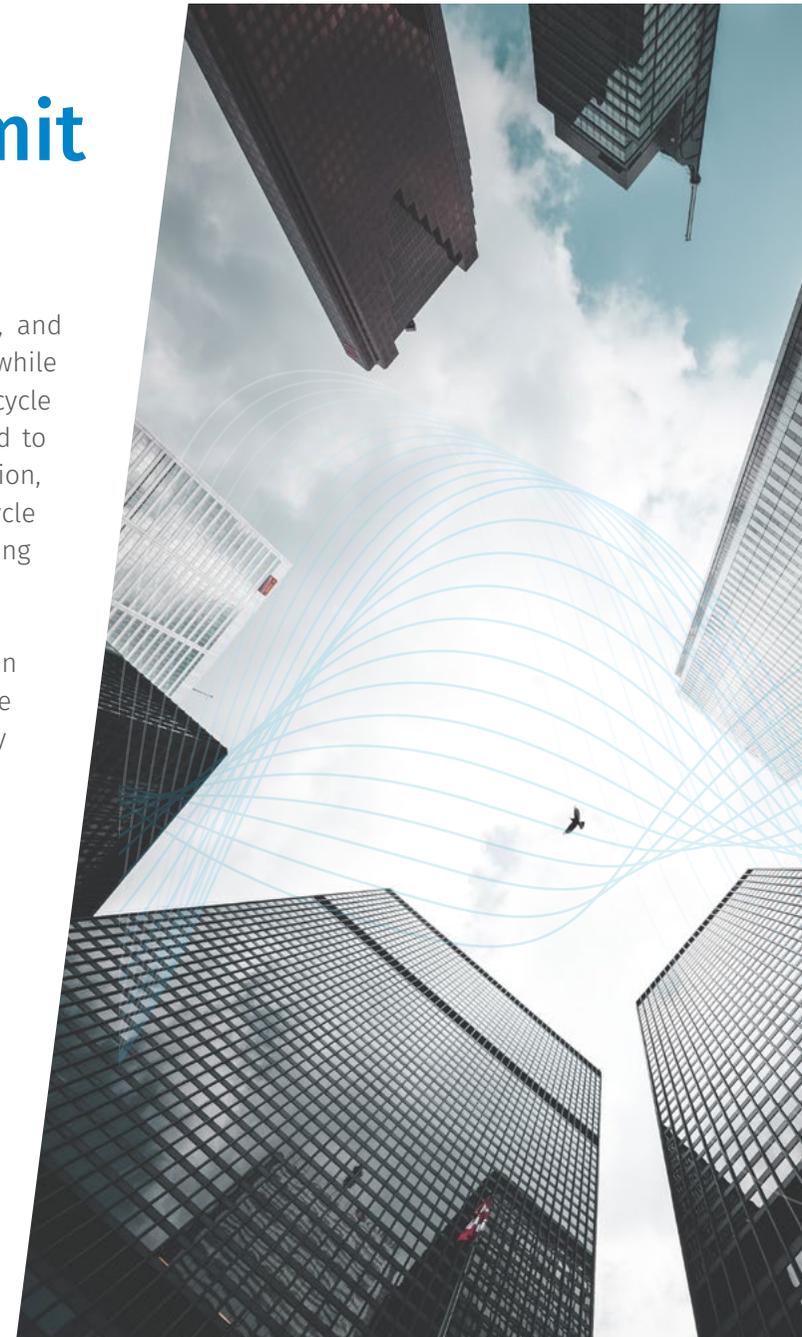
June’s negative equity momentum expectation largely materialized, following disappointing equity returns in Q3. Consequently, the momentum outlook significantly improves by about 5% compared to end-of-June, reflecting realized equity losses and declining headline inflation. At the same time, equity momentum is expected to be relatively flat over the next twelve months, balancing the drag of above-trend interest rates and upward pressure from short-term equity reversal effects. The momentum outlook remains clouded by elevated volatility and downside risk due to tight financial conditions and elevated geopolitical tensions.



Business cycle outlook remains negative and higher long rates limit upside potential

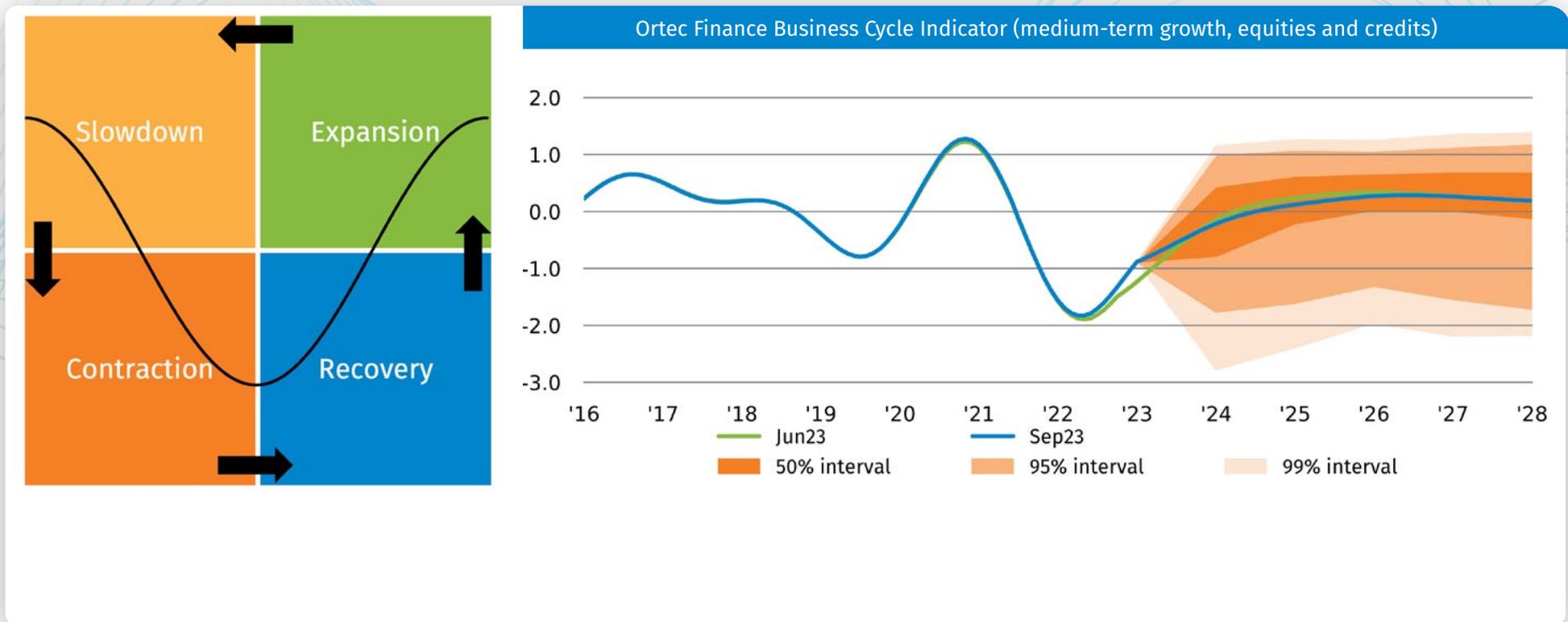
Decreasing short rate volatility, driven by the approaching end of the central bank hiking cycle, and declining headline inflation, improve the initial level of the *Ortec Finance Business Cycle Indicator*, while still in a contractionary phase. Improving purchasing power also slightly improves the business cycle outlook over a 1-year horizon. Nevertheless, the *Ortec Finance Business Cycle Indicator* is expected to remain negative on a one-year horizon, mainly owing to high interest rates and persistent inflation, translating to below-trend equity returns and above-trend credit spreads. Additionally, the business cycle outlook worsened on a 2–5-year horizon and it is anticipated to remain close to its neutral level, reflecting lower upside potential for above-trend growth and higher long-term interest rates.

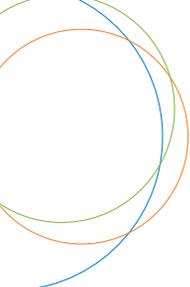
Although uncertainty about the inflation outlook has somewhat receded, inflation risks remain elevated when compared to historical levels, representing a significant source of uncertainty for the business cycle outlook. On the upside, the decline in headline inflation against the backdrop of relatively robust economic activity, fuels hope of moderating inflation without significant job losses. Moreover, an unanticipated resolution of the war in Ukraine could potentially significantly boost sentiment and the economic outlook. On the downside, impacts of higher long-term interest rates on the global economy may have only started to unfold.



The impact of rapid tightening financial conditions is likely to emerge in a non-linear fashion, where corporates and governments with large financing requirements become increasingly fragile. One such example is the recent turmoil in the Chinese real estate sector, as declining home prices and refinancing difficulties exposed weakness in several large property developers. Another is the US, where bond investors have shown signs of concerns on the sustainability of government borrowing, only one month after the recent Fitch downgrade of US sovereign debt.

All in all, while abating inflationary pressures improve the business cycle outlook in the short-term, above-trend interest rates mean that risks remain tilted to the downside. Accordingly, there is limited upward potential for the economic outlook translating to a cautious outlook for risky assets.



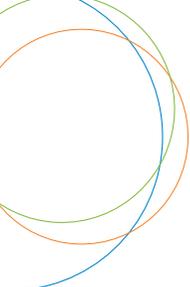


Beyond the cycle: faster normalization of interest rates to historical trend levels

Beyond short-term and medium-term cyclicity, the *Ortec Finance Scenario Set* covers the long-term outlook many decades into the future. This outlook is driven by structural global economic developments and accounts for regional differences. In response to persistent inflationary pressures, central banks have been shifting their monetary policy stance, which has been very loose over the past decade, to an increasingly tight stance. The rise in interest rates suggests that the pre-existing trend of declining interest rates since 1980 is reverting

upwards as reflected by a higher initial level of the *Ortec Finance Trend Indicator* for interest rates. The sharp increase in long-term interest rates over the last quarter is mirrored by the initial starting conditions of the trend indicator, which shows an increase of almost half a percentage point compared to the end-of-June outlook. As a result, interest rates are anticipated to normalize faster to historical trend levels where expected interest rates have increased by 25 basis points on a 10-year horizon when compared to the end-of-June outlook.





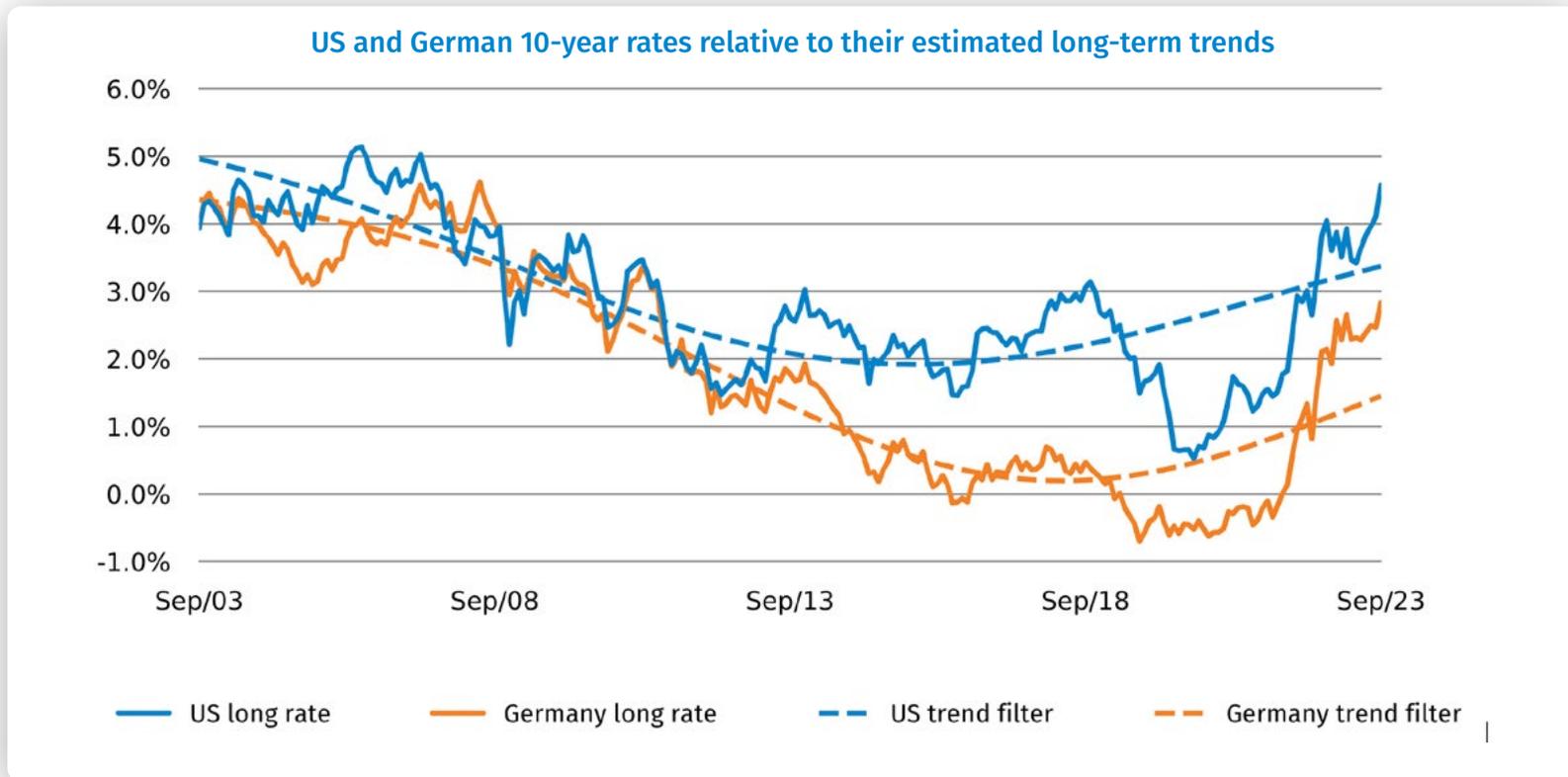
All eyes on interest rates

In response to the post-pandemic inflationary bout, global central banks embarked on an interest rate hiking cycle with unprecedented pace and breadth. Consequently, interest rates surged to levels not seen since the global financial crisis more than 10 years ago. The sharp rise in inflation and interest rates came to many as a surprise as the consensus pointed at secular stagnation in advanced economies and low interest rates for years to come. This raises the question whether interest rates will remain “higher for longer” or revert to lower historical levels in line with secular stagnation, which will be the focus of this section. More specifically, the interest rate outlook is evaluated with regards to recent developments from three different angles, with a focus on the US and Germany. First, recent long rate movements are considered in a historical context, then the likelihood of different interest rate scenarios is evaluated in the *Ortec Finance Scenario Set* (OFS) outlook, and finally the structural economic factors driving long-term interest rates are discussed.

Starting with the historical perspective, 10-year interest rates reached 4.6% in the US and 2.9% in Germany at the end of September, marking the highest levels in fifteen and twelve years, respectively. Current interest rate levels are also higher than the long-term equilibrium expectations in the OFS, which are set at 3.00% for the US and 2.25% for Germany. US interest rates are much farther from their long-term equilibrium values compared with those in Germany. The interest rate differential between the two regions is driven by better growth prospects in the US relative to the Eurozone and more expansionary US fiscal policy.

The historical frequency decomposition estimates in the OFS (Trend, Business Cycle, Momentum) also provide an informative perspective on recent movements within a longer economic history context. According to the frequency decomposition estimates, part of the current interest rate spike is explained by the medium-term fluctuations at the business-cycle frequency. Globally, the longer-term trend component has increased, but is still assessed to be below its long-term equilibrium level, although there are some differences between countries.

The trend filter slowly absorbs current rate levels as they remain higher, given the latest data and the long-running fluctuation dynamics estimated from the entire interest rate sample, which for many countries, contains more than a century of data. Between September 2021 and September 2023, the estimated interest rate trend level increased from 2.9% to 3.4% in the US and from 0.8% to 1.5% in Germany. Hence, the latest interest rate trend estimates show values that are still assessed to be below the current interest rate levels and for Germany also below the long-term equilibrium level. Overall, from a historical perspective it seems that interest rates are at a temporary peak.



The “higher for longer” question can be explored further by means of the stochastic scenarios in the OFS by evaluating the probabilities that 10-year interest rates are averaging below certain thresholds over the coming 5, 10, and 15 years. According to the September 2023 OFS interest rate outlook, the probability that US long-term interest rates remain on average below their current levels on the 5-year horizon is estimated at 70%, rising to above 80% on the 15-year horizon. In Germany, the probability is estimated at similar levels of roughly 70% on all horizons. This implies that current interest rates for both Germany and the US are on the higher side of the interest rate outlook. Hence, the OFS estimates a high likelihood that interest rates will decline over the coming years. At the same time, the OFS outlook attaches a smaller but substantial probability that interest rates will increase further.

Probability of 10-year US interest rate on average lower than	Sep23 outlook		
	5Y	10Y	15Y
2.0%	0%	2%	7%
3.0% (long-term)	2%	20%	33%
4.6% (current)	70%	79%	83%
6.0%	98%	96%	96%

Probability of 10-year German interest rate on average lower than	Sep23 outlook		
	5Y	10Y	15Y
1.0%	0%	5%	10%
2.25% (long-term)	31%	42%	45%
2.9% (current)	70%	67%	68%
4.0%	96%	92%	90%

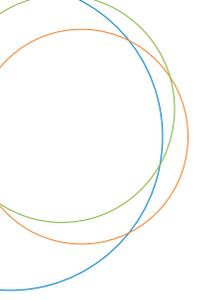
Finally, the structural economic arguments determining long-term interest rates are considered. Real rates have been driven to higher levels not seen since the global financial crisis, as inflation expectations have remained largely in check. While current levels of real interest rates were not unusual in prior decades, a persistent increase in long-term real rates could also suggest that structural drivers of long interest rates have changed.

An important but elusive determinant of interest rates is expected real economic growth. While growth has been more resilient than expected in the face of increasingly restrictive monetary policy, this might simply reflect the lagged impact of tightening financial conditions and transitory post-pandemic effects, such as consumers drawing down their excess savings. On the other hand, higher productivity growth, driven by technological innovations such as AI, could potentially result in structurally higher interest rates. Nevertheless, due to the lack of convincing evidence, it seems too early to call for such a shift in productivity growth. Hence, higher real economic growth as such seems unlikely to account for real interest rates remaining at current levels over the medium-term.

In the September 2023 OFS interest rate outlook, US and German long-term interest rates are expected to converge to somewhat lower trend levels reflecting moderate growth prospects over the medium-term. This is partly a reflection of pre-existing sluggish structural economic drivers, such as weak productivity growth and demographic headwinds that are expected to put downward pressure on interest rates (secular stagnation). On the other hand, long-term interest rates are expected to stabilize above pre-pandemic levels as the recent shift in inflation and interest rates are anticipated to partially stick (“higher for longer”).

The interest rate outlook remains uncertain. On the one hand, there is an elevated probability of “higher for longer” interest rates as inflationary pressures could persist from different channels such as pervasive shortages in labor markets, in combination with fiscal spending pressures from the energy transition and increased defense expenditure (i.e. the war in Ukraine). On the other hand, the recent sharp rise in long-term interest rates might prove self-defeating, potentially exposing financial vulnerabilities, causing excessive deflationary pressures, and finally forcing central banks to ease monetary conditions.

To summarize, from a historical, model-driven, and economic perspective, there is high likelihood that current interest rates are at a temporary peak. At the same time, uncertainty remains substantial and the risk for interest rates to remain “higher for longer” is considerable.



Ortec Finance Economic Scenario Generator

At Ortec Finance, we are committed to helping our clients manage the complexity of investment decision-making. Models in general – and scenario models in particular – are believed to be the most helpful tools to improve investment decisions, because of the consistency, objectivity, transparency, and efficiency that working with models in a proper way can bring **[2: Relevance of scenario models]**.

The Ortec Finance Economic Scenario Generator integrates short and long investment horizons consistently across all asset classes and economies. This enables our clients to apply one consistent risk management framework for long, medium, and short-term investment decision-making. To ensure that the scenarios are as realistic as possible, the data and model-driven approach is augmented with views and expert opinion **[3: Ortec Finance scenario approach]**.

The frequency domain methodology, combined with dynamic factor models, has been developed specifically to capture the complex realities of financial and economic markets for all horizons and asset classes at any point in time.

Our clients benefit from efficient, consistent, realistic, and independent scenarios, powered by the frequency domain approach of our Economic Scenario Generator. Scenarios are available for the end of every month or for horizons from one month to many decades. All scenarios are delivered via the software or scenario file service.

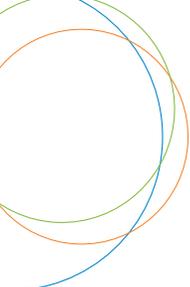
Contact Hens.Steehouwer@ortec-finance.com for more information.

More information

[1] Find out more our [Economic Scenario Generator](#)

[2] Read more in [whitepaper Relevance of scenario models](#)

[3] Read more in [whitepaper Ortec Finance scenario approach](#)



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Quarterly Outlook

All eyes on interest rates

September 2023

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