

A Brief History of the Bond Market

Trends, challenges, and opportunities for the (re)insurance market

By Professor Ricardo Reis

Executive summary

Insurance companies are major investors in government bonds, with these securities constituting an average of 50% (non-life) to 57% (life) of their investment portfolios (OECD, 2022). They have historically offered a low-risk fixed income, providing both added liquidity, cash flow stability, and security on short-tail risk (non-life) while being fundamental to long-term liability products in life insurance.

Amid a post-pandemic recovery and an economic crisis triggered through the war in Ukraine, insurers **in Europe and the US** have been hit by dramatic increases in inflation and interest rates. The impact on the bond market has been a reversal in US and UK long-run yield rates that created both major challenges and new opportunities for the (re)insurance industry. This report discusses the recent history, driving geopolitical and socioeconomic forces, and the impact of alternative scenarios of future yield rates on insurers.

Key takeaways

- Rising interest rates have fueled US and UK government bond yields to rise sharply in the last two years—reversing a previous 20-year decline.
- Current quantitative modeling on longer term bond yields rates suggests a permanent increase in long-term yields of between 1%–2%.
- Contrary to what most financial observers had predicted, long-run yields have been sustained and have not fallen away as central banks reach the peak of policy interest rates in their fight against inflation.
- Factors driving the increase in long-term yields include a combination of an increasingly aged population in Western economies saving money for their retirement, the decreasing appetite from emerging economies to continue to invest in the US bond market, concerns about the safety and liquidity of government bonds, and a post-pandemic increase in public investment projects.
- This creates both significant opportunities and challenges for life insurers. Upsides include potentially higher illiquidity premiums, tying up capital for longer periods, a growth in asset-intensive reinsurance, and high investment yields. Downsides include increased lapse risk of policies and stressors on capital positions, such as stability and profitability.

Historical trends

Yield rates 2000–2020 (pre-pandemic)

Before the pandemic, there was a trend decline in long-term yields. Figure 1 plots the 10-year government bond yield for both the US and the UK since 2000. The fall in yields since the turn of the century is clear and persistent with 10-year yields falling somewhere between 3% and 4.5%. To have a sense of the magnitude of this change, a change in the yield from 6% to 2% implies that 1 GBP in perpetuity would triple in value.

The fall in yields put pressure on profit margins and an increase in the tail-risk for life insurers. One of the reactions from the life insurance market to these declining yields was the emergence of the asset reinsurance agreements to manage their investment-related risks and optimize capital management strategies. At the same time, as investors use these rates to discount future cash flows to determine the net present value of their investments, this has led to rising valuations for stocks. Contrary to this, for life insurers, the rising tail-risk during this period had led to an increased cost of equity (COE) due to the expense of raising funds and the ability to attract and retain equity investors.

Because discounting is cumulative, with low long-term rates, investors have tolerated losses in firms that have prospects for large gains even in distant horizons, providing the fuel for much of the rise in private equity, and tech value stocks. For property insurance, the large trend has been the increases in house prices. This is also in part driven by low benchmark interest rates, since these lower rent-to-house ratios were lower, leading to large increases in house prices and stagnant rents in many regions.

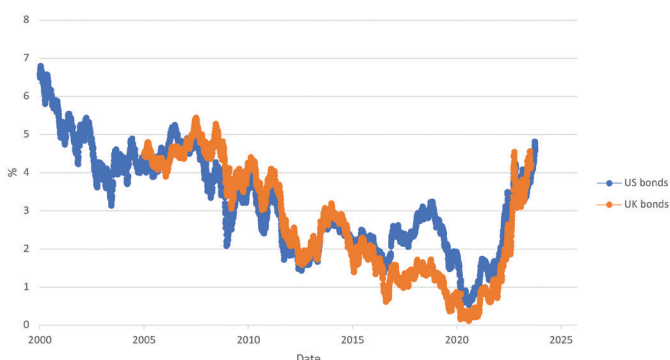


Figure 1. The trend in the 10-year yield on government bonds¹

Yield rates 2020–2023 (post-pandemic recovery)

Figure 1 also shows a clear rise in the yield trend since the end of 2020. Most observers and models in the financial industry still assume that we will return to the pre-pandemic level. After 20 years of steady decline, the last two years are seen as a fluke, an interruption driven by the run-up of inflation and everything that was exceptional with the pandemic recovery and the invasion of Ukraine. And yet, with more than two years of the long-term yield rising, it is more than time to reconsider this view.

In fact, different financial institutions are already doing so, and this is creeping in across all the dimensions discussed in the previous section. This will dominate the revision of valuation models over this second half of the year, including in the insurance sector.



Short-term policy drives long-term yield trend

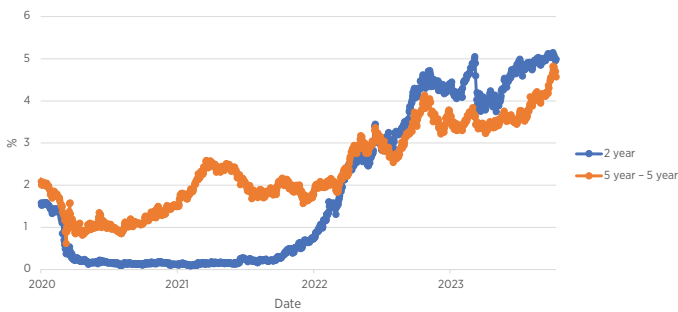
One of the main drivers of the 10-year yields is the expected behavior over the next ten years of the short-term policy rates set by the central bank. Since policy rates are elevated today, this could raise 10-year yields. Yet, central bankers have been adamant that they expect to have inflation under control over the next two years, so that from 2025 onwards they can go back to normal (pre-pandemic) policy rates.

Figure 2 shows evidence to the contrary. It plots the 2-year yield, which would be heavily influenced by the actions of the central bank fighting inflation, and the 5-year-5-year forward rate, which effectively shows the component of the 10-year rate driven by expected rates in five years' time, for the following five years.

It's clear that the 2-year rate has increased more than the 5-year rate (reflecting the temporarily elevated policy rates). However, more crucially, the 5-year-5-year forward rate has also increased significantly. In fact, the 5-year-5-year rate has increased just as much as the 10-year rates. This could imply an expectation that yield rates may be elevated in the coming years (see Table 1 later in the report for what this scenario could mean for insurers).

For some parts of the insurance business, even longer rates are more relevant. Comparing the rates at 10-year and 30-year horizons, there is little difference in the past two years. Whatever factor is driving long-term rates, it appears common to maturities above five years.

US Bond Yield (2020–2023)



UK Bond Yield (2019–2023)

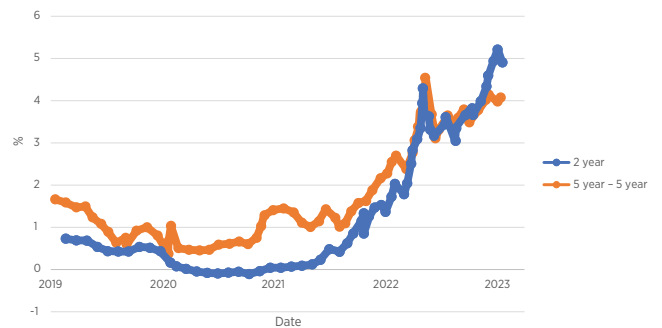


Figure 2. The short horizon (2y) and long horizon (5y5y) components of long-term yields. Left (US), Right (UK)¹



Factors impacting future yield rates

Fiscal and monetary policy

As part of fighting inflation, central banks are no longer buying long-term government bonds. At the same time, there is a larger stock of public debt outstanding that has proceeded fiscal policy response during the COVID-19 pandemic and energy crises. This debt is constantly being rolled over. Concerns about debt sustainability are mounting. Even if long-term yields are possibly currently elevated because of the temporarily high short-term central bank policies aimed at fighting inflation, and may fall in the next 12 months, they are likely to fall much less than short-term rates.

Demographic

With the turn of the century, the population in advanced western economies started aging. With it came a period of 20 years where middle-aged workers saved for retirement. These excess savings pushed long-term yields down. As that generation starts retiring, this process should reverse, and with it, long-term yields should rise. This is a slow process, but demographic explanations point to a slowly rising long-term yield over the next decade or so.

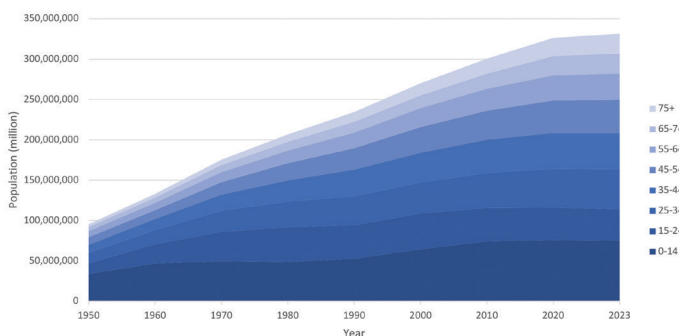


Figure 3. US Population by age bands (1950-2023)²

Geopolitical

Over the last 20 years, China and other countries in South-East Asia went through a fast growth process, accompanied by high savings rates. Partly encouraged by policy, this came with large current account surpluses and Chinese investment abroad. As savings abroad was partly controlled by state policy, much of it was channeled into buying government bonds of western countries (especially US Treasuries), making the People's Bank of China one of the largest holders of US Treasuries in the world. Post-pandemic, and especially since the start of 2023, rising tensions between China and the US have led to a reversal in these flows. Over the last 12 months, for the first time in decades, Chinese residents were not net buyers of US Treasuries. This trend is expected to continue, and could further drive up long-term yields up.

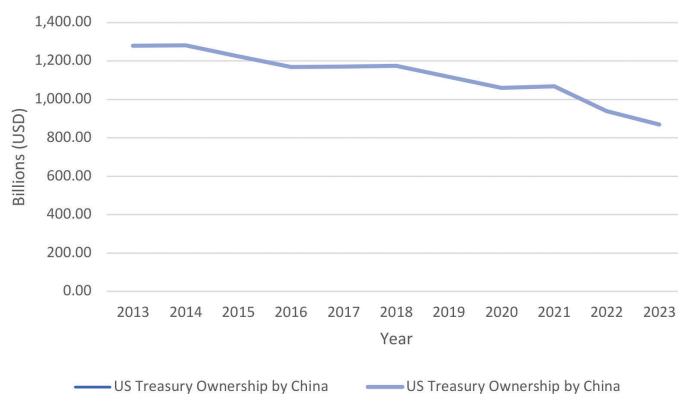


Figure 3. Declining ownership of US Treasury bonds by China 2013-2023

Public investment

Another hypothesis put forward to explain the decline in bond yields of the last 20 years was “the great stagnation.” Perhaps productivity had declined permanently, so there were no good investment opportunities. At the same time, austerity in public finances meant a retraction in public investment. The excess of savings going to government bonds was in part the result of insufficient investment. What has changed since the pandemic? Governments on both sides of the Atlantic have embarked in large and ambitious public investment projects. Perhaps these will not be productive, but either way they are absorbing resources. In doing so, they push for higher bond yields.

Inflation

Central banks are committed to bringing inflation down to 2% by 2025 the latest. Bond markets are a little skeptical and for good reasons. Inflation was last at 2% in the first half of 2021, and many influential policymakers have been arguing that maybe revising the inflation target to 3% would be a good idea. While central banks may deserve the benefit of the doubt, raising inflation expectations for the next ten years from it being on average 2% to an average of 2.5%, partly as a compensation for the added uncertainty and risk. That raises long-term government bond yields by 0.5%.

Inequality

The decline in long-term yields came with an increase in inequality. Insofar as the rich save more than the poor, this increase in inequality could produce the excess savings that brought down long-term yields. Since the pandemic, the picture has changed somewhat. The bottom 25% have done relatively well in the last two years, benefiting from tight labor markets, the increase in wages, and the inflating away of debts. This was especially the case in the US, but also in the UK. At the same time, the increase in inequality between the top 1% and the top 25% appears to continue.

United States

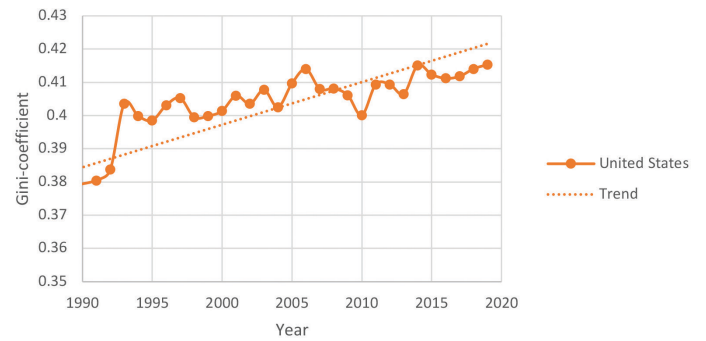


Figure 4. Gini-coefficient⁴ — The Gini coefficient measures inequality on a scale from 0 to 1. Higher values indicate higher inequality of wealth. The data relates to income measured after taxes and benefits, per capita.



Future scenarios and the implications for the insurance industry

Though a challenging task, current research is being undertaken using large-scale quantitative models to forecast the future trajectory of yield rates. For now, weighting all the factors above, preliminary estimates suggest an increase in long-term yields of between 1% and 2%. If so, current long-term yields in markets right now may well be the new normal.

Every quarter in the US, the members of the Federal Open Market Committee of the Federal Reserve, who set policy rates, are asked about where they think those rates will stabilize in the long run. Their bias is to assume nothing has changed, and they are bound to a mandate that insists there is no increase in expected inflation or inflation risk. Moreover, some of the change in the attractiveness of government bonds would not be reflected in their estimates, which refer to the federal funds rate. Therefore, relative to the figures quoted above, one should adjust up by as much as 0.5%–1% when looking at their forecasts.

Their forecasts are shown in figure 5. The median participant still sees no change whatsoever. But among some there is already an adjustment upwards of 0.5%–0.75%. This is conservative but not out of line with the forecasts above.

Insurance scenarios

Presented in Figure 6 and Table 1 are some credible alternative scenarios for the future trajectory of yield rates over the next three to four years. The different scenarios, based on macroeconomic drivers, explore the potential impact that future yield rate changes have for both life and non-life insurers.

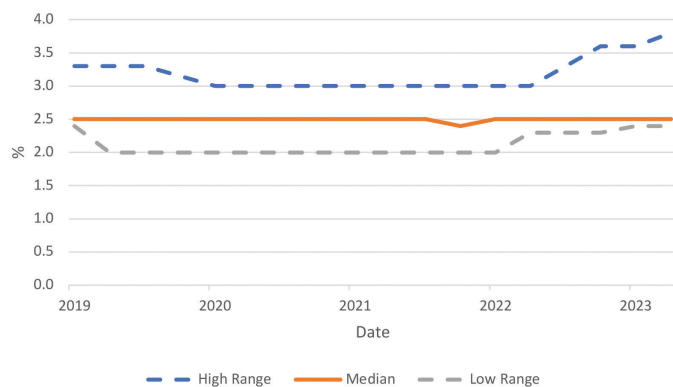


Figure 5. What the FOMC (Federal Open Market Committee) participants predict⁵

10-year bond scenarios

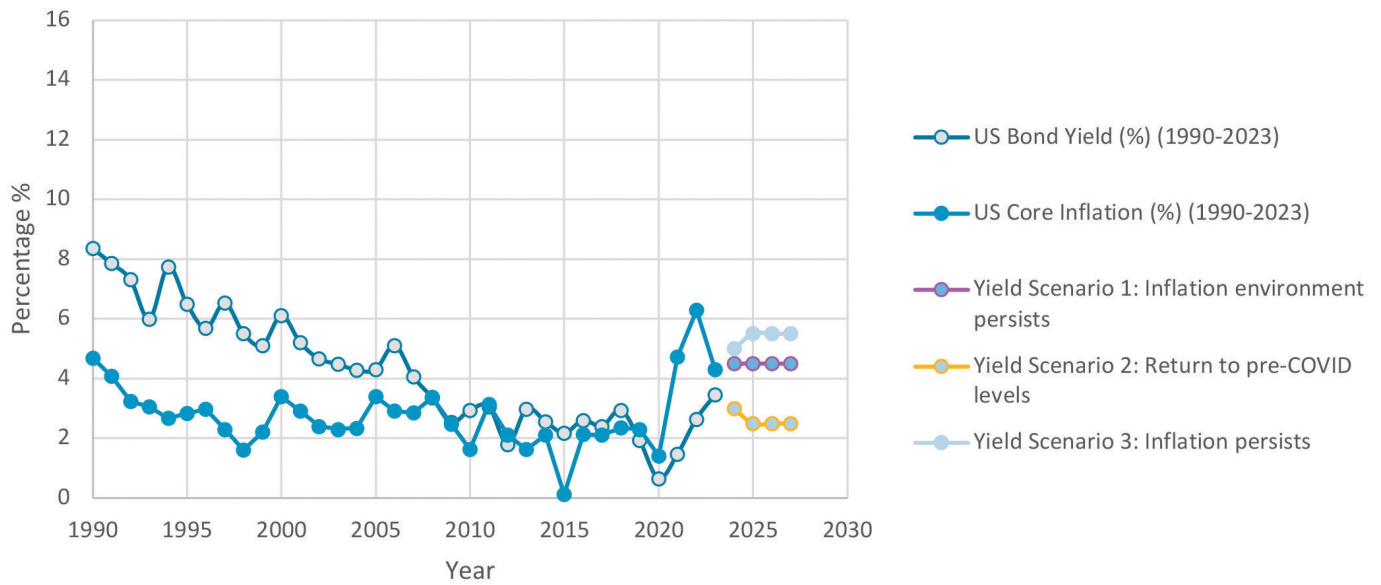


Figure 6. Historic rates and alternative future scenarios for the US bond market

Scenario 1 — Explores the possibility that recent changes in the bond market are “structural” and become set in, stabilizing US 10-year Treasuries at around 4.5% for the near term.

Scenario 2 — Envisages that yields drop back to the very low levels witnessed in pre-pandemic years (2.5%), and that recent increases are not sustained in the long term.

Scenario 3 — Would foresee a more extreme situation whereby high inflation persists despite the measures of central banks. This sees rates staying as high as 5.5%, and not dropping back.

Table 1. Scenario impacts for insurers

Scenario	Capital position	Investment/Strategic considerations	Lapse risk/Surrenders	Asset intensive reinsurance	Liquidity
<p>Recent changes are “structural”</p> <p>Recent changes in capital flows, labor markets, and supply and demand become set in as structural changes to the system. Yields on 10-year US bonds stabilize at 4.5% as real factors (geopolitics, fiscal policy, and investment) persist.</p>	<p>Improvement in company’s capital position by raising the discounting of liabilities.</p> <p>Re-evaluation of capital requirements by ratings agencies and regulators.</p> <p>Goods, services, and labor costs increase.</p>	<p>Higher levels of fixed income on recently issued bonds.</p> <p>Improved position on investment yield, ROE (return on equity), and ROA (return on assets).</p> <p>Private equity investments may be less advantageous to insurers in the long run, as interest rates rise.</p>	<p>Elevated rates of surrenders and a drop in persistency rates on some life products.</p>	<p>Shift from equities to bonds in the management of balance sheets (as bonds become more attractive in terms risk/reward).</p> <p>Insurers might reduce their appetite if the situation in terms of solvency is not a significant burden anymore. Disciplined management teams likely will continue to push for this now they can get a better valuation with the higher interest rates removing/reducing tail risk and structurally want to shift the business away from capital intensive/high volatility products.</p>	<p>Unrealized capital losses would sit in the balance sheet of insurer for time and therefore put some constraints on liquidity.</p>
<p>Return to the 2000–2020 average</p> <p>Inflation falls back to pre-pandemic levels by the end of 2024. Implications are that current factors are temporary. A return to low yields of 2.5%.</p>	<p>Private equity and technology investments continue to be advantageous to insurers in the long run.</p> <p>Solvency might deteriorate (in terms of Eligible own Funds) mostly driven by the RM* and SCR** for those insurers focused on long term business as BEL*** would increase more than asset market value (usually longer duration for liabilities). However, a lot of insurers have used the recent environment to reduce duration gaps so we would expect them to be in a better situation than the scenario pre-rates increase.</p>	<p>Existing bonds in the portfolio rise as yield falls and value increases.</p> <p>Potential risk of negative spread on some guaranteed income life products.</p> <p>Newly issued bonds are less attractive. We see renewed pressure on running yields and pressure on ROE/ROA.****</p>	<p>Back-to-normal scenario where lapses might be closer to historical rates.</p> <p>The capital charge for lapses will be driven by profitable risk products. Currently it is driven by saving related business.</p>	<p>Continued growth of operations of the last ten years.</p> <p>The capacity to generate new business on the general account side might be limited creating new run-off books, increasing the pressure on costs, and the appetite on asset intensive type of reinsurance.</p> <p>Potential for an increased spread and credit risk yields, increasing some arbitrage to be used by private equity backed players.</p>	<p>Increased liquidity coming from i) lower lapses; ii) more realized capital gains; and iii) more “cheap” capital available in the market.</p>
<p>Inflation persists longer term</p> <p>High inflation persists despite prolonged central bank measures. Economy is more volatile with persistent real factors. Long-run yields settle at 5.5%.</p>	<p>Goods, services, and labor costs increase.</p> <p>Immediate impact of higher claims on short tail risk (e.g., property catastrophe/motor).</p> <p>As longer inflation persists, it starts to drive wage inflation and becomes a concern to long-tail risk as legal costs, healthcare, and other related costs spiral up.</p> <p>Insurers purchasing more lapse reinsurance reduces SCR.</p>	<p>Inflation-linked securities are positively impacted.</p> <p>Newly issued bonds are more attractive.</p> <p>Increased performance of portfolio may ease underwriting pressures on the combined ratio on non-life insurers.</p>	<p>Potential mass lapse risk — particularly in exposed markets, such as France, Spain, and Belgium. Insurers increasing purchase reinsurance to protect themselves — see related article on lapse.</p>	<p>Managing inflation risk becomes an increasing priority in assembling asset positions.</p>	<p>Persistent inflation could lead to a systemic liquidity concern across the banking sector. This could impact insurer credit lines as well as general liquidity.</p>

*RM = Risk Margin

**SCR = Solvency Capital Requirement

***BEL = Best Estimate Liability

****ROE/ROA = Return on Equity/Return on Assets

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References

¹US and UK Treasury data (courtesy of Centre For Macroeconomics — <https://www.lse.ac.uk/CFM>)

²US Census Data — <https://www.census.gov/data.html>

³US Treasury

⁴World Bank Poverty and Inequality Platform (2022)

⁵Centre For Macroeconomics

⁶US Treasury and Gallagher Re

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