

## **Non-technical presentation of the article "How markets price risks? Key insights from an analysis of the US Treasuries market."**

**Important note (October 2023): This presentation of our article was written before the strong US monetary tightening of 2022-2023. Risk premia on US Treasuries increased sharply during this period. It is too early to know whether this is just a temporary blip, or a radical new structural change after more than 20 years of excess demand for US Treasuries. But the recent behavior of the US Treasuries market confirms the fundamental observations that we have made in this article and the difficulty for asset prices to adjust to lasting changes in risk premia (see our recent analysis on [www.riskpremium.com](http://www.riskpremium.com))**

Like all financial markets, the US Treasuries market often behaves in a way that is considered very strange by observers. On the one hand, long-term rates often seem out of sync with the economic environment, and on the other hand, day-to-day reactions to incoming news are sometimes counterintuitive. Observers mention "technical factors" when the movement of long-term rates seems on certain days out of step with new information about inflation and growth.

The strange behavior of US long-term rates is of course not systematic: often, long rates, in level and in daily variations, do not pose a particular problem of interpretation. But repeatedly, strange disconnections appear. In 2005, Alan Greenspan famously used the term "conundrum" when surprised by the low level of long-term rates. In 2018, most observers were once again surprised by how long-term rates did not rise much despite a significant tightening of US monetary policy. Finally, in the early summer of 2021, the sharp decline in long-term rates surprised investors and policymakers amid a post-covid economic recovery and dramatic acceleration in inflation in the United States.

The existing academic literature explains this double phenomenon very poorly (importance of unexplained "technical movements" on a day-to-day basis and more fundamental disconnections of the level of long-term rates relative to the economic context).

The attached article claims to shed a radically new light on these phenomena with far-reaching implications for investors and public authorities alike.

The thesis, supported by econometric work, is as follows: since the early 2000s there has been a lack of long-term risk-free bonds issued by the US Treasury. Demand has increased dramatically over the past few decades for several reasons:

- The Fed's anti-inflationary credibility now limits the risks borne by long-term bond investors, especially those saving for their retirement.
- Recurrent financial crises have structurally reinforced the demand for US Treasuries, especially since the tightening of prudential regulations has forced many institutional investors (banks, insurance companies, pension funds) to increase the share of long-term investments with a low credit risk.

The mismatch between supply and demand for long-term bonds issued by the US Treasury has resulted in systematically negative short-term risk premia on bonds since the early 2000s. By "systematically negative short-term risk premia", we mean that investors have expected for more than 20 years to lose money within a few months by investing in long-term bonds rather than investing in short-term Treasury Bills. This surprising hierarchy of expected returns (less expected short-term performance on long bonds than on Treasury Bills) appears very clearly in the various regular surveys carried out among

investors. This has been balancing the US Treasuries market for more than 20 years: these negative short-term risk premia dissuade investors from investing in these bonds and reduce demand to the level of an insufficient supply.

It is important to note that this situation existed long before Quantitative Easing (QE) and the massive purchase of US Treasuries by the Fed. QE over the last 10 years has certainly accentuated the lack of risk-free bonds available to private investors, but the gap between supply and demand already seemed considerable before and can be explained above all by the mentioned structural changes regarding inflationary risks, the amplitude of stock market fluctuations and changes in prudential regulations.

Another essential finding of the article, again based in part on econometric estimates, is that this structural evolution for more than 20 years (lack of long-term Treasuries and appearance of "negative short-term risk premia") has not been properly identified by investors and most academics working on these issues. A detailed analysis of short-term risk premia requires a thorough study of the information available on investor positions and their expectations, and it is not a job actually done (we will come back to this issue in the conclusion).

The dominant view among investors remains that a long-term bond is riskier than a short-term investment and that investors should de facto demand a positive risk premium. However, this conviction has been denied by the facts for 20 years. Moreover, it fails to recognize that the risk-free investment of an investor who is saving for retirement and is not afraid of inflation (thanks to the credibility of central banks) is a long-term bond, not a monetary investment totally dependent on the uncertain evolution of future short-term rates. This error has considerable implications: when "fundamentalist" investors make theoretical calculations about the economically justified level of long rates, they generally "inject" into their models the assumption that investors will sooner or later demand significantly higher positive risk premia on long-term government bonds relative to money market investments. But these calculations are fundamentally flawed and these expected long-term rates are never or rarely achieved (as the article shows). Indeed, at these levels of long-term rates, the demand for US Treasury bonds would greatly exceed the available supply. Only "abnormally" and surprising low long rates have made it possible for 20 years to balance supply and demand.

As the predictions of the vast majority of (naive) fundamentalists rarely come true, investors regularly lose confidence in their forecasts and repeatedly adopt other investment techniques ("chartist", "contrarian" or "passive"). In the article, we finally revisit the last 20 years on the US Treasury bond market that we reinterpret as a long chaotic journey (still unfinished ...) towards a better understanding of the imbalance between supply and demand by the fundamentalist investors and the analysts who advise them.

Note that analyzing the risk premia demanded by investors and the possible mistakes made by fundamentalists is much easier for government bonds than for other asset classes. This is due to the abundance of information available (complete yield curves, regular investor surveys) and the relative simplicity of the fundamental valuation models proposed by economic theory (everything is much more complicated for equities whose price depends crucially on the long-term profit prospects of the companies). But we argue in the article that the mechanisms highlighted (and quantified) for US Treasury bonds probably play an important role for other asset classes as well. The short-term risk premia that balance other markets (equities, exchange rates, bonds issued by companies) also vary widely and structurally depending on the economic environment. Fundamentalist analysts miss a lot of these breaks and these mistakes often contribute to the chaotic shifts in valuations seen in these markets.

This analysis is deeply original: the academic literature often explains the instability of valuations (“bubbles”, “crashes”, the importance of technical movements) as linked to the presence of irrational investors (“noise traders”) following non-fundamental investment approaches. Without denying that some episodes are explained by irrationality, we also emphasize the mistakes of fundamentalists who lose the confidence of investors because they are wrong in their analysis of risk premia. A market where wrong-footed fundamentalists have capitulated becomes an unstable market dominated by technical movements unrelated to economic fundamentals.

If one subscribes to this analysis (after having read some of the 65 pages of the paper ...), the question which arises is that of the reforms which would lead to greater markets’ stability, or more precisely to less frequent disconnections between economic and financial developments (knowing that there will always remain an incompressible instability linked to unexpected changes in the economic environment). How can we ensure that fundamentalists’ losses of control become less frequent? More transparency on the positions taken by investors would certainly help (more information on positions, better surveys of expectations, etc.). But the good news is that the main obstacle is essentially conceptual and can easily be removed without resorting to major reforms. The bottom line is that investors (aided by academics) need to better realize how instable short-term risk premia can be and how dangerous it is to extrapolate past returns. Much more robust fundamentalist approaches mainly require a better theoretical understanding of the dynamics of risk premia and a better use of existing information.

From that point of view, the ball is a bit in the academics' court, and it will be interesting to see how they react to this paper.

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4 September 2021