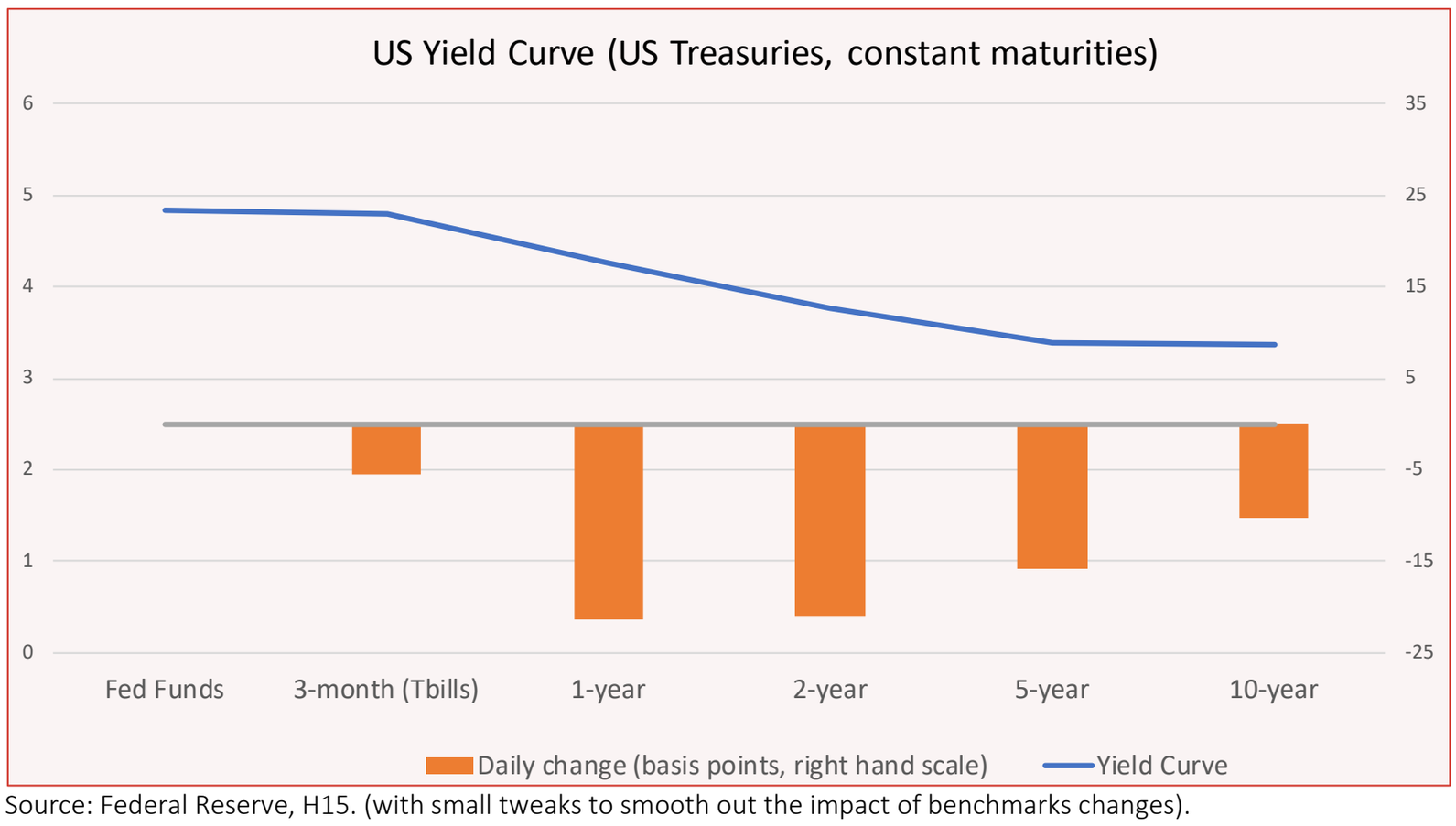
RISK PREMIUM INVEST

Daily analysis of the US Treasuries Market

23 March 2023

	Fed Funds	3-month (Tbills)	1-year	2-year	5-year	10-year
Rates	**4.83**	**4.80**	**4.26**	**3.77**	**3.39**	**3.38**
Daily changes (bp)	**0**	**-6**	**-21**	**-21**	**-16**	**-10**



Source: Federal Reserve, H15. (with small tweaks to smooth out the impact of benchmarks changes).

Highlights:

- *On Thursday, US Treasuries yields fell.*
- *Expectations on future Fed funds rates continued to adjust to the relatively dovish outcome of the FOMC meeting.*

PART I : Changes in expected Fed Funds.

PART II : Risk premia contributions.

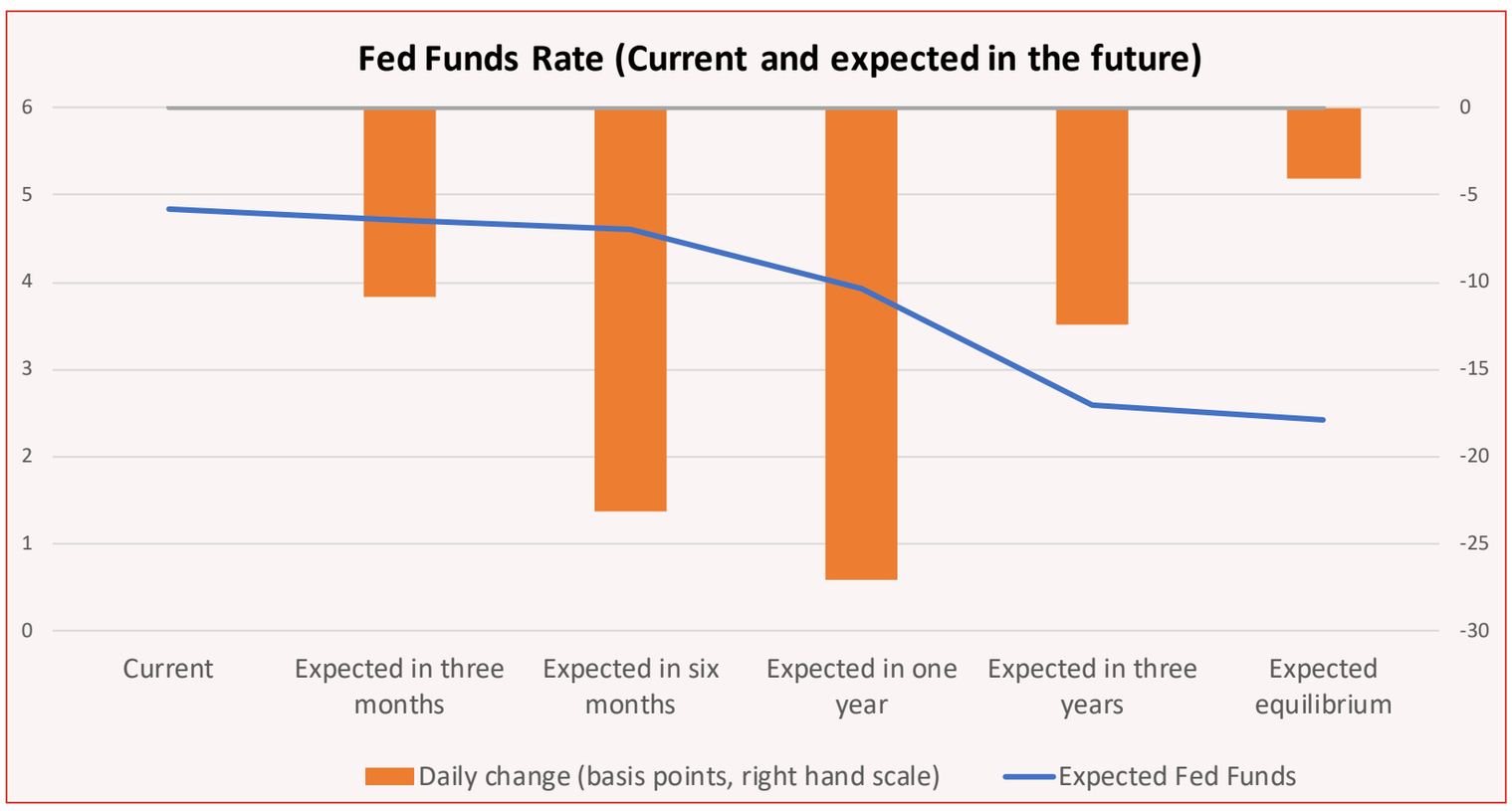
PART III : Methodological annex.

PART I : CHANGES IN EXPECTED FED FUNDS

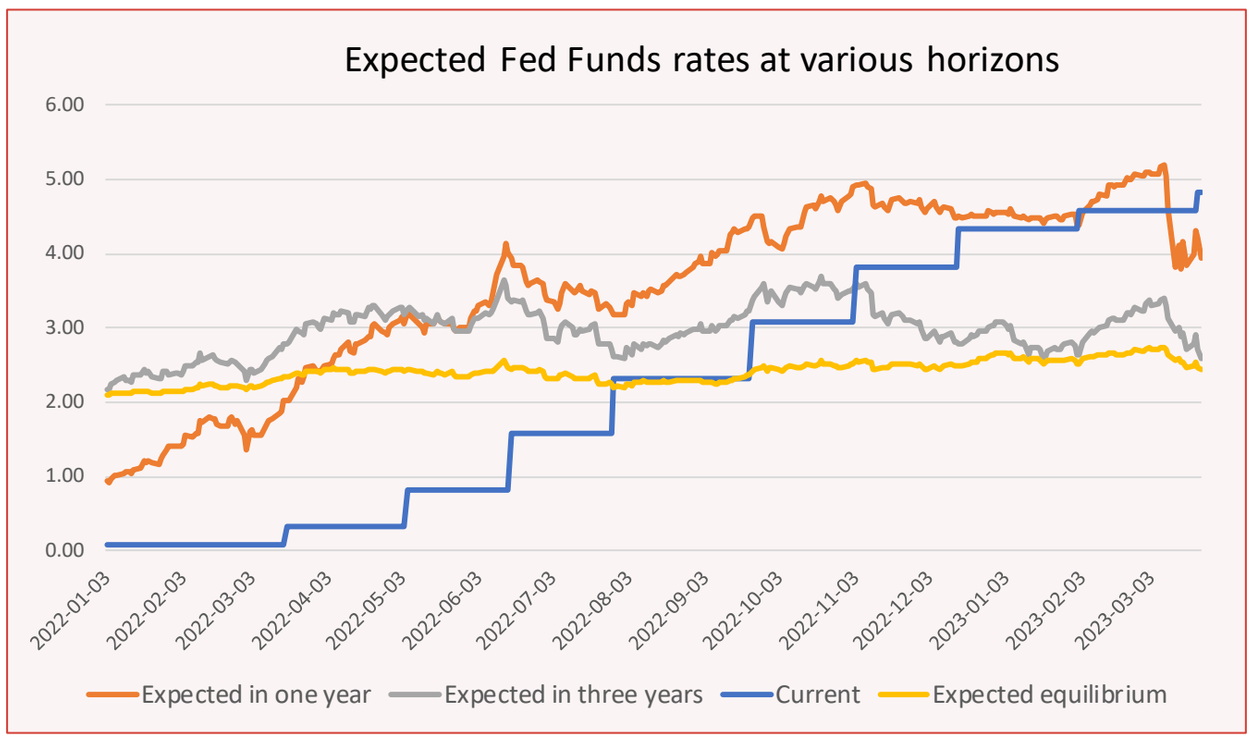
Fed funds futures provide a biased estimate of investors' true expectations, as they are influenced by varying risk premia. The Fed Funds rates expected by investors are here estimated by our proprietary model using both different surveys (the monthly "Consensus Economics" survey and the quarterly "Survey of Professional Forecasters") and the rich information contained in the yield curve (see the methodological annex). Estimates are revised when more recent surveys become available (on March 17, the March "Consensus Forecast" was introduced).

On Thursday, expectations on future Fed funds rates continued to adjust to the relatively dovish outcome of the FOMC meeting. The Fed acknowledged that the recent financial strains, while under control, could lead to some credit rationing and help the Fed achieve a better balance in the US economy between supply and demand. They don't think that they will cut rates in 2023 and believe that they may have to do another rate hike if the economy does not slow, but they're clearly not ruling out any options and they make their future decisions data dependent. This was a major (and welcome) change in tone from previous statements and as a result, expectations for future Fed funds rates continued to fall on Thursday despite initial jobless claims slightly lower than expected.

	Current	Expected in three months	Expected in six months	Expected in one year	Expected in three years	Expected equilibrium
Fed Funds	4.83	4.72	4.61	3.93	2.59	2.43
Daily changes (bp)	0	-11	-23	-27	-12	-4



How fast do investors expect the Fed to cut rates in the coming year amid a slowing economy? Many analysts comment on the low rates now priced into the Fed funds futures and point to the large gap between these prices and the indicative path given by the Fed. On Thursday, March 2024 forward Fed funds were just 3.72%, while the Fed expects rates in a central scenario to be at 5.1% at the end of 2023 and still 4.3% at the end of 2024. But remember that Fed funds future, like all rates, measure a mix of expectations and risk premia. As often discussed in the press, many investors who were short two-year bonds (or Fed funds futures) had to cut these positions during the banking crisis of the past two weeks. These stop loss orders contributed to the sharp drop in Fed funds rate futures or two-year rates. As a result, according to our estimates (see chart next page), risk premia on short-term treasuries turned negative and Fed funds futures have fallen below investors' true expectations. According to our estimates, they expect Fed funds rates to be at 3.93% in one year, still significantly lower than in the Fed's central scenario.



Main market-moving news: 23 March 2023

US Macroeconomics
Initial jobless claims at 191,000 (Expected 197,000; Prior 192,000).
New home sales-units for Feb at 0.640 mln (Expected 0.650 mln; Prior 0.670 mln revised at 0.633 mln).

Others
The Bank of England raised interest rates by 25 basis-point and the Swiss National Bank by 50 basis-point.

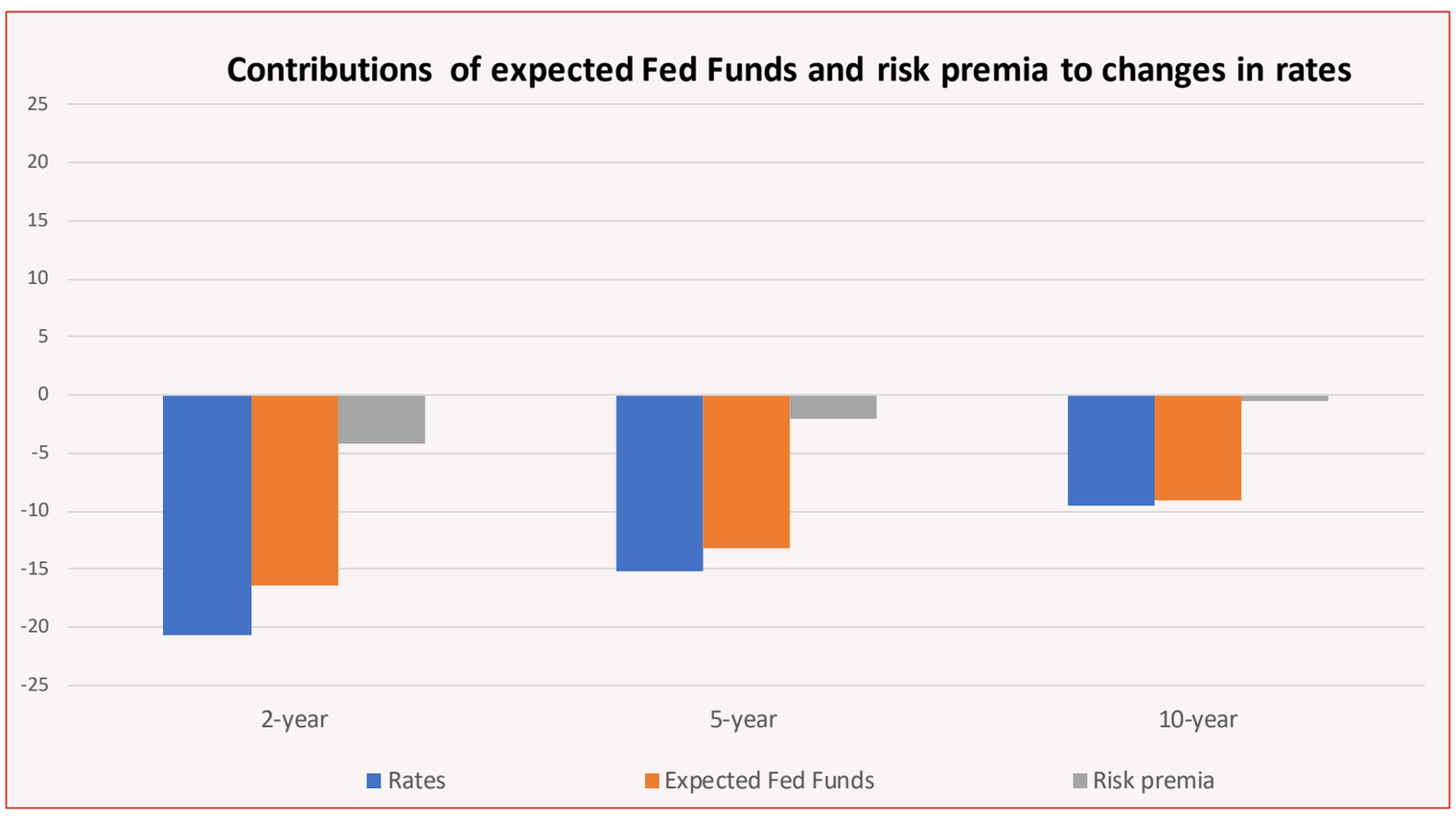
PART II : RISK PREMIA ANALYSIS

For US Treasuries, as for all financial assets, there are two key different types of risk premia:

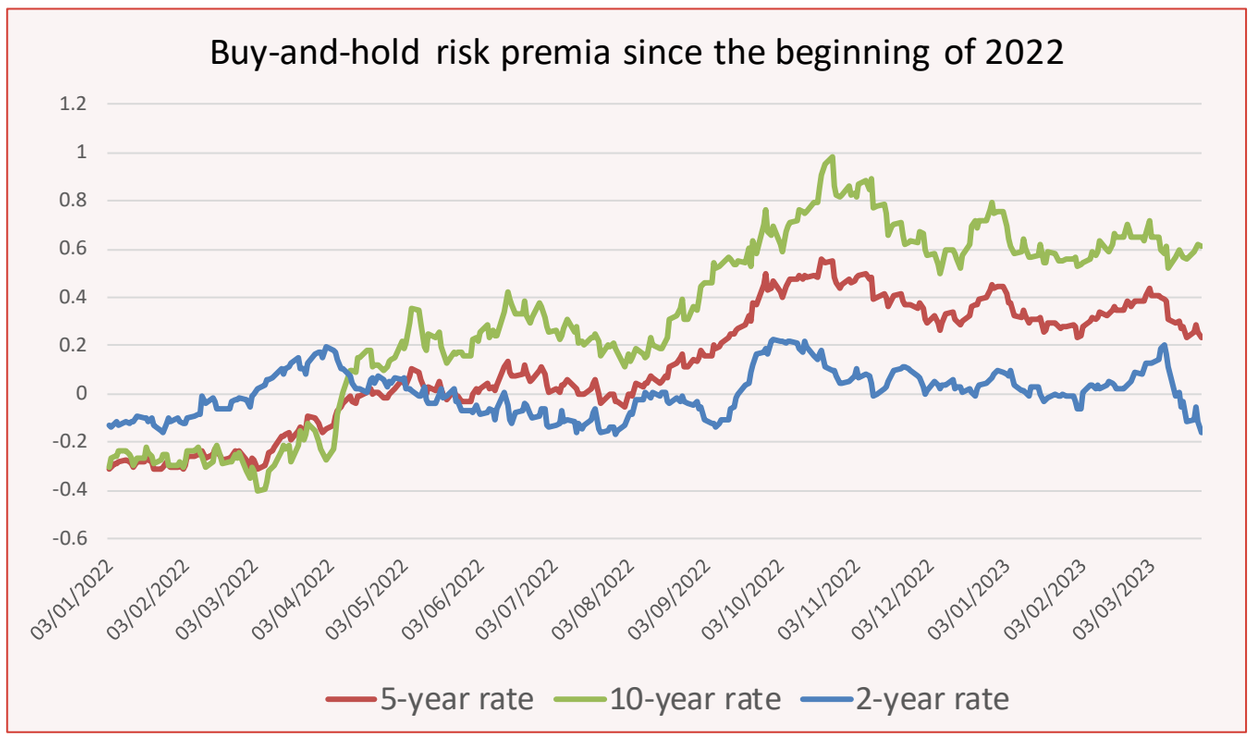
- The short-term **tactical risk premia**: How much excess returns investors require to hold various risky assets at their tactical horizon (which depends on investors, but is often around 3 months)? The tactical positions taken by investors relative to their benchmarks ("neutral", "short', "long") depend on these tactical risk premia.
- The **"buy-and-hold" or "embedded" risk premia**. How much excess return **long-term investors** expect if they hold risky assets over an extended horizon? In the case of US Treasuries, the buy-and-hold risk premia are the differences between the zero-coupon rates of various maturities and the (annualized) expected return on a fund invested in Fed Funds over the same period.

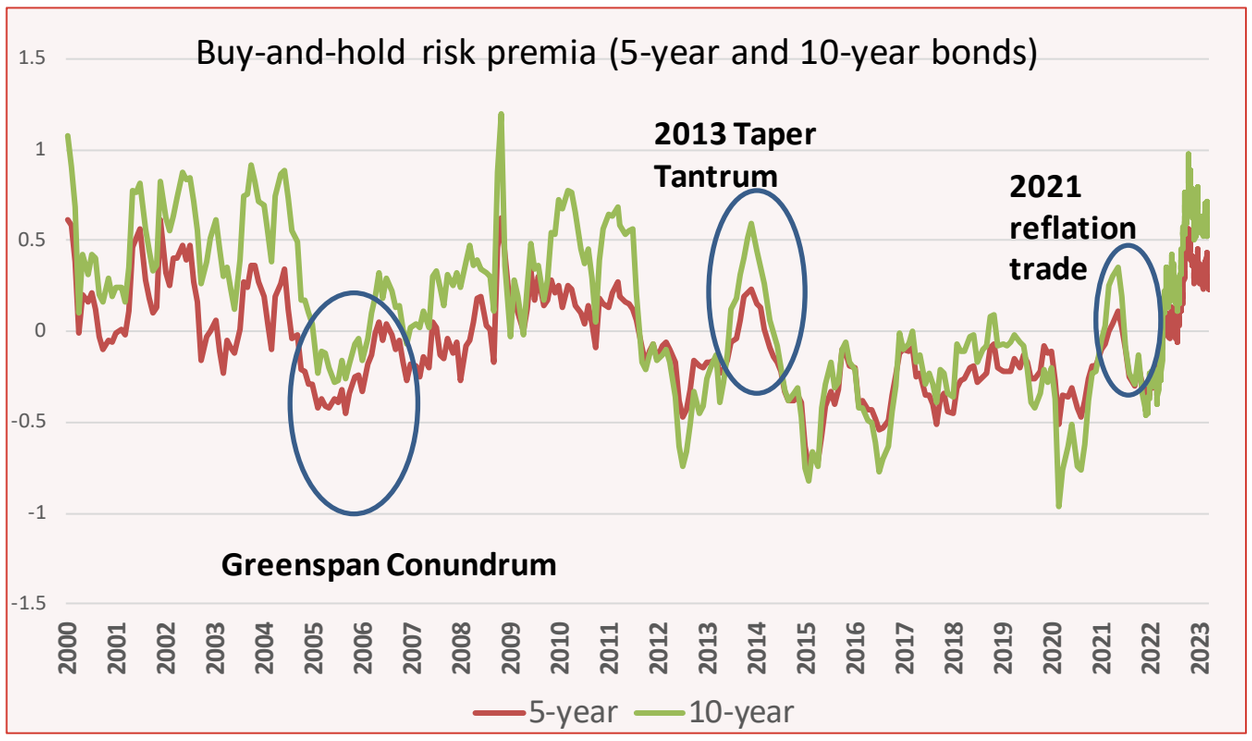
We estimate both types of risk premia (see the methodological annex and our excel file) but we discuss here only the buy-and-hold risk premia.

Wednesday's fall in yields was mainly driven by expectations for future Fed funds rates. However, as it has been the case several times over the past two weeks, a small part of the decline in 2-year rates came from lower risk premia. Since March 9, buy-and-hold risk premia on 10-year rates have been broadly stable around 60 basis point, while according to our estimates, risk premia on 2-year rates have fallen by more than 30 basis points. As we said before, this was likely the result of investors wrong-footed on their short positions by the banking crisis and being forced to close their positions.



	2-year	5-year	10-year
Buy-and-hold risk premia	-0.16	0.24	0.61
Daily changes (bp)	-4	-2	0





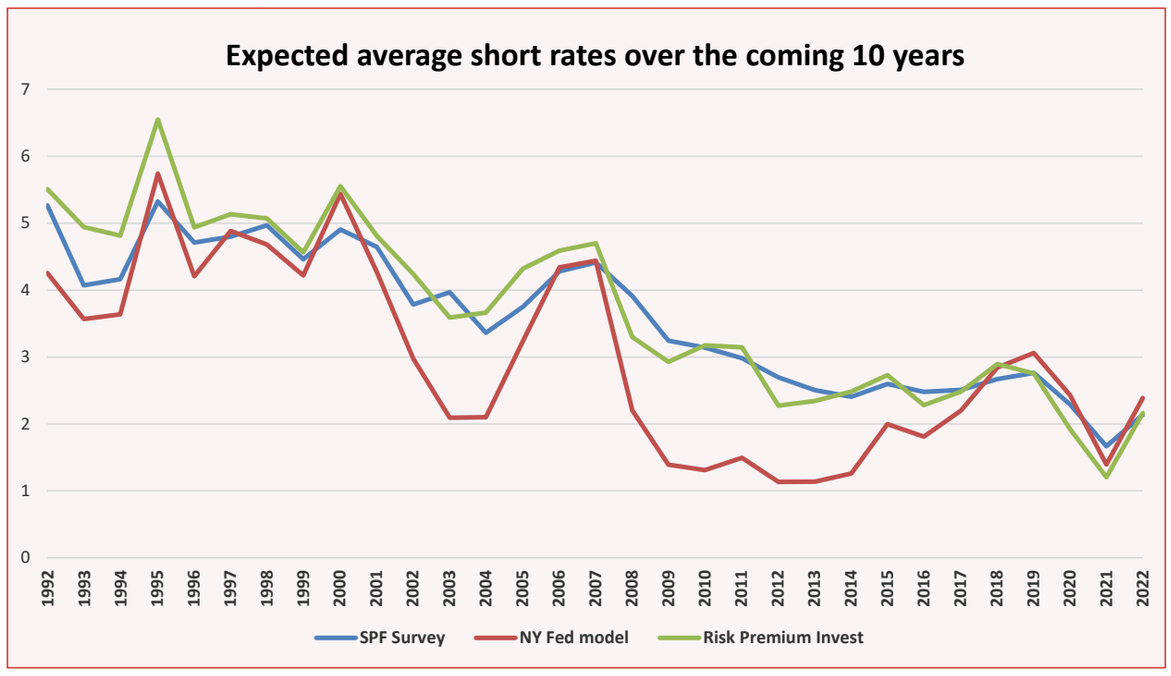
With a long-term perspective, it appears that the buy-and-hold risk premia on long-term Treasuries are quite high (see the right-hand side graph). This may not come as a surprise with some inflationary risks remaining and most days – when there is no financial crisis! - a strong positive correlation between the price of bonds and equities. Yet, since the beginning of Fed's Quantitative Easing in 2010, there has been only two episodes where the buy-and-hold risk premia on 10-year US Treasuries have been significantly positive: the 2013 "taper tantrum" and the 2021 "reflation trade" episodes where investors introduced large short positions in Treasuries. Both time, these relatively high short positions and positive risk premia proved unsustainable and risk premia came back later on negative territory.

Looking forward, changing buy-and-hold risk premia should introduce a lot of volatility in the US Treasuries markets. On the one hand, there is still an excess demand for long-term Treasuries and, we believe, a tendency for risk premia to go back on negative territory as soon as inflationary risks recede (and negative betas come back!). On the other hand, the market will have in the future to absorb a larger supply with the Fed starting to cut its holding of bonds ("Quantitative Tightening"). This may push many investors to introduce again large short positions in the belief that long-term rates are now on a structural upward trend.

PART III : METHODOLOGICAL ANNEX

There is an abundant academic literature trying to extract from the yield curve the monetary policy path expected by investors and the risk premia embedded in the observed US Treasuries rates.

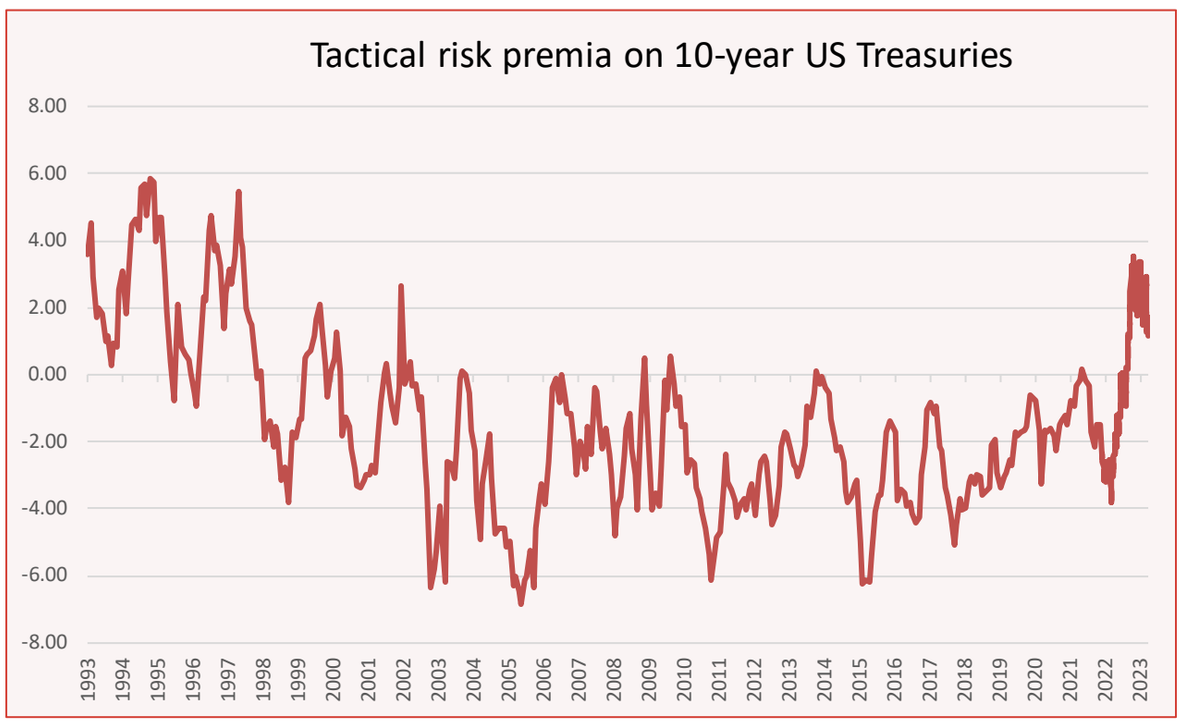
One of the best-known statistical models is the model developed by the Federal Reserve Bank of New-York. Their estimates are published daily on the NY Fed website (see www.newyorkfed.org/research/data_indicators/term-premia-tabs#/overview). Strangely enough, these estimates don't seem to be used by many markets practitioners when they discuss the shape of the yield curve and how it can be explained by short-rates expectations and risk premia. One of the reasons is that the results of the model are often quite unrealistic. To illustrate that observation, we can compare the average short rates expected by investors over the next 10 years according to this model with what professional forecasters expect (answers, once a year in February, to the well-regarded survey managed by the Federal Reserve Bank of Philadelphia. See www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters).



There are many reasons why the average investor's view priced into the market may differ somewhat from the answer given by professional forecasters, but the difference is often much too large to be realistic.

The truth is that the estimates published on the NY Fed website are rather imprecise. There is indeed a large academic literature stressing that the yield curve alone does not contain enough information to extract the investors' underlying views and that the results of surveys should be incorporated in the extraction process (see Kim, Don H., and Athanasios Orphanides, 2012, Term structure estimation with survey data on interest rate forecasts, Journal of Financial and Quantitative Analysis 47).

Our model belongs to this class of models that combine information coming from well-regarded surveys with the observed yield curve. But its key originality is elsewhere. Our model does not extract only the buy-and-hold risk premia, but it also extracts the important short-term tactical risk premia required by investors on bonds of various maturities. These tactical risk premia are very important to understand the shape of the yield curve (see the references at the end of this page). One very important result of our work is that until the recent inflationary fears these tactical risk premia have been on average negative since the end 90s (the following graph represents the annualized excess return expected by investors on 10-year Treasuries at the 3-month horizon).



That means that a long time before the Fed introduced QE there was already an insufficient supply of risk-free Treasuries: tactical positions were on average structurally short in this key market. To keep it simple, this rich information about tactical risk premia is not discussed in this daily comment, but an excel file with the full information is available on our website (see the link on the homepage of www.riskpremium.com)

To know more about our modelling of the yield curve, and the key insights it provides on how markets price risks:

For a short presentation of the indicators we publish and how they can be used to understand the US yield curve, see https://riskpremium.com/wp-content/uploads/2022/07/RiskPremia-UST-guide-en.pdf

For a non-academic description of our modelling, see https://riskpremium.com/wp-content/uploads/2022/06/USTreasuries-Model-Guide.pdf