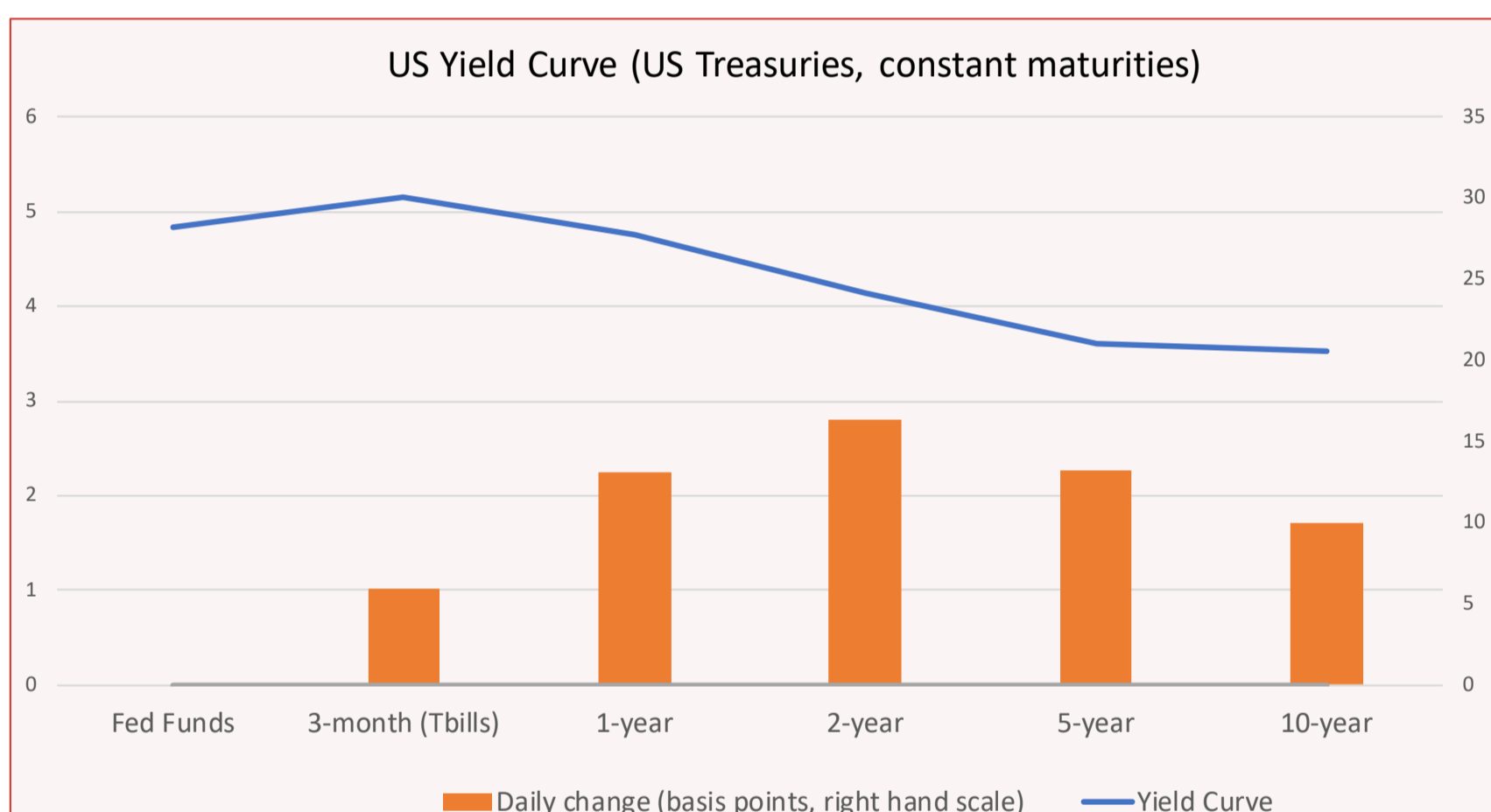# RISK PREMIUM INVEST

Daily analysis of the US Treasuries Market

27 April 2023

	Fed Funds	3-month (Tbills)	1-year	2-year	5-year	10-year
Rates	4.83	5.15	4.75	4.14	3.60	3.53
Daily changes (bp)	0	6	13	16	13	10

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

Highlights:

- *US Treasuries yields rose significantly on Thursday.*
- *Partly hidden behind the headlines, investors saw in the economic data releases some signs of strength for the US economy.*

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 April 18, the April "Consensus Forecast" was introduced).

Economic indicators released on Thursday were mixed, but the market reaction was not. Initial jobless claims were well below expectations, indicating a still very tight labor market (and making a rate hike next week almost a done deal). However, economic growth was weaker than expected in the first quarter (+1.1% - at an annual rate – against +2% expected). This could have strengthened the recession fears and pushed markets to increase their odds for rate cuts around the end of the year. Yet, the details of the report did not (yet?) support the recession story. Consumption was very strong (+3.7% at an annual rate), and (until possible further revisions…) the sharp slowdown in the first quarter had a technical character, with inventory management subtracting a net 2.3 percentage points from the topline number. Overall, markets interpreted these reports as a sign that the US economy was still resisting well to the sharp tightening of monetary policy and expectations for future Fed funds rates rose at all horizons.

	Current	Expected in three months	Expected in six months	Expected in one year	Expected in three years	Expected equilibrium
Fed Funds	4.83	5.02	5.05	4.17	2.81	2.62
Daily changes (bp)	0	6	10	15	12	4
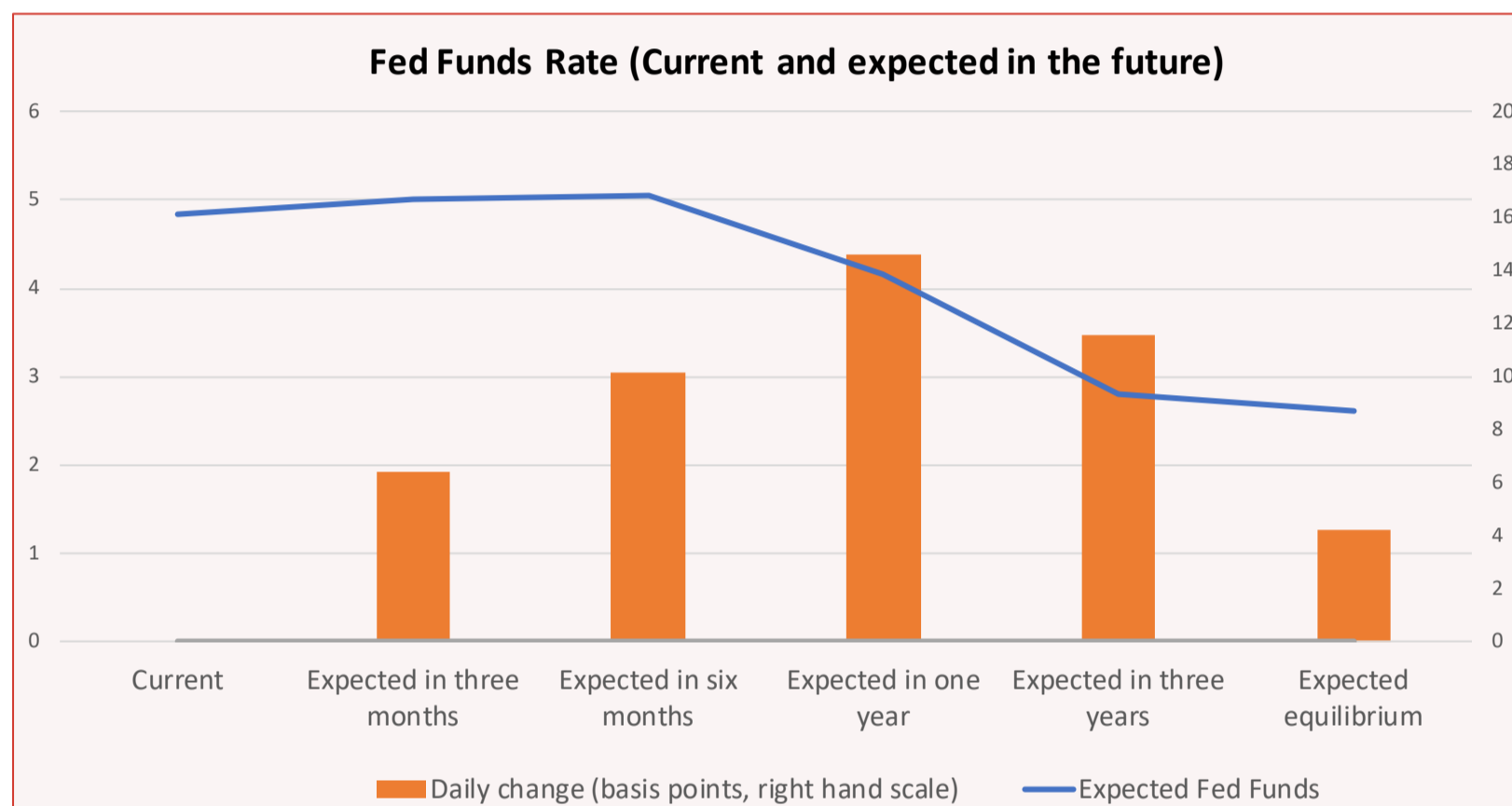
Expectations for future Fed funds still diverge, but a bit less, from the central scenario put forward by the Fed at the end of the last FOMC meeting. While stressing the large uncertainties it faces, the Fed expects rates to be at 5.1% at the end of 2023 and still at 4.3% at the end of 2024. But, according to our estimates, investors expect fed funds rates to fall to 4.17% a year from now (due to negative risk premia on short term US Treasuries - see our estimates next page - Fed funds futures at this horizon are slightly lower, the April 2024 Fed funds forward rate was 4.07% on Thursday evening).
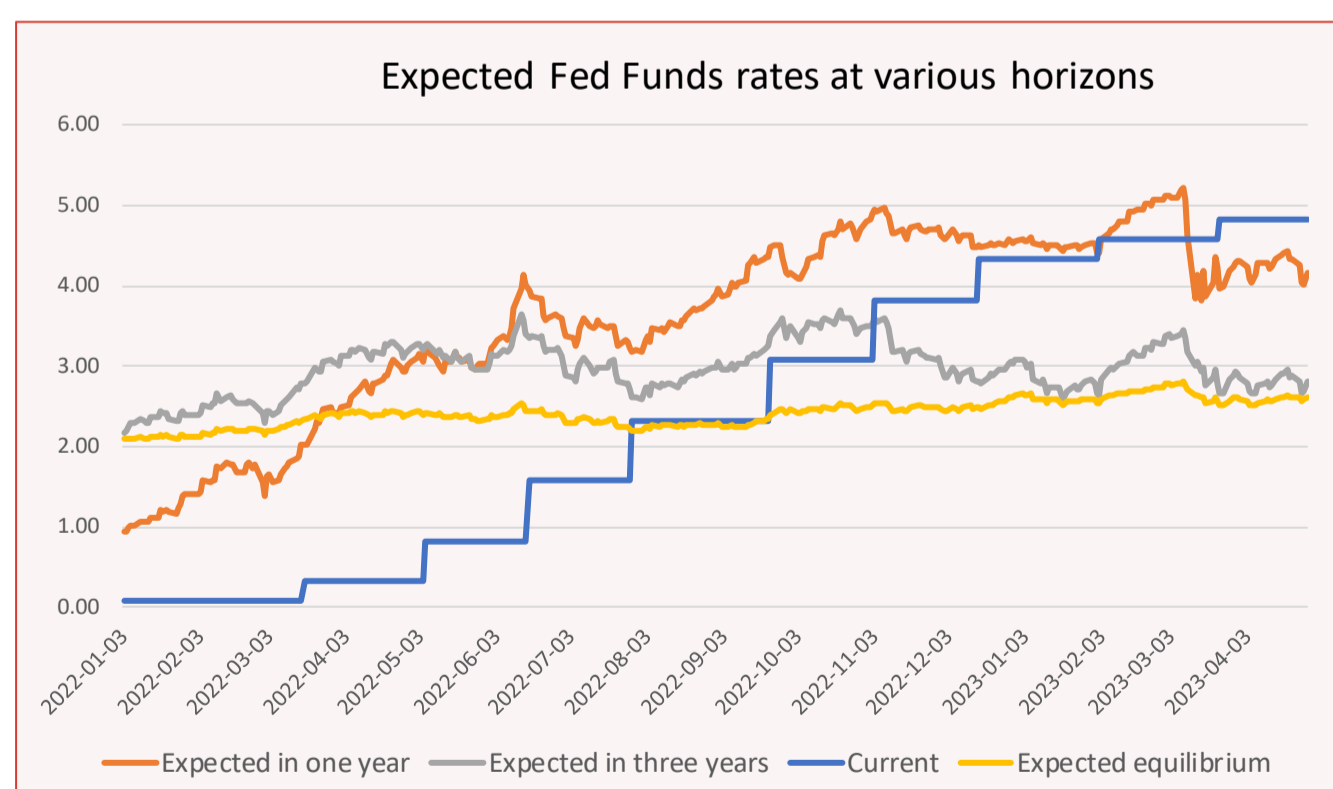
Main market-moving news: 26 April 2023

US Macroeconomics

GDP for Q1 at +1.1% (annual rate) (Expected 2; Prior 2.6).

Core PCE prices for Q1 at +4.9% (annual rate) (Expected 4.7%; Prior 4.4).

Initial jobless claims at 230,000 (Expected 248,000; Prior 245,000 revised at 246,000).

Pending home sales for March at -5.2% MoM (Expected 0.5; Prior 0.8).

Others

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.

US Treasuries risk premia rose slightly on Thursday. It is not very clear at this stage how our estimates may be impacted by the debt ceiling standstill in the US congress. It is more likely that the small rise in risk premia was tied to the more hawkish expectations about the future path of Fed funds rates.

Contributions of expected Fed Funds and risk premia to changes in rates
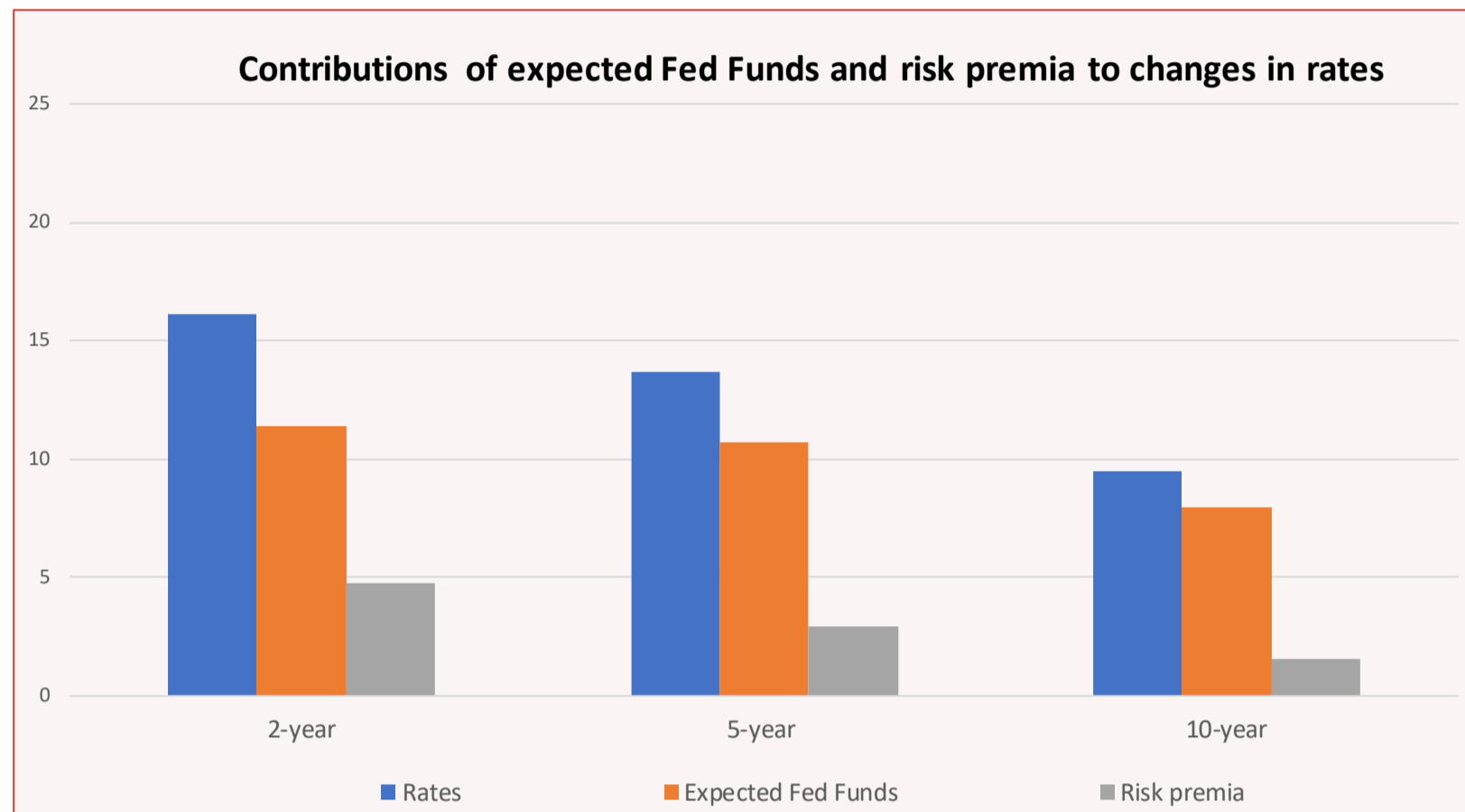
	2-year	5-year	10-year
Buy-and-hold risk premia	-0.08	0.24	0.54
Daily changes (bp)	5	3	2

Buy-and-hold risk premia since the beginning of 2022

Buy-and-hold risk premia (5-year and 10-year bonds)
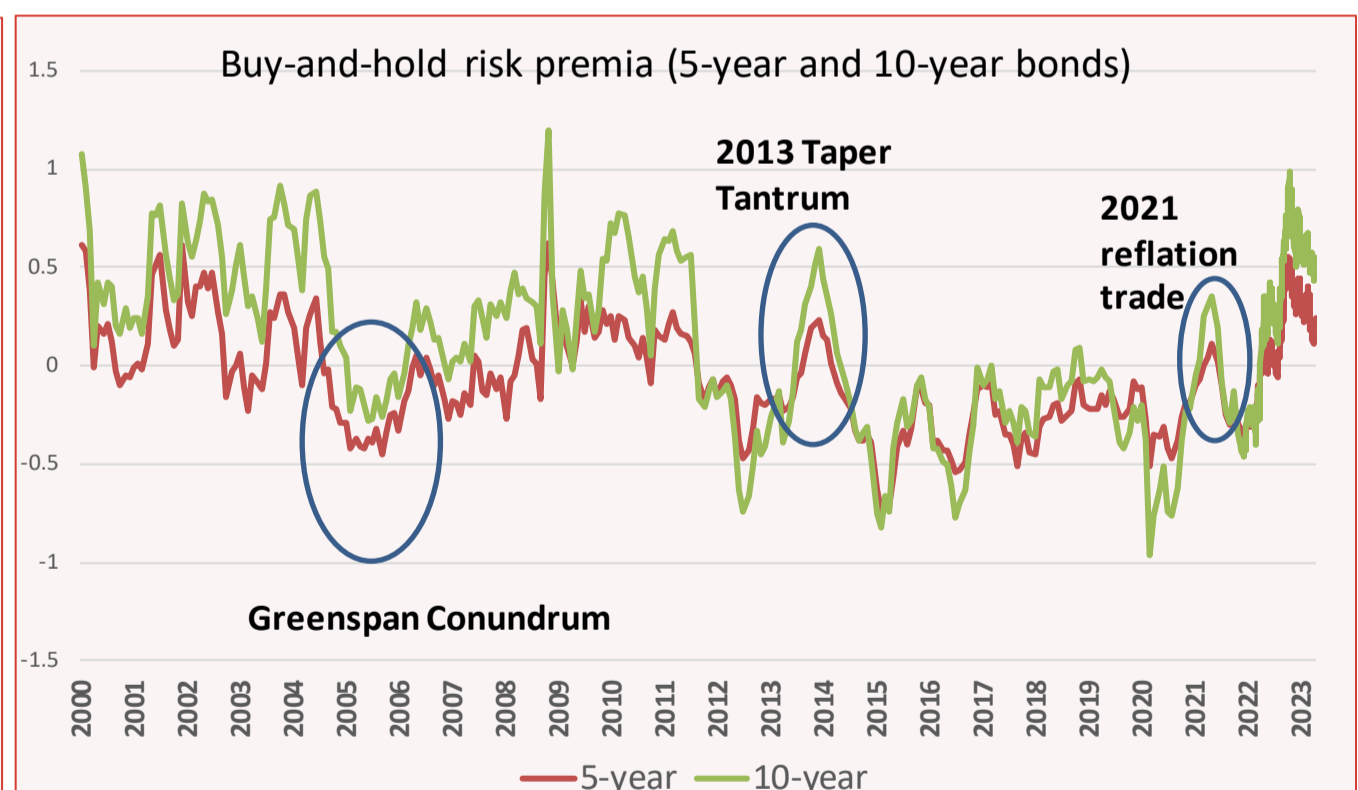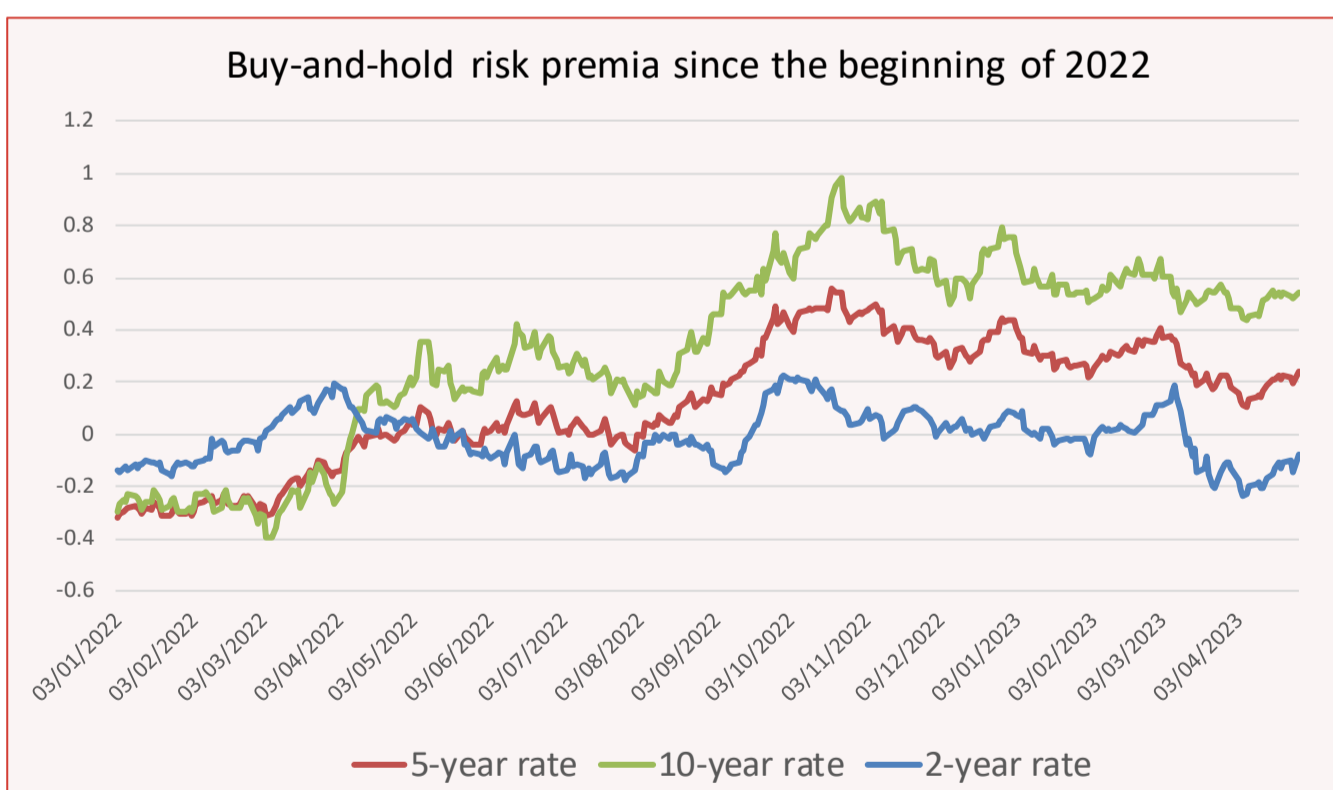
With a long-term perspective, it appears that the buy-and-hold risk premia on long-term Treasuries are quite high (see the right-hand side graph). This may not come as a surprise with some inflationary risks remaining and often – but not always - a positive correlation between the price of long-term 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 –this is already the case for 2-year bonds - 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.

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).

Expected average short rates over the coming 10 years
(SPF Survey — NY Fed model — Risk Premium Invest)

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).

Tactical risk premia on 10-year US Treasuries
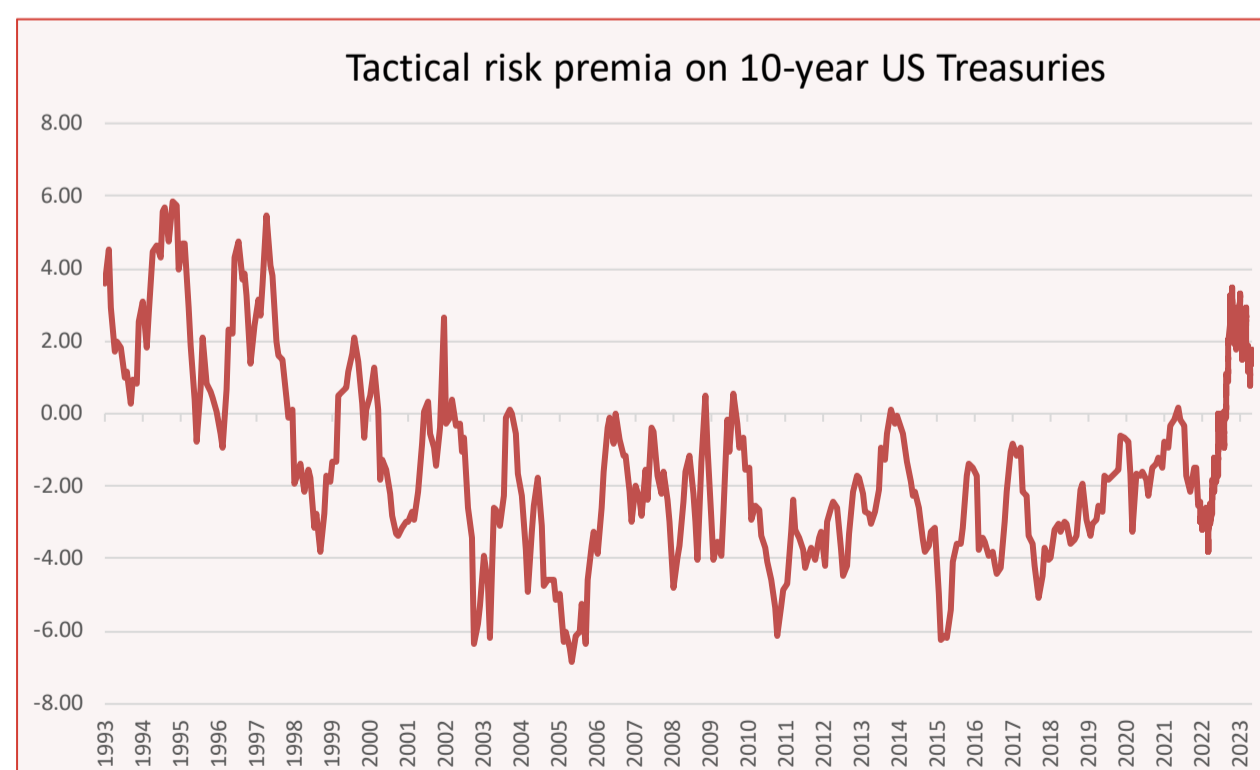
That means that a long time before the Fed introduced QE there was already an insufficient supply of risk-free Treasuries: tactical positions were on average structurally short in this key market. To keep it simple, this rich information about tactical risk premia is not discussed in this daily comment, 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