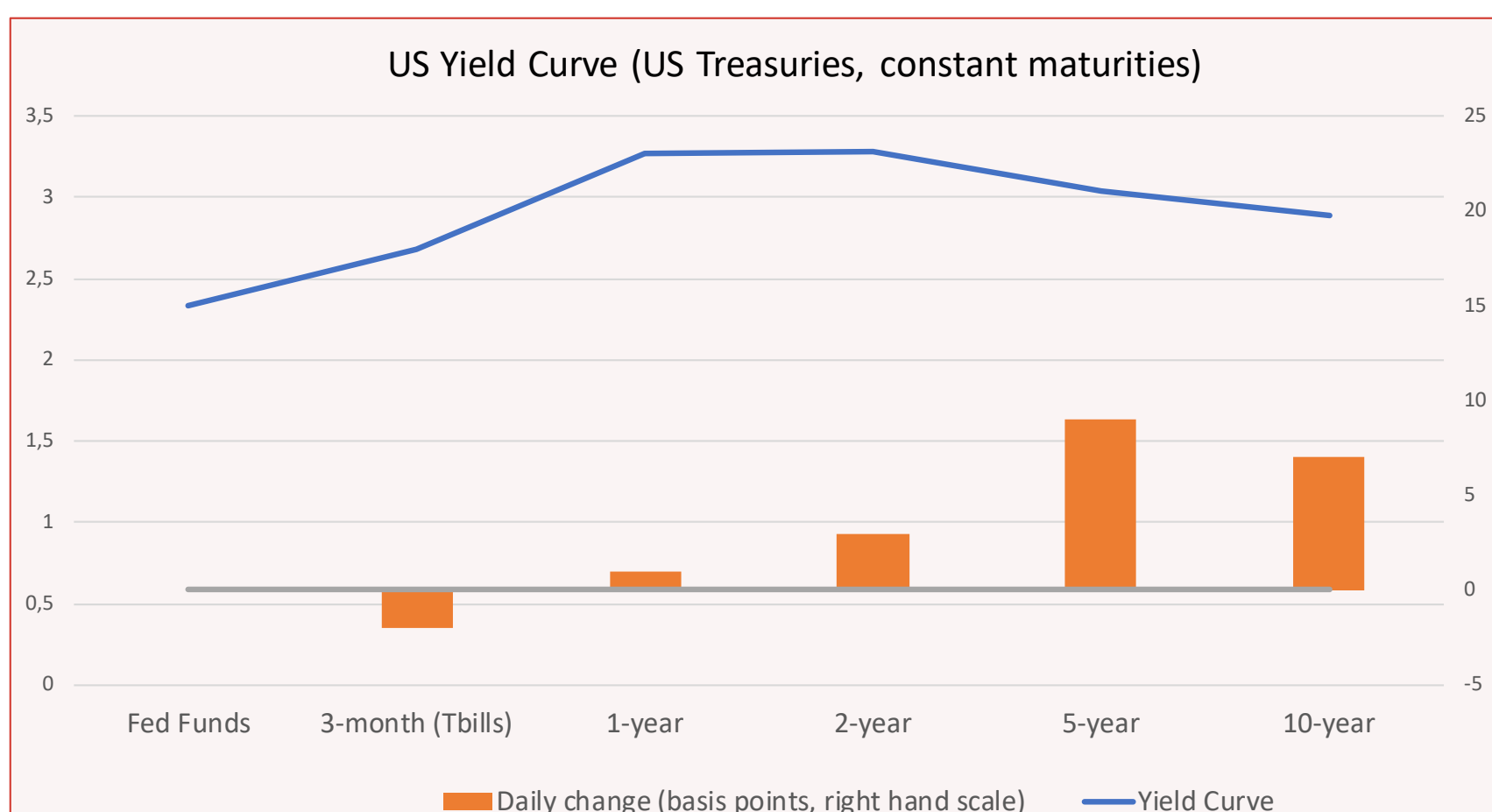


RISK PREMIUM INVEST

Daily analysis of the US Treasuries Market

17 August 2022

| | Fed Funds | 3-month (Tbills) | 1-year | 2-year | 5-year | 10-year |
|--------------------|-----------|------------------|--------|--------|--------|---------|
| Rates | 2,33 | 2,68 | 3,27 | 3,28 | 3,04 | 2,89 |
| Daily changes (bp) | 0 | -2 | 1 | 3 | 9 | 7 |



Source: Federal Reserve, H15.

Highlights:

- Rates on US Treasuries declined on Monday.
- Weaker than expected economic indicators in the US and China pushed lower investors' expectations for future Fed funds.

PART I : Changes in expected Fed Funds.

PART II : Risk premia contributions.

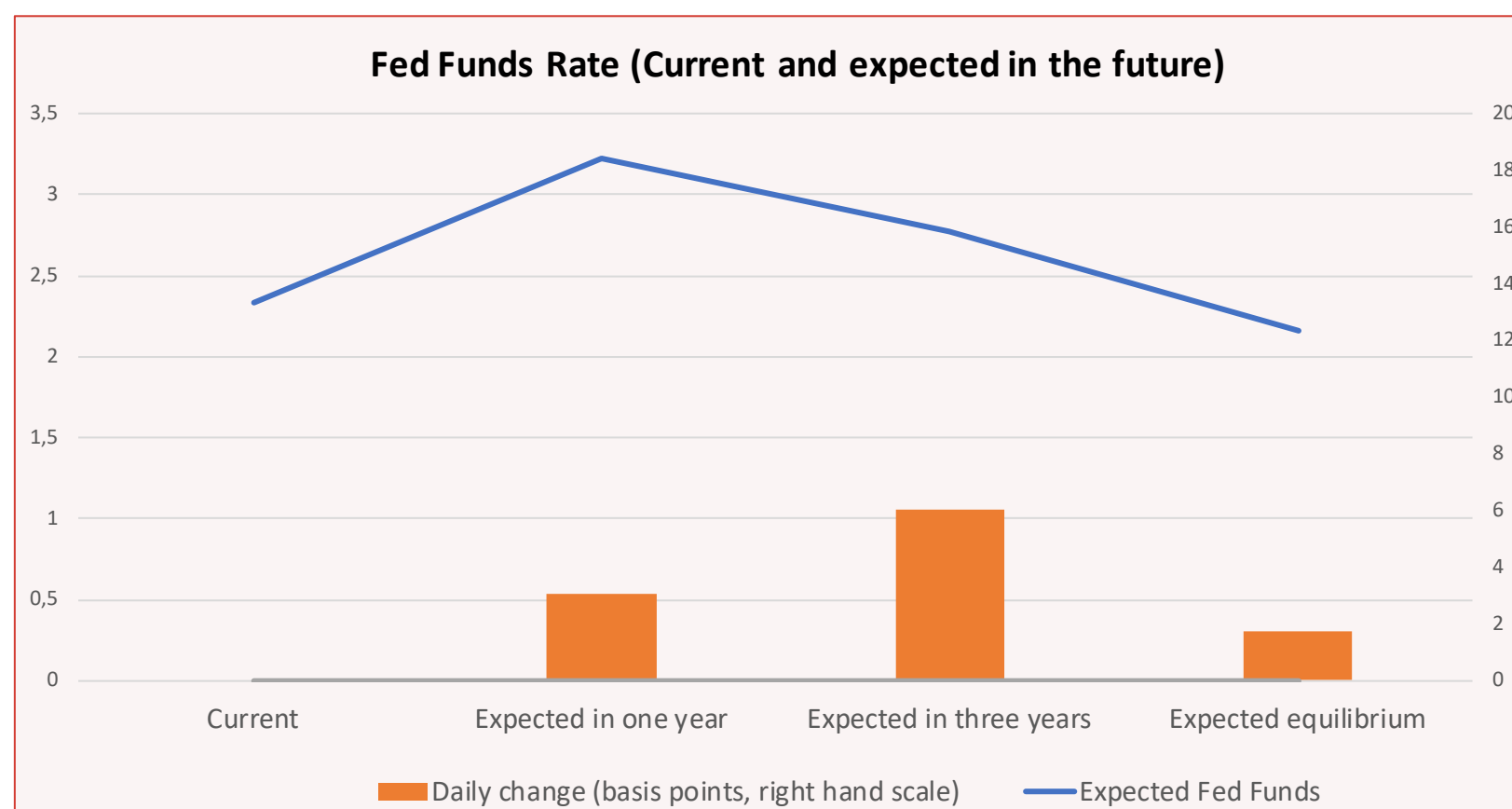
PART III : Methodological annex.

PART I : CHANGES IN EXPECTED FED FUNDS

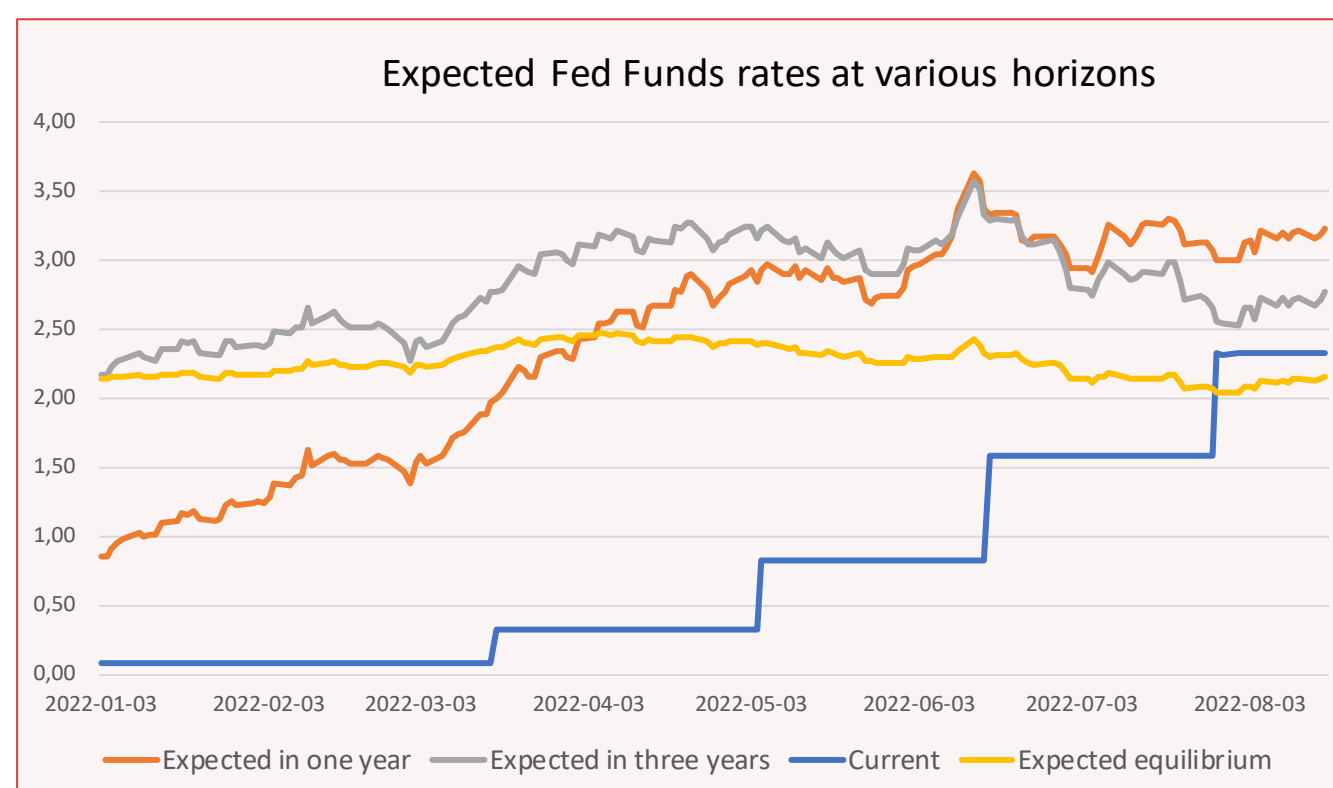
The Fed Funds rates expected by investors are estimated by our proprietary model using both various surveys (the monthly “Consensus Economics” survey and the quarterly “Survey of Professional Forecasters”) and the rich information contained in the yield curve (see the methodological annex). The estimates are changed when more recent surveys are available (on August 11, the August “Consensus Forecast” and the Q3 Survey of Professional Forecasters were introduced).

Investors reacted strongly to the bad inflation figures released in the UK (CPI at +10.1% YoY vs. +9.8% expected and +9.4% in June). This rather unusual reaction to inflation across the Atlantic highlights how uncertain investors are currently in relation to the inflation trends and the prospect for monetary policies. Expectations for future Fed funds rose on Wednesday, even if late in that day US Treasuries benefited from the slightly dovish FOMC minutes published by the Fed (as “many” policy makers noted on July 26–27 the risk that the Fed “could tighten the stance of policy by more than necessary to restore price stability,” particularly given the length of time it takes for monetary policy to change economic behavior).

| | Current | Expected in one year | Expected in three years | Expected equilibrium |
|---------------------------|-------------|----------------------|-------------------------|----------------------|
| Fed Funds | 2,33 | 3,22 | 2,78 | 2,16 |
| Daily changes (bp) | 0 | 3 | 6 | 2 |



Investors expect an impressive tightening of monetary policy in 2022-2023 (Fed Funds rate at 3.22% in one year and 2.78% in three years). But they believe that the equilibrium long term rate (or “neutral” rate) will be rather low (2.16%). Their confidence is probably based on two key assumptions. On the one hand, the Fed will succeed in its fight against inflation and bring back price increases in the long term around 2% per annum. On the other hand, for structural reasons, the equilibrium “risk-free” real rate is considered rather low. This optimistic view about the real “risk-free” rate may be challenged in the future given the lack of control over fiscal policies in many parts of the world.



Main market-moving news: 17 August 2022

US Macroeconomics

Retail sales for July at 0.0% (Expected 0.1%; Prior 1% revised at 0,8%).

Others

UK July inflation worse than expected (+10.1% YoY vs. +9.8% expected and +9.4% in June).

Minutes of the latest Federal Open Market Committee were released at 2:00 p.m. EDT.

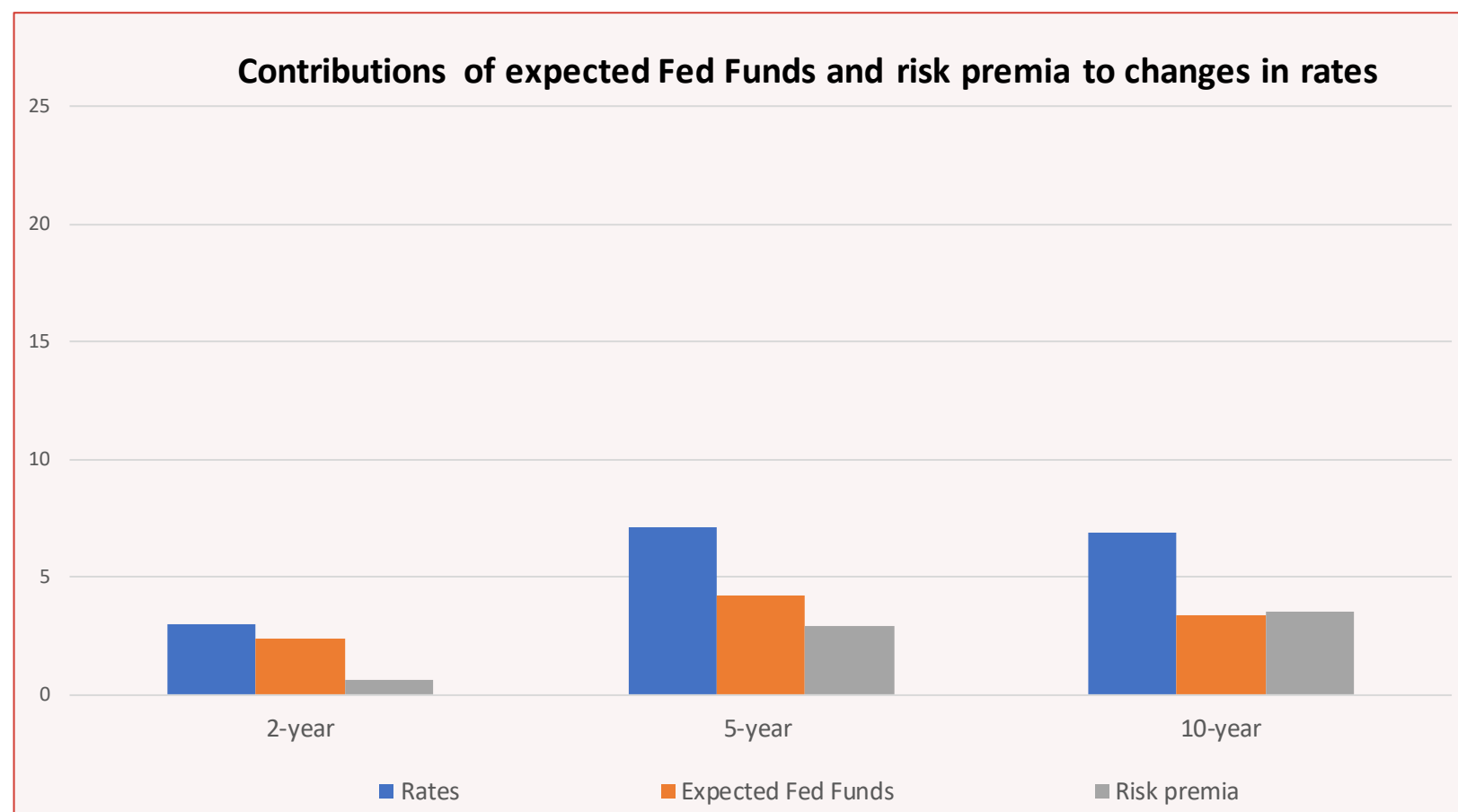
PART II : RISK PREMIA ANALYSIS

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

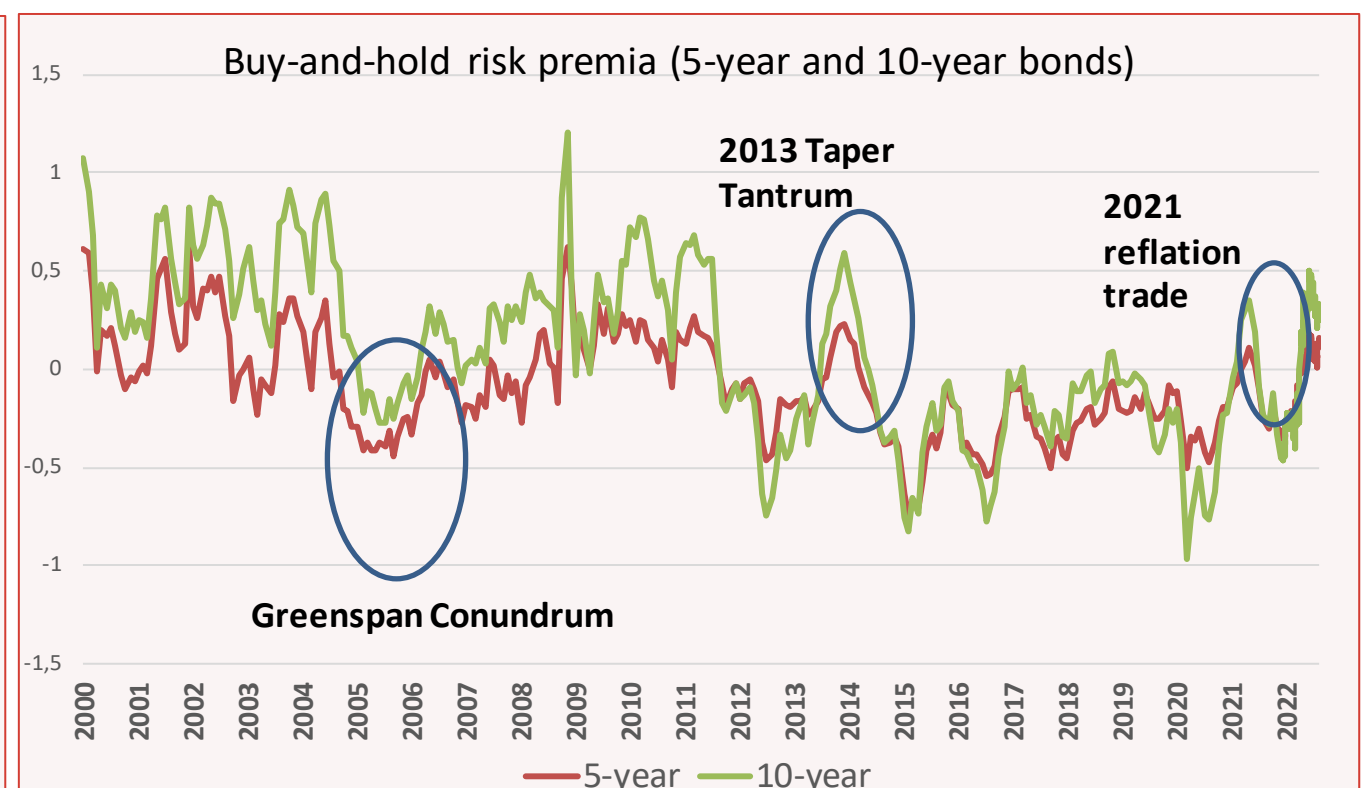
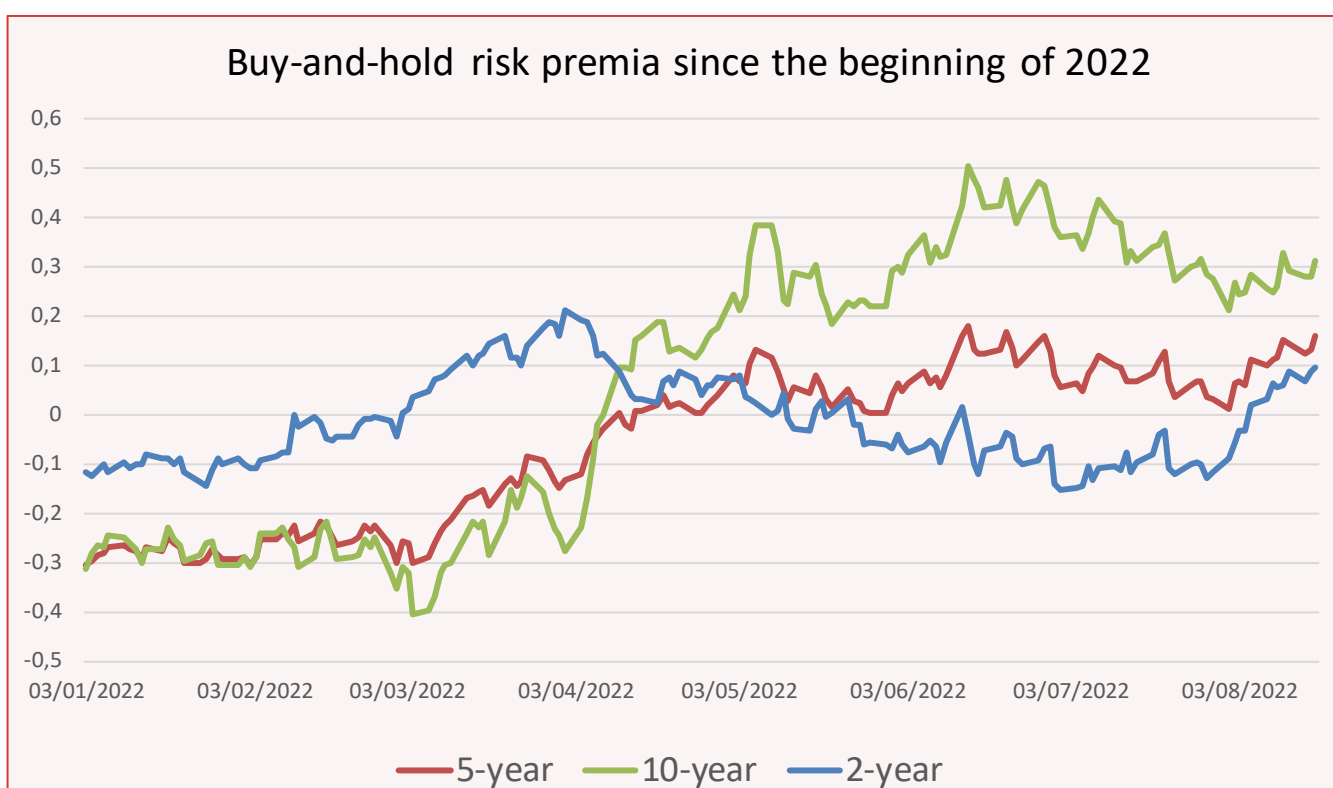
- The short-term **tactical risk premia**: How much excess returns investors require to hold various risky assets at their tactical horizon (which depends on investors, but is often around 3 months)? The tactical positions taken by investors relative to their benchmarks (“neutral”, “short”, “long”) depend 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) but we discuss here only the buy-and-hold risk premia.

The bad UK inflation figures also triggered a slight increase in risk premia on long term Treasuries.



| | 2-year | 5-year | 10-year |
|---------------------------------|-------------|-------------|-------------|
| Buy-and-hold risk premia | 0,09 | 0,16 | 0,31 |
| Daily changes (bp) | 1 | 3 | 4 |



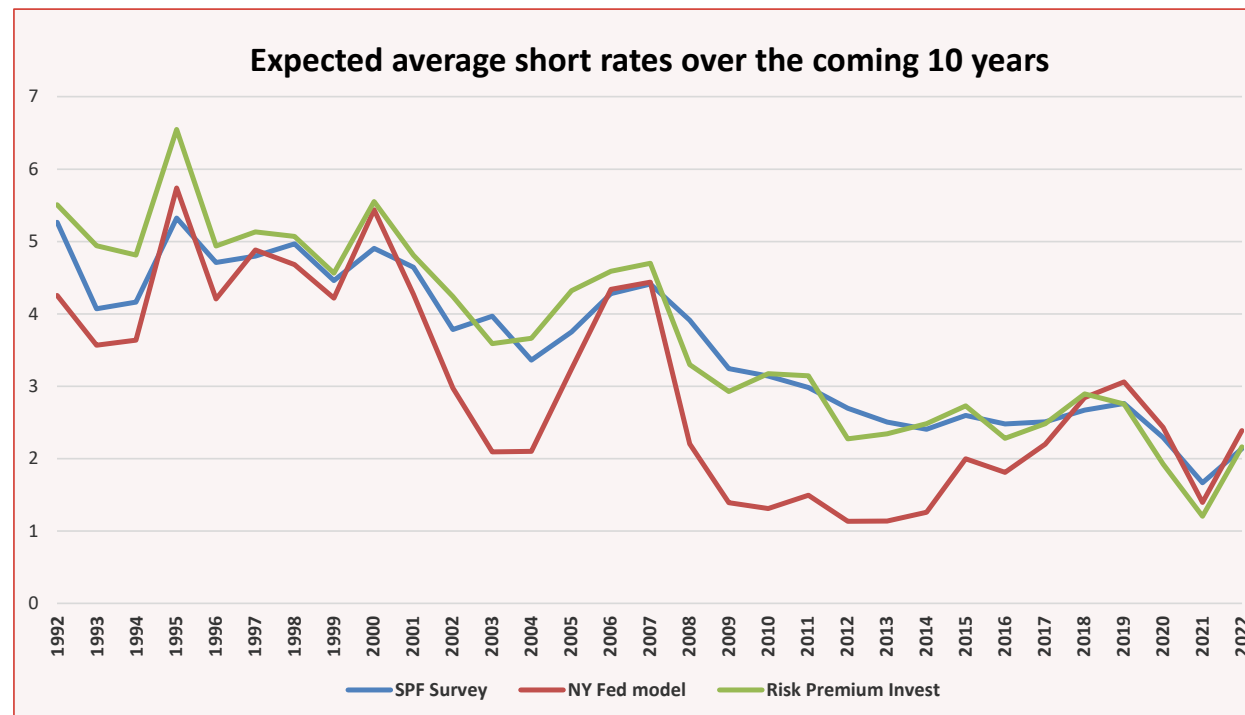
With a long-term perspective, it appears that despite their recent decline from a mid-June peak the buy-and-hold risk premia on long-term Treasuries are still relatively high (see the right-hand side graph). Since the beginning of Fed’s Quantitative Easing in 2010, there has been only two episodes where the buy-and-hold risk premia on 10-year US Treasuries have been higher: 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 continue to 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 a tendency for risk premia to go back on negative territory. In this respect, the recent decline should not have come as a surprise. 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.

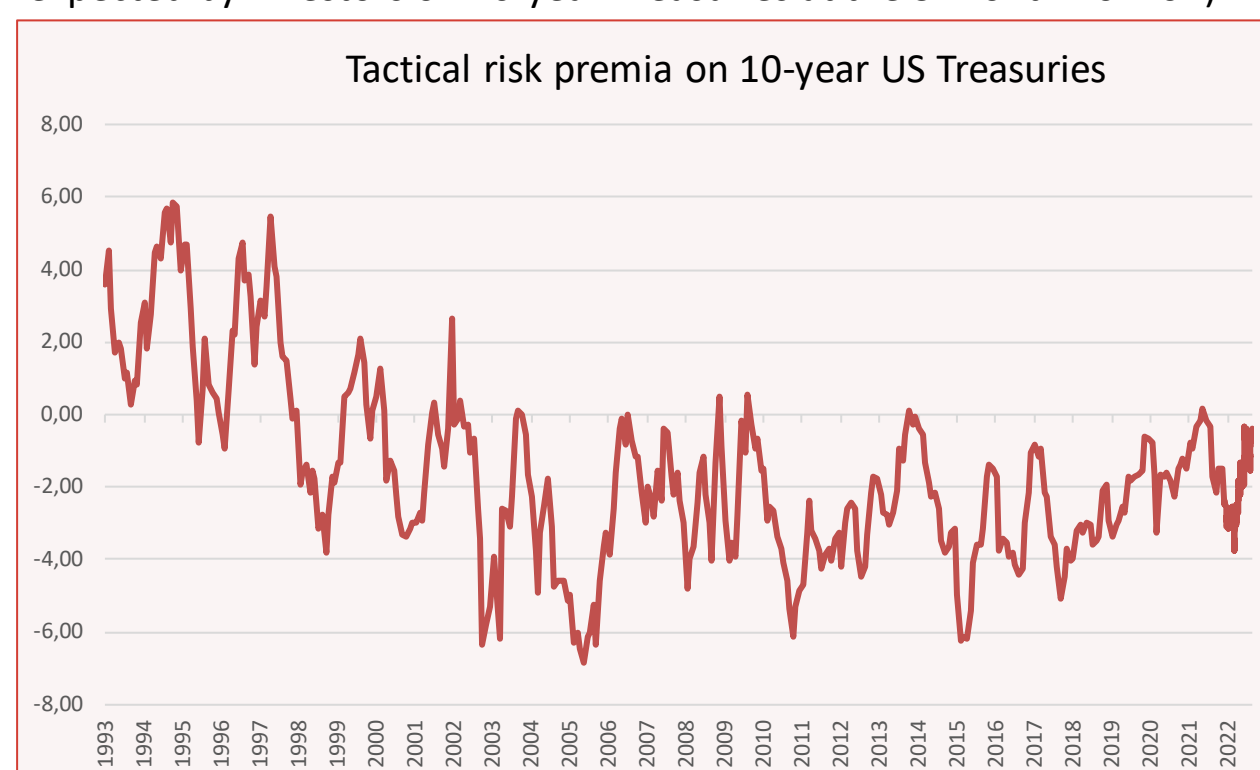
One of the best-known statistical models is the model developed by the Federal Reserve Bank of New-York. Their estimates are published daily on the NY Fed website (see www.newyorkfed.org/research/data_indicators/term-premia-tabs#/overview). Strangely enough, these estimates don't seem to be used by many 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 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 are 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>