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US Treasury Term Premium: Pricing for Disaster

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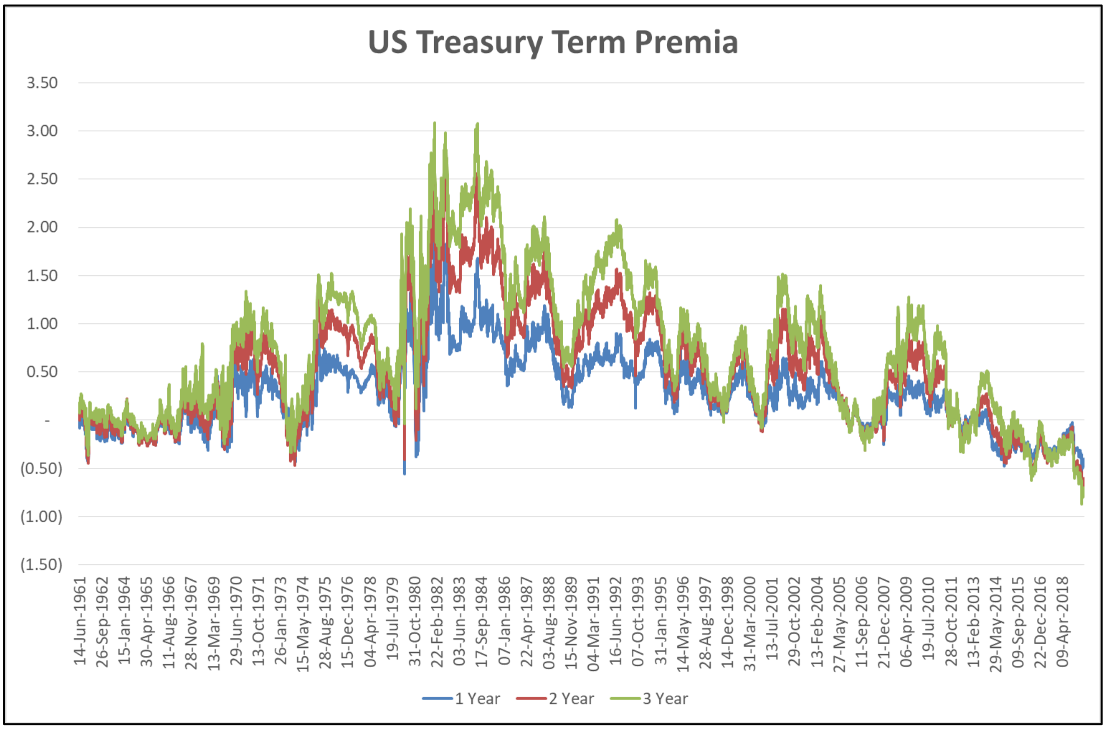
The term premium is the difference between bond yields for a given maturity and the expected path of short term interest rates over the same period. By examining the term premium of the US treasury market, we find that this is now of a similar magnitude as for the OPEC oil shocks in the 1970s. The market appears to be fully pricing an event of similar magnitude to the combined effect of a US-China Trade War and a domestic demand shock in China. Investors relying on the term premium for portfolio protection may wish to consider the implied cost of doing so.

Bond yields can be divided in to two components: the expected cash rate over the term to maturity; and the term premium. The term premium can be considered as a price for bearing risk and variations in this figure provide an insight into the concerns which investors are pricing. When the term premium for bonds is negative, it implies that investors are essentially expecting to pay for protection against poor outcomes. They would rather hold a bond even if the expected yield to maturity of this bond is lower than the expected path of rates they would obtain over the same period. If economic outcomes deteriorate unexpectedly, this would provide a buffer.

The Federal Reserve of New York provides daily estimates of the term premium for US Treasuries[1]. The series is calculated from 1961. The term premia for the 1, 2 and 3 year maturities are shown in the following chart. The term premia have never been lower in the history of the series. The most recent plunge coincided with a deterioration in the outlook for trade negotiations:



[1] https://www.newyorkfed.org/research/data_indicators/term_premia.html

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Historical Comparison

Whilst the term premium is only one indicator of risk aversion, the only times we have observed figures in the vicinity of these outcomes were as follows:

Date	Comment
January 1962	Kennedy Slide [Deflating market speculation]
December 1973	OPEC First Oil Shock [Yom Kippur War]
April 1980	OPEC Second Oil Shock [Iranian Revolution]
June 2016	Brexit

For context, the economic impacts following the Oil Shocks and the GFC were very significant:

Event	Unemployment (proximate rough to peak)	Trough Yoy GDP Growth Rate
1973 Oil Shock	4.6 to 9.0%	-2.3% pa
1979 Oil Shock	5.6 to 10.8%	-1.6% pa
2008 GFC	4.4 to 9.9%	-3.9% pa

The 'Kennedy Slide' was a period during which the S&P 500 declined by over 20%. It followed an extended period of share market gains commencing from the Crash of 1929. The sharp movement in the term premium in this period was short-lived.

In relation to Brexit, the shock of the event could be readily seen in the expected inflation forecasts that accompanied the outcome. The FOMC's preferred measure of the 5-year, 5-year forward inflation expectations at the time, of 1.4% per annum, have only been seen during events like the worst of the GFC and during the Asian Financial Crisis. At present, the expectation matches the Fed's inflation target, implying high confidence in the Fed's ability to successfully navigate economic circumstances.

In contrast, the US economy is currently growing ahead of trend, although inflationary outcomes have been below the mandate target of 2% per annum. Unemployment is exceptionally low. Whilst concerns have been raised about the weakening outlook for manufacturing, the uncertain outlook for trade negotiations and the persistent risk that the Chinese economy will stumble, the pricing infers that the market is fully discounting an exceptionally poor economic outcome.

It should be noted that the term premium is estimated using econometric methods and these are subject to a range of estimation and specification errors. However, cross-checking these with another principal term premium estimator utilised by the Fed[2], albeit with publication history from 1990, also results in a similar conclusion. For this cross-check, the term premium is still lower than for Brexit. It was similar to the period where the Euro bond markets were fragmenting in 2012, leading Draghi to make his "whatever it takes" statement to address the deterioration in the transmission of monetary stimulus which threatened the longevity of the Euro.

[2] Kim and Right (2005) Term Premium Estimate via FOMC

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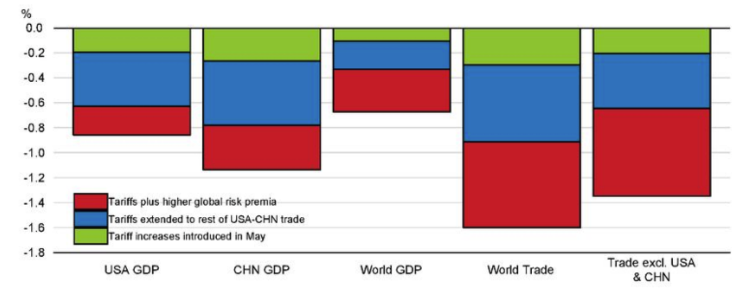
Fully Pricing a Trade War, China Demand Shock…and then some

The market price for insurance, as estimated from the term premium, is fully pricing a scenario similar to the combined effect of a full scale US-China trade war and a significant deterioration (2%) in domestic demand within China.

The OECD has recently[3] estimated the cumulative impact on GDP from each of these events through to 2021-22. Whilst significant, the combined impact of these outcomes is unlikely to create a deep recession in the US. The US is a reasonably closed, services oriented, economy in that it is relatively resilient to international economic developments. This is one reason behind President Trump's repeated utilisation of trade as a means of coercion in international negotiations.

The following illustrates the OECD's estimated impact for a deterioration in the trade conflict:

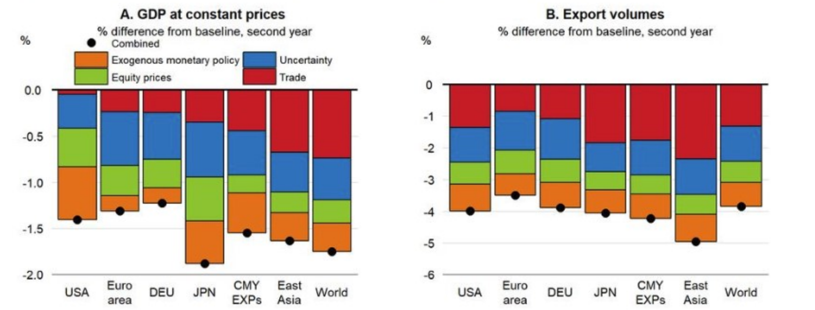
Impact on the level of GDP and trade by 2021-22, per cent difference from baseline



Note: The first scenario shows the impact of the United States raising tariffs on USD 200 billion of imports from China from 10% to 25% from mid-May 2019 (with reciprocal action by China on USD 60 billion of imports from the United States). The second scenario shows the additional impact if tariffs of 25% are imposed on all remaining bilateral non-commodity trade between China and the United States from July 2019. The final scenario adds in the impact from a global rise of 50 basis points in investment risk premia that persists for three years before slowly fading thereafter. All tariff shocks are maintained for six years. Based on simulations on NiGEM in forward-looking mode.
Source: OECD calculations.

The OECD also estimated the impact of a significant 2% fall in domestic demand in China:

Figure 1.14. A sharper slowdown in China would hit growth and trade around the world



Note: Simulated impact of a two-year decline of 2 percentage points per annum in domestic demand growth in China, and a rise of 50 basis points in investment risk premia and decline of 10% in equity prices in all economies. The red bars show the contribution from the direct slowdown in trade; the blue bars show the additional contribution from adding higher uncertainty; the green bars show the contribution from lower equity prices; and the orange bar shows the additional effects if monetary policy is not able to act. Commodity exporting economies (CMY EXPs) include Argentina, Brazil, Chile, Indonesia, Russia, South Africa and other non-OECD oil-producing economies. East Asia includes Korea and the Dynamic Asian Economies.
Source: OECD calculations using NiGEM.

[3] OECD Economic Outlook, Volume 2019, Issue 1

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Over a two year period, a significant deterioration in the trade dispute would subtract approximately 0.9% to US growth. A significant disruption to demand in China, in isolation, would cumulatively subtract approximately 1.4% from US growth over a 2 year period. Note that the China demand slow-down scenario assumes that monetary policy is unable to act.

The estimated economic impacts do not make allowance for any special fiscal support which might be forthcoming. For example, the US is supporting soy bean farmers for losses incurred as a result of the tariff dispute via subsidies. Hence, to the extent that the US would stimulate the economy fiscally during an adverse development, the scenarios would need to be even worse to justify the existing pricing.

The US GDP baseline expectation is for growth in 2020-2021 to be 1.9%per annum. Even if the combined effect of a full US-China Trade War and demand shock in China were to take place, there is a significant buffer between this scenario and the outcomes which unfolded or, in the case of Brexit and the Kennedy Slide, were feared, during the only other times when the term premium was this low.

Distortions from international flows and Fed balance sheet activities

Non-conventional use of central bank balance sheets to manage the yield curve as part of stimulus efforts operate by influencing the term premium. Although the Fed has unwound some of its balance sheet, its remaining holdings would still be exerting downward pressure on the term premium, however this is most strongly influential on longer term maturities.

The prospect of the ECB restarting bond purchases in the Eurozone may also be driving capital from European debt in to the US and contributing to the more recent compression in the term premium. More generally, significant monetary accommodation and associated asset inflation may have had the effect of compressing term premium since sentiment strongly deteriorated from late 2018.

The above may go some way to understanding the lower premium observed following the introduction of large scale asset purchases. Nonetheless, the estimated impact of the Fed's balance sheet activities[4] would not be sufficient to negate the general observation that the term premium is pricing an extreme economic development. Even allowing for these effects, the market is acting materially more defensively than when the Euro faced an existential threat and the Brexit referendum was passed, both of which took place when the US economy was not as strong as it is presently.

Conclusion

There are many looming threats to the recent recovery in the US economy. The term premium for treasury bonds, which can provide an indication of the extent to which the market is concerned for downside risk, is at an extreme. Should the worst-case scenarios not develop, we may expect a significant steepening of the US yield curve. Investors relying on duration to provide a measure of protection to portfolios may wish to consider the implied price for this insurance.

[4] Bonis B, Ihrig J and Wei M; 2017; "The Effect of the Federal Reserve's Securities Holdings on Longer-term Interest Rates"; FEDs Notes