GENERALI INSURANCE ASSET MANAGEMENT



FOCAL POINT

Fed at peak, but QT and heavy UST supply to limit yield decrease

Mario Ballardini[1], Florian Späte, Paolo Zanghieri

November 09, 2023

Our Focal Point series explores topical issues on macro, markets and investment

- **The Fed has likely reached peak rate following 525bp of rate hikes that have been complemented by tighter financial conditions recently. A first rate cut is unlikely before the end of H1 2024, with risks tilted to a later pivot. We provide estimates of the likely path under different scenarios.**
- **Speculation about a higher neutral rate added to pressure on bond yields. Our new measure of R-star based on a large set of variables and an alternative methodology, partially backs this claim. But the rise will be modest, and we caution against excessive reliance on uncertain R-star measures to gauge the policy stance.**
- **Quantitative tightening (QT) may outlive a first rate cut, possibly enduring into 2025. The pace of QT could be slowed down, though, in case tensions at the long end of the threaten financial stability. Outright asset purchases are likely to restart later as the Fed plans to keep excess reserves aligned with nominal GDP.**
- **High US Treasury supply and the Fed's QT can push the term premium up a bit more. That said, the looming economic weakness and the expectation of falling key rates in 2024 are likely to trigger lower US yields.**

With the policy rate now likely at its peak the market focus will concentrate on the timing and speed of a Fed pivot in 2024. In our baseline scenario, sticky inflation and a resilient labour market will require the Fed to stick to its current rate of 5.50% (upper bound), with only 75bps cuts from mid of next year in our books. At the same time, Quantitative Tightening (QT) will continue until a level of ample reserves (and respectively assets) of around 21% of commercial bank's total assets is reached. This means that the Fed should continue shrinking its balance sheet until roughly the Spring 2025. In what follows we will outline our outlook for the fed and outline its risks

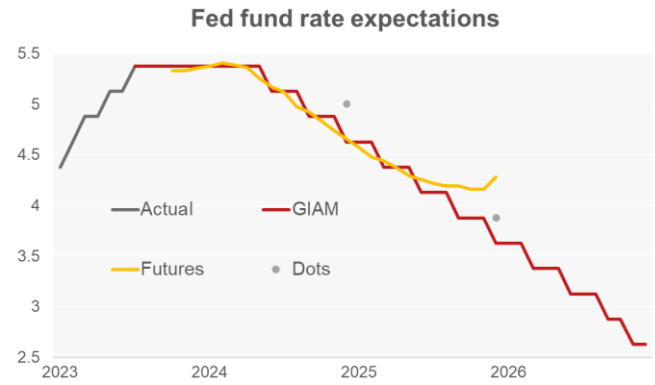
Higher yields do the Fed's Job

At the November meeting, Chair Powell had to strike a fine balance between signalling that the policy rate had peaked and avoiding that a premature reversal of rate expectations would result in an unwelcome loosening in financial conditions, which are proving instrumental in moderating inflationary pressures. Indeed, the FOMC acknowledged that the pick-up in longer-dated yields and the overall tightening in financial conditions reduces the pressure to raise further the policy rate. At the beginning of October, San Francisco Fed governor Daly said that the increase in long-term yields since the September meeting (around 35 bps) were equivalent to around another hike of the Fed fund rate by 25 bps. Since then, the 10-yr yield has gone up by another 15bps, before

1 Intern at Macro-Market Research

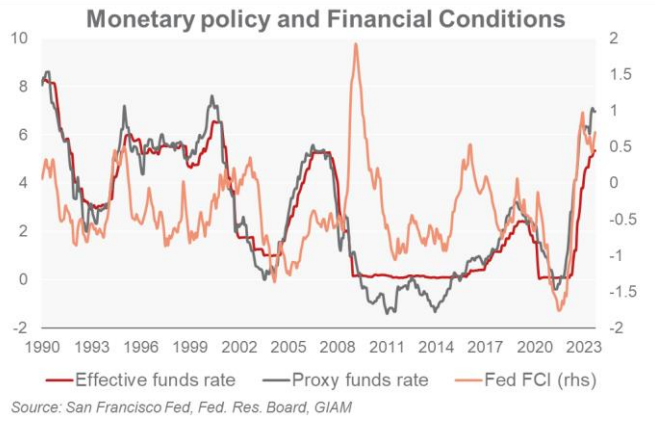
reversing after the November meeting as markets warmly welcomed its overall dovish message. In order to prevent a sharper and protracted loosening in financial conditions, which would unwind part of the policy rate tightening, the Fed will have to keep more hawkish tone of communication than what likely weakening data would warrant aimed at defusing expectations of a quick policy loosening.

Despite the repeated claim of by the FOMC that its decisions



Source: Federal Reserve Board, Refinitiv, GIAM

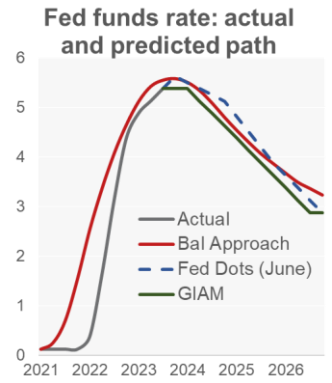
on the policy rate are data-driven rather than dictated by a rigid formula , we found that the rate level reached in Q3 2023 is broadly consistent with the prescriptions of a standard Taylor monetary policy rule[2]. Plugging in the FOMC median projections for core inflation and unemployment we get a path of rate normalisation for 2024 onward closely aligned to the September dots. We then use this rule to assess what could



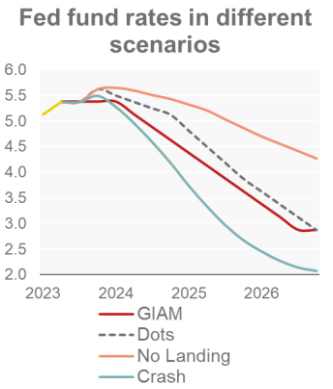
Source: San Francisco Fed, Fed. Res. Board, GIAM

be the path for rates in two alternative scenarios, which we view as to polar cases surrounding the outlook for 2024 and beyond. A "No landing" scenario in which strong activity keeps the labour market tight (unemployment at 3.9% by 2026), and prevents a meaningful reduction of inflation (still at 2.5% by 2026) and a "Crash" one in which the unemployment rate peaks at 5% in 2025 and brings down inflation to below target. As shown in the chart, in the first case another rate increase seems very likely, leading to a milder normalisation, with the policy rate above 4% in 2026. In the adverse scenario, a series of sharp rate cuts would quickly push the Fed Funds rate to well below the estimate neutral rate.

Higher R-star means less normalisation

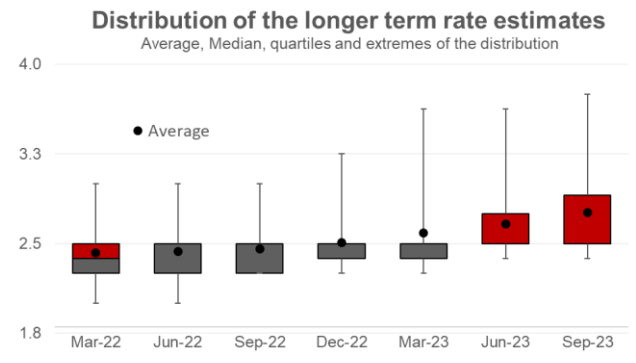


Source:FRB, GIAM



Source: FRB, GIAM

An important driver of the bond repricing has been the evidence provided by the macro projections ('dots') in the September meeting that the FOMC will be more reluctant than projected in the past in bringing down rates, as it thinks that the estimate of the neutral policy rate has gone up. First of all by 2026, when inflation and employment are projected to be consistent with respectively the target and the long term value, the appropriate policy rate is expected to be at 2.9% i.e. some 40 bps higher than the median estimate of the long run (or neutral) policy rate, pointing to either a higher short term estimate of the neutral rate or the need for a longer period of higher policy rates. Moreover, looking at the distribution of the individual FOMC members responses, the view that a balanced economy can withstand and will require a higher neutral rate is gaining traction. While the median of the long-term equilibrium rates has remained at 2.5% since

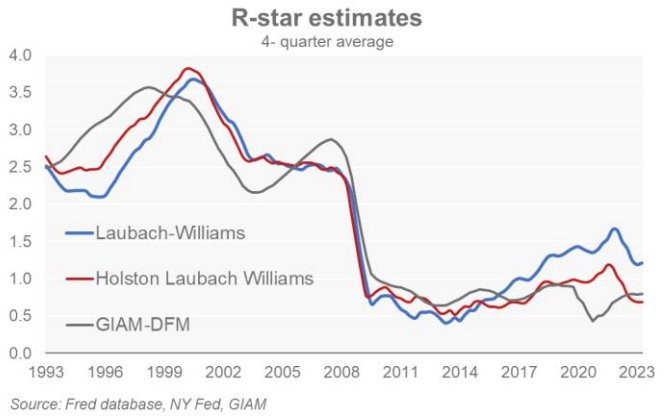


Source:Federal Reserve Board, GIAM

[2] The balanced approach rule: $FFR_t = 0.85FFR_{t-1} + 0.15\left(r^* + infl_t + 0.5(infl_t - 2\%) + 2(NAIRU - UNR_t)\right)$

June 2022, the distribution has markedly titled towards a higher rate, and the average has increased by 40 bps, to 2.8% in a bit more than a year. In both the September and November meetings' Q&A Powell hinted at the resilience of the economy as indirect evidence that R-star may have moved up.

This looks at odds with the latest popular estimates of R-star which point to a decline in the neutral rate in the recent quarters, despite the strengthening of the economy. We propose another way to compute R-star, considering a wider range of indicators than just the output gap and inflation. This approach seeks to address some of the drawbacks of the standard methodologies to estimate r-star that we listed in our recent Core Matter and builds upon its conclusions. The Appendix describes the rationale and sketches of the model used. Our estimate points indeed to an increase in the neutral

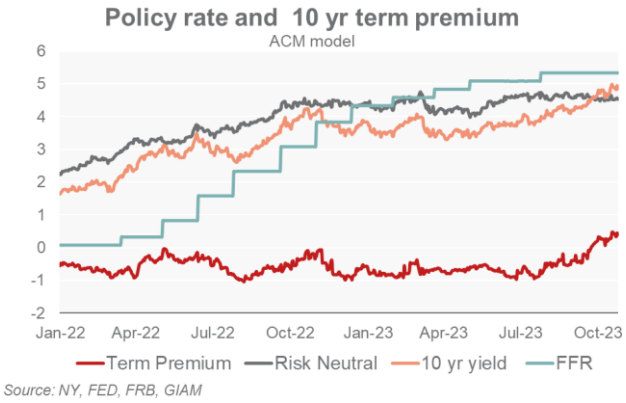


rate since 2021. Yet, as it is clear from the chart below, while the tendencies are similar, the point estimates of the neutral rate varies widely across models, and therefore extreme caution is needed when using these series to infer the sustainable level of the policy rate.

Gradual end to QT

Looking at the model-based decompositions of the 10 year yield into a risk neutral part - related to monetary policy - and a term premium, it appears that the recent bond selloff has been driven mostly by the latter and not much by a reconsideration of the expected path for the policy rate. A likely explanation is that markets have been getting more concerned about the increase in Treasuries' net supply.

This is driven by both the expectations of a larger fiscal deficit requiring higher issuance, but also to the gradual reduction of the Fed's holding of debt securities. QT and more broadly the size of the Fed balance sheets has virtually disappeared from the FOMC communications. Yet given the expectations of higher issuance by the Treasury because of the wide fiscal deficit (see our Focal Point on the US fiscal outlook), the



evolution of the Fed's footprint in the bond market is becoming increasingly relevant. The key question is when QT will end and what the new equilibrium size of the Fed's balance sheet will be.

The answers hinge on the projection for the size of Fed's liabilities. The Fed's balance sheet must be large enough to accommodate the growth in currency plus an "ample" quantity of bank reserves for effective transmission of policy in the ample-reserves system endorsed since the Great Financial Crisis. In this setting market interest rates are determined by on the Fed's remuneration of reserves.

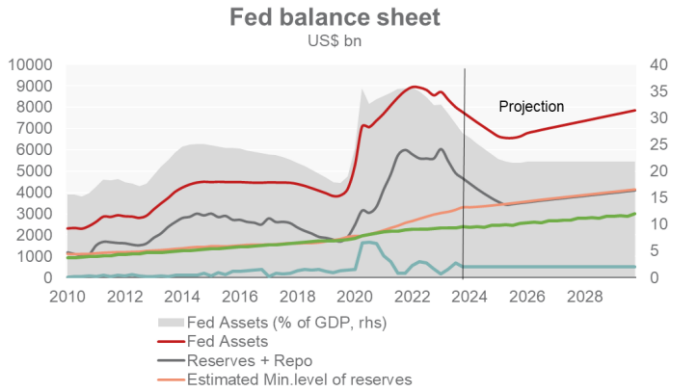
In its guidelines to normalise the balance sheet the Fed stated that the it targets a minimum level of ample reserves, and therefore its asset portfolio will hold "the strict minimum level of securities needed for policy". Assess this appropriate minimum level is not straightforward. A simple method is to check what is the amount of reserves needed (as, for example ratio to total commercial banks asset) to ensure a smooth functioning of the interbank market. The Fed interprets the increase in volatility in interbank rates as a signal that the appropriate minimum level of reserve is reached: the mid-2019 level of reserves to banks total assets is often cited[3],when reserves including reverse repo were at around 10% of banks total assets or 8.5% of GDP. The level prevailing in the first half of 2019 is also cited as a benchmark by policymakers, which however warn that a more cautious approach to the banking sector has raised the optimal level of (excess) reserves from 8 to 9% to around 11-12% of GDP[4].

[3] See for example "Fed balance sheet normalisation and the minimum level of ample reserve" Richmond Fed Economic brief no 23-07, Feb. 2023

[4] "We have learned a lot about operating in an ample reserves regime over the past decade. And we learned lessons from the 2019 experience in reducing reserves. In the first quarter of 2019 the ratio of reserves to nominal gross domestic product (GDP) was approximately 8 percent and financial markets worked well and banks were flush with liquidity." (Gov. Waller, Feb. 2022)
"The kind of rule of thumb we have is—or, my rule of thumb is that in January of 2019, when reserves were about 8 to 9 percent of GDP, everything was working fine. So, I would use that as a

With this in mind, we first estimate the minimum level of ample reserve, we then project it as a function of GDP, using our forecast for nominal GDP. We cross check it against the size of total bank asset which we project it using the elasticity to nominal GDP estimated during a relatively calm period (2013-2019). As a consistency check for the size of the whole liability side, we also consider the evolution of the two other main items: currency in circulation is projected

using the elasticity to nominal GDP estimated in 2013-19 and we assume that the Treasury General Account remains constant at US$ 500bn. Then, if reserves continue to decline at the same speed as Fed asset holding (80 US$ /month),



SourceFederal Reserve Board, GIAM

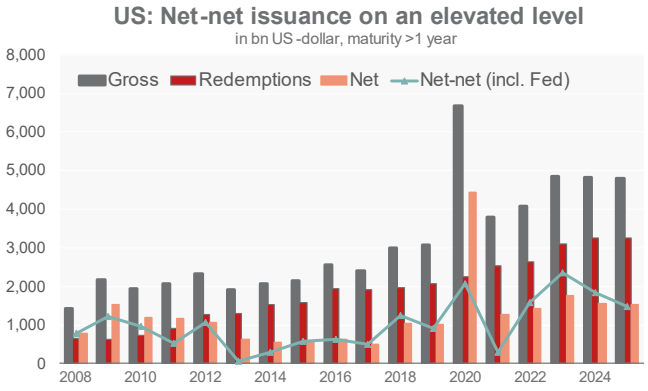
they reach the minimum level during H1 2025. This will be the period when QT likely stops. In fact, the date may be reached somewhat later if the Fed decides to fade QT only gradually.

Asset holdings will then remain stable for a couple of quarters before the Fed restarts net purchases as reserves keep track with the growth in nominal GDP and Banks' assets. We expect total Fed asset to remain at 21% of GDP, some 2pp higher than the pre pandemic level., as a more cautious approach to bank reserves will lead to a higher reserves buffer reflected in a larger asset side[5].

Our baseline implies that QT will finish a couple of quarters after the first rate cut. This may lead to some conflict between policy tools, with a loosening at the short end of the curve and residual tightening at the long end. While this in principle is not ruled out by the Fed mandate, it may still create confusion. We expect the issue to be resolved with improved communication by the Fed as the deadline for the end of QT approaches. For example, the current policy guidelines could be clarified for what concerns the interaction between rate moves and balance sheet adjustment and/or information about the target level of reserves like the one presented in footnote 4 could be communicated more explicitly. On the other hand, if the US economy remains strong, the first cut may be delayed into H2 2024, reducing the period of conflicting policies. The Fed guidelines also states that the balance sheet could be used to preserve financial stability; therefore, the pace of QT could be slowed should a further overshoot in Treasury rates cause widespread turbulence.

Persistent high Treasury supply

The development of QT has a direct influence on the US Treasury market. The volume to be absorbed by the private sector has already increased significantly in the current year. The combination of a high fiscal deficit and QT lasting until 2025 will prevent a rapid normalisation. Nevertheless, the net-net issuance (incl. the QT impact) will fall slightly compared to 2023, also helped by the US Treasury's increasing resort to issuing bills to reduce the burden on the Treasury market. Overall, we have nevertheless raised our net-net issuance forecast for 2024 (compared to our September estimates) and now only expect a decline of around US$ 500bn (previously US$ 800bn) vs. 2023 to US$ 1850bn. In 2025, we now forecast a net-net issuance volume of around US$ 1450 bn (previously US$ 1350bn).



Source: Bloomberg, Datastream, GIAM calculations

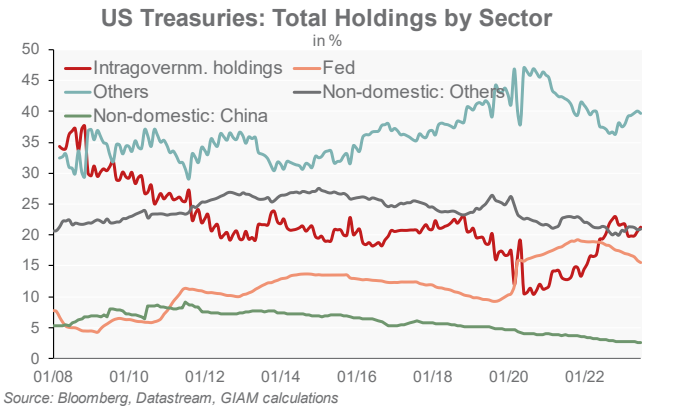
The latest quarterly refunding announcement at the beginning of November confirmed our cautiously optimistic view. The future issuance volume of long-term bonds remained below market expectations. Moreover, the announced increase in Treasury supply was lower than in August and the Treasury signalled only one further increase in coupon auction sizes (and not several more). As a result, the very high level of

benchmark. […] There's a lot of arguments that it actually has to be higher than that now. Banks are growing faster, bigger than the economy has. So, it might be more like 11 to 12 percent is the target for where reserves have to go." (Gov. Waller, Jan. 2023)

5 This level is some 2pp of GDP lower than what we present in the past, implying that now we expect QT to last a couple of quarters longer. This is due to a new estimation of the projected level of the Fed's liability side.

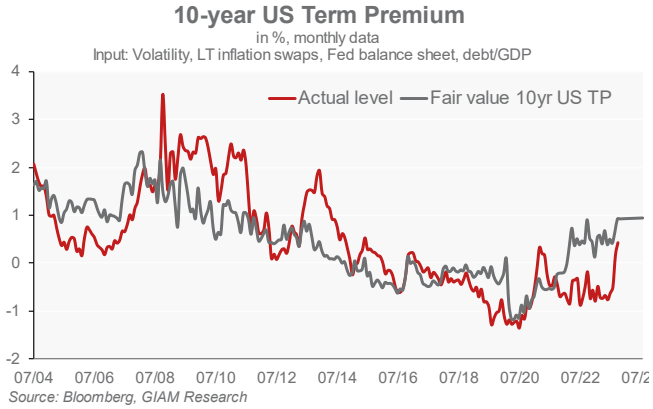
uncertainty about future Treasury supply has been reduced somewhat and the path of supply is becoming a little clearer.

Yet this may face weaker demand. The share of non-domestic investors has decreased since 2014. Particularly, China's share has been on a downward trend since 2011 and has since fallen from more than 9% to just 2.5%. Demand from Japan has also weakened. Japanese investors currently hold only 3.4% of all US Treasuries (down from more than 7% in 2011). Although the absolute volume has remained relatively stable recently, the tweaking of the Yield Curve Control by the Bank of Japan has recently made foreign bonds less attractive. It should be emphasised that the reduction in the Fed's Treasury holdings by 2025, as explained above, will exacerbate the imbalance between supply and demand.



Source: Bloomberg, Datastream, GIAM calculations

This means that other domestic investors will have to largely absorb the supply – and they might be more price-conscious. As a result, the term premium, which has already increased significantly recently, will continue to rise. According to the ACM model, the term premium (as shown below) has already risen by 120 bps since the beginning of July. Although the bulk of the necessary adjustment has now taken place, we still see a valuation gap of around 25 bps.



Source: Bloomberg, GIAM Research

Going forward, factors influencing the term premium are likely to balance each other out. While the unfavourable supply/demand mix and the ongoing QT certainly offers further potential for an increase in the term premium, the reaching of the key rate peak, declining inflation expectations, and falling bond market volatility should have a more negative impact on the level to the term premium. Overall, we do not forecast any significant further increase in the US term premium after closing the valuation gap.

A higher term premium will also contribute to a further steepening of the US yield curve. Since the beginning of July, the 2y/10y gap has already narrowed by around 70 bps to -30 bps. We expect that the inversion of curve will end during H1 2024 and will again have a positive gap of around 20 bps over a 12-month period. This is seen to increase to around 45 bps by the end of 2025. This means that our forecast is within the 2y/10y yield curve steepness currently priced by financial markets.

Conclusion

Stronger evidence that the Fed is done raising rates is only a limited relief for rates. The unwinding of the tightening will slow and above all may end at a higher level than in the past, owing to an upward reassessment of the neutral short-term interest rates. An upward push will come also from the evolution of the Fed balance sheet: QT will last a couple of quarter longer than expected before and may end at the beginning of 2025.

This and the prospect of a large budget deficit means that the supply of US Treasury will remain at a high level in the future. Since at the same time demand from non-domestic investors is declining and the Fed will also reduce its holdings by 2025, the supply/demand relation will remain complicated and, among other things, will keep the term premium at an elevated level. However, we consider economic developments and the Fed's monetary policy stance to be the dominant drivers for US government bond yields. Since the end of October, the excessive optimism has already been dampened and the yield on the 10-yr US Treasury has fallen by almost 50 bps. Nevertheless, we see further downward potential of well below 4% in 2024 – and we differ significantly from the forwards, that are currently still pricing in a sideways trend for 10-year US yields.

Appendix: a data driven estimate of R-star

Despite the importance of the R-star concept in economics and monetary policy, academics do not agree on either its theoretical underpinnings or empirical estimation metrics. From a theoretical standpoint, ambiguity prevails because R-star is can be derive using two definitions originating from incongruent models. In the long-term framework of a neoclassical growth model, R-star aligns with the net marginal product of capital, which, in turn, is equal to the population growth rate plus the technological progress rate. Conversely, within the context of a short-term Keynesian framework, R-star is considered the equilibrium short-term interest rate where aggregate demand matches potential output.

Another issue is the relationship of R-star with financial variables. Theoretically, R-star should only reflect the real side of the economy (growth, unemployment) of the economy, which, should be in the long run independent of financial variables. However, if one takes into consideration in the financial cycle hypothesis, economic fundamentals can reflect trends in monetary policy and financial variables, thereby making R-star endogenous.

The lack of clarity on theory complicates the empirical estimation. Current methodologies, such as the (Holston) Laubach-Williams model approach, express R-star as a linear function of growth rate and "*other determinants*". A series issue is that much of R-star's variability is accounted for by these undefined "other factors," treated as autoregressive random terms. Moreover, estimates are surrounded by a high degree of uncertainty, with confidence intervals of up to 3 pp above and below the point estimates. Moreover, in this approach assumes that the whole economy could be described by just inflation, GDP and the short-term rate. Given these complexities, we take a different approach to estimate R-star, one that accommodates both short-term and long-term perspectives, and the nexus between real and financial equilibria. We use 24 variables describing the real side of the economy (potential and financial markets (see table at the end) and define as the neutral rate the common factor driving their dynamics. We extract it using a Dynamic Factor Model (DFM), which allows to capture the possible lags in the correlation across variables. The specification is the following

$$GDP_{trend_t} = \lambda_0^1 f_t + \lambda_1^1 f_{t-1} + \lambda_2^1 f_{t-2} + \lambda_3^1 f_{t-3} + \lambda_4^1 f_{t-4} + \varepsilon_t$$

$$Real10year_t = \lambda_0^2 f_t + \lambda_1^2 f_{t-1} + \lambda_2^2 f_{t-2} + \lambda_3^2 f_{t-3} + \lambda_3^2 f_{t-4} + \varepsilon_t$$

$$\ldots\ldots.$$

$$CAPE_t = \lambda_0^j f_t + \lambda_1^j f_{t-1} + \lambda_2^j f_{t-2} + \lambda_3^j f_{t-3} + \lambda_3^j f_{t-4} + \varepsilon_t$$

$$f_t = A_1 f_{t-1} + u_t$$

The model is estimated via quasi-Maximum Likelihood; the factor *f* has by construction zero mean and unit variance, we then scaled it to the popular Houston Laubach and Williams estimate by means of a linear regression.

Area	Concept	Variable
Real Interest Rates	Real 10-year rate	10 yr. yield – expected inflation from the survey of Prof. Forecasters (SPF)
	Real Fed funds rate	Effective fed funds rate minus actual inflation
	Long term inflation expectations	10 yr. ahead expected inflation (SPF)
Real Activity	Trend growth	Annual % chg. of potential GDP
	Productivity growth	Annual % chg. of output per hour
	Hours worked growth	Annual % chg. in weekly hours of production
	Labor force growth	Annual % chg. in the civilian labor force
	Labor market condition	Kansas City Fed Labor mkt index, level
	Labor market trend	Kansas City Fed Labor mkt index, momentum
Uncertainty	Economic policy uncertainty	Economic policy uncertainty Index
	Economic policy uncertainty (taxes)	Economic Policy Uncertainty Index: Tax Code Expirations sub index
Demographics	Demographic growth	Annual % chg. in the 16/64 civilian population
	Working age population share	Share of 16-64 civilian population
	Households growth	Annual % chg. in the number of Households
Asset Prices	Nonfinancial credit growth	Annual % chg. in the real value of credit of credit outstanding to the nonfinancial sector-
	House price growth	Real annual % chg. in the Case-Shiller index
	Shiller price-to-earnings ratio	Cyclically adj. Price to earnings ratio for S&P500
Supply and Demand for loans	Tighter credit to firms	Net percentage of domestic respondents tightening standards for C&I loans to small firms (SLOOS).
	Consumer loan demand	Net percentage of domestic respondents reporting stronger demand for consumer loans (SLOOS)
Financial Market conditions	Financial stress index	Kansas City Fed Financial Stress Index
	Risk Premium	Difference between Moody's index of BAA corporate bonds and the 10-year constant-maturity U.S. Treasury security
	Term Premium	TP for the 10-year U.S. Treasury
Global saving glut	Current Account	U.S. current account as a share of GDP
	FED QE	FED balance sheet as % of GDP

Imprint

Issued by: **Generali Insurance Asset Management S.p.A.**
Società di gestione del risparmio, Research Department

Head of Research: **Vincent Chaigneau**

Head of Macro & Market Research: **Dr. Thomas Hempell, CFA**

Team:
Elisabeth Assmuth | Research Operations
Elisa Belgacem | Senior Credit Strategist
Radomír Jáč | GI CEE Chief Economist
Jakub Krátký | GI CEE Financial Analyst
Michele Morganti | Head of Insurance & AM Research, Senior Equity Strategist
Vladimir Oleinikov, CFA | Senior Quantitative Analyst
Dr. Thorsten Runde | Senior Quantitative Analyst
Dr. Christoph Siepmann | Senior Economist
Dr. Florian Späte, CIIA | Senior Bond Strategist
Guillaume Tresca | Senior Emerging Market Strategist
Dr. Martin Wolburg, CIIA | Senior Economist
Paolo Zanghieri, PhD | Senior Economist

"Edited by the Macro & Market Research Team. The team of 14 analysts based in Paris, Cologne, Trieste, Milan and Prague runs qualitative and quantitative analysis on macroeconomic and financial issues. The team translates macro and quant views into investment ideas that feed into the investment process."

This document is based on information and opinions which Generali Insurance Asset Management S.p.A. Società di gestione del risparmio considers as reliable. However, no representation or warranty, expressed or implied, is made that such information or opinions are accurate or complete. Generali Insurance Asset Management S.p.A. Società di gestione del risparmio periodically updating the contents of this document, relieves itself from any responsibility concerning mistakes or omissions and shall not be considered responsible in case of possible changes or losses related to the improper use of the information herein provided. Opinions expressed in this document represent only the judgment of Generali Insurance Asset Management S.p.A. Società di gestione del risparmio and may be subject to any change without notification. They do not constitute an evaluation of any strategy or any investment in financial instruments. This document does not constitute an offer, solicitation or recommendation to buy or to sell financial instruments. Generali Insurance Asset Management S.p.A. Società di gestione del risparmio is not liable for any investment decision based on this document. Generali Investments may have taken, and may in the future take, investment decisions for the portfolios it manages which are contrary to the views expressed herein. Any reproduction, total or partial, of this document is prohibited without prior consent of Generali Insurance Asset Management S.p.A. Società di gestione del risparmio. Certain information in this publication has been obtained from sources outside of the Generali Group. While such information is believed to be reliable for the purposes used herein, no representations are made as to the accuracy or completeness thereof. Generali Investments is part of the Generali Group which was established in 1831 in Trieste as Assicurazioni Generali Austro-Italiche. Generali Investments is a commercial brand of Generali Investments Partners S.p.A. Società di gestione del risparmio, Generali Insurance Asset Management S.p.A. Società di gestione del risparmio, Generali Investments Luxembourg S.A. and Generali Investments Holding S.p.A..