FOR PROFESSIONAL INVESTORS – 02 November 2018

MULTI-ASSET SPOTLIGHT

BNPP AM – Multi Asset, Quantitative and Solutions (MAQS)

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A CHANGING FIXED-INCOME WORLD: ASSET ALLOCATION CHALLENGES

- **Change of regime?** As markets face quantitative tightening in the months and years to come, signs are that we are on the brink of a change in regime across major asset classes. This year, we already saw two episodes where a bond market sell-off caused an equity market correction.
- **US yields moving higher –** We believe that US yields are moving structurally higher – with 10-year US Treasury (UST) yields already breaking out of a multi-decade bull market trend for fixed income. This is driven by: i) strong US growth, ii) expansionary fiscal policy and more bond supply on the horizon, iii) less foreign investor demand for USTs, iv) the US Federal Reserve moving into restrictive territory and v) depressed real rates and term premia reversing.
- **Equity/bond correlation shifting into positive territory?** Perhaps the most important implication for cross-asset investors and asset allocators is a possible shift in the equity/bond correlation. We find that broadly speaking, the mainly negative correlation between the two asset classes witnessed since the 1990s is a function of (low) inflation and compressed term premia, both of which could pick up as we move away from quantitative easing (QE). More recently, we have seen bond markets rallying little during equity market corrections. Put differently, bonds have been the source of equity sell-offs and as such they offer less protection to cross-asset portfolios.
- **Worse risk-adjusted returns ahead –** We believe that the future likely comprises weaker returns than during the height of QE, and importantly also more market volatility. Sharpe ratios for buy-and-hold investors are thus likely much lower than what many market participants have become used to. For us as asset allocators, this means being ever more tactical in managing portfolios.
- **'Asset-pickers' to benefit –** The unwinding of QE should also help reverse currently high correlations between asset classes. This suggests a return to an environment favouring 'asset-pickers' where portfolio managers can add more alpha again.

A CHANGING FIXED-INCOME WORLD: ASSET ALLOCATION CHALLENGES

The past several years have been characterised by QE-induced outsized returns (with little volatility) for equity *and* bond markets, keeping stock market investors, fixed-income managers and 60:40 asset allocators happy alike.

But with major central bank policies going into reverse and markets facing quantitative tightening in the months and years to come, a backward-looking investment strategy will likely be flawed. Indeed, this year we already saw two episodes where a bond market sell-off caused an equity market correction (Figure 1).

Figure 1: 2018 equity sell-off preceded by higher yields: 10-yr UST yields (light green) vs. S&P 500 (dark green)

Source: Bloomberg and BNPP AM, as of 02/11/2018

With current US equity valuations rich and the economy late in the cycle, the market perception of the link between fixed income and stocks is important, even more so for asset allocators given potentially shifting cross-asset correlations.

In this note, we explore some of the shifting sands in the macro/market backdrop and the implications for cross-asset investors and asset allocators.

FIXED-INCOME MARKETS: BRACE FOR IMPACT?

US rates

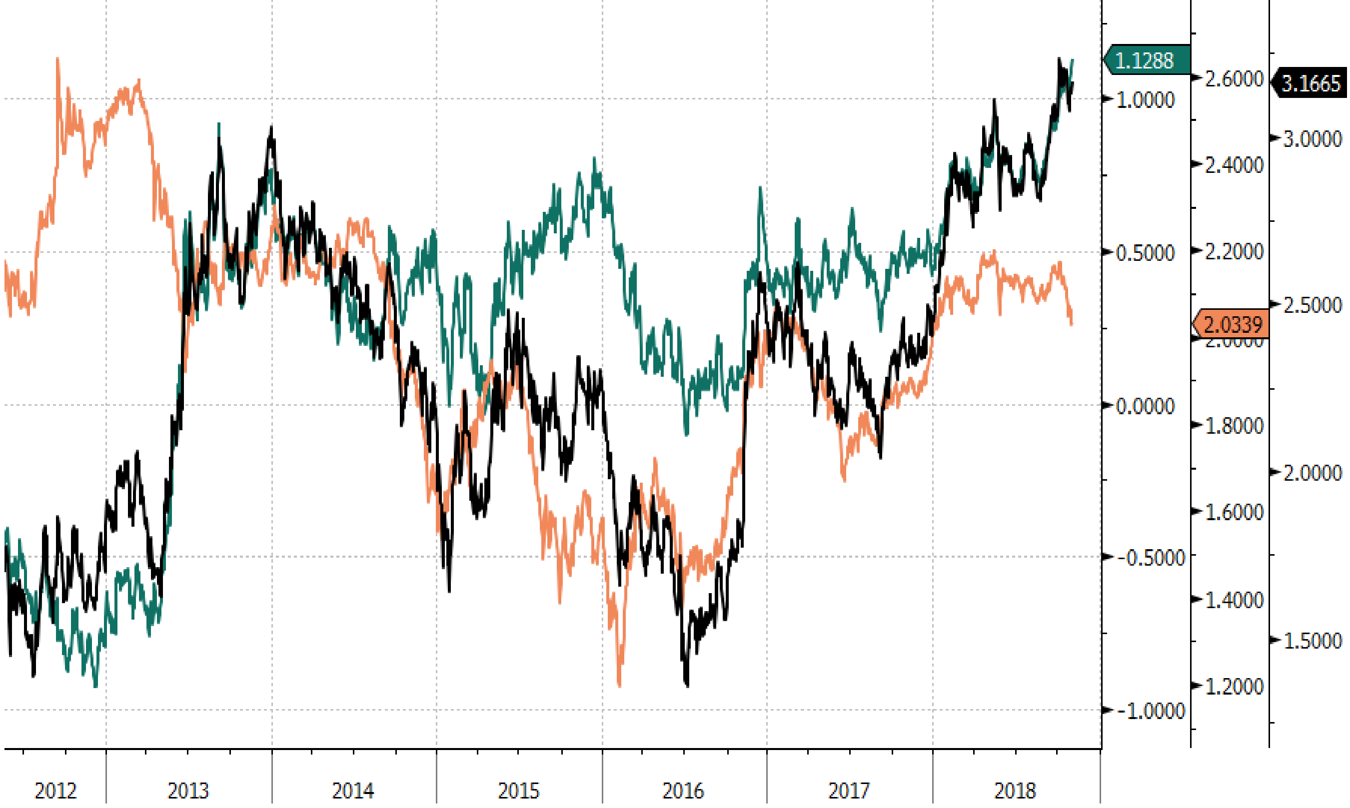
With yields pushing higher quite quickly, US Treasuries are currently affecting many asset classes. As Figure 2 shows, 10-year UST yields have decisively broken above the highs seen during the 2013 taper tantrum, and, perhaps even more importantly, have broken out of their multi-decade downward sloping yield channel which has contained price action in the fixed income bull-trend since the mid-1980s.

Figure 2: 10-yr UST yields breaking out of 30-yr fixed-income bull-trend & above taper tantrum highs

Source: Bloomberg and BNPP AM, as of 02/11/2018

Interestingly, when decomposing nominal yields into their real rate and breakeven inflation components, we find that the push higher in nominal yields this year is almost exclusively driven by higher real rates (Figure 3). Note that breakeven inflation rates (in orange in the chart) moved sideways almost all year, with real rates (in dark green) now above 1%, marking the highest level since 2011 and above their 2013 taper tantrum highs. And even during the recent equity market correction, yields did not reverse much, with real yields in particular remaining near their highs.

Figure 3: QE effects unwinding? 10-yr UST yield (black) decomposed into real rates (dark green) and BEs (orange)



Source: Bloomberg and BNPP AM, as of 02/11/2018

The two observations above – that the 30-year trend of lower yields has been broken and that this has been driven almost purely by real rates – are important as they could hint at a structural break in the macro/market backdrop and signal that the QE status-quo that many market participants became used to is now finally changing.

In particular, we find that this break to higher yields is occurring at an interesting juncture in terms of the macroeconomic backdrop, reinforcing our view that a structural shift is occurring in US fixed income:

- We are still seeing strong US growth and higher yields are consistent with that backdrop, all else being equal
- With President Trump's expansionary fiscal policy comes more bond supply (Figure 4). And in order to finance a higher deficit, investors will require a bigger premia, i.e., investors will likely demand higher yields
- At this critical time of more supply, foreign buyers of USTs may be dwindling. For investors who need to currency-hedge foreign bond exposures due to diverging policy regimes in the US and elsewhere, currency hedging costs have risen vastly and are eating into otherwise attractive looking yield pickups. In fact, taking JPY-based investors as an example[1], with USD/JPY hedging costs exceeding 3% per annum, a 10-year UST currency-hedged into JPY yields only around 10bp, which is less than 10-year JGBs yield (Figure 5; note that the hedged pickup has been as high as 200bp). For 30-year bonds, this is even more obvious: currency-hedged 30-year USTs yield only 28bp, or a whopping 70bp *below* 30-year JGBs. Japanese investors are thus better off sticking with their domestic market.
- Moreover, with Fed policy slowly moving into restrictive territory, higher policy rates may eventually start to hurt activity. Indeed, the September FOMC minutes confirmed that the Fed intends to continue raising rates into restrictive territory. Figure 6 shows real fed funds rates are near/crossing over estimates of the natural rate (R*).
- Furthermore, with QE flows reversing, the effects of monetary policy actions of recent years – i.e., anchoring yields – should fade. Abnormally depressed term premia is also set to finally revert back to normal (Figure 7).

Figure 4: More supply coming given fiscal stimulus… US funding needs (bn USD, Citi estimates)

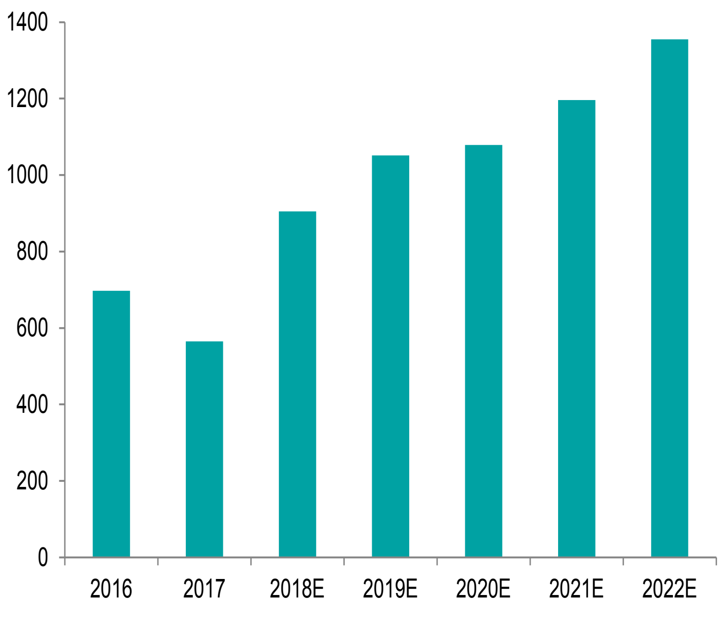
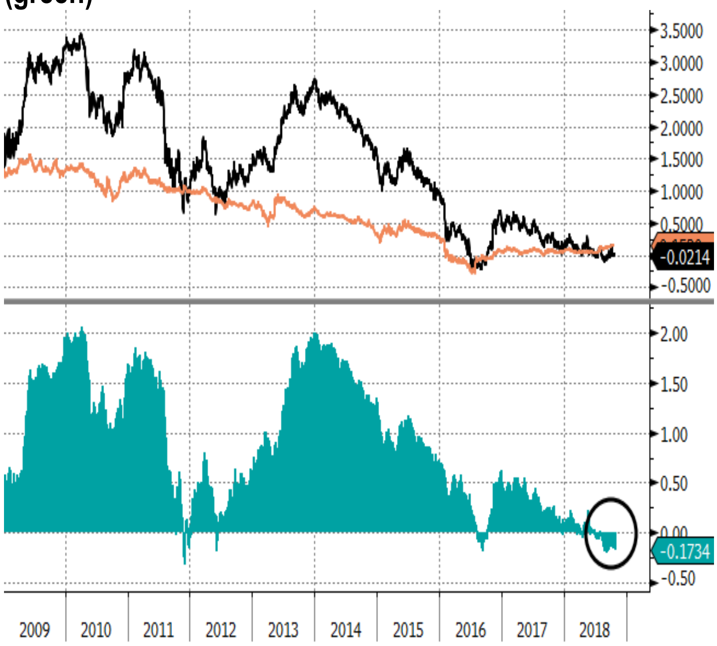


Figure 5: …But fewer buyers around? 10-yr UST hedged into JPY (black) vs. 10-yr JGBs (orange) and spread (green)



Source: Bloomberg, Citigroup and BNPP AM, as of 02/11/2018

[1] Most Japanese real money managers need to hedge the currency exposure of their foreign bond holdings.

Figure 6: Fed Is moving into restrictive territory: Laubach Williams natural rate (R*) & estimates (different greens) vs. real fed funds (orange)

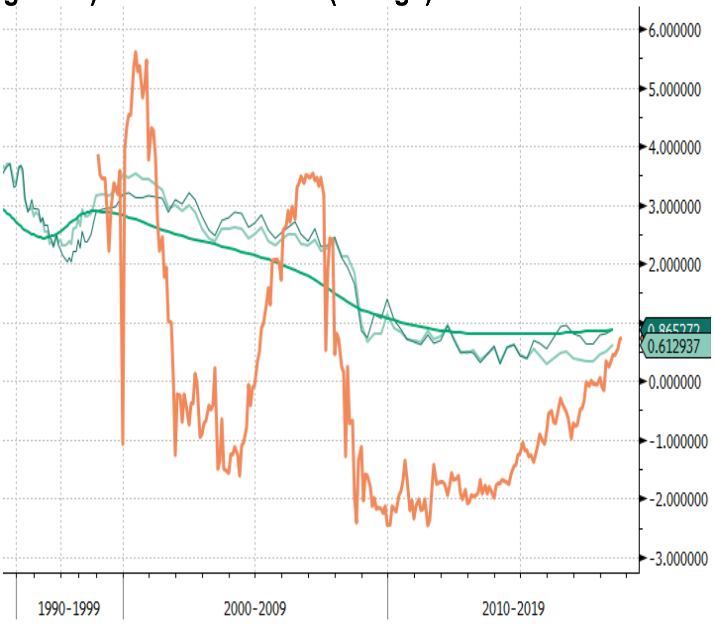
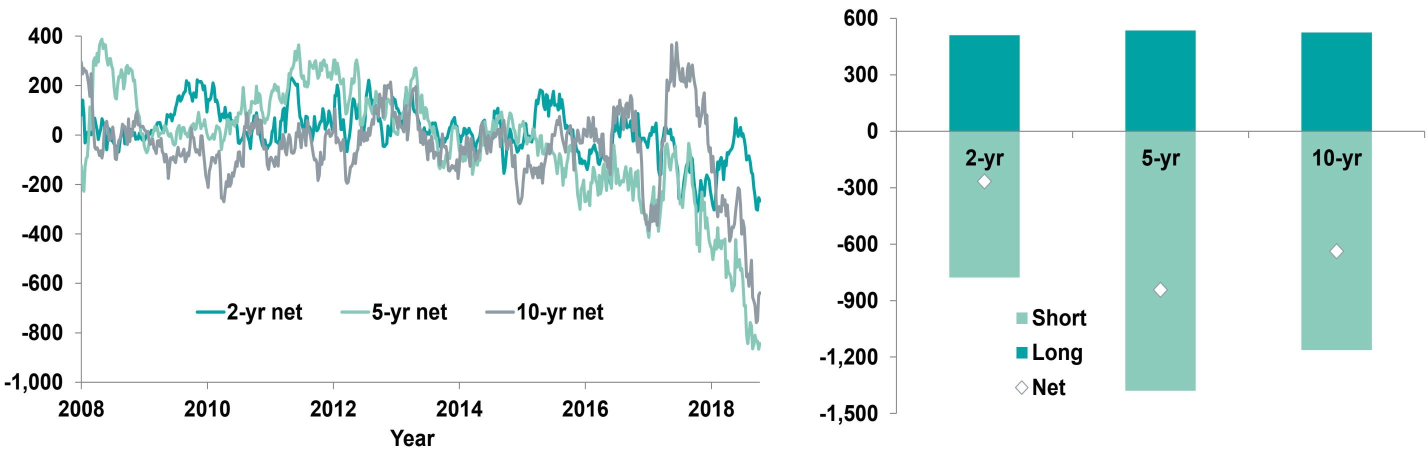


Figure 7: 10-yr UST (green) vs. 10-yr term premia (grey)

Source: Bloomberg, US Federal Reserve and BNPP AM, as of 02/11/2018

All of this leads us to expect structurally higher rates for the medium term, even though for short-term trading we note that positioning is starting to look very stretched on the short side (Figure 8). Positioning squeezes should not be ruled out on a path to higher yields in the medium term.

Figure 8: UST speculative positioning: very short, so squeezes likely: CFTC non-commercial F&O positioning



Source: Bloomberg, CFTC and BNPP AM, as of 26/10/2018

Other rates markets

Optically, rates markets have diverged sharply in recent years. For example, US yields are now at new highs above their 2013 taper tantrum levels, whereas Bunds are still 150bp below their 2013 trading levels (Figure 9). That said, the correlation between USTs and other fixed-income markets has remained high, with daily price action co-moving strongly (Figure 10). Put differently, the level of yields may be very different, but the directionality of rates markets does not. So with UST yields likely pushing higher, other rates markets should follow, especially given the high valuation of other core fixed-income markets.

Figure 9: Decoupled? 10-yr USTs (black) vs. Bunds (green)…

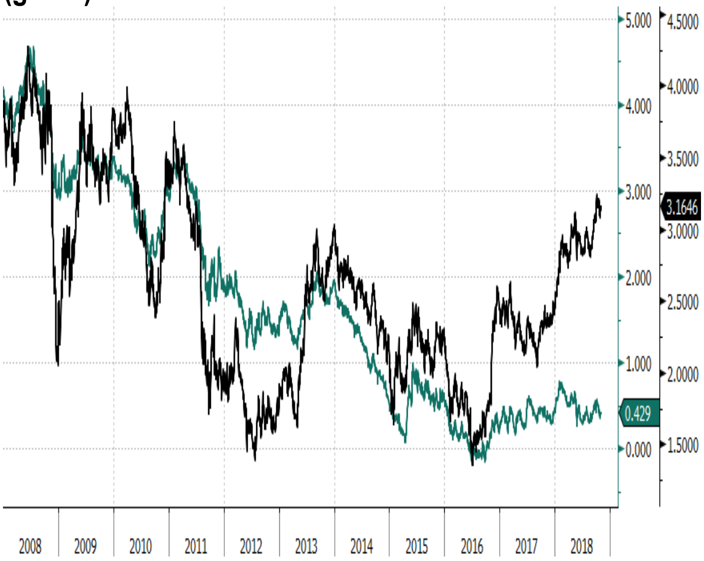


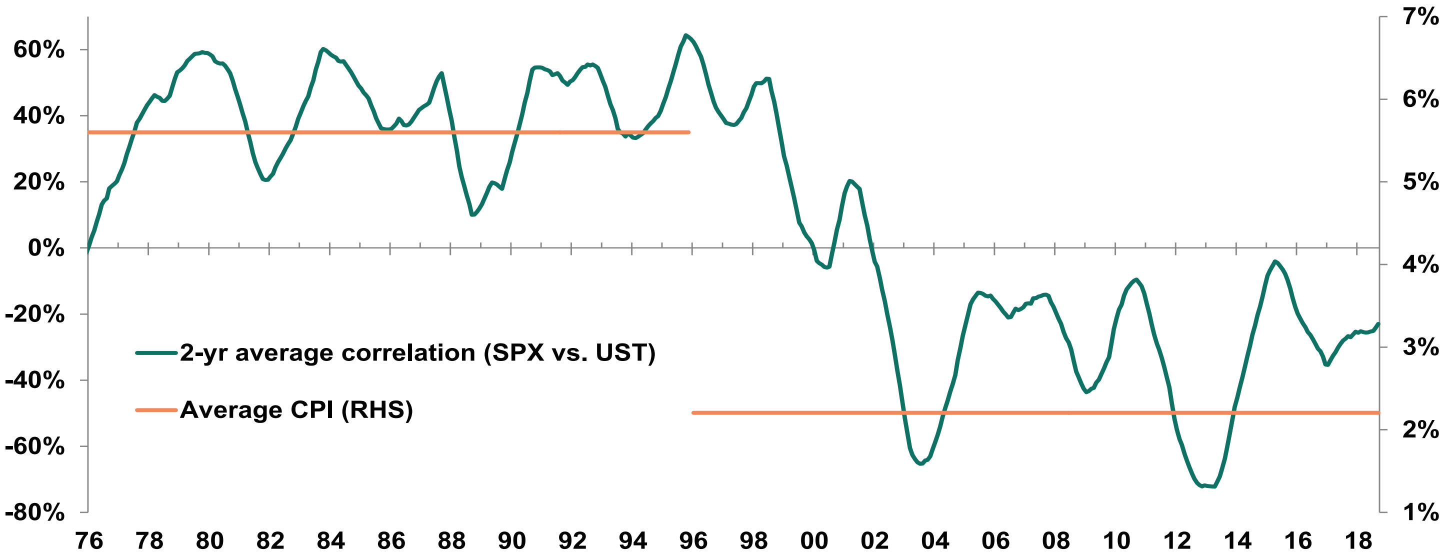
Figure 10: …Or not? 10-yr USTs (black) vs. Bunds (green)

Source: Bloomberg and BNPP AM, as of 02/11/2018

HIGHER YIELDS AND EQUITIES: SHIFTING CORRELATIONS?

With higher yields apparently behind the last two equity corrections (see Figure 1 above), well-anchored equity/bond correlations are being questioned. Many market participants will likely recall a negative correlation between stocks and bond returns in the last two decades. But this has not always been the case. In fact, the negative correlation between fixed income and equities has prevailed only since the mid-1990s, with correlations positive before then (Figure 11).

Figure 11: Equity/bond correlation mostly negative since mid-1990s (S&P 500 vs. UST weekly return correlation)



Source: Bloomberg and BNPP AM, as of 02/11/2018

We find that low and anchored inflation may be one of the causes for this negative correlation (see the average level of inflation before and after the mid-1990s in Figure 11). Indeed, Figure 12 confirms the positive relationship between the level of inflation and the sign of the equity/bond correlation. How anchored inflation is, or put differently, how volatile/uncertain inflation is, also has an effect, as shown in Figure 13 which compares the level of bond term premia with the equity/bond correlation.

Figure 12: Equity-bond correlation dependant on inflation…

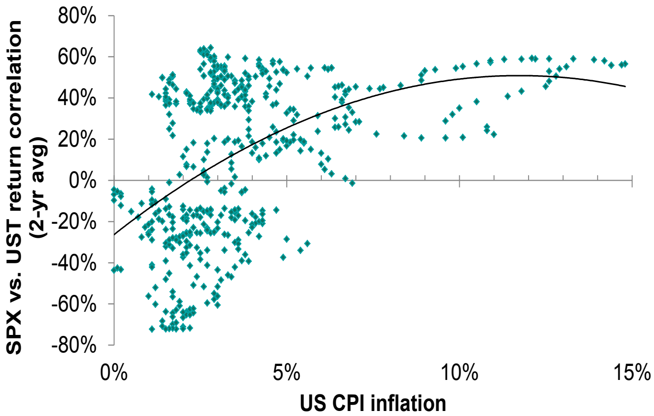
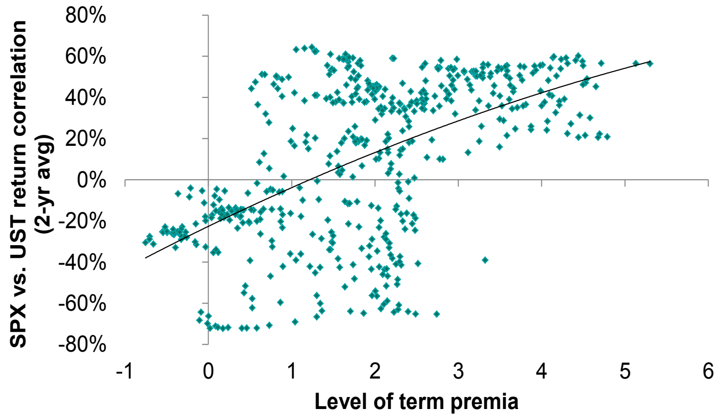


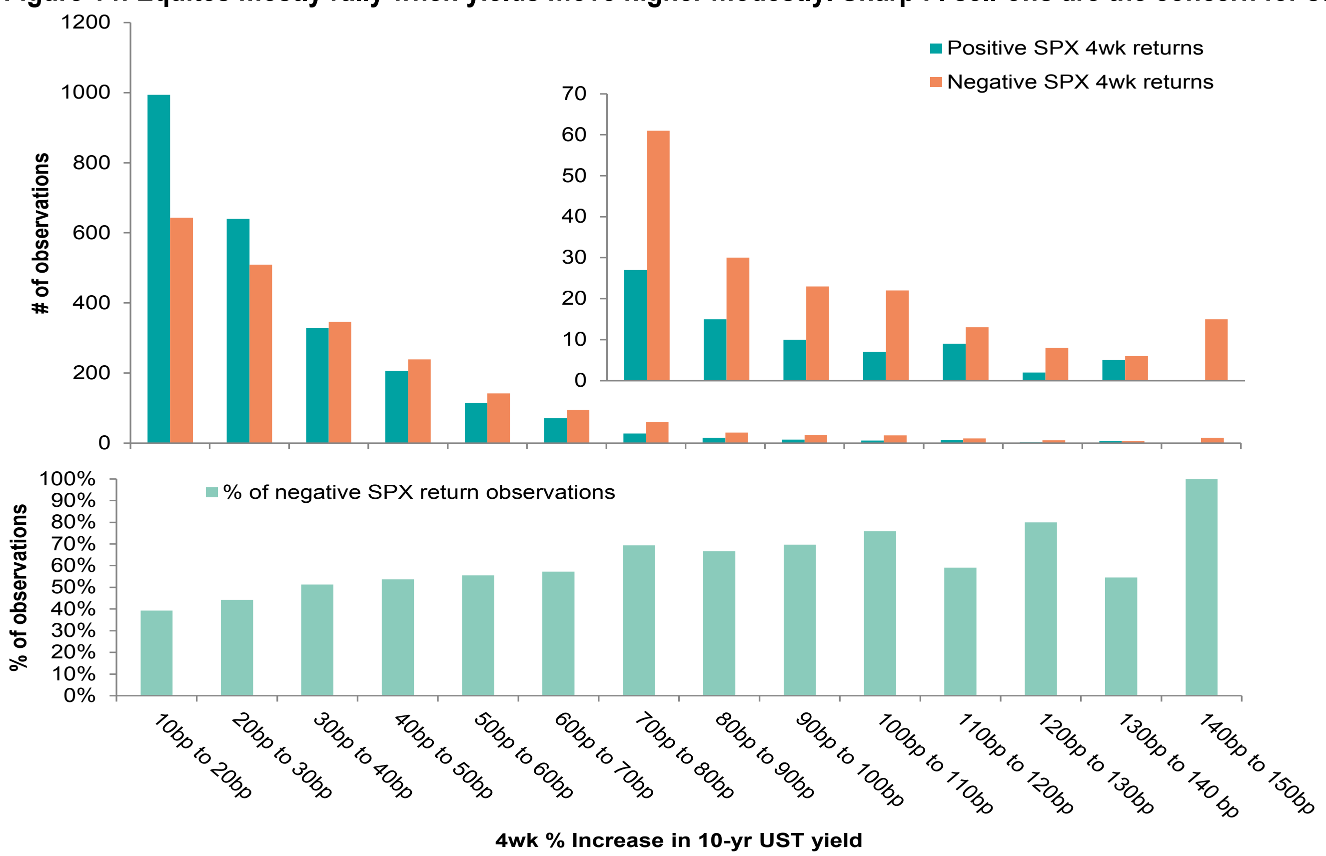
Figure 13: …And on term premia?



Source: Bloomberg and BNPP AM, as of 02/11/2018

But the question of what ultimately drives yields higher in the first place, and how sharply the fixed-income sell-off is, matters too. As we explore in Figure 14, historically, equity markets have mostly rallied when yields rise modestly (in the chart note more positive than negative equity market reactions – bigger green than orange bars – for mild UST yield increases), but they have mostly sold off when yields rise sharply (on the chart note bigger orange bars compared to green bars – for bigger increases in UST yields). The way to square this cross-asset historic price action is as follows: if yields rise in response to a better economy, and this comes with better company earnings, yields can rise and equities rally in tandem. When yields rise aggressively, say in response to a shock (e.g. higher inflation or fiscal expansion), the sudden increase in the discount rate frightens the equity market and stocks sell off, while yields push higher.

Figure 14: Equites mostly rally when yields move higher modestly. Sharp FI sell-offs are the concern for stocks



Source: Bloomberg and BNPP AM, as of 02/11/2018

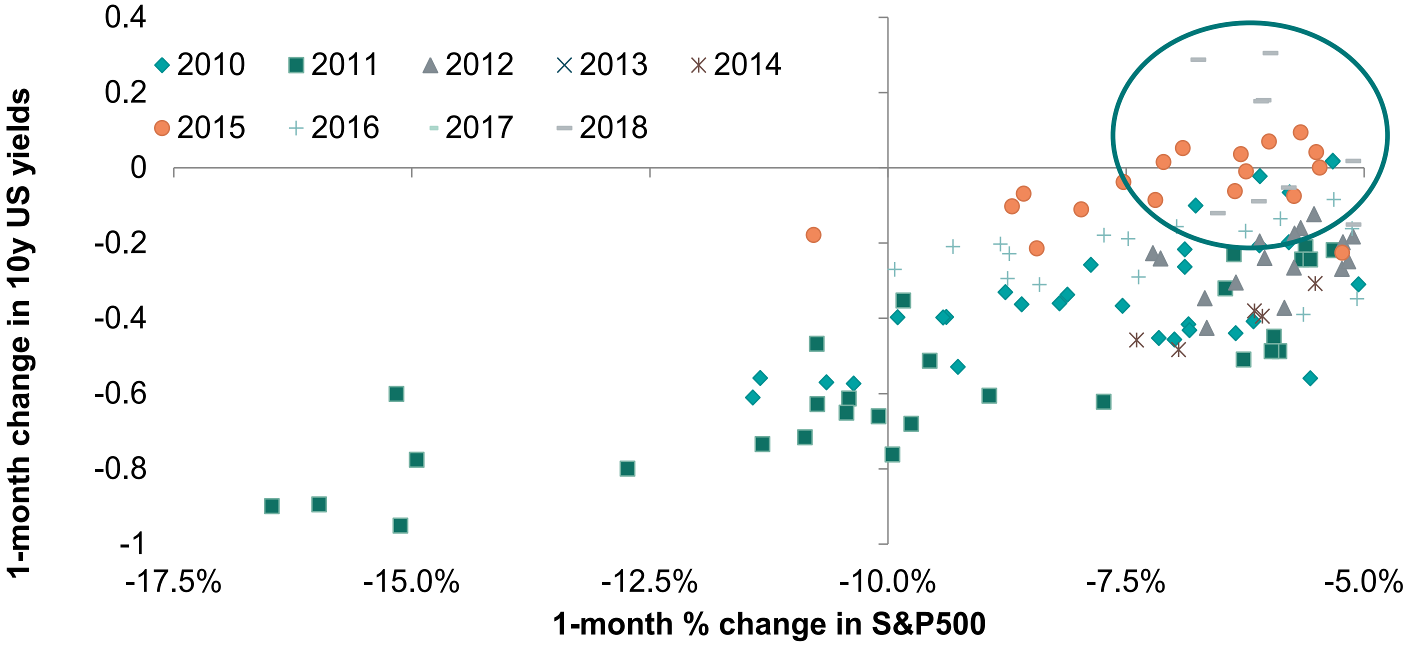
That said, the short-term correlation between equities and bonds can flip around quite quickly, especially in risk-off periods (Figure 15). What is perhaps striking is that in the recent equity correction (preceded by higher yields), UST yields receded only briefly and rebounded quickly thereafter. This begs the question whether bonds are still a good equity/portfolio hedge.

Figure 15: Short-term correlations: SPX (dark green) vs. UST yields (light green) & 1m correlation on daily changes (below)

Source: Bloomberg and BNPP AM, as of 02/11/2018

Unfortunately, our analysis suggests the answer is 'no'. Figure 16 & Figure 17 reveal that in the current cycle, and especially in recent price action, bonds have not offset equity market losses. In fact, in 2018, yields have tended to rise as equities suffer; as explained above; yields caused the equity market dip. This is a sign that the equity/bond correlation may be shifting into positive territory.

Figure 16: Bonds becoming less of a hedge to equity corrections in the current cycle



Source: Bloomberg and BNPP AM, as of 02/11/2018

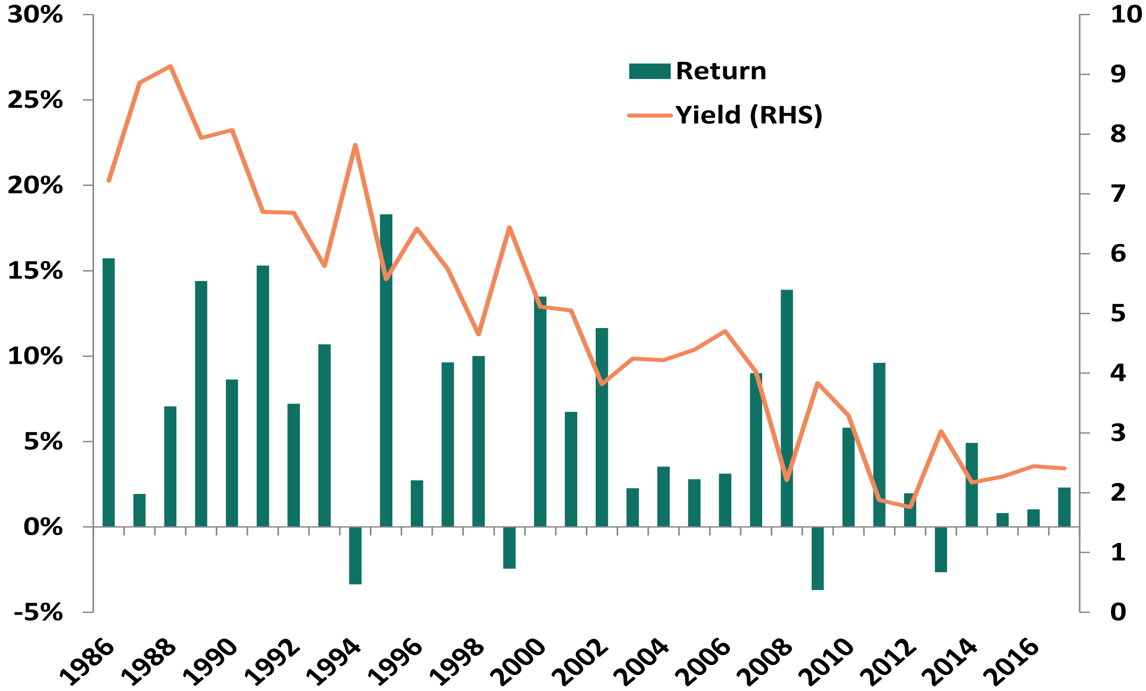
Figure 17: Bonds already becoming a worse equity hedge? Returns & yield changes during S&P 500 corrections

SPX					US 10-year yield			
Start	End	Start	End	Return	Start	End	Yield change	Return
Oct-97	Oct-97	983.1	877.0	-11%	5.92	5.80	-0.12	0%
Jul-98	Aug-98	1184.1	957.3	-19%	5.47	4.98	-0.49	3%
Jul-99	Oct-99	1418.8	1247.4	-12%	5.67	6.07	0.40	-1%
Mar-00	Oct-02	1527.4	800.6	-48%	6.08	3.66	-2.41	30%
Nov-02	Mar-03	938.9	800.7	-15%	4.26	3.58	-0.68	5%
Oct-07	Mar-09	1552.6	683.4	-56%	4.06	2.87	-1.19	16%
Apr-10	Jul-10	1217.3	1022.6	-16%	3.81	2.98	-0.83	4%
Apr-11	Oct-11	1363.6	1099.2	-19%	3.29	1.76	-1.53	9%
Apr-12	Jun-12	1419.0	1278.1	-10%	2.18	1.45	-0.73	4%
Jul-15	Aug-15	2128.3	1867.6	-12%	2.37	2.07	-0.30	1%
Dec-15	Feb-16	2102.6	1829.1	-13%	2.14	1.66	-0.48	3%
Jan-18	Feb-18	2872.9	2581.0	-10%	2.66	2.82	0.16	-1%
Oct-18	Oct-18	2925.5	2728.4	-7%	3.18	3.16	-0.02	0%
			Average	**-19%**	**3.93**	**3.30**	**-0.63**	**6%**
			Median	**-13%**	**3.81**	**2.98**	**-0.49**	**3%**

Source: Bloomberg and BNPP AM, as of 02/11/2018

This is worrisome, especially in the face of likely larger equity corrections when we eventually hit end-cycle. If bonds cannot hedge smaller setbacks in the bull run, how can they be portfolio hedges when stocks enter a bear market? While in such a scenario, the correlation may well reassert itself in negative territory (i.e., a safe haven bid propels bonds), the low starting point of yields (and thus lowered return expectations – Figure 18) means that bonds will be worse hedges. To illustrate this, 10-year yields would need to fall to around 1% from 3.15% currently to give a return of 20% to match the average historical equity market sell-off in Figure 17. And as the table shows, equity sell-offs have been clearly bigger in some recessionary periods.

Figure 18: Low starting point: the only way is up for yields, down for returns? (annual returns & 10-yr UST yield)



Source: Bloomberg and BNPP AM, as of 02/11/2018

OTHER IMPLICATIONS FOR ASSET ALLOCATORS

The shifting macro/market backdrop – especially the unwinding of QE which has underpinned many asset classes in recent years – will, in our view, also set other challenges for asset allocators. Aside from a tricky environment when it comes to the interaction between equities and bonds (see above), we argue that at this stage of the cycle, the volatility of assets should generally rise (Figure 19) and especially so given that QE has been a big contributor depressing market volatility in recent years. With valuations looking more stretched and no central bank put underpinning markets, return expectations should also be much lower for the foreseeable future. The result will be much lower Sharpe ratios than many investors have become used to (Figure 20). While Sharpe ratios took a hit during the macro shocks in the current cycle due to weak returns (Greece/eurozone periphery crisis and China slowdown fears), average Sharpe ratios in the QE period have been high and the recent fall in the ratios is due to lower returns *and* more volatility. To us, this means being ever more tactical when managing portfolios, trading dislocations and broad ranges (such as the recent equity sell-off) rather than being married to views, even in medium-term mandates.

Figure 19: Volatility likely to increase…

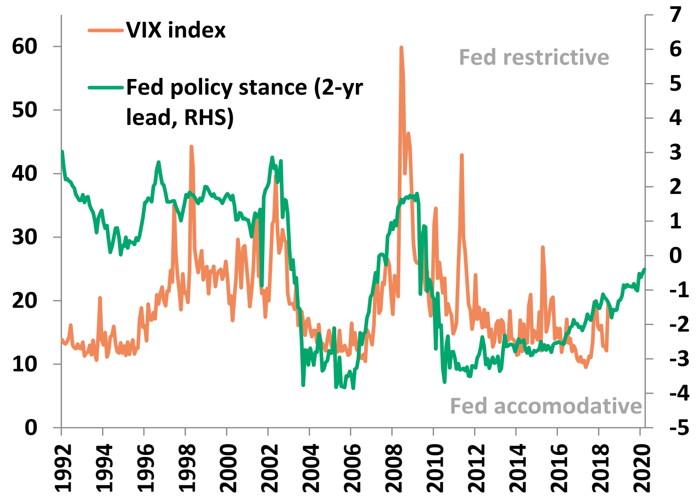
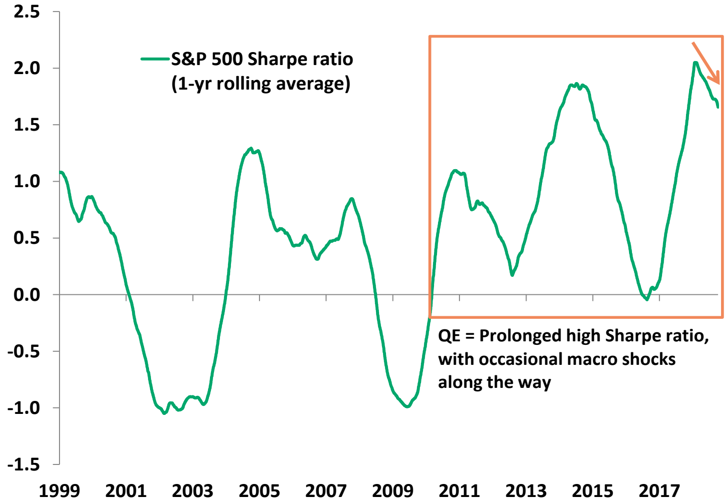


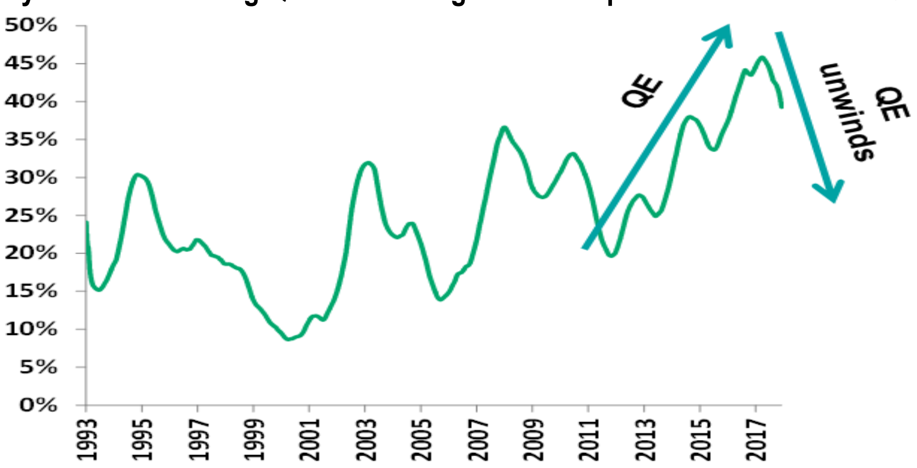
Figure 20: …And Sharpe ratio falling from QE highs



Source: Bloomberg and BNPP AM, as of 02/11/2018

Furthermore, one of the effects of post-crisis monetary policy action was a rise in correlations across asset classes (Figure 21). As QE flows end/reverse, this should also reverse, with individual assets likely to revert to being driven by their own fundamentals/news and not purely by QE flows. Early signs are this correlation unwinding may already be underway. This suggests a return to an environment favouring 'asset-pickers' where portfolio managers can add more alpha again.

Figure 21: Markets very correlated during QE and this might unwind: pairwise correlation S&P 500, USTs, gold, JPY



Source: Bloomberg and BNPP AM, as of 02/11/2018

CONCLUSIONS

As major central bank policies are going into reverse and markets face quantitative tightening in the months and years to come, signs are that we are on the brink of a change in regime across major asset classes. Indeed, this year, we already saw two episodes where a bond market sell-off caused an equity market correction.

We believe that US yields are moving structurally higher – with 10-year UST yields already above their 2013 taper tantrum highs and crucially breaking out of a multi-decade bull market for fixed income. To us, this break higher in yields is no coincidence given the macro/market drivers that rates markets are facing: i) strong US growth, ii) expansionary fiscal policy and more bond supply on the horizon, iii) less foreign investor demand for USTs, iv) Fed policy moving into restrictive territory and v) the effects of QE – depressed real rates and term premia – reversing.

These drivers should keep US rates in the “driving seat” and this will affect many asset classes. Perhaps the most important risk is that of a shift in the equity/bond correlation. We find that broadly speaking, the mainly negative correlation between the two asset classes since the 1990s is a function of (low) inflation and compressed term premia, both of which could pick up as we move away from QE. More recently, we have seen bond markets rallying little during equity corrections. Put differently, bonds have been the source of equity sell-offs and as such, they now offer less protection to cross-asset portfolios.

Furthermore, as a function of the shifting macro/market sands, we are aware that the future likely comprises weaker returns than during the height of QE, and importantly, also more volatility. Sharpe ratios for buy-and-hold investors are thus likely to be much lower than what many market participants have become used to. For us, this means being ever more tactical in managing portfolios.

The unwinding of QE should also help reverse high correlations between asset classes. This suggests a return to an environment favouring “asset pickers” where portfolio managers can add more alpha again.

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Views expressed are those of the authors, as of November 2018. Individual portfolio management teams may hold different views and may make different investment decisions for different clients.

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