

Hidden Risks

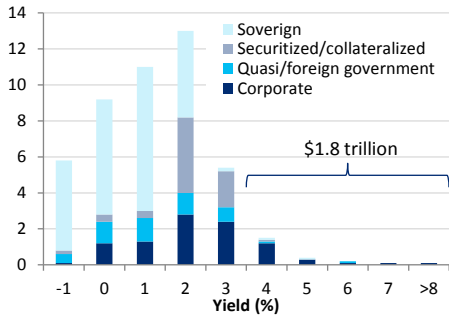
Zoeb Sachedi

Managing Director
Head of European Government and SSA
Trading

Leverage Is Increasing...

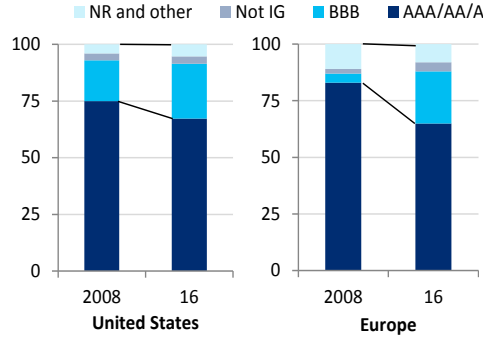
An environment of low / compressed yields

Global Investment Grade FI Instruments 2017



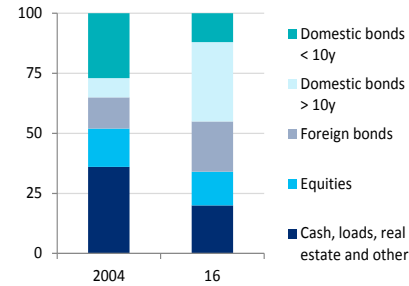
...drives an appetite for more lower-rated bonds

EU and US Life Insurers: Bond Allocation



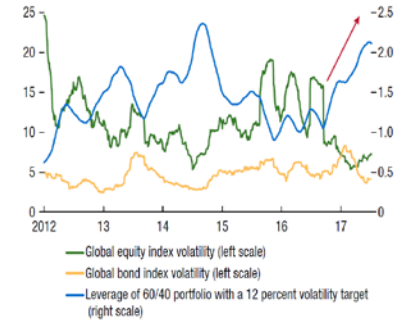
... extends duration of holdings

Japanese Life Insurers Investment Portfolios



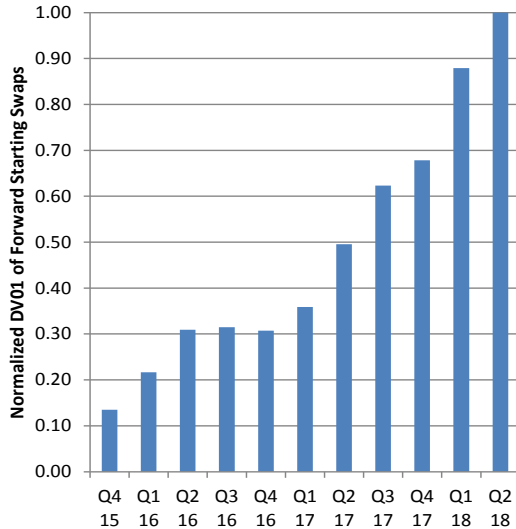
... increase leverage on risk parity strategies

Leverage for Theoretical Vol Target Investment Portfolio (60d ma)



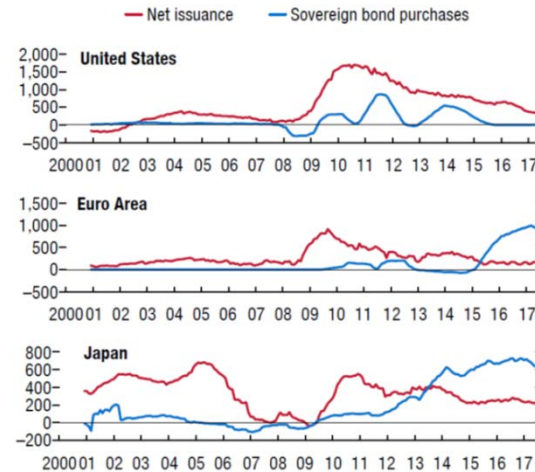
... and the appetite for forward starting bonds

Citi executed trades in forward Euro government bonds



... and QE purchases have outstripped EU issuance...

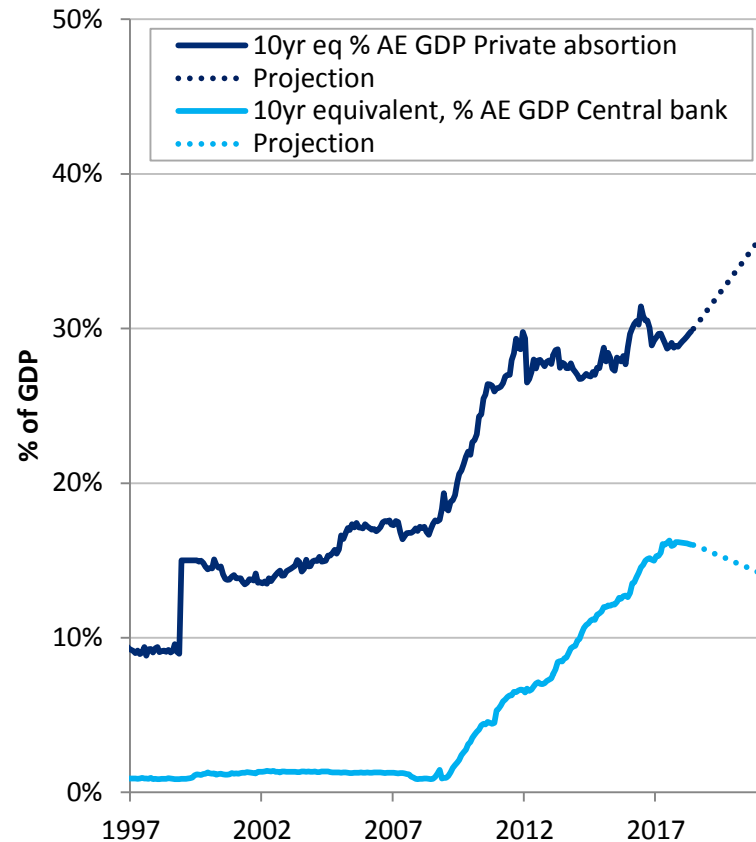
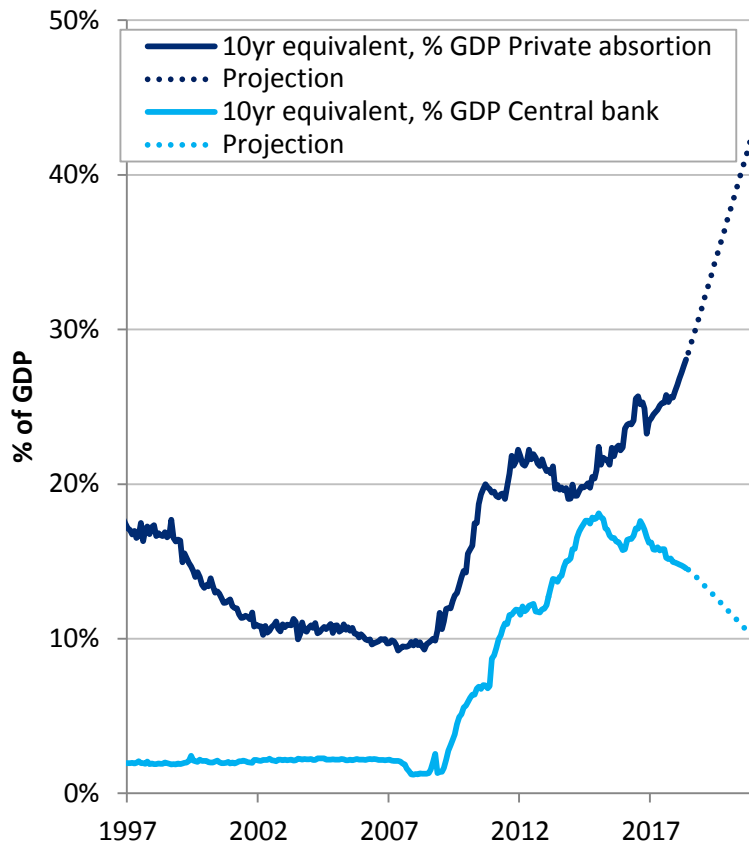
Government Bond Issuance and Official Demand (\$ blns, 12m moving sum)



... BUT Going Forward Who Will Absorb Additional Supply?

- Treasury issuance will increasingly have to be absorbed by the private sector.
- The scale of the increase given deficits and Fed rundown is unprecedented.
- Will rising real rates cause an accident?

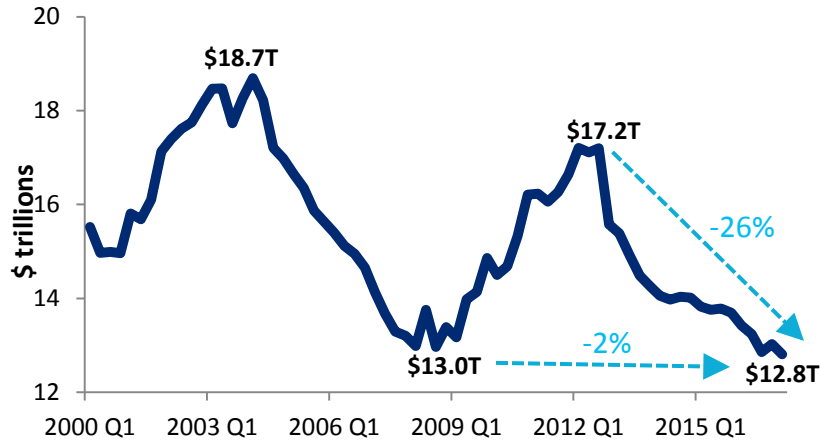
- Advanced Economy private sector absorption of the safe bonds will also have to increase but now on a shallower trend given stable balance sheets and budgets elsewhere.
- Is there a global crowding out channel?



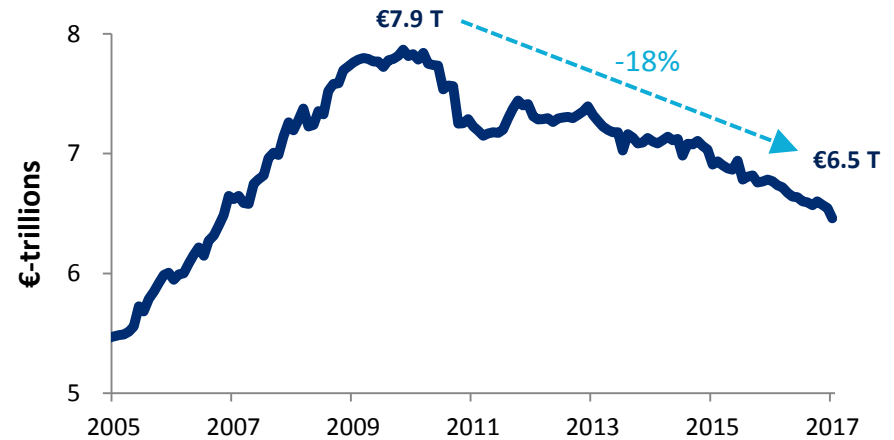
... At A Time When Regulation is Putting Pressure on Liquidity

Leading banks have steadily reduced inventory since implementation of the Basel III framework, a factor leading some investors to focus on using index over individual security exposure

Securities Available For Sale on US Bank Balance Sheets



Equity and Bond Securities held on EU bank balance sheets

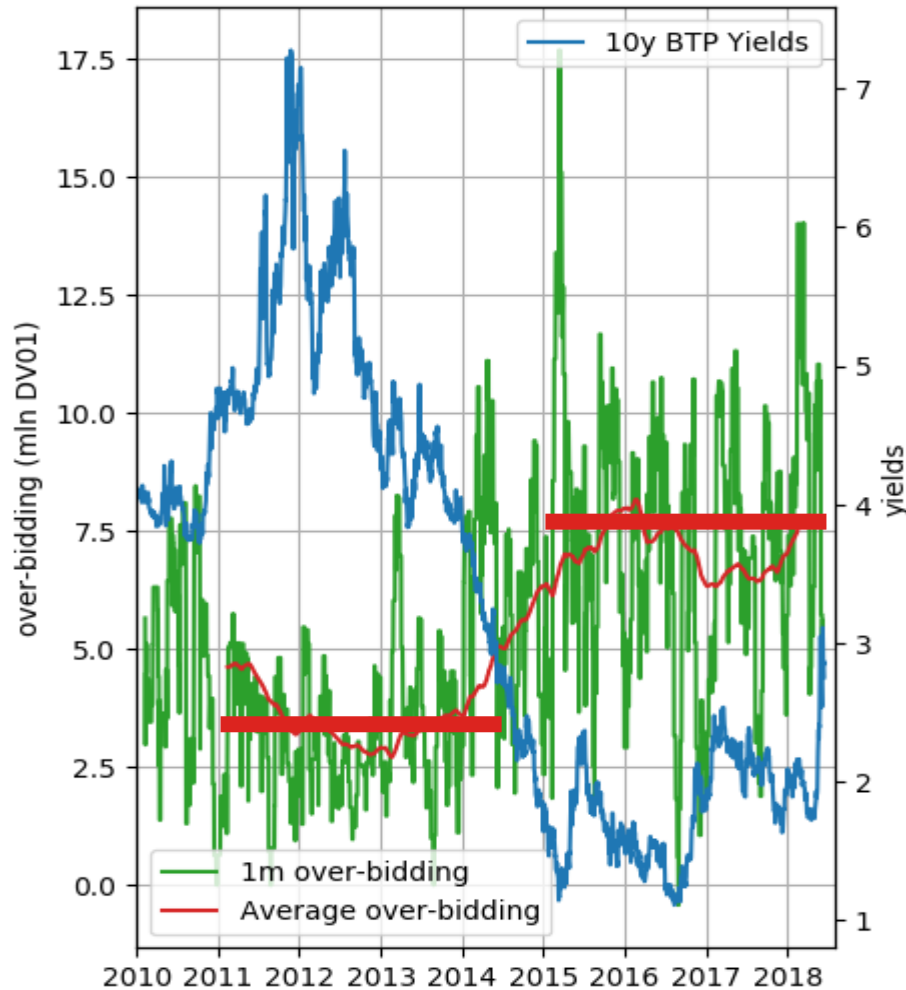


- Concerns voiced in the 2016 survey about the limited ability of sell-side banks to absorb liquidity shocks were re-iterated in this year's conversations.
- Securities for sale on U.S. bank balance sheets hit a new post-2000 low in Q1 2017 falling to only \$12.8 trillion
- Adjustments to U.S. Bank Regulatory policy are likely to take some time with the new administration exploring potential changes like the reversal or amendment of the Volker Rule
- Equities and bonds held on E.U. bank balance sheets peaked at €7.9 trillion in the aftermath of the Global Financial Crisis but have fallen by 18% to only €6.5 trillion in Q1 2017
- Survey participants continue to cite reduced bank inventories, and the associated low or variable liquidity, as an impetus to encourage large institutions to use index exposures in certain regions and markets, and thereby continue to fuel the move to passive

Liquidity in Primary Market Activity Is Not Stable ...

Market remains supportive of primary government but this can quickly disappear during periods of stress

Depth of Primary Periphery European Markets

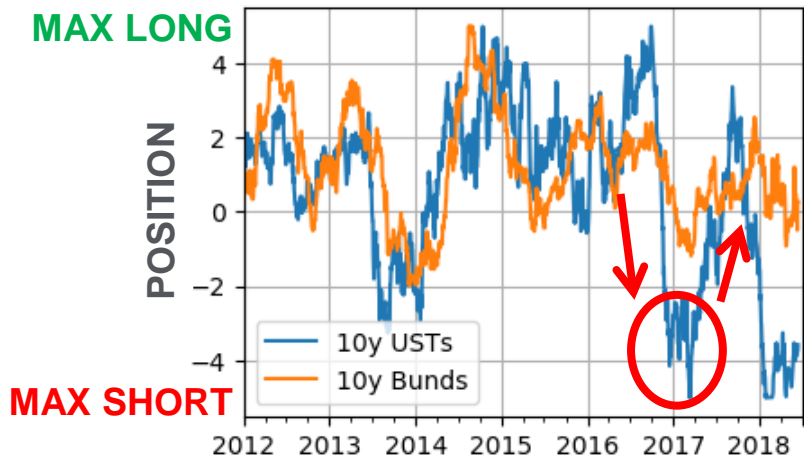


- The demand for government bond can be measured by over-bidding in primary markets
- In periphery market the ECB backstop has resulted in a *regime change* in primary market liquidity.
- Primary market depth has doubled from the height of the sovereign debt crisis in 2012
- Lower volatility and different investor types has creates a more benign environment
- BUT it is unclear how market function will impact periphery primary markets post APP.

... And Positioning Can be Highly Directional...

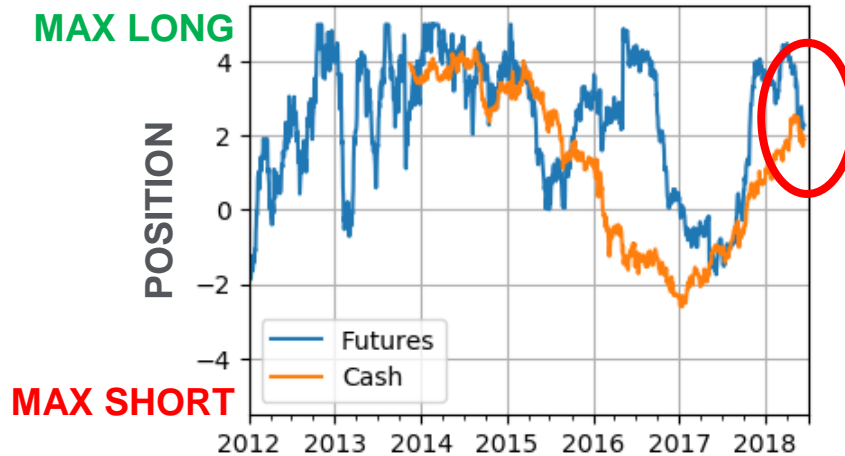
The feedback loop between positioning / PnL drives price action which when large can create instabilities

Positioning / PnL for USTs and Bund

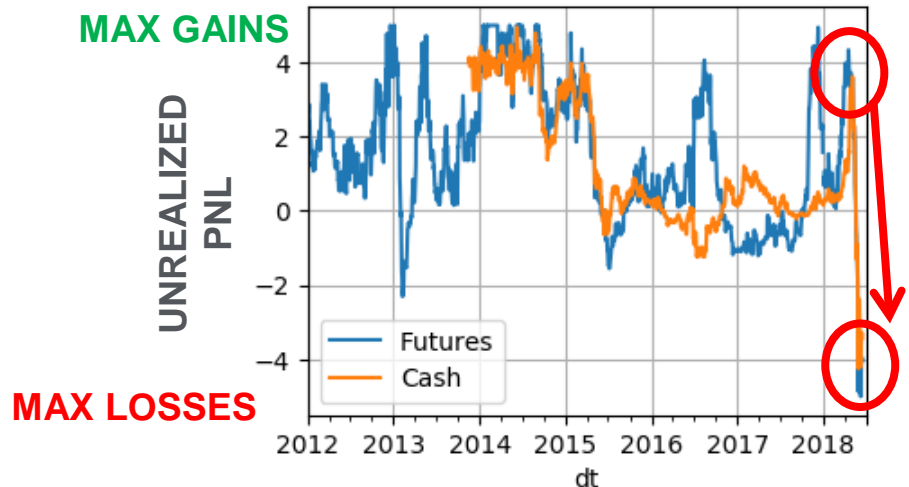
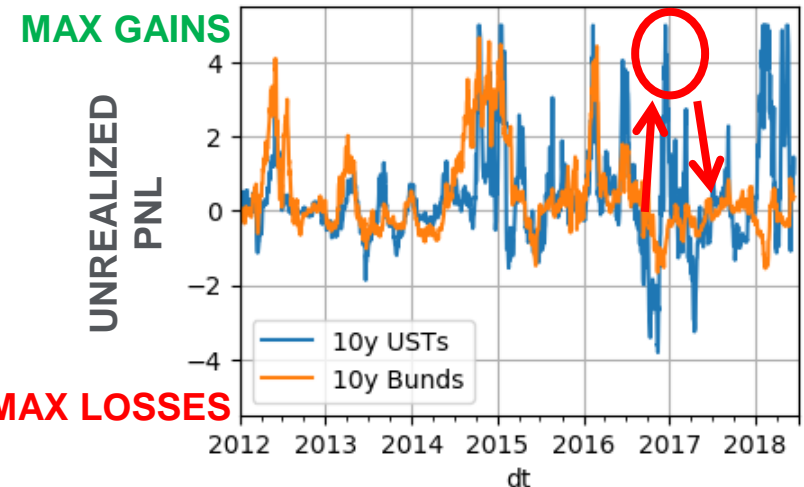


Normal Market Function
... short and in making profit into 2017 sell-off

Positioning / PnL in BTPs (futures/cash)

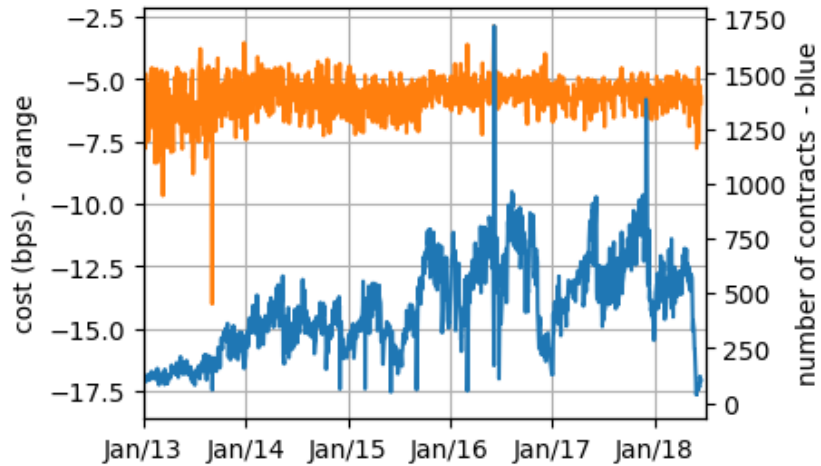
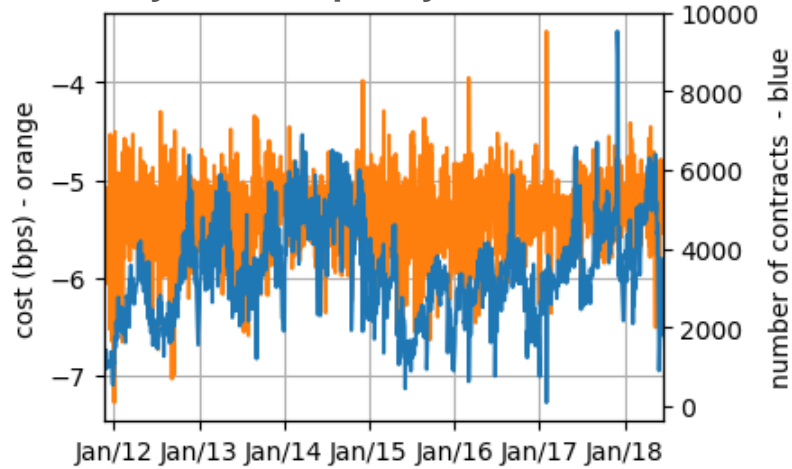


Stress Market Function
... long and losses into 2018 BTP sell-off



... Which Can Impact Secondary Market Liquidity During Stress

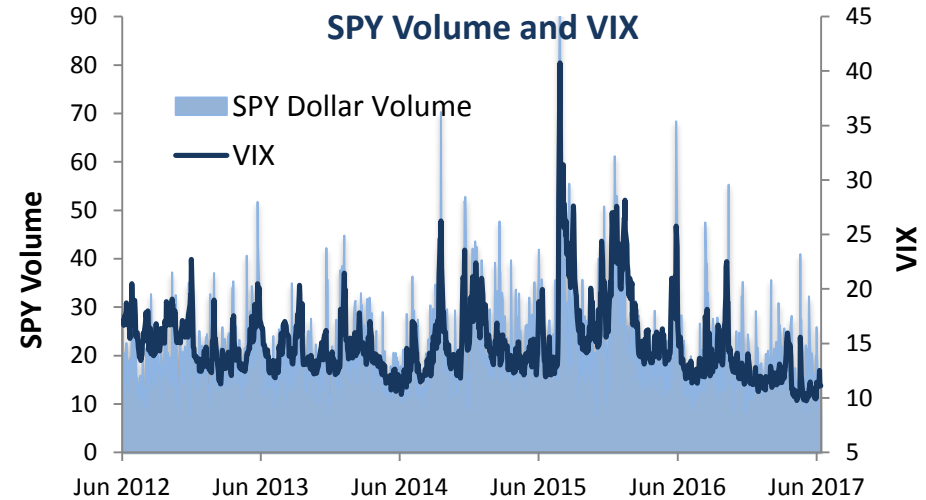
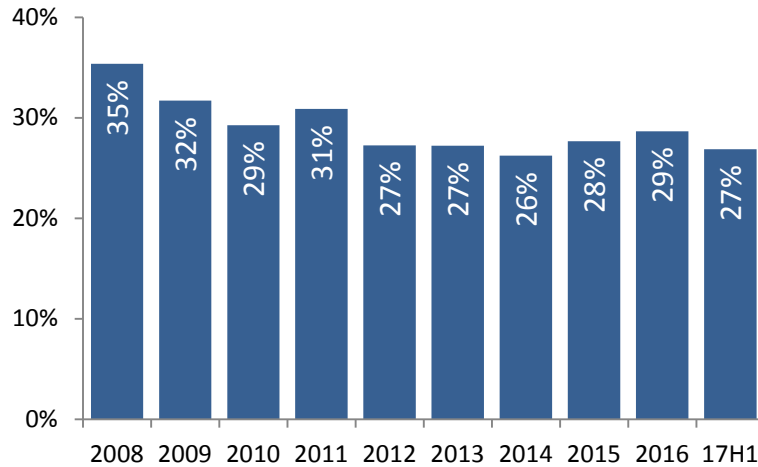
10y Bund Liquidity - Futures



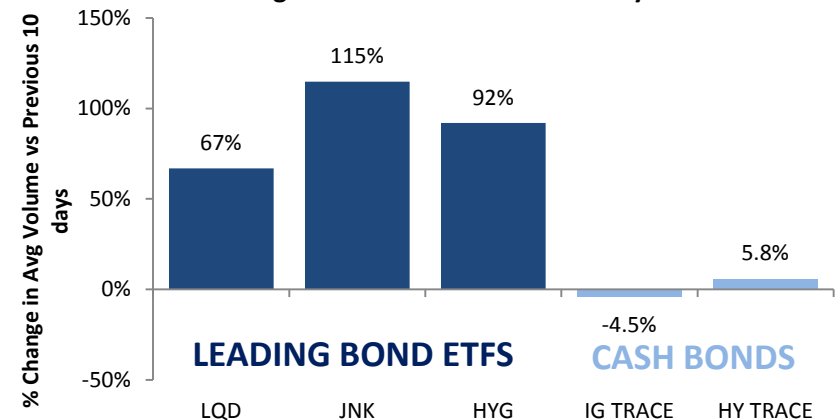
Meanwhile ETFs Grow in Importance as a Trading Tool...

The use of ETFs is increasing – for instance their outsized dollar volume share / correlation to volatility in the U.S. market and their role as substitute in bond markets, offering a safe haven in periods of stress

ETF Dollar Volume as % of US Exchange Volume



Changes in Bond ETF & Cash Bond Trading Volumes During Stress Periods vs Prior 10 Days

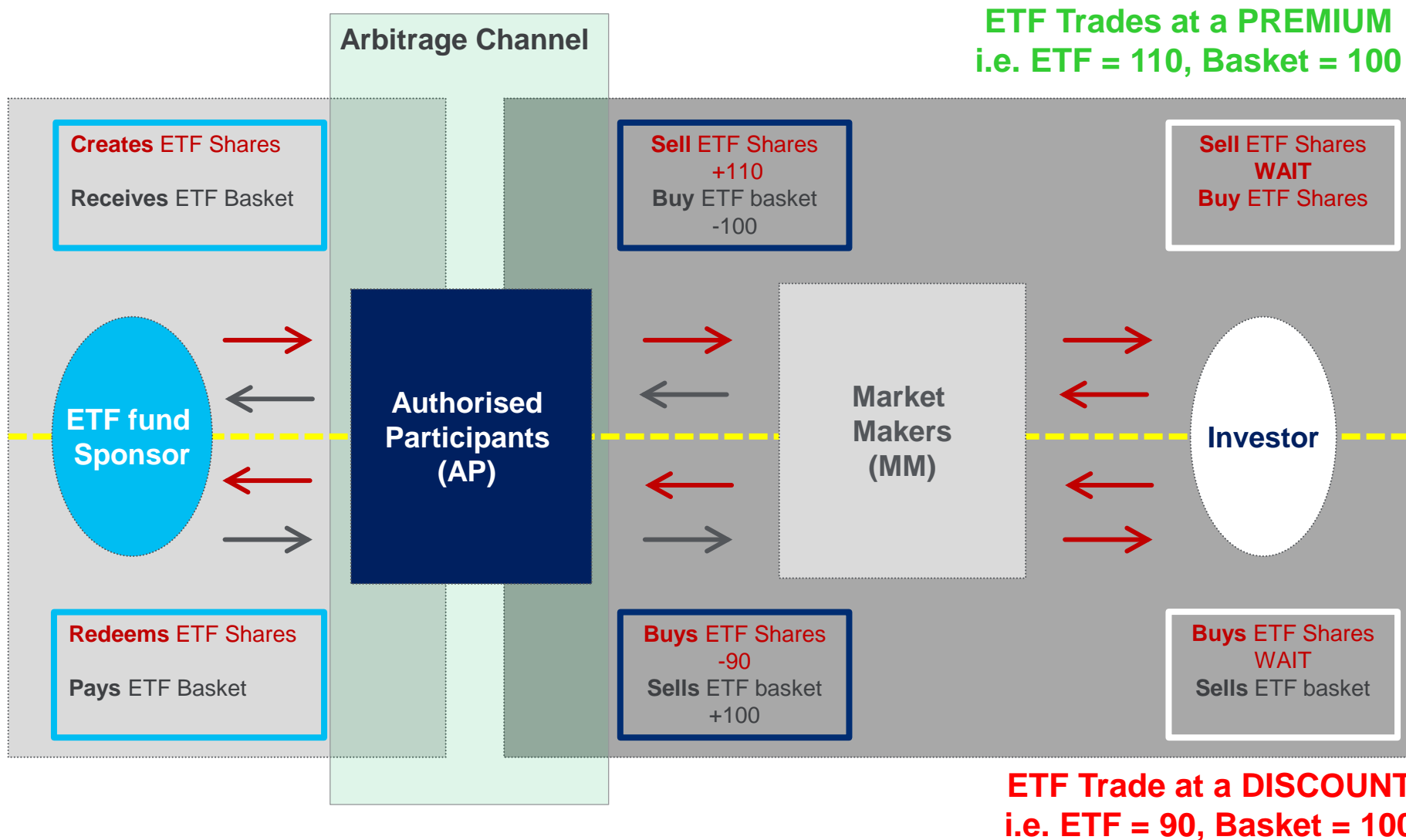


- While accounting for <10% of U.S. equity capitalization, **ETFs are disproportionately used as trading tools accounting for 27% of dollar volume in H1 2017**
- In periods of extreme volatility, there is a tendency for this **dollar share volume to spike**
- As with Equity ETF products, the Bond ETFs are performing both a liquidity and a cash substitute role in markets, offering a safe haven in periods of stress

Source: Citi Research, ETF Sponsors [ETF Perspectives: Tail Wagging the Dog? Not Yet!](http://www.etf.com/sections/white-papers/corporate-bond-etfs-performing-under-pressure?nopaging=1), "Corporate Bonds ETFs Performing Under Pressure", ETF.com, Tony Barchetto, September 20, 2016, <http://www.etf.com/sections/white-papers/corporate-bond-etfs-performing-under-pressure?nopaging=1>

... Which Generates Liquidity Around Arbitrage Channel ...

Authorized Participants bridge the gap between primary / secondary markets to ensure the ETF tracks closely the underlying asset via a create / redeem mechanism.



... Which Can Impact Market Function

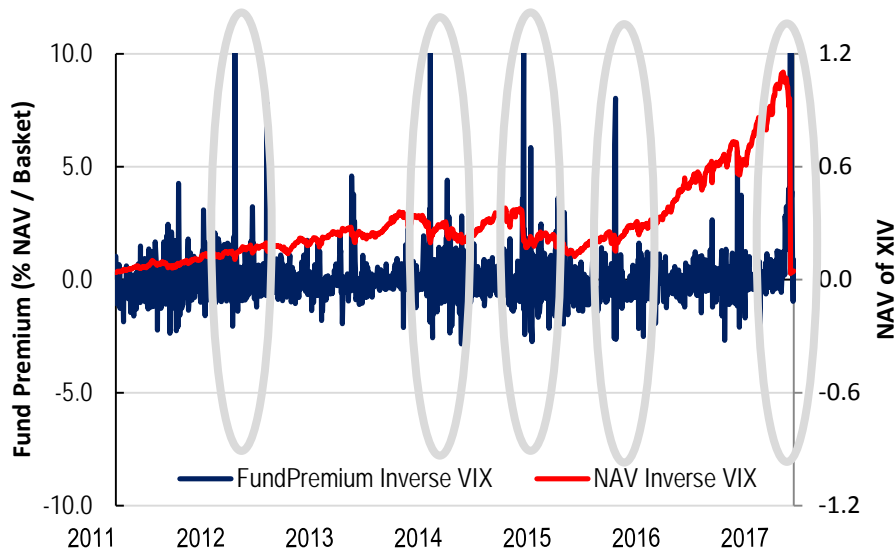
Risks

- **Market Function:** Hedging of complex products on close can distort market function in times of market stress. Can move from liquidity provider -> liquidity taker.
- **Liquidity:** Access to liquidity can result in greater volatility at times of market stress. Propagation of illiquidity shocks into underlying via arbitrage channel and feedback loops.
- **Investor Universe:** Change in market function as access to asset class expands to a wider range of investor types.
- **AP Concentration:** Universe is small with some institutions only lightly capitalized relative to banks

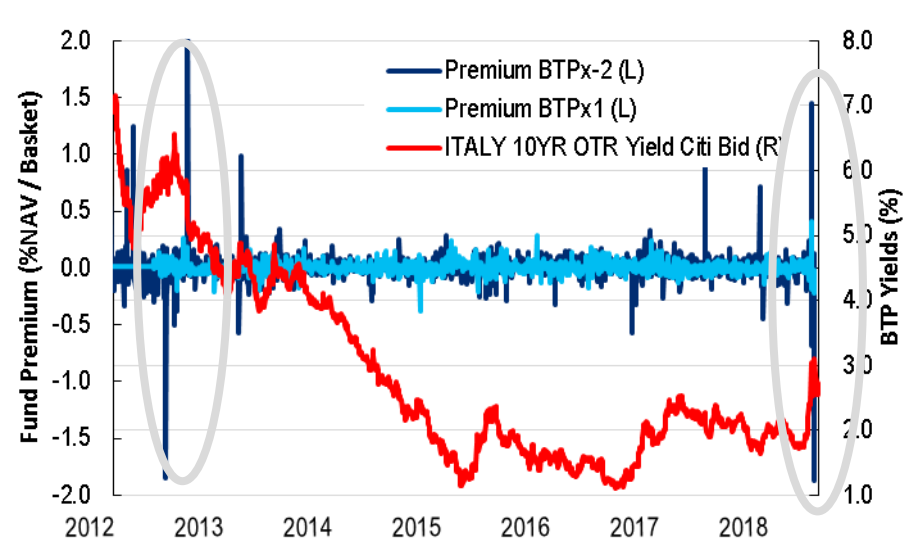
Benefits

- **Trading costs:** Democratization of risk resulting in tighter bid/offer spreads
- **Liquidity:** Greater depth / market efficiency and aid to price discovery
- **Investor Universe:** Diversification into retail / institutional investors
- **Real time pricing** unlike UCITS or mutuals funds

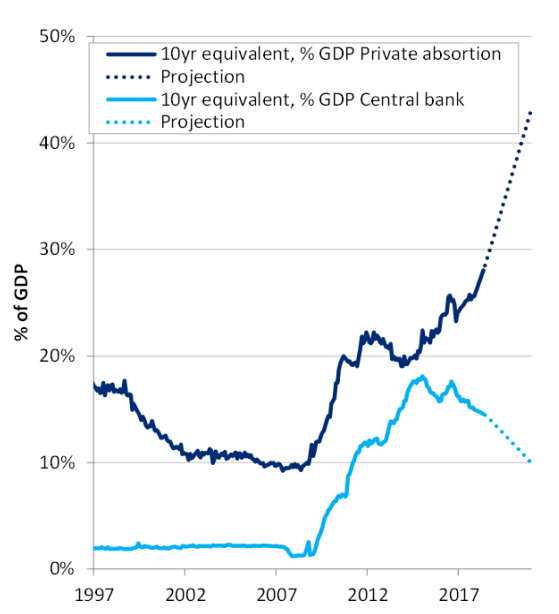
Fund Premium of Inverse VIX ETF



Inverse and Vanilla BTPs ETFs



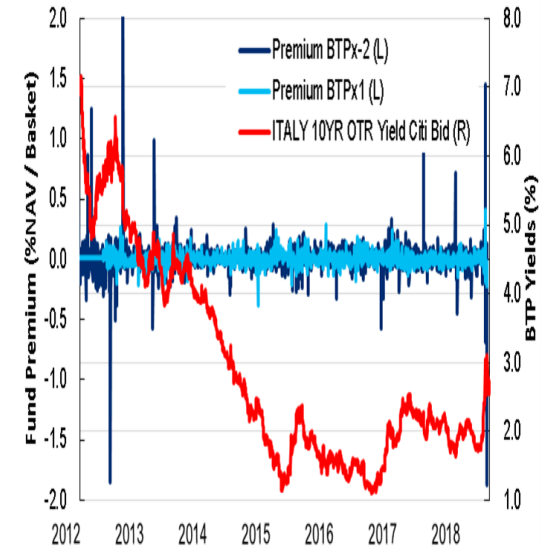
Conclusion



Increasing leverage will need to be digested as central bank unwind QE...



... positioning will become one-sided which can impact market function ...



... while new products create opportunities / risk as investor types diversify.

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