• The chart shows the Value at Risk of a $1mm/bp position in UST10 and a 5y10y UST flattener
• The VaR model uses 4y of history and is current volatility weighted, i.e., more recent data is weighted more heavily
• As volatility has fallen the VaR of the positions has steadily fallen
• The chart shows the PV01 of each position consistent with $5mm of VaR consumption
• As the VaR of a position falls the PV01 capacity increases

Source: Bloomberg, Morgan Stanley Liquid Flow Rates Trading

Please see additional important information and qualifications at the end of this material.
• As the European sovereign crisis worsened, BTP yields rose and became more volatile
• CV VaR is considerably more reactive than a simple arithmetic model- volatility increases are quickly reflected in the risk measure
• Arithmetic models are much slower to react and hold the volatile time series much longer

Source: Bloomberg, Morgan Stanley Liquid Flow Rates Trading

Please see additional important information and qualifications at the end of this material.
• Increased volatility in BTP yields in mid-2011 caused a sharp reduction in PV01 capacity

BTP: PV01 consistent with $5mm CV-VaR

Source: Bloomberg, Morgan Stanley Liquid Flow Rates Trading

Please see additional important information and qualifications at the end of this material.
Correlation: Volatility vs BTP Spread to Bund

- The chart shows the strong correlation between the volatility and the level of spread.
- The correlation means that as spreads widened the risk capacity of the investing community decreases.
- As spreads widen the trade becomes more crowded.

\[
y = 0.0831x + 0.028 \\
R^2 = 0.4724
\]

Source: Bloomberg, Morgan Stanley Liquid Flow Rates Trading

Please see additional important information and qualifications at the end of this material.
Curve dislocation peaked after VaR shock

- The maximum dislocation in the BTP market came at the end of November 2011
- During Nov 2011 95% arithmetic VaR jumped almost 20% from 8.7mm to 10.3mm
- Was this massive dislocation caused by VaR based forced liquidations?

Source: Bloomberg, Morgan Stanley Liquid Flow Rates Trading

Please see additional important information and qualifications at the end of this material.
Summary

• Dealer risk capacity is now improving as volatility comes down
  – I expect this trend to continue absent new vol. shocks
  – But VaR consumption for BTPs for example still twice as high as in early 2011

• The risk of model driven extreme illiquidity remains however
  – The model/regulatory driver of illiquidity in 2011-2012 remains the standard

• In fact, markets are likely to “trade” the risk of illiquidity in future crisis/ a self-fulfilling prophecy
  – Risk managers have learned that its best to cut risk at earliest possible time
  – Market makers have also personally internalized through experience how quickly liquidity dries up
  – I have seen short speculative trades put in place in EM precisely to capture VaR shock moment that causes illiquidity and drives asset prices sharply down/ risk premia sharply up

• Investor composition now becomes important to evaluate the resilience of different markets
  – How many investors are marked to market?
  – How important is the dealer community to specific market functioning
    • How resilient are the key market-makers
  – What is the regulatory treatment of the asset class (collateral haircuts, capital charges)

Please see additional important information and qualifications at the end of this material.
Topics for discussion

• Do dealer members of the BMCG feel that their ability to take risk in periods of elevated volatility is better or worse than a year before
  – Will liquidity be “triaged” among certain clients and markets if we see episodes of high volatility
• How are investing members of the BMCG preparing for episodes of heightened volatility
  – What are the remedial actions that are being discussed
• What are the possible policy responses

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