

## Revenue and (lack of) volatility

- The current lack of volatility is not exceptional; in equities, FX, and rates it has merely returned to pre-‘Crunch’ levels.
- The link between banks’ revenue and volatility has been overstated. Equally important factors – to name a few - are banks’ risk management, regulatory initiatives, and investors’ inertia.
- We reiterate our view that successful banks adapted to ‘flat’ markets by better monitoring of trading patterns and by successfully internalising trades via their electronic trading units.

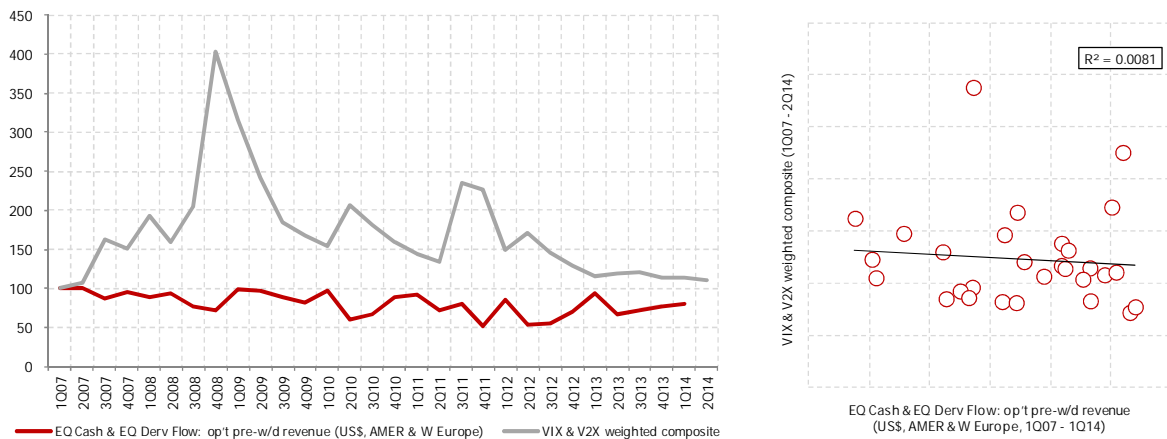
There has been much discussion in recent weeks about the impact that the lack of volatility is having on banks’ earnings. To a degree, this is a valid concern: low(er) volatility often translates into few(er) trading opportunities, be they short- or long-term. However, our research shows that volatility (or lack of it) is only one factor influencing revenues – and, in some product areas, only a minor factor.

In this note, we compare historical dynamics of top tier investment banks<sup>1</sup> product-level cash and/or flow client and risk revenues with benchmark volatility indices in equities, FX, rates, commodities and credit. Structured products revenues and dedicated prop units are excluded.

### Equities

Significant differences between individual banks notwithstanding, on the whole, there is no correlation between cash and flow equity derivatives US and Europe revenues and benchmark volatility indices. In fact, since the turbulent 2008/09 period, the two show a strong adverse correlation, partially reflecting the negative risk management impact that volatility spikes can have on a business driven by commission revenues.

### Equity Cash and flow derivatives revenue vs VIX & V2X composite (indexed to 1Q07)



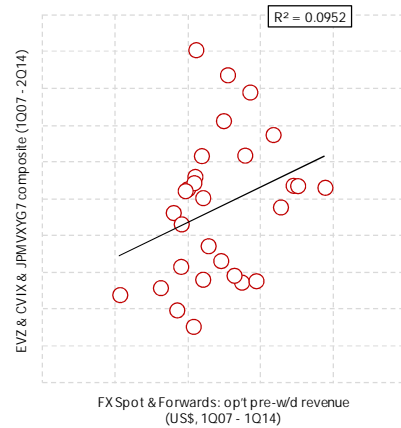
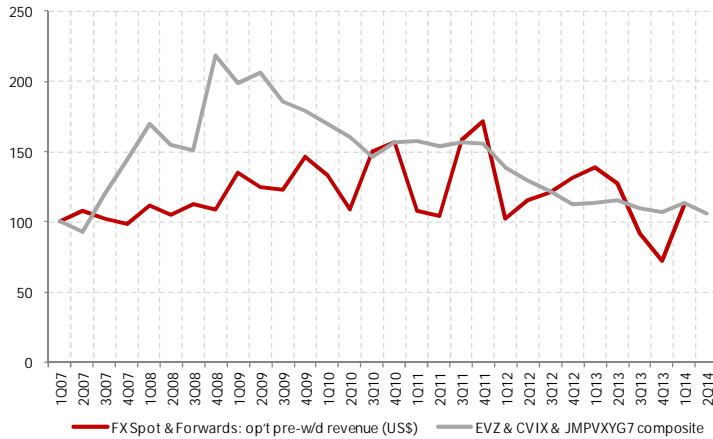
Source: CBOE, STOXX, Tricumen. Notes: (1) VIX = Chicago Board Options Exchange (CBOE) S&P 500 index; the original ‘fear index’; (2) V2X = STOXX’ volatility index, based on EURO STOXX 50 realtime options. (3) VIX & V2X composite index is market-cap weighted, by Tricumen.

<sup>1</sup> The Top 14 peer group comprises capital markets units of Bank of America Merrill Lynch, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, J.P. Morgan, Morgan Stanley, Royal Bank of Scotland, Societe Generale, UBS and Wells Fargo. We also follow Standard Chartered, but it is not included in this note due to the bank’s regional emphasis.

Foreign Exchange

Adding to the impact of margin compression, the dearth of volatility – initially driven by the actions of central banks to stabilise their economies - is now feeding on itself. In expecting the calm markets to persist (e.g. major currency pairs to continue trading within tight ranges) investors are understandably hesitant to take major positions. A rise in interest rates and/or divergence between central banks' monetary policies and communication may provide a welcome boost to volatility.

FX spot & forwards revenue vs EVZ, CVIX and JPMVXYG7 composite (indexed to 1Q07)

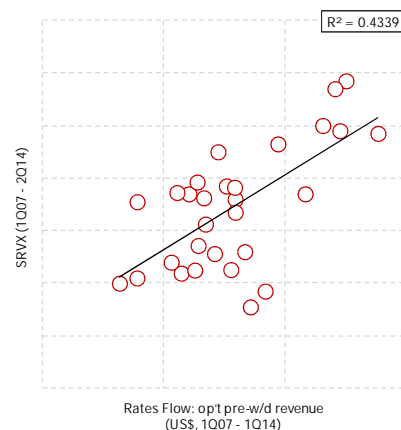
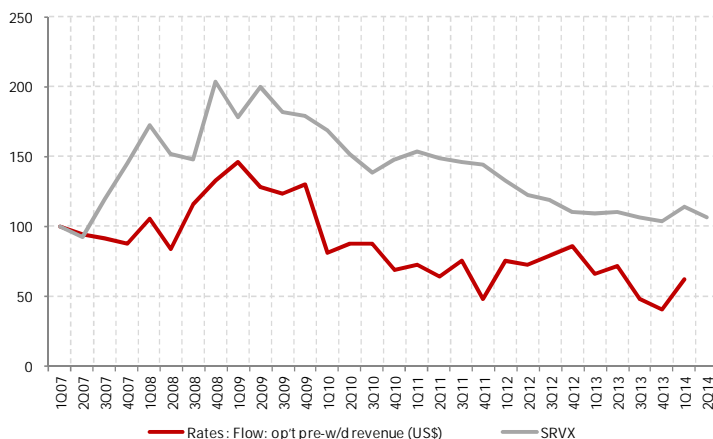


Source: CBOE, Deutsche Bank, J.P.Morgan, Tricumen. Notes: (1) EVZ = CBOE EuroCurrency Volatility Index ("Euro VIX") measures the market's expectation of 30-day volatility of the \$US/Euro exchange rate. Data: from 1-Nov-07. (2) CVIX = Deutsche Bank FX volatility index; it is based on 3-month implied volatility in nine major currency pairs. (3) JPMVXYG7 = J.P.Morgan G7 FX volatility index.

Rates

As with FX, the rate markets have seen volatility fall to levels last seen at the start of 2007. Undoubtedly this has been caused the actions of central banks such as quantitative easing and, in some cases 'forward guidance', which has led investors to expect that interest rates will remain low for some time. While rates revenue and volatility are reasonably well coordinated, other factors influencing revenues include central clearing, the impact of new capital regimes and risk management issues at some banks.

Rates flow revenue vs SRVX (indexed to 1Q07)

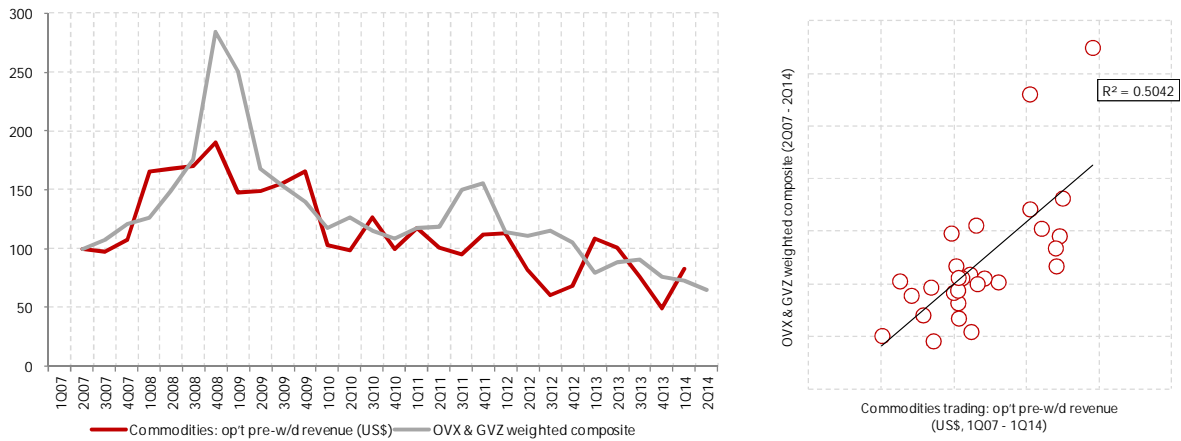


Source: CBOE, Tricumen. Note: SRVX = CBOE volatility index of IR swaps; it is based on 1-year swaptions on 10-year US\$ interest rate swaps.

Commodities

In commodities, we utilise CBOE's OVX ('Oil VIX') and GVZ ('Gold VIX'), weighted to banks' earnings from trading in these two products, and excluding prop revenue and revenue from some physical holdings. This analysis is not complete: revenue from oil and gold trading hardly encompasses the full revenue 'wallet', and a decline in banks' aggregate revenue in recent times was amplified by a number of key players reducing their commodities operations under regulatory pressure. Nevertheless, there is a clear link between revenue and volatility indices: the lack of volatility drives away trading clients (e.g. hedge funds) and oil producers and consumers, which have little incentive in lock-in prices.

Commodities trading revenue vs OVX and GVZ composite (indexed to 2Q07)

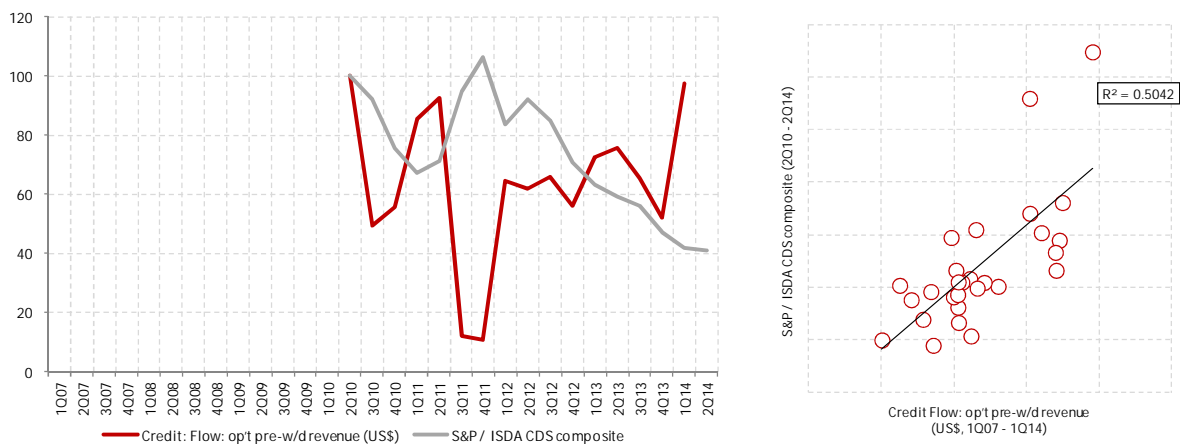


Source: CBOE, Tricumen. Notes: (1) OVX = CBOE Crude Oil ETF Volatility Index ('Oil VIX'). Data: from 1-May-07. (2) GVZ = CBOE Gold ETF Volatility Index ("Gold VIX"). Data: from 3-June-08. (3) The composite index is revenue-weighted, by Tricumen.

Credit

Perhaps unsurprisingly, volatility spikes have negatively impacted the credit markets and the period of the Eurozone crisis - with its associated high volatility - proved a deterrent to investors from European bond markets. As Eurozone stabilised and volatility/CDS indices declined, investors saw bonds (and high yield bonds in particular) as a way of escaping the low returns in other asset classes. In short, in a market where the risk is not 'only' a fall in prices but also a risk of default, too much volatility can kill liquidity: in credit markets, the 'temperature' has to be just right.

Credit flow revenue vs CDS composite (indexed to 2Q10)



Source: S&P/ISDA, Tricumen. Note: CDS shown here is the weighted composite of S&P/ISDA CDS indices for U.S. High Grade; U.S. High-Yield; and European Banks Select 15 (from 2Q12).

## About Tricumen

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Situated near Cambridge in the UK, Tricumen is almost exclusively staffed with senior individuals with an extensive track record of either working for or analysing banks; and boasts what we believe is the largest capital markets-focused research network of its peer group.

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