

Market Risk Report

October 2007

Executive Summary

- How short is the memory of markets? Very short judging by the equity markets. Citigroup's "profits warning" of a 60% drop in Q3 profits was seen as drawing at least a partial line under the sub-prime crisis, and the stock markets rallied. Volatility levels dropped in almost all asset classes. The fixed income markets took a slightly more cautious view: spreads remained well above pre-crisis levels.
- Equity markets rallied strongly: the Dow and MSCI Emerging Markets indices hit new all-time highs. Volatilities were still high in September, but below the levels of August. The VIX is implying volatility levels will remain at these higher levels of ~20% over the next month.
- Yield curves in the UK and US steepened as rates were cut in the US and concerns over inflation rose. Further rate cuts are expected in the US and UK. Spreads narrowed slightly but remained well above pre-crisis levels. Bond volatilities stayed high during September: US volatilities hit a new 12-month high.
- The Dollar weakened to a new all-time low of \$1.43/€ and also weakened against the Pound to \$2.04/£. FX volatility remained high with the Yen/\$ hitting a new 12-month high.
- Option volatility generally will have remained high during September as equity prices fell sharply in August and rose strongly in September, and the volatility of implied volatility remained high.
- Commodities' prices continued to rise, Gold prices rose sharply. Volatility remained low though.
- Real Estate (share) prices bounced during the month. Volatility remained high and Japan made a new 12-month high of 49.4%.

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Key News (Major Volatility-Driving Events)

September: plenty more excitement, but equities rallied

The fallout from the sub-prime crisis continued to echo through the markets.

There was a run on Northern Rock (the first run on a UK bank in over 100 years) as its wholesale funding dried up.

The Fed leapt to the rescue of the markets, with a greater than expected 50bp cut in both the Target and Discount rates. The Target rate now stands at 4.75%.

UBS announced a shock loss for Q3 2007 after a £1.2bn fixed income write-down accompanied by the sacking of the CFO and head of investment banking. Citigroup gave a profits warning: saying Q3 profits would be down 60%. Equities rallied at the prospect that the worst of the crisis might already be over: the Dow hit a new all-time high.

Despite rate cuts and dramatic falls in yields on short duration treasuries, spreads over Libor remain high (e.g. Sterling spreads have fallen from 104bp to 47bp, but were closer to 20bp before) and hence the cost of borrowing has not yet fallen in line with rate cuts or expected rate cuts.

Despite all the noise equities in developed markets were up around 3% during September mainly in response to the Fed cutting rates, and the S&P500 is just 1.5% below its all-time high. The Dow and MSCI Emerging markets indices made new all-time highs.

Volatilities fell back across most asset classes as the initial panic receded.

The real economy shows signs of weakness

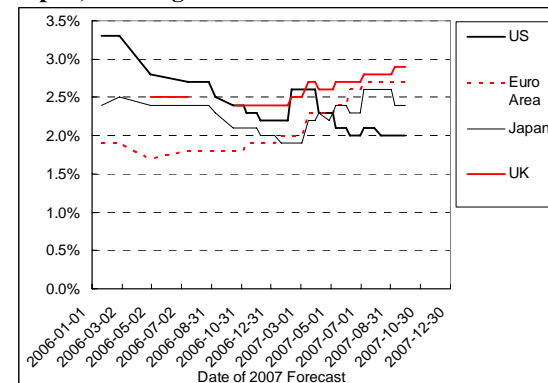
Unsurprisingly the US housing market showed signs of weakness. US sales of existing homes fell 4.3% in August: the S&P Case-Shiller house price index fell 3.9% in the year to July, durable goods orders fell 4.9% in August, consumer confidence fell to a 22 month low in September

Industrial production in the EU also weakened: the Ifo survey, while remaining near historically high levels, fell again.

US unemployment figures also gave the Fed reasons to cut rates.

GDP estimates were largely unchanged during September, with the exception of Japan, where 2007 was revised down from 2.6% to 2.4%. However, these are generally lagging figures, and we should expect downgrades to the US next month.

2007 GDP growth estimates were revised down for Japan, unchanged elsewhere.



The Dollar fell again

The rate cut (and expectations of further cuts to come) in the US caused the Dollar to fall again, in particular against the Euro, where it reached an all-time low of \$1.43/€ (compared with \$1.25/€ last October). The Canadian Dollar also went through parity. (Commentators noted that where the US used to call the Canadian Dollar the “Northern Peso” the Canadians may well be talking of the “US Lira” soon.) Against the Yen and the Pound Sterling the Dollar was unchanged, suggesting that what we are seeing is Euro strength rather than Dollar weakness.

Oil prices up again

Oil prices rose again hitting a new high of \$82.9. Prices are now up around 35% in Dollar terms compared to 2 years ago, but it is worth bearing in mind that this is just 25% in Euro terms.



Equities

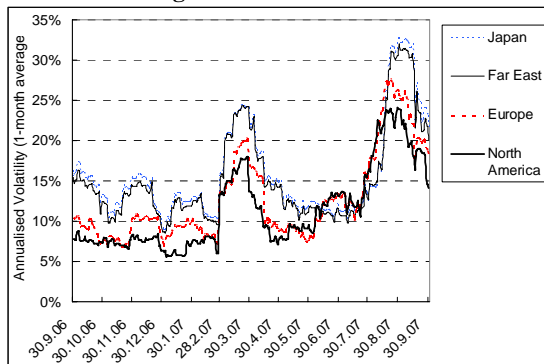
Prices

The 50bp rate cut by the Fed drove equity prices up and volatilities down. Western equity markets rose around 3% during September, and volatility fell from around 25% at its high to 15-20%.

Volatility: Regions

Equity volatilities hit new highs in the last days of August. During September the markets relaxed a little and volatilities dropped off. For example, North American volatility fell from 24% to just 14% during the month.

Volatilities fell in all regions but stayed well above 12-month averages

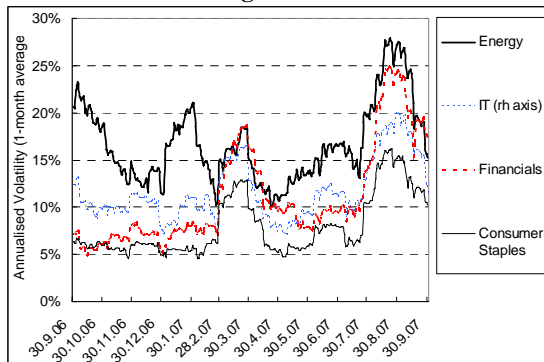


Note: based on MSCI regional indices

Volatility: Sectors

Likewise, sector volatilities fell from their August highs during September. The IT and Energy sector actually had volatilities below 12-month averages at the end of the month.

Sector volatilities fell sharply: IT and Energy fell to below 12-month averages



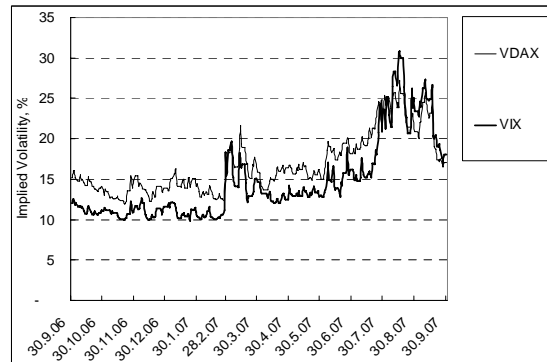
Implied Volatility (Market-Implied Near Term Outlook)

The VIX and VDAX indices show the implied (expected) volatility of the S&P500 and DAX respectively over the next 30 days based on options' prices.

Three months ago we suggested we had reached a new, higher, base level of around 13% for the VIX. This has remained true. In fact both the VIX and VDAX continued to trade well above this. Although both ended the month sharply down, the VIX finished the month at 18.0% and the VDAX at 17.1%.

The current level of around 18% for the VIX is level with the 30-day historic level of the S&P500 of 18%, implying that the market is forecasting equity market volatility to remain stable over the next 30 days.

The VIX (US) and VDAX (Germany) are both implying that equity volatility will remain high over the next month



Fixed Income (10 Year Government Bonds)

Prices

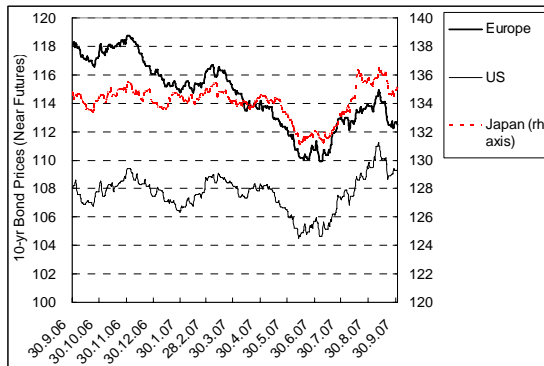
Short-duration bonds continued to benefit from the worries over sub-prime debt as institutions, worried about credit risk, parked money in (safe) treasuries instead. 2-year US government yields had dropped to just over 4% and 2-months to under 3% at one point. However these rose again to more “normal” levels.

However, the cut in rates did increase inflation concerns, and yields increased at the long end, and prices fell.

Combining these two effects steeped the yield curve significantly.

The change in bond prices was uniform across regions.

10-Year bond prices fell again as inflationary concerns rose



Interest Rate Expectations

US markets are now suggesting rates could drop from the current 4.75% to as low as 4% over the next 6 months. The market still seems to believe in the “Greenspan put”: the belief that if the stockmarket falls the Fed will step in to support it, effectively putting a floor under the stockmarket.

The market also expects the UK Bank of England to cut rates from 5.75% to around 5% over the next year.

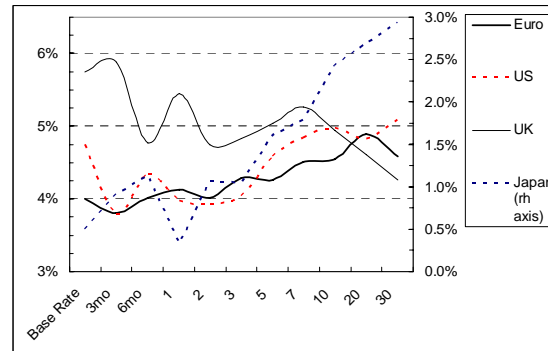
However, we suspect that in both markets above some of the implied cut in rates may be due to short-term technical issues (short term treasuries being bought as safe-haven assets) and rate expectations are higher than those implied by yield curves at present.

IRML Monthly Market Risk Report: October 2007

In Europe the yield curve has flattened with the short term rate at 4% and the long end still at less than 5%. The yield curve no longer suggests an imminent rise though: this matches recent economic data, which although strong shows falls in several key leading indicators.

Only Japan still shows an upward sloping yield curve at the longer end, but the shorter end has now flattened, and rates are implied to rise to just 1% over the next 3 years.

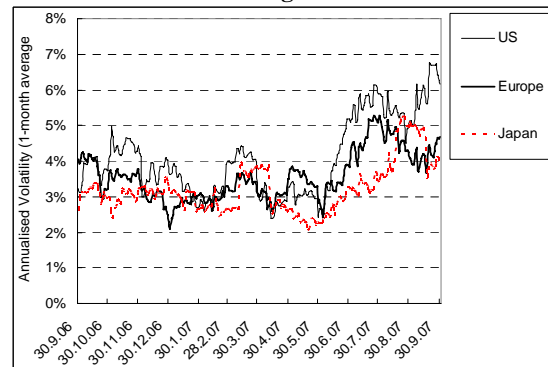
US and UK rates are expected to fall, European rates to stay flat. (Note these are not yield curves, but are future short term rates implied from yield curves)



Volatility

Bond price volatility remained high during September, with the US hitting a new 12-month high of 6.8%.

10-Year bond price volatility remained high, the US hit a new 12-month high



Spreads

Spreads fell back only slightly during September, suggesting that risk is still being priced in. In

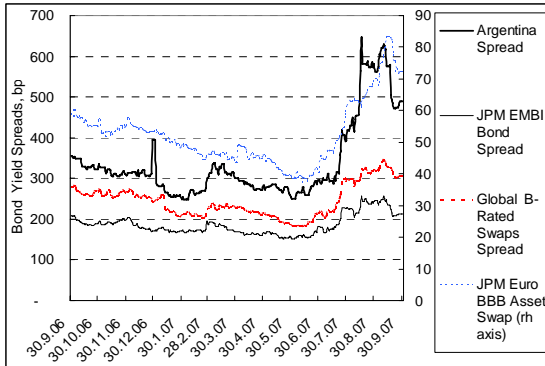


contrast to the recovery in the equity markets, bonds spreads have not returned to the exceptionally low levels seen over the last 3 years.

B and BBB spreads made new 12-month highs during September.

Emerging Market bonds over Developed (JPMorgan EMBI index) fell back: Argentinean spreads from 648bp to 490bp.

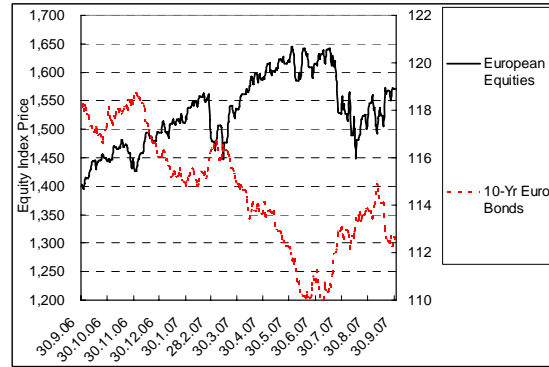
Credit spreads narrowed slightly during September



Correlation with Equities remains negative

Bonds and equity prices remain negatively correlated since the start of this year when fears over a growth slowdown intensified. The recent rise in equities while 10-year bond prices fell (yields rose) continues that trend.

Bonds prices have been negatively correlated with equities since the start of 2007



FX

Prices

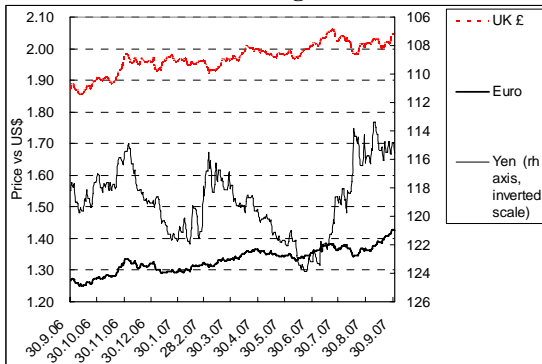
The 50bp cut by the Fed, and the expectation of more cuts to come, weakened the Dollar. The unwillingness of the ECB to follow suit, and the continuing strength of the European economy (despite some lead indicators beginning to fall) kept the Euro strong. The strengthening of the Euro against the Dollar accelerated: going from \$1.36/€ to \$1.43/€ (a new all-time high) during September.

The Pound also strengthened to \$2.04 (a 26 year high).

The Yen was very volatile but largely unchanged at around ¥115/\$.

Also of note was the Canadian Dollar, which passed up through parity against the Greenback for the first time since 1976, driven by dual surpluses and booming commodities' prices.

The Yen continued to strengthen

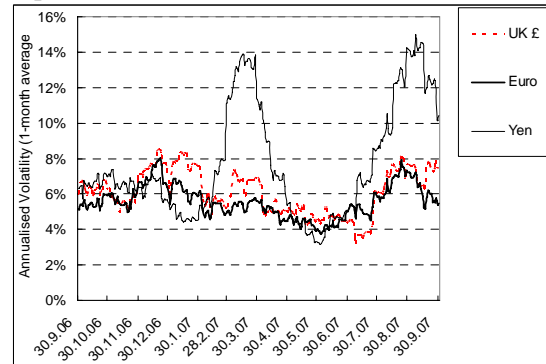


Volatility

The Yen was unchanged on the month, but the ride was far from smooth: volatility continued to remain high and made a new 12-month high of 14.9%.

The Euro and Pound's movements were less extreme and volatility stayed around 12-month average levels.

Yen volatility made new 12-month highs during September



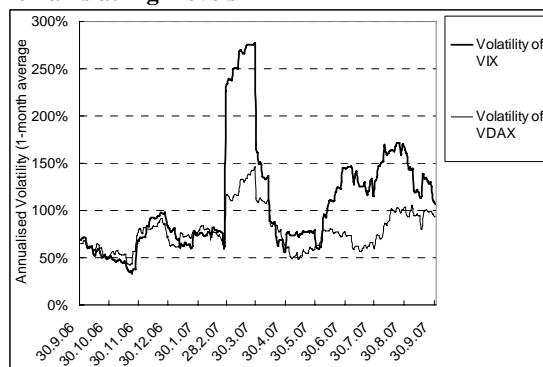
(Equity) Options

Volatility of Implied Volatility

The chart of volatility of implied volatility looks similar to the VIX and VDAX from which it is derived, showing a peak in spring 2007 and another spike in August 2007.

Volatility of volatility fell in September in both the US and Germany, although unsurprisingly volatility of volatility remains higher in the US as recent troubles have been centred there.

Volatility of volatility fell back in September but remains at high levels



These volatility of volatilities will have meant options prices would have been considerably more volatile during August but slightly lower in September.

(Equity) Price Swings

Equity prices have had a wild ride over the last two months.

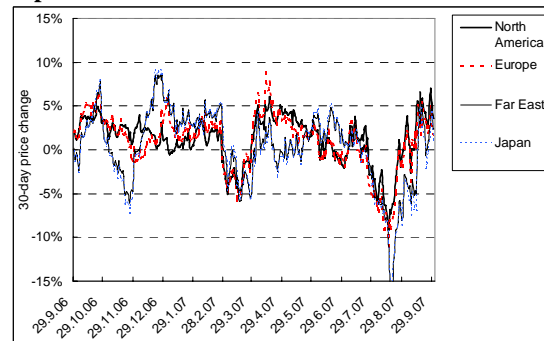
During mid-August 30 day equity price movements were strongly negative in all regions. In Japan the market was down 17% over 30 days at one point, and the figure for the US was -9%.

This suggests that (equity) option deltas would have strongly decreased for calls and strongly increased for puts.

By mid-September this was reversed: the Japanese market was up 5% over 30 days, and the US up 6%.

Portfolios containing options would quite likely have seen quite large changes in both value and risk during the last two months.

30-day equity price changes were strongly negative mid-August in all regions but quite positive by mid-September



Note on Treatment

Options show more complex behaviour than the other instruments we look at in this report, so we make some simplifying assumptions. As Calls and Puts are in effect polar opposites and in and out of the money options behave very differently, it is hard to generalise all options' behaviour. However, we look at the two key drivers: volatility of implied volatility and major price movements of the underlying security.

Implied volatility (via the option Vega) drives option prices, so a big indicator of option price volatility is the "volatility of implied volatility".

Of course the biggest driver of individual option prices is the movement of the underlying (via the option Delta): a move in either direction will cause the option to go in or out of the money (and a corresponding change in the option Delta and price volatility). As a proxy for this, we look at the 30-day price swing of equity market indices; options on bonds or FX could of course behave differently. Calls and Puts will respond in opposite fashions: calls becoming more volatile as prices rise.

Note on Convertibles

Convertibles are in effect a combination of a bond and a call option, with the bond portion usually making little contribution to the instrument volatility unless the option is out of the money. As such, convertible portfolios' volatilities will normally behave similarly to call option portfolios, and this commentary can be applied to convertibles as well as options.



Commodities

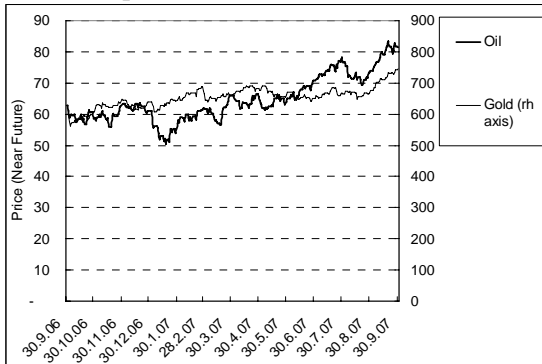
Prices

Global economic growth remains very strong, and despite concerns over a slowdown in the US real economy as a result of the sub-prime crisis the price of Oil futures rose to a new nominal high of just under \$83 during September.

The equity and bond markets' focus still does not appear to be on Oil, and the impact of its recent rise in price has not been felt elsewhere. The hurricane season has so far failed to cause any major oil-infrastructure damage despite the intensity and number of storms so far, and the political situation in oil-producing countries has been more stable over the last few months.

Gold is still behaving like a safe-haven asset, and prices crept up again in September to finish at \$746, up 25% on a year ago.

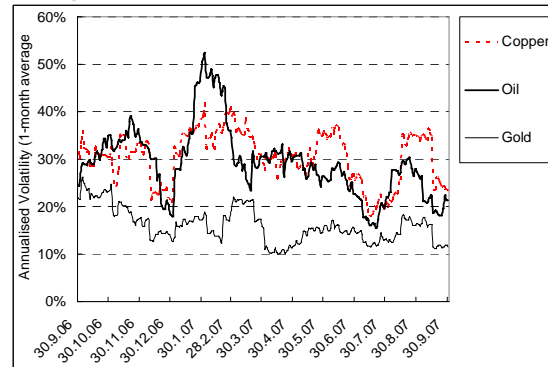
Oil prices rose again and the Gold price continued its march upwards



Volatility

Volatility remained relatively low during September. Gold volatility fell to barely above its 12-month low.

Volatility levels for major commodities returned to average levels





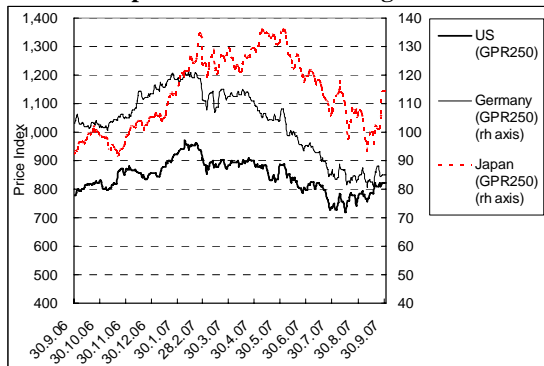
Real Estate (Real Estate Share Prices)

Prices

Perhaps surprisingly, property shares actually rose on the month, buoyed by the US rate cut.

Interestingly, the UK domestic residential market remained relatively buoyant, especially in London. Outside London the rate of price rises continued to fall.

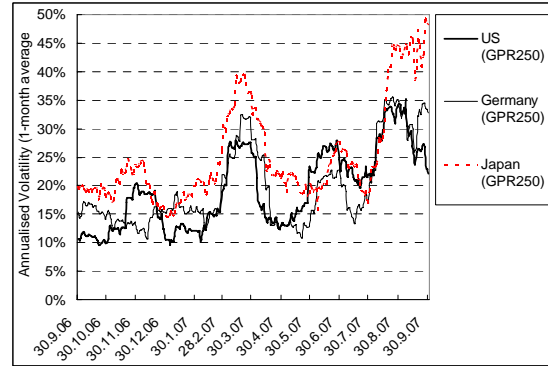
Real Estate prices bounced in all regions



Volatility

Volatility was extremely high in September. Japan made new 12-month highs of 49.4%: a new record volatility for an asset class in our reports.

Real Estate volatility levels made new 12-month highs in Japan



Note

Note that for property we just look at indices of the share prices of property companies, and not the underlying property directly, for which little good data is available. This is usually consistent with funds which tend to invest in property indirectly, e.g. via REIT's.

As REIT's can be more focussed on commercial property, residential housing may also follow a slightly different pattern.



Notes

Definitions

To avoid repetitions, the term volatility refers to annualised, 30-day average realised volatility in local currency unless otherwise specified. As such it may be lower than, and lag, shorter-term market volatility in times of high market volatility.

Charts show data up until 3rd October 2007 and the commentary was written on or before 4th October 2007.

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