Citizens Bank

Understanding Recent Market Turbulence

1 March 2007

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Chart 1: Global equity market indices (2006=100)

Source: Thomson Datastream

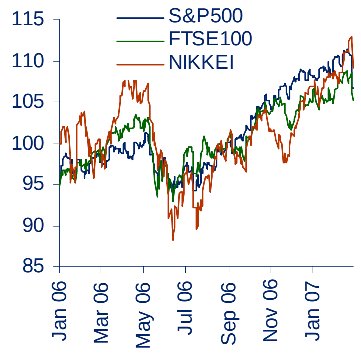
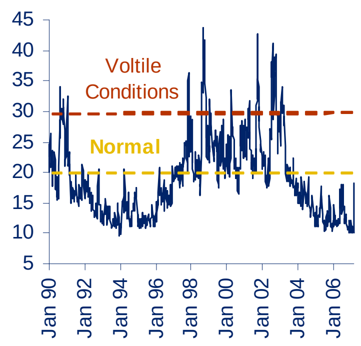


Chart 2: VIX Index of Implied Volatility (weekly data)

Source: Chicago Board of Trade



This week's global equity market sell-off was initially attributed to developments in China, but this was merely the spark. Since then, increasingly risk-averse investors have focused on the weakness of recent US data releases and concerns over the sub-prime mortgage market. Comments from Alan Greenspan that a US recession was "possible" added to investor jitters. So far the equity market correction is small compared to that seen in May last year (chart 1), but it is still early days and further volatility is possible given the potential for downside surprises in upcoming US data releases.

Global equities sell-off

The 8.8% slide in China's key equity market on Tuesday reverberated around the world, with most major stock markets posting declines of between 2% and 4% later that day. The initial trigger for the sell-off (fears of a clamp-down on investment in the Chinese equity market or the introduction of a tax on equity market gains) has retreated. In fact, after clarification from the Chinese authorities, the Shanghai Composite index recovered 4% yesterday. However, most markets elsewhere continued to decline, as investor confidence was rattled. Attention has increasingly focused on developments in the US, where concerns about the sub-prime mortgage market and string of weaker than expected data have taken on a new importance in investors' minds.

Complacent investors have received a nasty knock

Investor risk aversion has increased markedly. Riskier assets (equities, emerging market debt, etc) took something of a battering, while bonds gained as investors ran for cover to risk-free assets. Hence, long-term interest rates fell, as bond prices and yields move inversely. The yen has appreciated quite sharply, gaining around 1.5% against the dollar on Tuesday – a tell-tale sign that carry trades (where investors borrow money in economies where interest rates are low, like Japan, and invest the proceeds in economies where higher yields are on offer) were being unwound.

The VIX index of implied volatility (which basically shows how volatile trading conditions are expected to be in the month ahead) increased from 11.2 to 18.3 on Tuesday. This is the largest percentage move in one day in the history of the index – although this largely reflects the extremely low base (the VIX was close to an all time low before the spike). Indeed, in mid-2006 the VIX index recorded a larger increase in absolute terms over a number of weeks – moving from 11.6 in early May to 23.8 in mid-June.

The important thing to note is that risk aversion was at incredibly low levels before the turbulence of recent days. A VIX level of 20 has traditionally been viewed as consistent with expectations of "normal" trading conditions – the index was running at almost half that level in recent months (chart 2). Even after the sharp upward adjustment on Tuesday, the index hadn't returned to levels that are considered "normal" over a longer term horizon.

Further turbulence possible

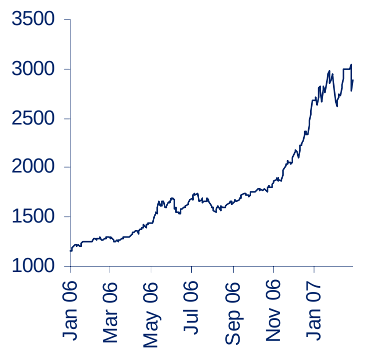
Financial market conditions may remain choppy in the near-term, since key data releases are due, with potential for downside surprises that could deal further blows to investor sentiment. (US GDP data for Q4 were revised down yesterday, from 3.5%

annualised to 2.2%, but in line with market expectations.) The US employment report for February will be released next week, and will be closely watched, as it will provide a reading on the health of the labour market at the start of the year. The Institute of Supply Management (ISM) service sector survey will also be issued, where investors will be watching for any signs that the service sector is weakening - the ISM manufacturing index (released today) showed that business activity in the industrial sector was actually a little firmer than expected in February.

Financial markets appeared to take heart from comments by Chairman Bernanke yesterday that, "*My view is that taking all the new data into account, that there is really no material change in our expectations for the US economy...we are looking for moderate growth in the US economy going forward".* He also addressed the sub-prime mortgage issue – stating that the Fed was monitoring the situation, but that the broader mortgage market was still healthy and there was no sign of spill-over to the wider economy. The S&P500 gained around 0.5% yesterday after dropping 3.5% on Tuesday.

Chart 3: Shanghai Composite Index

Source: Thomson Datastream



Recent declines in perspective

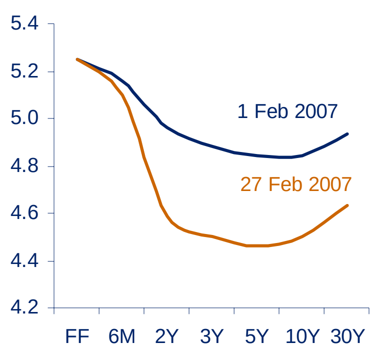
Equity market declines of this magnitude cannot be dismissed out of hand, but it is still important to view them in a longer-term perspective. This is especially relevant in the Chinese case - even after the 8.8% slide, the index was still up 3.6% compared to the start of the year and almost 140% above the start of 2006 (chart 3). In the US, the S&P500 was down around 2% on Tuesday compared to the start of the year, but was still almost 12% higher than the start of 2006. So far the correction in the major equity markets is small relative to the slump we saw in May last year (although it is still early days). Between early May and late June last year the US market slipped by almost 8%, the FTSE100 by nearly 10% and the Nikkei lost 17% (chart 1).

The global economy remains in good shape. Our central view is that economic growth will be maintained at a respectable pace over 2007 as a whole in all the key economies. The US outlook is where investor anxiety is concentrated, due to its central role in the global economy and the ongoing adjustment in the US housing market. We expect US growth to be weak in the first half of the year, but to rebound in H2 as the housing market stabilises. This is close to most analysts' views. The consensus forecast for 2007 (February survey) is for US real GDP growth of 2.7%, down from 3.3% in 2006, but only modestly below the economy's 3% trend growth rate. In his monetary policy testimony on February 14th, Chairman Bernanke announced that the Federal Reserve has similar projections – central tendency for GDP growth is 2.5% to 3% this year.

US yield curve implications

Chart 4: US Yield Curve (%)

Source: Thomson Datastream



If recent developments lead to a more conservative pricing of risks across asset-classes, policymakers may breathe a sigh of relief, in that an even nastier correction may have been avoided. **One manifestation of investor's unusually strong appetite for risk in recent years has been the extremely low level of long-term interest rates**, which had bid down the term premium (the compensation received for lending over a longer-term horizon) to almost nothing.

In the near-term the knee-jerk reaction of investors' shifting from riskier assets towards risk-free assets (especially government bonds) is causing long-term rates to fall. **In the US, this has deepened the yield curve inversion**. Ten year treasury yields were at 4.5% at Tuesday's close, 75bps below the fed funds rate compared to 50bps a few days ago (chart 4).

Assuming the situation stabilises in the days and weeks ahead, **we may find that longer-term interest rates edge up as investors start to push up term premiums**, even as the economic situation improves (i.e. there is a re-pricing of risk, with term premiums returning to more normal levels). Spreads on other assets – corporate bonds, etc - may also edge up a little higher.