

Market liquidity under stress: observations from the FX market

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Given the thorough exposition of the theoretical aspects of liquidity given elsewhere in the conference, I will focus my remarks on a market perspective to these issues. First, outlining in general how periods of market stress appear from an FX dealing floor, and second looking in detail at whether the euro could be subject to such an event.

FX markets under stress

Market makers tend to identify two types of stress events in FX markets, the first involving high volatility and high turnover the second high volatility and low turnover. In general, high volatility and high turnover events are good times for market makers, since they can achieve the seemingly contradictory combination of keeping quoted spreads relatively narrow while substantially increasing their profit per trade. This is achieved through higher effective spreads whereby market makers find it easier to "read" incoming trades and so quote accordingly. Examples of this type event include the periodic 10 yen moves of dollar/yen, and the fallout for a developed country currency crisis. Although large trades are difficult to execute in such periods, liquidity in terms of the ability to execute a trade remains, the cost is that effective spreads are wide.

High volatility low turnover events are rarer and represent bad times for market makers. These usually occur after a high volatility high turnover event but change in character as the market has lost two-way interest. Despite being able to read future trades, market makers are unable to make money as it is impossible to lay off trades elsewhere. Therefore, these any trades have a disproportionate impact on prices and market makers find themselves on the wrong side of these moves. The reaction is to widen quoted spreads considerably or not quote at all. Although these event are rare, the aftermath of the Asian currency crisis supplied a few examples. In particular, the Indonesian Rupiah went through an extended period of low turnover and high volatility. Interestingly, this occurred once international investors had almost totally withdrawn from trading, while domestic investors still had a strong demand for dollars.

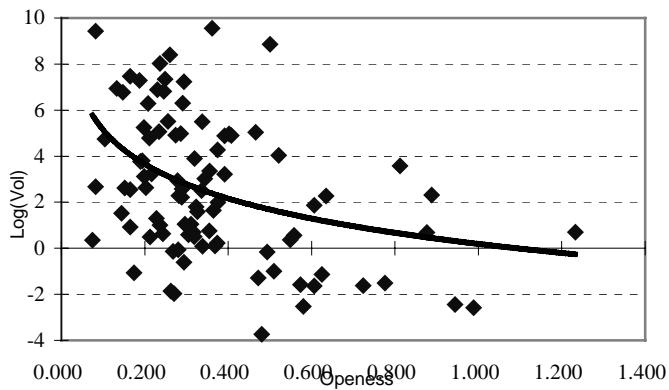
From a policy-maker point of view it could be argued that high turnover high volatility events are unfortunate, but preferable to the low turnover variety. Certainly, the majority of currency moves in the Asian crisis occurred after the initial crisis, and the Rupiah's near 80% fall has had real and lasting effects on the economy.

Liquidity prospects for the euro

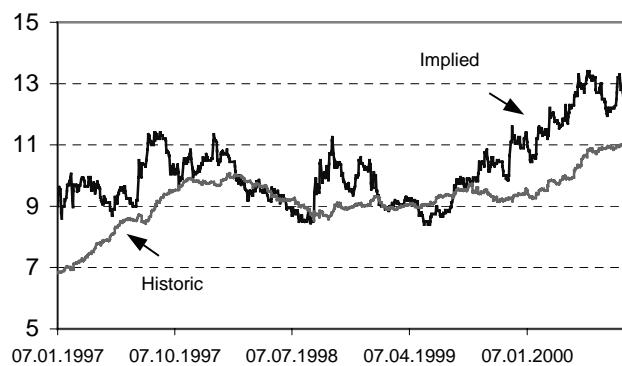
Although the fall in value of euro/dollar since inception is its best known feature, that fall has been remarkably orderly, with very few stress events along the way. Certainly, in comparison to dollar/yen, which has made a number of one day 10% moves in recent years, the euro's moves seem orderly. Is this simply a coincidence or is the euro naturally more resilient to stress events?

The first point to note about the euro is that euro/dollar volatility has changed relative to dollar/DM. The key reason for this is the phenomenon of 'benign neglect' whereby central banks of large closed economies put less weight on the exchange rate than those of more open ones. The reason for this is simple, with imported goods making up a smaller proportion of CPI, the inflation impact of exchange rates movements is less in more closed economies. The chart below shows the impact of this benign neglect for a sample of nearly 100 countries, more closed economies do indeed seem to have more volatile exchange rates.

Exchange Rate volatility and openness
(Imports as % of GDP vs. log real effective exchange rate volatility)



Volatility of the DM and Euro
(1 Year Historic and Implied \$/DM volatility)

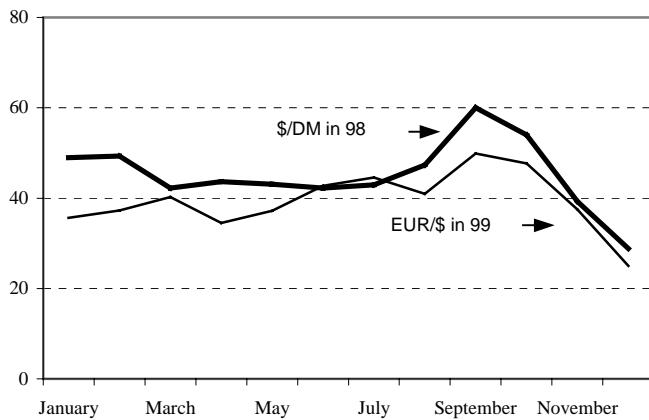


In the case of euro/dollar, the impact of benign neglect can be seen in the chart above as the volatility of euro/dollar has risen well above that of dollar/DM before it. This is true in both actual historic volatility, and expected volatility (from FX options)

Overall, benign neglect suggests that euro/dollar will be volatile, but will this volatility escalate into stress events? One piece of evidence that suggests it may is shown in the chart below. Turnover in euro/dollar has fallen markedly relative to dollar/DM. This lower turnover may indicate less depth in the market and so a higher propensity to stress events.

EBS turnover in \$/DM and EUR/\$ - 1998-99

(Monthly average of daily turnover in \$bn, source EBS)



\$/JPY



However, a closer look at stress events in dollar/yen suggest that although euro/dollar is more susceptible to these events than was dollar/DM, we are unlikely to have one soon. As the chart above shows, dollar/yen has had three main stress events (daily movements of around 10%) in the last 4 years (May 1997, September 1999 and October 1999). A notable feature of these events is that they have all been sharp appreciations of the yen. ("dollar/yen goes up by the stairs and down by the lift" as some traders put it). The reason given for this is that the large interest rate differential between the US and Japan (currently around 6%) makes being long dollar/yen a standard carry trade (i.e. even if the exchange rate does not move, the interest rate return of borrowing yen and depositing in dollars is substantial). For a number of reasons, it is carry trades like these that are the most susceptible to stress events, and tend to have skewed returns such that they generate small positive returns for long periods and then one off large negative returns.

Since the US euro-area interest rate differential is still quite small (about 2%) euro/dollar does not yet have the characteristics of a standard carry trade. However, carry trade analysis would suggest that if euro/dollar were to have a sharp move, it is more likely to be an appreciation than depreciation.