The Hidden Cost of Illiquidity

If you ever come across a crowded restaurant or bar you would like to see thin out a bit, hijack the sound system and start talking about liquidity in the London interbank markets. Fleeing patrons might pay you to take their table just for the privilege of leaving.

This inattention to detail can be costly. One of the lessons we thought we learned from the Great Depression was protectionism was a lose-lose game for all involved. That lesson was learned primarily in the context of high tariffs, such as the American Smoot-Hawley tariff of 1930, and it is easy to understand why. Tariffs are visible, they are a direct cost on imports and the exporter penalized by them is aware of the penalty. Consumers of goods with high tariffs should be outraged at this tax on their goods purchased, but as tariffs are imposed indirectly, this never seems to be the case.

The post-World War II order created a mechanism, the General Agreement on Tariffs and Trade (GATT) to countermand the general political impulse toward trade barriers. GATT went through several rounds of negotiations over the decades the likes of which make a wiring diagram look simple and was then succeeded by the World Trade Organization (WTO).

Trade barriers are like the mythical Hydra: Cut one and others grow to take its place. Each barrier comes replete with predictable if unintended consequences. For example, the U.S. imposed quotas on the importation of Japanese cars starting in the 1970s; we should not have to ask how American firms such as General Motors and Chrysler fared vis-à-vis Japanese firms such as Toyota and Honda over the past thirty-five years. The Japanese sold fewer cars to meet the quota, but predictably upgraded their mix to include luxury nameplates such as Lexus.

Other non-tariff barriers include health and safety regulations, licenses and restrictions on distribution networks and logistical systems. But the biggest one of all has been the deliberate manipulation of currencies by governments. This has been a tawdry tale in international trade ever since the collapse of the Bretton Woods system of fixed exchange rates between 1971 and 1973. The actual impact on trade flows of these currency manipulations has been far less than intended, (see "Currencies and Federal Reserve Trade Weights" and "Minor Currencies and Federal Reserve Trade Weights," June-July 2007) but protectionists everywhere are convinced they can devalue their way to prosperity.

Currency Volatility

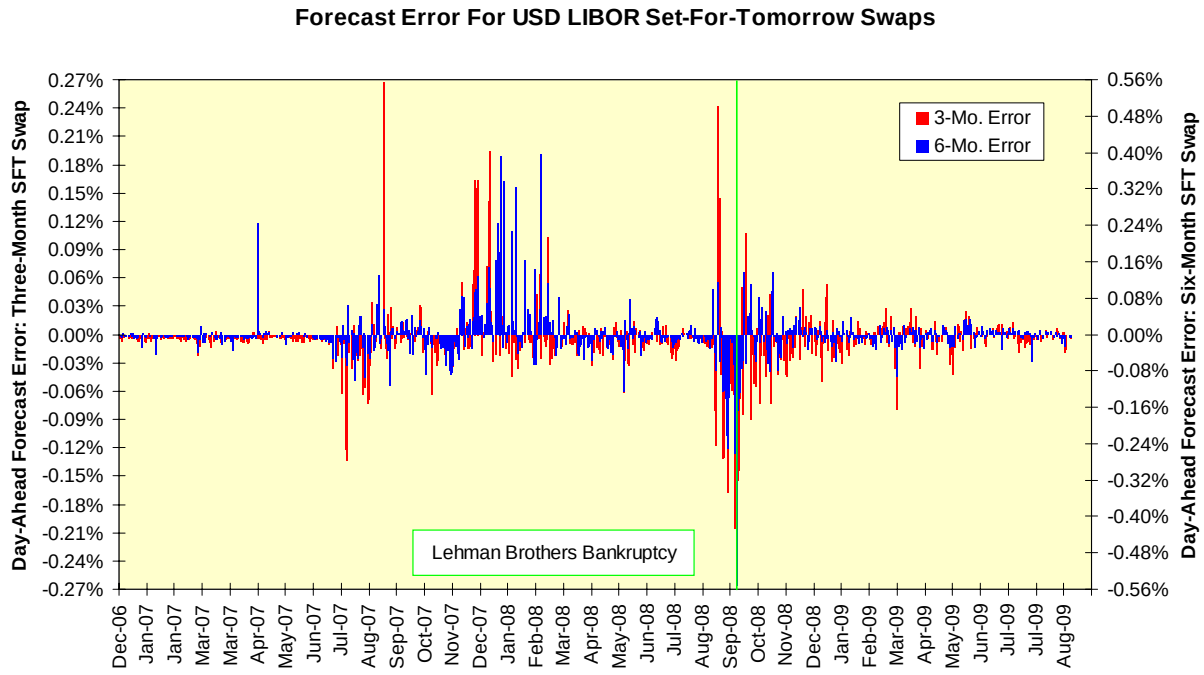
A more subtle way of stumbling into a protectionist morass is to increase the cost of currency trading, intentionally or otherwise. As options are a form of insurance and as higher volatility increases the cost of options, it must follow higher currency volatility imposes a cost on all currency transactions and therefore on the underlying physical trade.

Volatility in any market can rise either as a function of prices and events or simply as a function of wider bid-ask spreads or lower market liquidity. Such appears to have been the case with the aforementioned London interbank market starting in 2008. As currency trades are executed primarily through the borrowing and lending of deposits in this market, anything that lowers liquidity and raises spreads will raise currency volatility and therefore hedging costs.

The key event in eroding interbank liquidity and its effect on the currency market was not, surprisingly, the disclosure in April 2008 by *The Wall Street Journal* that British Bankers Association member banks were, um, fudging their rates lower in the daily LIBOR fixing. This disclosure did lead to a greater reliance by American borrowers on the overnight index swap (OIS), which is a strip of federal funds over a given interval such as 30 , 60 or 90 days. It also led to a rather pronounced decrease in the CME Group's flagship Eurodollar futures contract, which is based on three-month LIBOR. No, the key event in 2008 for currency traders was the mid-September bankruptcy of Lehman Brothers.

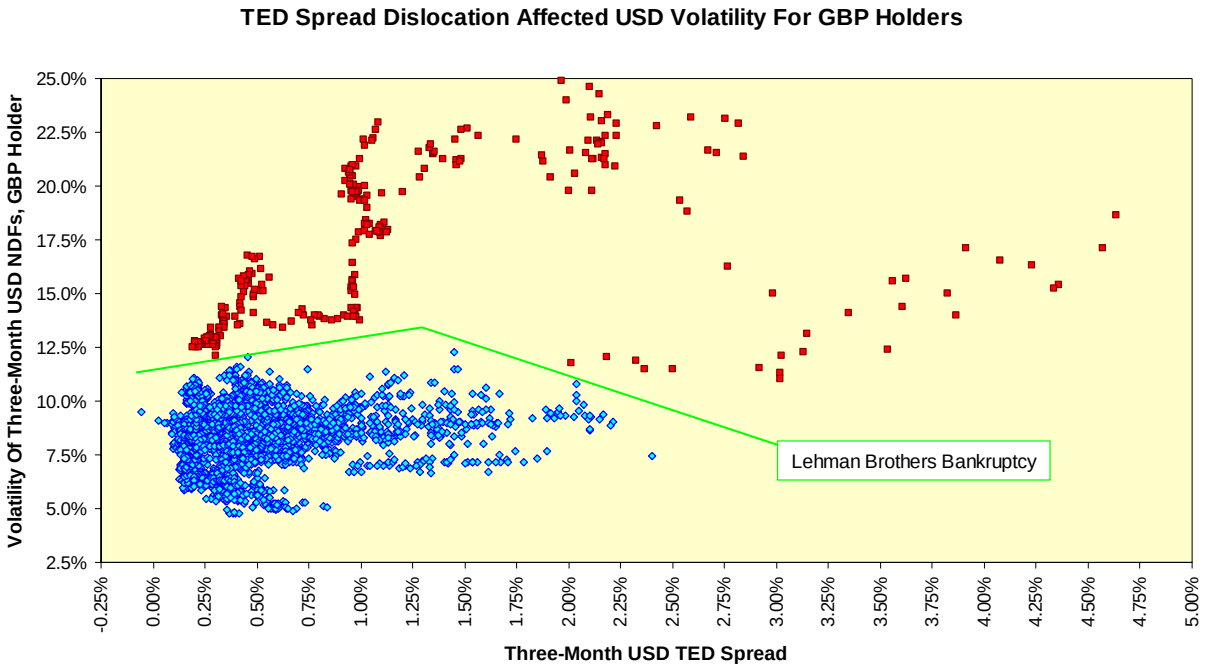
We can illustrate this most cleanly in the British pound trade against the U.S. dollar. First, let's take a look at how the LIBOR market manages its own day-ahead risk. LIBOR is a morning fix, much to the frustration of newbies in this market who kept looking for real-time updates during the depths of the credit crunch in October 2008. There is a one day-ahead swap market that began in December 2006 known as the set-for-tomorrow, or SFT, swap that essentially represents a bet where the next morning's fix will be.

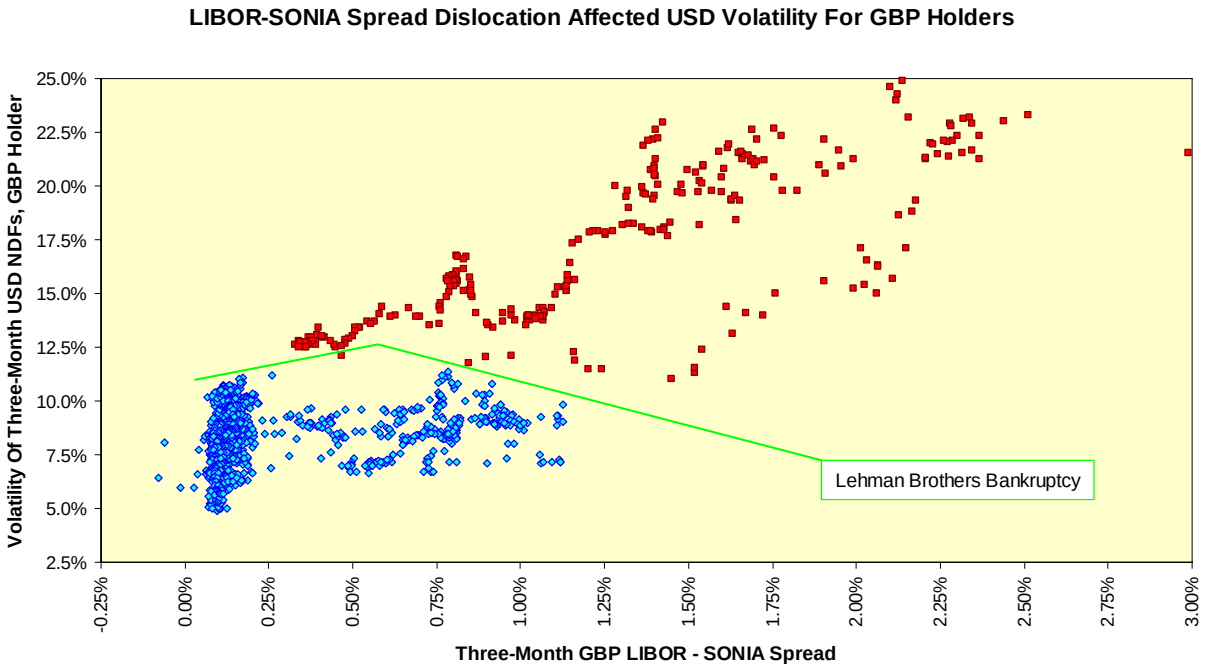
If we map the forecast errors for both three- and six-month LIBOR from December 2006 onwards, three periods stand out as deviations. The first is a period of systemically low bias in July-August 2007. The second was a much more persistent and more powerful period of systemically high bias between November 2007 and March 2008; this was the first period wherein the Federal Reserve began its attempts to push LIBOR lower even though it had no tools for doing so directly. The third and final period, highlighted with a green vertical line, is a period of persistently low bias during the weeks following the Lehman Brothers bankruptcy. The degree of shock here was so great we can be could be confident at 66.33% and 78.64% levels the three- and six-month SFT forecasts errors were different during the period between the Lehman Brothers and a renormalization of LIBOR in late-May 2009, than they were previously.



How did the volatility of three-month USD forwards for a GBP holder change around this date? Here we can look at two other spreads related to the liquidity of the interbank market. The first is the three-month TED spread, or difference between LIBOR and the Treasury rate. This spread blew out during the crisis as banks both fled each others' credit and fled toward that of the U.S. Treasury's. The second is the spread between three-month GBP LIBOR and SONIA, the Sterling overnight index average rate.

In both cases, the answer is stunningly clear. All observations prior to the Lehman Brothers bankruptcy, marked in blue, can be separated from all those post the Lehman Brothers bankruptcy, marked in red.



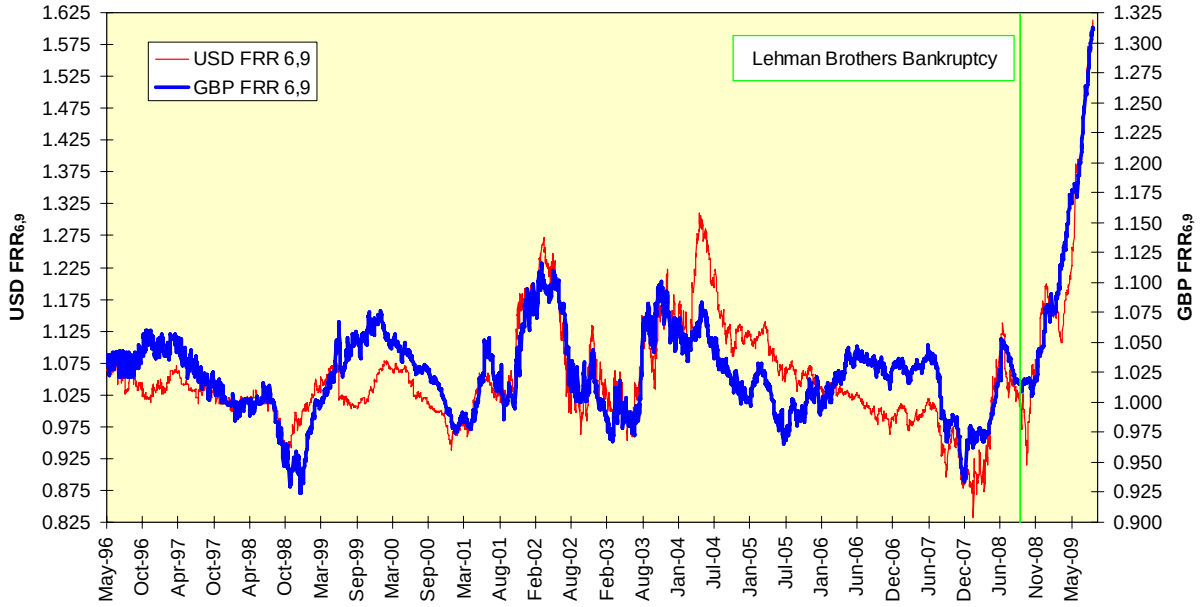


A Different Metric

One important aspect of the analysis above is how it highlights significant liquidity changes in a market, the interbank fixing, whose bid-ask spreads and volume are not available in the conventional sense. We can illustrate this in the negative by our standard interest rate expectation analysis, the difference between the USD and GBP forward rate ratios between six and nine months ($FRR_{6,9}$). These are the rates at which we can lock in borrowing for three months starting six months from now divided by the nine-month rate itself. The more this ratio exceeds 1.00, the steeper the yield curve and the greater the expectation for rising rates in the future.

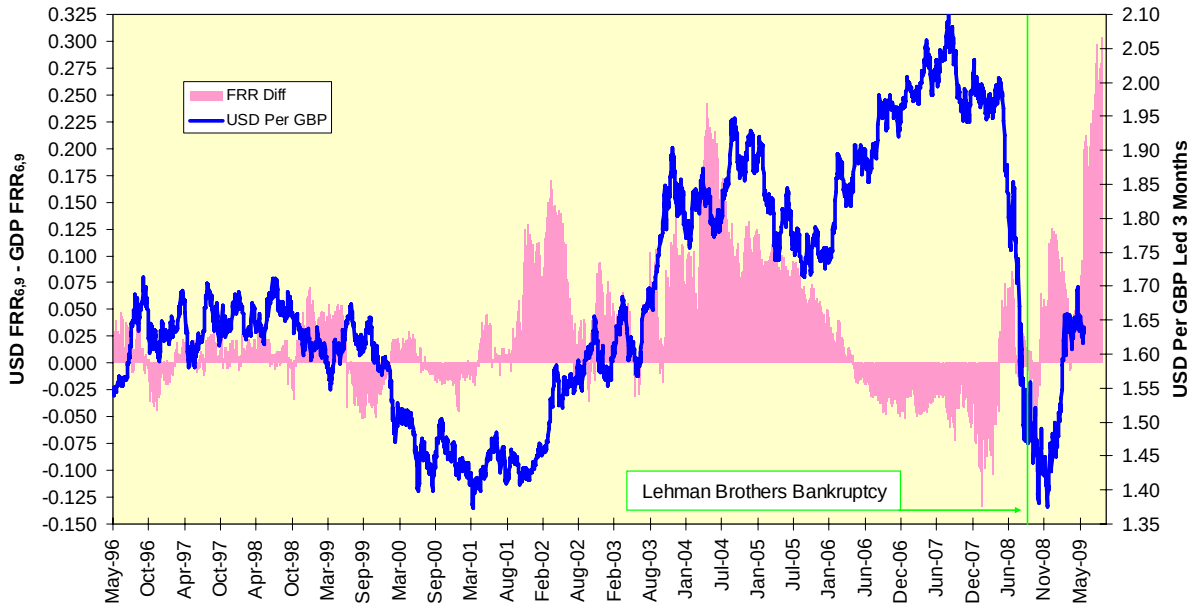
If we map the two $FRR_{6,9}$'s over time, we the period surrounding the Lehman Brothers bankruptcy was nothing unusual. Yes, both $FRR_{6,9}$'s steepened rapidly, but they had done that before, and the divergence between the rising GBP FRR6,9 and the falling USD $FRR_{6,9}$ had happened previously in mid-1999 and mid-2006.

Comparative LIBOR Yield Curves



The course of the exchange rate conformed to the $FRR_{6,9}$ differential before and after the Lehman Brothers bankruptcy – the positive value indicated U.S. rates were expected to rise faster than U.K. rates – but we have no idea of whether either the USD or GBP six- and nine-month LIBOR readings represented a fully liquid market or not. Anecdotal evidence is negative here. We could look at the chart below and have no idea whether it represented a functional market or simply prices imposed by various central bank facilities and machinations.

Relative Interest Rate Expectations In The Dollar-Pound Market



What the volatility link shows us is how the world may have stumbled into a protectionist environment produced by rising currency volatility and declining interbank liquidity. That sort of thing in the midst of a global recession should have been avoided and was not. This is one more unfortunate piece of evidence that what we thought we learned in the Great Depression we actually did not. What will future generations learn from our foibles?