Fighting The Next War In The Eurodollar Market

Traders are creatures of habit, many of them bad and most of them predictable. Policymakers are no different in their proclivities and tend to follow a tried-and-not-all-that-true playbook. Alan Greenspan flooded the money market after the October 1987 crash, cut rates in the early 1990s and did it again just for old times' sake after the dotcom bust. Ben Bernanke, his successor, one-upped the Maestro in the rate-cutting department and borrowed a page from the Bank of Japan in quantitative easing (QE). He blazed new trails in emergency funding facilities for commercial paper, corporate bonds, money-markets and other markets. It is now left to Janet Yellen to either keep on keeping on or find a way to unwind the combination of zero interest rate policies (ZIRP) and QE.

Even though trend-following remains the dominant form of non-high frequency trading, the majority of position traders like to pretend they are contrarians, even if they work in a cubicle. As a result, they believe one of the best reasons to buy/sell anything is it has fallen/risen in price quite recently. Trend-followers have a low opinion of each other's actions; you are free to sort the implications out for yourself.

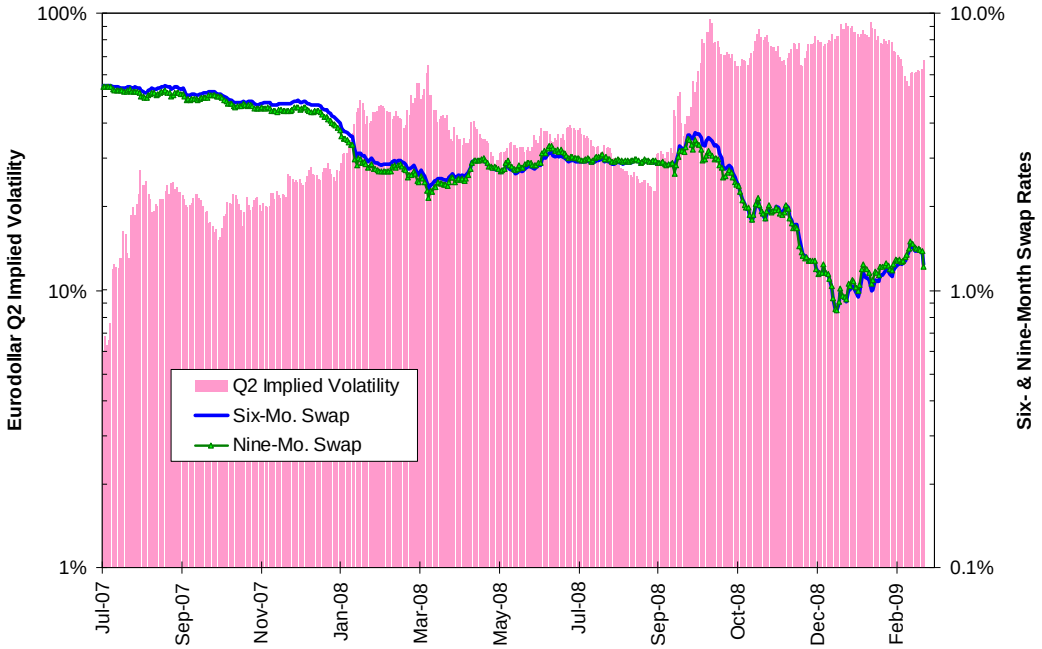
This impulse applies to volatility as well. Even though the low volatility environment created by the expansion of global currency swap lines at the end of November 2011 had sound fundamental reasons for continuing, by the middle of 2014 the dominant opinion was it just had to end. How would a rising-volatility environment play out in the Eurodollar market? As sustainable increases in volatility emerge from changes in policies and the macroeconomic environment and not from events – those spikes in volatility dissipate quickly – let's take a look at the short-term interest rate environment during the 2007-2009 financial crisis and construct a trading strategy accordingly.

Eurodollar Volatility And Rates

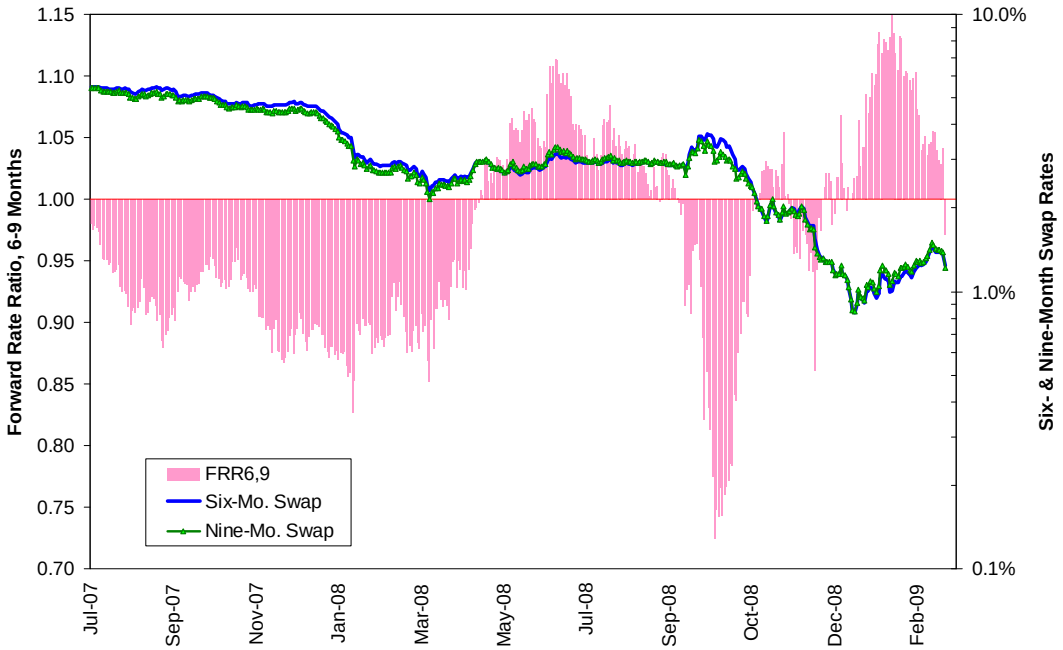
July 19, 2007 is a good starting date for narrating the financial crisis as it represented a local maximum in equity markets and preceded the emergence of negative news out of the banking system culminating with the August backstopping of BNP-Paribas by the European Central Bank and the first cut in the federal funds rate by the Federal Reserve. March 18, 2009, the initiation of QE1, will be used as an ending date.

Six- and nine-month swap rates will be used to measure short-term interest rates. In real time, LIBOR might have been selected, but we now know these rates were not calculated on the up-and-up. These two rates will be mapped against the at-the-money implied volatility of the second-quarter Eurodollar contract and against their forward rate ratio between six and nine months ($FRR_{6,9}$). This is the rate 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 is; an inverted yield curve has an FRR less than 1.00.

Six- And Nine-Month Swap Rates & Volatility During The Financial Crisis



Six- And Nine-Month Swap Rates & $FRR_{6,9}$ During The Financial Crisis



Phases Of The Crisis

This history can be divided into five easy pieces. The first phase extended to the demise of Bear Stearns in March 2008 and was characterized by a near-tenfold increase in implied volatility. Swap rates fell in half and, surprisingly, the $FRR_{6,9}$ remained inverted continuously. Once trouble appeared, a one-way trade rewarding those both long Eurodollars, long implied volatility and long a bullish flattener persisted for almost eight months with very little retracement.

The second phase extended to the beginning of September 2008, just before the dam burst with Fannie Mae and Freddie Mac being placed into receivership, Lehman Brothers going bankrupt, AIG being bailed out for the first time and Merrill Lynch being subsumed by Bank of America. Implied volatility declined by 50 percent, swap rates rose by 50 percent and the $FRR_{6,9}$ moved back over 1.00. The March-end August 2008 period certainly provided

false hope to those who thought the crisis could be avoided. Conversely, those who had bet on a crisis after the Bear Stearns rescue in March saw a significant erosion of the positions that had worked so well between July 2007 and March 2008.

The third phase was the very depth of the crisis. It extended into mid-October 2008 and was characterized by a 200 percent increase in implied volatility, by a 25 percent increase in swap rates and by a massive shift back into an inverted $FRR_{6,9}$. As liquidity evaporated during this period, all figures should be taken with a grain of salt.

The fourth phase involved the creation of the aforementioned emergency facilities by the Federal Reserve, the move to ZIRP and the first hints of what was to be the incoming Obama administration's industrial policy. This period extended into January 2009 and involved a 75 percent decline in swap rates, high but stable implied Eurodollar volatility and yet another shift in the $FRR_{6,9}$, this time to very steep levels.

The final phase of the crisis, extending to the March 2009 start of QE, involved a 75 percent rebound in swap rates, a 40 percent decline in Eurodollar implied volatility and a flattening of the $FRR_{6,9}$. All of this sounds exhausting for the very simple reason it was.

Not Looking Forward

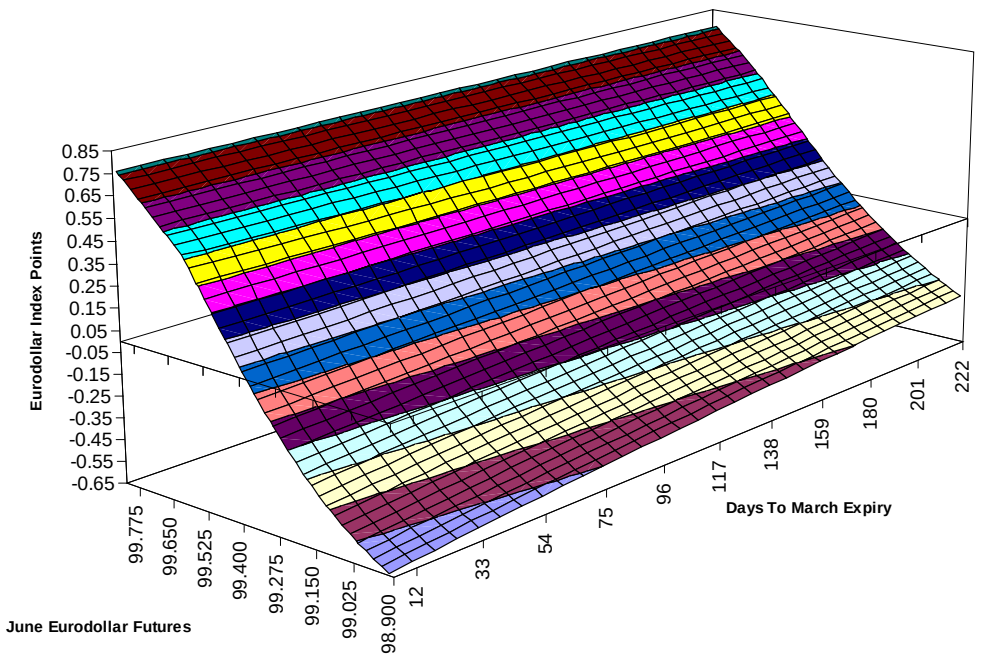
The next period of high volatility will not look like the 2007-2009 period, but given the instincts of traders and central bankers, we should expect the early phases of whatever happens to involve a bullish flattening of the yield curve along with an increase in Eurodollar implied volatility. How can we take advantage of this?

The optimal long Eurodollar position calculated by the Dynamic Option Selection System (DOSS, see "Using Options The Spec Way," July 1994) on August 7, 2014 was a backward calendar call spread consisting of:

- Buying 2.30 June 2015 99.00 calls at $0.49
- Selling 1.00 March 2015 99.375 calls at $0.28

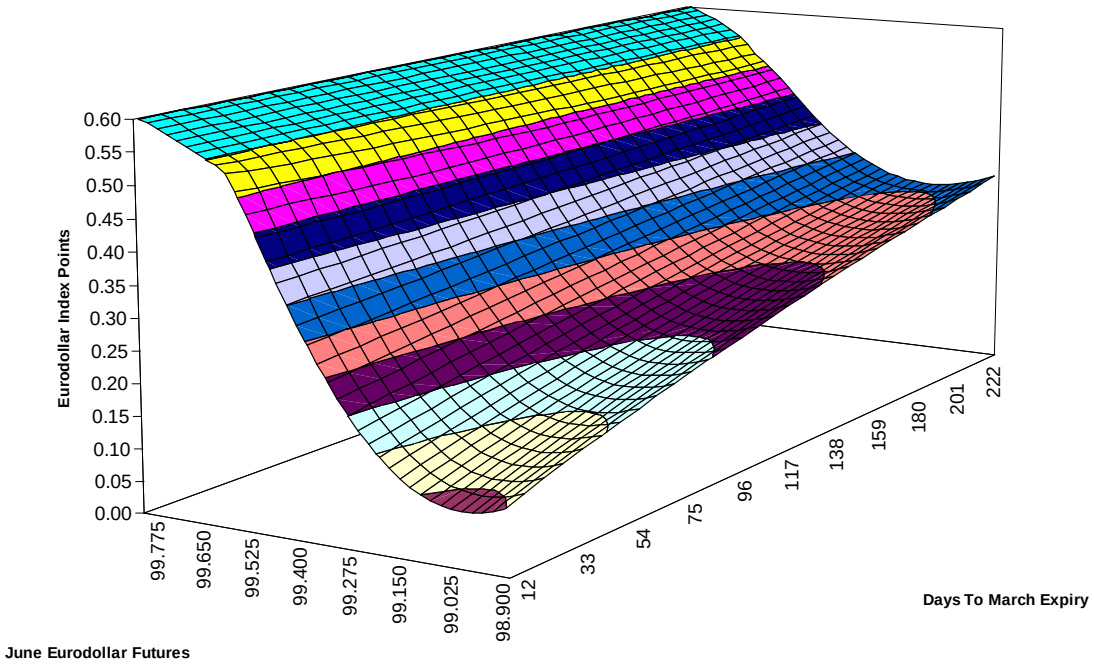
Its net financial gain across a range of June 2015 Eurodollar prices and time remaining to the expiration of the March 2015 options is depicted below with the March/June spread held constant at 0.18 index points. If the Eurodollar curve in fact flattened bullishly, the whole raison d'être behind the trade, the March/June spread would narrow and the gain on the trade would be greater than depicted below. The opposite would apply for a bearish steepening of the Eurodollar curve. Both March and June volatilities are held constant as well; a crisis-induced bullish flattening of the yield curve would redound to the trade's benefit.

Net Financial Gain On Backward Calendar Bull Call Spread



Finally, let's compare the net financial gains on the trade to the base case of simply going long June Eurodollar futures. Once again, both the March/June spread and the volatilities involved will be held constant.

Incremental Financial Gain On Backward Calendar Bull Call Spread



The incremental gain is something of a rarity as it exceeds the base case over the entirety of the conditions shown. Normally the base case in a DOSS trade outperforms under static conditions. The strong incremental performance is the result of the trade's initial starting conditions as well. The $FRR_{6,9}$ at the time of calculation was a relatively steep 1.133 and volatilities were well within normal ranges. The time to buy an umbrella is when the sun is shining. Unfortunately, this is not how people in general and traders in particular behave.