Let The Trend Be Your Friend: The Majors

Currencies long have enjoyed a reputation for trending, and with good fundamental reasons. Not only do currencies reflect long-term national policies and tendencies slow if not impossible to change – really, should we expect Switzerland and Argentina to be confused at any point? – they reflect relative monetary policies that also tend to persist.

Two cases in point: The U.S. dollar strengthened for almost five years in the first half of the 1980s after Paul Volcker instituted his policy of high interest rates. That very same greenback fell just as spectacularly and for an even longer period of time after May 2002 under the weight of a deliberate policy by the Federal Reserve to solve all economic problems with easy credit.

We can start throwing darts at a world map, start narrating the history of the country hit and arrive at pretty much the same conclusion: Currencies are capable of posting massive long-term trends. And as any position trader understands intuitively, almost any trading system or set of indicators works in a trend. Markets make indicators work, not vice-versa.

Two questions arise, then. First, if this is the case then why do self-describe trend-followers in currencies tend to have such mediocre performance (see "Currency Traders Should Be Humbler," May 2007 or "Currencies And Commitments," June 2008)? Second, which currencies are in fact trendiest? The first question will be dismissed curtly with a bit of doggerel: "The trend is your friend except for the bend in the end." Restated, everyone can see the same trend, the trade gets crowded and then it reverses in an execution vacuum capable of vaporizing in hours weeks of hard-won gains. Such is the life of a trend-follower.

The second question will be addressed below this month for a set of six major currencies, the Canadian and Australian dollars, the Japanese yen, the Swiss franc, the British pound and the euro. We will visit a set of minor currencies next month.

Trendiness

Trends are like Justice Potter Stewart's famous definition of obscenity, "I know it when I see it." If a market is moving off in a straight line with few retracements, we all can spot the trend. But defining it is difficult. In the case of all the currencies tested here, two accepted methods of defining when a market has serial correlation of returns or a lower than expected number of day-to-day sign changes in returns, the Durbin-Watson and Wald-Wolfowitz tests, respectively, indicate the markets are close to being random in distribution. This is visually counterintuitive, but just as hikers get lost when they stop trusting their compasses, traders can get lost when the let their lying eyes get in the way of reality.

Other venerated technical indicators of trendiness, such as Welles Wilder's directional movement index and its associated average directional movement index (DMI and ADX, respectively) do a good job confirming when you are in a trend, but tend to be slow in capturing excessive movements and abrupt but significant trend changes. Moreover, the commonly used 14-day DMI period is a parameterized period of time. Not that this does not work: The author learned a good deal of technical analysis from a bombast who insisted measuring every indicator against a simple 14-day moving average and who took great glee when one complex tool after another failed to pass the test. There is a powerful lesson here.

The Trend Oscillator

Out of a foolish consistency if nothing else, we will return to the measure used in June 2008, the Adaptive Moving Average (AMA) system. An optimal trend speed is derived by the number of days between 4 and 29 that minimizes the function

$$\frac{1}{N} * \sum_{i=1}^{N} \frac{N}{Vol^2} * |(P - MA)| * |\Delta MA|$$

where Vol is the N-day high/low/close volatility, defined as

$$\sum_{i=1}^{N} \left[\frac{[.5*(\ln(\frac{\max(H, C_{t-1})}{\min(L, C_{t-1})}))^2 - .39*(\ln(\frac{C}{C_{t-1}}))^2]*260}{N} \right]^{1/2}$$

where H, L, and C are high, low, and close, respectively. Once the MA is calculated, the trend is defined as the volatility-adjusted oscillator around this central tendency. In the construction of the index, the trend's "zero point" occurs when the price and the Adaptive Moving Average are equal.

$$Trend \equiv \frac{\left(\dfrac{(P - MA)}{Vol}\right)}{P}$$

Values of N in excess of 20 define a trending market, while those less than 11 define a sideways market and those between 11 and 20, inclusive, define markets in transition.

The charts below depict the daily high-low range for each of the six major currencies selected over all days, but depict the trend oscillator in red columns only for trending days. The stronger the volatility-adjusted trend, the further away from zero the trend oscillator will be. In general, trend oscillators greater than 0.40 or less than -0.40, marked on the trend charts with grey lines, indicate a market is becoming overbought or oversold, respectively.

A second set of charts depict the excess volatility in green columns of each market for those days when the market is in a trending state. Excess volatility is the ratio of the implied volatility for three-month non-deliverable forwards to the high-low-close volatility measured above. In a small twist from past practice, we subtracted 1.00 from this ratio to depict it more intuitively as an oscillator around zero. Excess volatility indicates the market is uncomfortable with the existing trend and is buying insurance in the form of options against its reversal. The more negative this measure is, the more the market is comfortable with the trend and vice-versa.

Ranking The Majors
First, let's take a look at the summary rankings. The Canadian dollar (see "Remember The Forgotten Currency" February 2006) has spent the most time in a trending state since the January 4, 1999 advent of the euro. The Australian dollar (see "What's Down With The Australian Dollar?" March 2008) has the lowest average excess volatility. Both are considered to be commodity-linked currencies (see "Of Commodities And Currencies," July 2006).

Major Currencies' Summary Trend Statistics

|	Percent In Trending State	Average Absolute Trend Oscillator	Average Excess Volatility
EUR	60.2%	0.1702	0.0751
CHF	61.0%	0.1659	0.0281
JPY	64.0%	0.1639	0.0547
GBP	65.2%	0.1717	0.0867
AUD	67.6%	0.1672	0.0190
CAD	67.9%	0.1545	0.0474

The AUD had two rather lengthy uptrends, one between Summer 2001 and Spring 2004 and another from Fall 2006 through July 2008, at which point it broke sharply. What is surprising is how often during its rather pronounced uptrends the oscillator not only turned negative but several times fell into oversold conditions. Visual inspection turns up nothing unusual in any of these downdrafts; in each and every case they were sharp and short-lived selloffs within a broad uptrend. While some could and indeed will argue these represent "buying opportunities," they also represent real loss of equity for those with long positions.

The excess volatility chart is more interesting in many ways. During the first broad uptrend, excess volatility remained high as the AUD had been under severe downward pressure in the late 1990s. The situation was reversed during the second uptrend; here the currency market was very comfortable with a long AUD position. Excess volatility collapsed during the selloff in September-October 2008; this indicated the actual severity of the AUD's move was left uninsured by options traders.

Price And Trend For Australian Dollar

**Price And Excess Volatility For Australian Dollar**
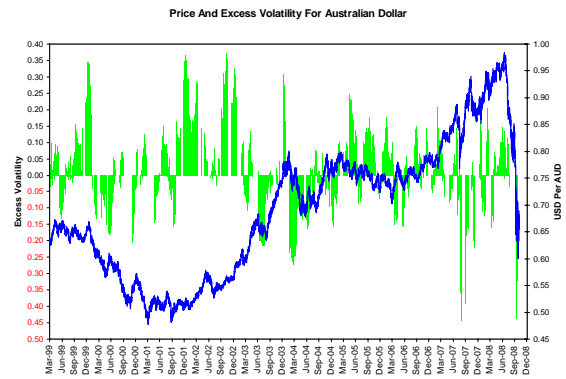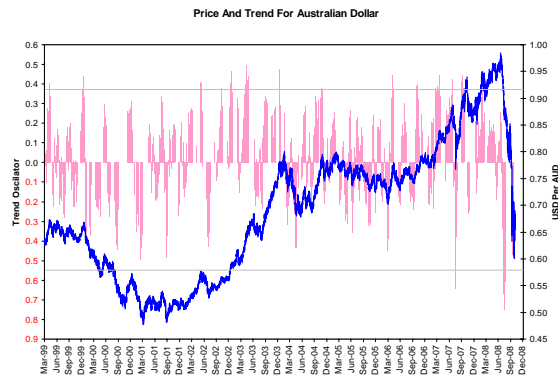
The Canadian dollar is the market most currency traders would assume was the trendiest. The CAD had a long and powerful uptrend between the beginning of 2003 and the end of 2007, but as was the case with the AUD, it had a large number of short-lived bona fide downturns. A trend-following trader could and by evidence did get knocked out of a long position numerous times during this trend. The CAD, like the AUD, broke sharply during the September-October 2008 credit crunch. Its break was swift and severe enough to be done without any trend reversals.

The excess volatility chart tells the real story, though. It remained quite high for the CAD during the tail end of its long bear market extending through 2001, but once its bull run began, excess volatility dropped during nearly all periods of positive trend. And, also like the AUD, its excess volatility fell sharply in the September-October 2008 selloff.

Price And Trend For Canadian Dollar

**Price And Excess Volatility For Canadian Dollar**
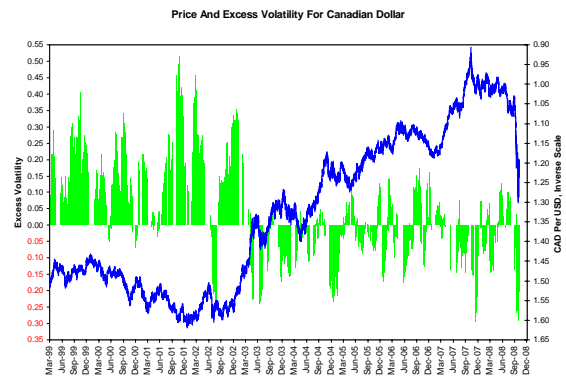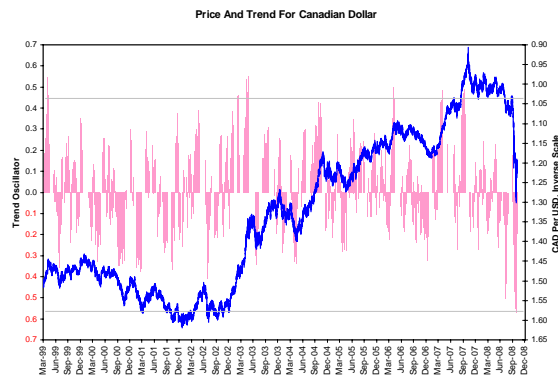
There must be something about speaking English that is related to currency trends as the third trendiest currency amongst the majors is the British pound. This is a little surprising given that the GBP's primary trade is not against the USD but rather against the euro. And visually the price chart is far noisier than that of either the AUD or the CAD. But let's remember that point about hikers and their compasses and accept the data for what they are.

The most interesting aspect of the British pound here is, like the Canadian dollar, how high the excess volatility was in 1999-2002 and then how it switched to a pattern where volatility spikes tended to mark tops in price. A data-mining trading systems designer, which may be a redundancy, could back-fit a trading system to sell the GBP on these volatility spikes. In addition, the excess volatility for the GBP is both highly asymmetric -; it tends to surge much higher over 0.00 than it falls below it – and has the highest average level of any of the major currencies by far.

Price And Trend For British Pound

**Price And Excess Volatility For British Pound**
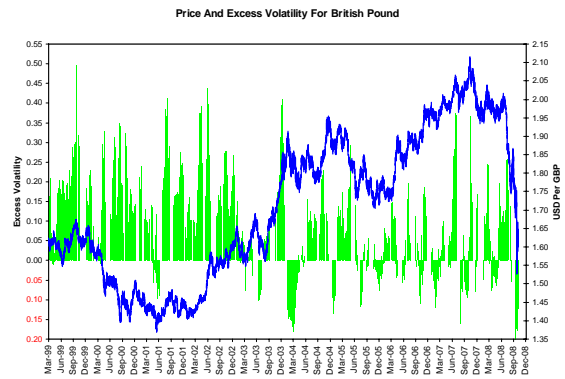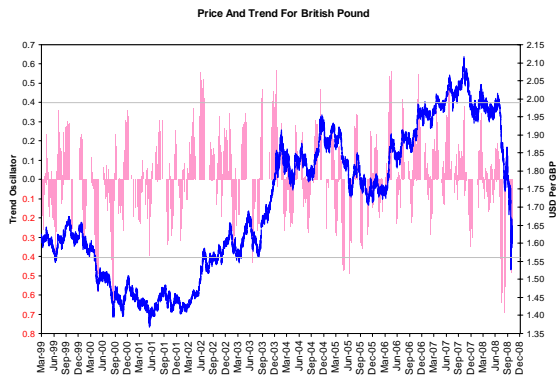
Few of us would expect the Japanese yen to rank very high on any measure of trendiness, and we are not disappointed in that regard. The JPY has remained in a fairly narrow trading range since 1999, but within that range we have seen several substantial trending moves related to global financial crises and developments in the yen carry trade (see "Looking At The Carry Trade," July 2007). Moves in the trend oscillator outside of ±0.40 tend to produce mean-reverting responses, and as befits a long-term trading range, these moves have been fairly symmetric.

The excess volatility measure for the JPY was quite high in 2000-2001 as the Bank of Japan contemplated quantitative easing, which at the time was regarded as improbable. Once they went to the policy, excess volatility fell and remained in a narrow range until the credit crunch emerged in mid-2007. Once the credit crunch emerged and yen carry trades were unwound, excess volatility fell and remained low except for a brief period in early September 2008. The market knew what it wanted to do with the yen, which was to repurchase what it had borrowed, and proceeded to do so without further ado.

Price And Trend For Japanese Yen

Price And Excess Volatility For Japanese Yen
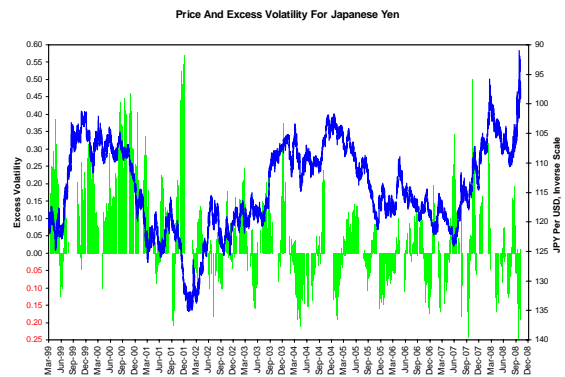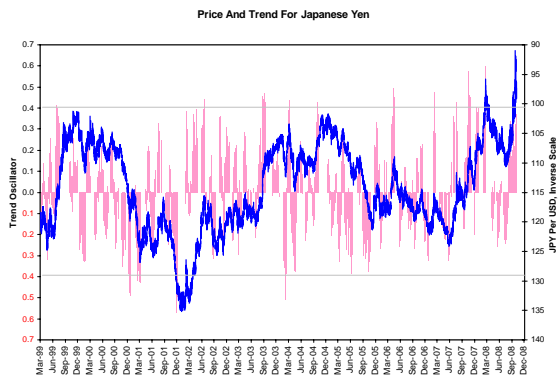
The Swiss franc (see "The Swiss Franc's Commodity Connection," October 2008) used to, along with the old Deutsche mark, have a reputation for long-running, pronounced trends. This changed after the advent of the euro and the realignment of global currency trading into two broad currency blocs; the dollar and the euro (see "The Dollar Index And 'Firm' Exchange Rates," December 2005).
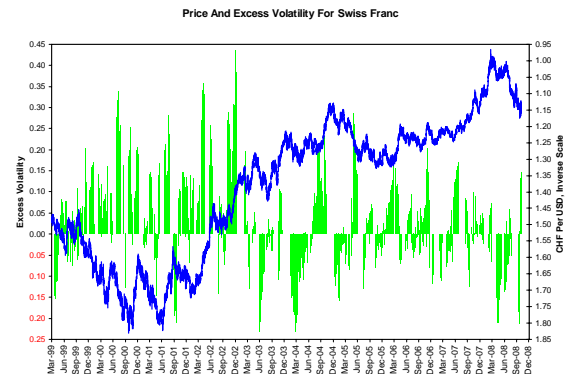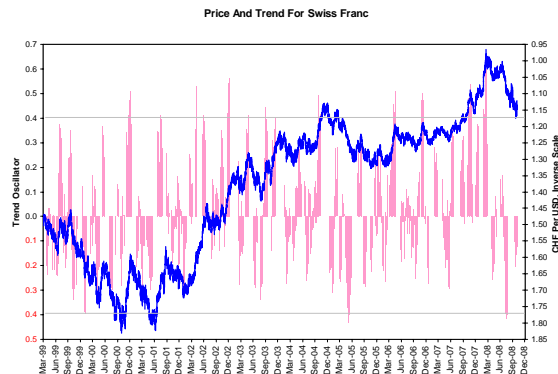
Even so, the CHF remained in a broad uptrend against the USD from mid-2001 until the September-October 2008 credit crunch. This is evidenced by a very large number of overbought spikes on the trend oscillator against but one oversold spike in mid-2005. And the CHF appeared to be very comfortable within its uptrend judging by its low excess volatility measure after the Swiss National Bank ceased cutting its LIBOR target rate in mid-2003. And like other currencies, its excess volatility broke after September 2008 as the USD strengthened.

We finally come to the least trendy currency amongst the majors, the euro. Even though it spent the first two and one-half years of its history declining against the dollar and the next six years rallying before breaking severely during the September-October 2008 credit crunch, it has had sufficient backing and filling to spend almost 40% of its life outside of a trending state. As the deepest and most liquid currency market in the world, the euro tends to get very crowded at the end of a trend and reverses suddenly. This explains why trend-followers in currencies have such a poor track record.

The spikes in excess volatility since 2003 have provided a clear sign as to when these reversals are coming. The market senses it has moved to an extreme, but instead of reducing trend positions, it seems content to buy option protection. We can revisit the one article on trading psychology that's ever been written as to why this is: Greed overtakes fear when a trend gets strong.
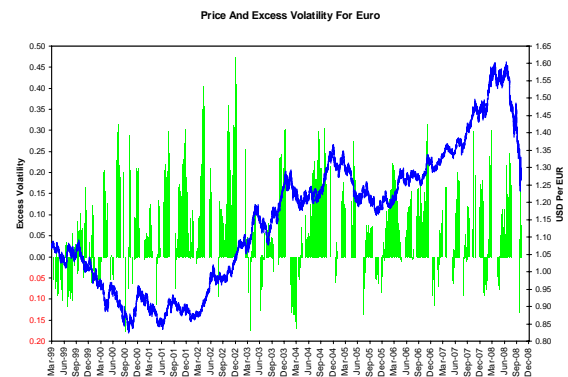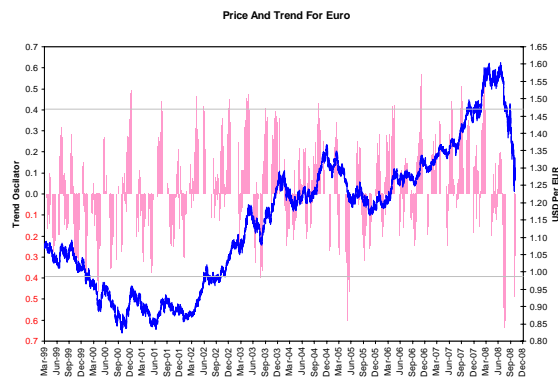
If there is one conclusion we can take away from this study on the majors and their trends it is the winners must be those who exit too soon. This was Bernard Baruch's famous maxim, pre-decimalization, that he was willing to let the other fellow have the first eighth and the last eighth. This is more important than ever now that we are in a world of one gigantic trade with a small number of large players, the dollar-euro, and a set of various managed floats and pegs around this central rate.

We will visit a set of minor currencies next month to see whether this lesson holds there as well.