

Can a developed country currency manager successfully invest in emerging market currencies?

Momtchil Pojarliev of Pictect considers the issues surrounding emerging market currencies

EXPANDING THE currency investment universe makes a lot of sense from a diversification point of view. Nevertheless, 60% of the total foreign exchange turnover is still only traded in three currency pairs (USD/EUR, USD/JPY and USD/GBP).

The share of trading in local currencies in emerging markets is only about 5% (see figure 1). Many currency managers fear that politics is the major driver for emerging market currency returns and doubt that conventional techniques can also be applied by managing EM currencies.

What are the traditional ways of generating currency alpha? There is a widespread consensus in academic literature that macroeconomic variables offer little help in exchange rates forecasting. Meese and Rogoff (1983) showed more than 20 years ago that random walk forecasts outperform economic models of exchange rates.

This result is still not overturned in the academic literature. Obstfeld and Rogoff (2000) have underlined the difficulty of answering the so-called exchange rate disconnect puzzle, i.e. that there is a very weak relationship between the exchange rates and virtually any macroeconomic variable. Therefore, it is no surprise that currency managers seldom trade on fundamentals, but prefer to focus on technical trading strategies.

There are many different styles in currency management. However, regardless of style, two traditional technical trading strategies remain very popular: the trend-following strategy and the carry strategy.

(1) The trend-following strategy relies on the belief that currencies exhibit trends. While the existence of trends is questioned in academic literature, there exist many empirical studies which show the profitability of trend-following rules (for example, Acar and Lequeux (2001)). There is theoretical support for such inefficiencies in currency markets. The profit motive assumption of the efficient

market hypothesis (EMH) does not apply in foreign exchange. In contrast to the bond and the equity markets, there are many non-profit motivated participants in the foreign exchange market. It is not that they do not want to make profit; they are not motivated by profit from currencies.

(2) The carry strategy is based on the belief that uncovered interest parity (UIP) does not hold, i.e. that the forward rate is a biased predictor of the future change in spot exchange rate and that it usually points in the wrong direction. The general conclusion from academic literature is that, while covered interest parity (CIP) holds, UIP does not. This conclusion is the so called forward premium puzzle. This finding has been confirmed in many studies. Under the carry strategy, currency managers buy currencies with high interest rates and sell currencies with low interest rates.

For example, during 2001 and 2004, the US Dollar carry trade had been a very popular strategy because the US Dollar was a cheap funding currency. However, Bansal and Dahlquist (1999) suggest that the forward parity puzzle might be confined to developed economies. More recently, Frankel and Poonawala (2004) have also shown that the forward parity puzzle is less present among emerging market currencies than among developed country currencies. This implies that carry trades would be more profitable when applied in developed markets than in emerging markets.

The interest toward expanding the currency universe and investing in EM currencies has motivated me to investigate the question as to whether traditional trading strategies could be successfully applied in emerging markets. In a recent paper (Pojarliev, 2005), I have applied two trend-following rules and two carry rules for 17 currencies, classified under developed market currencies and emerging market currencies. The data set

was from January 1, 1999 (the introduction of the euro) until the end of 2004.

The details of the strategies are:

a) Simple trend-following rule: At the beginning of each month, calculate the currency return of the past month and stay long if it is positive, otherwise go short.

b) Moving average trend-following rule: Compare the current (monthly) exchange rate with the three months moving average of the past exchange rates and go long if the current rate is above the moving average, otherwise go short.

c) Simple carry rule: Go long if the interest rate differential is positive, otherwise go short.

d) Threshold carry rule: Go long if the carry compensates for the difference in expected inflation, otherwise go short.

Performance Evaluation

For better comparison of the performance between the different trading styles (trend and carry) and the different currency groups (developed and emerging markets), the results were aggregated by defining seven different portfolios as follow:

(1) The Developed Markets Trend (DMtrend) portfolio invests 50% into the simple trend strategy and 50% into the moving average strategy across the developed market currencies.

(2) The Emerging Markets Trend (EMtrend) portfolio invests 50% into the simple trend

strategy and 50% into the moving average strategy across the emerging market currencies.

(3) The Developed Markets Carry (DMcarry) portfolio invests 50% into the simple carry strategy and 50% into the threshold carry strategy across the developed market currencies.

(4) The Emerging Markets Carry (EMcarry) portfolio invests 50% into the simple carry strategy and 50% into the threshold carry strategy across the emerging market currencies.

(5) The Developed Markets Trend and Carry (DMt+c) portfolio invests into all four strategy across the developed markets, i.e. it is equally weighted between the DMtrend and DMcarry portfolios

(6) The Emerging Markets Trend and Carry (EMt+c) portfolio invests into all four strategy across the emerging markets, i.e. it is equally weighted between the EMtrend and EMcarry portfolios

(7) The DMEM portfolio invests into all four strategy, with 80% allocated across the developed markets and 20% allocated across the emerging markets, i.e. it invests 80% into the DMt+c portfolio and a 20% investment into the EMt+c portfolio.

The aggregate results are quite interesting (see table 1). First, all seven portfolios show a good performance, i.e. the information ratios are in the 1.35 – 2 range.

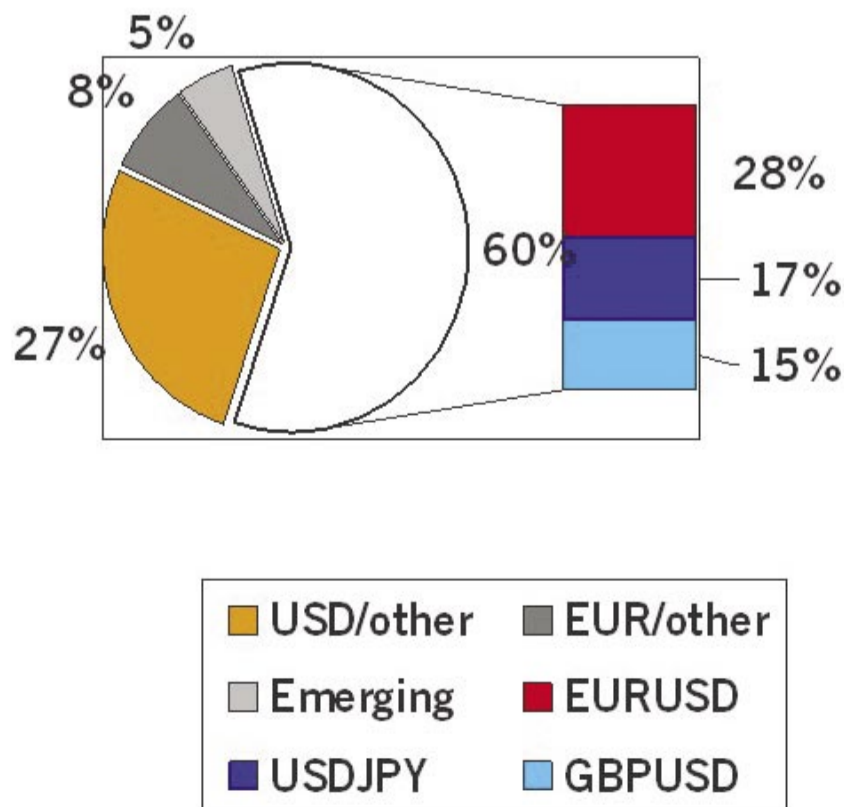
This implies that the described trading strategies would have been working very

Table 1: Performance Results of Trend-following and Carry Trading Rules
Period: 01/1999 – 12/2004

	DMtrend	EMtrend	DMcarry	EMcarry	DMt+c	EMt+c	DMEM
Return	5.96	5.49	8.10	6.01	7.03	5.75	6.77
Tracking Error	4.12	3.71	5.22	4.44	3.75	3.11	3.39
IR	1.45	1.48	1.55	1.35	1.88	1.85	2.00
Hit rate	59	69	70	62	68	70	68
Average win	1.2	1.0	1.4	1.3	1.1	0.9	1.0
Average loss	-0.6	-0.6	-1.1	-0.7	-0.5	-0.5	-0.4

Source: Pojarliev, "Performance of Currency Trading Strategies in Developed and Emerging Markets: Some Striking Differences", Financial Markets and Portfolio Management, 2005, 3, p. 306

Figure 1: Reported turnover by currency pair, April 2004



Source: BIS

well in the 1999-2004 period. These results implies the existence of inefficiencies in the foreign exchange market and are very encouraging for currency managers. The results are consistent with economic intuition, since as discussed, there exists a theoretical support for inefficiency in the foreign exchange market.

Many of the major participants in the currency market do not trade for profit, leaving greater opportunity for those who seek profits. Second, the results suggest that the trend-following rules work better across emerging market currencies. The information ratio of the EMtrend portfolio is higher (1.48) than the information ratio of the DMtrend portfolio (1.45). Furthermore, statistical inference shows that the out-performance of the EMtrend portfolio (the difference in the mean three year rolling information ratios) is statistically significant. This suggests that emerging market currencies exhibit clearer trends than developed market currencies, which is consistent with the expectation that developed markets are more efficient and hence developed market currency returns are closer to random walks.

Figure 2 shows three year rolling information ratios for the DMtrend and EMtrend portfolios from January 2002 until December 2004. The DMtrend portfolio outperforms only in a very short time period.

A remarkable result is that the DMcarry portfolio would have achieved much higher IR than the EMcarry portfolio. It has also a higher return (8.10% instead 6.01%) and a higher hit rate (70% instead 62%). Its tracking error is also higher, which again contradicts the presumption that emerging market currencies are riskier.

Statistical inference shows that the out-performance of the DMcarry portfolio (the difference in the mean three year rolling information ratios) is statistically significant. This is consistent with previous research, that the forward parity puzzle is less present in emerging markets. This result is quite important.

The presumption in the market is that carry trades should be more profitable in emerging market currencies, since those currencies usually offer higher interest rates. However, the empirical results suggest that this presumption might be wrong. Figure 3 plots a three year rolling information ratio for the DMcarry portfolio and for the EMcarry portfolio. It shows that the carry rules would have worked better for the developed market currencies than for the emerging market currencies between 1999 and 2004.

Note that the average loss for the portfolios which invest into the trend-following rules (DMtrend and EMtrend portfolios) is lower (-0.6%) than the average loss for the port-

folios, which invest into the carry-capturing rules (DMcarry and EMcarry portfolios) This is not a surprise, since trend-following rules change the positions, when the trade turns against them, while carry rules will hold the position regardless of the performance.

The DMcarry portfolio has the highest tracking error (5.22%) and the biggest average loss (-1.1%). However, it yields also the highest return (8.10%). This is quite a surprise, since one could have expected the highest return to be captured by a trend-following strategies. This result highlights the importance of the forward parity puzzle for active currency management.

Third, the aggregate results also show that performance could be enhanced by diversifying across trading styles and into more currency pairs. Both the DMt+c portfolio and the EMt+c portfolios exhibit a remarkable high IR and hit rates above 65%. This demonstrates the diversification benefit from applying different trading strategies.

The result implies that currency managers should diversify across different trading styles. The DMEM portfolio has the highest information ratio (2.00) and demonstrates the benefit from expanding the currency investment universe into emerging markets. The DMEM portfolio exhibits also the lowest tracking error (3.39) and the lowest average loss (-0.4).

The results point into a clear direction: currency managers should diversify across different currencies and across different styles.

Conclusion

Several results stand out from the analysis.

First, they show that currency trading strategies would have generated positive return in the 1999-2004 period. This implies the existence of inefficiencies in the foreign exchange market over given periods. There exists a theoretical support for this founding, since the profit motive assumption of the efficient market hypothesis does not apply in the currency market. This is an encouraging result for currency managers, since it suggests that alpha generation from currency management should be possible.

Second, the results show some striking differences between emerging and developed market currencies. It seems that trend-following rules work better across emerging markets. This is consistent with economic intuition, since these markets are expected to be less efficient.

An interesting result, however, is that trading strategies based on the forward parity puzzle yield better results across developed market currencies despite the larger yield offered from emerging market currencies. This confirms previous research that the forward



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bias is not as present in emerging markets as in developed markets.

These results might have important implications for currency management. They suggest that traders investing in emerging market currencies should rely more on trend-following rules, while investors trading developed market currencies should allocate more risk to carry trading strategies. This means that developed market currencies managers could successfully invest in emerging market currencies, but they have to adjust their style accordingly.

Third, the results demonstrate the diversification benefits of applying different trading strategies and of expanding the currency investment universe. The portfolio which invests into the developed and emerging market currencies, and uses all four investigated strategies, yields the best performance.

This implies that currency managers should try to expand their investment universe into emerging market currencies and that style diversification is also important. Therefore, plan sponsors should seek to employ currency managers with different investment styles.

The results points toward the following advice for currency managers:

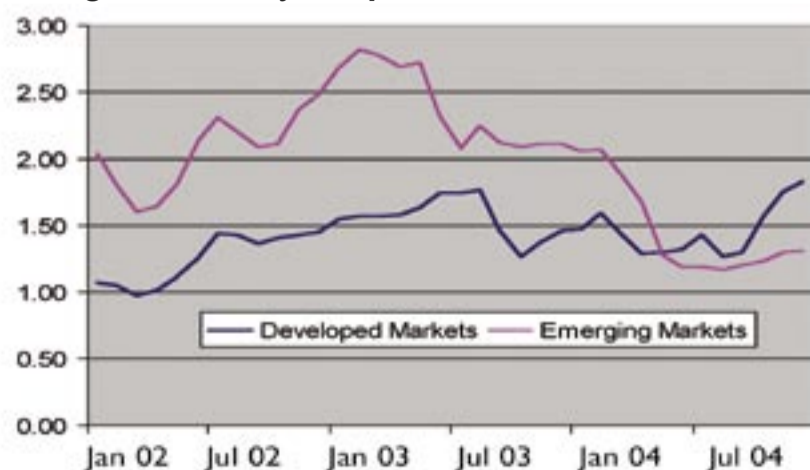
- 1) Expand the currency universe and apply different styles
- 2) Allocate more risk toward trend-follow-

ing style when investing in emerging market currencies and toward carry style when investing in developed market currencies

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Figure 2: Three year rolling information ratios for a trend-following trading rule – From January 2002 until December 2004



Source: Pojarliev, "Performance of Currency Trading Strategies in Developed and Emerging Markets: Some Striking Differences", *Financial Markets and Portfolio Management*, 2005, 3, p. 306

Figure 3: Three year rolling information ratios for a simple carry trading rule – From January 2002 until December 2004



Source: Pojarliev, « Performance of Currency Trading Strategies in Developed and Emerging Markets: Some Striking Differences », *Financial Markets and Portfolio Management*, 2005, 3.