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ACTIVE CURRENCY MANAGEMENT FOR INSTITUTIONAL INVESTORS

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Active Currency Management for Institutional Investors

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EXECUTIVE SUMMARY

With the difficult experience of 2008 still fresh in their memories, investors are questioning the basic premises of Modern Portfolio Theory. Clearly, investors are re-thinking the idea that risk can be diversified away with alternative assets such as hedge funds and private equity. Nonetheless, the search continues for assets that hold the promise of consistent returns in good and bad times. In our view, active currency management may still be a compelling proposition for institutional investors.

In our view, the investment case for active currency management is based on three basic tenets, as follows:

1. **Market Dynamics:** The foreign exchange market is inefficient and offers potential alpha due to the high proportion of non-profit seeking participants.
2. **Consistent Returns:** Active currency managers are able to generate consistent, modest returns throughout market cycles.
3. **Diversification:** The returns of active currency managers are not highly correlated with traditional asset classes.

In combination, these three factors may provide an attractive alternative asset class for investors.

The J.P. Morgan Investment Analytics & Consulting team reviewed and questioned each of these basic assertions. We researched the foreign exchange market and discussed current trends with many participants. We analyzed the return history of the active currency managers with publicly available data. We performed correlation and other statistical analyses of various currency indices.

In our view, active currency management can add value to an overall portfolio. We believe plan sponsors should consider investing a piece of their alternative asset allocation to this asset class. Moreover, we believe it is possible to build a diversified portfolio with several currency managers that employ different styles and methods. In all, we believe it is worth the effort to analyze currency managers and consider allocating a percentage of portfolio assets to this group of managers.

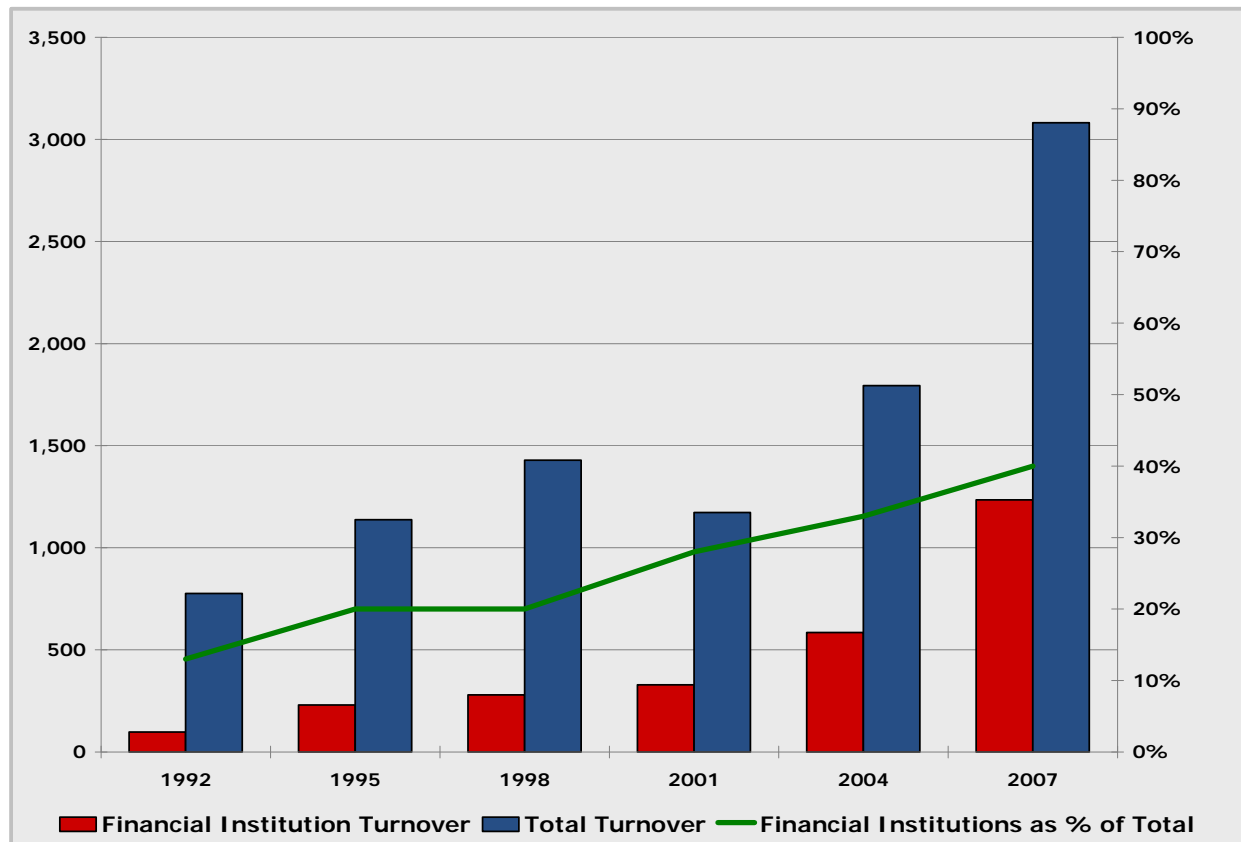
IS THERE STILL ROOM FOR ALPHA IN THE FOREIGN EXCHANGE MARKET?

The Foreign Exchange market is a large, liquid, and unique global marketplace with a wide variety of participants. In fact, this is one of most liquid financial markets in the world with average daily turnover of approximately \$3 trillion. While the currency market is vast and diverse, it is also inefficient. Based on estimates, active profit-seeking traders only account for a fraction of total market turnover. An estimated 50%-75% of turnover is deemed passive trading, meaning it is not based on a particular view on the market, but rather on a need to exchange currency irrespective of current rates. Passive traders include companies with international operations, investors buying international stocks, or central banks

managing an exchange rate policy. In this context, profit-seeking investors and traders may be in a unique position to exploit inefficiencies in the market.

At this time, financial institutions comprise a greater proportion of total daily turnover than ever before. We illustrate the average daily turnover in the foreign exchange market in Exhibit 1 below.

Exhibit 1 – Foreign Currency Market – Average Daily Turnover



Source: Bank for International Settlements, Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity (2007).

As indicated above, daily turnover in the foreign exchange market has doubled over the past decade. Moreover, the activity of financial institutions, including hedge funds and pension funds, grew to approximately 40% of total turnover, as compared to only 20% of turnover in 1998.¹

It is interesting to note that emerging market currencies account for a growing proportion of total foreign exchange turnover. At this time, emerging market currencies are involved in an estimated 20% of all currency transactions. The ability of active currency managers to exploit opportunities in emerging markets may improve as these currencies become increasingly liquid.

In our view, it is an open question whether foreign exchange market inefficiencies will remain into the future. Some recent academic studies have suggested that currency

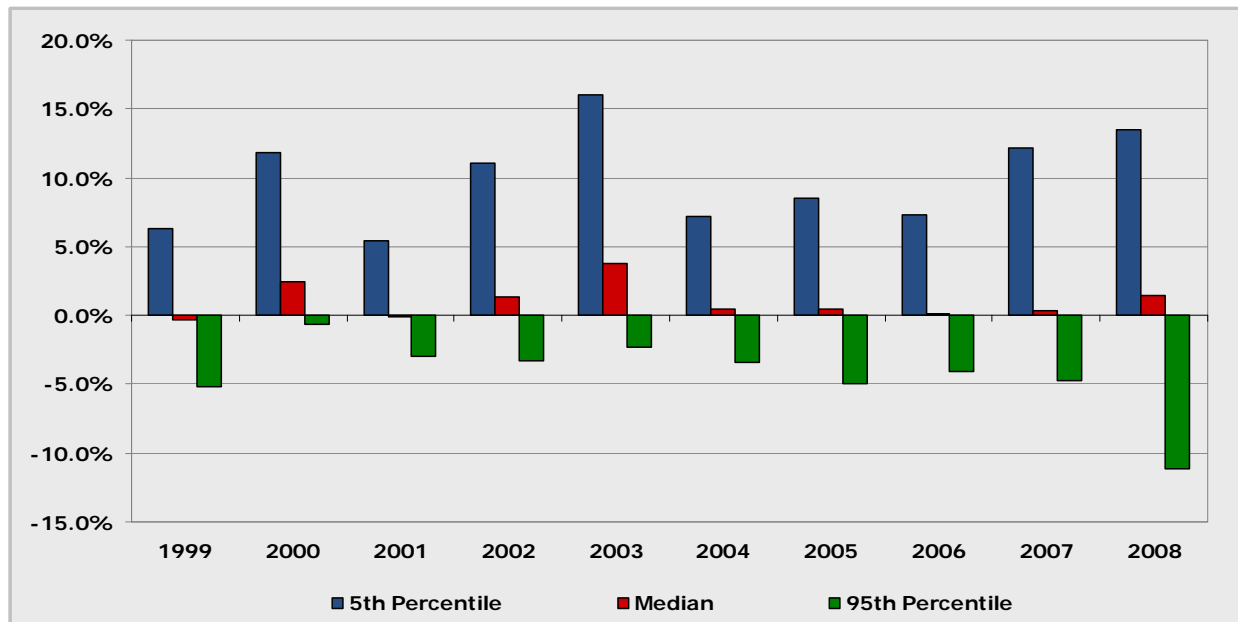
¹ Bank for International Settlements, Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity (2007).

markets have become “weak form efficient” and trading strategies that follow trends may have become less profitable.² Clearly, profit-seeking traders and financial institutions seem to be taking on an increasingly large piece of the overall market. Also, many market participants such as central bankers may be savvier today than they were in years past. Over time, it remains to be seen whether an increasingly efficient foreign exchange market will make it more difficult for active currency managers to generate alpha.

CAN MANAGERS GENERATE CONSISTENT RETURNS, EVEN IN DOWN MARKETS?

In the aggregate, active currency managers have provided modest returns with a reasonable amount of volatility. In the chart below, we illustrate the annual results for the J.P. Morgan universe of currency managers over the past decade.

Exhibit 2 – Currency Manager Performance



Source: eVestment Alliance, J.P. Morgan Investment Analytics and Consulting estimates.

As indicated in Exhibit 2 above, the median return of currency managers has been positive in 8 of the last 10 years. Moreover, the median return of currency managers was positive in 2008 – a year when many of the traditional asset classes experienced significant declines.

The attractive return history seems to be consistent among the various publicly available universes of currency managers. For example, the Barclay Currency Traders Index (“BCTI”), which is comprised of more than 100 currency programs, reports Compound Annual Return of 10.12% since January 1997. Moreover, the BCTI Index indicates the worst drawdown over the past two decades was 15.26%. In addition, several academic studies have indicated that active currency managers provide an attractive return profile with high information ratios.³ In our opinion, the evidence suggests that active managers

² Pukthuanthong-Le, Kuntara and Thomas, Lee R, “Weak-Form Efficiency in Currency Markets”, Financial Analysts Journal, May / June 2008.

³ Pojarliev, CFA, Momtchil and Levich, Richard M., “Do Currency Managers Beat the Benchmark?”, Financial Analysts Journal, September / October, 2008.

have been able to produce an attractive, consistent return stream throughout market cycles.

DO CURRENCY MANAGERS PERFORM WELL IN DOWN MARKETS?

Clearly, market conditions in 2008 reminded investors that correlations tend toward 1 in difficult markets. Nonetheless, institutional investors continue to search for alternative asset classes that offer potential returns that are not highly correlated with traditional assets, such as stocks and bonds. Institutional investors are most interested in assets that have the potential to generate positive returns in down markets.

We analyzed the Deutsche Bank currency indices as proxies for the various active currency management strategies. Specifically, we analyzed the historical return streams of the Deutsche Bank Global Currency Harvest Index, Momentum Index, and Valuation Index as compared to several fixed income, equity, and other asset classes. First, we looked at overall correlations since January 1990. Also, we analyzed the average correlations in the 12-month periods when the return of each traditional asset class was negative. Our results are summarized in Exhibit 3 below.

Exhibit 3 – Correlation Comparison (January 1990 – May 2009)

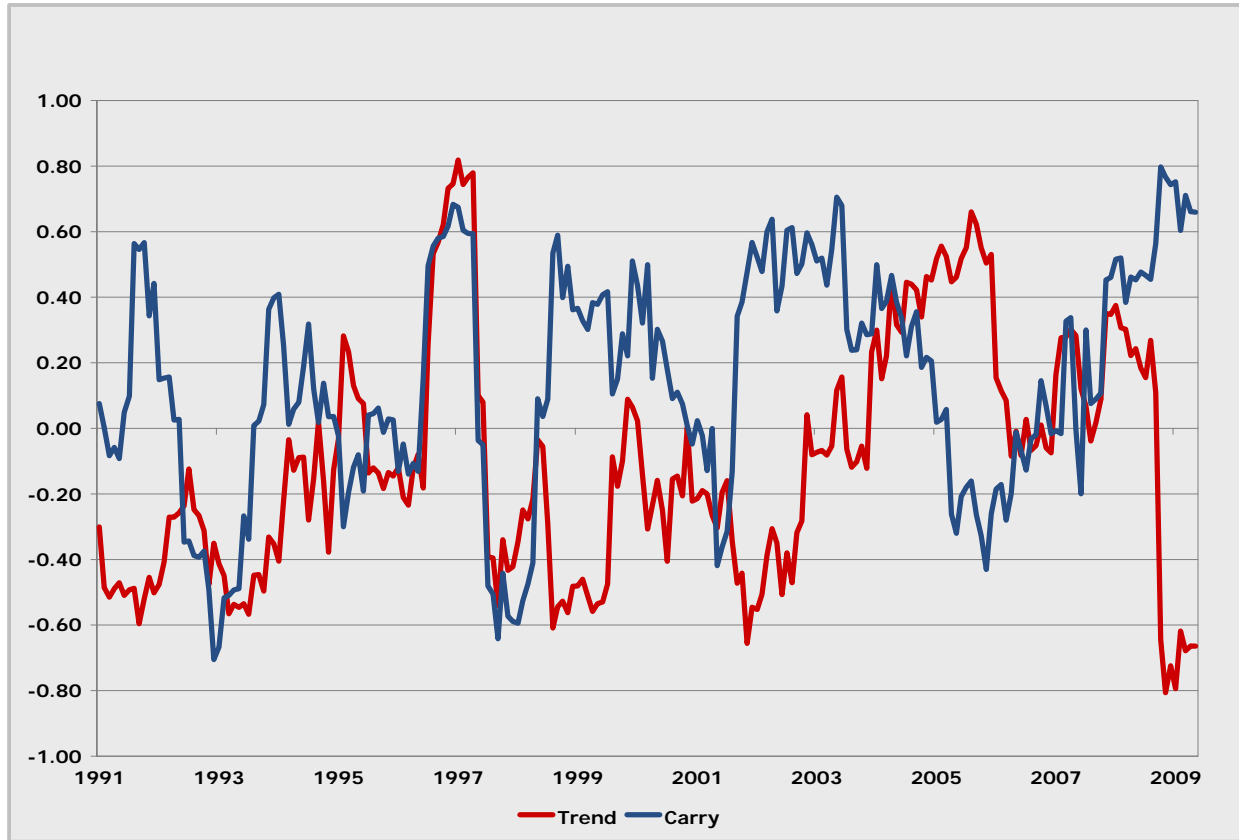
	All Markets			Down Markets		
	Carry	Trend	Value	Carry	Trend	Value
Barclays Aggregate	0.06	-0.01	-0.41	-0.28	-0.36	-0.45
MSCI EAFE	0.29	-0.19	-0.01	0.35	-0.18	0.06
Russell 2000	0.25	-0.26	0.18	0.39	-0.23	0.25
GSCI Commodity	0.25	-0.18	-0.06	0.08	-0.20	-0.17

Source: Bloomberg, Deutsche Bank, J.P. Morgan Investment Analytics and Consulting estimates.

As shown above, the correlation of all the active currency strategies to the major traditional asset classes has been low over the past two decades. Moreover, the correlations of the trend and value strategies remained low in down markets, while the correlation of the carry trade strategy increased slightly.

We would note that the correlation of the carry trade to equity markets increased in recent down markets. We looked at the correlation of each strategy over rolling 12-month periods since 1990. In the table below, we illustrate the correlation of the trend and carry strategies versus the Russell 2000 over the past two decades.

As indicated below in Exhibit 4, the correlation of the carry strategy to the equity markets increased over the past several years. In general, it appears that the correlation of the carry trade to the equity markets increases in periods of high volatility. Specifically, the correlation of the carry trade to the equity markets rose to approximately 0.5 to 0.8 in 2008.

Exhibit 4 – Correlation versus Russell 2000

Source: Bloomberg, J.P. Morgan Investment Analytics and Consulting estimates.

FACTORS TO CONSIDER IN CHOOSING A CURRENCY MANAGER

The universe of active currency managers is relatively small. In our opinion, there are only 20–30 managers with the skill and infrastructure to manage institutional assets. In addition to managers that focus solely on currency strategies, there are many Global Tactical Asset Allocation (“GTAA”) managers, hedge funds, and other alternative asset managers that participate in these markets. In our view, plan sponsors must analyze the details of each fund and make an investment decision based on the specific characteristics of its strategy.

Currency managers use a variety of different methods and indicators when trading in the foreign exchange market. In general, currency managers can be broken down into two broad categories – Qualitative and Systematic. Qualitative managers employ fundamental analysis and subjective judgment in portfolio construction. Systematic managers rely on quantitative rules and systems in portfolio construction.

Currency managers employ strategies that fall into three broad categories: carry, trend, and value. The main attributes of each strategy are as follows:

- **Carry:** The Carry strategy seeks to profit from movements in currency markets caused by carry traders. In general, managers sell currencies yielding low rates while buying those with high rates. This strategy may have a high correlation with equity markets. Also, the carry trade may periodically unwind in a rapid and violent manner, and returns can quickly turn negative.

- **Trend:** The Trend strategy attempts to follow technical patterns in currency markets, and ride the waves of momentum to generate positive returns. This approach tends to work best over the short-to-medium term, and in periods when fundamental forces are less powerful and influential on the market. Trend managers typically rely heavily on computer models and technical analysis, although they can also incorporate a level of discretion.
- **Value:** The Value strategy looks to the fundamental economic and fiscal standing of a country to determine if its currency is undervalued or overvalued. For example, managers may analyze money flows, interest rates, and / or purchasing power parity between countries to identify overvalued and undervalued currencies. Value managers are often more discretionary than model-driven.

Based on our analysis, the strategies are distinct and have their own performance characteristics. Currency managers may either focus on one strategy or employ some combination of the three.

In most instances, both qualitative and systematic currency managers tend to be data-intensive. Plan sponsors should be familiar with the data sources and data quality assurance techniques used by managers. Also, plan sponsors should monitor changes to the processes and algorithms used by managers.

Moreover, plan sponsors should consider style drift. Typically, currency managers back-test economic factors and modify their quantitative models on an on-going basis. Over time, a fund's strategy may change and lead to unexpected outcomes. Also, systematic currency managers may use back-tested results in connection with their marketing materials. In our view, back-tested results should be viewed with a healthy level of skepticism.

We believe plan sponsors should closely analyze and monitor the attribution of currency manager returns. In our view, attribution analyses may uncover subtle changes to strategy or risk profile. For GTAA and other managers that participate in a variety of asset classes, investors should attempt to determine whether the manager has the ability to consistently generate returns from currency markets. In all cases, investors should use attribution analysis to determine whether a given currency strategy is likely to produce returns in a repeatable fashion.

As a side note, one potential benefit of investing with active currency managers is market insight. Several of the high-quality currency managers provide periodic market commentary, economic overviews, and other market information to investors. We believe the insights of currency managers may provide a unique perspective that adds value to a plan sponsor's overall portfolio.

In our view, plan sponsors should consider building a portfolio of several currency managers with differing styles. Based on our analysis, the various currency management styles and strategies may behave differently in various market conditions. For example, the trend strategy performed reasonably well in recent down equity markets. Meanwhile, the carry strategy declined precipitously alongside equity markets in 2008. Given anecdotal evidence and our experience with plan sponsors, it appears that a portfolio of 3-6 active currency managers may provide adequate diversification within the asset class.

PERFORMANCE MEASUREMENT ISSUES

There are inherent problems and issues for the performance measurement of active currency managers. It is difficult to find high-quality, reliable and comparable information regarding the aggregate performance of the asset class. In most cases, currency managers tailor portfolios to the specifications of each client.

There are several databases and benchmarks related to foreign exchange markets. Deutsche Bank and Royal Bank of Scotland each offer a wide range of foreign currency indices. The Standard & Poor's Currency Arbitrage Index seeks to model a carry trade strategy. The Parker FX Index is a benchmark that measures the returns of global currency managers. The Barclay Currency Traders Index is an equal weighted composite of managed programs that trade currency futures and / or cash forwards. Also, eVestment Alliance maintains a separate universe of currency managers. Nonetheless, we believe it is challenging to get a clear and transparent view of the entire universe of active currency managers.

Due to the unique nature of foreign exchange markets, institutional investors have a difficult time in attempting to measure and monitor performance. Investors generally use one of two methodologies for currency manager benchmarks. In most cases, institutional investors compare currency manager returns to Libor, with an additional spread to reflect volatility risks. In addition, many investors may use an average return of a universe of managers. Finally, many institutions may track performance versus peer organizations. In all cases, investors should be aware that these methodologies have limitations, and the information should be analyzed with skepticism.

In our view, investors should bear in mind certain data issues and other challenges involved in analyzing the long-term performance of active currency strategies. Although there are several public databases available, these databases may suffer from reporting bias, as the information is subject to a manager's willingness to report performance. In some instances, poor performers may elect not to report. Also, top performers may not report because they are closed to outside capital. Also, most databases include only active managers. Therefore, failed currency managers may be erased from history resulting in "survivorship bias" in the data. Finally, databases may have "backfill bias" if they add currency funds once they have achieved success and include their entire history.

CONCLUSION

In our view, plan sponsors should consider the merits of active currency management strategies. Based on our analysis, the foreign exchange market continues to offer the potential for alpha even as financial players account for a larger percentage of volume. In the recent turbulent market conditions, many currency managers generated attractive returns and contributed diversification benefits to institutional portfolios.

We believe there are benefits and costs of investing in active currency management strategies. Plan sponsors should closely analyze prospective currency managers in the context of their overall portfolios. In all, we believe it is worth the effort to analyze currency managers and consider allocating a percentage of an institutional investment portfolio to this group of managers.

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Karl Mergenthaler is a Vice President and Senior Consultant within the J.P. Morgan Investment Analytics & Consulting group. Mr. Mergenthaler is responsible for providing analytical and consulting services in the areas of analytics and attribution, ex-ante risk, investment manager analysis and universe comparison, and liability and asset allocation strategy.

Mr. Mergenthaler's published work includes *How Quants Stack Up Against Fundamentals* (Pensions & Investments), *An ETF Solution for 401(k) Plans* (Plan Sponsor), and *Those Defiant Knights of 'Ni'* (Barron's), in addition to numerous First Call notes and Equity Research reports.

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