Thought Leadership Series
May 2010

CONTENTS

Executive summary 1
Key findings 2
The hedging process is "business as usual" for now 2
Volatility is seen as the driver of volumes 2
Currency-returns view is becoming dominant 2
Is behaviour changing? 2
Methodology 2
Research tailored to this project 2
Contents 2
Current behaviour 3
Hedging 3
Assessment of hedging 4
Volumes 5
The low-yield environment 6
Yields 8
Chasing returns 9
Looking forward 11

Currency Hedging - Impact of FX risk on the investment process and its effect on performance

Introduction

The crisis that rocked financial markets in 2008 spurred global investors to examine the strategies they often use to manage, and in some cases, mitigate investment and currency market fluctuations, as well as the impact such market swings have on investment objectives.

We at BNY Mellon wondered how efficiently investors were using hedging strategies as part of their investment approach, and to what end. Were these investors hedging to pursue excess returns, manage potential return risk to investment performance, or to achieve some other objective?

To find out, we commissioned ClientKnowledge, an independent research and consultancy firm based in London, to research investors' opinions and perceptions regarding the use of hedging strategies. The results of the ClientKnowledge research are included herein for your review and comment.

As a thought leader and premier provider of FX products and services, we are always looking to share information with our clients, including information that stimulates discussion on an important topic such as managing risk. The opinions and conclusions in the report are that of ClientKnowledge and its employees and do not necessarily represent the views and opinions of BNY Mellon.

ClientKnowledge
research analytics direction

BNY MELLON

Executive Summary

Rather than subject themselves to the random mercy of fluctuating foreign currencies, institutional investors are taking a more active role in foreign exchange management. Through the application of hedging strategies in cross-border investments, institutional investors are looking to the foreign exchange market as a means to reduce risk, take advantage of interest rate spreads and amplify returns from overseas investments. To find out how effective these strategies are to what extent they are being utilized, we surveyed a wide range of institutional investors throughout North America and Europe. This white paper presents their unique perspectives on:

- Applying cost/benefit analysis to hedging strategies
- The critical importance of yield and interest rate spreads
- Implications for the carry trade
- Key differences between European and North American investors

Institutional investors began to take a fresh look at currency hedging in the wake of the 2008 credit crises. Significant market turmoil created widespread reassessment of investment strategies as investors sought innovative ways to reduce risk and preserve returns in a volatile environment. By employing currency hedges, many institutional investors were able to minimize losses during this period and reposition their portfolios for a resumption in global economic growth. Among our survey's most significant findings:

- Cost/benefit analysis of FX hedging needs to be valued against the risk it reduces as well as creates.
- FX hedging should not be viewed as a balancing item since the performance of the hedge needs to be clear.
- Scenario stress testing needs to be more robust to account for extreme events and how portfolios with an F/X hedge will perform in those circumstances.
- The fundamental shift in interest rates around the world needs to be looked upon as an opportunity to enact F/X hedging.

Key Findings

The hedging process is "business as usual" for now

- Hedging is an everyday essential, but its effects are not always fully understood.
- The full costs of hedging are not being recognised by all market participants – a lack of detailed understanding of FX exposure and MIS reporting systems concerns contribute to this.
- Fewer investors look at interest rate and currency trends when evaluating hedging – hedging tends to be a policy-driven activity so short-term opportunities have little or no effect.
- Product risk and trading costs are fundamental to assessing the value of hedging strategy.

Volatility is seen as the driver of volumes

- Market volatility is seen as the main driver behind change in market volume in Europe – North America views interest rates as an equal driver.
- Market trends in interest rates are considered secondary drivers of market volumes.
- The current low yield environment is regarded as short-term, which is of limited relevance to investors with long-term horizons and strategies where FX is not central.

Currency-returns view is becoming dominant

- FX exposure is most often a result of investment, rather than a direct opportunity to add alpha
- Low yields have allowed the USD and EUR to become funding currencies by default.

Is behaviour changing?

- The dislocation in 2008 has affected performance and AUM, but investors think the change will be short-lived and adjustments based on it are limited – the risk that our analysis perceives is that there is a new environment and investors have not reacted to it yet.
- The lessons to be learnt involve a shift in the assessment of hedging, based on risk assessment and the impact on returns.
- Maintaining current strategies based on a return to normality seems both risky and to miss an opportunity to differentiate to investors.

Methodology

Research tailored to this project

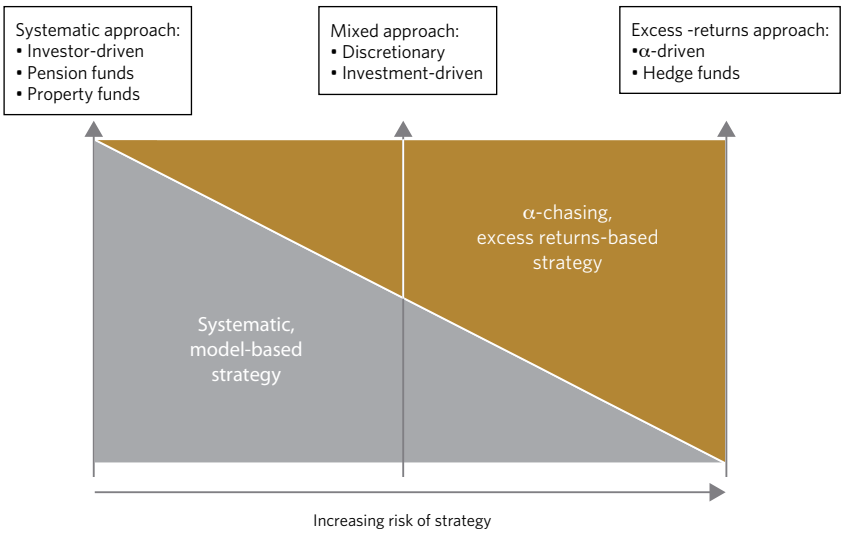
In the fourth quarter of 2009, ClientKnowledge conducted 53 interviews with individuals from North America (21) and Europe (32). Follow-up research and analysis was completed in the first quarter of 2010. Interviewees were real money investors and came from a range of roles across the industry, including execution desks, fund managers, CIOs and CFOs.

Current behaviour

Hedging

Hedging is a key tool in investment strategy, accounting for almost half of all FX trades globally, but is viewed and undertaken in a variety of ways. The purpose of a 'translation' strategy is simply to reduce risk on transactions by placing simple hedges to translate the currency risk as it occurs. In this paper, 'hedging' refers to a more active treatment of FX risk, one where managers seek to actively manage risk using hedging. There is more risk in pursuing such a strategy, however if understood and done well it can attract clients, especially in the new low returns environment. The majority of hedging is done in the above ways and use simple instruments with the purpose of managing unexpected losses and gains, a marked difference to those pursuing an aggressive excess returns strategy, where the pursuit of alpha (excess returns) is the objective.

Figure 1



Source: 2010 ClientKnowledge research.

Those using purely systematic methods of hedging are at the conservative end of the hedging spectrum; however, more often a mixed approach is taken using a combination of models and manual involvement, and covering a range of instruments, depending on the nature of the underlying investment. For example, one portfolio manager described their approach as follows: *"systematic and methodical, we develop portfolios and manage the models but we are not tied to them."* Other feedback indicated that, while models are often used for day-to-day transactions (simple products and major currencies), if a transaction is more complex (exotic structures and minor currencies) then people will make the decisions.

While hedging is considered to be an everyday tool, it is debatable as to whether it is used efficiently and effectively. The most obvious indication of this occurred in 2008, when unhedged and poorly hedged funds performed poorly during times of extreme stress. The majority of funds operate on a long-term basis, and therefore need a long-term hedging strategy – one which requires risk-assessment and stress-testing in order to more closely align the hedging strategy with the purpose of the hedge. However, managing the short-term performance of a fund is also very important, in order to appeal to new and existing clients who often use the NAV of a fund as a key indicator to differentiate funds' performance. Naturally there are costs associated with hedging, just as with any form of insurance, which must be assessed and incorporated into the understanding of the true risk of the investment. Attaining the right balance between these factors is key to a fund's success.

For longer-term equity and fixed income pension funds the cost and effectiveness of hedging needs to be carefully considered to balance the short-term cashflow hedging requirements against the longer term nature of the fund.

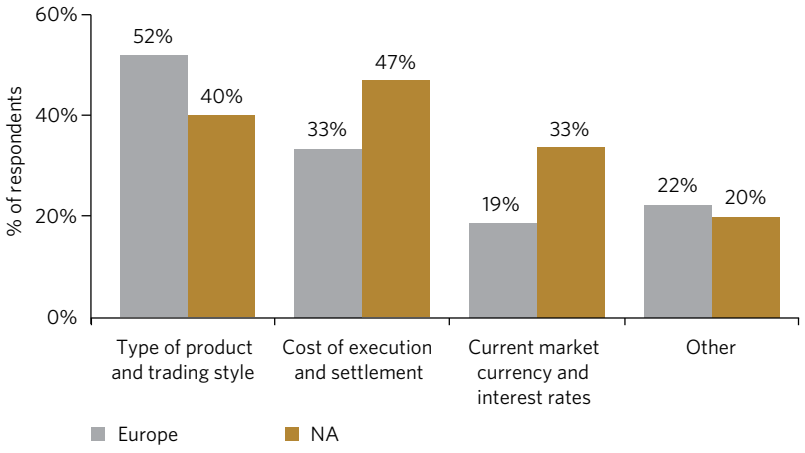
> *Background note: A recent example of evaluating the cost of hedging is the reluctance to hedge counterparty risk on super-senior tranches of CDO's leading up to the credit crisis. The cost of hedging was often calculated to be "too expensive" for the structures and much debt was left unhedged, resulting in large losses when the credit worthiness eroded. Using a hedge effectively might impair short term performance, but in this case invalidating the attractiveness of the investment through the cost of hedging would have been invaluable. [Another cautionary note here is to ensure the creditworthiness of the insurers]. Understanding how the hedge or lack of it will perform under stress is an important lesson*

Assessment of hedging

There are differences between European and American attitudes to hedging when it comes to their view of the impact on hedging of the low-yield environment. Half European investors see a better opportunity as a result of low yields, compared to less than a third of North American investors.

Approximately a quarter of investors take interest rates and currency moves into account when formulating hedging strategy; the remainder focus more on the type of product and the style of trading, particularly in Europe, and on trading fees, particularly in North America.

Figure 2: Factors taken into account when evaluating cost and value of hedging



Source: 2010 ClientKnowledge research.

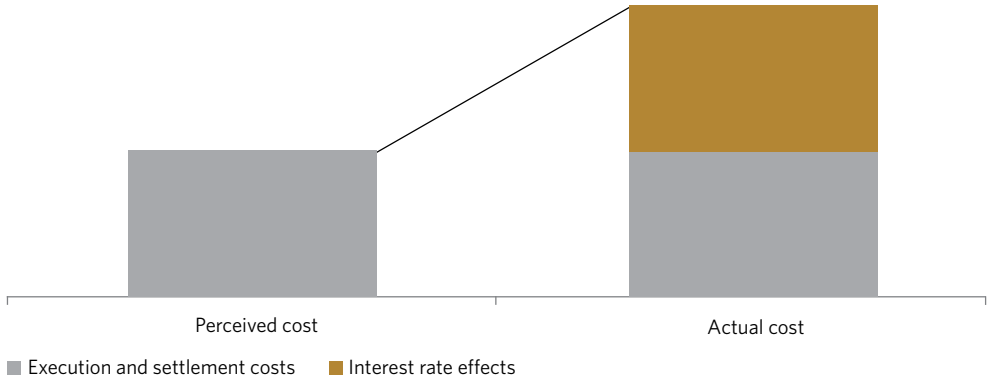
While the market is beginning to adjust to the environment of heightened risk-awareness in terms of products used, the inclusion of market trends is not a primary assessment tool, with 33% of North America and only 19% of Europe considering them when evaluating a hedge.

Clearly, the majority of people do not use the whole range of indicators available to them when assessing the cost and suitability of a hedge, and therefore are not able to assess these factors to the fullest possible extent.

A full view of the costs of FX hedging is incomplete if i-rate and exchange rate effects are not considered, and thus not fully reflected in investors' treatment of cost analysis. Cost analysis is

an increasingly important part of hedging strategy, especially when seen from the client side. Client-side risk awareness has also developed into a driver for fund managers as the costs and risk-reduction of hedging has a relatively bigger impact on performance than before and has become a client concern. The differentiation that can be achieved by managers on the basis of their hedging strategies may attract clients. Of course, the risk-return requirements vary by client and an assessment of target client profiles will and already does play a part in any hedging strategy.

Figure 3: Disparity between perception and reality of cost of hedging

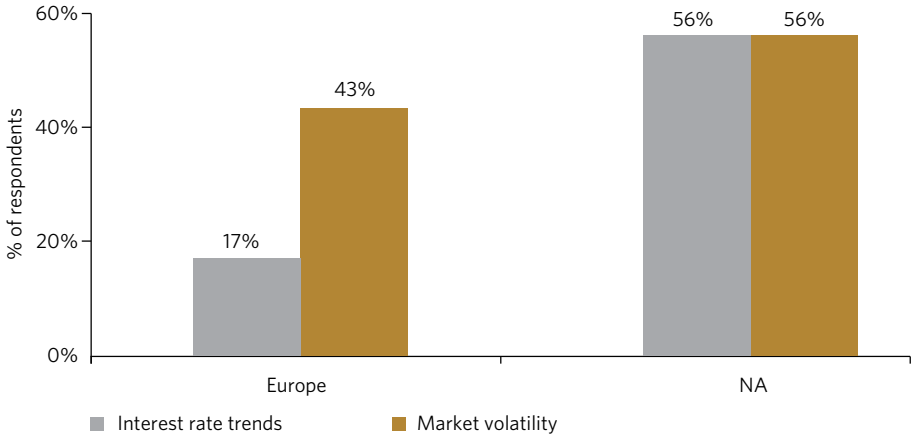


Source: 2010 ClientKnowledge research.

Volumes

Trading volumes and risk taking have reduced considerably since the beginning of the crisis, and, while there has been a recovery, the effects have been felt globally. Overall, market volatility is considered to have impacted more on trading volumes than interest rate trends, although there are noticeable differences between investors on either side of the Atlantic; Europe considers interest rates to have had a considerably lesser effect than volatility, whereas in North America the impact of both factors has been felt equally

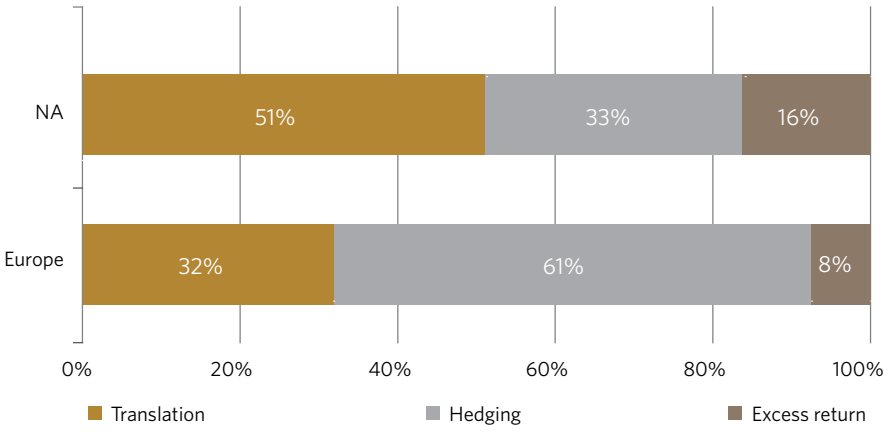
Figure 4: Factors impacting on trading volumes



Source: 2010 ClientKnowledge research.

The difference between Europe and North America is, to some extent, explained by their different attitudes to hedging; Europeans tend to favour a more conservative approach with more trades used for hedging purposes. Half of all FX trades are carried out in order to hedge exposures whereas only a third of the trades in North America were for hedging purposes. In addition, more North Americans take currency and interest rate fluctuations into account when evaluating a hedge, and are therefore more likely to notice their impact.

Figure 5: Average % of business split between trading models



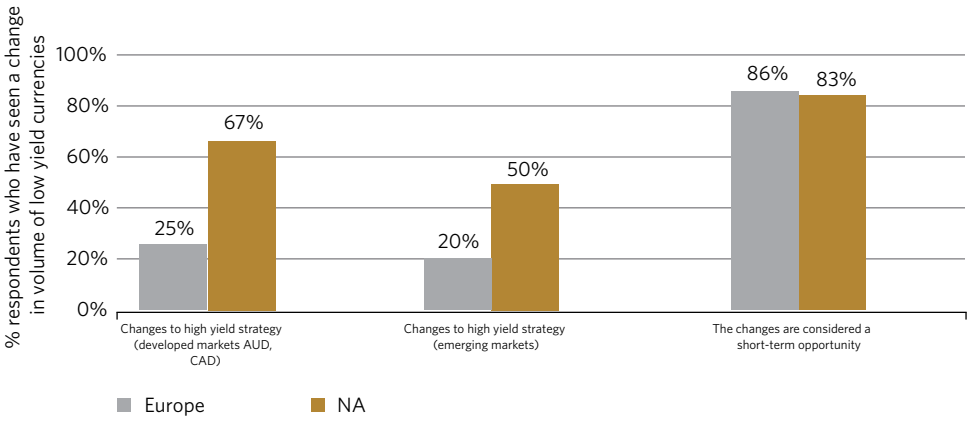
Source: 2010 ClientKnowledge research.

Our research has shown that in general that the proportion of 'hedging' in US FX business is significantly below that of any other region globally. Real money investors in the US are more clearly polarized between a more sophisticated search for alpha and a simple translation strategy than in Europe. In the chart above, hedging refers to an active approach to managing risk, but not seeking to use the hedge to produce excess returns (or alpha seeking).

The low-yield environment

The effects of the changes to low-yield currency volumes have been felt by 63% of investors, some of whom have adjusted their strategy on high-yield currencies accordingly.

Figure 6: Have changes in low-yield currency volumes led to a change in strategy in high-yield currencies?



Source: 2010 ClientKnowledge research.

While investors who have seen the impact of volume changes in low-yield currencies have made some changes to their strategy, more than 80% recognise the opportunity to be short-term. In particular, two thirds of investors in North America have adjusted their strategy regarding developed, high-yield currencies, including funding with USD rather than JPY.

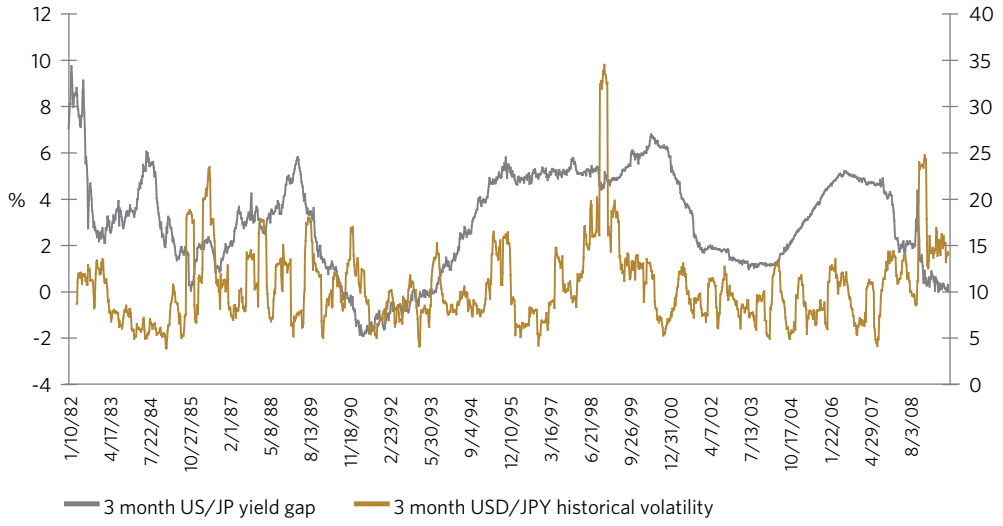
On average, investors think the low-yield environment will last for just under a year, both in North America and Europe; estimates range from 2 months to two years. Although the predicted recovery times are similar, doubts about the US and UK economies are higher and it is felt that European economies are recovering faster. As a result of the lack of faith in US and UK markets, some investors are choosing to focus on the Euro to explore the opportunity and see GDP recovery as a long process.

> *"In our hedging policy we account for the current environment and hence we adjust the extent to which we hedge, for example we feel that the NZD and AUD are overvalued."*

> *"We are more aggressive than we were, and while we do still focus on the JPY, we are now more dollar-centric as the USD has become the new Yen."*

> *"We are increasing our FX exposure and need to review our standard hedging procedures. Our investors are increasingly demanding to understand our policy"*

Figure 7: USD/JPY yield and volatility

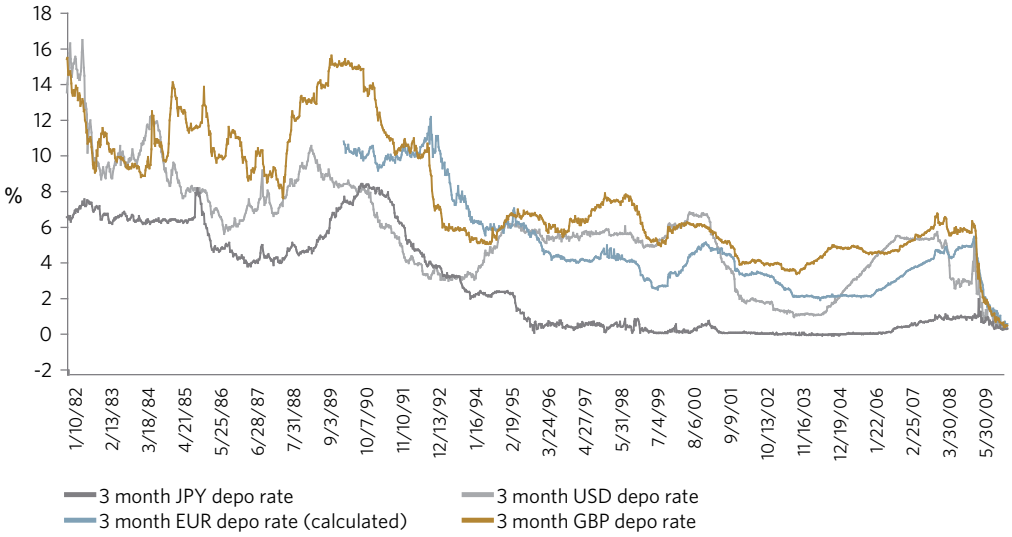


Source: 2010 BNY Mellon Global Markets.

This short-term view considers the highly cyclical historic nature of yields as demonstrated by the USD/JPY yield gap data above. The yield gap plunged to even lower levels during the recession of the early 1990s and has seen two more significant downturns in the last 25 years. While interest and exchange rates are important influences on hedging strategy, they should not be the only considerations taken into account. More in-depth investigation into rate cycles, and their incorporation into the risk assessment of hedging, can only benefit the investment, allowing the timing of the investment to be a factor in the hedge. For example, historically, a forward buyer of JPY would have clearly benefited from the current yield differential.

Yields

Figure 8: Yield convergence

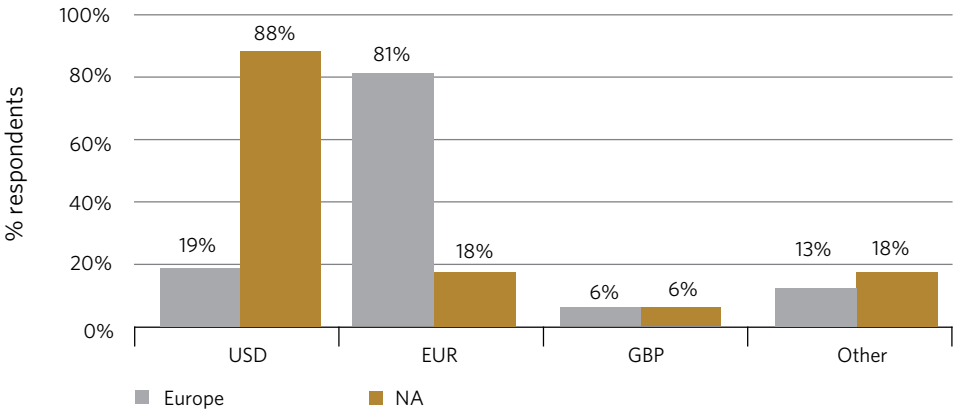


Source: 2010 ClientKnowledge research.

Yields from the major currencies have converged and are now at the levels sustained by the JPY over the last decade. Inevitably this has created a new lower-yield market environment which has led to temporary adjustments to strategy among some investors.

> *"We are now very much currency-return-centric as yields are absent."*

Figure 9: Funding currencies



Source: 2010 ClientKnowledge research.

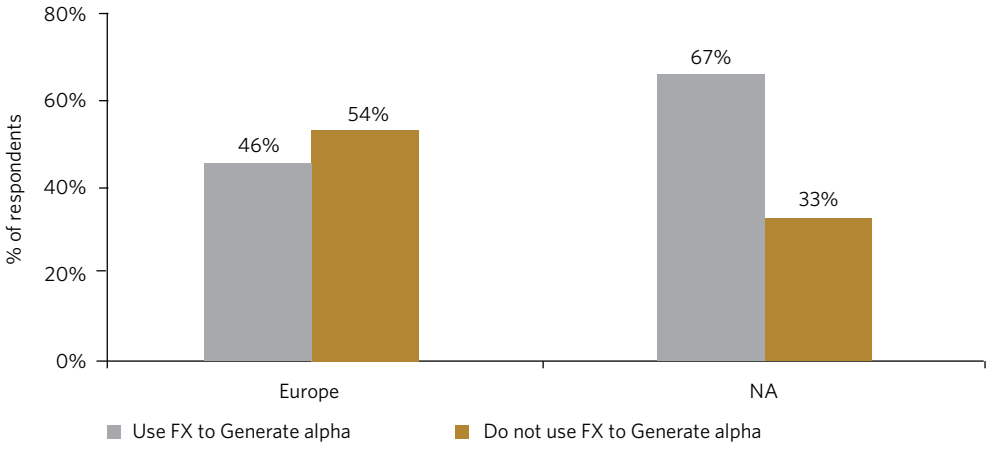
This has led practical conditions under which it is possible for former high-yield developed currencies to become funding currencies, with more than 80% of investors from North America and Europe using USD and EUR respectively due to their low yields.

> *"With low short term rates for USD, GBP, EUR and JPY offering attractive opportunities… we have decided to trade more in such currencies. We are now using USD as our funding currency."*

Chasing returns

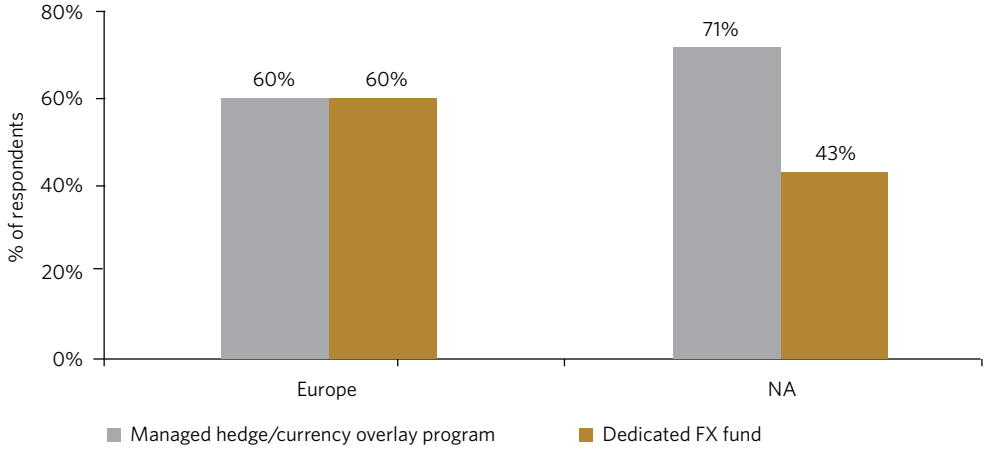
Over half of investors use FX to generate alpha, more so in North America than in Europe. This follows on from the earlier observation regarding the proportion of business North America allocates to generating excess returns compared to that in Europe.

Figure 10: Use of FX to generate alpha



Source: 2010 ClientKnowledge research.

Figure 11: How FX is used to generate alpha



Source: 2010 ClientKnowledge research.

In Europe, however, more investors run a dedicated FX fund than in North America, the same number as run currency overlay programs, indicating a more sophisticated, cautious approach.

Of those investors who use FX to generate alpha returns, 54% undertake carry trades and look at interest rates and currency fluctuations in tandem, the remainder only taking a view on individual currencies rather than interest rates. There is a view to extend such trades into USD, EUR and GBP, with all North American and half European investors who use carry trades entertaining the idea.

The North American investors are less risk-averse than Europeans: of the 26% of investors using carry trades to generate excess returns, more do so in North America, 43%, than in Europe, only 15%. In addition, North Americans are willing to use emerging markets currencies as the high-yield currency of a carry trade.

The two central methods of generating alpha have major barriers to their becoming mainstream, and hence for forex to become a contender as an asset class. Firstly, a strategy of latency arbitrage requires continual and substantial investment in advanced, ever-changing technology. This requires fast decision-making and implementation and leaves the majority of investors in a position where by the time the technology has been approved and installed it has already been superseded by a new innovation. Hedge funds, with their ability to turn a decision into implementation overnight, are therefore always one step ahead and thus able to monopolise this strategy.

Secondly, the pursuit of a carry trade strategy in the perceived uncertainty of the current market offers an unattractive risk-return ratio. Whilst returns can be smooth, the currency move when the market breaks out can be so fast a reversal the question has to be asked whether the strategy should be a carry trade or trying to position for the break of the carry trade. The speculative bubble created and destroyed by such investments adds to the uncertainty in an already volatile market. The carry trade is also often misleading and a consequence of investment strategy rather than the strategy itself. However, there is increasing emphasis on emerging markets and this has the consequence of affecting a carry trade if you are a USD-based investor.

Looking forward

Is there a new investment strategy developing as a result of the credit crisis and consequent low-yield environment?

At the moment, investors are optimistic about economic recovery and, while acknowledging this may take time, are not taking a long term view on the current conditions, merely using it opportunistically. If, on the other hand, this is not borne out by events and the assumption that things will return to "normal" is short-sighted, we may experience a paradigm shift in the forex market. To follow this to the logical extreme would mean the development of forex into an asset class in its own right. Although this is fraught with issues and more likely is the more nuanced use of FX as a hedge or addition to performance. Hence, foreign exchange products will continue to be used as a consequence of investment in other assets and hence hedging will increase in importance.

So far low yields, and the resultant low returns on cash, have intensified focus on currencies as the need to hedge has become more pressing (the currency effect has a proportionally greater impact in a low return environment as currency volatility is not necessarily lower). People have become more pro-active in their pursuit of currency returns, which is allowing them to reap the benefits of placing an effective hedge against their view at the beginning of an investment. In addition, the pursuit of alpha, both as a result of investment in underlying assets and proprietary trading, has increased this year, although currency returns as a result of investment, rather than as a strategy, are still dominant.

> *"As a result of the new market environment, we have expanded our portfolios exposure to more currencies. Our hedging program is still the same and needs reviewing."*

One possible outcome of the credit crisis is tighter alignment and greater clarity of the risk of currency and asset. There would be a need to show the link between the forex exposure and the underlying asset which would lead to more thorough reporting on FX. For this to come about, a more detailed system of liquidity management needs to be in place, including an aggregated view of the market; data mining and analytical tools; efficient back office processes and transaction cost analysis. The crisis has already focussed attention onto this, particularly regarding risk.

These measures would allow investors to examine the efficiency of their hedging, taking into account when an asset was bought, when the hedge was placed and therefore whether the hedge is as efficient as possible in the scenario. This leads to the possibility of closer scrutiny of investors' FX strategy by customers, and consequently differentiation between players based on hedging strategies. The demand from investors who outsource their FX risk will be for greater competition and transparency from FX overlay providers.

The new era of risk-awareness will provide both challenges and opportunities for managers. It may no longer be enough for and investment to 'be hedged', rather that hedging becomes an integral part of investment strategy, whether that means a conscious decision not to hedge or an effort to bring in excess returns. The opportunity lies in having the appropriate, and attractive, balance between risk and reward in order to gain and to keep clients, and the challenge is to determine the thresholds of when and what to hedge. These will ensure that hedging strategies are relevant, necessary insurance measures, and not just a somewhat random balancing feature on performance.

> *"More hedging and less risk is the new order for us."*

The key balance to be struck is to introduce more nuanced and yet simple, understandable FX hedging that is aligned to asset managers' mandate and recognises both the risks being hedged and the limitations to the model they are employing. Markets cannot function if they constantly expect the worst scenario, but a significant gain can be realised by better understanding the risks that are currently being managed, the alternatives to hedging and the risk profile that the hedge creates on the underlying investment.

All market participants need to take responsibility to incorporate more predictable and effective FX hedging into the system.

About BNY Mellon

BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation. BNY Mellon is a global financial services company focused on helping clients manage and service their financial assets, operating in 34 countries and serving more than 100 markets. BNY Mellon is a leading provider of financial services for institutions, corporations and high-net-worth individuals, providing superior asset management and wealth management, asset servicing, issuer services, clearing services and treasury services through a worldwide client-focused team. It has $22.4 trillion in assets under custody and administration, $1.1 trillion in assets under management, services $11.8 trillion in outstanding debt and processes global payments averaging $1.5 trillion per day. Additional information is available at www.bnymellon.com

This document has been prepared solely for informational and discussion purposes, for private circulation, and is not an offer or solicitation to buy or sell any financial product or to participate in any particular strategy. The Bank of New York Mellon, and its broker dealer affiliates, may have long or short positions in any currency, derivative or instrument discussed herein. The Bank of New York Mellon has included data in this document from information generally available to the public from sources believed to be reliable. Any price or other data used for illustrative purposes may not reflect actual current conditions. No representations or warranties are made, and The Bank of New York Mellon assumes no liability, as to the accuracy or completeness of any data. Price and other data are subject to change at any time without notice.

Edward McGann
Managing Director
BNY Mellon Global Markets
edward.mcgann@bnymellon.com
+1 212 804 2248

John E. Murray
Managing Director
BNY Mellon Global Markets
john.e.murray@bnymellon.com
+44 207 964 6268

About ClientKnowledge

ClientKnowledge helps trading firms maximize the value of their franchise, in terms of client distribution and the profitability of client-driven trading. Established in 1993, ClientKnowledge provides expert advice in sales, trading and associated technology, using research and analytics to drive customer recommendations. For more information, please visit www.clientknowledge.com

For more information please contact:
ClientKnowledge
19-21 Great Tower Street
London
EC3R 5AR
UK
+44 20 7952 4840

BNY MELLON

ClientKnowledge
research analytics direction

Material contained within this White Paper is intended for general informational purposes only. It is not intended to provide professional counsel or investment advice on any matter, and is not to be used as such. No statement or expression is an offer or solicitation to buy or sell any products or services mentioned. The Bank makes no representation as to the accuracy, completeness, timeliness, merchantability or fitness for a specific purpose of the information provided in this White Paper.

The Bank assumes no liability whatsoever for any action taken in reliance on the information contained in this White Paper, or for direct or indirect damages resulting from use of this White Paper, its content, or services. Reproduction, distribution, republication and retransmission of material contained in this White Paper is prohibited unless the prior consent of the bank has been obtained.

© 2010 The Bank of New York Mellon Corporation. All rights reserved.