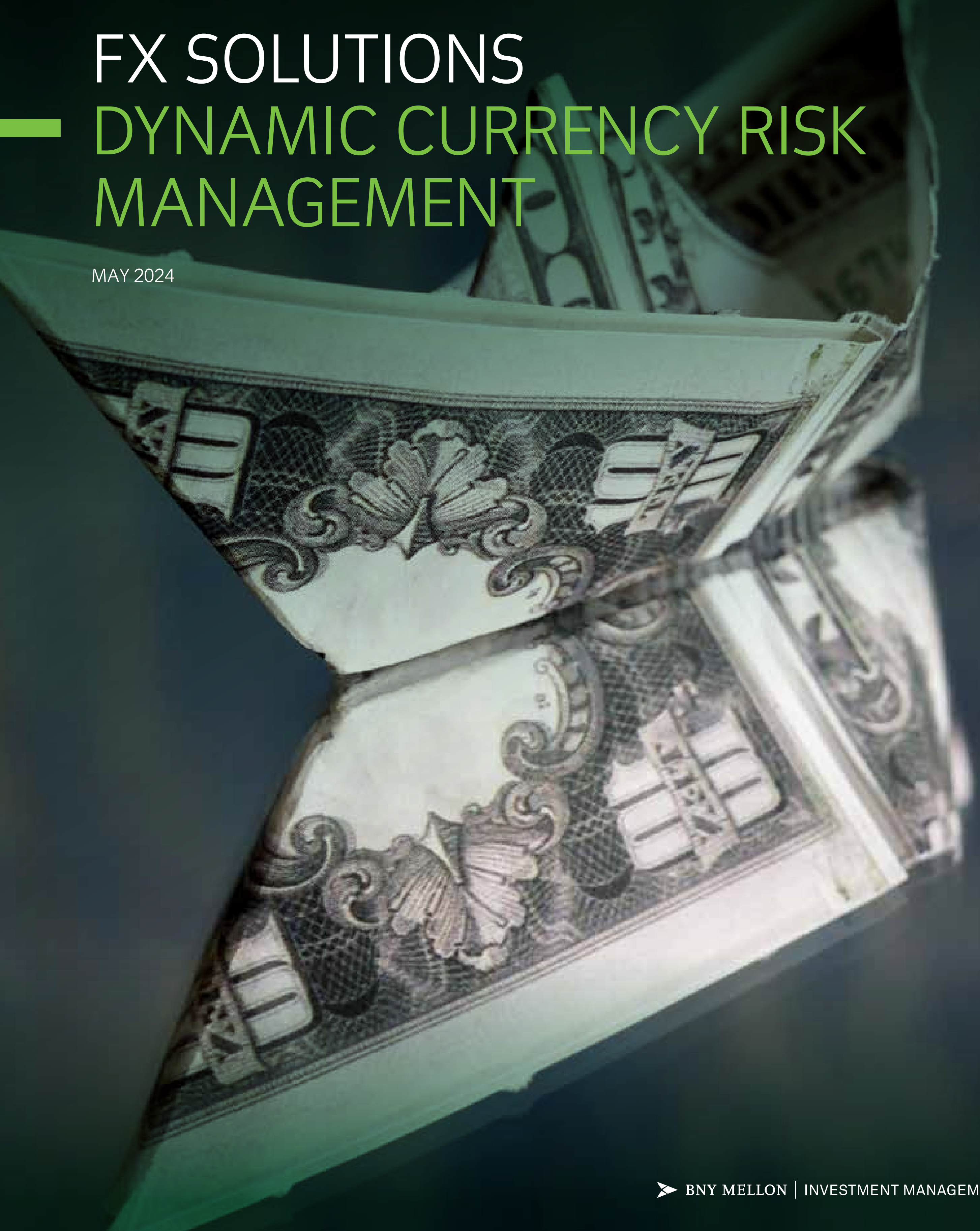
FOR INSTITUTIONAL INVESTORS ONLY. NOT TO BE DISTRIBUTED TO RETAIL CLIENTS. This strategy is offered by Insight North America LLC (INA) in the United States. INA is part of Insight Investment. Performance presented is that of Insight Investment and should not specifically be viewed as the performance of INA. Please refer to the important disclosures at the back of this document.

Insight
INVESTMENT

FX SOLUTIONS

DYNAMIC CURRENCY RISK MANAGEMENT

MAY 2024



BNY MELLON | INVESTMENT MANAGEMENT

EXECUTIVE SUMMARY

- In our view there are several strong arguments for formulating a currency policy (e.g., larger allocations outside the domestic market) and with recent volatility in currency markets reinforcing the importance of having a currency policy in place

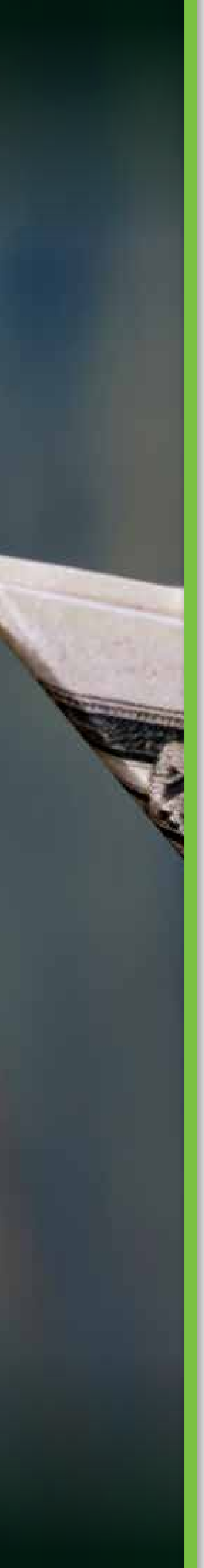
- A passive approach to currency hedging reduces currency risk but introduces cashflow volatility, without any expected return. Conversely, an active hedging program aims to take a more dynamic approach and:

  1. Allows more efficient cashflow management
  2. Increases the potential to generate returns
  3. Increases diversification at the portfolio level

- At the heart of our dynamic hedging process is our currency engine based on our Alt-Risk Premia model. Our engine is quantitative in nature, fully modular, and employs a factor-based approach to currency management

- Our factor-based currency approach aims to produce reliable and repeatable returns from currency

- We outline how our factor-based strategy was built, as well as how it can be fully customized to suit institutional investor dynamic hedging requirements and deliver a profile of returns that aligns to investors' investment objectives

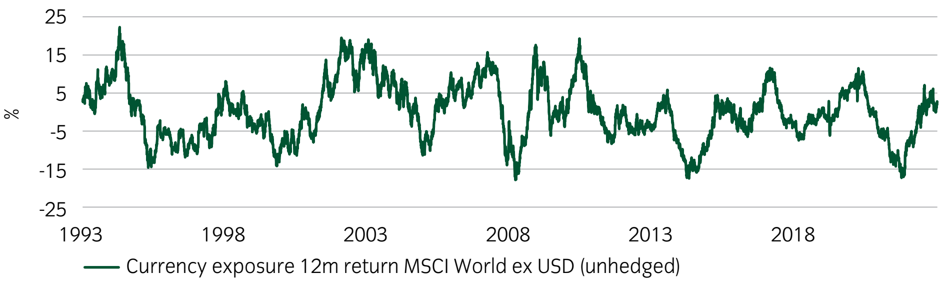


WHY SHOULD YOU CONSIDER HEDGING YOUR CURRENCY RISK?

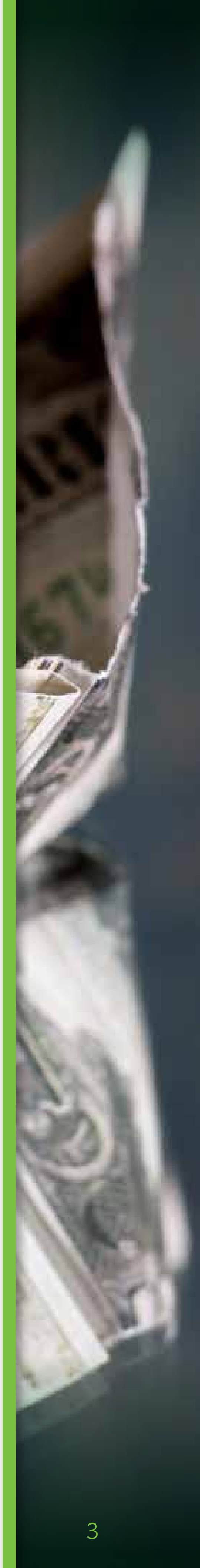
Historically, international investors often underestimate the impact that currency can have on both their returns and cash flows and the broader level of assets. This stems from a perception that currencies mean revert over the medium term and that developed market currencies, which is the source of most of the underlying currency exposure, have low volatility. While these perceptions aren't completely incorrect, the story is more nuanced when examined closely:

- The US dollar (USD) has rallied versus other major world currencies by roughly 40% peak to trough over the course of 15 years . This suggests that mean reversion cycles can be much longer and currency ranges much wider than commonly appreciated. In practical terms this means that if you are a US-based investor and bought foreign denominated assets at the start of the dollar's uptrend, the move in currency markets would have removed as much as 40% from the current value of your assets.
- Portfolio volatility stemming from currency exposures within any given year can be much greater than the annual figures often quoted. One very good example was the recent period in Q3 2022, as a USD-based investor with unmanaged currency risk would have faced a currency loss in excess of 15% over the previous 12 months. Similarly, as we can see from Figure 1 there are periods where large retracements in the USD would have generated significant pain for an investor with a passive hedge in the form of the cash flow requirements that would have been needed to sustain their hedging strategy.

Figure 1: 12-month rolling return arising from MSCI World ex USD international currency exposures[1]



- Currency also has a considerable role to play at a portfolio level due to the increase in portfolio diversification that can be achieved through hedging from a US investor perspective. We have analyzed the most significant equity market drawdowns over the past 30 years and compared the performance of a portfolio with zero hedging (i.e. unhedged) and one with a static 100% hedge. As can be observed in Table 1, when equity markets fall a passive 100% hedge has outperformed an unhedged portfolio due to the negative correlation



[1] Source: As measured by the US Dollar Index (DXY)

between risk and the USD (i.e., when risk aversion is high, the US dollar tends to strengthen). In other words, international portfolio losses stemming from US dollar strength tend to occur when other parts of the portfolio are also under pressure. Currency hedging can help to mitigate these acute periods of pressure, which may tend to persist.

Table 1: Performance through historical crisis[2]

	Performance peak-trough		
Crisis	MSCI World ex USA local	Unhedged	100% hedged
Bond crisis	-8.46%	4.20%	0.72%
Tech sell-off	-9.68%	2.62%	0.63%
LTCM collapse	-16.09%	4.72%	0.31%
Dot com bust	-48.03%	-2.16%	2.23%
GFC	-54.14%	-8.68%	0.10%
Commodity Slowdown	-16.08%	-0.76%	0.22%
China/Trade wars	-13.61%	-1.09%	0.65%
Covid-19	-23.79%	-3.20%	0.43%
Post Covid Inflation	-28.36%	-16.81%	1.03%
Average		**-2.35%**	**0.70%**

WHY CONSIDER DYNAMIC CURRENCY RISK MANAGEMENT?

A PASSIVE APPROACH TO HEDGING EFFECTIVELY TRADE CURRENCY RISK FOR CASHFLOW VOLATILITY

The aim of a currency hedging program is to provide protection from adverse currency moves. However, the challenge for those wanting to hedge is that the reduction in currency risk comes with an increase in cashflow volatility, as the derivatives needed to implement the hedging program can either generate cash inflows if in profit or require cash outflows if in loss.

A passive hedge can, therefore, be a suboptimal solution as it will generate cash losses when the base currency depreciates and will reduce or eliminate available currency gains. Investors may be particularly impacted when this coincides with a period of broader market stress, as negative cash flows may require the liquidation of underlying assets just at the time when valuations are at their most vulnerable (or attractive). It is also possible that the pressure on underlying collateral may become so extreme that those with insufficient liquidity may be unable to continue to fund their hedges, resulting in hedges being closed and asset positions left unhedged.

[2] Source: Insight and Bloomberg. Base currency of portfolios is euros. MODEL RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, MODEL RESULTS DO NOT REPRESENT ACTUAL TRADING/RETURNS AND MAY NOT REFLECT THE IMPACT THAT MATERIAL ECONOMIC/MARKET FACTORS MIGHT HAVE. CLIENTS' ACTUAL RESULTS MAY BE MATERIALLY DIFFERENT THAN THE MODEL RESULTS PRESENTED.

A DYNAMIC HEDGING APPROACH ATTEMPTS TO SOLVE THESE PROBLEMS IN THREE WAYS

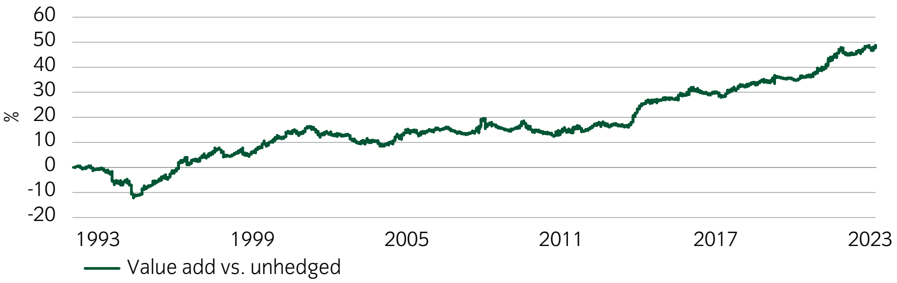
1 Efficient cashflow management: In essence, by dynamically adjusting the hedge ratio up and down depending on expected future currency moves, the strategy aims to minimize currency losses, and the negative cashflows that stem from them. Dynamic solutions also allow greater controls to be built into a strategy. For example, formal limits can be set on negative cashflows over a given period, providing certainty that collateral calls don't exceed a predetermined level, relieving pressure on underlying collateral assets.

2 The potential to generate returns: At its core, a dynamic hedge seeks to exploit the wide ranges currencies often move in, with the aim of capturing periods when the base currency is strengthening while limiting the negative impact of periods when the base currency weakens. While a passive hedging program is fully symmetric – the positive cash flows stemming from base currency appreciation are offset by the negative cash flows for an equivalent depreciation of the base currency – dynamic hedging aims to generate asymmetry in currency returns (i.e., capturing currency gains while mitigating currency losses), consequently leading to a positive cash flow stream over longer time horizons.

3 Retain diversification benefits: Dynamic currency hedging seeks to retain the diversification benefits from hedging currency risk when they are most needed, during tail events, which have typically seen the USD strengthen considerably. Indeed, by employing a dynamic approach to currency hedging, investors can expect to retain this beneficial relationship between the USD and risk-off events while improving the cash flow profile when the USD is weak. This presents a potentially powerful tool to add to the portfolio construction process.

Considering the whole back-tested period, when we assess the value added versus an unhedged portfolio, we can see multi-year trends arise where hedging has been accretive. Typically, by employing a dynamic hedging strategy to tilt your hedges, an investor can expect to participate in currency gains while reducing currency losses, regardless of their strategic benchmark decision. This effect is particularly pronounced versus an unhedged benchmark due to the opportunity set of a US investor; international investments are concentrated in currencies that typically depreciate against the USD during risk-off events such as those highlighted in Table 1, and a skilled currency manager can also participate in foreign currency strength during years of USD weakness to create an attractive profile through time.

Figure 2: A back-tested dynamic approach has significantly outperformed an unhedged portfolio[3]



[3] Shows cumulative return of dynamic hedging of MSCI World ex US into US dollars versus unhedged returns. Insight and Bloomberg. Data between December 31, 1992 and December 31, 2023. MODEL RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, MODEL RESULTS DO NOT REPRESENT ACTUAL TRADING/ RETURNS AND MAY NOT REFLECT THE IMPACT THAT MATERIAL ECONOMIC/MARKET FACTORS MIGHT HAVE. CLIENTS' ACTUAL RESULTS MAY BE MATERIALLY DIFFERENT THAN THE MODEL RESULTS PRESENTED. Diversification cannot ensure a profit or protect against loss in declining markets. All investments involve some level of risk, including loss of principal.

THE CURRENCY ENGINE AT THE HEART OF OUR PROCESS

Our approach to delivering a bespoke dynamic hedging solution is quantitative in nature, fully modular, and employs a factor-based approach to currency management, using up to five risk factors that we believe explain most of the medium-term currency moves. Each factor in turn is comprised of different signals that allow us to identify which currency pairs we believe are likely to benefit from a given market environment.

The most common solution utilized by our current US clients aims to manage the underlying currency risk via elements of the momentum and quality factors (defined below), which results in a trend following strategy that is risk aware. When the perceived risk of loss is low and currencies are trending, the strategy will adjust the level of hedging accordingly, such as increasing hedges when the US dollar is strong. Conversely, when the perceived risk of loss is high and/or markets are range-bound and volatile, positioning relative to benchmark is reduced. This style of strategy has been highly successful in the United States thanks to the high-quality nature of trends that occur in major currencies versus the US dollar (most notably EUR and JPY, which are the largest exposures within typical investor indices).

However, for investors who are more focused on a smoother return stream, it is important to seek diversification in the factors that contribute to the level of hedging. Our Alt Risk Premia (Alt-FX) solution incorporates all our risk factors and factor signals into an outcome that aims to generate returns over a full economic cycle. The strategy's investment signal combines individual signals that attempt to capture the main drivers of currency returns: momentum, volatility, valuation, carry and quality.

- **Momentum:** the momentum signal establishes active positioning for each currency based on the historical changes in exchange rates and risk-adjusted yield differentials. It measures the strength of both price and yield differential momentum over various time horizons as well as the quality of that momentum. This ensures that the overall signal is responsive not only to recent exchange rate direction but also takes into consideration the dynamic nature of the exchange rate move in that direction. For any given move in the exchange rate, the position is adjusted exponentially rather than linearly and is also adjusted based on our estimate of risk. These adjustments improve the efficiency of the momentum process so that the likelihood of deploying large positions in volatile and choppy environments is lowered.
- **Volatility:** the volatility signal establishes positioning for each currency based on an expectation for short-term reversions in an exchange rate. This signal takes short-term positions that are generally in the opposite direction to the momentum signal, increasing its aggression when momentum is expected to perform poorly. In this way, this signal attempts to monetize the short-term volatility in exchange rates and operates at a much shorter horizon than the momentum signal. Positioning is also positively related to our estimate of risk so that larger positions are taken when markets are choppy and the process that monetizes volatility becomes more profitable.

- **Value:** the valuation signal establishes active positioning for each currency based on the currency's deviation from estimates of both short-term and long-term fair value. A long-term fair-value exchange rate for each currency is derived from a set of equilibrium estimates for real, exchange rates. The model used to estimate this takes macroeconomic variables as inputs, which cover GDP and trade data. A short-term fair-value exchange rate for each currency is derived using machine learning methods to estimate short-term equilibrium from a broad array of market variables: equities, implied volatility, commodities etc. The valuation signal rebalances the hedge daily as the deviation from fair value estimate evolves.
- **Carry:** the carry signal establishes active positioning for each currency based on the risk-adjusted interest rate differential. Positioning is based on the sign and size of the interest rate differential as well as our estimate of exchange rate risk. It is positively related to the size of the currency forward yield differential and inversely related to our estimate of risk. This approach can be helpful in avoiding sharp drawdowns in high interest rate currencies that tend to occur from time to time.
- **Quality:** the quality factor has a two-pronged approach to discern higher "quality" properties amongst a set of currencies. It is designed to capture the relative outperformance of major (more liquid) currencies versus minor (less liquid) ones during periods of directional moves. At the same time during spells of risk aversion it will favor long exposure to the US dollar, which is the ultimate benefactor of such flows.

We look to exploit our risk factors in as broad a way as possible therefore factors may contain multiple signals.

FACTOR-BASED MODELLING

OUR OBJECTIVE FOR OUR CURRENCY ENGINE IS RELIABLE AND REPEATABLE RETURN FROM CURRENCY

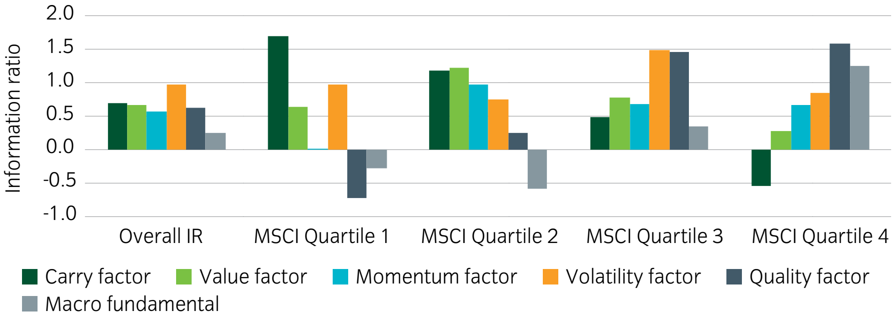
The factors we use are based on theoretically and empirically well supported factor risk premia found in currency markets and beyond. However, there are generally several different ways to exploit each factor utilizing systematic investment signals. This allows us to diversify our holdings to include several representations of a factor, increasing the likelihood that we will capture stable premia from that factor. By including several representations of each factor, we also minimize our model risk (i.e., the risk that a single representation of the factor ends up being a poor choice).

Examples:

- The **value factor** could be exploited using signals capturing reversion to fair value at both the long-term, based on macro variables, and the short term, based on market variables.
- The **momentum factor** could be exploited reactively through analysis of recent exchange rate trends or proactively by analysis of recent changes in forward exchange rate yield differentials.
- The **carry factor** can be exploited by averaging over a range of yields, all of which satisfy the economic rationale of carry, with the aim of increasing the likelihood that the underlying economic risk factor will be realized and making the strategy more robust.

Our methodology for exploiting these persistent risk factors has been accretive through time, and on a back tested basis provides a robust return stream regardless of the underlying market cycle. To demonstrate this, we have plotted in Figure 3 the information ratio for each factor alongside various states of the world as defined as the quartiles of MSCI World ex US performance. The diversification benefits can be seen across the factors, for instance pro-cyclical factors such as carry perform well when equity markets rally and less well when equity markets underperform (risk-off). Conversely, we see the quality factor perform well during risk off events and less well during the first quartile of MSCI returns, whereas the volatility factor performs well regardless of the underlying environment.

Figure 3: Building a structurally diverse portfolio of return drivers helps to result in a more stable return profile[4]



While risk factors individually may deliver good information ratios, this is not a necessary condition for their inclusion in a factor-based strategy. The true power of factor investing comes at the portfolio level, where low correlation between alternative factors can significantly reduce portfolio volatility and tail risk. Insight's factors are designed to be diverse by construction (i.e., as a direct product of their trading rules). This means we value minimizing uncertainty about the strategy above minimizing statistical measures of volatility.

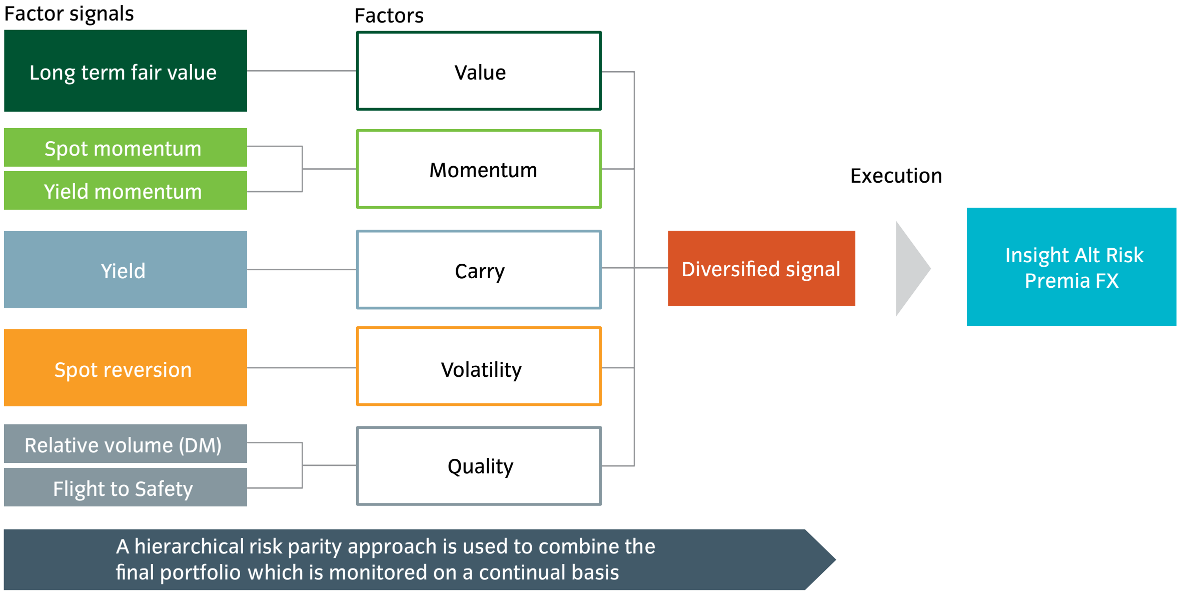
Examples:

- The **momentum factor** and **volatility factor** are contrary by nature. The worst environment for momentum strategies is a range bound / reverting environment where an investor may end up buying high and selling low as they try to position for momentum. For volatility strategies, the worst environment is one where markets are steadily trending.
- The **carry factor** and **value factor** are contrary by nature. Exchange rates tend to move in the direction of the carry and pick up momentum until they are significantly over/under valued at which point they revert to fair value.

[4] Source: Insight and Bloomberg. Data between December 31, 1991 and December 31, 2023. MODEL RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, MODEL RESULTS DO NOT REPRESENT ACTUAL TRADING/ RETURNS AND MAY NOT REFLECT THE IMPACT THAT MATERIAL ECONOMIC/MARKET FACTORS MIGHT HAVE. CLIENTS' ACTUAL RESULTS MAY BE MATERIALLY DIFFERENT THAN THE MODEL RESULTS PRESENTED.

Furthermore, our risk-parity framework, illustrated in Figure 4, allocates equal risk budgets (based on measures of volatility) to each factor signal. This process is repeated for each factor, combining them to create a single diversified signal. By including several similar representations of any factor, we can increase the reliability and robustness of the combined signal, with the aim of creating reliable, repeatable exposure to currency risk premia.

Figure 4: Risk-parity framework[5]


Factor signals
Factors
Long term fair value
Value
Spot momentum
Yield momentum
Momentum
Execution
Yield
Carry
Diversified signal
Insight Alt Risk Premia FX
Spot reversion
Volatility
Relative volume (DM)
Flight to Safety
Quality
A hierarchical risk parity approach is used to combine the final portfolio which is monitored on a continual basis

Although the allocation of an equal risk weighting may appear simple, our research, and conclusions from available literature would suggest that it is difficult to beat, especially with respect to risk allocations to systematic strategies.

Our cross-sectional risk allocation method aims to build a portfolio of currency exposures that are robustly diversified at any given point in time. This is because risk-factors are designed to be structurally diverse (e.g., momentum is the opposite of volatility) and we are allocating risk in a robust way (risk parity) across these factors, over a broad range of currency pairs. In addition to diversification through cross-sectional risk allocation, we use time series risk controls to scale exposures to the diversified portfolio of risk-parity weighted factors upwards or downwards to manage aggregate risk. This is effectively inverse volatility scaling or a tracking error target.

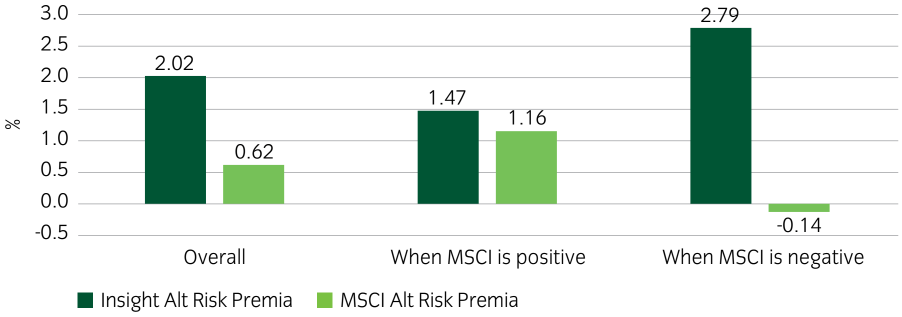
[5] For illustrative purposes only. Diversification cannot ensure a profit or protect against loss in declining markets. All investments involve some level of risk, including loss of principal.

CONCLUSIONS

In our view there are several strong arguments for formulating a currency policy and recent volatility in currency markets reinforces the importance of having a currency policy in place. While traditional passive hedging approaches are effective for some investors, they can in turn lead to additional risks in the form of negative cash flows, whereas a dynamic hedging strategy aims to protect a portfolio from foreign currency weakness while remaining cash flow aware.

However, when considering dynamic hedging solutions, it is important to talk to a specialist who understands your investment objectives and constraints. Our approach to managing currency risk can be tailored to accommodate different needs and our investment process has a proven track record of delivering FX risk premia with a superior information ratio when compared to benchmark indices, such as the MSCI Currency Factor Indices as shown in Figure 5.

Figure 5: Insight's Alt Risk Premia solutions seek to outperform the MSCI Currency Factor indices[6]



This is achieved through smart implementation of each individual factor, utilizing various techniques to ensure efficient capture of each risk premia, alongside innovation within our investment research (the most recent example of this being the Quality factor which is not typically used by other managers).

[5] Source: Insight and Bloomberg. Data between December 31, 1991 and December 31, 2023. MODEL RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, MODEL RESULTS DO NOT REPRESENT ACTUAL TRADING/ RETURNS AND MAY NOT REFLECT THE IMPACT THAT MATERIAL ECONOMIC/MARKET FACTORS MIGHT HAVE. CLIENTS' ACTUAL RESULTS MAY BE MATERIALLY DIFFERENT THAN THE MODEL RESULTS PRESENTED.

CONTRIBUTORS

Erin Musli
Co-Head Quantitative Portfolio Management, Currency Solutions
Insight Investment

Matt Badowski
Co-Head Quantitative Portfolio Management, Currency Solutions
Insight Investment

Ivan Petej
Deputy Head of Quantitative Research,
Insight Investment

Simon Down
Co-Head of Investment Content
Insight Investment

FIND OUT MORE

Insight Investment
200 Park Avenue, 7th Floor
New York, NY 10166

inquiries@insightinvestment.com

company/insight-investment-north-america

www.insightinvestment.com

IMPORTANT DISCLOSURES

This document has been prepared by Insight North America LLC (INA), a registered investment adviser under the Investment Advisers Act of 1940 and regulated by the US Securities and Exchange Commission. INA is part of 'Insight' or 'Insight Investment', the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited, Insight Investment International Limited and Insight Investment Management (Europe) Limited (IIMEL).

Opinions expressed herein are current opinions of Insight, and are subject to change without notice. Insight assumes no responsibility to update such information or to notify a client of any changes. Any outlooks, forecasts or portfolio weightings presented herein are as of the date appearing on this material only and are also subject to change without notice. Insight disclaims any responsibility to update such views. No forecasts can be guaranteed.

Nothing in this document is intended to constitute an offer or solicitation to sell or a solicitation of an offer to buy any product or service (nor shall any product or service be offered or sold to any person) in any jurisdiction in which either (a) INA is not licensed to conduct business, and/or (b) an offer, solicitation, purchase or sale would be unavailable or unlawful.

This document should not be duplicated, amended, or forwarded to a third party without consent from INA. This is a marketing document intended for institutional investors only and should not be made available to or relied upon by retail investors. This material is provided for general information only and should not be construed as investment advice or a recommendation. You should consult with your adviser to determine whether any particular investment strategy is appropriate.

Assets under management (AUM) represented by the value of the client's assets or liabilities Insight is asked to manage. These will primarily be the mark-to-market value of securities managed on behalf of clients, including collateral if applicable. Where a client mandate requires Insight to manage some or all of a client's liabilities (e.g. LDI strategies), AUM will be equal to the value of the client specific liability benchmark and/or the notional value of other risk exposure through the use of derivatives. Regulatory assets under management without exposures can be provided upon request. Unless otherwise specified, the performance shown herein is that of Insight Investment (for Global Investment Performance Standards (GIPS), the 'firm') and not specifically of Insight North America. A copy of the GIPS composite disclosure page is available upon request.

Past performance is not a guide to future performance, which will vary. The value of investments and any income from them will fluctuate and is not guaranteed (this may partly be due to exchange rate changes). Future returns are not guaranteed and a loss of principal may occur.

Targeted returns intend to demonstrate that the strategy is managed in such a manner as to seek to achieve the target return over a normal market cycle based on what Insight has observed in the market, generally, over the course of an investment cycle. In no circumstances should the targeted returns be regarded as a representation, warranty or prediction that the specific deal will reflect any particular performance or that it will achieve or is likely to achieve any particular result or that investors will be able to avoid losses, including total losses of their investment.

The information shown is derived from a representative account deemed to appropriately represent the management styles herein. Each investor's portfolio is individually managed and may vary from the information shown. The mention of a specific security is not a recommendation to buy or sell such security. The specific securities identified are not representative of all the securities purchased, sold or recommended for advisory clients. It should not be assumed that an investment in the securities identified will be profitable. Actual holdings will vary for each client and there is no guarantee that a particular client's account will hold any or all of the securities listed.

The quoted benchmarks within this document do not reflect deductions for fees, expenses or taxes. These benchmarks are unmanaged and cannot be purchased directly by investors. Benchmark performance is shown for illustrative purposes only and does not predict or depict the performance of any investment. There may be material factors relevant to any such comparison such as differences in volatility, and regulatory and legal restrictions between the indices shown and the strategy.

Transactions in foreign securities may be executed and settled in local markets. Performance comparisons will be affected by changes in interest rates. Investment returns fluctuate due to changes in market conditions. Investment involves risk, including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved.

Insight does not provide tax or legal advice to its clients and all investors are strongly urged to consult their tax and legal advisors regarding any potential strategy or investment.

Information herein may contain, include or is based upon forward-looking statements within the meaning of the federal securities laws, specifically Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include all statements, other than statements of historical fact, that address future activities, events or developments, including without limitation, business or investment strategy or measures to implement strategy, competitive strengths, goals expansion and growth of our business, plans, prospects and references to future or success. You can identify these statements by the fact that they do not relate strictly to historical or current facts. Words such as 'anticipate', 'estimate', 'expect', 'project', 'intend', 'plan', 'believe', and other similar words are intended to identify these forward-looking statements. Forward-looking statements can be affected by inaccurate assumptions or by known or unknown risks and uncertainties. Many such factors will be important in determining our actual future results or outcomes. Consequently, no forward-looking statement can be guaranteed. Our actual results or outcomes may vary materially. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

Insight and BNY Mellon Securities Corporation (BNYMSC) are subsidiaries of BNY Mellon. BNYMSC is a registered broker and FINRA member. BNY Mellon is the corporate brand of the Bank of New York Mellon Corporation and may also be used as a generic term to reference the Corporation as a whole or its various subsidiaries generally. Products and services may be provided under various brand names and in various countries by subsidiaries, affiliates and joint ventures of the Bank of New York Mellon Corporation where authorized and regulated as required within each jurisdiction. Unless you are notified to the contrary, the products and services mentioned are not insured by the FDIC (or by any government entity) and are not guaranteed by or obligations of the Bank of New York Mellon Corporation or any of its affiliates. The Bank of New York Mellon Corporation assumes no responsibility for the accuracy or completeness of the above data and disclaims all expressed or implied warranties in connection there with. Personnel of certain of our BNY Mellon affiliates may act as: (i) registered representatives of BNYMSC (in its capacity as a registered broker-dealer) to offer securities, (ii) officers of the Bank of New York Mellon (a New York chartered bank) to offer bank-maintained collective investment funds and (iii) associated persons of BNYMSC (in its capacity as a registered investment adviser) to offer separately managed accounts managed by BNY Mellon Investment Management firms.

Disclaimer for Non-US Clients: Prospective clients should inform themselves as to the legal requirements and tax consequences within the countries of their citizenship, residence, domicile and place of business with respect to the purchase and ongoing provision of advisory services. No regulator or government authority has reviewed this document or the merits of the products and services referenced herein.

This document is directed and intended for 'institutional investors' (as such term is defined in various jurisdictions). By accepting this document, you agree (a) to keep all information contained herein (the 'Information') confidential, (b) not use the Information for any purpose other than to evaluate a potential investment in any product described herein, and (c) not to distribute the Information to any person other than persons within your organization or to your client that has engaged you to evaluate an investment in such product.

Telephone conversations may be recorded in accordance with applicable laws.

© 2024 Insight Investment. All rights reserved.

16074-05-24