CIBC ASSET MANAGEMENT

INSTITUTIONAL

THE ROLE OF ACTIVE CURRENCY MANAGEMENT IN PORTFOLIOS

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Summary

Active currency is one of the least well understood asset classes. And yet it has many attributes that make it an attractive addition to investment portfolios. These include attractive risk-adjusted expected returns, high liquidity, diversification, and low capital funding requirements. In this paper, we address client FAQs related to all aspects of active currency investing, including the fulfillment options available to investors. Our key conclusions are the following:

- Active currency is a liquid alternative investment strategy
- It can be implemented as an unfunded strategy with no upfront capital requirement, or in a fully funded comingled vehicle
- Risk-adjusted returns to a skilled cohort of active currency managers have been strongly positive over an extended period, and comparable to the best active Global Equity Large-Cap managers
- Returns to active currency are diversifying to traditional long-only public market asset classes, and also to other alternative asset classes
- Active currency is appropriate for a wide range of investors, from Wealth solutions to the most conservative Defined Benefit (DB) and Defined Contribution (DC) investment plans.

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Introduction

The relevance of a portfolio allocation to active currency derives from a number of general features common to many institutional investment portfolios:

- Excessive exposure to equity risk
- Over-reliance for diversification upon a negative or low equity/bond correlation
- Low expected returns from core equity and bond allocations, and many alternative asset classes, relative to recent history
- Relatively high allocations to illiquid alternative asset classes, such as private equity or infrastructure

In our answers to the FAQs below, we highlight how an active currency mandate can help mitigate each of these weaknesses.

What sort of asset class is active currency?

Active currency is a tactical, liquid alternative asset class. Developed market (DM) currency exposure offers a positive expected return, but only as a result of skilled active investing. This contrasts with core asset classes, such as public equities and sovereign bonds, which have an associated market risk premium that can be harvested from long-only passive exposure without the need for skilled active investing.

Are expected returns to active currency zero?

No. This conclusion is relevant only to inherited, passive developed market currency exposures. From an active perspective, future currency returns can be forecasted with appropriate accuracy to enable skilled currency managers to add significant value to investment portfolios.

Can active currency investing add value to a portfolio?

Yes. Figure 1 highlights that the CIBC Asset Management (CIBC AM) currency team is part of a skilled cohort of active currency managers that has generated attractive performance over an extended period. CIBC AM's long-term performance record—a 20-year Information Ratio (IR) in excess of 0.5—is in the top quartile of managers captured by the Mercer Insight database. From a statistical perspective, we can be 99% confident that the CIBC AM active currency team has historically demonstrated skill over an extended period that encompasses many different macroeconomic and market environments.[2] Portfolio team leadership has remained unchanged since December 2002, emphasizing the continuity and value of our performance track record. This performance track record also compares favorably to the most skilled active global large cap equity managers (Figure 2).

Figure 1 – Historical performance of active currency manager universe

Information Ratio	1 year	3 years	5 years	10 years
CIBC AM	0.05	0.15	0.21	0.63
25th percentile	2.07	0.63	0.58	0.61
Median	1.38	0.47	0.36	0.40

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Figure 2 – Historical performance of global large cap equity manager universe

Information Ratio	1 year	3 years	5 years	10 years
25th percentile	0.59	0.21	0.28	0.27
Median	-0.09	-0.10	-0.01	0.02

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As well as attractive standalone performance, an allocation to active currency can be made on an unfunded basis; active currency positions are typically implemented through liquid forward contracts.[3] This makes the allocation efficient in a wider portfolio context since it does not make use of a plan's available risk capital.

In the context of a low expected return environment the ability of active currency to improve the return profile of investment portfolios without the need for up-front capital funding makes it a particularly attractive liquid alternative.

Are currencies predictable?

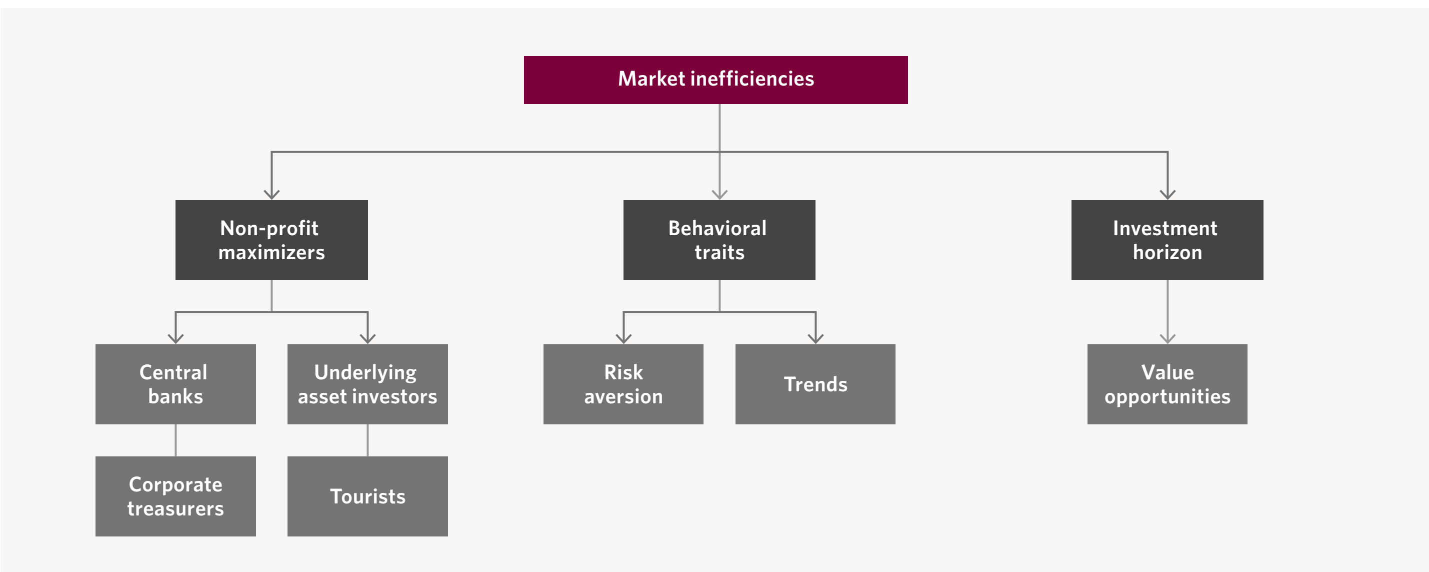
Yes. At first blush, this contradicts the well-known academic conclusion that exchange rates resemble a random walk; the best forecast of next period's exchange rate is simply this period's value. Our conclusion and academia's findings are not mutually exclusive. In the short term—in the next hour, day, or even week—exchange rates are not forecastable with any accuracy from a macroeconomic, fundamental perspective. Their outcome is essentially random.[4] But over longer horizons—those relevant to the CIBC AM active currency investment process—exchange rates are relatively predictable.

Active currency investors work to a less onerous definition of predictability than academia. The goal of many academic forecasters is to accurately forecast the future level of individual exchange rates. By contrast, profitable investing does not require active currency investors to beat a random walk. It just requires them to get the rank order of future returns approximately correct in most investment periods (Melvin, Prins, & Shand, 2013).

Why does active currency add value?

Exchange rate predictability reflects the existence of persistent market inefficiencies. It is these inefficiencies that provide active currency managers with the opportunity to add value to investment portfolios. The currency market is extremely liquid, with estimated daily turnover of approximately $7.5 trillion.[5] But liquidity does not equal efficiency. Currency market inefficiencies reflect the presence of heterogeneous market participants, behavioral traits, and investment horizons (Figure 3). It is typically expected that market inefficiencies will be arbitraged away in time. For currency, inefficiencies will likely endure as they reflect persistent institutional and individual biases.

Figure 3 – The FX market is extremely liquid, but also inefficient & heterogeneous. These characteristics generate profit opportunities for skilled active currency managers



The information was prepared by CIBC Asset Management Inc. Illustrative example.

These biases reward active managers for accepting exposure to various risks from other, more risk-averse market participants. For instance, the risk of unexpected economic or political events that temporarily force exchange rates away from intrinsic valuations. By allocating active risk only to currencies where the opportunity defined by these—and other fundamental and ESG—risk factors is significant and well understood, long-horizon active currency managers can exploit relatively high-probability opportunities to add value to investment portfolios.[6]

Is active currency investing a zero-sum game?

No. The existence of persistent, significant expected returns to a skilled cohort of active currency managers reflects the presence in the currency market of heterogeneous participants with various motives (often not related to profit maximization), behaviors, and investment horizons. It is the market activity of these participants that gives skilled active investors the opportunity to generate persistent excess returns.

How is active currency investing different from 'mere speculation'?

We understand 'mere speculation' to mean 'coin flipping', or a simple game of chance.[7] In a game of chance, every participant has an equal probability of winning or losing. No specialist knowledge is required, and does not increase the probability of success in one's favor.

Active currency investing is very different from a game of chance. Specialist knowledge is at a premium, and its skilled use can significantly increase the probability of persistent success. This has been CIBC AM's experience, and is supported by the team's long-term performance track record.

Are returns to active currency just beta, or also alpha?

The CIBC AM active currency team has generated a mix of Smart Beta and skilled alpha returns.

As discussed above, developed market currencies do not have a passive, beta return. They offer a positive expected return, but only as a result of skilled active investing.

Smart Beta active currency returns can be harvested through a set of factor risk premium models that reward investors who accept exposure to one or more identified risks. The most common currency factor risk premiums are Carry, Value, Cycle, and Momentum (Figure 4).

Figure 4 – Active currency factor risk premiums

Currency factor	Investment rationale	Investment horizon
Carry	Higher-yielding currencies tend to outperform lower-yielding currencies Construction: yield derived from implied rates and currency forwards.	6-12 months
Value	Relatively cheap currencies tend to outperform relatively expensive currencies. Construction: Purchasing Power Parity adjusted for Terms of Trade and productivity differentials.	2-3 years
Cycle	Currencies of cyclically strong countries tend to outperform those of weaker countries. Construction: Trend extraction based on panel of leading and confirming variables.	6-12 months
Momentum	A currency's recent relative performance tends to persist in the near future. Construction: total returns over specified look-back period	3 months

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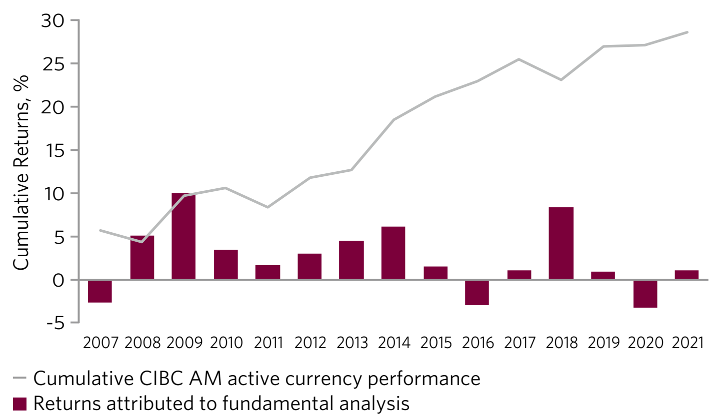
Many active currency managers utilize investment processes that simply aim to capture these Smart Beta returns. Another cohort of managers—which includes CIBC AM—has also demonstrated an ability to generate diversifying alpha returns from active currency risk. To generate this alpha, we integrate quantitative models and forward-looking qualitative judgment, across both traditional fundamental and ESG risk factors. The team uses these inputs to allocate active risk towards highest conviction positions.

Figure 5 reports annual returns generated by the CIBC AM currency team, based upon its top-down fundamental qualitative analysis. We consider these returns to be active currency alpha. They represent an important part of the total—quantitative plus qualitative—performance record achieved by our team (as reported in Figure 1 above).

Figure 5 – CIBC AM active currency alpha returns from fundamental analysis



The information was prepared by CIBC Asset Management Inc. Returns rescaled o be consistent with a 4% annualized risk budget. Performance is based on a hypothetical portfolio constructed by CIBC Asset Management Inc. Performance is gross of fees and net of transaction costs.

Are returns to active currency diversifying?

Yes. Figure 6 reports average pairwise correlations for monthly returns to a set of core and alternative asset classes over the sample December 2002 to September 2022. We have colour-coded the matrix to emphasize the sign and magnitude of correlations; blue (red) signifies relatively low (high) correlations. The data emphasize the typical diversification benefit that accrues to an investor from allocating some portfolio risk away from core asset classes and into alternatives. But the matrix also highlights that pairwise correlations between many alternative asset classes are often high. By contrast, the average correlation of returns to active currency with both core, and other alternative, asset classes has been relatively low over our sample period (far right column in Figure 6).

Figure 6 – Average pairwise monthly asset class return correlations

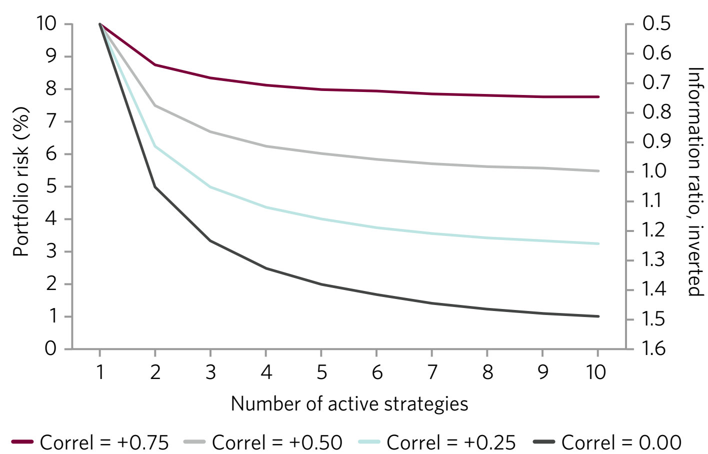
Asset Class	CAD Equity	U.S. Equity	MSCI World	MSCI EM	Canadian Bonds	Global Bonds	Global High Yield	Private Equity	Infra	Real Estate	CIBC Active Currency
Canadian Equity	1.00	0.58	0.68	0.70	0.13	0.30	0.72	0.55	0.63	0.45	0.41
U.S. Equity		1.00	0.96	0.55	0.27	0.08	0.42	0.84	0.69	0.65	0.25
MSCI World			1.00	0.69	0.29	0.20	0.55	0.82	0.78	0.64	0.29
MSCI Emerging Markets				1.00	0.19	0.33	0.65	0.51	0.65	0.42	0.31
Canadian Bonds					1.00	0.59	0.22	0.29	0.34	0.32	0.05
Global Bonds						1.00	0.53	0.11	0.37	0.24	0.11
Global High Yield							1.00	0.43	0.57	0.48	0.38
Private Equity								1.00	0.56	0.39	0.28
Infrastructure									1.00	0.62	0.31
Real Estate										1.00	0.21
CIBC Active Currency											1.00

The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Refinitiv Datastream; Bloomberg Finance L.P. All data expressed in Canadian dollars. Sample: December 2002 - September 2022.

Standalone positive and diversifying expected returns to a highly liquid and capital efficient tactical asset class makes active currency an attractive addition to investment portfolios, particularly in the current environment of low expected returns to core asset classes.

Figure 7 illustrates the benefit of combining diversified active—currency or other—investment strategies within portfolios. It assumes an initial strategic portfolio with a 10% annualized risk and an expected IR of 0.5. We can arbitrarily think of this as a simple passive 60/40 equity/fixed income Balanced portfolio. Each line in Figure 7 traces the impact on portfolio risk and IR of incorporating active investment strategies into the strategic portfolio, assuming a specific correlation structure between each of these active strategies.[8] For instance, the lowest (black) line in the chart traces the impact of adding between one and ten active strategies that have a correlation to each other of zero. In this case, portfolio risk declines from an initial 10% to as low as 1%, and portfolio IR rises from 0.5 to as high as 1.5. The main takeaway from Figure 7 is that as correlations fall, the positive impact upon portfolio risk and expected IR can be striking.

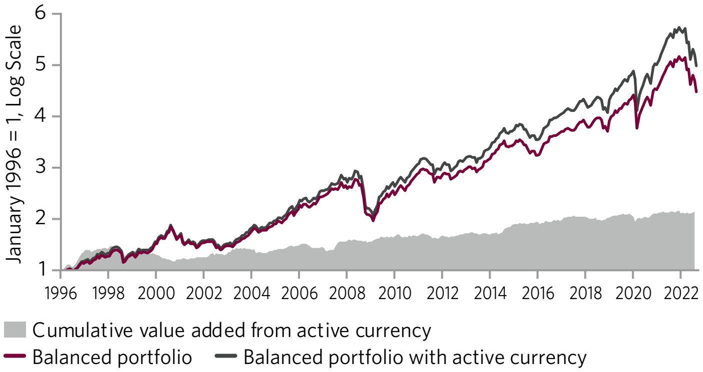
Figure 7 – There can be substantial diversification benefits from combining uncorrelated active strategies



The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bridgewater (2009). Calculations use simulated data. Hypothetical scenario shown for illustrative purposes only, and not indicative of future results.

Extending this analysis, Figure 8 highlights the impact of overlaying a Balanced portfolio with a risk allocation to active currency. The cumulative total and risk-adjusted return of the portfolio is improved, reflecting the positive expected return from active currency, but also the diversification benefit that this allocation provides.

Figure 8 – Total portfolio performance can be enhanced by an allocation to active currency



The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bloomberg Finance L.P. calculations using simulated data. Hypothetical scenario shown for illustrative purposes only, and not indicative of future results. Strategic portfolio includes the following allocations: Equities: 60% MSCI ACWI Index. Fixed Income: 40% Bloomberg Canada Aggregate TR Index. Active Currency overlay included with a 4% annualized risk budget and as an unconstrained, unfunded overlay (see Section 3.5.2 below). Sample: January 1996-September 2022.

How is active currency risk measured?

We measure the risk of an active currency mandate in several ways:

- Using a third-party risk model incorporating a 3.5-year equally weighted covariance matrix and monthly returns. A proprietary risk model incorporating a 10-year, exponentially weighted covariance matrix, with a 3-year half-life and monthly returns is used to verify the accuracy of this analysis. Measured volatility is used to conduct pre-trade risk attribution to ensure total active currency risk, as well as the contribution to total risk of each active position, is commensurate with investment conviction on any given day.
- Scenario analysis based upon historical realized events, as well as hypothetical future events. In assessing portfolio performance under various scenarios, we consider both the asset volatility and correlation implications of identified event risks.
- More broadly, the team continuously evaluates market liquidity risk, and regularly evaluates the credit quality and exposure of counterparties. And at the firm level, the CIBC AM Investment Controls team conducts daily pre- and post-trade reviews to ensure the investment team is adhering to all applicable regulatory requirements and existing policies, including compliance with client Investment Policy Statements.

Are Emerging Market currencies too risky for my plan?

No. Emerging market (EM) economies continue to evolve and are increasingly integrated within the global economy. As a result, EM currencies now represent a core component of active currency mandates. Their inclusion adds additional breadth to investment processes. As with DM currencies, a significant component of the expected return to active EM currency exposures can be captured using an investment process built upon well-established factor risk premiums—Carry, Value, Momentum, and Cycle—with no need for customization. Also similar to DM currencies, a sub-set of risks inherent in EM currencies cannot easily be captured by a systematic quantitative framework alone. Fundamental judgment can add significant value by identifying the impact of idiosyncratic risks on EM currency returns. But the source of idiosyncratic risks that impact EM currencies is often different to those that affect DM currencies, requiring specialist knowledge to exploit.

EM trading volumes in normal market conditions are typically lower than volumes for DM currencies, and trading costs are commensurately higher. Nonetheless, EM liquidity continues to increase (BIS, 2022), and is more than sufficient to allow execution of CIBC AM active currency trades in normal conditions without market impact.

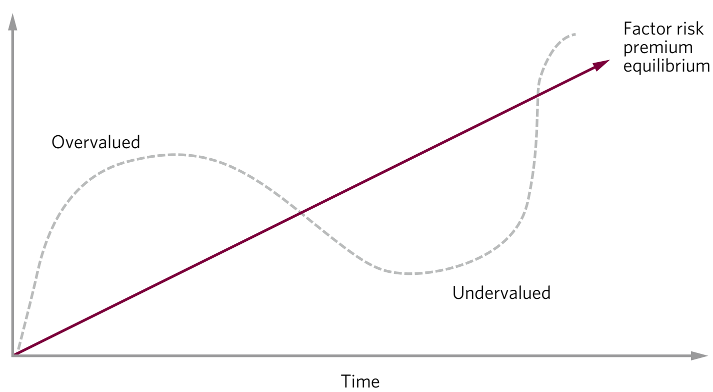
How will the active currency risk budget be used over time?

The use of active risk budgets within client mandates is conditional on the investment team's conviction. This conviction varies through time, and is affected by a number of themes, including:

- The perceived investment opportunity of our factor risk premium models

As with an individual security or asset class, it is possible to identify a long-term equilibrium expected return to each of our factor risk premiums (Figure 9). Understanding where a factor is currently trading relative to its own intrinsic value can provide important insight into its expected performance in future periods.

Figure 9 – Stylized factor risk premium through time



The information was prepared by CIBC Asset Management Inc., based upon hypothetical data intended to illustrate concept.

- The level of investor risk appetite.

Factor risk premiums tend to perform less well in periods of market stress. The conviction of our investment team will be commensurately lower during these periods, and so will active currency risk.

- The importance of idiosyncratic non-fundamental themes in determining expected currency returns.

Our investment process is built on the assumption that macroeconomic fundamentals are the primary determinants of currency returns. This is normally the case. In rare periods when it is not, our process will provide fewer insights, implying a commensurate reduction in investment conviction and active risk.

Does your investment process incorporate an assessment of ESG risks?

At CIBC AM, we have a fiduciary responsibility to our clients to consider all relevant risks in the context of rigorous investment research and portfolio construction. This includes ESG risks. Integrating a broad array of identified ESG risk factors into our active currency investment process, alongside more traditional risk factors, ensures we continually allocate active risk to the most attractive risk-adjusted investment opportunities.

Integration of ESG risks into our investment process is also consistent with CIBC's commitment as a signatory to the United Nations-supported Principles for Responsible Investment (PRI).

Active currency fulfillment options

Does an investor need to select the same manager for both passive and active currency hedging mandates?

No. The two mandates can be managed by the same manager, or by separate managers under separate Investment Management Agreements (IMAs). There is no inherent reason why passive hedging and active currency investing need to be connected. They have different objectives within a portfolio. Passive hedging is a strategic decision focused on risk or cost control, or liability management. Active currency investing is part of a portfolio's active risk allocation sleeve intended to generate diversifying return.

Is my plan too small to access active currency?

No. There are many ways to access active currency. Smaller plans often gain access through a capital allocation to a comingled pool, rather than an unfunded segregated account.

Is active currency relevant for DC plans?

Yes. Active currency can be included in target date funds either as an overlay to core asset allocations or as a separate source of absolute return within a broader investment product offering.

We do not typically recommend that DC plans offer active currency as a standalone solution within the palette choice of plan participants, unless members have a high level of financial sophistication.

If a plan selects an active currency mandate, how much risk should be allocated?

As with any risk allocation to an active investment strategy, plan sponsors should first determine the stand-alone risk-adjusted return they expect to realize from the mandate. They should also identify how returns generated by this mandate are expected to compare and correlate with returns to other active and strategic components of the plan.

Plan sponsors should also ensure that selected risk and return parameters for the active currency mandate will allow it to make an economically significant, and proportionate, contribution to the overall goals and mission of the plan.

CIBC AM has active currency clients with myriad benchmarks, risk and return objectives, and investment constraints. There is no 'one size fits all' solution. Some clients use active currency as an extension of their passive hedging program. These dynamic hedging, constrained investors typically realize a moderate positive active return. Standalone annualized risk targets for this type of constrained overlay mandate typically lie in a range of 0.5%-2.0%, and the expected annual value-add will be between 20 bps and 80 bps.[9]

A second client group considers active currency to be a liquid alternative asset class. Risk is allocated to a standalone, Absolute Return mandate whose exposures are unconnected to the underlying asset exposures in the portfolio. Annualized risk targets for this type of mandate typically lie in a range of 2%-6%, implying an expected annual return from active currency of 1%-3%. For Canadian investors, this type of currency mandate typically does not consume available portfolio risk capital; it is an unfunded strategy implemented via exchange rate forward contracts. This means that returns generated by the mandate will be additional to existing expected portfolio returns, and will not displace returns from another component of the portfolio.

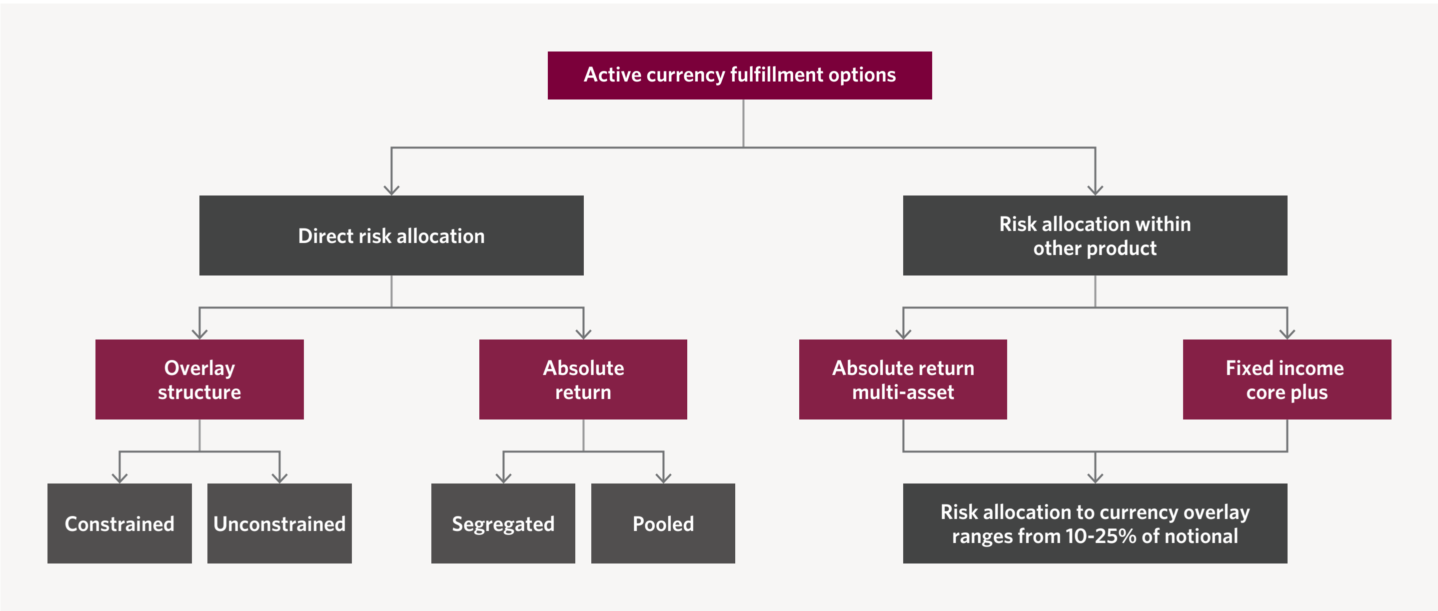
A third client group allocates to funded pooled vehicles that target a larger absolute return from active currency, for instance in the region of 6% per annum, and allocate commensurately more risk (12% annualized).

What are the different active currency fulfillment options?

An active currency mandate can be implemented to accommodate different return and risk objectives, investment constraints, preferred investment style—relative to, or agnostic of, underlying benchmarks—as well as differences in plan investment resources and assets under management (Figure 10). At CIBC AM, we use the same investment process across all with positions appropriately sized to be consistent with individual client constraints and objectives.

As with all investment mandates, a less constrained implementation affords portfolio managers more opportunity to generate risk-adjusted returns.

Figure 10 – There are a range of active currency mandate fulfillment options



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Conclusion

Active currency investing is often misunderstood and overlooked. In this paper, we argue that active currency is an attractive liquid alternative investment strategy offering skilled investors positive expected returns that diversify exposures to core public market asset classes and illiquid alternatives. Active currency returns can be accessed through a range of fulfillment options appropriate for both large and small investment plans. Many investors allocate on an unfunded basis, making this a capital efficient strategy whose returns are additive to the expected performance of the existing portfolio.

CIBC AM has a long history of successfully implementing impactful and customized active currency solutions for investors with a variety of risk and return objectives, portfolio AUMs, and investment constraints.

Let’s connect

Should you have any questions about this report or anything else, please do not hesitate to connect:

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[2] The t-statistic associated with CIBC AM's IR since December 2002 is 2.50 which is significant at the 95th percentile.

[3] One exception, in the U.S., is Non-Deliverable Forwards (NDFs). These are relevant to a subset of the CIBC AM Active Currency investment universe and, for the largest plans, require initial margin to be posted.

[4] Intra-day and daily price-based algorithmic trading platforms have demonstrated ability to forecast exchange rates at these horizons. This is not a space in which CIBC AM participates.

[5] BIS (2022). This estimate may exaggerate market liquidity a little, since it incorporates intra-bank trading that does not represent realizable liquidity to the wider market, as well as double-counting associated with trades involving a Prime Broker.

[6] The CIBC AM investment process does also incorporate elements of technical analysis and market microstructure, as a means to identify position entry and exit levels.

[7] Speculation, not 'coin-flipping', is actually a positive attribute of financial markets. Markets with a greater speculative presence typically exhibit higher liquidity, lower transaction costs, and more efficient price discovery.

[8] We assume all active strategies have the same expected return and risk.

[9] CIBC AM assumes an expected Information Ratio (IR) for its unconstrained active currency strategy of 0.5, and a lower IR for constrained mandates. This is consistent with our long-term historical performance.

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