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CIBC GLOBAL ASSET MANAGEMENT

Risk-aware equity portfolio construction

How breadth converts an edge into dependable investment outcomes

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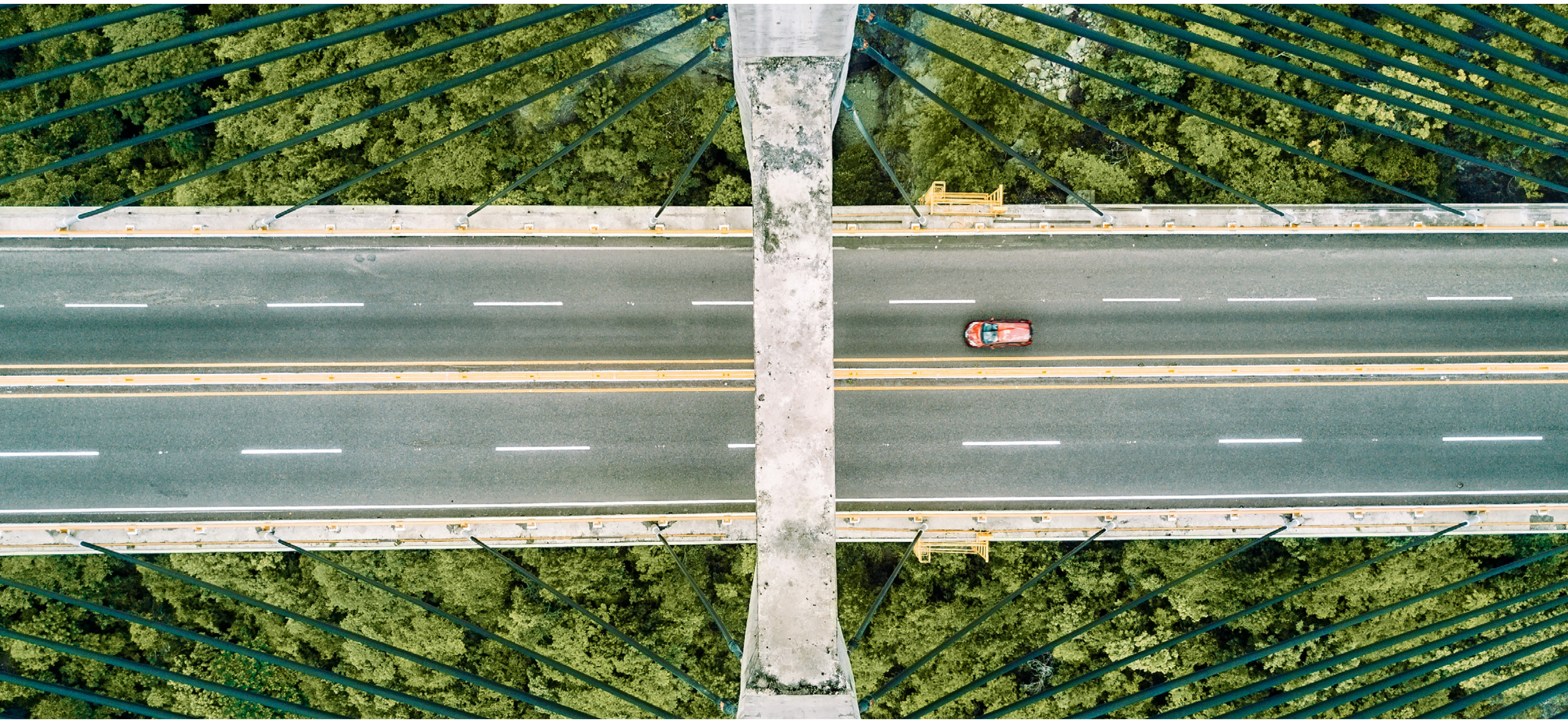

Executive summary

Building an equity portfolio is not simply an exercise in selecting attractive securities. It is an exercise in being intentional about where risk is taken.

This paper outlines the risk-aware portfolio construction framework developed by the Quantitative Investing team at CIBC Global Asset Management. Applied across all of our systematic alpha strategies with over $10B in AUM, and adopted or adapted by investment teams throughout the organization, the framework is built around three objectives:

1. Staying aligned with client expectations: ensuring the portfolio consistently reflects the mandate the client was promised and does not drift from it over time.
2. Maximizing diversification: distributing active risk across distinct sources of return, rather than allowing a few concentrated bets to drive the risk.
3. Minimizing unintended bets: ensuring that every driver of risk reflects a genuine investment view, rather than an incidental byproduct of other decisions.

These objectives are achieved by constructing portfolios where risk drivers are purposeful and diversified. The central message is straightforward: risk awareness does not mean taking less risk. It means being intentional about where risk is taken.

Introduction

Equity portfolio management requires more than identifying securities with attractive expected returns. It requires a disciplined process for translating investment insight into a portfolio that behaves as intended. Even strong alpha research can produce disappointing outcomes if risk is misallocated or concentrated, or the portfolio drifts from its mandate. Portfolios built from the same underlying alpha research can deliver very different risk profiles and client experiences, which makes portfolio construction an important part of the investment process.

This challenge has become more pressing in an environment of elevated market concentration. Portfolios that are seemingly diversified with a large number of holdings may still be meaningfully exposed to a narrow set of common drivers. A well-constructed portfolio captures intended sources of return efficiently, constrains unintended risks, and keeps portfolio behaviour consistent with client expectations. Risk awareness is not separate from performance; it is part of how the portfolio expresses conviction in our investment insights.

Thought experiment: The biased coin

Imagine a coin that lands on heads 52% of the time, and suppose a bettor can wager on heads at even money. The edge is real, but small. Whether it produces a favourable outcome depends not only on its existence, but on how it is exploited.

A rational bettor would not stake their entire bankroll on a single flip. Heads still loses 48% of the time, and short-run outcomes are driven far more by chance than by statistical advantage. The only way to make the edge durable is through repetition and breadth. By betting smaller amounts across many independent flips, the bettor gives probability a chance to assert itself. Variance does not disappear, but its ability to obscure the edge declines.

Investing works much the same way. Whether an insight comes from a systematic signal or fundamental research, the expected advantage in any single security is usually modest, and over short horizons the outcome of an individual position can be dominated by idiosyncratic events, sentiment, or noise. A favoured stock can underperform without invalidating the process, just as a tails outcome does not disprove the 52% coin. The value of an investment process emerges when it is applied across many opportunities and over time. Breadth is essential, but breadth alone is not enough. It must be supported by a construction framework that prevents a small number of concentrated bets from overwhelming the intended advantage. Identifying where risk is concentrated, where diversification is only superficial, and where unintended exposures are emerging is the role of the multi-factor risk model.

Our risk framework

Within our portfolio construction process, we decompose risk into two broad components: factor risk, arising from systematic forces that affect many securities at once, and idiosyncratic risk, which is specific to an individual company. The factors are measurable characteristics that academic and practitioner research has found useful in explaining differences in equity returns. Common examples include:

- Market (Beta): sensitivity to broad market movements
- Size, Value, Momentum, Quality, Growth: exposure to well-documented style characteristics
- Low Volatility: exposure to stocks with historically more stable price behaviour
- Leverage and Liquidity: sensitivity to balance sheet strength and trading conditions
- Industry, sector, and country factors: exposure to specific segments of the market

Because each security has a different sensitivity to these factors, our risk framework allows us to look through the portfolio and identify the underlying drivers of risk: where it originates, how it is allocated, and whether it reflects intended positioning.

Objective 1: Staying aligned with client expectations

Every portfolio begins with a mandate: a benchmark, a target level of tracking error, limits on concentrations, and any return, ESG, or thematic requirements. These parameters define the experience the client has been promised. For example, a client seeking a low-tracking-error, benchmark-aware strategy should not find themselves in a portfolio taking large bets in a narrow set of sectors or factors. A strategy may generate attractive long-term returns and still fail from the client's perspective if its behaviour is too volatile, too concentrated, or too inconsistent with expectations.

Alignment must also be maintained over time. Markets move, relative weights change, and factor sensitivities drift. A portfolio that begins fully aligned can gradually become misaligned without any new investment decision being made. Effective portfolio construction therefore requires continuous monitoring. A risk model enforces this discipline by providing a systematic view of factor exposures, benchmark-relative positions, and tracking error, allowing any drift to be addressed before it becomes material.

Objective 2: Maximizing diversification

Diversification is one of the most widely cited concepts in investing, and one of the most frequently misunderstood. A portfolio is not truly diversified simply because it holds many securities. If those holdings share the same underlying drivers of return, portfolio risk can become unintentionally concentrated. True diversification comes from exposure to distinct sources of return.

At the factor level, different factors tend to perform differently across environments. Value may perform well in recoveries, low-volatility stocks may hold up better in weak markets, and momentum can struggle during abrupt reversals. Distributing active risk across factors with low correlations can enhance diversification and help build a more resilient portfolio, one that is better positioned to add value across a range of market environments.

Diversification also matters at the stock level, where selection introduces company-specific risk from earnings results, management decisions, and competitive dynamics. In our process, positions are sized with reference to their active risk, so that no single holding dominates the portfolio's risk profile. The goal is for stock-specific risk to be an important and intended driver of active risk, while factor exposures remain deliberate and controlled, so that outcomes reflect the quality of security selection rather than unintended concentrations.

Objective 3: Minimizing unintended bets

An unintended bet is a risk exposure that was not deliberately chosen, but emerged as a byproduct of other decisions. Tracking error is a risk budget: a finite resource that must be deployed thoughtfully. Unintended bets consume that budget without representing an identified source of expected return, and they can cause the portfolio to behave in ways that surprise both the manager and the client.

This is a common challenge in active management. A manager selecting stocks for their quality may inadvertently accumulate exposure to a low beta bias. A manager overweighting several technology stocks on their individual merits may, in aggregate, expose the portfolio to higher volatility. The reason is structural: portfolios are often built security by security, while risk is experienced at the portfolio level. Without a framework to decompose risk across the whole portfolio, these exposures are difficult to identify before they become material.

The objective is not to eliminate benchmark-relative differences. It is to ensure meaningful differences exist for an intentional reason. Every unit of active risk should be spent on exposures where the manager holds a genuine view and expects to be compensated; every unit consumed by incidental exposure is a unit not deployed where the process is strongest. Nor does staying within a risk budget mean spreading active risk evenly. Active risk should be allocated in proportion to perceived opportunity: larger where conviction is highest. Minimizing unintended bets is not about reducing active management. It is about using active risk efficiently and intentionally.

Putting into practice

The risk-aware portfolio construction framework described in this paper is the product of a Quantitative Investing (Qi) team that prioritizes scientific rigour.

The team draws heavily from strong academic research backgrounds, with many members holding degrees in quantitative disciplines including physics, engineering, mathematics, and computer science, and several holding PhDs. The Global Head of Quantitative Investing, Amer Shreim, is among those with doctoral-level training.

In line with their backgrounds, the team's core operating principle is that every market observation must be grounded in economic and financial reality that withstands intense scientific scrutiny and is supported by empirical evidence. This principle underpins the entire investment process, including portfolio construction.

For the Qi team's own systematic alpha strategies, representing over $10B in AUM, portfolio construction is the mechanism through which conviction is expressed. Risks are taken deliberately with attention to maximizing diversification and minimizing unintended bets. Together, this allows investment insights from our multi-factor model to be reflected in the portfolio as intended.

Beyond its own strategies, the Qi team partners with fundamental equity teams across CIBC Global Asset Management, applying the same portfolio construction discipline. Stock picks are assessed at the portfolio level to ensure risk is not concentrated and unintended exposures do not detract from a manager's high-conviction investment ideas.

This dual role — as both the architect of systematic strategies and a resource for the broader organization — speaks to the hallmark features of the Qi team's investment process: one that is designed to be scalable and repeatable, with the goal of consistently adding value for our clients.

About CIBC Global Asset Management

CIBC Global Asset Management (CIBC GAM), the asset management subsidiary of CIBC, is one of Canada's largest asset managers. Established in 1972[1], CIBC GAM offers a broad range of investment solutions, including mutual funds, ETFs, portfolio solutions, alternative investments, discretionary investment management services for high-net-worth individuals, and institutional portfolio management. With teams across Canada and the US, CIBC GAM serves retail, high-net-worth and institutional clients in North America and institutional clients worldwide.

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[1] CIBC Global Asset Management (previously known as TAL Global Asset Management Inc.) was founded in 1972 as a privately-owned investment manager. CIBC took an ownership stake in 1994, eventually assuming 100% in 2001.