Outperforming the S&P 500 index by leveraging the equity risk premium with risk controls

Outcome Management Research

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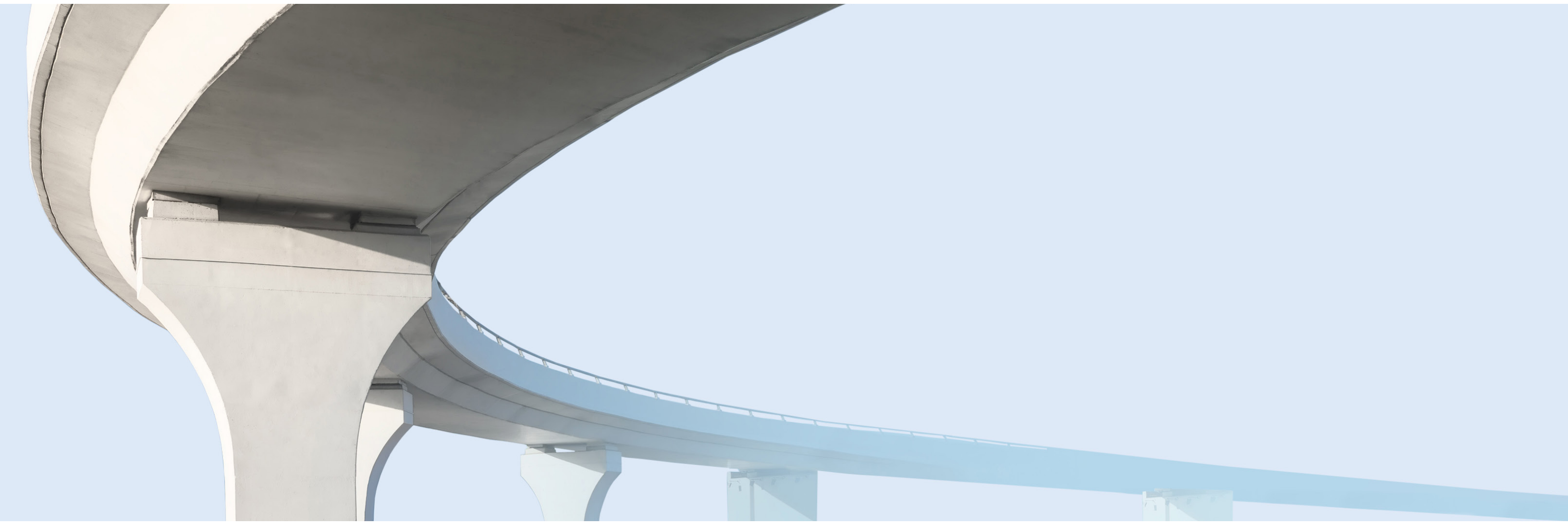


Summary

This paper is part of a series of Outcome Management publications that showcase CIBC Global Asset Management's library of outcome-oriented investment solutions. It introduces our framework for enhanced equity indexing through an innovative structuring approach. Specifically, it highlights our proprietary solution applied to the S&P 500 index, along with its foundational building blocks. Our approach employs financial engineering and structuring capabilities to generate a stream of returns that outperforms the index, particularly in a market where stock-picking forecasters have struggled to add value over the years. Our solution incorporates a systematic degree of leverage to capitalize on the equity market's asymmetric payoff, known as the Equity Risk Premium (ERP), while mitigating downside risk through defensive and left-tail risk hedging strategies.

Outcome Management at CIBC Global Asset Management (CIBC GAM)

Outcome Management (OM) is a client-centric approach that emphasizes understanding and achieving investors' specific, measurable goals. By concentrating on outcomes, we enhance the likelihood of investors reaching their investment objectives while considering their unique risk tolerance, investment horizon, liquidity needs, and other constraints.

Strategies for enhancing the returns of an equity index

In the pursuit of surpassing benchmark indices, several approaches have emerged (Chart 1).

The most prevalent of these, categorized under a forecasting approach, includes fundamental, quantitative, and quantamental stock picking. These strategies rely on the ability to predict future market movements to capitalize on potential opportunities. While these solutions have yielded positive results in certain markets, they have frequently underperformed the S&P 500 index over the years.

In contrast, we categorize a second group of methods under a structuring approach, which aims to outperform an index without depending on forecasting capabilities. This paper focuses on a structuring solution we have designed specifically to exceed the performance of the S&P 500 index.

Additionally, the portable alpha approach typically combines a funded exposure—such as a passive or active indexing mandate—with overlay active solutions, which may encompass long-short stock picking, active foreign exchange (FX) management, and active global tactical asset allocation (GTAA). The structuring approach discussed in this paper can also be integrated within a portable alpha framework. A particular aspect of the portable alpha approach is that its value addition process can be linked to another asset class. This category may also include solutions that achieve synthetic exposure to an equity index, such as through the use of futures contracts, while utilizing the available capital to fund an investment mandate, such as an active fixed income strategy—potentially a topic for future publications.

Chart 1 – Approaches for outperforming an index.

The information was prepared by CIBC Global Asset Management

Outperforming the S&P 500 index with our proprietary structuring approach

Our objectives in developing the proposed solution are twofold. First, we aim to offer an innovative strategy for enhancing the S&P 500 index using a structuring approach in a market where stock-picking forecasters have often failed to add value over the years. Second, we seek to introduce an additional diversifying approach to enhance indexing, based on the belief that combining several complementary solutions targeting the same outcome is often preferable.

Our enhanced S&P 500 solutions are designed by integrating the following complementary building blocks (Chart 2):

A. An exposure to the S&P 500 index is the starting point.
   Physical replication can be employed, with a high allocation preferred for taxable products (e.g., 90%). Within this physical replication, further enhancements can include security issuance, corporate actions management, security lending, and more.

   A minimal amount of synthetic replication (e.g., 10%) is necessary to provide liquidity for adding limited leverage (B), as well as for implementing the defensive and tail risk hedging strategies (C) utilized within this framework.

B. Next, we introduce limited leverage to capitalize on our belief in the structural existence of the Equity Risk Premium (ERP), which posits that stock markets tend to outperform short-term interest rates over time.

C. Finally, due to the incorporation of limited leverage, we add defensive and tail risk hedging strategies to mitigate underperformance during periods when the index performs negatively, thereby enhancing the risk-return characteristics of the solution.

Chart 2 – Our enhanced equity beta, developed through a structuring approach, combines limited leverage with defensive and tail risk hedging strategies.

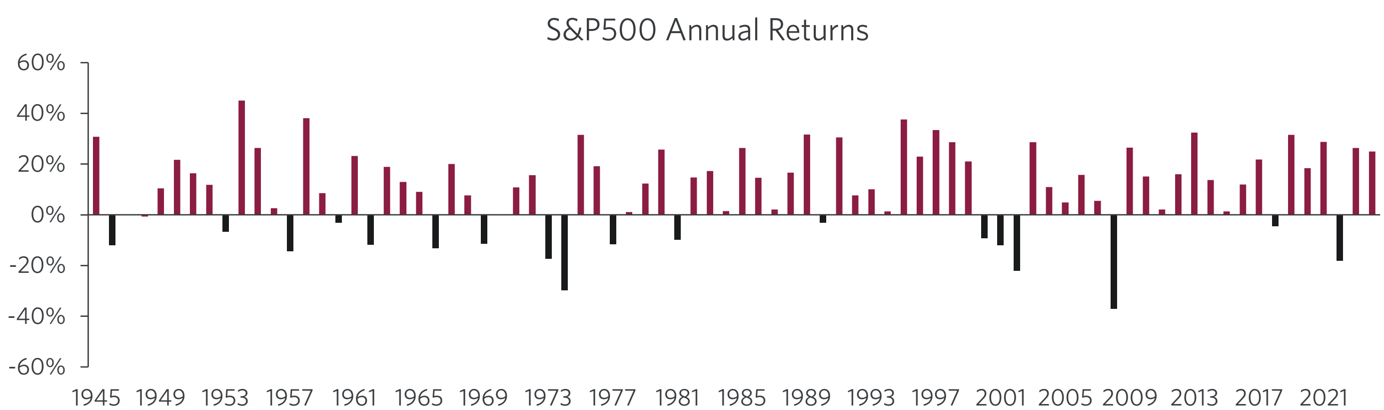
The information was prepared by CIBC Global Asset Management

Our approach relies heavily on the existence of the ERP

Due to the limited leverage employed, the structural existence of the Equity Risk Premium (ERP)—the expectation that stock markets will outperform short-term rates over time—lies at the core of our solution design. This excess return, earned by investors in the stock market, compensates for the higher risk associated with equity investments. It is this same ERP that encourages investors to accumulate capital with equity investments.

Since 1945, the S&P 500 index has posted positive returns in 76% of the years, with an average positive return of 18%. Conversely, during the remaining 24% of the years, it experienced an average negative return of -13% (Chart 3).

Chart 3 – Our enhanced S&P 500 solution is significantly influenced by the existence of the Equity Risk Premium (ERP) and the positive return asymmetry present in the equity markets.



The information was prepared by CIBC Global Asset Management using data from the following third party data provider: Bloomberg. Data sample: 1945 – December 2024. Total return of the S&P 500 index are used post-1990, and price return pre-1990.

There is a direct link between the ERP and the performance of a leveraged position on an equity index; in fact, they are equivalent. As such, the return of a leveraged position on the S&P 500 index is equal to, assuming no market friction, the return of the index minus the level of the short-term interest rate, i.e., the ERP. Consequently, the ERP tends to be higher and more frequently positive when short-term interest rates are lower, and vice versa (Chart 4).

Chart 4 – ERP expectations conditional on different levels of short-term interest rates, based on the historical performance of the S&P 500 index.

Short-term rate	Average ERP (All Years)	% of Years (Positive Years)	% of Years (Negative Years)
0%	10%	76%	24%
2%	8%	69%	31%
4%	6%	65%	35%
6%	4%	63%	38%

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The most significant risk associated with our solution is the absence of a positive ERP. Again, this situation arises when the performance of the S&P 500 index is lower than the US short-term interest rates. Such conditions are most likely to occur during periods of high interest rates and/or when equity valuations are at extreme levels.

Incorporating defensive and tail risk hedging strategies to mitigate underperformance

The introduction of leverage can lead to underperformance during periods of negative index returns. While this underperformance may be acceptable for certain investors, particularly when considering the historical distribution of S&P 500 index returns—which has shown a significantly higher frequency and magnitude of positive returns compared to negative ones (Chart 3)—other investors may prefer the inclusion of risk mitigation. For those who seek to balance the advantages of leverage with the need to mitigate its adverse effects, we have integrated complementary defensive and tail risk hedging strategies, applied to the enhanced index, into the design of our solution.

First, we employ defensive option protections, which provide reliable, albeit costly, defense. Second, we implement tail risk option protections, which offer coverage specifically for left tail events at a reduced cost. Finally, we incorporate defensive momentum strategies for timely reduction in exposure to the index (Chart 5).

Chart 5 – A combination of complementary defensive and tail risk hedging strategies is employed to mitigate the underperformance of our solution when the index performs negatively.

Defensive and Tail Risk Hedging strategies		
Defensive option protection	Tail risk option protection	Defensive momentum

The information was prepared by CIBC Global Asset Management

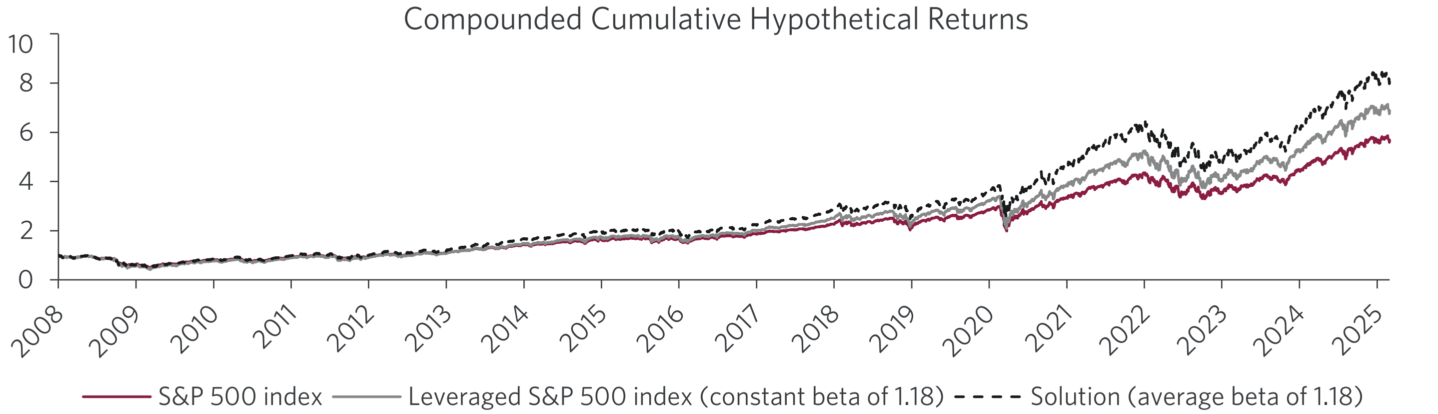
The second significant risk associated with our solution is the potential for greater-than-anticipated underperformance during periods of negative index performance. This may occur if our defensive and tail risk hedging strategies do not perform as effectively as expected.

Putting it all together

Let us examine our solution for the S&P 500 index, which employs our construct and a calibration that enables adaptable leverage with an average beta of 1.18. This leverage is dynamic, driven by the defensive and tail risk hedging strategies that provide varying offsetting exposures to the S&P 500 index based on market conditions. This calibration can be tailored to align with an investor's preferences and risk tolerance.

Our enhanced S&P 500 index solution outperforms as anticipated during periods of positive index performance, while exhibiting mitigated underperformance during periods of negative returns. Since 2008 (and since 2011), it has achieved an average value added of 2.9% (2.8%) compared to the index, with a tracking error of 4.2% (3.7%). Moreover, it notably outperforms a leveraged S&P 500 index position with a constant beta of 1.18 (Chart 6).

Chart 6 – Our enhanced S&P 500 solution outperforming the index over time.



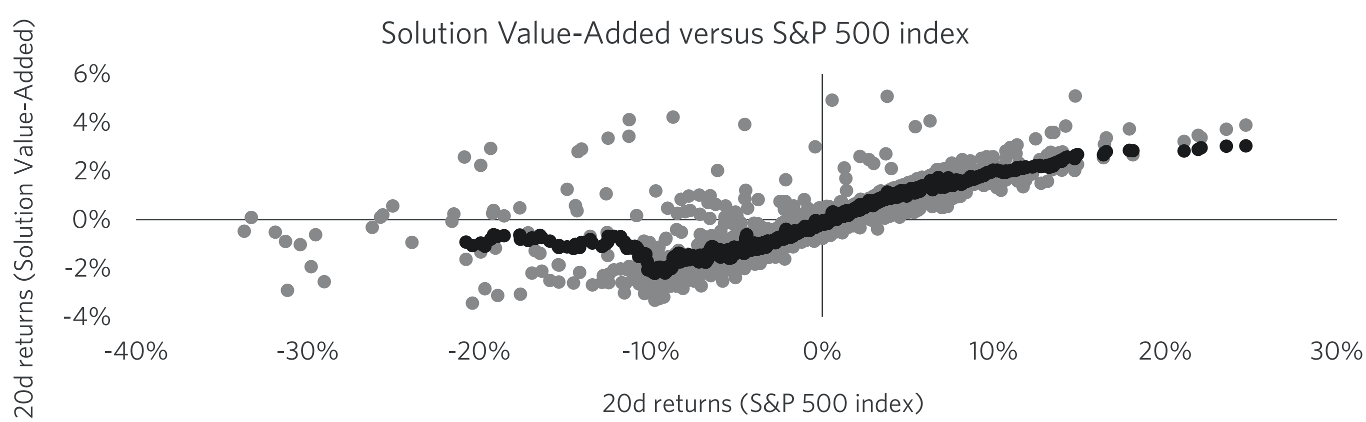
Since 2008	S&P500	Solution	Value Added	Value Added Decomposition Leverage only	Value Added Decomposition Defensive only
Avg Return (ann)	12.1%	15.0%	2.9%	3.7%	-0.8%
TE (ann)	-	-	4.2%	-	-

Since 2011	S&P500	Solution	Value Added	Value Added Decomposition Leverage only	Value Added Decomposition Defensive only
Avg Return (ann)	14.3%	17.1%	2.8%	4.3%	-1.5%
TE (ann)	-	-	3.7%	-	-
Beta versus	-	1.18	-	-	-

The information was prepared by CIBC Global Asset Management using data from the following third party data provider: Bloomberg. Data sample: 2008 – February 2025. This hypothetical scenario is shown for illustrative purposes only and is not indicative of future results. Please refer to the Disclaimer page for further information.

An analysis of the historical return profile of the value added by our enhanced S&P 500 index solution, compared to the returns of the S&P 500 index, reveals its positive beta during periods of positive index returns, as well as the presence of downside convexity resulting from the defensive and tail risk hedging strategies (Chart 7).

Chart 7 – Historical return profile of the value added by our enhanced S&P 500 index solution versus the return of the S&P 500 index.



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Conclusion: Why choose our enhanced S&P 500 index solution?

Our innovative solution offers an enhanced S&P 500 strategy designed for a market where stock-picking forecasters have often underperformed over the years, making it appealing to a wide range of investors. Additionally, it leverages structuring capabilities as a diversifying approach to provide enhanced indexing, based on the belief that combining several complementary solutions targeting the same outcome is often preferable.

Our solution can be integrated with existing passive, enhanced passive, and/or active mandates on the S&P 500 index. It can be fully funded or combined with an existing portfolio by implementing the necessary strategies within an overlay format.

Finally, this approach can be applied to various indices.

About the authors

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About CIBC Asset Management

At CIBC Asset Management, we believe that every customized investment solution begins with research and rigour. We specialize in a variety of investment solutions such as equities, fixed income, currency management, liability-driven investments, asset allocation, and responsible investments.

Across a spectrum of investment solutions, we commit to robust research. Dedicated sector and regional analysts focus on industry research and security-specific idea generation. Our investment professionals leverage deep and diverse expertise by sharing proprietary research across asset-class teams. By sharing insight across asset class teams, we maximize opportunities to add value to our client portfolios.

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