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From Theory to Practice: Revisiting Canada RRB Replication Strategies

Introduction

TD Asset Management Inc. (TDAM) published a paper in May 2026, Synthetic Canada Real Return Bond Replication Strategies to Help Manage Inflation-Linked Liability Risk >, that examined practical alternatives for investors seeking to replicate Canada Real Return Bond (RRB) exposure.

Since the Government of Canada (GoC) announced the decision to cease issuing new RRBs in November 2022,[1] market liquidity has continued to decline and investors increasingly need alternative approaches to maintaining inflation-linked exposure within their portfolios. The paper evaluated several potential solutions and identified two leading approaches that historically provided the closest fit to the FTSE Canada RRB Index.

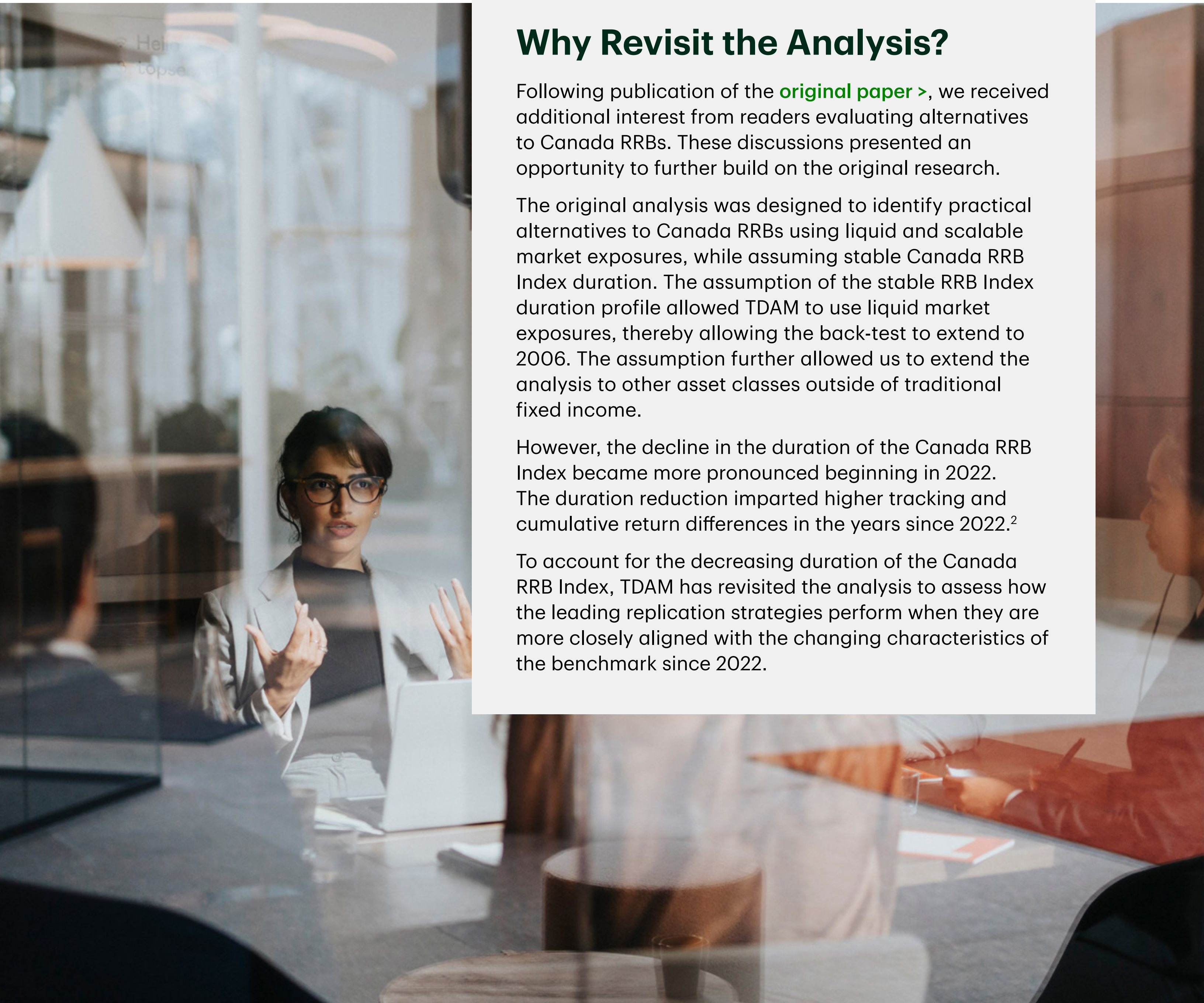
Following publication, the paper generated interest among institutional investors and consultants evaluating potential RRB replacement solutions. These discussions prompted additional analysis by TDAM's investment teams, including a more implementation-focused framework that closely matches the duration profile of the Canada RRB Index. The updated research validated the original findings and strengthened our conviction in the leading replication approaches, supported by materially improved tracking characteristics under the revised methodology.

A Brief Recap of the Original Analysis

The original paper > evaluated four potential approaches to replicating Canada RRB exposure.

- **Portfolio 1** consisted of Canada nominal bonds.
- **Portfolio 2** used currency-hedged U.S. Treasury Inflation-Protected Securities (TIPS).
- **Portfolio 3** combined Canada nominal bonds with a long U.S. zero-coupon inflation swap overlay.
- **Portfolio 4** combined Canada nominal bonds with a long U.S. inflation breakeven strategy implemented through long U.S. TIPS and short U.S. Treasuries.

Among the four approaches, **Portfolios 3** and **4** demonstrated the strongest historical fit to the Canada RRB Index and emerged as the preferred solutions in the original research. **Portfolio 4** ultimately proved particularly compelling given its strong historical fit, deep liquidity, and straightforward implementation.



Why Revisit the Analysis?

Following publication of the original paper >, we received additional interest from readers evaluating alternatives to Canada RRBs. These discussions presented an opportunity to further build on the original research.

The original analysis was designed to identify practical alternatives to Canada RRBs using liquid and scalable market exposures, while assuming stable Canada RRB Index duration. The assumption of the stable RRB Index duration profile allowed TDAM to use liquid market exposures, thereby allowing the back-test to extend to 2006. The assumption further allowed us to extend the analysis to other asset classes outside of traditional fixed income.

However, the decline in the duration of the Canada RRB Index became more pronounced beginning in 2022. The duration reduction imparted higher tracking and cumulative return differences in the years since 2022.[2]

To account for the decreasing duration of the Canada RRB Index, TDAM has revisited the analysis to assess how the leading replication strategies perform when they are more closely aligned with the changing characteristics of the benchmark since 2022.

Updated Analysis

To further evaluate the replication approaches, we developed updated versions of **Portfolios 1** through **4** that more closely matched the duration characteristics of the FTSE Canada RRB Index. The revised approach sought to reflect the larger duration changes experienced by the index in recent years while faithfully matching the underlying bond exposures.

Figure 1

Replicating Portfolio	**Description**	**Original Analysis Annualized Tracking Error** (Jan 2006 to Dec 2025)	**Original Analysis Cumulative Return RMSE** (Jan 2006 to Dec 2025)	**New Analysis Annualized Tracking Error** (Jan 2013 to Dec 2025)	**New Analysis Cumulative Return RMSE** (Jan 2013 to Dec 2025)
Portfolio 1	Canada Nominal Bonds	4.8%	21.2%	3.9%	9.2%
Portfolio 2	US TIPS, Currency Hedged	9.5%	25.6%	7.5%	7.2%
Portfolio 3	Canada Nominal Bonds + Long 10-year Zero Coupon Inflation Swap, Currency Hedged	5.7%	7.2%	4.2%	2.5%
Portfolio 4	**Canada Nominal Bonds + Long 10yr US Inflation Breakeven Trade (Long TIPS and short US Treasuries)**	**7.3%**	**7.8%**	**3.8%**	**3.1%**

Source: TD Asset Management Inc. Original Analysis Annualized Tracking Error (2006.01.02-2025.12.31[]). Original Analysis Cumulative Return RMSE (2006.01.02-2025.12.31). New Analysis Annualized Tracking Error (2013.01.02-2025.12.31). New Analysis Cumulative Return RMSE (2013.01.02-2025.12.31).

Due to the more detailed bond-level data required, the updated analysis was conducted from 2013 onwards rather than from 2006. For the U.S. inflation breakeven component, the methodology continued to use the liquid 10-year TIPS-versus-Treasury position. All solutions incorporate financing and transaction-cost assumptions intended to better reflect practical implementation.

Analysis

Results Continue to Support Portfolios 3 and 4

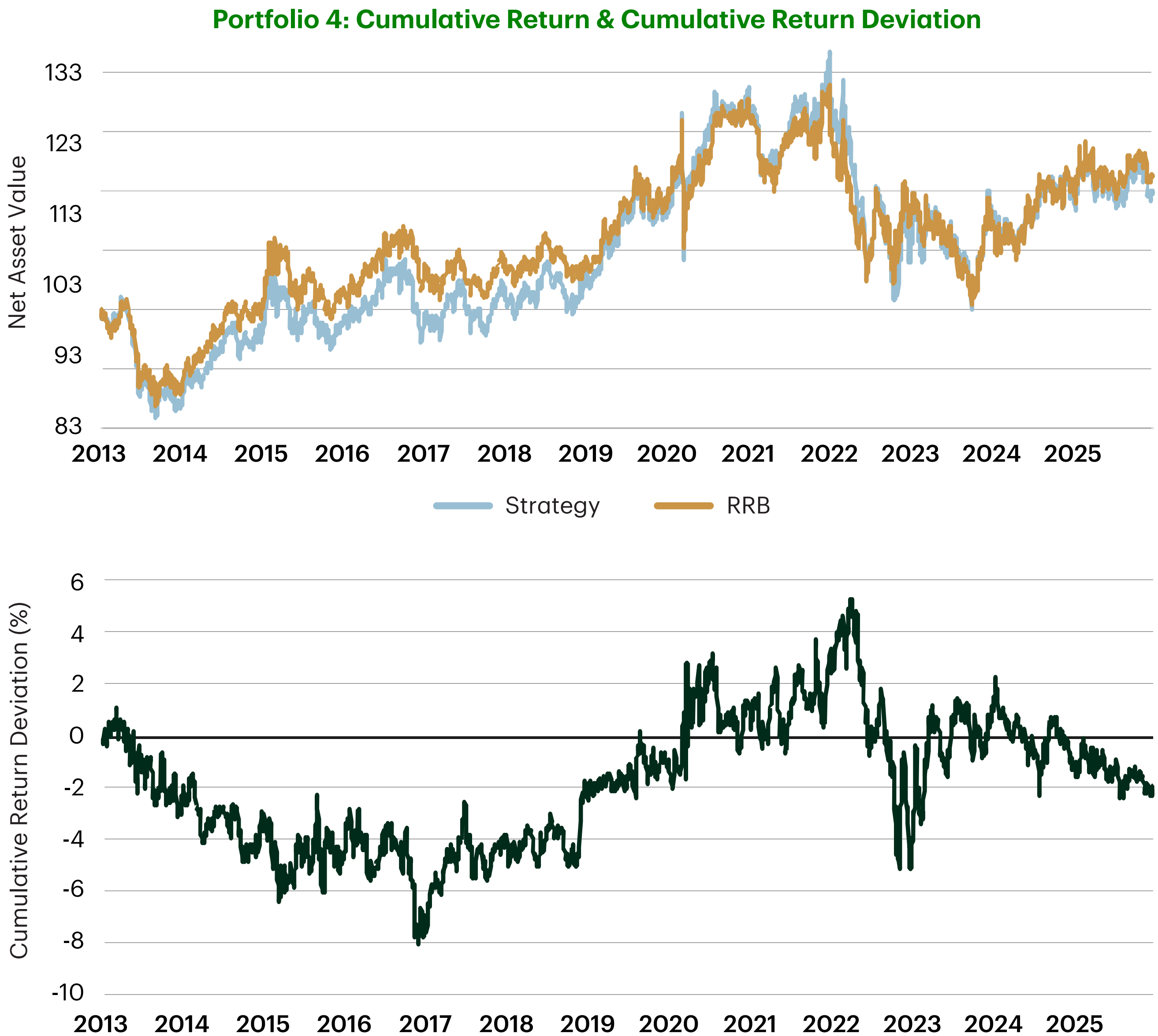
The revised results reinforce the conclusions of the original paper >. Across the solutions evaluated, **Portfolios 3** and **4** continued to exhibit the strongest replication characteristics.

Portfolio 4, consisting of Canada nominal bonds combined with a long U.S. inflation breakeven strategy, demonstrated a notably tighter fit under the updated methodology. Annualized tracking error improved to 3.8% from 7.3%, while cumulative return Root Mean Square Error (RMSE) improved to 3.1% from 7.8%.[3]

Similarly, **Portfolio 3** continued to produce strong results and remained a sound replication strategy candidate.

The updated analysis therefore provides additional support for the central conclusion of the original paper: the most effective alternatives to Canada RRB exposure combine Canada nominal bonds with a dedicated inflation-sensitive overlay.

Figure 2



Source: TD Asset Management Inc. As at 31st December 2025.

While **Portfolios 3** and **4** both remain compelling solutions, implementation considerations are important. **Portfolio 3** relies on a 10-year zero-coupon inflation swap overlay, which requires bespoke and bilateral International Swaps and Derivatives Association (ISDA) documentation to be in place and a more specialized implementation framework.

The liquidity of a zero-coupon inflation linked swap may be an issue for expediently implementing and unwinding large exposures with a limited number of counterparts.

Portfolio 4 achieves comparable results through highly liquid market instruments and a more straightforward implementation process.

For this reason, Portfolio 4 continues to represent our preferred solution for investors seeking to replicate Canada RRB exposure. The strategy combines strong historical tracking characteristics with deep liquidity and operational simplicity, making it a practical alternative for institutional investors evaluating RRB replacement solutions.

Conclusion

The follow-up analysis strengthens the conclusions of the original paper > and reinforces the effectiveness of the leading replication approaches. Among the solutions evaluated, **Portfolio 4** continues to stand out for its combination of strong historical fit, high liquidity, and implementation practicality. For institutional investors evaluating long-term inflation-hedging solutions, the updated results provide additional confidence in synthetic replication as a viable alternative to Canada RRBs.

[1] GoC Fall Economic Statement 2022.
[2] TD Asset Management Inc. As at 31st December 2025.
[3] Cumulative Return RMSE Root Mean Square Error measures the average size of the gap between the cumulative returns of the replication portfolio and the Canada RRB Index over the analysis period. Lower values indicate a closer long-term fit.

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