# Sparse Portfolios and Benchmarking in Corporate Bond Markets

## Li, Pavlova, Sikorskaya

Paul Huebner

Stockholm School of Economics

Discussion
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- Interesting paper!
- I learned a lot about benchmarking in corporate bonds and its impact on bond prices
- My comments are mostly about writing the next paper

# Corporate bond benchmarks are broad and high-turnover

**Annual turnover of selected Bloomberg U.S. fixed-income indexes**

| Benchmark | # bonds | Add. | Del. | Turnover rate (%) | |
|---|---|---|---|---|---|
| | | | | Total | Maturity-driven |
| Aggregate | 9,430 | 2,292 | 1,893 | 46 | 11 |
| Aggregate 1–5 year | 4,468 | 1,908 | 1,766 | 83 | 41 |
| Aggregate 3–5 year | 2,010 | 1,534 | 1,475 | 150 | 97 |
| Corporate | 4,828 | 960 | 686 | 34 | 8 |
| Corporate 1–5 year | 1,758 | 619 | 528 | 65 | 42 |
| Corporate 5–10 year | 1,526 | 476 | 412 | 58 | 30 |
| Average | 3,195 | 1,023 | 883 | 71 | 37 |

Source: Li, Pavlova, and Sikorskaya (2026), Table 1, Panel B.

**Many bonds.** Broad indexes contain thousands of CUSIPs.

**High turnover.** Bloomberg fixed-income indexes average 71% annual two-way turnover.

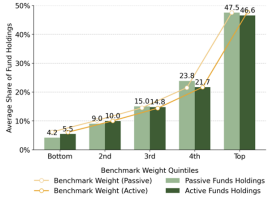
**Maturity-driven trading.** Turnover is especially high in short/intermediate buckets.

Corporate bond benchmarks are difficult to fully replicate.

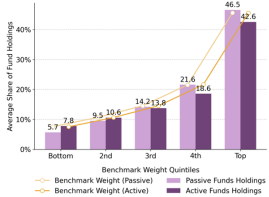
$\Rightarrow$ sampling is central for corporate bond benchmark implementation.

# Fund portfolios track benchmarks, but sparsely

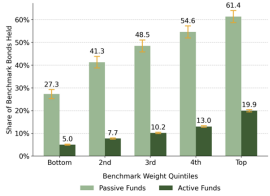
Figure 2: Fund holdings across benchmark weight quintiles



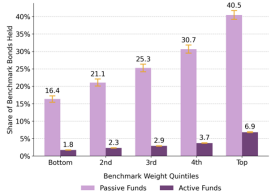

(a) Share of fund holdings across benchmark weight quintiles (Canada)




(b) Share of fund holdings across benchmark weight quintiles (U.S.)




(c) Share of benchmark bonds held across benchmark weight quintiles (Canada)




(d) Share of benchmark bonds held across benchmark weight quintiles (U.S.)

# Model: tracking-error benefit versus per-position cost

Include bond $i$ when the tracking-error/return benefit exceeds the marginal line-item cost.

$$\max_{\theta,n} \underbrace{(a+b)\theta'(\mu-p)}_{\text{return}} - \underbrace{\frac{\gamma}{2}\big((a+b)\theta-b\omega\big)'\Sigma\big((a+b)\theta-b\omega\big)}_{\text{tracking-error risk}} - \underbrace{Cn}_{\text{portfolio-management cost}}$$

Broad, high-turnover benchmark

↓

Full replication costly

↓

Manager chooses subset $S$

↓

Benchmark demand concentrated in selected bonds

↓

BMI affects prices mostly for included bonds

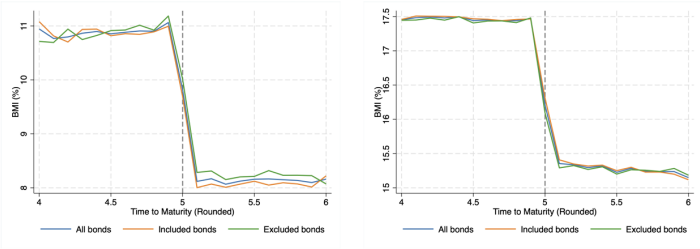
**Predictions**

- More likely included: high benchmark weight, large issue size, high idiosyncratic risk
- More bonds held when benchmarking incentives are stronger
- Price effect: BMI matters more for included than excluded bonds

**Key implication:** BMI should matter differently for selected bonds.

# Identification: five-year cutoff and BMI changes

Figure 4: Discontinuity in BMI around the 5-year maturity cutoff




(a) Canada (b) United States

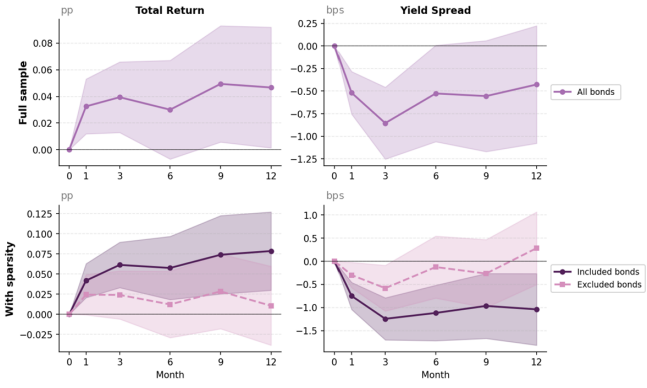
This figure illustrates the average benchmarking intensity by bond's time to maturity around the 5-year mark in (a) Canada and (b) the United States. We report the average BMIs within all bonds in our baseline sample as well as within bonds predicted to be included or excluded from fund portfolios, as defined later in the section.

**Identification strategy**

- Bonds age across the five-year maturity cutoff (Bretscher, Schmid, and Ye, 2024)
- Index weights change mechanically across maturity buckets
- Benchmark-mandated investors face induced buying and selling pressure

**Key feature:** these are perfectly predictable demand shifts.

# BMI moves prices and ownership for sampled-in bonds




(b) United States

Increases in benchmarking intensity lower spreads and raise ownership mainly for bonds selected into sparse portfolios.

$$\Delta\text{BMI} \uparrow \Rightarrow \begin{cases} \text{spread} \downarrow, \text{ ownership} \uparrow & \text{included bonds} \\ \text{weak/no effect} & \text{excluded bonds} \end{cases}$$

**Ownership:** both active and passive funds rebalance in the direction predicted by BMI.

# Outlook

- Careful empirics; the main result is convincing:

  index effects for included bonds

- My comments: what frictions generate which behavior?

- Beyond the paper: what else do these effects suggest?

**Maybe the next paper?**

# Comment 1.1: Two Facts, One Mechanism?

**High benchmark turnover** **Sparse fund portfolios**

**The paper makes these facts feel like two sides of the same coin.**

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- **Notional turnover is generally unaffected by sparsity**
- What is different?
  - Number of CUSIPs to monitor, approve, price, explain
  - Number of positions in risk systems
  - Fixed trade-ticket costs

**This sounds like monitoring costs, not notional turnover minimization.**

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  - Maybe same centralized trading desk already has dealer relationships
- Related facts:
  - Larger fund families should hold less sparse portfolios
  - Holdings should cluster by issuer within families

**This would directly support the monitoring-cost interpretation of sparsity.**

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- True turnover minimization likely creates **portfolio tilts to avoid turnover**

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- Credit boundaries:
  - Distance from the high-yield cutoff is largest for high-rated IG bonds
  - That goes against reach-for-credit-yield

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  - potentially lower spreads for safer bonds within the same IG segment
- This is distinct from standard compensation for duration or credit risk

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- Next question: do issuers also **design** bonds to get low yields at issuance?
- How much issuance is targeted toward:
  - maturity profiles that cater to investor demand and benchmark mandates
  - fewer, larger issues: index-eligible, high-weight, and worth a scarce line item
  - maturities near the high end of a bucket, so funds can hold longer before forced turnover

# Conclusion

- Great paper! Main result that BMI affects prices and ownership for included bonds is very convincing!
- Frictions matter: different frictions, different predictions
- Beyond this paper, benchmark demand may matter for portfolio tilts, bond prices within buckets, and firms' issuance choices...