Nasdaq-Brooklyn ADR™ Index

Global Markets Exposure for Separately Managed Accounts

BROOKLYN INVESTMENT GROUP

BENEFITS OF AMERICAN DEPOSITARY RECEIPTS

Separately managed accounts can bring important benefits to an investor by enabling full portfolio customization and significantly improved tax management through direct indexing. American Depositary Receipts (ADRs) can make it easy and cost-effective for all investors to diversify into single-name international equities, all within the domestic U.S. equity market.

CHALLENGES WITH EXISTING ADR INDICES

Indexing and benchmarking can involve hidden costs around index rebalances due to the need for investors to trade the same stocks at essentially the same time. Research suggests that this "index turnover cost" is significant for established and popular indices, and that it increases in severity for indices that contain low-liquidity stocks.[1]

The ADR market also presents an additional challenge for indexers: most underlying firms are primarily traded elsewhere, and there can be a disconnect between the liquidity of the ADR and that of the underlying stock. Since existing ADR indices are weighted by the market capitalization of the firm's all equity listings, as opposed to the liquidity of the ADR, this can result in investors having to trade relatively large illiquid positions and pay high trading costs in the process. Such costs can be particularly problematic for separately managed accounts that tend to require more frequent trading for a variety of reasons (tax management, alpha views, other preferences), which may result in considerable trading within the index.

BENEFITS OF THE NASDAQ-BROOKLYN INDEX

The Nasdaq-Brooklyn ADR Index (NBADR™) introduces the new concept of a liquidity adjustment factor. This factor scales index weights down for any ADR whose liquidity falls shy of what the market value of the underlying stock would suggest. This adjustment can reduce trading costs for investors, which is crucial for direct indexing and other separately managed account strategies.

In addition, the Nasdaq-Brooklyn ADR Index has been designed to minimize the aforementioned index turnover cost.

INDEX CONSTRUCTION AND STATISTICS

Exhibit 1 shows how the Nasdaq-Brooklyn ADR index was constructed, step-by-step. The steps involve (1) cutoffs for a firm's public float (top 98% of aggregate market cap) and 3-month dollar volume; (2) a quarterly rebalancing schedule that happens ahead of other correlated index rebalances; (3) banding around the index membership criteria to reduce turnover; (4) maximum position size of 5% to avoid portfolio concentration; and (5) liquidity adjustment to index weights based on 3-month average dollar volume (ADV). The "Price Impact" column refers to an estimated impact cost of trading into a $1 billion index position, assuming price impact to be linear in trade size per ADV.

Exhibit 1. Steps taken to construct the Nasdaq-Brooklyn ADR Index and their impact on index statistics in 2016–2023.

	Max Position	Max Pos / ADV	Price Impact	Annual Turnover	Annual Return	Annual Volatility
Cutoffs Only	14.40%	277%	0.15%	13.27%	4.68%	18.66%
+ Schedule	14.38%	277%	0.15%	13.48%	4.75%	18.64%
+ Banding	14.33%	277%	0.15%	12.77%	4.85%	18.52%
+ Caps	6.52%	280%	0.15%	13.83%	4.96%	18.48%
+ Liquidity	6.49%	38%	0.06%	28.32%	5.77%	19.84%

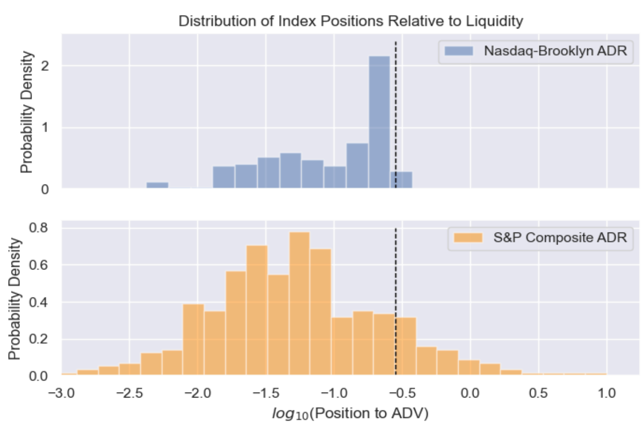
[1] Petajisto, Antti, 2011, "The index premium and its hidden cost for index funds," Journal of Empirical Finance 18: 271-288.

Exhibit 2. The estimated price impact of trading a $1 billion total index position on 12/30/2022.

Index	Max Position / ADV (%)	Price Impact (bp)
S&P Composite ADR	993	12
S&P Developed 100 ADR	277	19
Morningstar Global ADR	1,011	12
Morningstar Large Cap ADR	1,053	13
MSCI EAFE ADR	4,843	54
Nasdaq-Brooklyn ADR	38	6

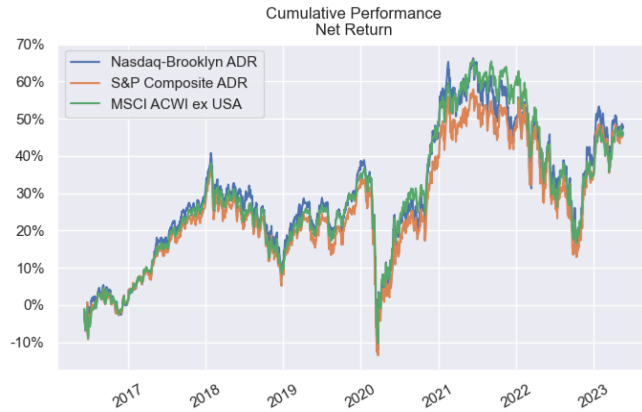
Existing ADR indices tend to have some positions where liquidity is clearly insufficient. Exhibit 2 shows the largest single-name position relative to ADV in a $1 billion index position on 12/30/2022. A maximum position size of 100% means that unwinding that position would require all the volume traded on a typical day. For example, a $1 billion position in the S&P Composite ADR Index requires ten days' volume in Banco Bradesco, five days in Grupe Simec, two days in Mizuho Financial Group, and more than one day's entire volume in Toyota Motor Corp. This problem is even more extreme for the MSCI EAFE ADR Index, where around 80% of the index constituents are traded over the counter. In contrast, the Nasdaq-Brooklyn ADR Index would never hold more than 38% of the daily volume in any name because it intentionally caps weights accordingly (Exhibit 3).

Exhibit 3. Distribution of index positions in single ADRs relative to their trading volume for a $1 billion total index position. The Nasdaq-Brooklyn ADR Index has no positions greater than 38% of ADV (black dotted line), whereas the S&P Composite ADR Index has positions up to 10x ADV.



Viewed historically, the Nasdaq-Brooklyn index would have performed similarly in comparison to many of its peers, including the S&P Composite ADR Index with a correlation of 99.1%, and the MSCI ACWI ex USA Index of foreign local shares with a correlation of 96.0% (Exhibit 4).

Exhibit 4. Cumulative performance on ADR indices and an international local share index. Returns are estimated net returns to U.S. investors that consider foreign withholding taxes on dividends.



CONCLUSIONS

The Nasdaq-Brooklyn ADR Index offers broad international exposures, comparable to the most popular ADR and foreign local share indices today. However, it is designed to offer increased liquidity and to avoid many of the related problems that plague other ADR indices, which is critical for separately managed account strategies that require more trading due to tax optimization, alpha views, and other customizations. The index is also designed to reduce the index turnover cost that impacts any commonly tracked market indices.

Disclaimer: