
Capping Infrastructure Indexes

FT Wilshire GLIO Listed
Infrastructure Index Series

August 2024 | Wilshire Indexes Research

Wilshire Indexes

1. Executive Summary

As the growth in infrastructure accelerates globally, the importance investors place on sectors, countries, and regional exposure is emerging as a key theme in infrastructure allocations.

The growing weight in US equities and the regulated utility sector group in standard infrastructure indexes has led many global investors to seek an infrastructure index series that offers greater diversification.

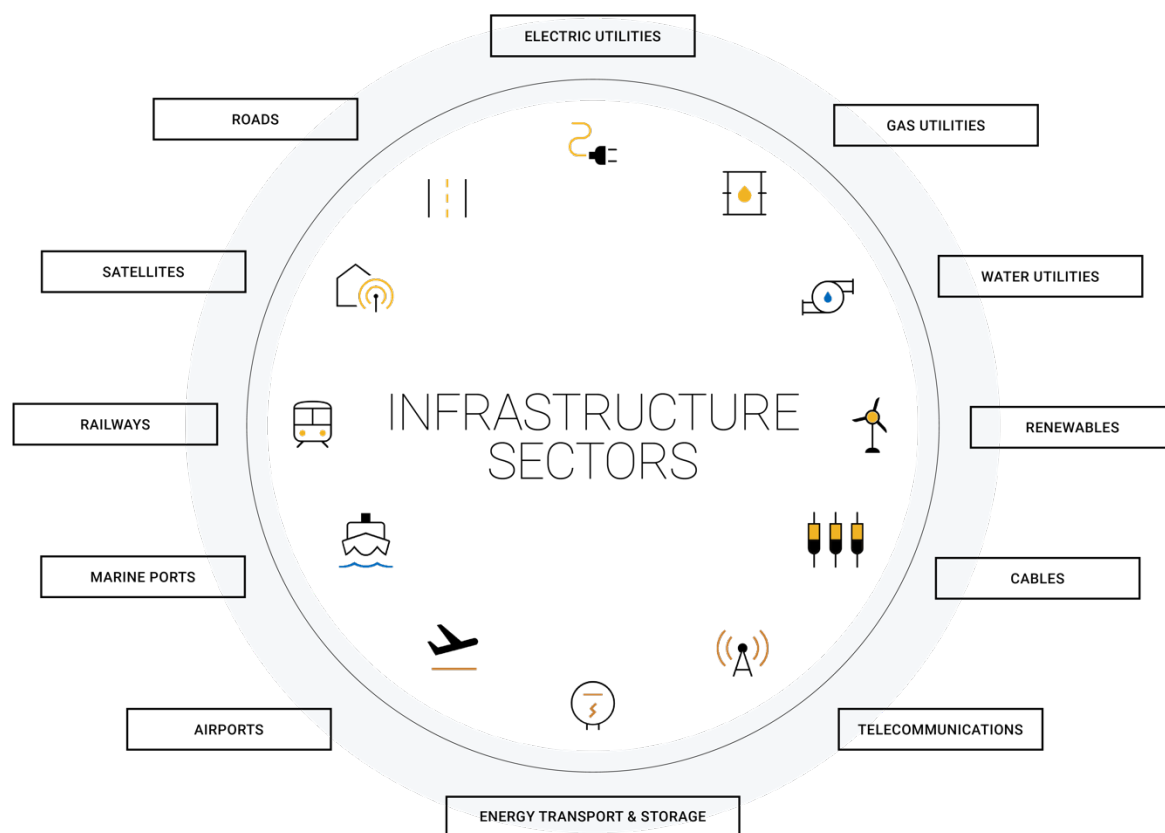
To provide this, the FT Wilshire GLIO Listed Infrastructure Index series has been expanded to include three new capped indexes based on the developed markets' portion of the broader global index. We examine the properties of these capped indexes and compare them to their uncapped counterparts.

2. Introduction

The FT Wilshire GLIO Listed Infrastructure Index Series provides exposure to globally listed companies which own and/or are operators of infrastructure assets. Wilshire consults with the Global Listed Infrastructure Organization (GLIO) which is the representative body for the \$3 trillion listed infrastructure asset class.

At a highest level, Infrastructure companies are those which fall into the categories illustrated in Figure 1. Social Infrastructure, for example hospitals, care homes and schools, or else companies better classified as real estate operating companies, are excluded.

Figure 1: Infrastructure Sectors



Wilshire uses its Global Asset Taxonomy System (GATS) to identify the companies in these sectors. This is achieved by mapping GATS Level 4 to the above infrastructure sectors. However, not all companies will be relevant so additional means of screening are necessary. To further disqualify companies, Wilshire utilises Natural Language Processing (NLP) on company accounts data, EBITDA ratios, asset values and sales revenue.

The FT Wilshire Global Equity Markets Series (GEMS) provides a suitable universe on which to base the global infrastructure series. GEMS is a comprehensive measure of the global stock markets by covering up to 98% of investable market capitalization in 48 developed and emerging countries. GEMS is built on a country-by-country basis while balancing the size integrity among developed and emerging markets through a consistent and modular-based methodology. This facilitates a variety of carve-outs for the infrastructure series, e.g., by size, country or region.

3. Methodology

The FT Wilshire GLIO Listed Infrastructure Index Series uses a four-step systematic approach to determine company selection and eligibility:

- 1) Natural Language Processing (NLP) techniques are used to identify candidate companies and isolate infrastructure related EBITDA
 - Applied to each infrastructure sector defined by GATS
 - Companies and EBITDA are identified via an accept/reject of relevant words and phrases
- 2) Candidate companies must have infrastructure related EBITDA ratio ≥ 0.66 to be eligible
 - If EBITDA is unknown, asset values are considered
 - If there is no asset value breakdown, sales revenue is used
 - If sales revenue is unavailable, the Wilshire-GLIO advisory group can provide oversight if necessary
- 3) Apply 10% EBITDA & liquidity buffer on existing constituents to prevent unnecessary turnover and potential whipsawing of index membership.
- 4) Wilshire-GLIO advisory group provides additional oversight of index membership.

Once the list of companies is obtained, the constituents are weighted by free-float market capitalization in US Dollars. The indexes are reviewed semi-annually in March and September.

Variants where countries, sectors and stocks can be capped at a maximum weight are discussed in the next section. Further customization options include, equal weighting of infrastructure sectors and exclusion/inclusion indexes, e.g. excluding USA or else including data centers.

4. Capped Infrastructure Indexes

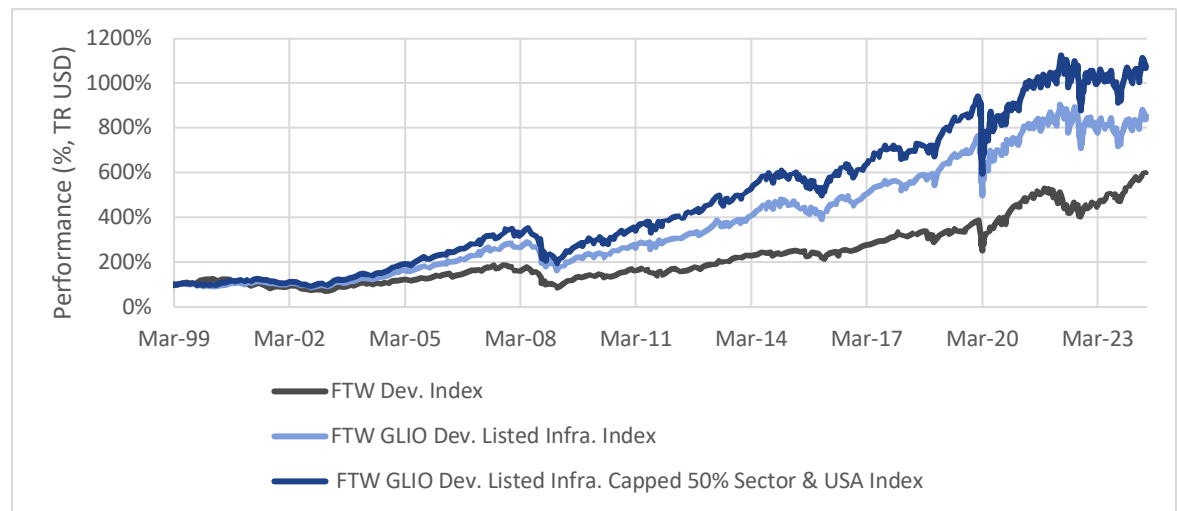
To illustrate the series, we concentrate on two of our developed products; the FT Wilshire GLIO Developed Listed Infrastructure Index and a capped version, the FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index.

This latter index is designed for global investors who wish to cap the weight of the US at 50%, stocks at 5% and sectors such that:

- Utilities (inc. Renewables) capped to 50% by weight
- Transportation capped at 20%
- Railways capped at 6.67% (1/3 Transportation weight)
- Energy capped to 20%
- Communications capped to 10%

Figure 2 displays the performance of the infrastructure indexes between March 1999 and June 2024 against their cap weighted benchmark, the FT Wilshire Developed Index.

Figure 2: Index Performance: FT Wilshire Developed Index, FT Wilshire GLIO Developed Listed Infrastructure Index and FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index



Both infrastructure indexes have outperformed their market cap weighted benchmark over the long term. However, in the last 10 years the market capitalization index has been dominant. This can be seen in the performance statistics displayed in Table 1. No doubt this behavior has been aided by the strong performance of the tech sector which has zero weight in the infrastructure indexes.

Table 1: Annualized Performance Statistics¹: FT Wilshire Developed Index, FT Wilshire GLIO Developed Listed Infrastructure Index and FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index

	YTD	1Y	3Y	5Y	10Y	Base Date
FTW Dev. Index	11.18%	19.82%	6.51%	11.84%	9.43%	7.11%
FTW GLIO Developed Listed Infrastructure Index	0.76%	3.14%	1.97%	4.68%	6.41%	8.52%
FTW GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index	1.26%	4.61%	3.26%	5.34%	6.29%	9.55%

Table 2 shows that the FT Wilshire GLIO Developed Listed Infrastructure Index is already underweight US compared to the market capitalization index, but the capped index goes further and constrains this to be no more than 50% of the global weight at rebalance.

¹ Data as of 28th June 2024

Table 2: Country Weights¹: FT Wilshire Developed Index, FT Wilshire GLIO Developed Listed Infrastructure Index and FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index

	FT Wilshire Developed Index	FTW GLIO Developed Listed Infrastructure Index	FTW GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index
Australia	1.98%	2.08%	5.69%
Austria	0.08%	0.26%	0.28%
Belgium	0.22%	0.11%	0.11%
Canada	3.08%	13.72%	14.76%
Denmark	0.98%	0.40%	0.44%
Finland	0.27%	0.00%	0.00%
France	2.51%	1.46%	1.95%
Germany	1.92%	2.17%	2.59%
Hong Kong	0.48%	1.37%	1.48%
Ireland	0.29%	0.00%	0.00%
Israel	0.27%	0.07%	0.08%
Italy	0.66%	3.23%	3.61%
Japan	5.98%	0.56%	0.25%
Luxembourg	0.16%	0.08%	0.14%
Netherlands	1.43%	0.11%	0.20%
New Zealand	0.09%	0.20%	0.68%
Norway	0.20%	0.00%	0.00%
Portugal	0.05%	0.50%	0.54%
Singapore	0.41%	0.05%	0.08%
Spain	0.66%	5.82%	10.80%
Sweden	0.96%	0.00%	0.00%
Switzerland	2.71%	0.16%	0.65%
United Kingdom	3.99%	3.82%	4.15%
United States	70.62%	63.84%	51.51%

Table 3 emphasizes the 50% constraint on the weight of Utilities and the 20% limit on Transportation in the capped index.

¹ Weight as of 28th June 2024.

Table 3: Sector Weights²: FT Wilshire GLIO Developed Listed Infrastructure Index and FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index

Sector	FTW GLIO Developed Listed Infrastructure Index	FTW GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index
Transportation	21.66%	19.50%
Utilities (Inc. Renewables)	57.28%	50.39%
Telecoms	7.34%	9.68%
Energy	13.73%	20.43%

The upshot of this multi-level capping is displayed in Table 4; the FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index has a more balanced set of infrastructure sector weightings than the FT Wilshire GLIO Developed Listed Infrastructure Index. Note the lower weight in Railways for the capped index.

Table 4: Infrastructure Sector Weights³: FT Wilshire GLIO Developed Listed Infrastructure Index and FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index

Infrastructure Sector	FT Wilshire Global Developed Index	FTW GLIO Developed Listed Infrastructure Index	FTW GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index
Airports	0.04%	1.11%	4.65%
Cables	0.00%	0.07%	0.12%
Electric Utilities	1.47%	42.39%	35.45%
Energy T & S	0.49%	14.26%	20.96%
Gas Utilities	0.21%	6.07%	5.09%
Railways	0.57%	16.58%	5.71%
Renewables	0.29%	8.26%	8.93%
Roads	0.07%	1.91%	7.97%
Satellites	0.01%	0.22%	0.32%
Telecommunications	0.23%	6.74%	8.74%
Water Utilities	0.08%	2.40%	2.06%
Non - Infrastructure	96.54%	0.00%	0.00%

^{2, 3} Weight as of 28th June 2024.

The effective number of infrastructure sectors, given by the Herfindahl measure (sum of inverse square weights), is approximately four for the uncapped index and five for the capped index. Hence improved diversification across sectors is delivered.

5. Summary

The FT Wilshire GLIO Listed Infrastructure Index Series provides exposure to globally listed companies which own and/or are operators of infrastructure assets. The indexes use a systematic approach to identify eligible infrastructure companies using EBITDA to determine infrastructure relevance and by mapping the Global Asset Taxonomy System (GATS) to Infrastructure Sectors. The series allows customization through size, country and regional carve-outs of the GEMS universe.

The series contains three capped variants:

- FT Wilshire GLIO Developed Listed Infrastructure Capped 50% USA Index
- FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector Index
- FT Wilshire GLIO Developed Listed Infrastructure Capped 50% Sector & USA Index

suitable for investors seeking extra diversification by either dampening the growing market cap weight of US equities, reducing the weight of the regulated utility sector group or by imposing both limits simultaneously.

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