Norges Bank

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Government Pension Fund Global – benchmark index for equities

We refer to the letter from the Ministry of Finance of 31 October 2024 regarding the benchmark index for equities for the Government Pension Fund Global (GPFG). The benchmark index for equities is based on the FTSE Global All Cap index. In the letter, the Ministry notes that the number of small companies in FTSE Global All Cap has increased significantly following the Ministry's decision in 2021 to reduce the number of small companies in the benchmark index. This increase is also reflected in the GPFG's benchmark index, especially the emerging markets part.

In the letter, the Ministry asked Norges Bank to assess the consequences of the increase in the number of companies in FTSE Global All Cap for the composition of the new benchmark index with 96 percent market coverage, and to evaluate the new index against what was communicated in the 2021 White Paper. The Ministry also asked for an assessment of whether it is appropriate to adjust the rules of the benchmark index and whether adjustments can be made so that the benchmark index for equities aligns more closely with the description in the 2021 White Paper.

Background

The investment strategy for the GPFG means that the fund's return and risk characteristics largely mirrors those of the benchmark index. The design of the benchmark index therefore plays an important role in the management of the fund. The number of companies in the index has increased over time, reaching nearly 9,000 in 2021.[1] The Ministry of Finance decided in 2021 that the number should be reduced by 25–30 percent, corresponding to a market coverage of 96 percent. The Ministry assumed

[1] The benchmark index for the GPFG is among other things adjusted with geographic adjustment factors. In addition, single companies and sectors are excluded in line with the ethical guidelines for observation and exclusion, as well as the Ministry's decision to exclude upstream oil and gas companies from the benchmark index.

this would result in 6,600 companies in the index. The benchmark index with 96 percent market coverage is in the rest of this letter referred to as “FTSE 96”.

As a basis for the decision in 2021, the Ministry pointed out that the smallest companies constitute a very small part of the total market value of the index. The diversification benefits of including the very smallest companies were therefore considered limited. Additionally, it was highlighted that a large number of small companies in the index could increase both the complexity of the management of the fund and the management and transaction costs. The Ministry also noted that there is generally less available information about small companies.

Considerations

The number of small companies in the FTSE Global All Cap index has increased significantly following the Ministry's decision to reduce the number of small companies in the benchmark index. As shown in Table 1 in the appendix, the number of companies in FTSE 96 has increased to 7,300 since 2021, due to the inclusion of more companies from emerging markets.[2] Companies listed in China represent a large portion of this increase. This is because more Chinese companies were made available for trading through the so-called Stock Connect program and were therefore included in FTSE Russell's indices in August 2023.[3]

The increase in the number of companies since 2021 is expected to have little impact on the index's long-term return and risk characteristics, see Table 2 in the appendix. While the number of small companies in emerging markets has increased, the index's overall exposure to small companies has decreased somewhat. The index's overall exposure to emerging markets has also decreased since 2021. The share of different market segments in the benchmark index will vary over time with price developments. For a more detailed description of the updated calculation of the composition of FTSE 96, see Table 1.

If the Ministry wishes to maintain the reduction in the number of companies as communicated in the 2021 White Paper, there are several ways to achieve this. One alternative would be to reduce the market coverage in the equity index further from 96 percent. However, the relationship between market coverage and the number of companies in the index will not be constant. An index with 95 percent market coverage would today result in approximately the same number of companies in the index as was assumed in 2021 for an index with 96 percent market coverage, see Table 1. How the number of companies in an index with 95 percent market coverage will develop over time depend on market developments and choices made by the index provider.

[2] The increase in number of companies has been limited by the Ministry’s decision to reduce market coverage to 96 percent. A benchmark index with 98 percent market coverage would include around 10,000 companies as of October 2024.
[3] Stock connect is a trading mechanism that connects the Chinese exchanges in Shanghai and Shenzhen with the exchange in Hong Kong. It enables foreign investors to trade equities in Mainland China.

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The number of listed companies in emerging markets has been the main driver of the increase in the number of companies in FTSE Global All Cap over the period. An index that does not include the segment of small companies in emerging markets could have a more stable number of companies going forward. The Ministry should therefore rather consider removing small companies (so-called *small caps*, defined by FTSE Russell as companies representing the smallest 10 percent of total market capitalization) in emerging markets from the benchmark index.

Small companies in emerging markets constitute about 22 percent of the number of companies in FTSE 96, but account for under 1 percent of the market value. If this segment is removed, we estimate that the total benchmark index for equities will consist of approximately 5,700 companies.[4] The largest decrease in the number of companies would be in China, followed by India and Taiwan. Aside from a reduction in the number of companies, the effects of removing small companies in emerging markets from the benchmark index would be minor, see Table 2 for a detailed overview of our analyses. The index's historical return and risk characteristics would have been minimally impacted. There would be only minor changes in the weights between different emerging markets. The share of emerging markets in the equity index would, however, decrease somewhat. If the share of emerging markets in the equity index were to be kept unchanged, the adjustment factor for emerging markets would need to be increased from 1.5 to 1.65.

A potential adjustment of the benchmark index will entail one-off costs. Such changes should be phased in over time to minimize costs. We assume that Norges Bank would be involved early in the process to develop a plan for how such a transition should be implemented. The adjustment can be implemented independently of the transition to FTSE 96.

Yours faithfully

Ida Wolden Bache | Nicolai Tangen

[4] FTSE Russell's global index is composed of a set of regional indices. Emerging markets are included in several of these regional indices. The indices are constructed so that market coverage is equal in each region. Because the size of companies varies greatly across regions, the size of the smallest companies will also vary greatly across regions. In a hypothetical global index with a single global market coverage instead of multiple regional ones, the number of companies (globally and in emerging markets) would be relatively similar to FTSE 96 without small-cap stocks in emerging markets.

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Enclosures

Table 1: Index Composition for Various Indices Based on FTSE Global All Cap
The table shows characteristics of indices with market coverage of 98%, 96%, 95%, and 94%, as well as an alternative index with 96% market coverage where small stocks in emerging markets (EM) are excluded, and a corresponding index where the adjustment factor for emerging markets is adjusted to 1.65.

	FTSE 98	FTSE 96 (Oct 2020)	FTSE 96	FTSE 95	FTSE 94	FTSE 96 ex. EMSC	FTSE 96 ex. EMSC w. EM-factor 1,65
Number of companies							
Total	9 778	6 585	7 266	6 491	5 854	5 693	5 693
Emerging markets	4 373	2 565	3 613	3 284	2 999	2 040	2 040
China	2 373	1 318	2 006	1 800	1 633	1 149	1 149
Concentration							
Effective No of stocks	195	289	187	183	180	184	186
Top 10 security weight (%)	17.2	13.6	17.6	17.8	18.0	17.8	17.7
EM exposure							
EM weight (%)	10.8	12.3	10.8	10.8	10.8	9.9	10.7
Size family exposure							
Large (%)	73.5	75.3	75.0	75.8	76.6	75.8	75.9
Mid (%)	17.0	16.3	17.3	17.5	17.6	17.5	17.4
Small (%)	9.5	8.4	7.7	6.7	5.8	6.7	6.7

Sources: FTSE and NBIM calculations as of 31 October 2024.

The table shows various modelled versions of the benchmark index for the GPFG and will not fully match the actual benchmark index. Values for FTSE 96 (Oct 2020) (highlighted) are estimated for 30 October 2020. All calculations include the new adjustment factors and exclusions according to the mandate from the Ministry of Finance. Changes in the benchmark index between rebalancing dates are not considered. The effective number of stocks is the reciprocal of the Herfindahl-Hirschman index. A more concentrated portfolio will have a lower value and vice versa. All weights are calculated using the investable market cap of securities.

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Table 2: Risk and Return Characteristics for Various Indices Based on FTSE Global All Cap

The table shows indices with market coverage of 98%, 96%, 95%, and 94%, as well as an alternative index with 96% market coverage where small stocks in emerging markets (EM) are excluded, and a corresponding index where the adjustment factor for emerging markets is adjusted to 1.65.

	FTSE 98	FTSE 96	FTSE 95	FTSE 94	FTSE 96 ex. EMSC	FTSE 96 ex. EMSC w. EM-factor 1,65
Annualised return, %	8,79	8,80	8,79	8,79	8,81	8,80
Annualised risk, %	15,76	15,69	15,67	15,64	15,67	15,68
Risk reward ratio	0,56	0,56	0,56	0,56	0,56	0,56
Max Drawdown, %	-56,1	-56,0	-56,0	-55,9	-55,8	-55,9
Value at Risk (VaR), %	-7,5	-7,5	-7,4	-7,4	-7,4	-7,4
Conditional Value at Risk (CVaR), %	-12,0	-11,9	-11,9	-11,9	-11,9	-11,9
Annualised expected relative volatility, basis points	-	14	20	25	19	16

Sources: FTSE and NBIM calculations as of 31 October 2024.

The table provides estimates for annualized return and risk for various modeled indices. The estimates will not fully correspond to the actual benchmark index. All calculations include the new adjustment factors and exclusions according to the mandate from the Ministry of Finance. Expected relative volatility (tracking error) is annualized and calculated relative to FTSE Global All Cap (98%). The calculation is based on data from 30 December 2003 to 30 October 2024.

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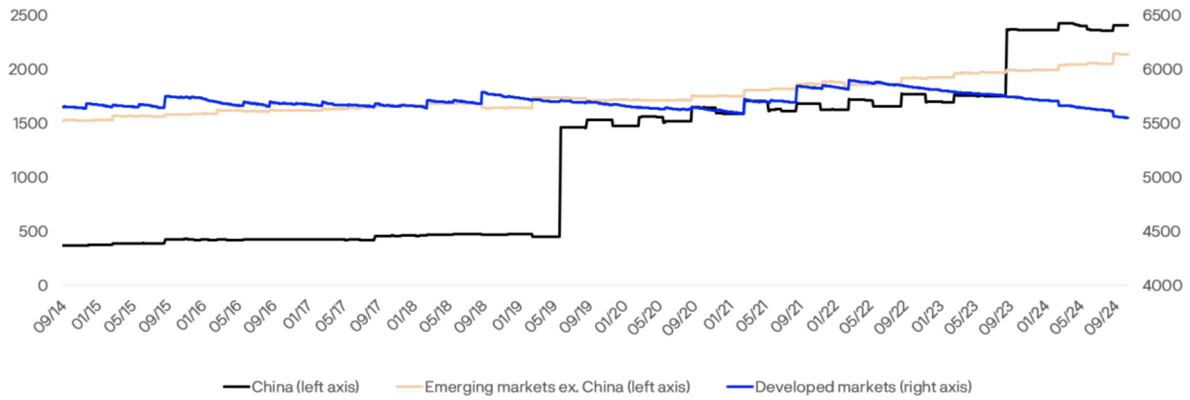
Figure 1: Development in the Number of Stocks in FTSE Global All Cap Since 2014



Sources: FTSE and NBIM.