

Global Choice Index Series overview

FTSE US All Cap Choice and FTSE Global All Cap ex US Choice Indexes

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Introduction – The Global Choice family

The FTSE Global Choice Index Series is a market-capitalization-weighted index series employing a transparent rules-based methodology. The series is designed to help investors align their investment choices with their values by applying screens in three Product categories and two Conduct categories related to how companies affect society and the environment (Exhibit 1).

Individual indexes within the FTSE Global Choice Index Series may use only a subset of the screening categories. The result is a framework that enables investors to apply robust and customizable values-based exclusions to a broad market index.

While the exclusions can have significant impact on sectors or countries heavily involved in related activity, the overall effect on index performance is minor and the Global Choice indexes behave very similarly to their underlying benchmark. This means that the Global Choice indexes are close substitutes for the underlying benchmarks in making asset allocation decisions.

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Index construction

Companies in the underlying index universes are researched annually for eligibility against the screens based on publicly reported information. The screens can be broken into five groups, which fall under the broad categories of Product and Conduct screens, as illustrated below.

Exhibit 1. Global Choice screening categories

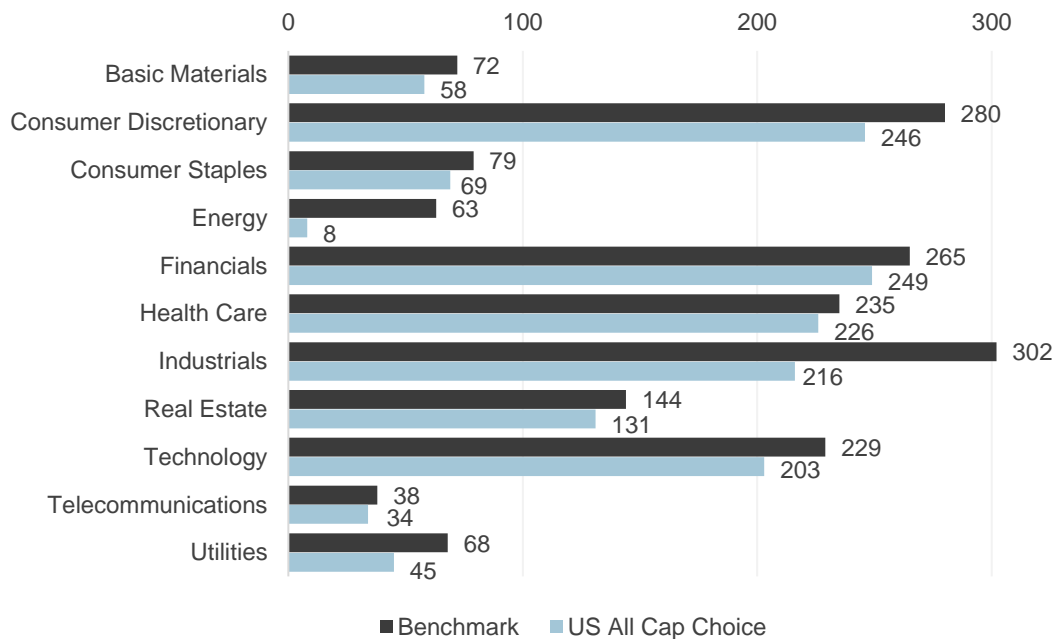
Product categories			Conduct categories	
Non-renewable Energy	Vice Products	Weapons	Controversies	Diversity
Fossil fuels Nuclear power	Adult entertainment Alcohol Gambling Tobacco	Chemical & biological weapons Cluster munitions Anti-personnel landmines Nuclear Weapons Conventional military weapons Firearms	Anti-corruption Environment Human rights Labor	Board diversity Equal opportunities practices

The indexes are reviewed quarterly (in March, June, September and December). A stock that fails any of the screens is excluded from the Global Choice Index, and the remaining stocks are market-capitalization weighted. Therefore, benchmark weightings of industries and countries engaged in the screened activities can be reduced, while those not screened can see a small increase. Notably, however, these deviations have minimal impact on the characteristics of the index, as shown in the case studies below.

Case #1: FTSE US All-Cap Choice Index

The FTSE US All Cap Choice Index uses the FTSE USA All Cap Index as the starting universe. While the screening process varies across the Global Choice series, the FTSE US All Cap Choice Index excludes stocks using the entire suite of product- and conduct-related screens. The impact of these exclusions is shown in Chart 1, which compares the number of stocks for each industry in the benchmark before (black bars) and after exclusion (blue bars) as of March 31, 2021.

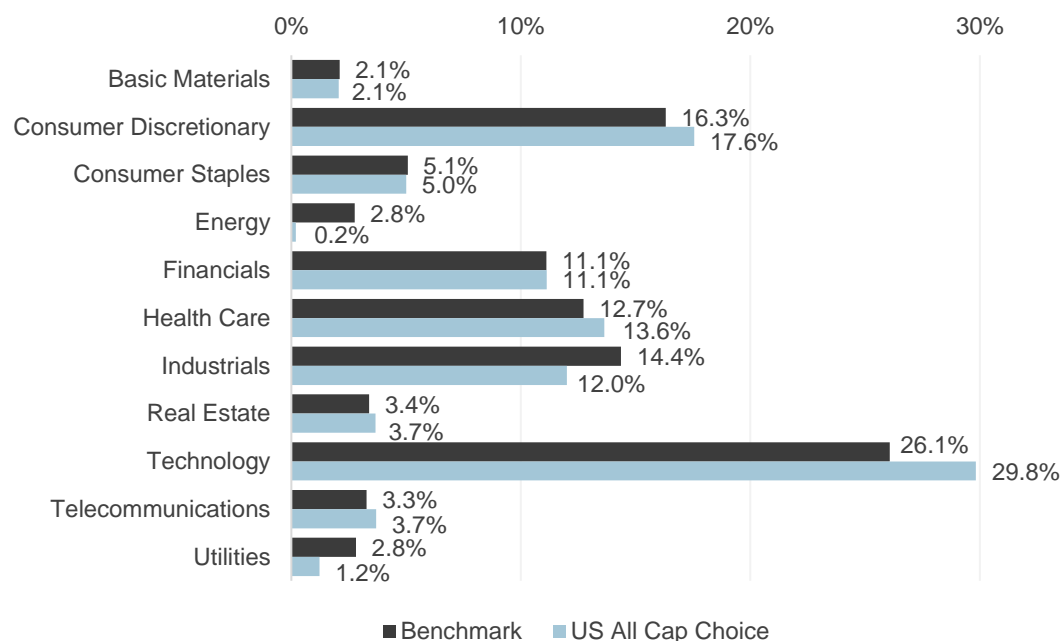
Chart 1. Number of stocks – FTSE USA All Cap benchmark vs FTSE US All Cap Choice Index



Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Chart 2 compares the benchmark weights with the final weights of the Choice index. As this indicates, industry weightings of the US Choice index were fairly similar to those of the underlying benchmark.

Chart 2. Industry weights – FTSE USA All Cap benchmark vs FTSE US All Cap Choice Index



Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

As expected, the biggest changes were in industries most closely related to the excluded products. For example, Energy went from 63 stocks to eight stocks and ended up with a weight close to zero. A look at the more granular sector classification level shows that the Oil, Gas and Coal sector was completely eliminated, while the Alternative Energy sector dropped by only one stock.

Table 1. Weights and number of stocks – Energy sectors, before and after exclusions

Sector	Weights			Stocks	
	Benchmark	FTSE US All Cap Choice	Active Weight	Benchmark	FTSE US All Cap Choice
Alternative energy	0.2%	0.2%	0.0%	9	8
Oil, gas and coal	2.6%	0.0%	-2.6%	54	0

Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

The only other sector that was eliminated was Tobacco, which is part of the Consumer Staples industry.

Performance

How have these exclusions affected performance? Over the period from April 2015 through March 2021, the US Choice index outperformed the underlying benchmark's annualized gain of roughly 13.7% by 1.40 percentage points, with comparable volatility. The tracking error over this period was 1.26%.

Table 2. Performance statistics – April 2015 to March 2021 (USD)

	Benchmark	US All Cap Choice
Average return (annualized)	13.68%	15.07%
Volatility	15.40%	15.35%
Return/Vol ratio	0.89	0.98
Excess return		1.40%
Tracking error		1.26%
Information ratio		1.11

Source: FTSE Russell. Data based on monthly returns from April 1, 2015, through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

While any deviation from the benchmark weight will generate tracking error, we are also interested in how closely the US Choice index moves with the underlying benchmark over time. As illustrated below, both correlation and beta have been very close to 1 over the past six-year period.

Table 3. Correlation and beta – April 2015 to March 2021 (USD)

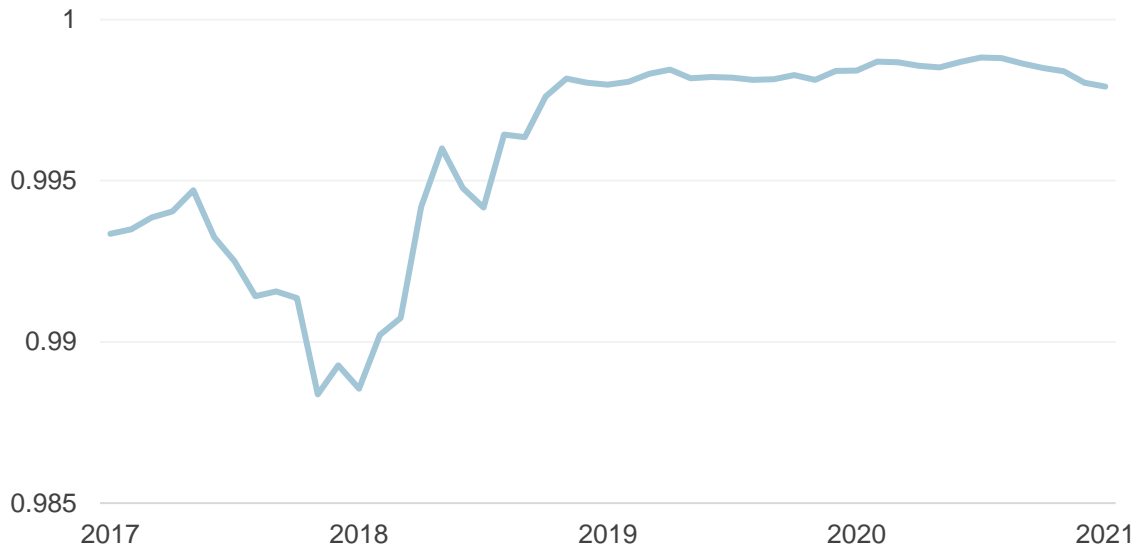
	Correlation	Beta
US All Cap Choice vs benchmark	0.997	0.994

Source: FTSE Russell. Data based on monthly returns from April 1, 2015, through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

How closely US Choice moves along with the underlying benchmark is an important issue for investors interested in using the US Choice as a substitute for the underlying benchmark. If the composition and characteristics of the two indexes differ too significantly, so may their performance patterns, which would make US Choice an unsuitable substitute.

While the correlation of 0.997 indicates close co-movement of the two indexes, it is calculated over the entire period. For a better sense of the stability of co-movement, we calculated correlations over a rolling two-year period. As shown below, the correlation briefly dipped below 0.99 earlier in the period but has stabilized around a high of around 0.998 more recently.

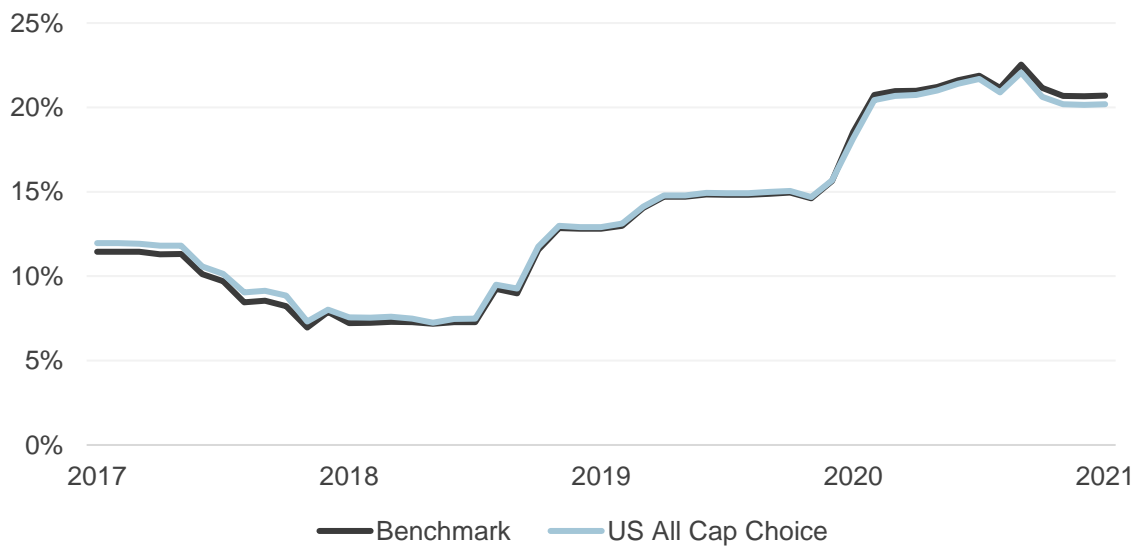
Chart 3. Correlation – FTSE US All Cap Choice Index to FTSE USA All Cap benchmark (24-month-rolling window)



Source: FTSE Russell. Data through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

The chart below plots the annualized volatility of the US Choice index and the underlying benchmark calculated over a 24-month window. As shown, the characteristics of the two indexes are similar enough that the volatility of the US Choice index has tightly matched that of the benchmark over time. Again, this suggests that the US Choice index is a close substitute for the underlying FTSE USA All Cap benchmark.

Chart 4. Annualized volatility – FTSE US All Cap Choice Index and FTSE USA All Cap benchmark (24-month-rolling window)



Source: FTSE Russell. Data through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

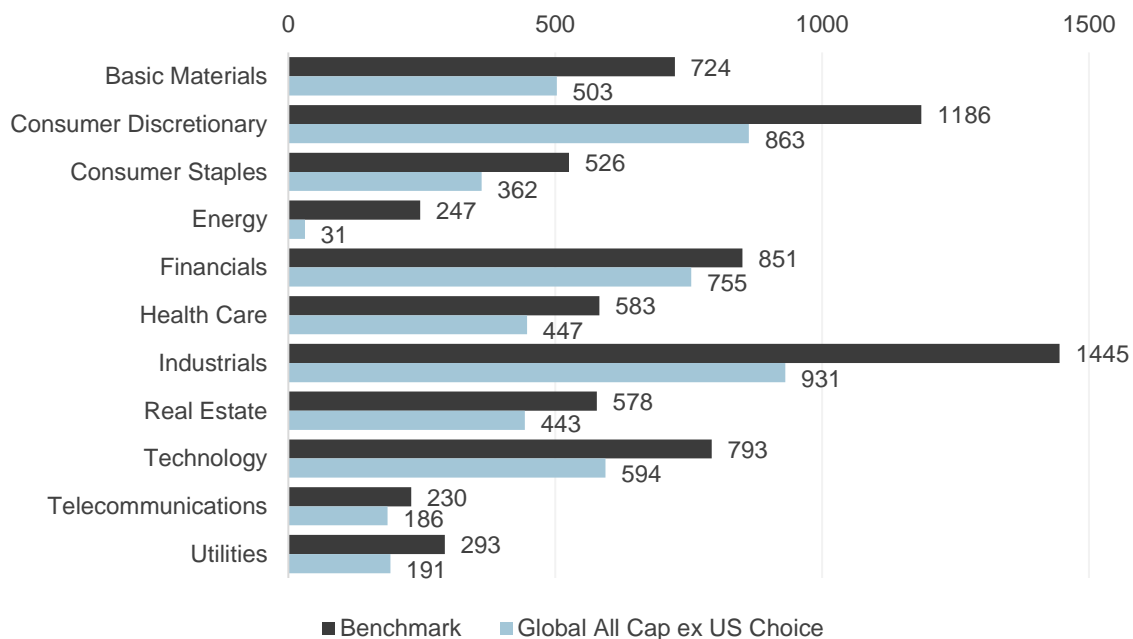
Case #2: FTSE Global All Cap ex US Choice Index

In this section, we discuss the characteristics of the FTSE Global All Cap ex US Choice Index, which introduces the complication of including stocks from many companies globally. Again, we are primarily interested in understanding how the Global Choice screening process alters index composition and performance profiles in order to understand whether the Global All Cap ex US Choice Index can serve as an appropriate substitute for the underlying benchmark.

The methodology for the Global ex US Choice Index is the same as that for the US Choice Index, and excludes stocks based on all product- and conduct-related screens. The impact of exclusions can be seen in Chart 5, which shows the number of stocks for each industry before (black bars) and after exclusion (blue bars).

One difference that jumps out between this example and the previous US study is in its much larger number of exclusions. The Global Choice process screened out 2,150 stocks from the 7,456-stock benchmark.

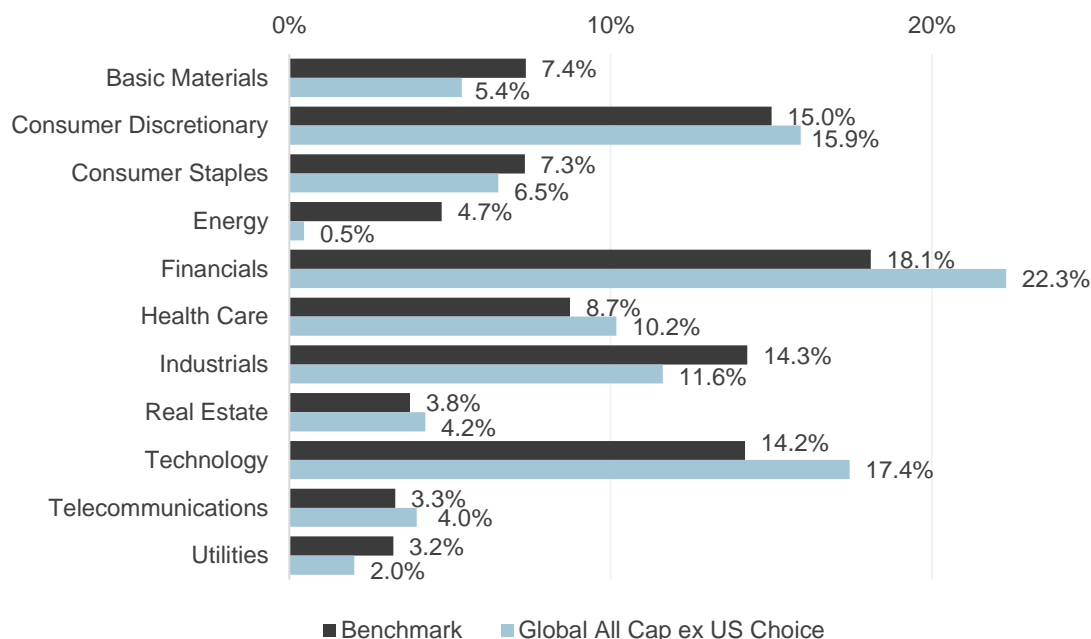
Chart 5. Number of stocks, by industry – FTSE Global All Cap ex USA benchmark vs FTSE Global All Cap ex US Choice Index



Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Chart 6 compares the benchmark with the final weights, to assess how similar Global All Cap ex US Choice is to the underlying benchmark.

Chart 6. Industry weights – FTSE Global All Cap ex USA benchmark vs FTSE Global All Cap ex US Choice Index



Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

The pattern is similar to that of the US Choice example, with the Energy industry retaining a very small weight. Again, we can attribute this change to the elimination of the Oil, Gas and Coal sector, while the Global ex US Choice index actually increased the weight in the Alternative Energy sector slightly, despite excluding a few stocks.

Table 4. Weights and number of stocks – Energy sectors, before and after exclusions

Sector	Weights			Stocks	
	Benchmark	FTSE Global All Cap ex US Choice	Active Weight	Benchmark	FTSE Global All Cap ex US Choice
Alternative energy	0.42%	0.46%	0.04%	38	31
Oil, gas and coal	4.33%	0.00%	-4.33%	209	0

Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Since this is an international index, we can also look at how the exclusions have changed its geographic distribution. As a summary, Chart 7 compares the number of stocks in each region before and after exclusions, and Chart 8 features the final regional weights. As shown, the exclusions resulted in a modest shift out of Developed Europe.

Chart 7. Number of stocks, by region – FTSE Global All Cap ex USA benchmark vs FTSE Global All Cap ex US Choice Index

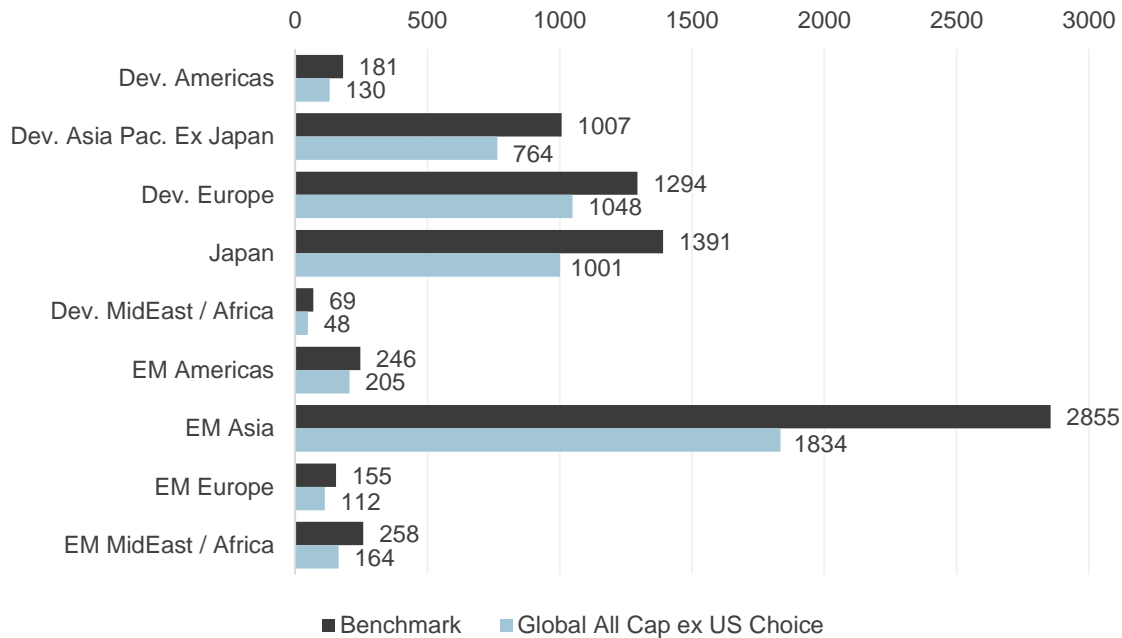
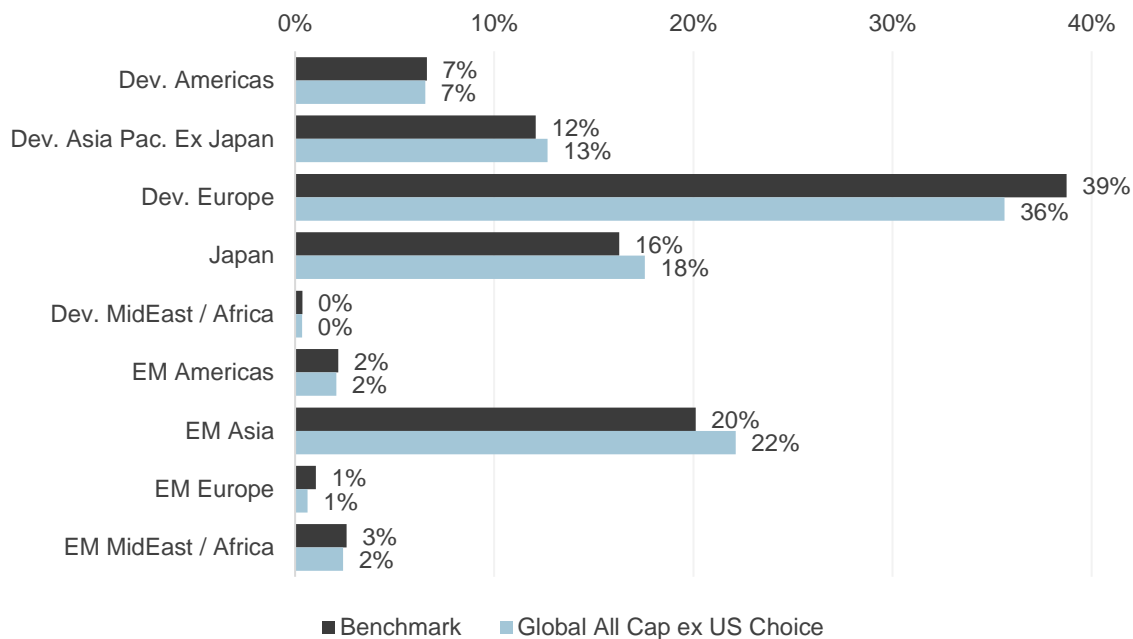


Chart 8. Regional weights – FTSE Global All Cap ex USA benchmark vs FTSE Global All Cap ex US Choice Index



Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

To add a bit more insight into these changes, the table below shows the five countries with the largest weight changes. France and the UK had the biggest reduction in weights, which contributed to the relatively large drop in exposure to Developed Europe. On the other hand, after

the weights were renormalized, Japan, Taiwan and China ended up with slightly larger weights in the Choice index.

China is an interesting case. Despite a large number of excluded stocks, the country ended up with a bigger weight in the screened Choice index. This was due to the screening out of a large number of smaller stocks. In any event, it should be noted that even these cases show relatively small country-weight deviations from the underlying benchmark.

Table 5. Weights and number of stocks – select countries, before and after exclusions

Country	Weights			Stocks	
	Benchmark	FTSE Global All Cap ex US Choice	Active Weight	Benchmark	FTSE Global All Cap ex US Choice
France	6.0%	4.4%	-1.7%	141	106
UK	9.5%	8.0%	-1.5%	292	222
Japan	16.3%	17.6%	1.3%	1391	1,001
Taiwan	4.6%	5.8%	1.2%	456	421
China	10.5%	11.5%	1.0%	1708	882

Source: FTSE Russell. Data as of March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Turning to performance, we can see that despite the exclusion of a considerable number of stocks, the performance of the indexes was quite similar. Over this period, the Global ex US Choice index outperformed the benchmark by 15 basis points annually, with a slightly lower volatility.

Table 6. Performance statistics – April 2015 to March 2021 (USD)

	Benchmark	Global All Cap ex US Choice
Average return (annualized)	7.05%	7.20%
Volatility	15.28%	14.84%
Return/Vol ratio	0.46	0.49
Excess Return		0.15%
Tracking Error		1.43%
Information Ratio		0.10

Source: FTSE Russell. Data based on monthly returns from April 1, 2015, through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

While the tracking error was a reasonably low 1.43%, we are interested in a more detailed assessment of the co-movement of the Global ex US Choice index with the underlying benchmark. Table 7 shows that the correlation is also quite high, despite having a lower beta than the US Choice Index (0.967 vs 0.994).

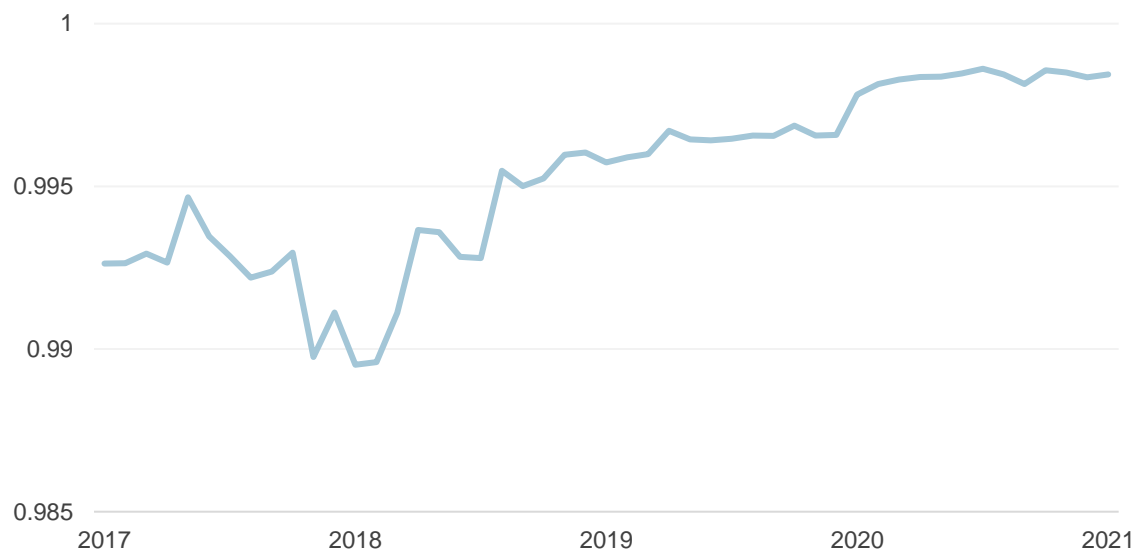
Table 7. Correlation and beta – April 2015 to March 2021 (USD)

	Correlation	Beta
FTSE Global All Cap ex US Choice vs benchmark	0.996	0.967

Source: FTSE Russell. Data based on monthly returns from April 1, 2015, through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Rolling 24-month correlations of the Global ex US Choice index follow a similar pattern as those of its US Choice counterpart, dipping briefly below 0.99 earlier in the period but stabilizing at higher levels more recently.

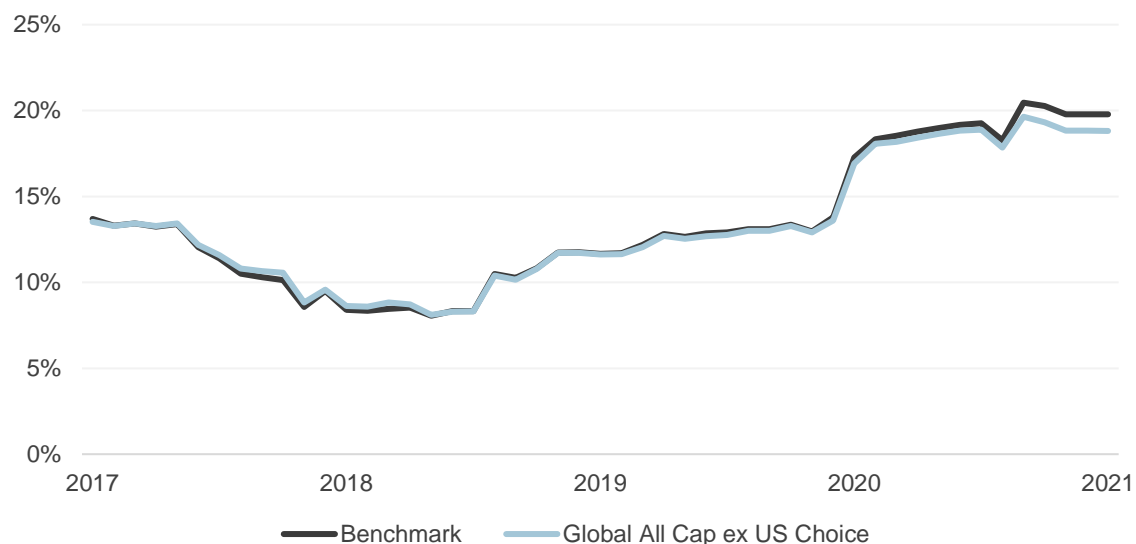
Chart 9. Correlations – FTSE Global All Cap ex US Choice Index to FTSE Global All Cap ex USA benchmark (24-month-rolling window)



Source: FTSE Russell. Data through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

The time-series of the annualized volatilities of the two global indexes shows patterns similar to the US example. As the volatility of the benchmark has moved over time, so has that of the Global ex US Choice index. The biggest divergence came at the end of the period with the outbreak of the Covid-19 crisis and the collapse in oil prices in early 2020. The exclusion of stocks closely tied to oil likely contributed to lower volatility of the Global ex US Choice index during this period.

Chart 10. Annualized volatility – FTSE Global All Cap ex US Choice Index and FTSE Global All Cap ex USA benchmark (24-month-rolling window)



Source: FTSE Russell. Data through March 31, 2021. Past performance is no guarantee of future results. Please see end for important legal disclosures.

Summary and conclusions

The Global Choice framework allows investors to align their investment choices with their values by enabling them to invest in companies that are carefully screened for product- and conduct-related issues. Once the stock universe is screened for undesirable characteristics, the index is constructed transparently using market-capitalization weights.

This document focused on the FTSE US All Cap Choice Index and the FTSE Global All Cap ex US Choice Index to illustrate the effects of the screening process. We showed that even though many stocks are screened out, the industry and country weights are similar to those of the underlying indexes, with the notable exception of the Energy industry. While the underweight to Energy likely explains much of the divergence in volatility toward the end of the six-year period examined, the overall correlations between the Global Choice indexes and their underlying benchmarks remain extremely high, with the 24-month correlations for both Choice indexes around 0.998 over the past several years.

These high correlations, even during periods of high market turbulence, offer investors the confidence that the Global Choice indexes can serve as close substitutes for their underlying benchmarks while allowing them to express their ESG values in their investment choices.

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