



Federal Retirement Thrift Investment Board

Benchmarking Study for the
Thrift Savings Plan

November 2023

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Executive Summary



Executive Summary

- The Federal Retirement Thrift Investment Board (“FRTIB”) requested that Aon Investments USA, Inc. (“Aon”) review and evaluate the appropriate indices to use for the following investment options:
 - Common Stock Index Investment Fund (C Fund)
 - Fixed Income Index Investment Fund (F Fund)
 - Small Capitalization Stock Index Investment Fund (S Fund)
 - International Stock Index Investment Fund (I Fund)
- Aon reviewed multiple indices/benchmarks for each investment option across the below characteristics
 - Construction methodology and opportunity set covered
 - Investability and liquidity of the indices
 - Acceptance of the indices by the investment community
 - Appropriateness of the indices for the TSP
 - Estimated costs associated with making a change

Aon recommends that the TSP maintain the current benchmarks for the C, S, and F Funds and consider broadening the I Fund benchmark from the MSCI EAFE Index to an index that includes coverage of Canada, international small caps, and emerging markets.

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Overview of Analysis & Recommendations



C and S Funds

Overview

- Legislation mandates that the C and S Funds complement one another and do not overlap
- Two viable stock index combinations for the TSP to consider:
 - S&P 500 Index and Dow Jones (DJ) U.S. Completion Total Stock Market Index (current structure)
 - Russell 1000 Index and Russell 2000 Index
- The current approach remains appropriate for the following reasons:
 - Provides complete coverage of U.S. stock market (100% of U.S. equity market capitalization is covered)
 - Acceptance by investors; indices are the most widely followed in terms of assets managed against
 - Availability of products from top passive providers

U.S. Equity Benchmark Implementation Comparison



C and S Funds

Recommendation

- **We recommend the Thrift Savings Plan continue to use the S&P 500 Index for the C Fund and the DJ U.S. Completion Total Stock Market Index for the S Fund**
- Recommendation based on the following:
 - The combination of the S&P 500 Index with the DJ U.S. Completion Total Stock Market Index provides complete market coverage
 - Total passive assets benchmarked to the S&P 500 and DJ U.S. Completion Total Stock Market Index are about eight times of those benchmarked to the combination of the Russell 1000 and Russell 2000 indices
 - The S&P 500 Index has high recognition value among non-investment professionals

F Fund

Overview

- We reviewed the following broad indices as alternatives for the F Fund:
 - FTSE US Broad Investment-Grade (BIG) Bond Index
 - FTSE World Broad Investment-Grade Bond Index
 - Bloomberg U.S Aggregate Index (Current Benchmark)
 - Bloomberg Global Aggregate Index
 - Bloomberg U.S. Universal Index
- We focused on the FTSE US BIG Bond Index, Bloomberg U.S Aggregate Index, and Bloomberg U.S. Universal Index as global fixed income benchmarks are exposed to a meaningful amount of volatility associated with foreign currency, which may not be appealing for investors seeking stability in returns and principal
- The Bloomberg U.S Aggregate and FTSE US BIG Bond indices provide broad exposure to U.S. dollar denominated investment grade bonds
- The Bloomberg U.S. Universal Index provides exposure to U.S. dollar denominated investment grade bonds as well as high yield, Eurodollars, and dollar-denominated emerging market debt

F Fund

Recommendation

- **We recommend the Thrift Savings Plan continue to use the Bloomberg U.S. Aggregate Index for the F Fund.**
- Recommendation based on the following:
 - Remains a widely utilized benchmark for the U.S. bond market
 - Provides broad coverage of the U.S. bond market at approximately 85%
 - Contains only investment grade bonds, which reduces correlations to equities making it a better diversifier when pairing with the C, S, and I Funds
 - Lack of foreign currency exposure eliminates a significant source of volatility for the F Fund

I Fund

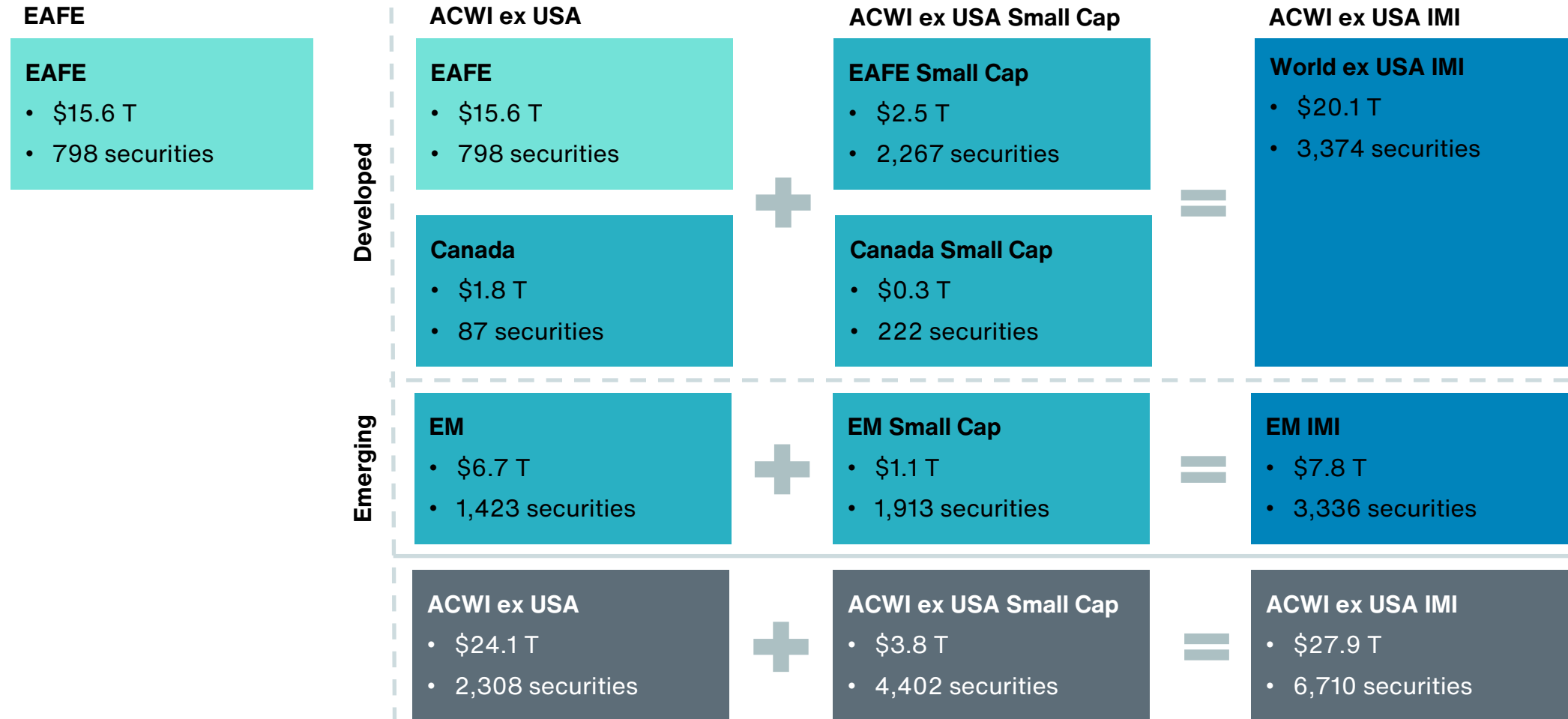
Overview

- We reviewed nine non-U.S. stock indices and identified five as potentially viable alternatives:
 - MSCI Europe, Australasia, Far East (EAFE) Index **(Current Benchmark)**
 - MSCI World ex USA Investable Market Index (IMI)
 - MSCI ACWI ex USA Investable Market Index (IMI)
 - MSCI ACWI ex USA ex China ex Hong Kong Index
 - MSCI ACWI IMI ex USA ex China ex Hong Kong Index
- These benchmarks were selected with the goal of expanding the international equity opportunity set to include Canadian, emerging markets, and small cap stocks

	MSCI EAFE Index	MSCI World ex USA IMI	MSCI ACWI ex USA IMI	MSCI ACWI ex USA ex China ex Hong Kong Index	MSCI ACWI IMI ex USA ex China ex Hong Kong Index
Market Cap Coverage	Large and mid cap stocks	Large, mid, and small cap stocks	Large, mid, and small cap stocks	Large and mid cap stocks	Large, mid, and small cap stocks
Regional Coverage (DM = Developed Market Countries EM = Emerging Market Countries)	DM, excluding the U.S. and Canada	DM, excluding the U.S.	DM & EM, excluding the U.S.	DM & EM, excluding the U.S., China, and Hong Kong	DM & EM, excluding the U.S., China, and Hong Kong
Country Coverage (DM = Developed Market Countries EM = Emerging Market Countries)	21 DM	22 DM (includes Canada)	22 DM 24 EM	21 DM 23 EM	21 DM 23 EM
Coverage of non-U.S. equity markets	55%	71%	99%	77%	90%
# of securities	798	3,374	6,710	1,518	5,621

MSCI Investable Market Indices

As of June 30, 2023



I Fund

Recommendation

Consider broadening the opportunity set of the I Fund by replacing the MSCI EAFE Index with an index that includes coverage of Canada, international small caps, and emerging markets.

- The MSCI indices remain the most popular indices for U.S. based institutional investors investing in overseas equity markets
- The transition costs associated with the change in the I Fund benchmark are reasonable
- Market Exposure:
 - Canada is the fourth-largest equity market in the world, representing 7.5% of the developed non-U.S. equity opportunity set.
 - Emerging Markets represents 27.8% of the international non-U.S. equity investable universe
 - International small cap equities represent 13.7% of the international non-U.S. equity investable universe
- Liquidity:
 - We believe the inclusion of emerging markets and international small cap equities in the I Fund would not hinder the ability to meet the TSP's daily liquidity needs
 - Overall, liquidity is managed through the use of the I Fund's cash buffer and other tools such as optimization and derivatives
 - Additionally, historical daily cash flow assessment scaled to 28% illustrates cash flow activity was at reasonable levels to be traded in emerging markets without adversely impacting the prices of securities
- Securities Lending:
 - The MSCI ACWI ex USA IMI and the MSCI ACWI IMI ex USA ex China ex Hong Kong Index generated the highest yield and percentage out on loan
 - Across each of the last three calendar years, the income to the TSP is estimated to have been at least 1.9x more if the I Fund tracked MSCI ACWI ex USA IMI or MSCI ACWI IMI ex USA ex China ex Hong Kong Index instead of the MSCI EAFE Index

I Fund

Recommendation

- Administrative and Other Operational Complexities:
 - Overall, operational complexity has increased when investing in emerging markets in recent years given a range of events such as investment restrictions on sensitive Chinese technology sectors, delisting of Chinese companies, and sanctions on Russian securities due to the Russia-Ukraine conflict.
 - These types of events can incur transaction costs and may cause performance and volatility swings. Given the asset size of the I Fund, the forced selling of restricted investments could incur higher than average market impact costs due to liquidity challenges.
 - If the current investment restrictions on China are the beginning of further restrictions spanning China and Hong Kong investments, this level of uncertainty can outweigh the benefits of expanding the I Fund to include China and retaining exposure to Hong Kong, based on the TSP's specific circumstances.
- **Conclusion**
 - Expanding the opportunity set of the I Fund to the MSCI ACWI IMI ex USA ex China ex Hong Kong Index would be viewed as a more efficient portfolio than the MSCI EAFE Index, benefiting from its broader opportunity set across the number of securities, market cap, and countries.
 - The index has performed favorably over the short- and long-term periods relative to the MSCI EAFE Index with favorable risk-adjusted returns over-the long-term.
 - The market cap coverage increases from 55% to 90% by replacing the MSCI EAFE Index with the MSCI ACWI IMI ex USA ex China ex Hong Kong Index.
 - **We recommend the TSP broaden the opportunity set of the I Fund by replacing the MSCI EAFE Index with the MSCI ACWI IMI ex USA ex China ex Hong Kong Index, taking into consideration the TSP's unique circumstances. We recommend future reviews reassess the TSP's unique circumstances to determine whether further expansion of the benchmark is warranted, considering how administrative and operational complexities evolve over time.**

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