MSCI

Q4 2024 Fixed Income Index Consultation

Proposal for consultation

November 2024

Consultation Topics

MSCI

Timeline

- MSCI presents a consultation on potential enhancement to the standard –
  - MSCI Corporate Bond Index Methodology
  - MSCI Government Bond Index Methodology
  - MSCI Fixed Income Climate Paris Aligned Index Methodology
  - MSCI Fixed Income ESG & Climate Index Methodologies

- MSCI invites feedback from market participants regarding the proposed changes **by December 16, 2024**, and will announce the consultation results and any associated implementation timeline (if any) before the end of **January, 2025**.

MSCI ✦

Integration of Fitch Credit Rating in the MSCI's suite of Corporate and Government Bond Indexes

This consultation may or may not lead to the implementation of any or all of the proposed changes in the highlighted or any other MSCI indexes. Consultation feedback will remain confidential. MSCI may publicly disclose feedback if specifically requested by specific market participants. In that case, the relevant feedback would be published together with the final result of the consultation.

PROPOSAL FOR CONSULTATION

Proposal Summary

The objective of this proposal is to integrate Fitch Credit Ratings data in the construction of MSCI Corporate Bond Indexes and MSCI Government Bond Indexes.

Integrate Fitch Credit Ratings

- Currently, MSCI Corporate and Government Bond Indexes use lower of Moody's and S&P Credit Ratings to determine index eligibility.

- We are proposing integrating Fitch Credit Rating along side Moody's and S&P to determine index eligibility and respective distinctions.

- **This integration will result in increased turnover as issuers transition between the Investment Grade (IG) and High Yield (HY) indexes.**

MSCI

Methodology to Integrate Fitch Ratings

Transition from Two to Three Rating Agencies & Adoption of Median Rating Approach

Credit Rating Methodology

Current Method

Credit rating agencies:

- S&P
- Moody

Calculation method:

The credit rating for a bond in the suite of indexes is determined by taking the **lower** of the two ratings* provided by S&P and Moody's.

Proposed Method

Credit rating agencies:

- S&P
- Moody
- Fitch

Calculation method:

Proposal is to define the credit rating by taking the **median** of the ratings provided by S&P, Moody's, and Fitch.

In case a rating is missing from any one agency, we will use the **lower** of the two available ratings*

Transition of issuers between Rating Buckets

Example: Charter communications

For bonds of Charter Communications, the credit ratings from the three agencies are as follows:
- S&P rates the bond as Investment Grade (**BBB-**)
- Moody's rates it as High Yield (**Ba1**)
- Fitch rates it as Investment Grade (**BBB-**).

Previous Method: The final rating was the lower of the two ratings from S&P and Moody's. Hence, the classifying the bond as High Yield (HY).

Updated Method: With the new approach using the median of all three ratings, the ratings are sorted as **BBB-**, **BBB-**, and **Ba1**. The median rating is **BBB-**, which reclassifies the bond to Investment Grade (IG).

Result: The change in methodology leads to Chartered Communications moving from the High Yield Index to the Investment Grade Index

*In case credit rating is available from only one rating provider for a bond, then only that is used to determine index eligibility.

MSCI

Simulated Impact of integrating Fitch Ratings

MSCI USD IG CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	209	44	2.61

Deletions
No deletions attributed to these changes.

	Top Additions				
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Charter Communications	High Yield	Investment Grade	0.50%	28
	Ford Motor	High Yield	Investment Grade	0.40%	24
	Occidental Petroleum Corp	High Yield	Investment Grade	0.24%	19

MSCI

MSCI USD HY CORPORATE BOND INDEX

Additions			
	Number of Bonds	Number of Issuers	Weight Impact (%)
Introduction of Fitch Ratings	7	6	0.18

Deletions			
	Number of Bonds	Number of Issuers	Weight Impact (%)
Introduction of Fitch Ratings	249	47	14.26

Top Additions					
	Issuer Name	Prev. Rating	Final Rating	Weight	# bonds
Introduction of Fitch Ratings	Ardagh Packaging Finance	No Rating	High Yield	0.08%	2
	Frontier Florida	No Rating	High Yield	0.02%	1
	South Jersey Industries	No Rating	High Yield	0.02%	1

Top Deletions					
	Issuer Name	Prev. Rating	Final Rating	Weight	# bonds
Introduction of Fitch Ratings	Ford Motor	High Yield	Investment Grade	2.20%	26
	Charter Communications	High Yield	Investment Grade	1.61%	28
	Occidental Petroleum	High Yield	Investment Grade	1.39%	28

MSCI

MSCI EUR IG CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	51	23	1.15

Deletions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	10	4	0.18

Top Additions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Ford Motor	High Yield	Investment Grade	0.17%	5
	Banco BPM	High Yield	Investment Grade	0.11%	4
	Caisse Nationale De Reassurance Mutuelle Agricole	No Rating	Investment Grade	0.08%	4
	TDF Infrastructure	No Rating	Investment Grade	0.08%	3
	EQT AB	No Rating	Investment Grade	0.07%	3
	Telefonaktiebolaget LM Ericsson	High Yield	Investment Grade	0.07%	3

Top Deletions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Holding D'Infrastructures Des Metiers De L'Environnement	Investment Grade	High Yield	0.05%	3
	BPER Banca	Investment Grade	High Yield	0.04%	2
	Piraeus Bank	Investment Grade	High Yield	0.04%	2

MSCI

MSCI EUR HY CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	20	11	2.54

Deletions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	28	10	5.83

Top Additions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Unicaja Banco (Subordinated Debt)	No Rating	High Yield	0.49%	4
	BPER Banca	Investment Grade	High Yield	0.37%	2
	Piraeus Bank	Investment Grade	High Yield	0.36%	2
	Banca ILFIS	Investment Grade	High Yield	0.36%	3
	Holding D'Infrastructures Des Metiers De L'Environnement	Investment Grade	High Yield	0.24%	2

Top Deletions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Ford Motor	High Yield	Investment Grade	2.08%	8
	Banco BPM	High Yield	Investment Grade	0.86%	4
	Telefonaktiebolaget Lm Ericsson	High Yield	Investment Grade	0.54%	3

MSCI

MSCI GBP IG CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	30	18	2.74

Deletions
No deletions attributed to these changes.

	Top Additions				
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Phoenix Group Holdings	No Rating	Investment Grade	0.45%	4
	Segro	No Rating	Investment Grade	0.33%	4
	Time Warner Cable	High Yield	Investment Grade	0.32%	2
	Rolls-Royce Plc	High Yield	Investment Grade	0.26%	2
	Ford Motor	High Yield	Investment Grade	0.25%	2

MSCI

MSCI GBP HY CORPORATE BOND INDEX

Additions			
	Number of Bonds	Number of Issuers	Weight Impact (%)
Introduction of Fitch Ratings	4	3	2.92

Deletions			
	Number of Bonds	Number of Issuers	Weight Impact (%)
Introduction of Fitch Ratings	7	4	9.08

Top Additions					
	Issuer Name	Prev. Rating	Final Rating	Weight	# bonds
Introduction of Fitch Ratings	Metro Bank Holdings Plc	No Rating	High Yield	1.78%	2
	Ardagh Packaging Finance Plc	Default	High Yield	0.64%	1
	Vanquis Banking Group Plc	No Rating	High Yield	0.51%	1

Top Deletions					
	Issuer Name	Prev. Rating	Final Rating	Weight	# bonds
Introduction of Fitch Ratings	Time Warner Cable	High Yield	Investment Grade	3.17%	2
	Rolls-Royce Plc	High Yield	Investment Grade	2.57%	2
	Ford Motor	High Yield	Investment Grade	2.44%	2

MSCI

MSCI CAD IG CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	45	7	4.98

Deletions
No deletions attributed to these changes.

Top Additions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Cu Inc	No Rating	Investment Grade	1.92%	25
	Enbridge Inc	High Yield	Investment Grade	1.05%	5
	Inter Pipeline (Senior Debt)	No Rating	Investment Grade	0.92%	6
	Transcanada	High Yield	Investment Grade	0.47%	2
	Ford	High Yield	Investment Grade	0.37%	3

MSCI

MSCI CAD HY CORPORATE BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	1	1	4.41

Deletions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	10	3	30.70

Top Additions					
		Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Inter Pipeline Ltd (Subordinated Debt)	No Rating	High Yield	4.41%	1

Top Deletions					
	Issuer Name	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Enbridge Inc	High Yield	Investment Grade	17.00%	5
	TransCanada	High Yield	Investment Grade	7.66%	2
	Ford	High Yield	Investment Grade	6.04%	3

MSCI

MSCI EUROZONE GOVERNMENT BOND INDEX

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	17	1	1.03

Deletions
No deletions attributed to these changes.

17 bonds of Greece will be added to the MSCI Government Bond Indexes:

Greece is rated as follows by all three agencies –

- S&P rates the bond as Investment Grade (**BBB-)**
- Moody's rates it as High Yield (**Ba1**)
- Fitch rates it as Investment Grade (**BBB-).**

Therefore, as per proposed methodology the median rating for Greece Government Bonds is now Investment Grade (IG)

MSCI

MSCI DEVELOPED MARKET GOVERNMENT BOND INDEX (MGBI – DM)

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	17	1	0.26

Deletions
No deletions attributed to these changes.

17 bonds of Greece will be added to the MSCI Government Bond Indexes:

Greece is rated as follows by all three agencies –

- S&P rates the bond as Investment Grade (**BBB-**)
- Moody's rates it as High Yield (**Ba1**)
- Fitch rates it as Investment Grade (**BBB-**).

Therefore, as per proposed methodology the median rating for Greece Government Bonds is now Investment Grade (IG)

MSCI

MSCI EM Sovereign Bond Index (MESBI)

Additions			
	Number of Bonds	**Number of Issuers**	**Weight Impact (%)**
Introduction of Fitch Ratings	24	19	1.32

Top Additions						
	Issuer Name	**Ticker**	**Country**	**Prev. Rating**	**Final Rating**	**Weight**	**# bonds**
Introduction of Fitch Ratings	Bapco Energies	BAPCE	Bahrain	No Rating	High Yield	0.14%	2
	Nogaholding Sukuk Ltd	NOGHD	Bahrain	No Rating	High Yield	0.12%	2
	Chinalco Capital Holdings	ALMCO	China	No Rating	Investment Grade	0.12%	2
	Turkiye Ihracat Kredi Bankasi As	TURIH	Turkey	No Rating	High Yield	0.09%	2
	Taizhou Urban Construction And Investment Development Group Co Ltd	TZGOB	China	No Rating	Investment Grade	0.09%	2

Deletions
No deletions attributed to these changes.

MSCI

Consultation Questions

- **Are there any concerns integrating ratings from Fitch alongside S&P and Moody's in construction of our MSCI Corporate Bond Indexes and MSCI Government Bond Indexes?**

- **If yes, when should the changes be made within the MSCI Corporate Bond Indexes or MSCI Government Bond Indexes:**
  - January 2025, February 2025 or March 2025 month-end rebalancing.

- **If yes, should the respective rebalancing occur in a phased manner? Please select from the listed timeframes.**
  - No phase-in
  - 3 months
  - 6 months

MSCI

Freezing ESG & Climate Data in the rebalancing of MSCI Fixed Income ESG & Climate Indexes

This consultation may or may not lead to the implementation of any or all of the proposed changes in the highlighted or any other MSCI indexes. Consultation feedback will remain confidential. MSCI may publicly disclose feedback if specifically requested by specific market participants. In that case, the relevant feedback would be published together with the final result of the consultation.

PROPOSAL FOR CONSULTATION

Freezing ESG & Climate Data for Index Rebalancing

- As ESG and Climate data points gradually evolve, MSCI proposes to freeze ESG and Climate data as of the previous month-end date. This rebalancing process is designed to enhance the stability of the forward index universe for all standard MSCI Fixed Income ESG & Climate Indexes.

- The proposal is applicable for all ESG & Climate datapoints <u>with the exception of MSCI Controversy indicators.</u>

- This proposal to freeze ESG & Climate data applies for issuers currently included in the respective underlying market-value weighted benchmarks. For debut issuers, the index will use the data currently available.

- Example:
  - *Rebalancing of an ESG Corporate Bond Index as of 29th November 2024 would use ESG data as of 31st October 2024.*
  - *Forward Index Universe for the ESG Corporate Bond Index would consistently use ESG data as of 31st October on a daily basis and therefore we will not see any changes in forward universe emanating from subsequent ESG data changes (<u>except for changes in controversy flags</u>).*
  - *In case of a debut issuer, the issuer will be included in the ESG Corporate Bond Index using the latest available ESG and Climate data for that month.*
  - *Any ESG data changes **after 31st October 2024** will be accounted for in 2024 December month end rebalancing.*

- MSCI will announce implementation timeline on this proposal with the results of this consultation. Please let us know in case you have any concerns with this proposal.

MSCI

Potential Enhancements of the MSCI Fixed Income Paris Aligned Indexes Methodology

This consultation may or may not lead to the implementation of any or all of the proposed changes in the highlighted or any other MSCI indexes. Consultation feedback will remain confidential. MSCI may publicly disclose feedback if specifically requested by specific market participants. In that case, the relevant feedback would be published together with the final result of the consultation.

PROPOSAL FOR CONSULTATION

Background

- This consultation presents proposals for potential enhancements to the methodology of the MSCI Fixed Income Paris Aligned Indexes.

- The consultation is designed to facilitate:

  - Feedback on the application of specific climate metrics within the methodology of the MSCI Fixed Income Climate Paris Aligned Indexes. It includes a discussion on the Aggregate Climate Value at Risk (VaR) and the introduction of Science Based Targets (SBTI).

  - Additionally, the consultation addresses the inclusion of further exclusions, specifically Nuclear Weapons and Civilian Firearms. It also delves into the treatment of missing values used in the calculation of absolute Scope 1+2+3 GHG Emissions.

MSCI

Consolidated Methodology Proposal

Criteria	Current Methodology	Proposal
Exclusions	1. Controversial Weapons 2. Issuers with Red Flag Controversies and missing Controversy Scores 3. PAB Activity – Thermal Coal mining, Oil & Gas, Power Generation 4. Ex-Tobacco Involvement 5. Do No Significant Harm (DNSH)	**Addition: (Proposal 1)** Inclusion of Nuclear Weapons and Civilian Firearms based screening
Climate VaR Constraints*	**1.Aggregate Climate VaR ≥ Max(0, Aggregate Climate VaR of Parent Index)** 2.At least 50% reduction in Extreme Weather Climate VaR relative to Parent Index	**Modification: (Proposal 2)** Aggregate Climate VaR ≥ Max(-5, Aggregate Climate VaR of Parent Index)
Decarbonization and other Climate Constraints	1.Relative decarbonization** of at least 50% relative to Parent Index **(missing value treatment based on average within corresponding GICS Industry Group)** 2.Self-decarbonization** of at least 10% per year since latest base date 3.Potential emission is at least 50% lower relative to Parent Index **4.20% higher weight to 'Companies Setting Targets' (w.r.t to Parent Index)** 5.LCT Score is 5% higher relative to Parent Index 6.Green revenue ≥ 2x of Parent Index 7.Green/Fossil Fuel-based revenue ratio ≥ 4x of Parent Index	**1.Modification: (Proposal 3)** Missing value treatment will be based on average of top quartile (highest emitters) within corresponding GICS Industry Group. **2.Modification: (Proposal 4)** 20% higher weight to 'Companies Setting Targets' (w.r.t to **Screened Parent*****). The criteria to identify 'Companies Setting Targets' will include companies with approved Science Based Targets.
Investability Constraints	1. Turnover Constraint (4% per rebalance) 2. Max(Parent Index Wt.- 2%,0) ≤ Security Wt. ≤ min(Parent Index Wt. + 2%, 10*Parent Index Wt.) 3. Index sector exposure : +/- 5% relative to Parent Index 4. Index country exposure : +/- 5% relative to Parent Index 5. Index effective duration : +/- 0.25 relative to Parent Index (soft constraint) 6. Index credit rating **** : +/- 0.25 relative to Parent Index (soft constraint) 7. Issuer capping constraint (3%)*****	

* Applicable to MSCI USD IG Core and MSCI EUR IG Climate Paris Aligned Corporate Bond Indexes only. The MSCI Fixed Income Climate Paris Aligned Indexes based on USD HY, EUR HY, GBP IG and CAD IG Corporate Bond Indexes do not include this constraint.
** Based on absolute GHG Emissions as a measure of carbon footprint for fixed income indexes, as allowed by EU Delegated Act.
*** Screened Parent represents the investable universe derived from the Parent Index after applying the exclusions defined in the methodology.
**** Based on credit rating scale defined in Appendix Section 4.2 of MSCI Fixed Income Index Calculation Methodology.
***** Issuer capping is applied at 4% in MSCI CAD IG Climate Paris Aligned Corporate Bond Index .

MSCI

Proposal 1: High-level Impact

No.	Proposal	Rationale	Impact
Proposal 1	▪ Exclude companies involved in Nuclear Weapons and Civilian Firearms*.	▪ Numerous managers have expressed concerns regarding these particular business involvement screens. Furthermore, the incorporation of Nuclear Weapons and Civilian Firearms could restrict the type of investor who may not be capable of utilizing a customized solution.	▪ Such exclusions would have exhibited minimal impact on the index characteristics of the MSCI Fixed Income Climate Paris Aligned Indexes.

Proposal 1: Impact on Total Exclusions

Criteria (Count of Issuers)	USD IG Core		EUR IG		USD HY		EUR HY	
	Before	After	Before	After	Before	After	Before	After
Controversial Weapon	6	6	0	0	0	0	0	0
ESG Controversy	14	14	37	37	256	256	107	107
Tobacco	9	9	13	13	4	4	1	1
Environment Harm	18	18	33	33	4	4	2	2
Thermal Coal mining	2	2	2	2	3	3	0	0
Oil and Gas	91	91	53	53	105	105	9	9
Power Generation	6	6	2	2	4	4	1	1
Nuclear Weapon	0	10	0	7	0	4	0	0
Civilian Firearms	0	0	0	0	0	3	0	0
Total Exclusions	137	141	128	135	366	371	117	117

Criteria (Weight)	USD IG Core		EUR IG		USD HY		EUR HY	
	Before	After	Before	After	Before	After	Before	After
Controversial Weapon	1.32%	1.32%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ESG Controversy	0.40%	0.40%	1.23%	1.23%	16.80%	16.80%	18.9%	18.9%
Tobacco	1.57%	1.57%	0.94%	0.94%	0.34%	0.34%	0.61%	0.61%
Environment Harm	4.35%	4.35%	7.35%	7.35%	0.23%	0.23%	1.55%	1.55%
Thermal Coal mining	0.31%	0.31%	0.18%	0.18%	0.07%	0.07%	0.0%	0.0%
Oil and Gas	10.25%	10.25%	6.16%	6.16%	11.61%	11.61%	2.19%	2.19%
Power Generation	0.55%	0.55%	0.06%	0.06%	0.54%	0.54%	0.22%	0.22%
Nuclear Weapon	0.0%	2.50%	0.0%	0.69%	0.0%	0.27%	0.0%	0.0%
Civilian Firearms	0.0%	0.0%	0.0%	0.0%	0.0%	0.18%	0.0%	0.0%
Total Exclusions	16.05%	17.00%	14.22%	15.03%	28.80%	29.81%	22.33%	22.33%

- The tables illustrate the influence of each exclusion criterion when applied individually to the corresponding Parent Indexes.

- In the case of USD IG Core, the cumulative effect of each criterion results in 156 issuers in the proposed approach (After). However, the total exclusions are fewer, at 141, due to the intersection of issuers within each criterion.

- The current methodology of the MSCI Fixed Income Climate Paris Aligned Indexes does not exclude issuers involved in Nuclear Weapons or Civilian Firearms.

- Implementing such an exclusion would not have significantly altered the exclusion profile, as evidenced by the tables.

- For instance, in USD IG Core, 10 issuers are identified as being involved in Nuclear Weapons or Civilian Firearms. However, due to overlap with other exclusions, the total number of additional exclusions **increased by only 4 issuers** (from 137 to 141, or approximately a 1% increase based on weight).

Proposal : To exclude companies involved in Nuclear Weapons and Civilian Firearms from the parent index.

Proposal 1: The proposed exclusion would have no impact on the risk profile of the benchmarks

	USD IG CORE			EUR IG			USD HY			EUR HY		
	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed
CHARACTERTICS												
Number of Constituents	3949	3089	3061	3491	2838	2817	2086	1399	1399	612	413	403
Number of Issuers	594	447	441	761	615	607	980	612	612	332	204	199
Active Share	0.0	23.5	23.71	0.0	22.13	22.42	0.0	33.33	34.00	0.0	34.63	35.36
Yield to Worst	5.19	5.16	5.16	3.41	3.44	3.44	7.37	7.54	7.54	5.65	5.75	5.72
Duration	6.49	6.42	6.41	4.51	4.45	3.35	3.26	3.37	3.37	2.68	2.69	2.69
Max Issuer Weight	3.13	2.87	2.9	2.15	2.16	2.17	2.26	2.15	2.15	0.76	2.18	2.23
Turnover (One-Way)*	1.14	4.00	4.00	1.89	4.00	4.00	3.75	4.00	4.00	2.18	4.24	4.34
Turnover (One-Way)**	1.59	4.00	4.00	1.48	4.00	4.00	1.88	2.59	3.01	4.77	6.25	5.61
Convexity	0.88	0.87	0.87	0.33	0.32	0.32	-0.06	-0.04	-0.04	-0.07	-0.05	-0.05
Credit Rating	A-	A-	A-	A-	A-	A-	B+	B+	B+	BB-	BB-	BB-
ESG METRICS												
Carbon emissions (Scope 1+2+3) (in mn t CO2e)	55.91	22.14	22.14	48.74	15.40	15.40	19.74	6.08	6.08	17.27	5.98	5.98
Low carbon transition score	5.78	6.27	6.28	5.74	6.16	6.16	4.31	5.73	5.77	4.38	5.43	5.48
Green/FF-based revenue ratio	0.86	24.66	24.02	2.53	573.1	571.77	0.45	20.63	20.6	4.40	482.21	480.42

- **Parent:** Respective Parent Index constituents. **Current:** Respective existing MSCI Fixed Income Climate Paris Aligned Index. constituents
- **Proposed:** Constituents based on existing MSCI Fixed Income Climate Paris Aligned Indexes methodology modified with the specific proposed enhancement.
- Impact analysis is based on a hypothetical transition from existing methodology to proposed methodology. Turnover is additionally assessed at the subsequent rebalance after transition.
- * As of Hypothetical Transition Date T; ** As of Hypothetical Subsequent Rebalance Date T+1month .

MSCI

Proposals 2: High-level Impact

No.	Proposal	Rationale	Impact
Proposal 2	Relax the Aggregate Climate Value-At-Risk (VaR) constraint. **Existing implementation:** Aggregate Climate VaR of resulting index >= Max(0, Aggregate Climate VaR of Parent Index). **Relaxed implementation:** Aggregate Climate VaR of resulting index >= Max(-5, Aggregate Climate VaR of Parent Index).	▪ The Aggregated Climate Value at Risk (VaR) constraint, a component of the Paris-aligned indexes, often necessitates internal committee approval due to potential implementation challenges. ▪ The Aggregated Climate VaR quantifies financial risk under specific climate scenarios within a given time. It is embedded in the Paris-aligned indexes to align the portfolio with the Paris Agreement's goals. However, its implementation can be infeasible, requiring a committee's assessment of feasibility and impact.	▪ Relaxing the constraint would lead to similar characteristics as the existing approach, but with a significantly improved weighted average Aggregate Climate VaR compared to the Parent Index.

Proposal 2: Impact on Aggregate Climate VAR

- The Aggregate Climate VaR constraint is currently included only in the USD IG Core and EUR IG Climate Paris Aligned Corporate Bond Indexes.

- The existing implementation necessitates that the Aggregate Climate VaR of the resulting index be greater than or equal to the maximum of 0 or the Aggregate Climate VaR of the Parent Index.

- However, meeting this constraint has become unfeasible in recent times. As a result, this constraint had to be relaxed in the USD IG Core and EUR IG Climate Paris Aligned Corporate Bond Indexes since May 2023 to achieve a feasible outcome.

- In both the USD IG Core and EUR IG, Proposal 2 significantly improved the Aggregate Climate VaR compared to their respective Parent indexes, as represented in blue in the exhibits.

- Moreover, despite the relaxation of this constraint since May 2023, the Aggregate Climate VaR of the existing USD IG Core and EUR IG Climate Paris Aligned Corporate Bond Indexes, represented in yellow in the exhibits, were significantly better than that of the Parent Index.

- **Proposal 2:** Relax the Aggregate Climate VaR Constraint such that:
Aggregate Climate VaR of resulting index >= Max(-5, Aggregate Climate VaR of Parent Index)
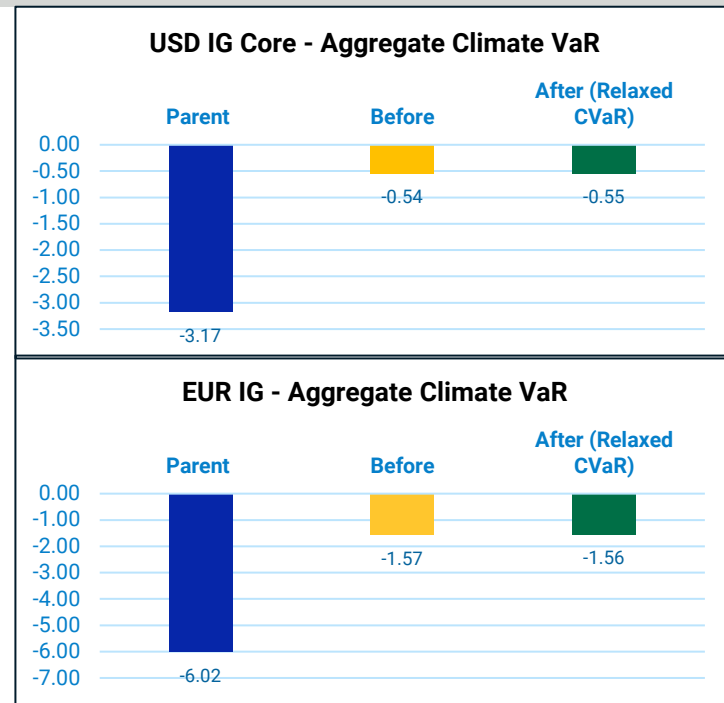
USD IG Core - Aggregate Climate VaR

EUR IG - Aggregate Climate VaR

- Impact analysis is based on a hypothetical transition from existing methodology to proposed methodology
- * The constraint was relaxed such that the Aggregate Climate VaR of the resulting index was >= Aggregate Climate VaR of the Parent Index.
- ** Represented in green in the Exhibits.

MSCI

Proposal 2: If agreed upon, three issuers would be removed from the EUR IG Paris Aligned index

	USD IG CORE			EUR IG		
	Parent	Current	Proposal 2	Parent	Current	Proposal 2
CHARACTERTICS						
Number of Constituents	3949	3089	3089	3491	2838	2833
Number of Issuers	594	447	447	761	615	612
Active Share	0.0	23.50	23.43	0.0	22.13	22.21
Yield to Worst	5.19	5.16	5.16	3.41	3.44	3.44
Duration	6.49	6.42	6.42	4.51	4.45	4.45
Max Issuer Weight	3.13	2.87	2.87	2.15	2.16	2.15
Turnover (One-Way) (%)*	1.14	4.00	4.00	1.89	4.00	4.00
Turnover (One-Way) (%)**	1.59	4.00	4.00	1.48	4.00	4.00
Convexity	0.88	0.87	0.87	0.33	0.32	0.32
Credit Rating	A-	A-	A-	A-	A-	A-
ESG METRICS						
Carbon emissions (Scope 1+2+3) (in mn t CO2e)	55.91	22.14	22.14	48.74	15.40	15.40
Low carbon transition score	5.78	6.27	6.27	5.74	6.16	6.16
Green/FF-based revenue ratio	0.86	24.66	24.12	2.53	573.1	571.59

- **Parent:** Respective Parent Index constituents . **Current:** Respective existing MSCI Fixed Income Climate Paris Aligned Index constituents
- **Proposal 2:** Constituents based on existing MSCI Fixed Income Climate Paris Aligned Corporate Bond Indexes methodology modified with the specific proposed enhancement.
- Impact analysis is based on a hypothetical transition from existing methodology to proposed methodology. Turnover is additionally assessed at the subsequent rebalance after transition.
- * As of Hypothetical Transition Date (T); ** As of Hypothetical Subsequent Rebalance Date (T+1month).

MSCI

Proposal 3: High-level Impact

No.	Proposal	Rationale	Impact
Proposal 3	Updating the missing value treatment of absolute GHG Emissions (Scope 1+2+3) : **Existing implementation:** Estimate missing emissions based on average within corresponding GICS Industry Group. **Proposed implementation:** Estimate missing emissions based on average of top quartile (highest emitters) within corresponding GICS Industry Group.	▪ Emissions data is continuously evolving. To avoid greenwashing allegations, we plan to handle missing data conservatively, as in our Climate Transition Benchmark. Initially, for our Paris Aligned Benchmarks, we used industry averages for missing data. A year post-launch, the industry now favors a more conservative approach.	▪ The proposed measure would slightly increase the weighted average GHG emission of the Parent and resulting Index, particularly in High Yield due to the lower data coverage. However, this alignment would not affect the index characteristics compared to the Current Index*.

MSCI

* Current Index represents the existing MSCI Fixed Income Climate Paris Aligned Index.

Information Classification: GENERAL

Proposal 3: Missing Value Treatment of GHG Emissions

- The existing MSCI Fixed Income Climate Paris Aligned Indexes methodology uses the average within corresponding GICS Industry Group to estimate missing GHG emissions.

- The proposed approach will use a more conservative measure using average of top quartile (highest emitters) within corresponding GICS Industry Group. Averaging within the top quartile ensures less influence of outliers.

- This will result in higher estimated GHG emissions compared to existing approach.

Proposal:

- For Parent Index constituents where the Scope 1+2+3 Absolute GHG Emissions are not available, the average of top quartile Scope 1+2+3 Absolute GHG Emissions (highest emitters) of all the constituents of the Parent Index, within each GICS Industry Group* in which the constituent belongs, will be used.

MSCI

* If there are remaining missing values, then the average of top quartile Scope 1+2+3 Absolute GHG Emissions within corresponding GICS Sector will be used. If there are remaining missing values, then the average of top quartile Scope 1+2+3 Absolute GHG Emissions within the Parent Index will be used.

Proposal 3: Impact on Weighted Average GHG Emissions of Indexes

USD IG Core GHG Emissions (Scope 1+2+3) (in mn t CO2e)

Parent: 55.91 (Before), 56.40 (After)
Current: 22.14 (Before), 22.14 (After)

- USD IG Core Carbon Emissions (Scope 1+2+3) (in mn t CO2e) Before
- USD IG Core Carbon Emissions (Scope 1+2+3) (in mn t CO2e) After

EUR IG GHG Emissions (Scope 1+2+3) (in mn t CO2e)

Parent: 48.74 (Before), 49.61 (After)
Current: 15.40 (Before), 15.40 (After)

- EUR IG Carbon Emissions (Scope 1+2+3) (in mn t CO2e) Before
- EUR IG Carbon Emissions (Scope 1+2+3) (in mn t CO2e) After

USD HY GHG Emissions (Scope 1+2+3) (in mn t CO2e)

Parent: 19.76 (Before), 23.48 (After)
Current: 6.08 (Before), 6.08 (After)

- USD HY Carbon Emissions (Scope 1+2+3) (in mn t CO2e) Before
- USD HY Carbon Emissions (Scope 1+2+3) (in mn t CO2e) After

EUR HY GHG Emissions (Scope 1+2+3) (in mn t CO2e)

Parent: 17.27 (Before), 19.49 (After)
Current: 5.98 (Before), 5.98 (After)

- EUR HY Carbon Emissions (Scope 1+2+3) (in mn t CO2e) Before
- EUR HY Carbon Emissions (Scope 1+2+3) (in mn t CO2e) After

- The blue and yellow bars represent the impact of existing (Before) and proposed (After) approaches to estimating missing GHG Emissions.

- In USD IG Core and EUR IG, the Parent Indexes and existing Paris Aligned Indexes ('Current') exhibit similar weighted average GHG Emissions based on existing and proposed approaches.

- In USD HY and EUR HY, the weighted average GHG Emissions of the Parent Indexes are approximately 20% and 15% higher respectively compared to existing approach. This is consistent with the lower GHG Emissions coverage in High Yield relative to Investment Grade.

MSCI

- **Parent:** Respective Parent Index constituents. **Current:** Respective existing MSCI Fixed Income Climate Paris Aligned Index constituents.
- Impact analysis compares the weighted average GHG Emissions using existing missing value treatment (**Before**) and the proposed missing value treatment (**After**). Impact is shown for Parent and Current Indexes.

Proposal 3: The amendment is expected to have minimal to no impact on the top-level benchmark metrics

	USD IG CORE			EUR IG			USD HY			EUR HY		
	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed
CHARACTERTICS												
Number of Constituents	3949	3089	3085	3491	2838	2831	2086	1399	1385	612	413	403
Number of Issuers	594	447	447	761	615	612	980	612	603	332	204	199
Active Share	0.0	23.5	23.52	0.0	22.13	22.55	0.0	33.33	34.05	0.0	34.63	36.13
Yield to Worst	5.19	5.16	5.16	3.41	3.44	3.44	7.37	7.54	7.54	5.65	5.75	5.72
Duration	6.49	6.42	6.42	4.51	4.45	4.45	3.26	3.37	3.38	2.68	2.69	2.69
Max Issuer Weight	3.13	2.87	2.88	2.15	2.16	2.17	2.26	2.15	2.18	0.76	2.18	2.23
Turnover (One-Way)*	1.14	4.00	4.00	1.89	4.00	4.00	3.75	4.00	4.74	2.18	4.24	4.53
Turnover (One-Way)**	1.59	4.00	4.00	1.48	4.00	4.00	1.88	2.59	2.23	4.77	6.25	5.67
Convexity	0.88	0.87	0.87	0.33	0.32	0.32	-0.06	-0.04	-0.04	-0.07	-0.05	-0.05
Credit Rating	A-	A-	A-	A-	A-	A-	B+	B+	B+	BB-	BB-	BB-
ESG METRICS												
Carbon emissions (Scope 1+2+3) (in mn t CO2e)	55.91	22.14	22.14	48.74	15.40	15.40	19.74	6.08	6.08	17.27	5.98	5.98
Low carbon transition score	5.78	6.27	6.27	5.74	6.16	6.18	4.31	5.73	5.79	4.38	5.43	5.45
Green/FF-based revenue ratio	0.86	24.66	23.97	2.53	573.1	571.37	0.45	20.63	21.06	4.40	482.21	486.83

- **Parent:** Respective Parent Index constituents. **Current:** Respective existing MSCI Fixed Income Climate Paris Aligned Index constituents.
  Proposed: Constituents based on existing MSCI Fixed Income Climate Paris Aligned Indexes methodology modified with the specific proposed enhancement.
- Impact analysis is based on a hypothetical transition from existing methodology to proposed methodology. Turnover is additionally assessed at the subsequent rebalance after transition.
- * As of Hypothetical Transition Date (T); ** As of Hypothetical Subsequent Rebalance Date (T+1month).

MSCI

Proposal 4: Expanding to Companies with Science-Based Targets

- The MSCI Fixed Income Climate Paris Aligned Indexes methodology aims to increase the aggregate weight of 'Companies Setting Targets' by 20%. 'Companies Setting Targets' is currently defined as follows:
- Relative to their corresponding Parent Indexes, the Indexes require a minimum 20% increase in the aggregate weight of companies meeting all the following requirements:
  - Companies publishing emissions reduction targets
  - Companies publishing their annual emissions and
  - Companies reducing their GHG emissions by 7% over each of the last 3 years.

- **Proposal 4a**: As the landscape of sustainability data continues to evolve, we propose to incorporate a metric that identifies companies with approved science-based targets. This addition will offer a more comprehensive perspective on a company's dedication to sustainability.

- **Proposal 4b:** In our methodology, we give a 20% overweight to issuers who are committed to targets. Currently, this is applied to the broader universe, not specifically to the eligible issuer universe for Paris Aligned Benchmarks. We are proposing a change to this approach. Instead of utilizing the broader market value weighted index, we propose to overweight by at least 20% on the eligible issuers to the Paris Aligned Benchmarks.

MSCI

Proposal 4: Despite the proposed inclusion of issuers with approved science-based target data, it doesn't impact the Paris-aligned risk profile

Criteria (Weight)	USD IG Core		EUR IG		USD HY		EUR HY	
	Before	After	Before	After	Before	After	Before	After
Companies Publishing their annual Emissions	92%	92%	91%	91%	53%	53%	68%	68%
Companies Publishing Emissions Reduction Targets	94%	94%	95%	95%	49%	49%	69%	69%
Companies reducing their absolute GHG emission by 7% over each of the last 3 years	0%	0.00%	0.2%	0.2%	0.19%	0.19%	0.00%	0.00%
Companies having approved SBT	NA	27%	NA	37%	NA	16%	NA	40%
'Companies Setting Targets' in Parent Index	0.00%	27%	0.16%	38%	0.16%	16%	0%	40%
'Companies Setting Targets' in Screened Parent*	0.00%	27%	0.17%	38%	0.22%	16%	0%	40%
'Companies Setting Targets' in MSCI Fixed Income Climate Paris Aligned Indexes	0.00%	32%	0.20%	46%	0.46%	19%	0%	47%

	USD IG CORE			EUR IG			USD HY			EUR HY		
	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed	Parent	Current	Proposed
CHARACTERTICS												
Number of Constituents	3949	3089	3089	3491	2838	2833	2086	1399	1391	612	413	408
Number of Issuers	594	447	447	761	615	612	980	612	605	332	204	201
Active Share	0.0	23.5	23.46	0.0	22.13	22.2	0.0	33.33	33.71	0.0	34.63	35.64
Yield	5.19	5.16	5.16	3.41	3.44	3.44	7.37	7.54	7.52	5.65	5.75	5.65
Duration	6.49	6.42	6.42	4.51	4.45	4.45	3.26	3.37	3.38	2.68	2.69	2.68
Max Issuer Weight	3.13	2.87	2.87	2.15	2.16	2.16	2.26	2.15	2.15	0.76	2.18	2.23
Turnover (One-Way)*	1.14	4.00	4.00	1.89	4.00	4.00	3.75	4.00	4.61	2.18	4.24	4.52
Turnover (One-Way)**	1.59	4.00	4.00	1.48	4.00	4.00	1.88	2.59	2.3	4.77	6.25	5.76
Convexity	0.88	0.87	0.87	0.33	0.32	0.32	-0.06	-0.04	-0.04	-0.07	-0.05	-0.05
Credit Rating	A-	A-	A-	A-	A-	A-	B+	B+	B+	BB-	BB-	BB-
ESG METRICS												
Carbon emissions (Scope 1+2+3) (in mn t CO2e)	55.91	22.14	22.14	48.74	15.40	15.40	19.74	6.08	6.08	17.27	5.98	5.98
Low carbon transition score	5.78	6.27	6.27	5.74	6.16	6.16	4.31	5.73	5.77	4.38	5.43	5.51
Green/FF-based revenue ratio	0.86	24.66	24.03	2.53	573.1	571.6	0.45	20.63	21.47	4.40	482.21	464.68

- **Parent:** Respective Parent Index constituents. **Current:** Respective existing MSCI Fixed Income Climate Paris Aligned Index constituents.
  Proposed: Constituents based on existing MSCI Fixed Income Climate Paris Aligned Indexes methodology modified with the specific proposed enhancement.
- Impact analysis is based on a hypothetical transition from existing methodology to proposed methodology. Turnover is additionally assessed at the subsequent rebalance after transition.
- * As of Hypothetical Transition Date (T); ** As of Hypothetical Subsequent Rebalance Date (T+1month).

Consultation Questions

1. Do you agree with the proposal to exclude Nuclear Weapons and Civilian Firearms from all MSCI Fixed Income Climate Paris Aligned Indexes?
   - YES
   - NO

2. Should we consider relaxing the Aggregate Climate VaR constraint threshold in the MSCI USD IG Core Climate Paris Aligned and MSCI EUR IG Climate Paris Aligned Corporate Bond Indexes?
   - YES
   - NO

3. What is your perspective on the suggested method of adopting a more conservative approach towards missing GHG Emission data points for the MSCI Fixed Income Paris Aligned Indexes?
   - YES, it is best to be conservative
   - NO, my preference would be to use the industry average

4. Do you agree that all MSCI Fixed Income Climate Paris Aligned Indexes should aim to overweight companies with approved Science Based Targets? (YES/NO)
   - Do you agree that the target weight improvement criteria should be based on the 'Eligible Universe' (Parent Index after applying the exclusions defined in the methodology) ? (YES/NO)

MSCI

Notice and Disclaimer

MSCI

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process. To learn more, please visit www.msci.com.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: https://www.msci.com/index-regulation.

MSCI

Contact Us

AMERICAS		EUROPE, MIDDLE EAST & AFRICA		ASIA PACIFIC	
United States	+1 888 588 4567 *	South Africa	+ 27 21 673 0103	China	+ 86 21 61326611
Canada	+ 1 416 687 6270	Germany	+ 49 69 133 859 00	Hong Kong	+ 852 2844 9333
Brazil	+ 55 11 4040 7830	Switzerland	+ 41 22 817 9777	India	+ 91 22 6784 9160
Mexico	+ 52 81 1253 4020	United Kingdom	+ 44 20 7618 2222	Malaysia	1800818185 *
		Italy	+ 39 02 5849 0415	South Korea	+82 70 4769 4231
		France	+ 33 17 6769 810	Singapore	+65 67011177
				Australia	+612 9033 9333
				Taiwan	008 0112 7513*
				Thailand	0018 0015 6207 7181*
				Japan	+81 3 4579 0333

* = toll free
msci.com/contact-us

MSCI

Information Classification: GENERAL