

Fund ESG Transparency

Quarterly Report 2021

Q1 Spotlight: ETFs

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MSCI ESG Research LLC



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Executive Summary

ESG investing is on the rise globally. Where once ESG factors were supplementary considerations in portfolio construction and asset allocation, they are increasingly becoming a core part of fundamental analysis. In recent years, ESG investing has been facilitated by a growing supply of ESG funds. The rise and adoption of these products reflect a paradigm shift in global attitudes across market participants, and a growing recognition that ESG factors are financially material, transcending their use just for securities selection to reach fund-level application as well.

This year we will be releasing quarterly reports analyzing the universe of funds within our coverage using an ESG lens. In the first of this series, we assessed the landscape of equity and bond exchange-traded funds (ETFs), which have been under a considerable spotlight as index-based investing continues to gain momentum each year. In subsequent reports, we will cover equity and bond mutual funds, along with offering a number of comparative pieces analyzing different fund strategies.

Globally, ETFs were popular as a vehicle of choice for investors in 2020, with record inflows in excess of USD 700 billion¹, putting the current

global AUM in ETFs at USD 7 trillion. ESG ETF strategies also saw record inflows in 2020 as well, driven by demand from asset owners looking to increase ESG integration and transparency across their portfolios.² This demand is expected to rise in the years to come.³

ETFs are highly transparent and very accessible to market participants relative to other fund vehicles. They also use well-defined regulatory guidelines.⁴ These attributes compliment those promoted by ESG investing. Alongside the growth in ETF assets, their function as an ESG integration tool in investors' portfolios is also becoming more established. With that in mind, it's important to examine the ESG characteristics of the product universe, thus enabling more-informed fund selection decisions for investors and product issuers that may want to achieve specific ESG outcomes. In this report we look through an ESG lens across the universe of ETFs within MSCI's coverage.

1 Source: Refinitiv/Lipper and MSCI ESG Research, LLC as of Dec. 31, 2020

2 <https://www.msci.com/documents/10199/b3d456db-353a-4eea-8f08-c12447427940>

3 <http://www.theventure.com/global/en/trends/how-millennials-are-driving-impact-investing>

4 UNCTAD - [Leveraging the Potential of ESG ETFs](#)

Key Takeaways:

- » In 2020, ESG ETFs saw net flows in excess of USD 75 billion, more than three times the prior year, or approximately 10% of overall ETF net flows globally. It was also a growth year for new ESG ETF products, with more than 120 being launched globally.
- » Europe led the world in the availability of ESG ETFs and the pace of product launches, with over 50% of global ESG ETFs being domiciled in Europe. European investors demonstrated a clear preference toward values- and screens-based ESG ETFs, in which investor values/preferences are aligned with generating financial returns. North America offered more choice in integration-based ESG ETFs, along with thematic approaches.
- » Globally, the highest-AUM ESG ETFs (USD 1 billion and above) predominantly employed values and screens approaches, with most domiciled in Europe. The geographic focus of the majority of these products, however, was the U.S. Clean energy was a popular theme with investors in the U.S. and Europe, with the top-five ETFs (by assets) that track clean energy indexes holding over USD 18 billion in assets.
- » Europe also led on ESG performance. ETFs with European exposure demonstrated higher ESG ratings relative to those with other geographic exposures. Globally, 60% of AAA-rated⁵ equity ETFs and 58% of AAA-rated bond ETFs tracked indexes with a European focus. Notably, there were no European ETFs that were ESG laggards⁵ in either equity or fixed income.
- » There is room for product expansion in North American- and Asian-focused ETFs, where investors would be hard-pressed to find an ESG ETF that is rated as a leader. From a possible 1,349 North American-focused equity ETFs, only 76 of them (5.6%) are leaders, with options being even more limited for investors targeting Asia.
- » ETFs with a focus on the Asian markets overwhelmingly accounted for the ESG laggard funds. This is primarily due to Asian corporations (largely operating in emerging markets) generally being in the early stages of implementing sustainability considerations into their business practices relative to their Western peers.
- » Globally, most ETFs (58%) exhibited a moderate Weighted Average Carbon Intensity (WACI) of between 70 tons to 250 tons CO2 equivalent/USD Million Sales. ETFs with an emerging market focus on average exhibit a carbon intensity almost twice (x1.65) that of developed market-focused ETFs.
- » The majority of ETFs globally did not have exposure to any holdings that violated UN Global Compact principles; over 50% of both equity and bond ETFs were fully compliant. The small subset of funds that exhibit high violations were focused on extractive industries such as energy, metals and mining.

5 The MSCI ESG Rating for funds is designed to measure the resiliency of portfolios to long-term ESG risks and opportunities. The highest-rated funds consist of issuers with leading or improving management of key ESG risks. The ESG Rating is calculated as a [direct mapping of ESG Quality Scores](#) to letter rating categories. The ESG Ratings range from leader (AAA, AA), average (A, BBB, BB) to laggard (B, CCC).

MSCI ESG

Fund Ratings Universe

Understanding the ESG characteristics of a fund begins with evaluating its underlying securities. This can be done using the MSCI ESG Fund Ratings tool that examines, ranks and screens funds based on their exposure to a range of ESG categories. The tool allows users to search funds based on their ESG Ratings, peer and global rank, and the ESG Ratings of their underlying holdings. Users can also search for funds using specific metrics such as green revenues, carbon intensity, governance factors and social safeguards.

MSCI ESG Research leverages ESG Ratings for more than 8,500 companies (14,000 total issuers including subsidiaries) and more than 680,000 equity and fixed income securities globally to create scores and metrics for over 53,000 mutual funds and ETFs globally (as of Dec. 31, 2020) in its coverage universe.

In order to be included in the MSCI ESG Fund Ratings universe, a fund must have the following criteria:

- » A minimum 65% of the fund's gross weight must come from covered securities
- » Reported fund holdings must be less than 1 year old
- » The fund must hold at least 10 securities.

MSCI ESG Fund Ratings are designed to provide greater examination and understanding of the ESG characteristics of funds available to investors. As the number of ESG funds proliferates and ESG-oriented investment strategies are adopted by wealth and fund managers, we strive to help investors better understand their ESG risks and opportunities. Transparency helps investors to make better, more-informed decisions. In this effort, MSCI ESG Research LLC has made ESG Fund Ratings publicly available online.

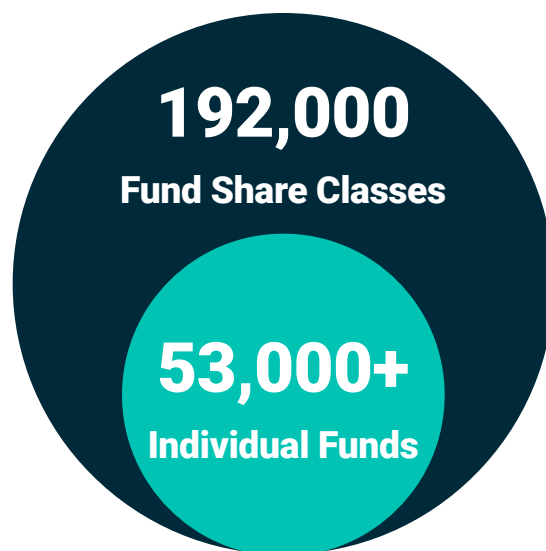


Exhibit 1: Global Coverage of Funds

By Asset Universe

	Individual Funds	Share Classes
Mutual Funds	38,704	161,666
Insurance Funds	4,874	14,318
Exchange-Traded Funds	4,979	6,654
Pension Funds	4,970	9,160
Closed-End Funds	259	264
Investment Trusts	103	108
Hedge Funds	17	38

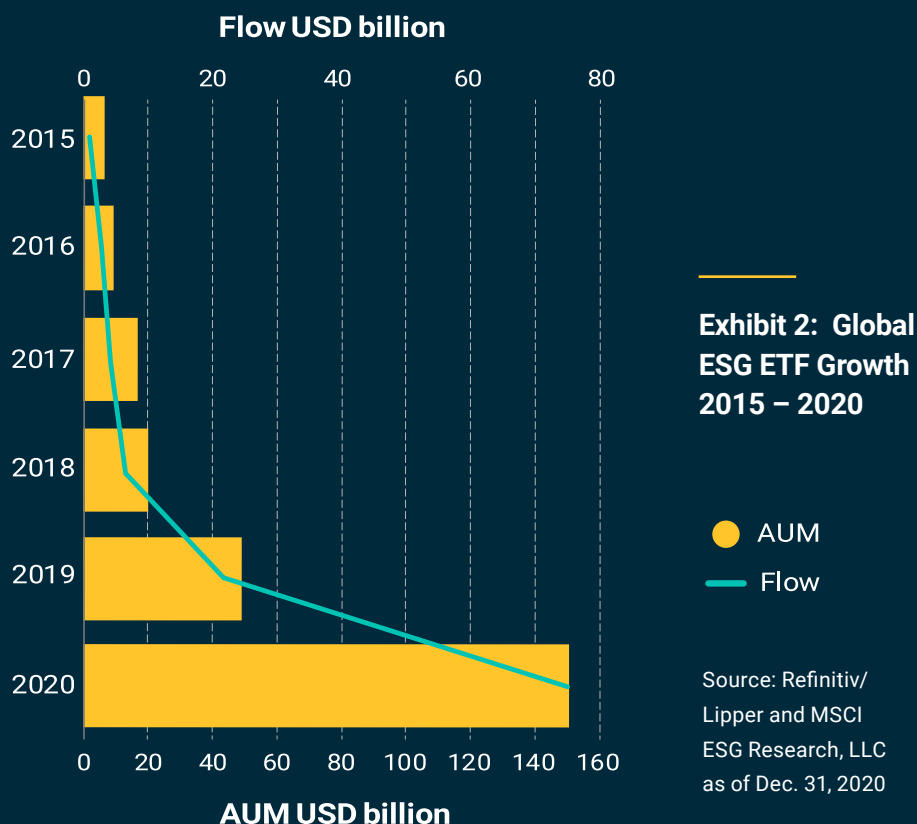
By Asset Class

	Fund Portfolios	Share Classes
Equity	27,105	95,894
Bond	11,176	47,796
Mixed Assets	13,913	40,919
Money Market	865	4,253
Alternatives	793	3,261
Real Estate	11	22
Other	43	63

Source: MSCI ESG Research LLC as of Dec. 31, 2020

Spotlight: ETFs

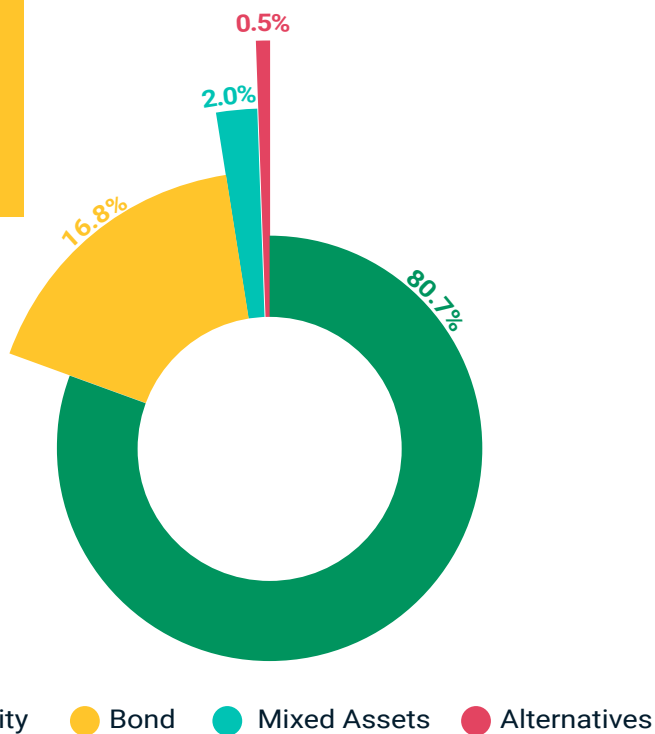
The growth in index-based investing through ETFs has complemented ESG adoption. With transparency as one of ETFs' core features, the consistency of index methodologies can give ESG investors information necessary to build portfolio solutions that stay true to their overall aims. Furthermore, the daily transparency of holdings resonates with ESG-attuned investors that are highly engaged in their assessment of underlying risk and exposures. Over the past five years, equity ESG ETFs have recorded a substantial uptick in flows, with assets under management growing by 25 times since 2015: from just over USD 6 billion to over USD 150 billion at the end of 2020. In 2020 alone, ESG ETFs saw exceptional flows in excess of USD 75 billion, more than three times the year before, or approximately 10% of overall ETF flows globally.



Global Landscape

Globally, the total number of ETFs rose to over 7,000 in 2020, of which more than 70% are covered by MSCI ESG Research. While assets under management in ESG ETFs are on the rise, they still account for a only fraction of all ETF holdings: 410 funds globally, or just over 5%. ESG ETFs are identified as those that have adopted investment policies (index-mandated or otherwise) that consider some ESG criteria,⁶ having broad, thematic or exclusionary ESG policies or any combination of the three. The majority (over 90%) of these ESG ETFs fall within MSCI ESG Research's coverage.

The bulk of ESG ETFs globally are equity funds, accounting for approximately 80% of products, while bond ESG ETFs remain at a nascent stage with less than 20% market share. Europe has been the largest driver of ESG ETF growth, with over 50% of the funds being domiciled in this region. Europe's ESG charge has been driven by policy as well as investor shifts in attitude. Supranational policy developments have driven demand and growth of these products, as European regulators place sustainability considerations at the heart of legislative developments⁷ that encourage fund launches aligned with ESG mandates. Simultaneously, an increasing number of European institutional and private investors are giving greater weight to sustainability themes in their investment strategies. European public pension, sovereign wealth and insurance funds are increasingly looking to such strategies, aligned with sustainability mandates and policy.



Source: Refinitiv/Lipper and MSCI ESG Research LLC as of Dec. 31, 2020

Exhibit 3: Global ESG ETFs Asset-Class Breakdown

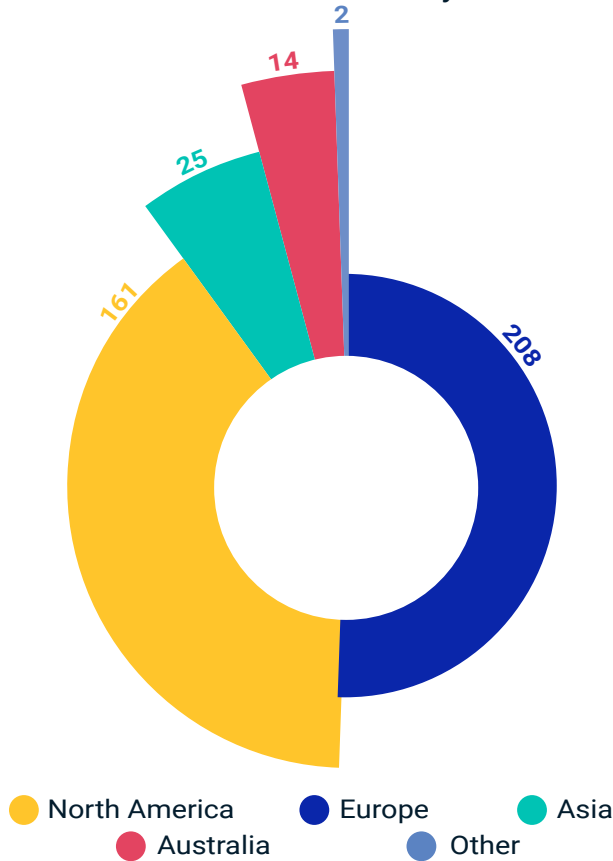
Subdividing the universe of ESG ETFs into broad categories reveals regional differences for ETFs. European-domiciled ESG ETFs have predominantly adopted values and screens aligning investor values and preferences with financial returns. North American ETFs are largely integration-based, meaning funds incorporate ESG criteria to enhance long-term return and/or to manage ESG financial risk (Exhibit 5). It should be noted that index methodologies exist that combine both approaches and funds tracking these have been grouped in values and screens in this analysis. Notably, North America offers more choice when it comes to impact approaches focused on generating measurable social or environmental benefits as well as financial returns, and thematic products that target a specific, predetermined investment theme, such as clean sub-industries or structural economic trends known as "megatrends."⁸ North America also offers more choice in products focusing on themes such as clean energy, while Europe had more products aligned with policies, such as Paris-aligned ETFs and climate-focused products.

⁶ Source: Refinitiv/Lipper and MSCI ESG Research, LLC as of Dec. 31, 2020

⁷ EU Green Deal - A European Green Deal | European Commission (europa.eu)

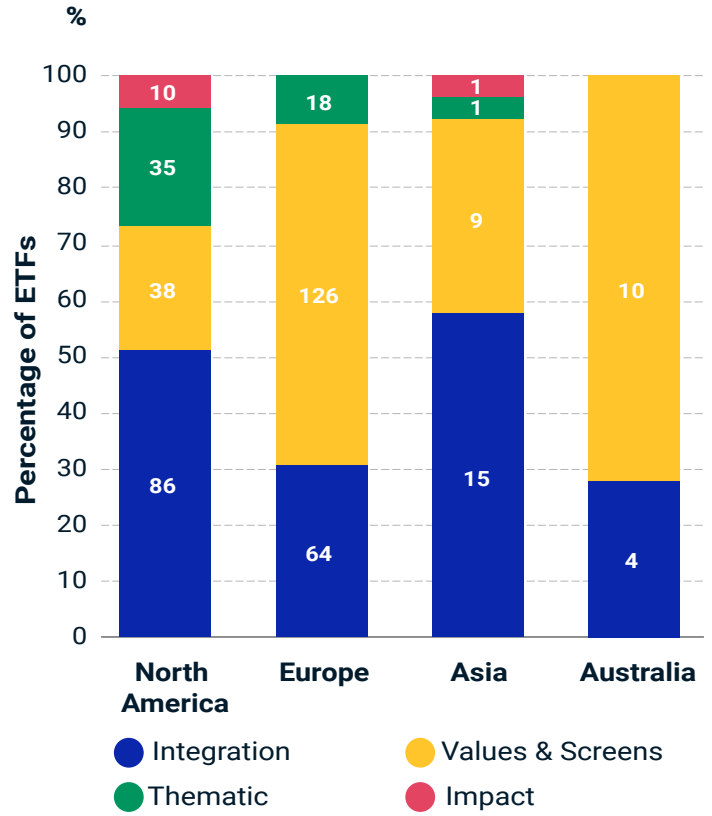
⁸ Megatrends - MSCI

Exhibit 4: Distribution of ESG ETFs by Domicile



Source Refinitiv/Lipper and MSCI ESG Research, LLC as of Dec 31, 2020

Exhibit 5: Distribution of ESG ETF type by Domicile



Source Refinitiv/Lipper and MSCI ESG Research LLC as of Dec. 31, 2020

Until 2015, ESG ETF launches were relatively slow at under 20 new funds per year. The majority of the funds launched were in North America (primarily in the U.S.) until 2014. Europe started to see a steady increase in ESG ETF launches, leading from 2015 onward following key climate policy developments, namely the Paris Agreement. Europe is now first in ESG launches, followed by North America. Asia lags, as investors in the region remain in the early stages of ESG adoption. There was a boom for new products in Europe and the North America in 2020 with more than 120 ESG ETFs being launched, most focused on equity, but with bond fund launches gradually gaining traction (Exhibit 7).

- Equity
- Alternatives
- Bond
- Mixed Assets

Exhibit 6: ESG ETF Launches by Asset Class

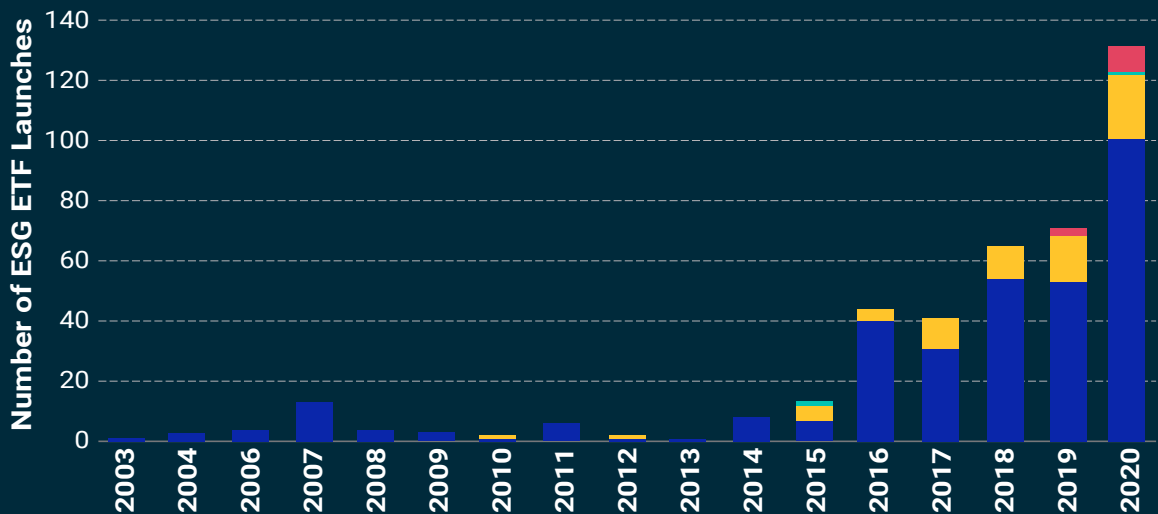
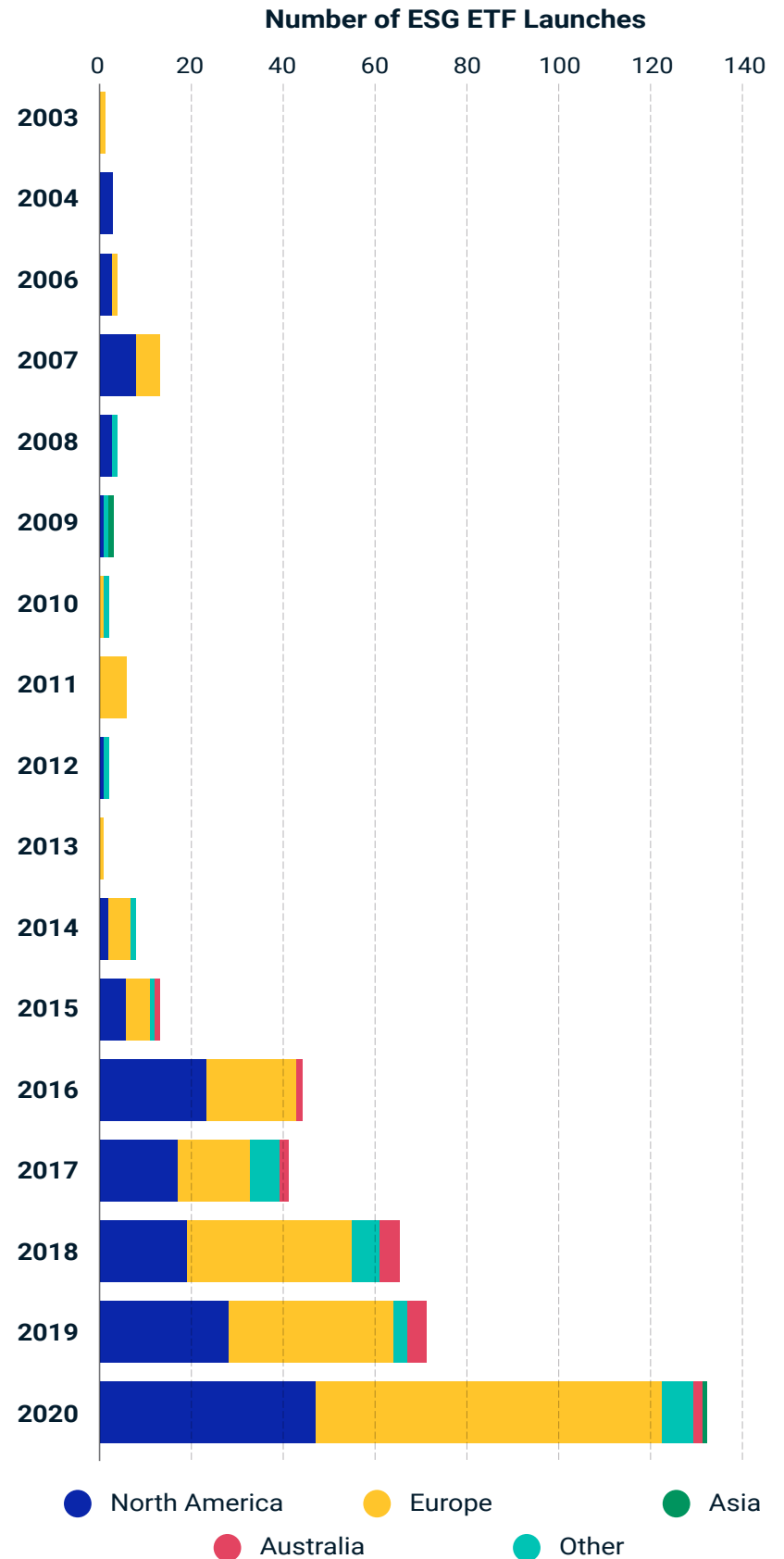




Exhibit 7: ESG ETF Launches by Region



Source Refinitiv/Lipper and MSCI ESG Research LLC as of Dec. 31, 2020

Product Success by AUM



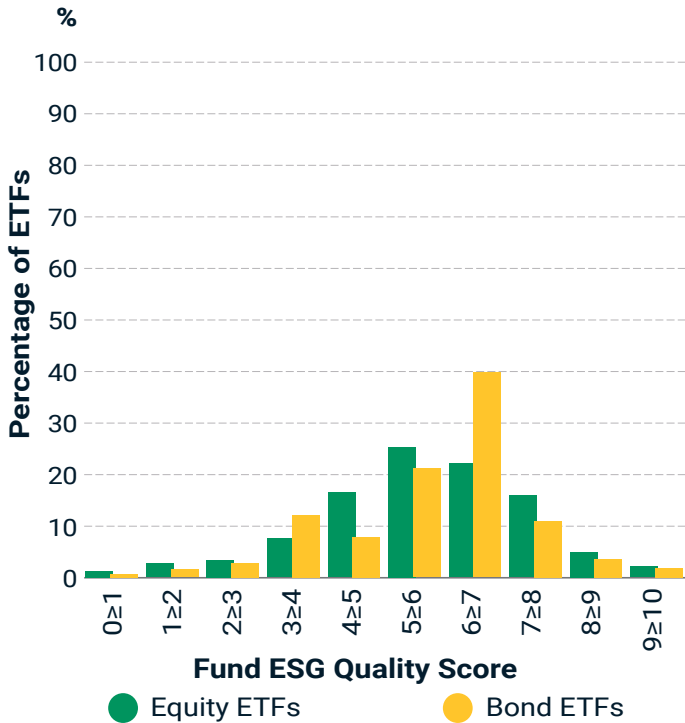
Looking at the top ESG ETF products globally by AUM, we find that a total of 40 ETFs have assets in excess of USD 1 billion (as of Dec 31, 2020). The majority of these (26) are domiciled in Europe, however, the geographic focus of most of these products' investments is the U.S. (13). In terms of thematic concentration, the clean energy theme is popular with investors in Europe and North America, with five funds tracking the theme globally, collectively holding in excess of USD 18 billion.

Exhibit 8: ESG ETFs With Assets in Excess of USD 1 Billion

Fund Name	ESG Approach	Fund Domicile	Fund Geographic Focus	Domicile	Fund Launch Date	AUM USD
iShares ESG Aware MSCI USA ETF	Integration	USA	United States of America	North America	01/12/2016	\$ 13,393,909,210
iShares ESG Aware MSCI EM ETF	Integration	USA	Global Emerging Markets	North America	28/06/2016	\$ 6,133,269,946
iShares Global Clean Energy UCITS ETF	Thematic	Ireland	Global	Europe	06/07/2007	\$ 5,364,020,979
iShares MSCI USA SRI UCITS ETF	Values & Screens	Ireland	United States of America	Europe	11/07/2016	\$ 4,906,703,077
iShares Global Clean Energy ETF	Thematic	USA	Global	North America	24/06/2008	\$ 4,688,270,456
iShares ESG Aware MSCI EAFE ETF	Integration	USA	Global Ex US	Global	29/06/2016	\$ 3,986,046,628
Invesco Solar ETF	Thematic	USA	Global	North America	15/04/2008	\$ 3,631,536,720
Vanguard ESG US Stock ETF	Values & Screens	USA	United States of America	North America	18/09/2018	\$ 2,981,153,799
UDS ETF MSCI World Socially Responsible UCITS ETF	Values & Screens	Luxembourg	Global	Europe	19/00/2011	\$ 2,922,424,600
DWS MSCI USA ESG Leaders Equity ETF	Integration	USA	United States of America	North America	06/03/2019	\$ 2,850,913,450
iShares ESG MSCI USA Leaders ETF	Integration	USA	United States of America	North America	07/05/2019	\$ 2,813,042,296
iShares MSCI KLD 400 Social ETF	Values & Screens	USA	United States of America	North America	14/11/2006	\$ 2,628,079,729
iShares MSCI World SRI UCITS ETF	Values & Screens	Ireland	Global	Europe	12/10/2017	\$ 2,529,489,921
iShares € Corp Bond ESG UCITS ETF	Values & Screens	Ireland	Global	Europe	28/06/2018	\$ 2,313,295,450
iShares MSCI USA ESG Select E-IF	Integration	USA	United States of America	North America	24/01/2005	\$ 2,298,359,723
Invesco WilderHill Clean Energy ETF	Thematic	USA	United States of America	North America	03/03/2005	\$ 2,174,808,364
First Trust NASDAQ Clean Edge Green Energy Idx Fd	Thematic	USA	United States of America	North America	08/02/2007	\$ 1,999,312,383
Amundi Index MSCI USA SRI	Values & Screens	Luxembourg	United States of America	Europe	11/09/2018	\$ 1,776,127,499
UBS ETF MSCI USA Socially Responsible UCITS ETF	Values & Screens	Luxembourg	United States of America	Europe	18/08/2011	\$ 1,694,870,381
Amundi MSCI Europe SRI	Values & Screens	Luxembourg	Europe	Europe	11/09/2018	\$ 1,681,181,014
iShares MSCI EM SRI UCITS ETF	Values & Screens	Ireland	Global Emerging Markets	Europe	11/07/2016	\$ 1,649,846,241
Amundi Index Euro AGG Corporate SRI	Values & Screens	Luxembourg	EuroZone	Europe	11/11/2016	\$ 1,637,856,820
DWS MSCI USA Low Carbon SRI Leaders UCITS ETF Fund	Values & Screens	Ireland	United States of America	Europe	08/05/2018	\$ 1,605,626,300
Vanguard ESG International Stock ETF	Values & Screens	USA	Global Ex US	North America	18/09/2018	\$ 1,584,406,842
iShares MSCI EMU ESG Screened UCITS E-IF	Values & Screens	Ireland	EuroZone	Europe	19/10/2018	\$ 1,498,153,441
Xtrackers MSCI Japan Low Carbon SRI Leaders UCITS ETF Fund	Values & Screens	Ireland	Japan	Europe	24/04/2018	\$ 1,376,637,600
L&G US Equity (Responsible Exclusions) UCITS ETF Fund	Values & Screens	Ireland	United States of America	Europe	25/11/2019	\$ 1,354,956,961
Invesco Water Resources ETF	Thematic	USA	United States of America	North America	06/12/2005	\$ 1,314,086,715
Xtrackers MSCI World Low Carbon SRI Leaders UCITS ETF Fund	Values & Screens	Ireland	Global	Europe	24/04/2018	\$ 1,279,214,700
Lyxor MSCI Europe ESG Leaders (DR) UCITS ETF	Integration	Luxembourg	Europe	Europe	12/02/2019	\$ 1,250,947,837
iShares € Corp Bond 0-3yr ESG UCITS ETF	Values & Screens	Ireland	Global	Europe	07/01/2016	\$ 1,225,703,904
DWS ESG EUR Corporate Bond UCITS ETF(DR)	Values & Screens	Luxembourg	EuroZone	Europe	18/10/2010	\$ 1,225,188,610
UBS ETF - MSCI EMU Socially Responsible UCITS ETF	Values & Screens	Luxembourg	EuroZone	Europe	18/08/2011	\$ 1,217,654,749
CSIF (IE) MSCI USA ESG Leaders Blue UCITS ETF Fund	Integration	Ireland	United States of America	Europe	16/03/2020	\$ 1,205,691,791
Amundi Index MSCI World SRI	Values & Screens	Luxembourg	Global	Europe	11/09/2018	\$ 1,157,458,108
iShares .JP Morgan ESG \$ FM Bond UCITS ETF	Integration	Ireland	Global Emerging Markets	Europe	24/09/2018	\$ 1,125,351,354
UDS Bloomberg Barclays MSCI Euro Liq. Corp. Sust. UCITS ETF	Values & Screens	Luxembourg	EuroZone	Europe	17/01/2017	\$ 1,051,751,304
BNP Paribas Easy Low Carbon 100 Europe PAB	Integration	Luxembourg	Europe	Europe	02/06/2017	\$ 1,029,485,878
Lyxor New Energy (DR) UCITS ETF	Thematic	France	Global	Europe	05/09/2019	\$ 1,025,850,615
DWS MSCI Emerging Markets ESG UCITS ETF Fund	Integration	Ireland	Global Emerging Markets	Europe	15/10/2019	\$ 1,024,616,200

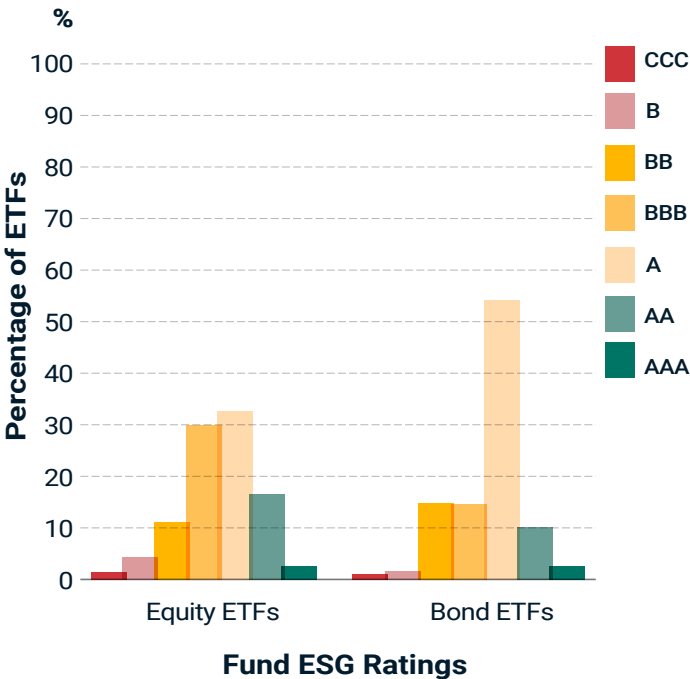
Source Refinitiv/Lipper and MSCI ESG Research LLC as of Dec. 31, 2020

Exhibit 9: Fund ESG Quality Score Distribution



Source: MSCI ESG Research, LLC as of Dec. 31, 2020, covering 3820 equity and 1033 bond ETFs

Exhibit 10: Fund ESG Rating Distribution



Source: MSCI ESG Research LLC as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs.

ESG Attributes

More than 4,900 ETFs fall within MSCI ESG Research's coverage out of a global total of just over 7,000. In the following sections, we explore the distribution of ESG attributes across those funds we cover, looking at the trends and their drivers. All data points analyzed are as of Dec. 31, 2020.

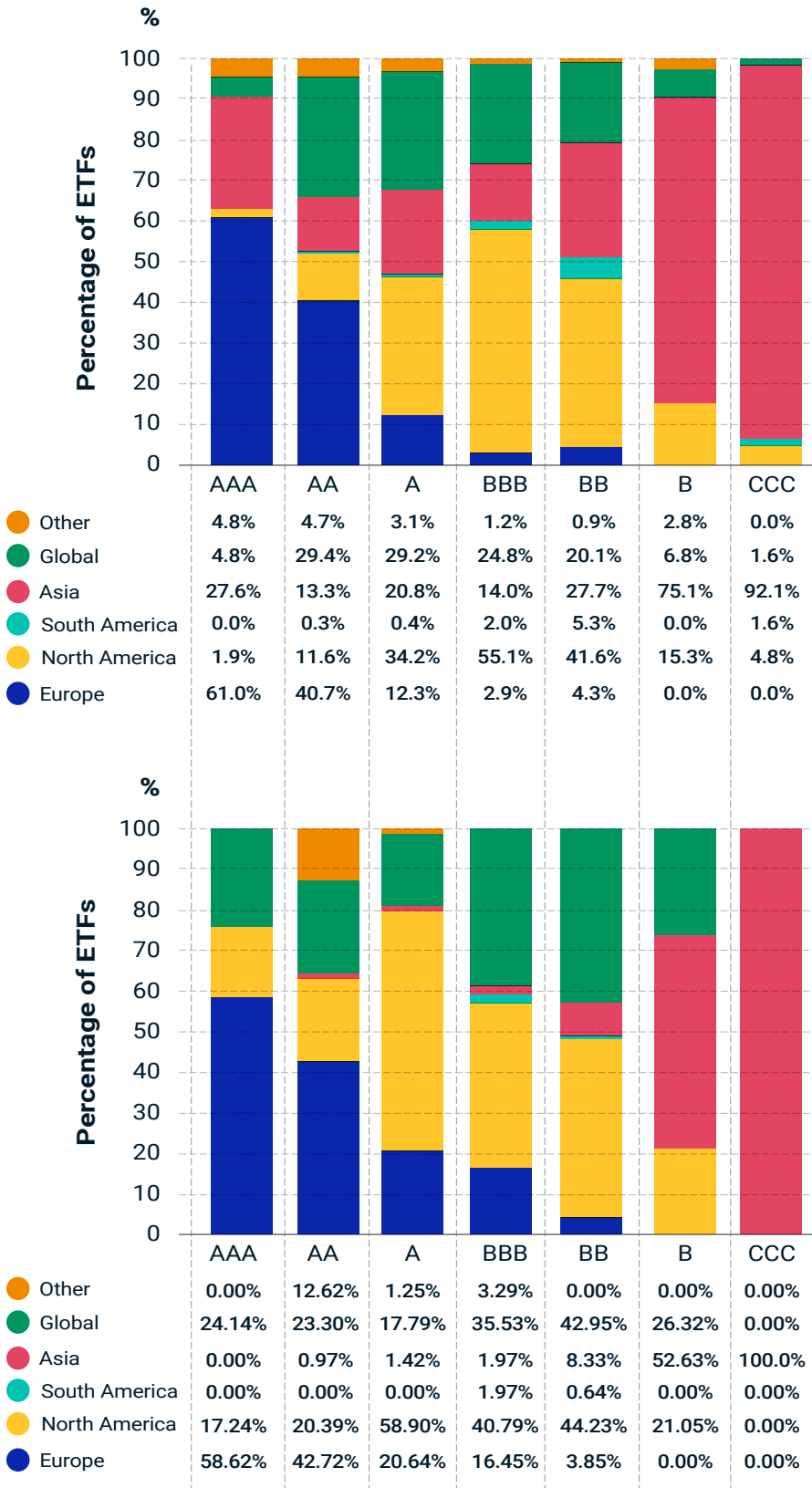
MSCI ESG Quality Scores and Ratings

The MSCI ESG Quality Score (0 - 10) for funds is calculated using the weighted average of the ESG scores of the fund's holdings. The Quality Score also considers the holdings' ESG rating trend and the ETF's exposure to holdings that are ESG leaders and laggards.⁹ The distribution of Fund ESG Quality Scores and ESG Ratings are examined across the universe of ETFs under MSCI ESG Research's coverage (Exhibit 9,10).

Key Takeaways:

- » Most equity ETFs globally exhibit an ESG Quality Score between 5 and 6, and a fraction of the funds (less than 5%) score above 8. Bond funds perform more favorably, with most ETFs scoring between 6 and 7. Across asset classes, most products were rated average (A, BBB, BB), with 19.4% of equity ETFs and 12.7% of bond ETFs being rated as leaders (AAA, AA).
- » Dividing our universe of ETF coverage by ratings reveals that the highest-rated equity and bond ETFs were Europe-focused. Globally, 60% of AAA-rated equity ETFs and 58% of AAA-rated bond ETFs track indexes with a European focus (Exhibit 11).
- » ETFs with a focus on the Asian markets overwhelmingly accounted for the laggards (B-, CCC-rated): 79% of the laggard equity ETFs in the MSCI ESG Research universe and 70% of laggard bond ETFs (Exhibit 12). This is primarily because Asian corporations (largely operating in emerging markets) are generally in the early stages of implementing sustainability into their business practices relative to Western peers. In other words, in any given industry group, Asian companies on average perform lower on key ESG issues versus other regional peers.

Exhibit 11: Equity and Bond ETFs Split by ESG Rating and Geographic Focus



- » Investors would be hard-pressed to find an ESG “leader” fund (AAA, AA) where the underlying geographic focus is not European, in both equity and bond ETFs (Exhibit 11).
- » We found that, globally, most ETFs focusing on the U.S. and Canada exhibit an average-level rating across equity and bonds. From a possible 1,349 North American-focused equity ETFs, 76 of them (5.6%) are leaders (Exhibit 12).
- » Notably, there were no European-focused ETFs rated as laggards in either equity or fixed income.

Exhibit 12: Fund Geographic Focus by Leaders and Laggards

# Equity ETFs	Geographic Focus	AAA, AA	A, BBB, BB	B, CCC
		Leader	Average	Laggard
530	Europe	61.1%	38.9%	0.0%
1349	North America	5.6%	92.1%	2.2%
54	South America	3.7%	94.4%	1.9%
846	Asia	13.5%	63.9%	22.6%
944	Global	20.4%	78.2%	1.4%
97	Other	36.1%	58.8%	5.2%

# Bond ETFs	Geographic Focus	AAA, AA	A, BBB, BB	B, CCC
		Leader	Average	Laggard
530	Europe	29.3%	70.7%	0.0%
1349	North America	5.3%	93.9%	0.8%
54	South America	0.0%	100.0%	0.0%
846	Asia	2.1%	51.1%	46.8%
944	Global	12.1%	86.0%	1.9%
97	Other	52.0%	48.0%	0.0%

Source: MSCI ESG Research LLC. All data on page as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs



The **E**, **S** and **G**

Delving in further, we examined how ETFs performed globally across E, S and G. Environmental, Social and Governance (ESG) scores for funds measure the underlying holdings’ management of and exposure to key risks and opportunities across these spectrums.

Key Takeaways:

- » Globally, most equity ETFs exhibited a Fund Environmental Score in the range of 5 to 6, while bond ETFs ranged between 6 and 7.
- » Regional breakdowns revealed that funds with underlying European geographic exposure on average perform higher on Environmental Score relative to the rest of the world: 57% of ETFs with a European focus score above 6, versus 34% of those with North American exposure and 16% for funds with Asian exposure.
- » On Fund Social Scores, over 90% of equity ETFs are concentrated between the score range of 4 to 6. Notably, no equity or bond ETFs scored above a 9 on this metric.
- » On Fund Governance Scores, there were no equity ETFs that scored above a 7. On a geographic-focus basis, over 80% of ETFs with an Asian or South American focus scored below 5 on governance. Almost the inverse is true for Europe- and North America-focused ETFs, with over 50% of these ETFs scoring above a 5 (Exhibit 14).
- » Categorizing and aggregating the covered universe of ETFs based on region of focus – developed and emerging markets – indicates there is a dichotomy between the two market types, whether east and west. ETFs that track European constituents on average scored higher across the three types of ESG Scores. ETFs with North American focus ranked second, and those tracking Asian constituents came in last.

Exhibit 13: Average E, S, G Scores of ETFs by Regional Focus

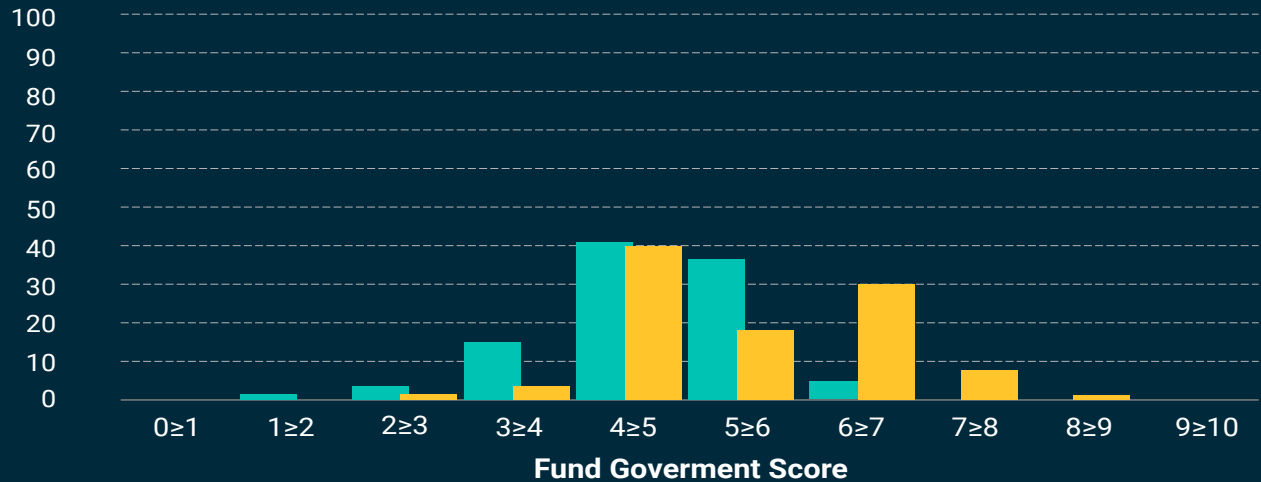
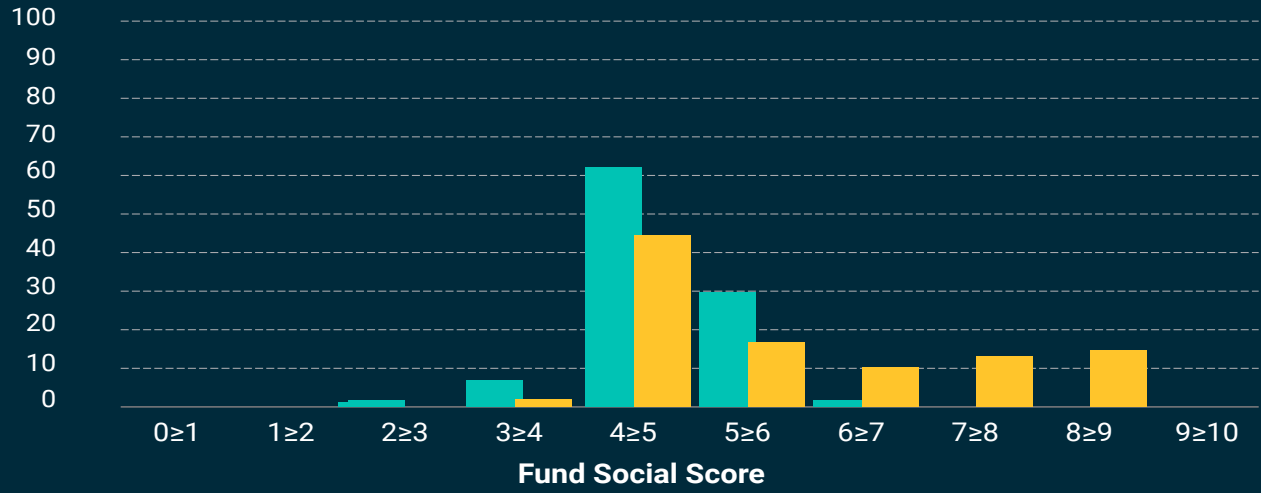
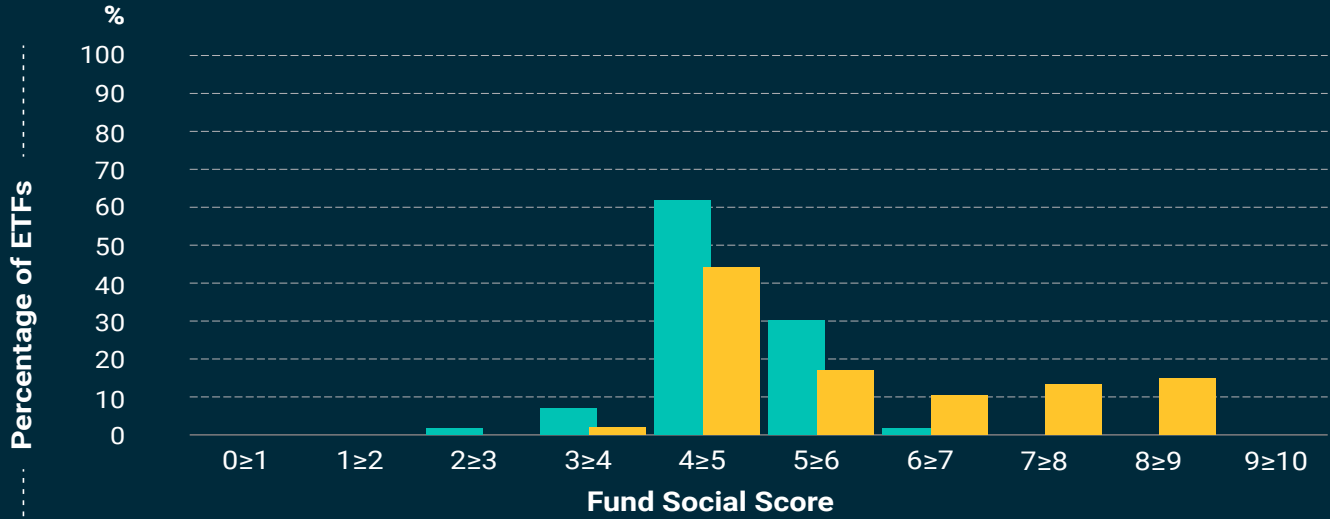
	Developed Markets	Emerging Markets
Environmental Score	5.70	4.86
Social Score	5.11	4.69
Governance Score	5.22	4.81

	Europe	North America	South America	Asia
Environmental Score	5.97	5.59	5.56	5.02
Social Score	5.54	4.93	4.70	4.71
Governance Score	5.61	5.10	3.63	3.87

Source: MSCI ESG Research LLC as of Dec 31, 2020; numbers of ETFs by geographic focus are as follows: Developed Markets, 2840, Emerging Markets, 992.

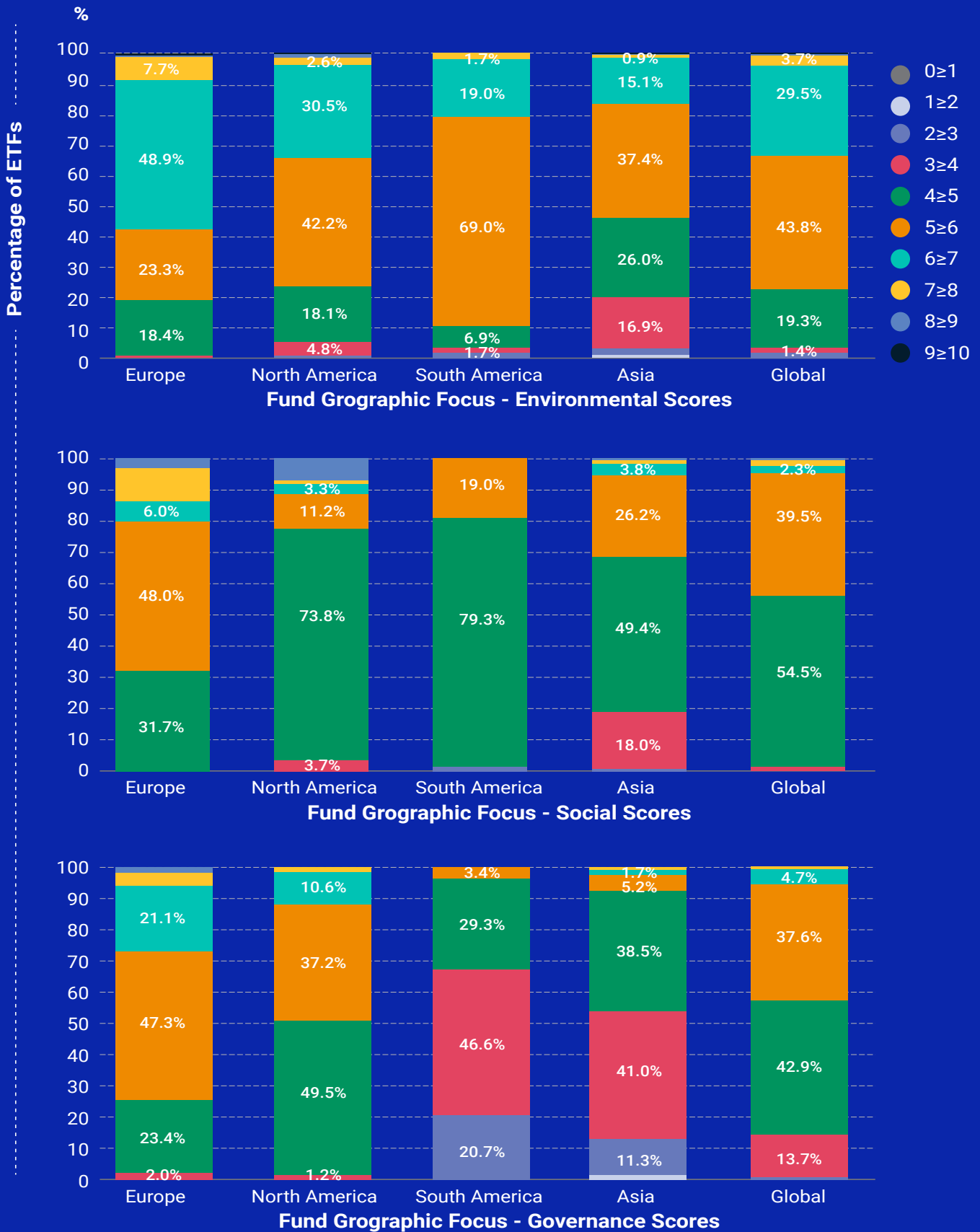
Source: MSCI ESG Research LLC as of Dec. 31, 2020; numbers of ETFs by geographic focus are as follows: Europe 738, North America 1,841, South America 58, Asia 893, Global 1,201.

Exhibit 14: ETFs – Distribution of E, S and G Scores



● Equity ETFs ● Bond ETFs

Exhibit 15: ETFs – Distribution of E, S and G Score by Fund Geographic Focus



Carbon Exposure

The MSCI Fund Weighted Average Carbon Intensity (WACI) measures a fund's exposure to carbon-intensive companies. This figure represents the estimated greenhouse gas emissions per USD 1 million in sales across the fund's holdings (units of tons CO2 equivalent/USD Million Sales). This allows for carbon emissions comparisons between funds of different sizes.

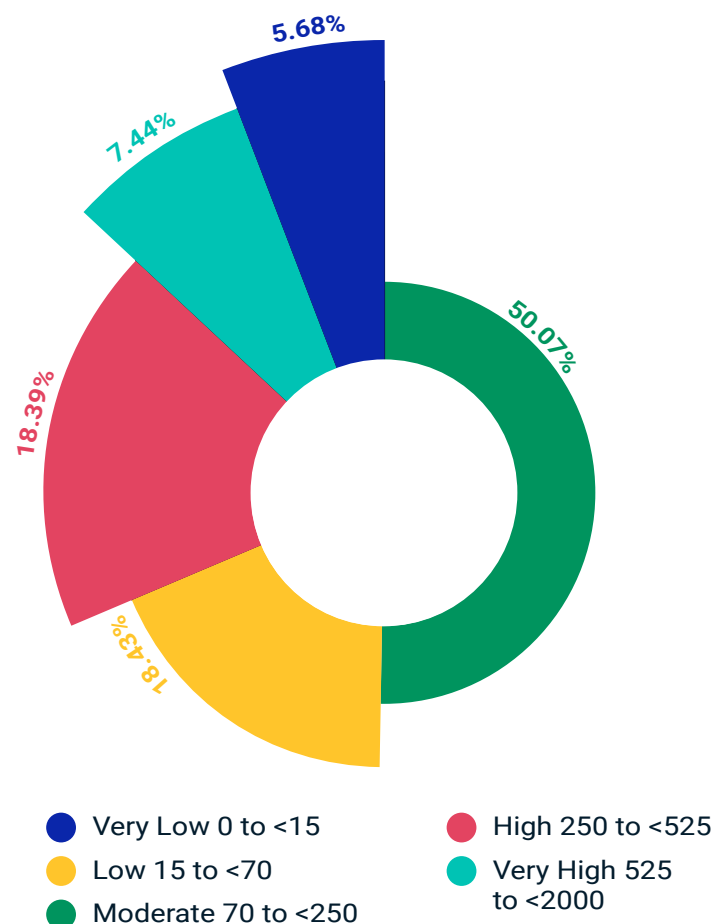
The carbon intensity of a company is highly dependent on the industry it operates in. Industry exposures naturally vary between countries and regions, so to adjust for this, the universe of equity and bond ETFs was geographically subdivided based on the country/region focus of the fund indexes or mandate. The average WACI of ETFs based on their underlying country/region of focus is tabulated and ranked from least-carbon-intensive (green) to most-carbon-intensive (red) (Exhibit 17). For bond ETFs, it should be noted that carbon intensity is only applicable to corporate bonds, not sovereign bonds; however, 75% of global bond ETFs within our coverage are corporate bond funds.

Key Takeaways:

- » Globally, most ETFs (58%) exhibited a moderate Weighted Average Carbon Intensity (WACI) between 70-250 tons CO2 equivalent/USD\$ Million Sales.
- » Given that a fund's WACI can vary over a wide range, from less than 10 to above 4,000, regional and industry differences matter. The lowest-carbon-intensity ETFs (WACI <20) exhibited a clear Financials focus, encompassing funds tracking Banking and Insurance industries, which naturally have much less CO2 output relative to Manufacturing and factory-led peers. Utilities, Mining and other extractive-industry-focused ETFs exhibit the highest carbon intensities. ETFs with an emerging market focus on average exhibit a higher carbon intensity, almost twice (x1.65) that of developed market ETFs (313.9 versus 189.4 tons CO2 equivalent/USD Million Sales).

- » Within developed markets ETFs, funds with a focus on companies operating in Nordic countries lead with the lowest carbon intensities. The size of the underlying market being tracked can have a significant impact: Funds tracking country indexes with very few holdings (e.g. MSCI Greece, Ireland, Kuwait, UAE with fewer than 10 holdings) can exhibit very high or low intensities, essentially due to lack of industry diversification.

Exhibit 16: ETFs – Distribution of Fund Weighted Average Carbon Intensity, Tons CO2 Equivalent/USD \$ Million Sales



Source: MSCI ESG Research LLC as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs

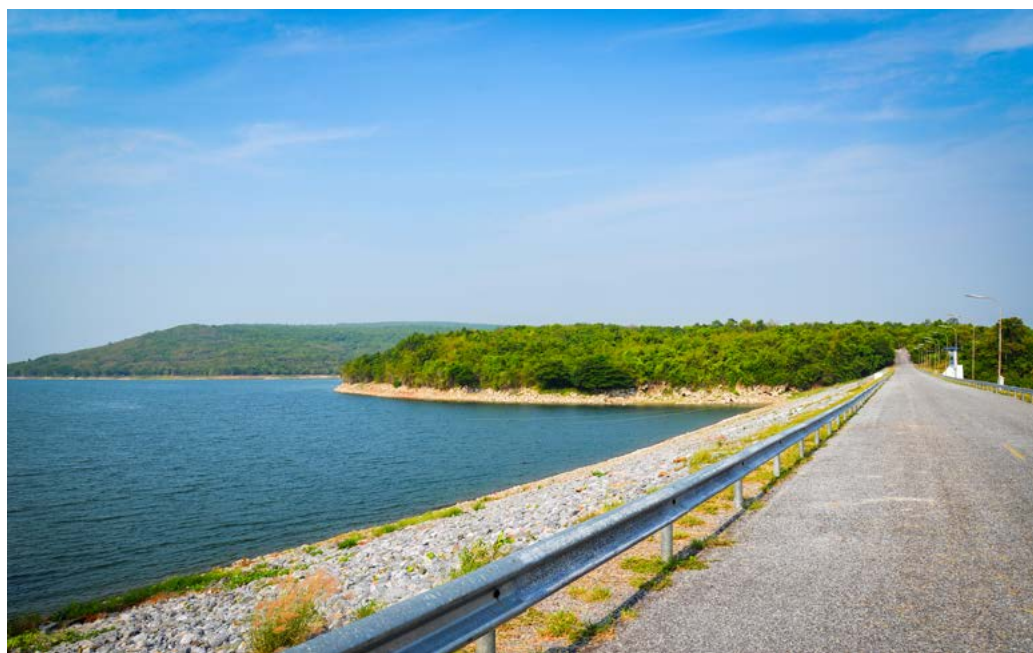
Exhibit 17: ETFs – Average ETF WACI by Underlying Geographic Focus, Tons CO2 Equivalent/USD\$ Million Sales

Developed Markets	
Sweden	37.0
Israel	63.5
Denmark	70.2
Belgium	100.0
Japan	101.3
UK	106.4
Nordic	111.5
Netherlands	113.6
New Zealand	119.6
Singapore	131.8
Switzerland	133.6
France	139.0
Europe	158.1
Spain	175.5
Australia	188.1
North America	191.8
Italy	192.9
Norway	195.6
USA	199.0
Germany	211.6
Austria	238.1
Finland	253.2
Hong Kong	263.9
Canada	285.3
Portugal	365.3
Ireland	428.0
Greece	479.2

Emerging Markets	
Kuwait	53.0
UAE	72.2
Pakistan	100.4
BRIC	176.8
Korea	183.5
China	195.9
Taiwan	220.8
South America	238.6
Turkey	257.6
Brazil	261.1
South Africa	267.8
Asia ex Japan	268.2
Poland	277.2
Mexico	312.0
Qatar	340.8
Argentina	353.0
Indonesia	359.9
Peru	368.3
Eastern Europe	377.0
Philippines	396.5
Colombia	413.0
Emerging Markets	469.3
India	473.1
Malaysia	542.8
Thailand	616.9
Saudi Arabia	652.2
Russia	685.9
Chile	804.4

Frontier Markets	
Frontier Markets	29.4
Vietnam	54.5
Africa	115.2

Source: MSCI ESG Research LLC as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs

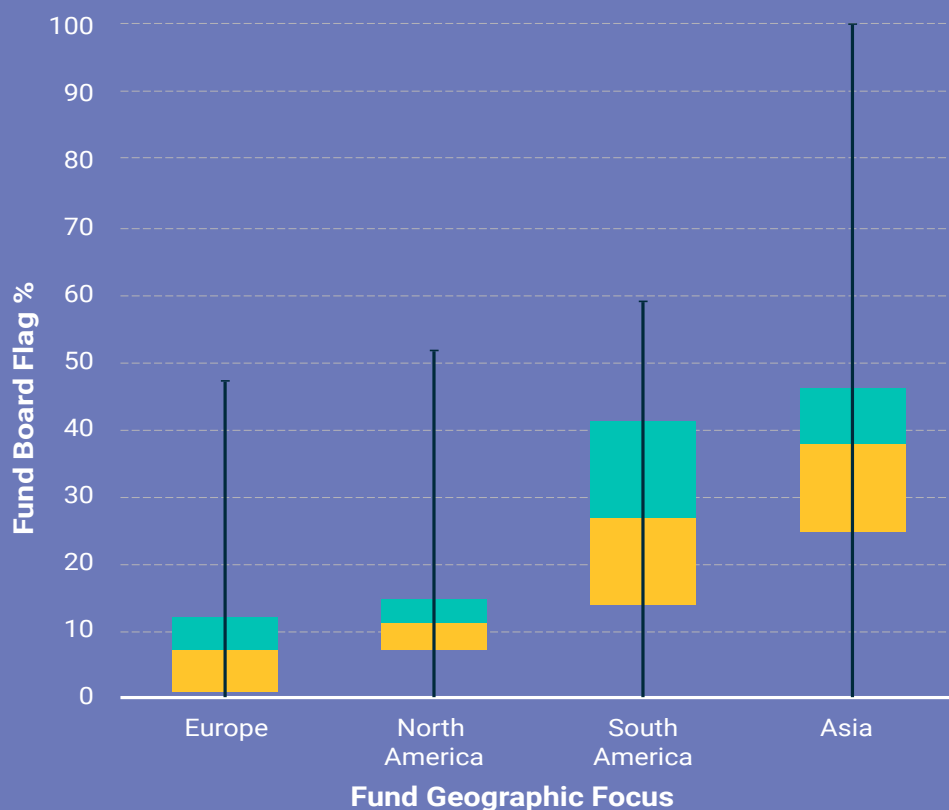


Board Governance and Female Participation

The Fund Board Flag metric shows the percentage of a fund portfolio's underlying market value exposed to companies ranking "below average" relative to global peers based on our assessment of board structure and its effectiveness.

Mapping the Board Flag metric across the universe of covered ETFs shows that funds tracking European constituents outperform peers on exposure to firms with effectively run boards based on MSCI's assessment as of Dec. 31, 2020. The companies held in these funds also exhibit the smallest Board Flag range, with most funds clustered in a 0-10% range. Conversely, funds focused mostly on companies operating in Asia are crowded at the higher Board Flag range, at between 25-45%. ETFs with an Asian focus also display the largest range in this regard, with a handful of ETFs exhibiting 100% Fund Board Flag %.

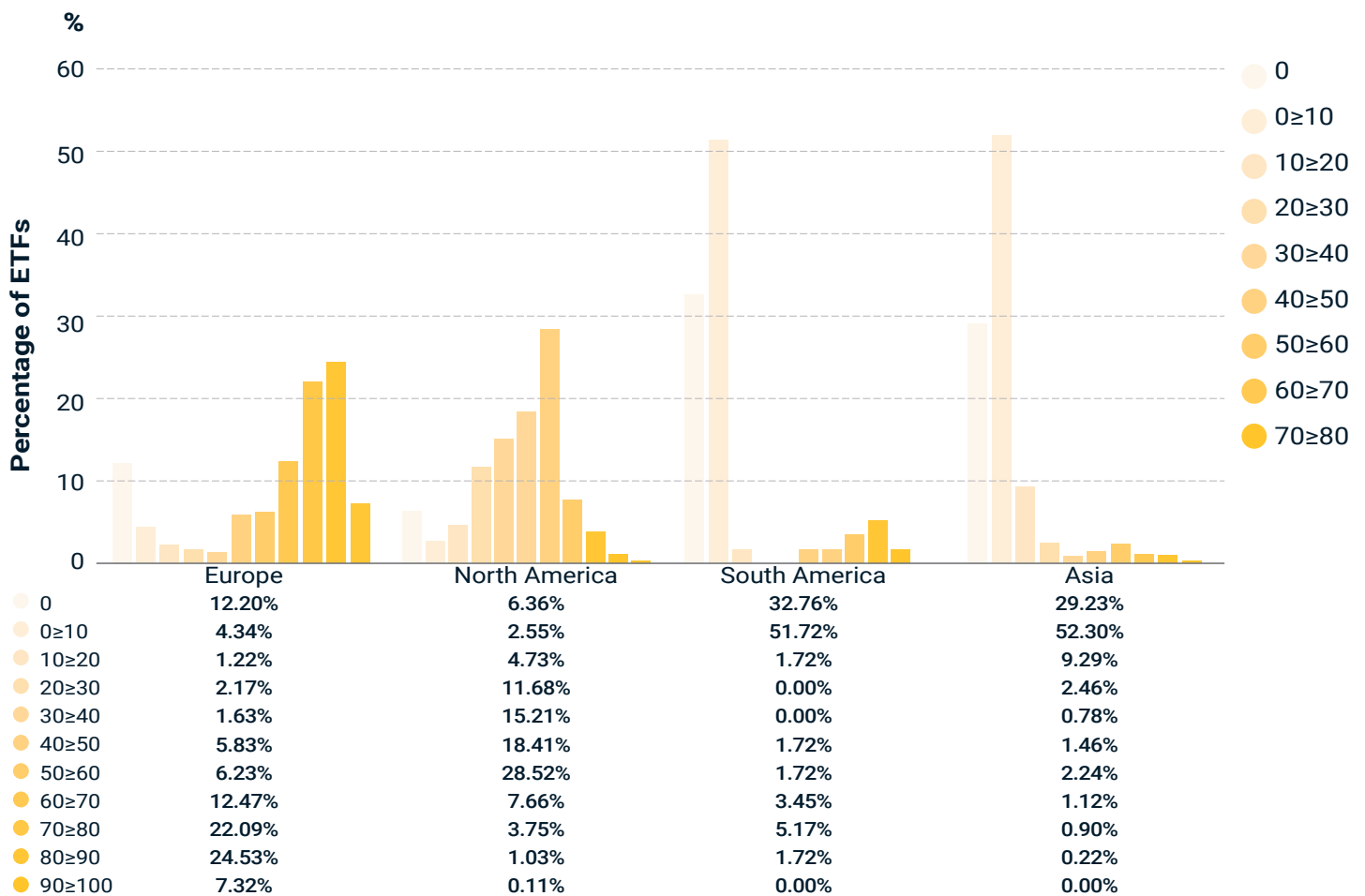
Exhibit 18: ETFs Board Flag % distribution



Source: MSCI ESG Research LLC as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs. The teal and yellow bars represent the quartiles of Fund Board Flag % distributions, the midpoint between them being the median figure for funds of each geographic focus. The error bars at the top and bottom represent the minimum and maximum Fund Board Flag % for funds of each geographic focus.



Exhibit 19: Percentage of ETFs With Females Representing 30% of Directors (%)



Fund Geographic Focus

Source: MSCI ESG Research LLC as of Dec. 31, 2020, covering 3,820 equity and 1,033 bond ETFs
 The y-axis denotes the “% of funds,” the x-axis denotes the “fund geographic focus,” and the grouping colors are deciles of % of fund portfolio with female board participation of at least 30%. Darker shades indicate higher female board participation.

Global Norms

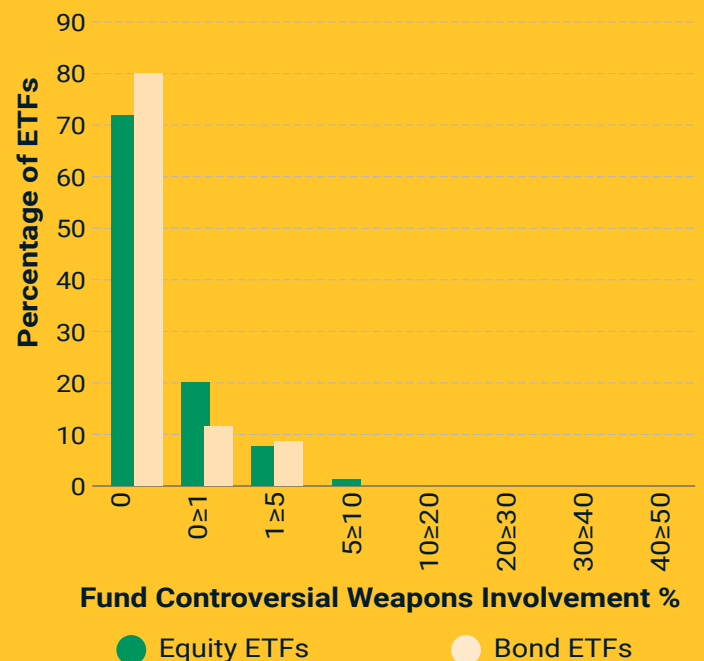
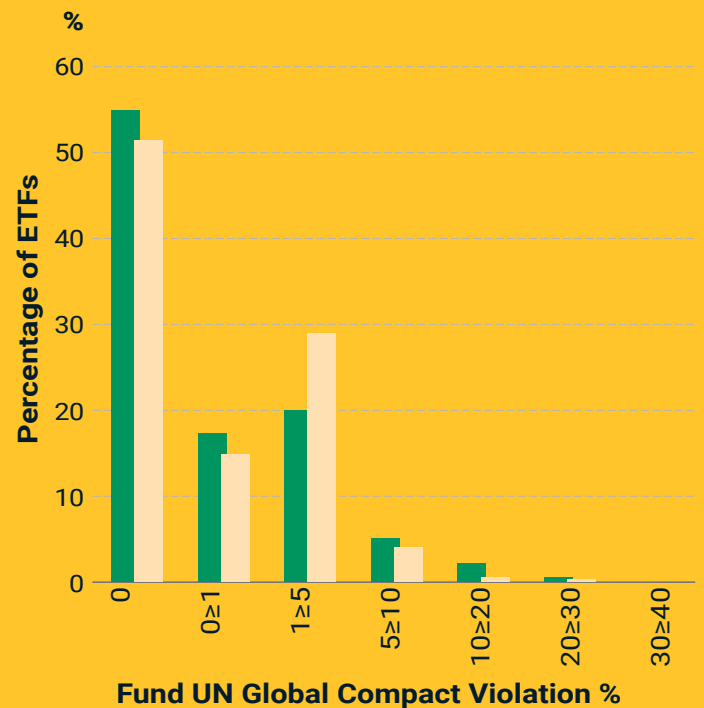
We also assessed the exposure of our ETF coverage universe to violations of global norms.

The Fund Global Compact Compliance Violation metric shows the percentage of a fund's market value exposed to companies that violate the UN Global Compact (UNGC) principles: human rights, labor standards, the environment and anti-corruption. We also look at the percent of a fund portfolio's market value exposed to controversial weapons, through companies with ties to cluster munitions, landmines, biological/chemical weapons, depleted uranium weapons, blinding laser weapons, incendiary weapons, and/or non-detectable fragments.

Key Takeaways:

- » The majority of global ETFs do not have exposure to any holdings that violate the UN Global Compact principles; over 50% of both equity and bond ETFs are fully compliant.
- » A small fraction of ETFs (0.58%, 26 funds) are in considerable violation of UNGC principles, with more than 20% of underlying companies having violated the Global Compact. ETFs with high exposure to extractive industries – metals mining, natural resources, oil and gas – are the ones predominantly exposed to UNGC violations. ETFs that track companies operating largely in South American countries are also considerably exposed to the extractive industry, making them vulnerable to possible violations of the UNGC.
- » Most ETFs do not exhibit controversial weapons involvement (Exhibit 20). Globally, 99% of ETFs range between 0% to 5% in underlying controversial weapons exposure. The handful of ETFs that exhibit higher involvement explicitly track weapons, defense and warfare industry-related indexes.

Exhibit 20: ETF Global Norms Violations





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