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EURO STOXX 50® ESG – INTEGRATING SUSTAINABILITY

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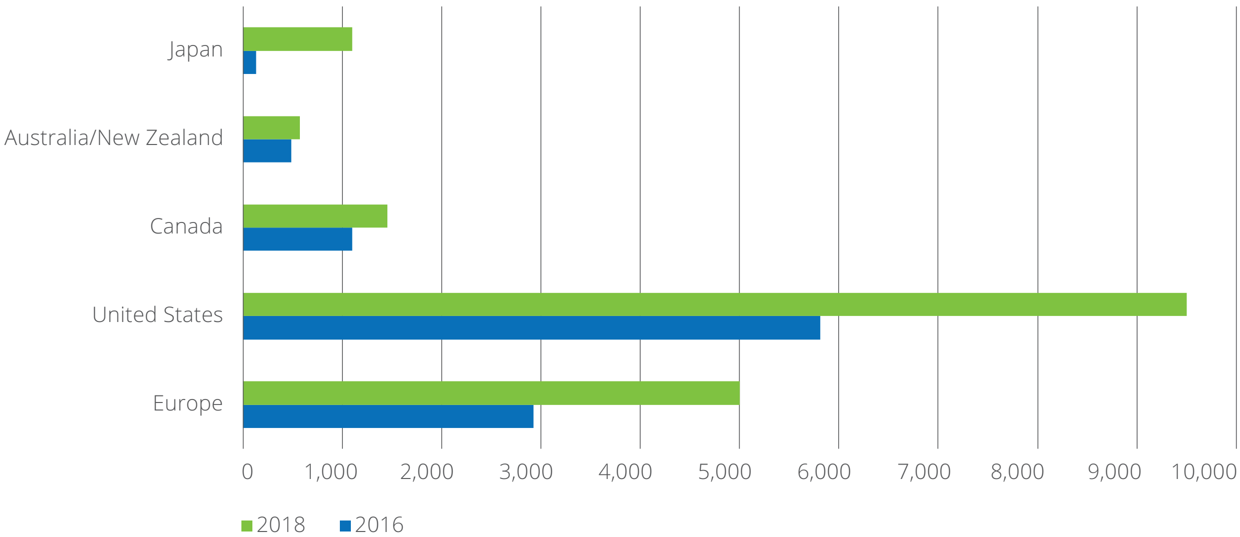
INTRODUCTION

Since its launch in February 1998, the EURO STOXX 50® index has provided diversified access to the largest Supersector leaders in the Eurozone. Its components currently represent around EUR 2.5 trillion, which accounts for approximately 60% of the Eurozone's total stock market capitalization. Furthermore, it is one of the most traded benchmarks in Europe[1]. The EURO STOXX 50® ESG Index, which was launched earlier this year, is based on this iconic blue-chip index. It is an innovative addition to our comprehensive ESG and sustainability suite that incorporates ESG integration.

The Global Sustainable Investment Alliance (GSIA) defines ESG integration as "the systematic and explicit inclusion by investment managers of environmental, social and governance factors into financial analysis[2]. It is the second-most popular sustainable investment strategy globally after negative / exclusionary screening, with a total of USD 17.5 trillion in professionally managed assets and a CAGR of 69% between 2016 and 2018 (Figure 1). Although negative screening is the most common strategy in Europe, ESG integration remains the front runner (measured in terms of total assets) in North America, Australia and New Zealand. Asset managers in these regions cite the desire to minimize risk and to improve final performance over time as their major motivations.

FIGURE 1: Regional growth and allocation of ESG integration investment strategies 2016 – 2018



Source: Global Sustainable Investment Review 2016, 2018

In this paper, we assess the effects of integration and its resulting impact on the EURO STOXX 50® ESG Index risk and return profile.

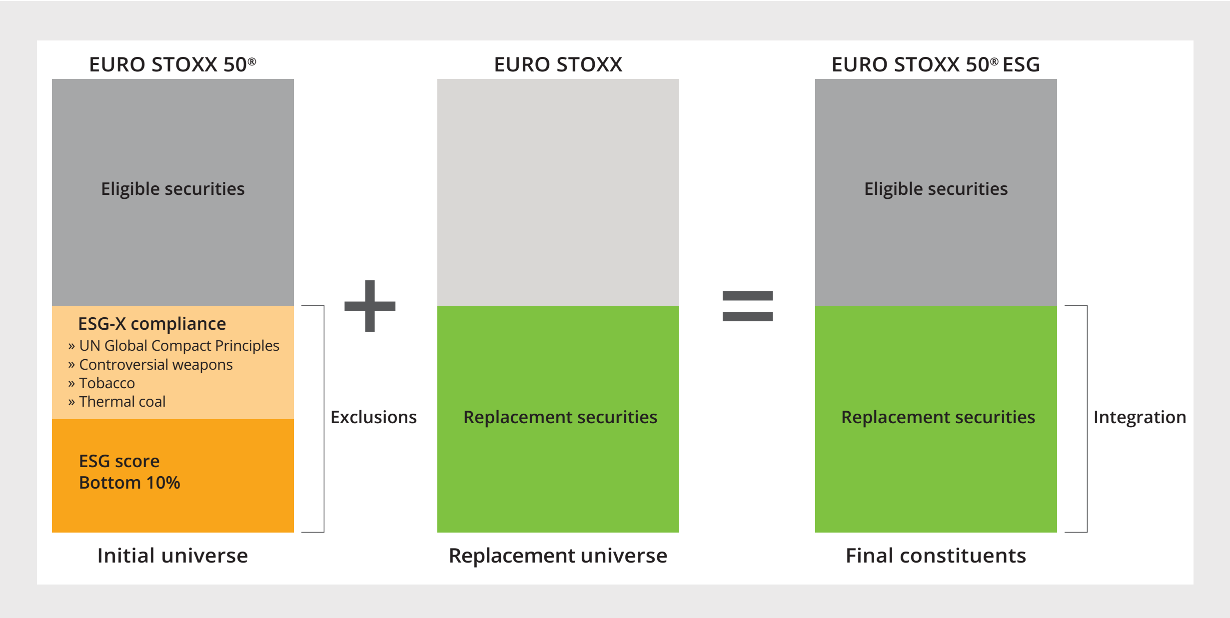
[1] As measured by futures and options open interest of contracts traded on Eurex.
[2] http://www.gsi-alliance.org/wp-content/uploads/2019/03/GSIR_Review2018.3.28.pdf

THE EURO STOXX 50® ESG INDEX

OVERVIEW

The EURO STOXX 50® ESG Index is the most recent addition to the STOXX family of ESG indices, which was boosted in May by the introduction of a fully-fledged family of ESG-X benchmarks (currently 43 in total). Like the EURO STOXX 50® ESG-X, the EURO STOXX 50® ESG is based on the EURO STOXX 50® Index, which uses a fully rules-based approach to provide a blue-chip representation of supersector leaders in the Eurozone. In addition to the exclusionary screening performed in the ESG-X series, the 10% of companies with the lowest Sustainalytics ESG scores are eliminated from the eligible universe. Subsequently, in the integration phase, these securities are replaced by securities belonging to the EURO STOXX Index from the same ICB supersector that have higher ESG scores (Figure 2).

FIGURE 2: EURO STOXX 50® ESG methodology



Source: STOXX Ltd., representative image not to scale

ESG INTEGRATION REPLACEMENT CRITERIA

The EURO STOXX 50 ESG Index is produced by performing the following three modifications to the EURO STOXX 50® Index:

1. The first step excludes the least sustainable companies, which are defined as the 10% of the index constituents (based on the absolute number of holdings) with the lowest ESG scores. Index constituents that do not have an ESG score are not considered for exclusion. Where two or more potential exclusion candidates have the same ESG score, the company or companies with the smallest free float market capitalization is or are excluded.

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2. After this, the same set of exclusion criteria as is used for the ESG-X series – the UN Global Compact Compliance Principles, involvement in controversial weapons, tobacco producers and thermal coal – is applied to the remaining securities.[3]
3. Finally, the individual companies excluded in the first two steps are replaced by companies with higher ESG scores that are drawn in each case from the same ICB supersector of the EURO STOXX universe (includes the EURO STOXX 50®). Where an eligible company has the same ESG score as a potential replacement, the company with the higher free float market capitalization is selected. Replacement constituents must have an ESG score of > 50.

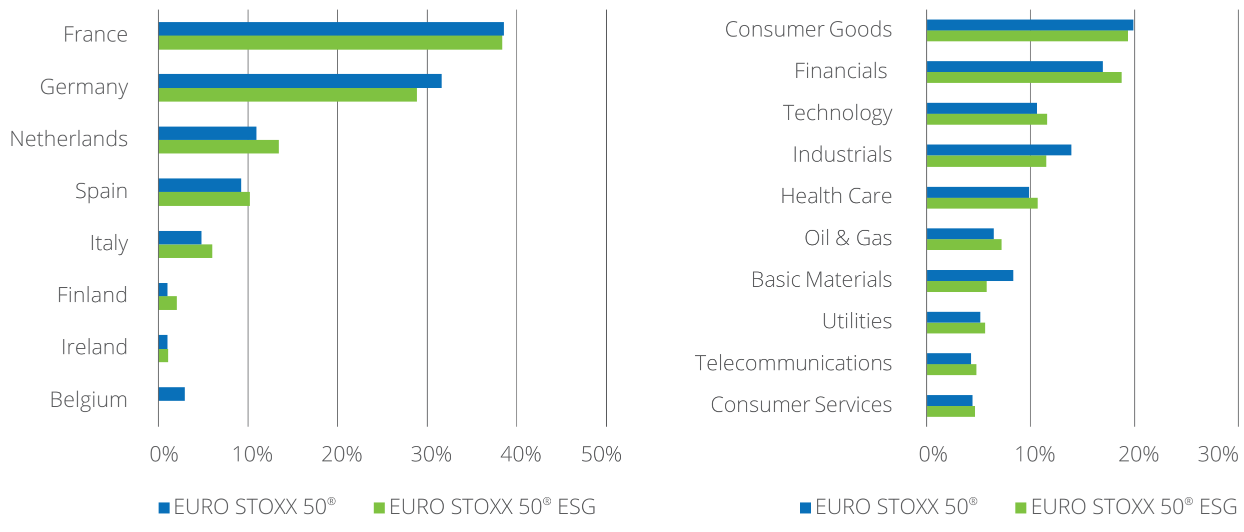
FAST EXIT RULE

The EURO STOXX 50® ESG Index methodology includes a fast exit rule that ensures a swift response to any ESG breaches by quickly removing offenders, and hence limiting investor risk. If Sustainalytics raises an index constituent's ESG risk rating to level 5, the company concerned is removed from the index two trading days after the announcement and its weight is distributed pro rata across the remaining index constituents.[4]

INDEX PROFILE

The EURO STOXX 50® ESG Index maintains a similar composition to its benchmark, which provides diversified access to the Eurozone across countries and industries. It comprises supersector leaders in a total of seven countries, with France being the largest (38%) and Ireland the smallest (1%). Belgium is not represented in the index due to the exclusion of the only security from this country as of the most recent review. The largest absolute net change at the industry level is Basic Materials (–2.58%).

FIGURE 3: Country and sector profile for EURO STOXX 50® and EURO STOXX 50® ESG as of 20 September 2019



Source: STOXX Ltd.

[3] See Appendix A for the full methodology.
[4] See Appendix B.

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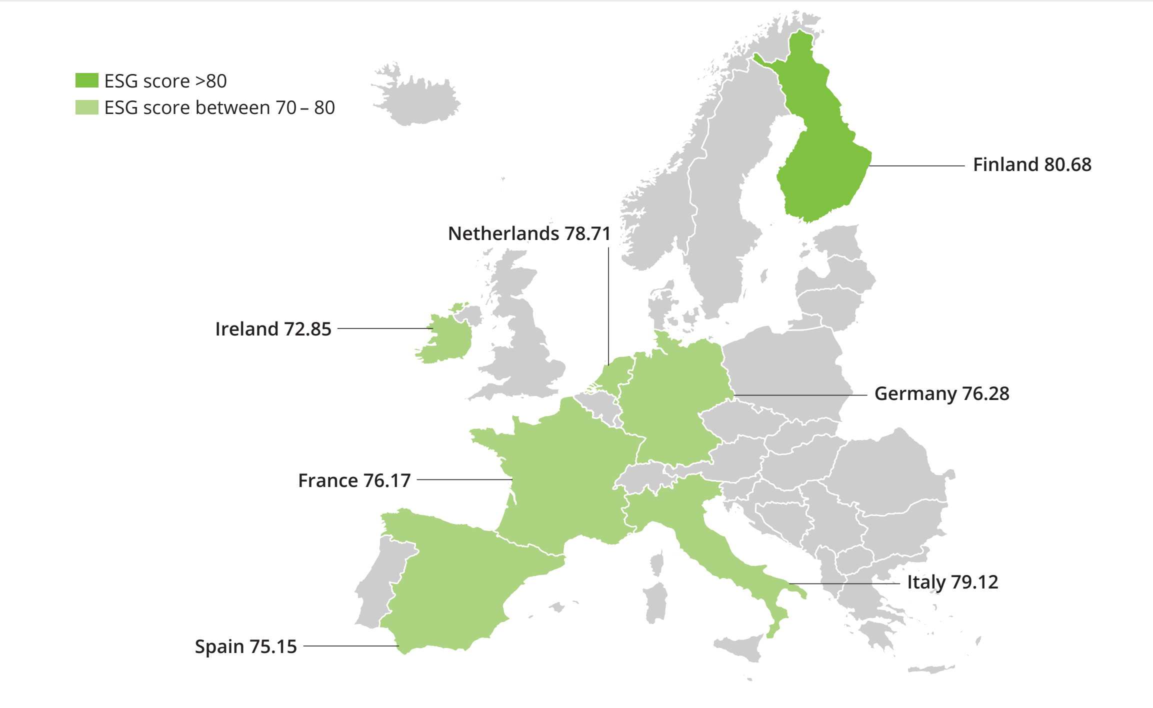
At index inception, Finnish companies had the highest weighted average ESG score (78.05) and have since retained this title with an increase to (80.68).

FIGURE 4: Aggregate ESG scores for companies from the countries represented in the EURO STOXX 50® (as of 20 September 2019)



Source: STOXX Ltd.

On average, the EURO STOXX 50® ESG Index has historically maintained a higher ESG score than the EURO STOXX (Figure 5). This is due both to the replacement of excluded securities by higher-scoring sector counterparts and the subsequent weight redistributions. Historically, the latter have had the higher impact, increasing the index's ESG score by an average of +5 compared to the +3.41 generated from the replacement securities alone. The largest impact from reweighting (a clear +9.34) was recorded when the index was launched.

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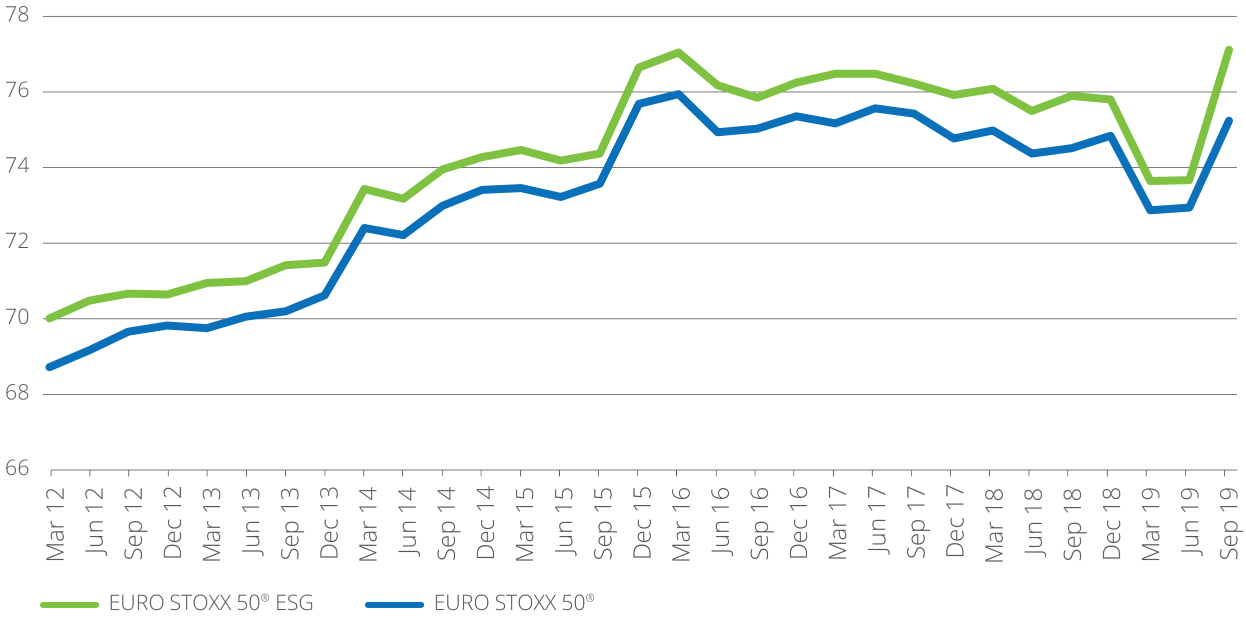
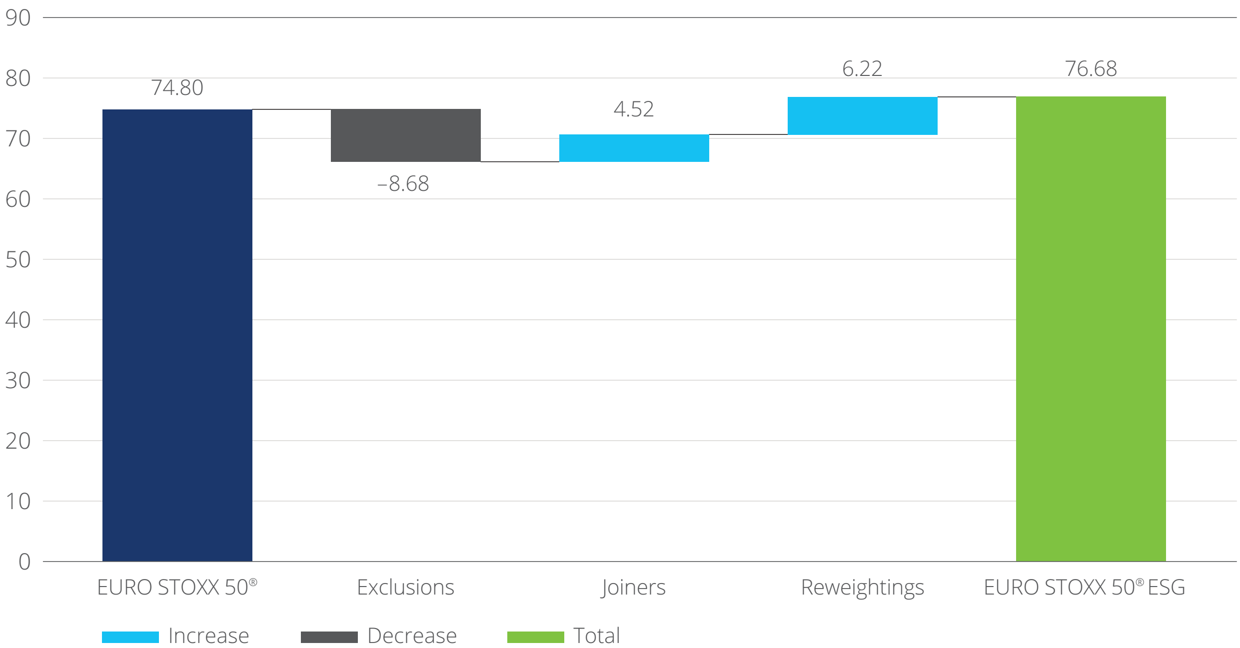
FIGURE 5: Aggregate level ESG score for EURO STOXX 50® and EURO STOXX 50® ESG



Source: STOXX Ltd.

At the same time, the ESG scores for both indices have moved upwards in fairly close lockstep. This possibly reflects companies taking greater action to manage their ESG risks and the similarity in composition of the two indices.

FIGURE 6: Impact of exclusions, replacements and weighting redistributions on index ESG scores (as of 20 September 2019)



Source: STOXX Ltd.

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At the supersector level, banks have accounted for the largest number of instances of exclusions as a result of the rule excluding the 10% of index constituents with the lowest ESG scores (measured in terms of the absolute number of holdings). The number of these related exclusions peaked in 2014 (8), in contrast to 0 so far in 2019 (Figure 7). The Construction & Materials sector, which has seen a total of 26 replacements since the index was launched, is not far behind. At the other end of the spectrum, the Retail, Telecommunications, Insurance, and Financial Services sectors have not seen any such replacements since inception, suggesting that these companies have comparatively better ESG credentials than their peers.

FIGURE 7: Breakdown of instances of exclusions across sectors based on the bottom 10% rule

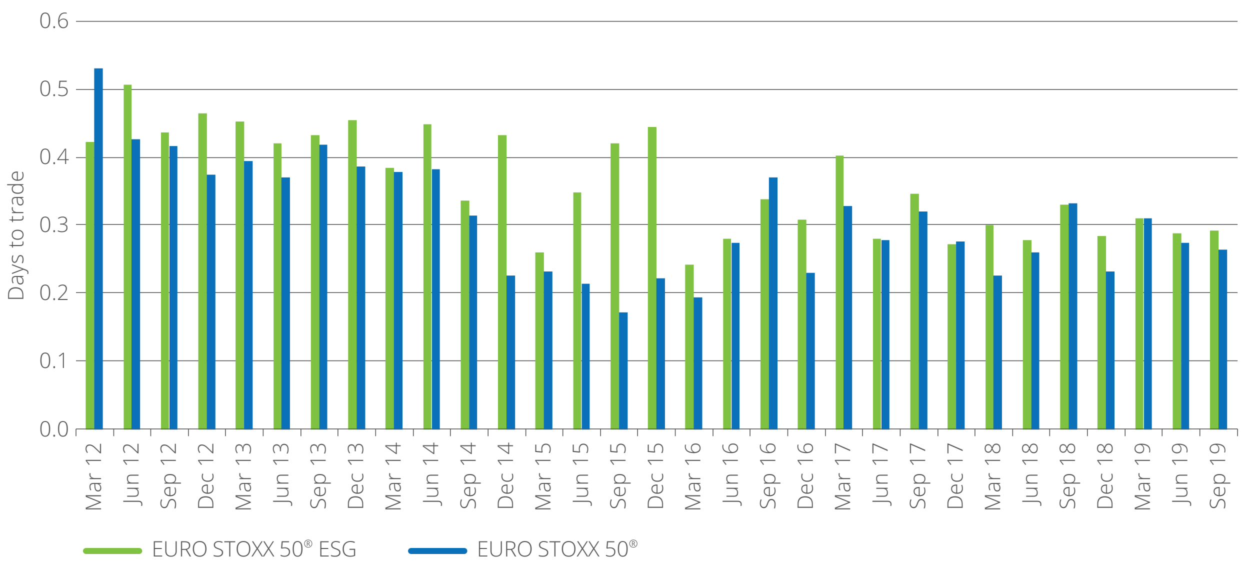
	O&G	BR	C&M	M	B	C	U	F&B	P&H	I&S	HC	A&P	T	RE	R	TC	I	FS
YTD	0	0	1	3	0	1	0	1	0	2	3	3	0	1	0	0	0	0
2018	0	0	4	1	4	0	0	0	0	2	4	4	1	0	0	0	0	0
2017	0	0	4	0	2	0	0	0	0	6	4	4	0	0	0	0	0	0
2016	0	0	1	0	1	0	4	0	0	6	4	4	0	0	0	0	0	0
2015	0	0	4	2	5	0	4	0	0	3	2	0	0	0	0	0	0	0
2014	0	0	4	0	8	0	4	2	2	0	0	0	0	0	0	0	0	0
2013	2	0	4	0	5	0	4	3	2	0	0	0	0	0	0	0	0	0
2012	3	1	4	4	5	1	2	0	0	0	0	0	0	0	0	0	0	0
Total	**5**	**1**	**26**	**10**	**30**	**2**	**18**	**6**	**4**	**19**	**17**	**15**	**1**	**1**	**0**	**0**	**0**	**0**

O&G = Oil & Gas, BR = Basic Resources, C&M = Construction & Materials, M = Media; B = Banks, C = Chemicals, U = Utilities, F&B = Food & Beverage, P&H = Personal & Household Goods, I&S = Industrial Goods & Services, HC = Health Care, A&P = Automobiles & Parts, T = Technology, RE = Real Estate, R = Retail, TC = Telecommunications, I = Insurance , FS = Financial Services

Source: STOXX Ltd.

The EURO STOXX 50® Index covers roughly 60% of the total free float of the eurozone's total stock market capitalization and comprises liquid supersector leaders, with components ranked and weighted by free float and subject to a 10% cap.

FIGURE 8: Number of days needed to fully trade out of EUR 1bn using 100% of the average daily trading volume



Source: STOXX Ltd.

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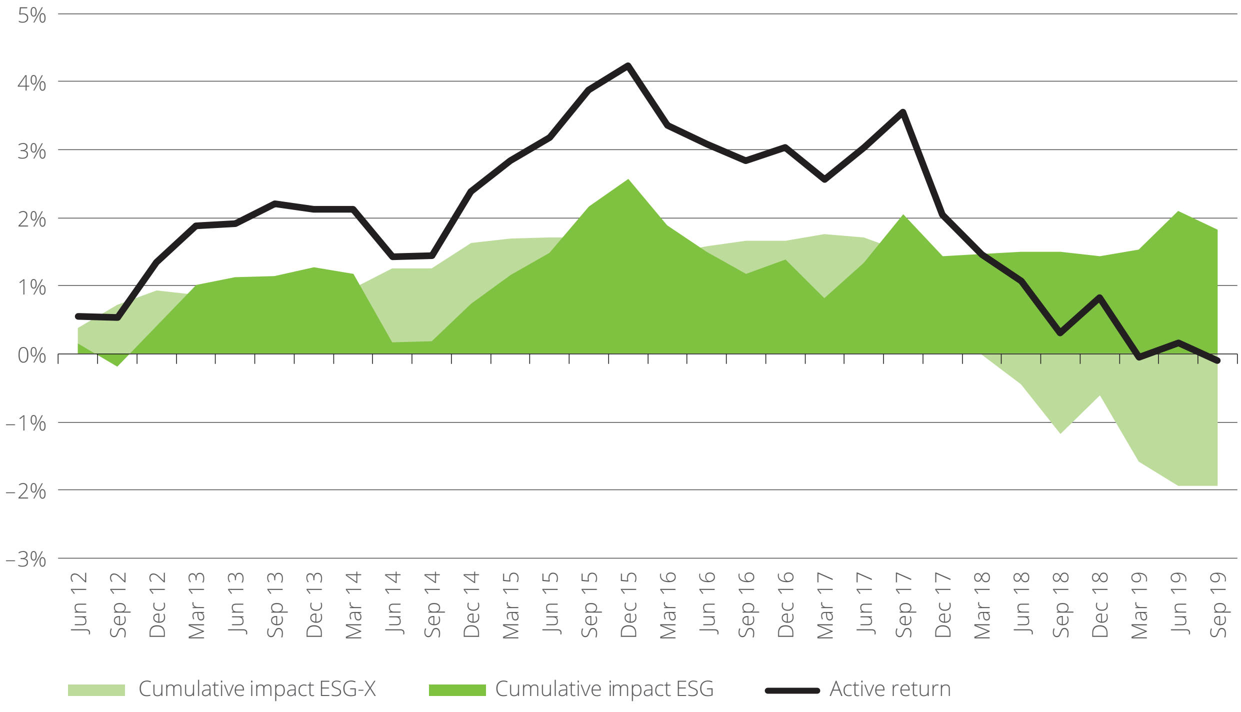
As can be seen from Figure 8, replacing stocks using the ESG integration methodology did not have a material impact on the liquidity of the EURO STOXX 50® ESG in general.

IMPACT OF ESG INTEGRATION ON PERFORMANCE

Excluding companies due to negative and norms-based screening introduces a performance drag of 193 bps over the benchmark (the EURO STOXX 50® Index) in cumulative returns since inception, mostly as a result of the exclusion of companies involved in controversial weapons (see the last paper for further details).

ESG integration significantly reduces the impact of such screening by contributing a cumulative return since inception of 183 bps, resulting in a much smaller underperformance in cumulative return since inception of 0.10% compared to the benchmark (Figure 11). What is more, it does this while keeping volatility below the benchmark and the ESG-X index, where it is 0.14 percentage points higher in each case. ESG integration generally has a positive impact on returns between review periods, with the replacement securities either offsetting any drag due to exclusions from norms-based and negative screening or in fact adding to the positive performance.

FIGURE 9: Impact of exclusions and integration on returns



Source: STOXX Ltd.

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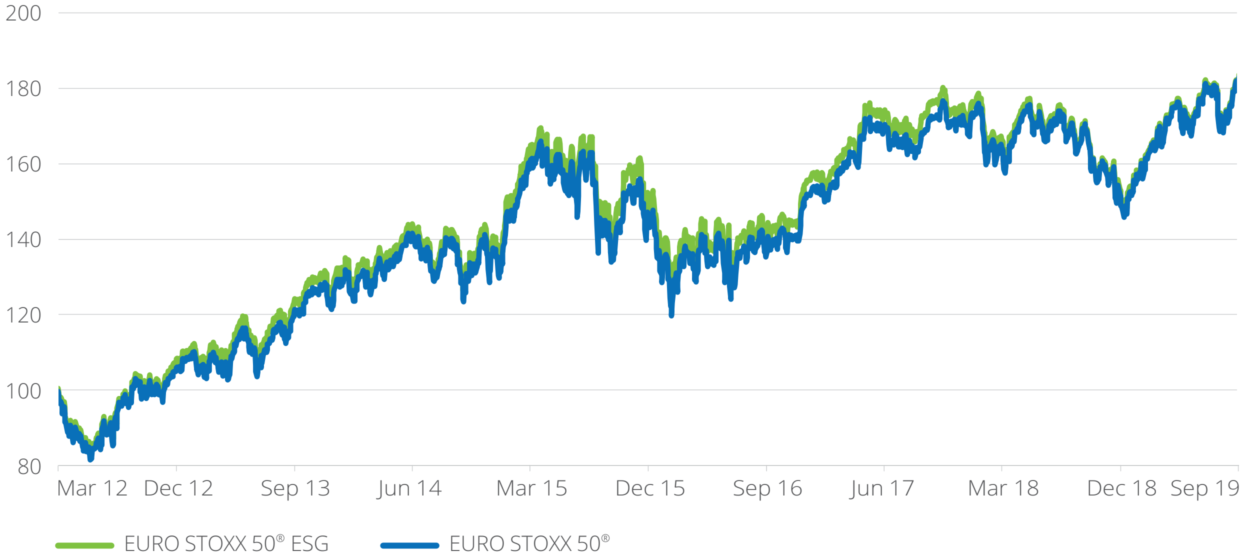
FIGURE 10: Performance of EURO STOXX 50® & EURO STOXX 50® ESG



Source: STOXX Ltd.

A factor-based performance attribution comparing the EURO STOXX 50® ESG Index as the portfolio with the EURO STOXX 50® Index as the benchmark reveals that the active return of –4bp is not statistically significant (t-stat of –0.12). Only a small and not statistically significant contribution of 16bps comes from the industry factor (Figure 12).

FIGURE 11: Performance analysis for period from 19 March 2012 to 20 September 2019

EURO STOXX 50®	Benchmark	ESG-X	ESG
Cumulative return since inception*	83.40%	81.47%	83.30%
Return since inception	8.54%	8.38%	8.53%
5y return	5.53%	5.11%	5.29%
3y return	10.32%	9.47%	9.53%
1y return	8.98%	8.63%	8.74%
Volatility since inception	17.85%	17.85%	17.71%
5y volatility	17.92%	17.86%	17.80%
3y volatility	12.55%	12.45%	12.38%
1y volatility	14.08%	13.89%	13.96%
Sharpe ratio since inception	0.55	0.54	0.55
5y Sharpe ratio	0.39	0.37	0.38
Max. drawdown since inception	–27.82%	–27.64%	–27.14%
5y max. drawdown	–27.82%	–27.64%	–27.14%
Tracking error (TE)	n/a	0.59%	0.92%

*All returns and volatilities are annualized unless otherwise indicated.

Source: STOXX Ltd., data calculated using gross returns in EUR as of 20 September 2019.

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The conclusion that may be drawn is that replacing stocks using ESG integration has not significantly altered either the performance of the EURO STOXX 50® ESG Index or its risk profile as compared to its market-value weighted benchmark.

FIGURE 12: Performance attribution for period from 16 March 2012 to 20 September 2019

Source of return	Contribution	Risk	IR	T-stat
Portfolio	8.16%	17.23%		
Benchmark	8.20%	17.37%		
Active	**–0.04%**	**0.90%**	**–0.04**	**–0.12**
Specific return	**–0.24%**	**0.82%**	**–0.29**	**–0.82**
Factor contribution	**0.20%**	**0.38%**	**0.53**	**1.48**
Style	0.04%	0.13%	0.32	0.88
Country	0.00%	0.23%	0.02	0.05
Industry	0.16%	0.27%	0.57	1.58
Currency	0.00%	0.00%	–0.16	–0.45
Market	0.00%	0.01%	0.42	1.17

Source: Axioma Portfolio Analytics, STOXX Ltd., returns in EUR

CONCLUSION

ESG integration is becoming increasingly popular as investment managers look beyond traditional portfolio exclusion strategies using negative and norms-based screening, where the focus is more on alignment with investment policies and moral codes than on potentially enhancing a benchmark's risk-return profile. Although employing such exclusions sometimes leads to a positive impact on performance (as demonstrated in our previous paper, STOXX ESG-X Indices), this should be seen as a byproduct rather than the primary objective. However, using ESG scores and ratings it is possible to construct portfolios that reflect specific companies' exposure to sector-specific ESG risks and their ability to manage these risks relative to their industry peers, and hence potentially to improve risk-returns.

The EURO STOXX 50® ESG Index analyzed in this paper enhances the ESG profile of its benchmark, as measured by the aggregate ESG score. This provides a more sustainable alternative to the leading blue-chip indicator for Eurozone stocks, while maintaining a similar level of liquidity. Whereas the exclusions-based approach adopted by the EURO STOXX 50® ESG-X introduces a small performance drag of – 1.9 percentage points since inception, the EURO STOXX 50® ESG almost entirely offset this, adding back 1.8 percentage points while also reducing volatility by 14 bps at the same time. Importantly, it achieves this result with a risk-return profile that is not significantly different in statistical terms. This may be attributed to the index methodology, which ensures that excluded companies are only replaced by companies from the same ICB supersector. Historically, banks have been laggards in terms of their ESG credentials, registering the highest number of replacements since they regularly fell within the bottom 10% of ESG scores. However, this trend has seen a reversal of late, with no ESG score exclusions registered in the sector this year.

With its similar risk-return characteristics and enhanced ESG profile, the EURO STOXX 50® ESG Index provides investors with a more sustainable version of its flagship benchmark that is suitable for use as the underlying for derivatives, structured products and exchange traded funds. It complements the existing ESG-X series, building upon its simplicity and transparent rules-based approach and helping to ensure that our range of ESG investment solutions keeps pace with current growth in demand.

APPENDIX A

ESG-X SERIES EXCLUSION CRITERIA

UN Global Compact Principles
The index excludes companies that Sustainalytics considers to be non-compliant with the UN Global Compact Compliance Principles. Sustainalytics has defined five ESG risk levels ranging from 1 (low risk) to 5 (very high risk), and companies assigned to level 5 are considered to be non-compliant with the Global Compact Principles.

Controversial weapons
The index excludes companies identified by Sustainalytics as being involved with controversial weapons. The latter comprise anti-personnel mines, biological and chemical weapons, cluster weapons, depleted uranium, nuclear weapons and white phosphorus weapons.

The criteria for determining involvement are:
» Internal production or sale of controversial weapons
» The ultimate holding company owns more than 10% of the voting rights of an involved company
» More than 10% of the voting rights of a company are owned by an involved company

Tobacco
The index excludes companies identified by Sustainalytics as being tobacco producers (0% revenue threshold). In other words, companies deriving any revenue at all from tobacco production are excluded.

Thermal coal
The index excludes companies identified by Sustainalytics as deriving:
» more than 25% of their revenues from thermal coal extraction (including thermal coal mining and exploration)
» more than 25% of their power generation capacity from coal-fired electricity, heat or steam generation capacity/thermal coal electricity production (including utilities that own/operate coal-fired power plants).

APPENDIX B

THE FAST EXIT RULE IN PRACTICE

STOXX used its fast exit rule to become the first index provider to remove Volkswagen (VW) from its ESG indices.

FIGURE 13: Controversy risk screening

Low	Moderate	Significant	High	Severe	Qualitative assessment
The controversy has a low impact on the environment and society, posing negligible risks to the company.	The controversy has a moderate impact on the environment and society, posing minimal risks to the company.	The controversy has a significant impact on the environment and society, posing significant risks to the company.	The controversy has a high impact on the environment and society, posing high risks to the company. This category often reflects strucural problems in the company.	The controversy has a severe impact on the environment and society, posing serious risks to the company. This category represents the most severe corporate conduct.	
1	2	3	4	5	Controversy and event rating

Source: Sustainalytics research, 2019

Timeline

» Friday, Sep. 18, 2015: The United States Environmental Protection Agency (EPA) issued a Notice of Violation of the Clean Air Act to Volkswagen Group, after it was found that the automaker had intentionally programmed diesel engines to activate certain emissions controls only during laboratory emissions testing.

» Wednesday, Sep. 23: Sustainalytics changed the rating for Volkswagen and STOXX announced the company's removal from all STOXX ESG indices.

» Friday, Sep. 25: Volkswagen's removal from all STOXX ESG indices took effect.

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About STOXX Ltd.

STOXX Ltd. is a global index provide that currently calculates a global, comprehensive index family of over 10,000 strictly rules-based and transparent indices. Best known for the leading European equity indices EURO STOXX 50, STOXX Europe 50 and STOXX Europe 600, STOXX Ltd. maintains and calculates the STOXX Global index family which consists of total market, broad and blue-chip indices for the Americas, Europe and Asia/Pacific regions and the Latin America and BRIC (Brazil, Russia, India and China) sub-regions, as well as global markets.

To provide market participants with optimal transparency, STOXX indices are classified into four categories. Regular "STOXX" indices include all standard, theme and strategy indices that are part of STOXX's integrated index family and follow a strict rules-based methodology. The "iSTOXX" brand typically comprises less standardized index concepts that are not integrated in the STOXX Global index family, but are nevertheless strictly rules-based. While "STOXX" and "iSTOXX" brand indices are developed by STOXX for a broad range of market participants, the "STOXX Customized" brand covers indices that are specifically developed for clients and do not include the STOXX brand in the index name. STOXX uses the Omnient brand to offer custom indices from its existing index universe.

STOXX indices are licensed to more than 600 companies around the world as underlyings for Exchange Traded Funds (ETFs), futures and options, structured products and passively managed investment funds. Three of the top ETFs in Europe and approximately 25% of all assets under management are based on STOXX indices. STOXX Ltd. holds Europe's number one and the world's number two position in the derivatives segment.

Since September 2019 STOXX is part of Qontigo.

Qontigo is a financial intelligence innovator and a leader in the modernization of investment management, from risk to return. The combination of the company's world-class indices and best-of-breed analytics, with its technological expertise and customer-driven innovation enables its clients to achieve competitive advantage in a rapidly changing marketplace. Qontigo's global client base includes the world's largest financial products issuers, capital owners and asset managers. Created in 2019 through the combination of STOXX, DAX and Axioma, Qontigo is part of Deutsche Börse Group, head-quartered in Eschborn with key locations in New York, Zug and London.

Qontigo's index provider STOXX is part of Deutsche Börse Group, and the administrator of the DAX indices under the European Benchmark Regulation.

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