

# **Smart ESG Investing: Sustainability with Outperformance potential**

**Whitepaper**

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## 1. THE VALUE GROUP AND INDEX INTELLIGENCE

The Value Group is an independent investment consultant for institutional clients and a provider of financial, non-financial, and sustainability-based company valuations. Our services are founded on acknowledging that investing for the long-term requires more than just standard financial metrics. Our approach is based on a database built on our research, enabling us to combine traditional factors with alternative metrics. By combining both metrics into one score, we can integrate the best of both worlds into one valuation.

As a recognized academic research partner, The Value Group takes a leading role in interdisciplinary financial research with practical impact. In cooperation with our research network, composed of renowned universities (Regensburg, Berlin, Munich, St. Gallen), we continue to identify future value drivers and incorporate them into our ratings.

In the future, corporate success will depend more than ever on the degree of compliance with sustainable metrics alongside financial indicators. As a result of a research project on the risks and opportunities of the shift towards sustainability, we developed our sustainability rating (ESG rating) in 2008. The proprietary rating closely follows commonly used sustainability guidelines (e.g., Austrian Ecolabel, FNG Label). It evaluates a company based on its leadership and its influence on the environment, society, employees, supply chain, and customers.

On this basis, the advantages of our Quality Rating have been combined with the concept of sustainability in 2011. As a result, the basic ESG rating has been enhanced and further developed into the Platinum Alpha Rating with a superior risk-return profile by adding new factors, optimizing the weighting, and applying tailor-made filters. Thereby we were able to offset the potential performance drag of standard ESG ratings.

Since the finalization of the Rating in 2006, the ratings have been incorporated in multiple funds of different asset classes. Since 2015, selected indicators have been used in the risk management of large pension funds and insurances. As of 2018, indices based on our ratings have been listed and used as a basis for ETFs and swaps.

Index Intelligence is an independent provider of modern index and benchmarking solutions with offices in Frankfurt am Main and Dresden. With innovative indices and effective data management, we offer asset managers, banks, stock exchanges, insurance companies and KVGen customized solutions from conceptual design to development and execution. Since October 2020, Index Intelligence GmbH is officially registered as a benchmark administrator according to the European benchmark regulation.

Together with Index Intelligence, we have developed the XINT TVG ESG Index family in 2020. Within this collaboration, The Value Group is responsible for evaluating the individual securities, while Index Intelligence provides the investment universe and develops the technical and administrative implementation.

## 2. ABSTRACT

Financial sustainability describes the long-term economic performance potential of a firm that can be measured using its intangible and intellectual capital. By considering financial sustainability in the stock selection as the fourth ESG dimension, the performance of sustainability portfolios can be further enhanced. Firms with high ESG performance and high financial sustainability significantly outperform the market by about 3% per year on a risk-adjusted basis while reducing downside risk by about 25% vis-à-vis the global market portfolio. The findings of this study are put into practice in the new The Value Group Platinum Alpha ESG Index as a smart ESG investing solution that integrates financial sustainability as the fourth ESG dimension in a systemic way.

## 3. INTRODUCTION

Over the last ten years, sustainable investments have rapidly gained importance as more and more investors combine financial objectives with their considerations about environmental, social, and governance (ESG) issues. According to the Global Sustainable Investment Review 2018, more than one-third of all professionally managed assets worldwide incorporate sustainability criteria in the investment process. As of the end of 2020, the United Nations Principles for Responsible Investment (UNPRI), an investor initiative supporting ESG investments, counts more than 3,000 signatories with more than \$300 trillion in assets under management. Furthermore, in an international survey by Morgan Stanley (2020), as many as 57% of the asset owner surveyed can envision a time only making sustainable investments.

From the viewpoint of portfolio theory, constraining one's investment opportunity set may lower diversification benefits and consequently reduce investor's expected returns (Markowitz, 1952). In contrast to this theoretical argument, the majority of prior empirical studies document that sustainability portfolios perform in the long run at least as well as conventional market benchmarks on a risk-adjusted basis (see for related literature reviews, e.g., Renneboog et al., 2008; Guenster, 2012; Widyawati, 2020). Furthermore, recent studies even point toward a positive impact of ESG performance on firm fundamentals. Firms with higher ESG ratings display, on average, higher fundamental profitability, higher payouts, and lower stock price volatility (Albuquerque et al., 2019; Giese et al., 2019; Dunn et al., 2018).

Though higher ESG ratings correlate, on average, with better fundamental firm performance, investors are regularly faced with the challenge of identifying within the global sustainable stock universe the best firms with the highest expected returns for their portfolio. The ESG assessment provides a valuable tool to understand better the firms' non-financial opportunities and risks for mastering the challenges of the 21st century. However, additional non-financial value drivers exist that are not included in a typical ESG assessment but significantly impact firm value and future stock-market performance. These include, e.g., innovation efficiency, brand strength, and network effects as unique features of a firm that are associated with significant competitive advantages. Such intangible and intellectual capital characterizes the long-term economic performance potential of a firm. It can be thought

of as the firm's financial sustainability, which expands the environmental, social, and governance dimensions of ESG by a fourth dimension.

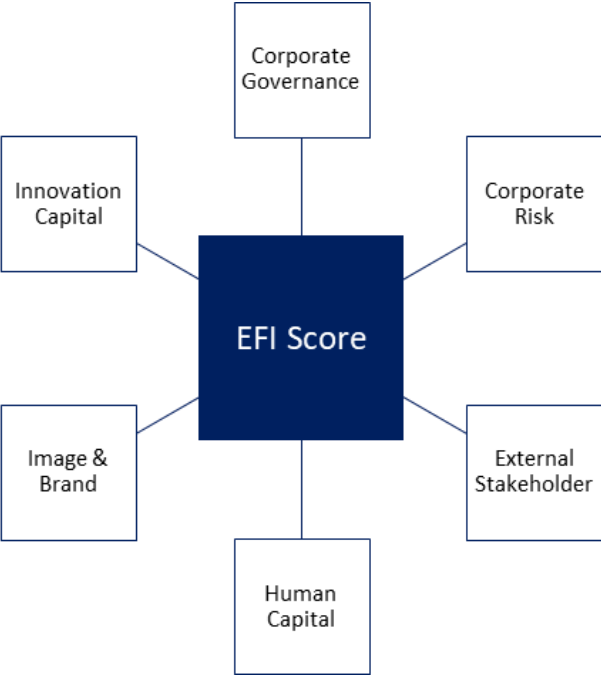


Fig. 1. Components of the EFI score

Following this line of reasoning, this study explores how the performance of global sustainability portfolios is affected when the firms' financial sustainability is considered in the stock selection as the fourth dimension of sustainability. To assess the firms' financial sustainability, we employ the extra-financial indicator (EFI) score developed by The Value Group, which evaluates the firms' extra-financial quality based on their intangible and intellectual capital. The EFI score aggregates numerous data points and key performance indicators from six categories identified as significant value drivers based on the quantitative EFI research model (see for the international return predictability of the general EFI score the study "The Return-Predictive Power of Intangibles", The Value Group, 2020).

The remainder of the article is organized as follows. The subsequent section describes the international dataset. Section 3 examines how adding financial sustainability impacts the performance of global sustainability portfolios. Section 4 then discusses The Value Group Platinum Alpha ESG Index, which combines high ESG performance with high financial sustainability in a smart ESG investing solution. The study concludes with a summary of the main findings.

## 4. DATA AND SUMMARY STATISTICS

We study an international stock universe comprising firms from 23 developed equity markets over the sample period from January 2011 to December 2020 (henceforth 2011–2020). The countries' selection resembles the countries included in common world stock market benchmarks. To ensure economically meaningful results for institutional investors, the largest firms in each country are selected, which together account for 85% of the country's total market capitalization each year.

Monthly total returns (including reinvested dividends) on common stocks are obtained from Refinitiv Datastream, and annual firm-level accounting information is from Worldscope. The firms' degree of sustainability is assessed using The Value Group's proprietary ESG rating, which has been computed with a consistent methodology since 2008. It comprehensively evaluates a firm's sustainability opportunities and risks by placing equal weights on the environmental, social, and governance dimensions. The fourth dimension of sustainability, the firms' financial sustainability, is measured using the EFI score, which is also sourced from The Value Group. The dataset includes surviving and non-surviving firms that appear at any point in time during the sample period. Thus, no survivorship bias is present in the performance analysis. All data are de-nominated in euros to represent the perspective of a euro-based investor.

Table 1 shows distributional statistics of sample firms across individual countries. Over the 2011–2020 period, the sample comprises, on average, 1628 firms per month. Expectedly, the United States and Japan account for more than half of the sample firms and total market capitalization.

Table 1. Summary Statistics, 2011–2020

Country	Firms	Weight
Australia	69	2.8%
Austria	6	0.1%
Belgium	11	0.7%
Canada	95	3.7%
Denmark	18	0.7%
Finland	14	0.5%
France	76	5.1%
Germany	56	3.8%
Hong Kong	91	4.3%
Ireland	5	0.2%
Israel	9	0.2%
Italy	21	1.1%
Japan	306	10.4%
Netherlands	19	1.5%
New Zealand	7	0.1%
Norway	9	0.5%
Portugal	3	0.1%
Singapore	29	1.1%
Spain	22	1.5%

Sweden	28	1.0%
Switzerland	38	3.3%
United Kingdom	104	6.1%
United States	592	51.2%

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This table reports the average number of firms per month in each country and each country's average percentage weight in terms of market capitalization.

## 5. PERFORMANCE IMPACT OF FINANCIAL SUSTAINABILITY

This section examines how the performance of sustainability portfolios is impacted by taking financial sustainability based on the firms' EFI score into account in the stock selection. To do so, we annually form the following three portfolios within the sustainable investment universe:

- (1) A traditional sustainability portfolio without EFI screening.
- (2) A portfolio of sustainable firms with EFI scores belonging to the bottom 20% of the global stock universe.
- (3) A portfolio of sustainable firms with EFI scores belonging to the top 20% of the global stock universe.

The sustainable investment universe consists of the top 40% of firms according to their ESG rating using an industry-specific best-in-class approach. The sustainability screening considers the criteria of the Austrian Ecolabel, which is known to set the highest standards for corporate social responsibility. We calculate monthly value-weighted returns on the three outlined portfolios for the subsequent 12 months and revise the portfolio composition each year.

Table 2 shows the annualized risk and return characteristics of the value-weighted global market portfolio and the three different sustainability portfolios. Over the 2011–2020 period, the market produced an average annual return of 11.70% with a standard deviation of 12.30% per year, which translates into a Sharpe ratio of 0.94. The risk-return tradeoff of the traditional sustainability portfolio without EFI screening is of similar magnitude. Furthermore, though the portfolio comprises only two-fifths of the global stock universe, it displays a high correlation of 0.99 with the market by simultaneously having only a tracking error of 1.47% per year. After controlling for market risk, the alpha estimate is 0.13% per year with a t-statistic of 0.27, indicating that the risk-adjusted excess return is statistically indistinguishable from zero. Nevertheless, we detect improved risk statistics based on the standard deviation, maximum drawdown, and beta measure for the traditional sustainability portfolio vis-à-vis the market. This observation is consistent with prior studies documenting that good ESG performance has a risk-reducing effect (Albuquerque et al., 2019; Giese et al., 2019; Dunn et al., 2018).

While the traditional sustainability portfolio offers investors in general a market-like return over the sample period, selecting sustainable firms by adding financial sustainability through the EFI screening induces substantial return differentials relative to the market. Sustainable firms with low EFI scores are associated with a negative annual alpha value of -5.26%, while sustainable firms with high EFI scores significantly out-perform the market by more than 3.03% per year. High EFI scores do not only enhance future returns but also help to reduce risk. This is particularly evident in the maximum drawdown measure. While the global market portfolio experiences drawdowns as low as -19.68%, investors in sustainable firms with high EFI scores only have to bear a maximum loss of -14.57% over the sample period, which is a further reduction of downside risk in comparison to the traditional sustainability portfolio.



Though the EFI screening increases the tracking error compared to the conventional sustainability portfolio, the EFI research model's allocation adjustments significantly enhance the risk-return tradeoff. The Sharpe ratio improves by more than 22%, while the correlation with the market remains at a high level of 0.96. The information ratio with a value of 0.89 corroborates that financial sustainability based on the firms' intangible and intellectual capital represents a very useful stock selection criterion within the sustainable investment universe.

In sum, our empirical findings document that high-quality firms with high expected returns can be ex ante separated from low-quality firms with low expected returns within the global sustainable stock universe using the EFI research model. Thus, by considering financial sustainability in the stock selection as the fourth ESG dimension, the performance of sustainability portfolios can be further enhanced.

**Table 2. Performance Impact of Financial Sustainability using the EFI Score, 2011–2020**

Portfolio	Market	Sustainability Portfolio		
		without EFI Screening	with Low EFI Scores	with High EFI Scores
Average Return	11,70%	11,46%	7,37%	14,38%
Standard Deviation	12,30%	12,00%	15,01%	12,41%
Max. Drawdown	-19,68%	-17,61%	-25,48%	-14,57%
Avg. Excess Return	11,52%	11,29%	7,19%	14,21%
Sharpe Ratio	0,94	0,94	0,48	1,15
Avg. Active Return		-0,23%	-4,33%	2,69%
Tracking Error		1,47%	7,02%	3,39%
Correlation		0,99	0,89	0,96
Information Ratio		0,09	-0,75	0,89
Beta		0,97	1,08	0,97
Alpha		0,13%	-5,26%	3,03%
t-statistic		0,27	-2,30	2,73

The first table section provides the portfolio's average return, the standard deviation of returns, and the maximum draw-down, i.e., the maximum percentage peak-to-through decline over the sample period. The second section shows the average excess return (portfolio's return net of the risk-free rate), the Sharpe ratio (average excess return divided by the standard deviation of returns), the average active return (portfolio's return net of the market return), the tracking error (standard deviation of active returns), the correlation of returns with the market returns, and the information ratio (alpha estimate divided by the standard error of the CAPM). The third section gives the results of the CAPM regression analysis. The beta and alpha estimates are obtained by regressing the portfolio excess returns on the market excess returns. The t-statistic relates to the alpha estimate. The one-month EURIBOR serves as the risk-free rate (negative rates are set to zero).

## 6. THE VALUE GROUP PLATINUM ALPHA ESG INDEX

Building upon the previous insights, we investigate in this section the performance of the Platinum Alpha ESG Index, which The Value Group has developed as a global sustainability index that integrates financial sustainability as the fourth ESG dimension in a systemic way.

The index selects the top 100 firms according to the EFI research model from the global sustainable stock universe and weights its portfolio constituents based on their market values. Hence, it combines high ESG performance with high financial sustainability as measured by the firms' extra-financial quality.

Table 3 shows the annualized risk and return characteristics of the Platinum Alpha ESG Index vis-à-vis the value-weighted global market portfolio over the sample period. The outcomes are very similar to the results observed from the unrestricted portfolio of sustainable firms with high EFI scores in Table 2. However, focusing on the top 100 firms enhances the risk statistics further and increases the risk adjusted excess return based on the CAPM alpha to 3.20% per year.

Table 3. Platinum Alpha ESG Index, 2011–2020

Portfolio	Market	Platinum Alpha
Average Return	11,70%	14,37%
Standard Deviation	12,30%	12,32%
Max. Drawdown	-19,68%	-14,40%
Avg. Excess Return	11,52%	14,20%
Sharpe Ratio	0,94	1,15
Avg. Active Return		2,68%
Tracking Error		3,79%
Correlation		0,95
Information Ratio		0,85
Beta		0,95
Alpha		3,20%
t-statistic		2,60

This table shows the annualized risk and return characteristics of the value-weighted global market portfolio and the Platinum Alpha ESG Index over the sample period. The calculation of the individual statistics is analogous to Table 2. See the corresponding table description for details.

Under which market conditions does the Platinum Alpha ESG Index outperform, and how persistent is this behavior over time? To address these questions, Fig. 2 and Table 4 provide information on the cumulative and year-to-year performance of the index in comparison to the global market portfolio.

The figure illustrates the cumulative payoff of a €1 investment in the Platinum Alpha ESG Index and the global market portfolio over the sample period. It demonstrates that the index progresses in a synchronous manner to the market but at a significantly higher return level. To be precise, a €1 investment in the Platinum Alpha ESG Index grows over the 2011–2020 period to €4.38, while a similar investment in the market yields only €2.97.

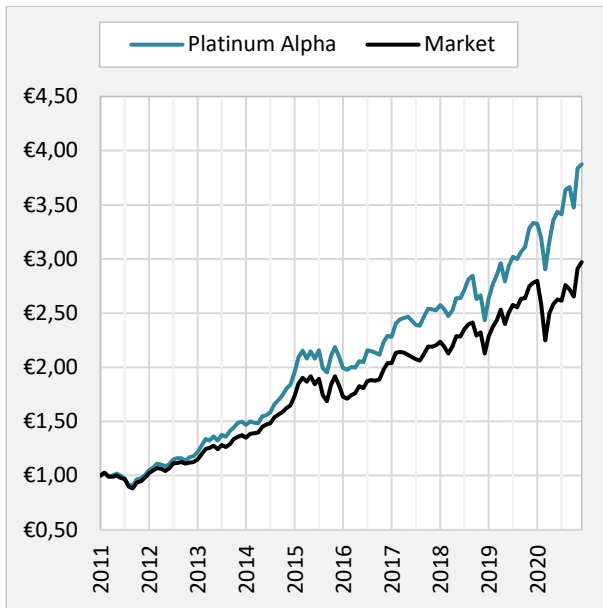


Fig. 2. Cumulative Payoff of a €1 investment.

The following table shows annual return realizations on the Platinum Alpha ESG Index, global market portfolio, and the differences between the two. The annual re-turns are calculated from January to December. The comparison reveals that the Platinum Alpha ESG Index outperforms the market in eight out of ten calendar years. The average annual return difference amounts to 3.1%, which is in line with the obtained alpha estimate shown in Table 3.

Table 4. Year-to-Year Performance, 2011–2020

Year	Platinum Alpha	Market	Difference
2011	0,5%	-1,8%	2,3%
2012	17,1%	14,7%	2,4%
2013	27,3%	21,9%	5,4%
2014	22,9%	20,1%	2,8%
2015	13,9%	11,0%	2,9%
2016	9,2%	11,4%	-2,2%
2017	10,2%	8,1%	2,1%
2018	-3,6%	-3,6%	0,0%
2019	36,9%	30,8%	6,1%
2020	16,3%	6,9%	9,4%

This table reports annual return realizations on the Platinum Alpha ESG Index, global market portfolio, and the differences between the two. The annual returns are calculated from January to December.

Fig. 3 and 4 illustrate the average country distribution and sector allocation of the Platinum Alpha ESG Index in market values over the sample period. The classification of sectors is based on the 11 industries of the Industry Classification Benchmark (ICB).

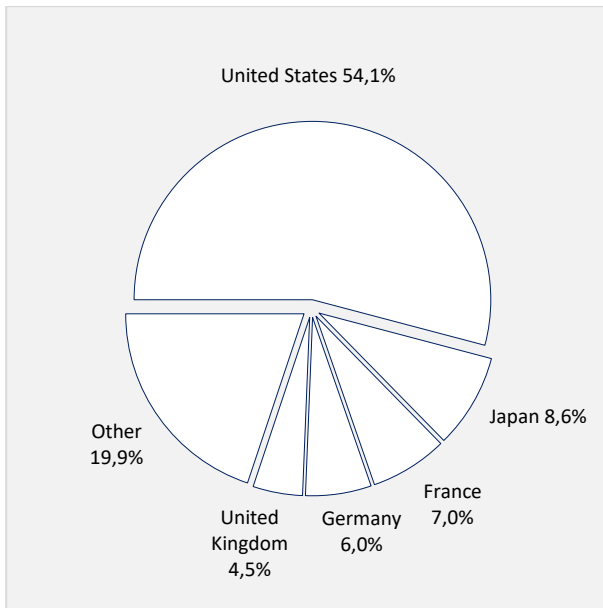


Fig. 3. Average Country Distribution.

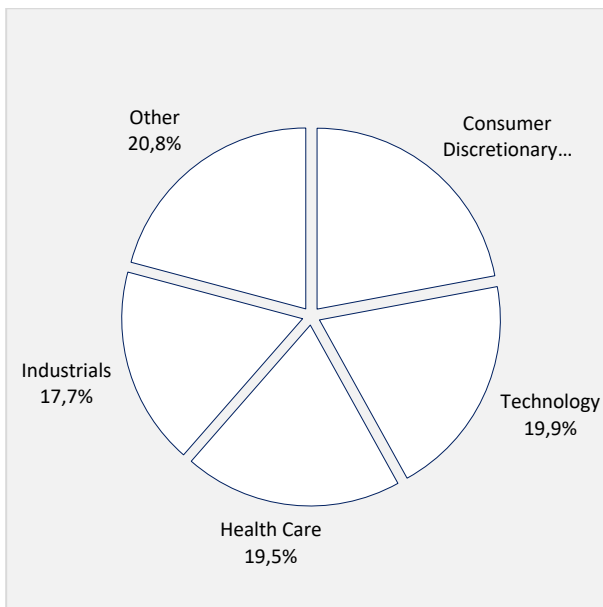


Fig. 4. Average Sector Allocation.

Expectedly, firms from the United States represent the largest portion in a global portfolio, accounting here on average for 54.1% of the country composition. They are followed by firms from Japan (8.6%), France (7.0%), Germany (6.0%), and the United Kingdom (4.5%).

The firms selected for the Platinum Alpha ESG Index are primarily from the consumer discretionary, technology, health care, and industrials sectors, which account on average for about one-fifth of the composition, respectively. Firms from the sectors financials (7.8%), telecommunications (6.7%), and consumer staples (4.8%) follow with significantly smaller proportions.

## 7. CONCLUSION

Financial sustainability describes the long-term economic performance potential of a firm. In this study, we have explored how the stock-market performance of sustainability portfolios is impacted when the firms' financial sustainability is considered in the stock selection as the fourth ESG dimension. The extra-financial indicator (EFI) score developed by The Value Group was used as a measure of financial sustainability, which evaluates the firms' extra-financial quality based on their intangible and intellectual capital.

Our international results over the 2011–2020 sample period document that the performance of sustainability portfolios can be further enhanced by incorporating financial sustainability. A portfolio consisting of firms with high ESG performance and high financial sustainability significantly outperforms the market by about 3% per year on a risk-adjusted basis while reducing down-side risk by about 25% vis-à-vis the global market portfolio.

The information contained in financial sustainability as measured by the firms' EFI score helps to ex ante separate high-quality firms with high expected returns from low-quality firms with low expected returns within the global sustainable stock universe. The findings of this study are implemented in the new The Value Group Platinum Alpha ESG Index as a smart ESG investing solution that integrates financial sustainability as the fourth ESG dimension in a systemic way.

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