



Finding Alpha from ESG2.0™ Factors Beyond the US

Results for All-Country World Ex-US Index (ACWX), 2008-2018

Introduction

Advances in Big Data and Artificial Intelligence have enabled the construction of new data sets for analyzing investments. It is now possible to look at qualitative factors such as Environmental, Social, and Governance (ESG) issues using machine learning techniques. ESG2.0 enables the user to look at company ESG performance derived from third-party sources rather than company-disclosed ESG metrics.

SASB™ Factors

TruValue Labs is the first to use these techniques to measure ESG performance as it happens, tied to measures developed by the Sustainability Accounting Standards Board™ (SASB). SASB has worked with industry experts around the world to determine which ESG factors are the most material to company performance, by industry.

TruValue Labs’ Pulse, Insight, ESG Momentum Scores

TruValue Labs scans over 100,000 unstructured data sources and composes a score for each of the SASB factors daily for over 9,000 companies. The Pulse Score is a fast-moving, event-based measure, while the Insight score applies a moving average to the Pulse to produce a more stable metric of long-term performance, designed for investment use. The ESG Momentum score measures the direction of change in the Insight score over the past 12 months. The Volume Score measures the information flow or number of articles about a company over the past 12 months.

Key Findings

This study tests the effectiveness of timely Environmental, Social, and Governance (ESG) signals as screening tools and quantitative “alpha” factors for the All-Country World Ex-US Index (ACWX) benchmark over the past ten years. ACWX is a widely-followed collection of large-cap stocks outside the US.

Initial tests of TruValue Labs’ signals on US large cap stocks, including the S&P 500 and Russell 1000 universes, showed

promising results. The broad screening strategy based on TruValue Labs’ (TVL) Volume and Insight using the Russell 1000 universe demonstrated annual outperformance of 3.5%. ([RU1000 Study Results](#)) Similarly, the the Volume and Insight strategy shows outperformance of 3.7% annually using the ACWX universe.

Looking outside the US across many countries and multiple languages raises some issues of comparability of signals across these different markets. Accounting for these differences provides an opportunity to improve performance in two ways: measuring volume relative to expectations for companies of different sizes and comparing companies within each country rather than across countries. These enhancements lead to a new “ESG Activity Signal” with high performance globally (7.9% annualized active returns), in English-speaking countries (9.8%), and in non-English-speaking countries (6.4%). The ESG Activity Signal also shows low correlation to typical Smart Beta factors, enabling top quintile performance of 9.0% and a quintile spread of 9.8% in combination with typical Smart Beta factors.

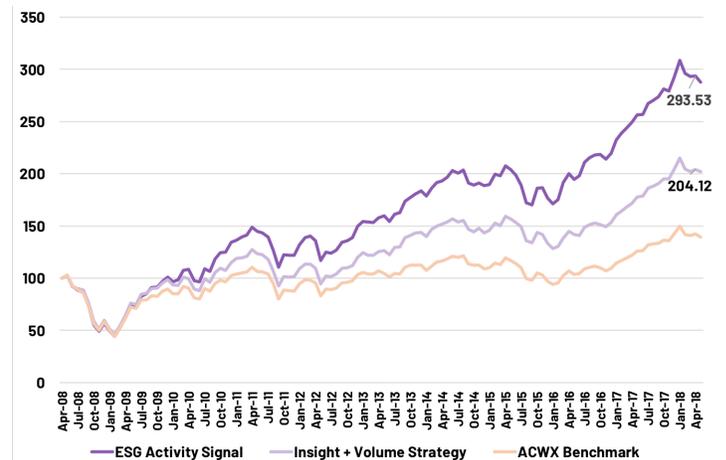


Figure 1: Equity curves for ACWX Benchmark, Insight + Volume Strategy, and ESG Activity Signal



TVL Insight + Volume Strategy

The US backtest study proposed a “TVL Insight + Volume Strategy” based on first filtering a benchmark for the top 50% by volume, then taking the top 5/6 by TVL Insight score, and equal-weighting that remaining portfolio. Tests of this TVL Insight + Volume strategy showed outperformance of 3.5% annually over the Russell 1000. **Figure 2** below shows performance of six groupings of the TVL Insight score for stocks in the top half of volume on the ACWX. Combining the top 5 of the 6 buckets to create the Insight + Volume strategy leads to 3.7% outperformance per year relative to the underlying ACWX cap-weighted index. The equity curve in **Figure 1** shows the performance of a broad ESG-friendly portfolio based on this top 5/6 of Insight over time. The top 1/6 of Insight scores, though a much narrower portfolio, outperform the ACWX benchmark by 4.5%, while combining the top 2/6 (= 1/3) has outperformance of 4.3%.

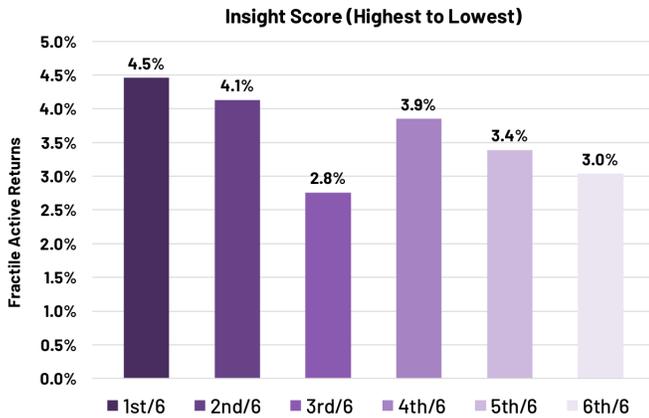


Figure 2: Active Return by Six Buckets of Insight Score for Top Half of Volume over ACWX Index

ESG Activity Signal

Looking at ESG data volume relative to expectations (using trailing twelve month (TTM) dollar trading volume as a proxy for those expectations) enables ranking of the full stock benchmark universe rather than just those stocks with high ESG data volume. Even companies with low or no TTM ESG data volume can be compared relative to expectations of data volume based on TTM dollar trading volume.

The ESG Insight + Volume strategy shows that both data volume and polarity of the Insight signal have an impact on price returns. However, that strategy uses a double screen (one

screen for each of the two factors) and thereby does not rank the entire benchmark universe. That strategy also provides minimal guidance for likely relative price returns for companies that pass the double screen.

Combining ESG data volume relative to expectations with the TVL Insight signal provides a way to rank the full stock universe. This combined signal is called the “ESG Activity Signal”. Experimentation and observation have shown that the two variables strongly complement each other on the positive side, with companies having both strong data volume relative to expectations and high Insight scores demonstrating outperformance. On the short side, however, many of the companies with strong data volume relative to expectations and highly negative Insight scores tend to crash quickly in an ESG crisis event, overreact from a pricing perspective, and then recover slowly afterward. Meanwhile, companies with slowly leaking bad news are less likely to crash and overreact, and more likely to drift downward slowly.

Putting these observations together suggests that multiplying Insight rank by rank of ESG data volume relative to expectations could be an interesting way of combining these variables, rather than simply adding them or using them as double screens.

The equity curve for the ESG Activity Signal shows strong returns over the backtest period vs. the cap-weighted ACWX benchmark. Returns are similar to the benchmark during the Great Financial Crisis of 2008, followed by steady and strong outperformance after that. The Total Period Return of 187% is 4.7x the Total Benchmark Return of 40% over the 10-year test period with monthly rebalancing.

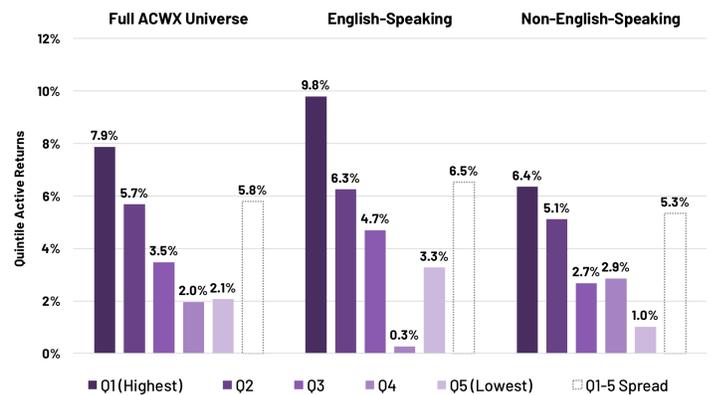


Figure 3: Performance of ESG Activity Signal on Full ACWX Universe, English-Speaking Countries, and Non-English-Speaking Countries



Interestingly, the signal performs well in both English-speaking and non-English-speaking countries that have stocks included in the ACWX benchmark, as shown in **Figure 3** above. The top quintile for English-speaking countries outperforms the ACWX benchmark by 9.8% annually, with a quintile spread of 6.5% annually. In non-English-speaking countries, the top quintile outperforms the ACWX benchmark by 6.4% annually, with a quintile spread of 5.3% annually.

Many investors incorporate common quant factors using a “smart beta” approach. These include factors such as size (market cap), minimum volatility (3-year standard deviation), price momentum (12 month minus 1 month), value (E/P ratio), and quality (ROE). The ESG Activity Signal shows low correlation to the combination of these five factors, adding 0.5% to the performance of the top quintile as well as improving the quintile spread by 0.7% annually. Thus, incorporating ESG into a multi-factor model improves performance while also providing beneficial performance on Environmental, Social, and Governance issues that are important to responsible investors.

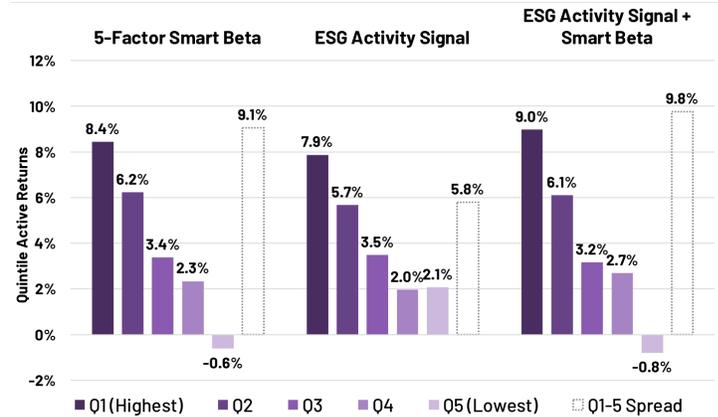


Figure 4: Performance Improvement Resulting from Incorporating ESG Activity Signal into a Multi-factor Model

About TruValue Labs

TruValue Labs is the first company to apply artificial intelligence (AI) to uncover timely Environmental, Social, and Governance (ESG) data on a variety of asset classes. The company’s mission is to deliver increased transparency to investment professionals by providing data and analytics that go beyond traditional fundamentals. The flagship product, Insight360™, delivers timely and investable insights by revealing intangible value and risk factors from unstructured data. Visit www.truvaluelabs.com to learn more about the SaaS and API products.

1.888.859.3690

info@truvaluelabs.com

660 Mission Street, 4th Floor
 San Francisco, CA 94105

General Disclaimer

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the “Information”) is the property of TruValue Labs, Inc. and is provided for informational purposes only. TruValue Labs, Inc. (“TruValue Labs”) is not responsible for any losses suffered or caused by any person or legal entity acting on or refraining from action as a result of any material in this document. Portfolio returns are for illustrative purposes only. Portfolio and index returns do not reflect any management fees, transaction costs or expenses. These portfolios are unmanaged and one cannot invest directly in them. This document is prepared for the use of TruValue Labs clients and may not be sold, reproduced, distributed, transmitted or disclosed, in whole or in part, in any form or manner, without the express written consent of TruValue Labs.

Copyright © 2018 TruValue Labs, Inc. All rights reserved.