

# DOES ESG MATTER IN CHINA? EVIDENCE FROM THE STOCK PRICE PERFORMANCE DURING COVID-19

RESEARCH REPORT



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## **Does ESG Matter in China? Evidence from the Stock Price Performance during COVID-19 Research Report**

**This report is a synopsis of a working paper “The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China”**

### **Abstract**

We examine two ESG-related investment issues. First, using industry neutral, bi-annually re-balanced portfolios constructed by ESG scores, we track ESG-tilted investment portfolio performance for the CSI300 constituent stocks during 2015-2020. The differential cumulative return for the high ESG vs the low ESG group is about 12.83% during the July 2017-December 2019 period, and for the whole sample is 9.4%. These figures imply that, even in normal times, an industry neutral ESG based investment strategy allows an investor to earn substantially higher returns in the Chinese market. Second, we explore the impact of COVID-19 pandemic on the stock price performance. Based on a short-term event window, there exhibits a positive relationship between stock returns and ESG ratings during COVID-19 outbreak. This implies that, although China is in the early stage of ESG investing and a lot of investors are ‘unsophisticated’ retail investors, there are preferences for high ESG firms, especially during the crisis period.

### **Acknowledgement:**

We thank SynTao Green Finance for providing the ESG data support.

## 1. Background and Summary Statistics

As of 2020, ESG portfolios in the major markets (including Europe, USA, Japan, Canada and Australia) have exceeded US\$30 trillion. Investors care about ESG investing for at least two reasons. First, the focus on ESG investing is to promote ethical values, with an impact on the environment and social development. Second, ESG investing is also considered to enhance the performance of a managed portfolio, increasing the return and reducing the risk of the portfolio. Theoretical predictions of the return performance from investing into ESG portfolios can be negative or positive, and empirical evidence has been mixed. While ESG investing may not enhance financial returns on average, it has been argued that investing into high sustainability firms would reduce the downside risk. In other words, high sustainability firms have the potential to be more resilient during the turbulent times, in comparison with those low sustainability firms.

In this study, we examine whether the firms of higher ESG ratings in Mainland China perform better during the COVID\_19 pandemic period, which some economists are suggesting we be the most turbulent economic times since the Great Depression in the early 20<sup>th</sup> century. Unlike in other developed markets, ESG investing has not been a popular concept among investors in Mainland China. While the Chinese government encourages sustainable investment, the majority of local investors are largely oblivious to the concept, let alone practice of ESG investing. As most of Mainland China's market participants are retail investors, they tend to focus more on short-term speculation rather than longer term fundamentals. In comparison, institutional investors are of a smaller percentage, accounting for less than 10% of market trade. Unlike in some other developed markets such as North America and Europe, there is no natural demand from the asset managers for high sustainability companies in Mainland China.

To conduct our analysis, we use a recently available dataset on ESG scores for companies in Mainland China, compiled by SynTao Green Finance. The SynTao Green

Finance's ESG rating framework consists of 3 levels of criteria. Table 1 provides a brief summary of the ESG rating framework.

**Table 1 Information on SynTao Green Finance Dataset ESG variables**

Variables		Definition
ESG-Total	Tier 1	Total scaled ESG score
ESG-mngt	Tier 1	Scaled score based on management dimension of ESG activities used for calculating ESG alphabetical score.
E Environmental	Tier 1	Scaled ESG score based on tier-1 general dimension of environment
	Tier 2	Environmental Management
		Environmental Disclosure
S Social	Tier 1	Scaled ESG score based on tier-1 general dimension of social
	Tier 2	Employee
		Supply Chain
		Community
		Product
		Philanthropy
Social Controversies		
G Governance	Tier 1	Scaled ESG score based on tier-1 general dimension of governance
	Tier 2	Business Ethics
		Corporate Governance
		Governance Controversies

Table 2 provides the summary statistics of the variables used.  $r[-1,1]$ , the cumulative return over the 3-trading day window from Jan 23

– Feb 4, has a mean of -10% and a median of -10.46%. The average score of E and S are higher than that of G, indicating that Governance (G) is relatively weaker for Mainland firms, as compared with the other two dimensions. Panel B presents the results for a breakdown of industry sector. The top five sectors are financials (63), industrials (52), information technology (43), materials (33), and consumer products (30). Energy and public utility sector have higher ESG\_total than the other sectors. Two industry sectors (energy and public utility) have stronger ESG requirements, as the government and regulators monitor the violation more closely, and the firms have more ESG disclosures. Based on the 3-day return window  $r[-1,1]$ , the consumption, energy, financials, industrials, materials, and real estate sectors have declined by more than 10%, while health and public utility sectors declined the least.

**Panel A Statistics of the regression variables**

Stats	N	mean	std	min	Max
$r[-1,1]$	300	-10	5.575	-19.86	5.291
Ln (bm)	300	-0.435	1.048	-3.13	3.49
Ln (size)	300	24.65	1.034	21.86	28.1
Leverage	300	0.562	0.223	0.0435	0.94
E	300	50.98	8.29	27.85	83.45
S	300	54.57	6.804	30.51	72.73
G	300	45.67	7.015	27.23	70.69
ESG_mngt	300	15.03	6.378	4.25	33.38
ESG_total	300	50.45	5.338	40.38	62.88

**Table 2 Summary Statistics**

Panel A reports the mean (Mean), standard deviation (Std), median (Median), minimum (Min), and maximum (Max) of stock return, ESG scores during the 2020 Covid-19 pandemic period, and other control variables for the 300 Mainland CSI300 A-share stocks.  $r[-1,1]$  refers to cumulative raw returns (in percentage) over the three- trading day window (i.e., Jan 23– Feb 4, 2020) after Wuhan lockdown during the Covid-19 outbreak. Ln (bm) is the logarithm of book to market ratio computed as the ratio of book value per share to the stock close price per share. Ln (size) is the market value equity of stock computed as the logarithm of the of stock close price and number of outstanding shares two weeks prior to the pandemic (Jan 8,2020). Leverage is the ratio of total liability to total assets. Original and Maximum ESG ratings are scaled scores issued by SynTao Green Finance, for environmental, social, and governance dimensions. E, S, and G, is therefore adjusted and calculated by multiplying the original (E,S,G)score/max (E,S,G) score  $\times 100$ . ESG\_mngt is the ESG ratings on the management of ESG activities. We calculate the cross-sectional statistics across stocks. Panel B lists the industry breakdown (based on Wind Financials) of the ESG scores and the stock returns.

**Panel B An industry breakdown of the ESG scores and stock market performance**

	N	Frequency %	ESG_total	ESG_mngt	$r[-1,1]$
Consumer Discretionary	30	0.10	49.371	13.713	-11.125
Information Technology	43	0.14	49.953	12.468	-8.554
Telecom Service	2	0.01	52.563	16.063	-6.928
Energy	10	0.03	53.075	21.800	-11.696
Financials	63	0.21	51.990	16.675	-11.785
Consumption	17	0.06	48.706	13.926	-8.612
Health Care	28	0.09	51.054	14.647	-4.233
Industrials	52	0.17	49.611	14.728	-10.913
Materials	33	0.11	50.981	16.492	-11.525
Public Utility	9	0.03	54.403	17.875	-6.812
Real Estate	13	0.04	45.067	10.885	-11.813
Total	300	1.00			

## 2. Research Findings

### Comparing Cumulative Returns for Industry Neutral Portfolio between the high\_ESG and low\_ESG Groups of the CSI300

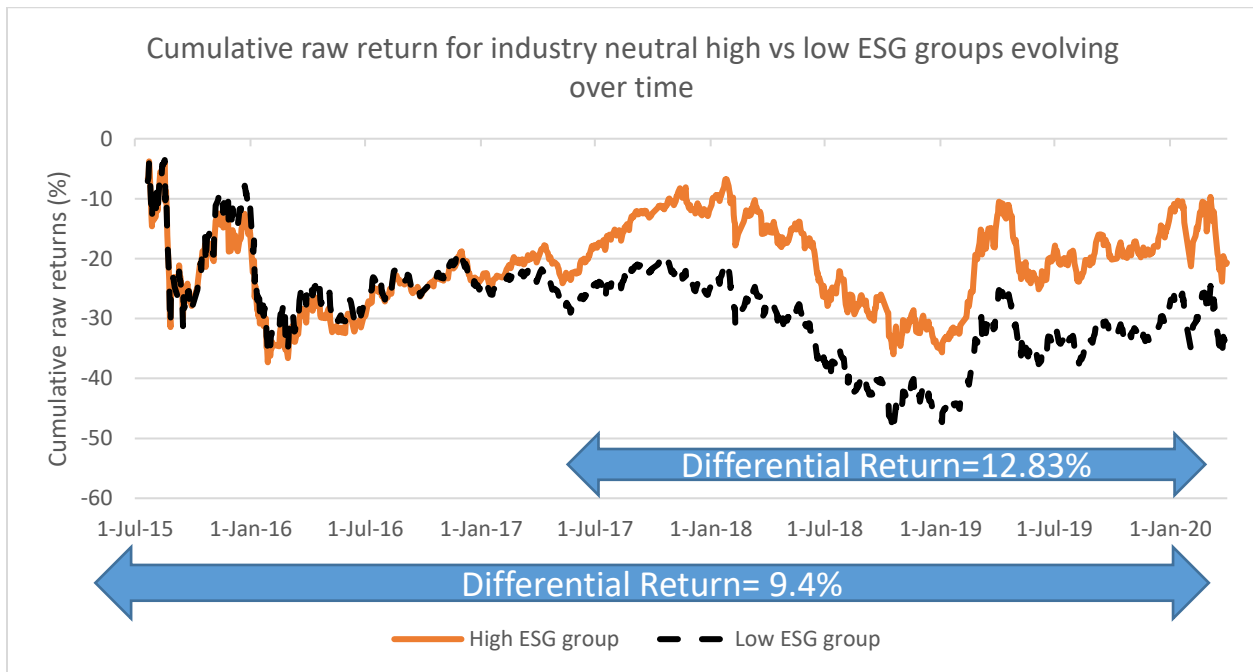
Figure 1 plots the industry neutral, bi-annually re-balanced portfolios constructed using ESG scores from June 2015 to December 2019. Specifically, we identify high- and low-ESG subsamples for each industry by dividing the stocks using the ESG total score based on their industry median. Next, we track the returns of these two portfolios for the next six months. Then we repeat the same procedure to construct the new high and low ESG portfolios and track the return for the next six-month period. Finally, track the cumulative raw return of these two portfolios for the whole sample period.

This procedure allows us to generate portfolios that are neutralized of any industry specific idiosyncrasies.

The differential cumulative return for the two groups is about 12.83% during the July 2017-December 2019 period. Even for the whole sample period (January 2015-December 2019), the differential return still amounts to 9.4%. Of course, such a casual observation only provides preliminary evidence for the potential benefit of enhancing returns using ESG screens. Future research is needed to provide empirical evidence to support such a strategy.

**Figure 1 Cumulative raw return for industry neutral high vs low ESG groups evolving over time (20150701-20200331)**

This figure plots the cumulative raw return for industry neutral high vs low ESG groups trend evolving over time. As the end of Mar 2020, we sort stocks into high vs low portfolios based on their sample median ESG total scores every six months period, and track their cumulative raw return, starting from Jul 1, 2015.



### The Short-Term Stock Price Effects and Volatility of High ESG Performing Stocks during COVID-19 Crisis

In terms of the overall stock market performance, Mainland Chinese stock markets fell significantly in the first week in February after the lockdown of Wuhan city, but quickly rebounded. The fall was around 15% in the first few trading days, though generally recovered by the end of the February. However, as the global financial market have been negatively affected with the spread of COVID-19 in the Western world, the Mainland stock market fell again in March, though of a smaller magnitude as compared with the U.S. and European markets.

Table 3 shows regression results of the stock returns reactions over a short-event horizon. The main dependent variable is  $r[-1,1]$  the cumulative returns over the 3- trading day window around the COVID-19 outbreak. We regress these cumulative returns on the ESG scores, after controlling for leverage, book-to-market ratio, and firm size. The most important finding is that high ESG firms perform better than the low ESG firms during the pandemic outbreak period, based on the short-term price reaction. Specially, we find that the variables  $ESG\_total$  and  $ESG\_mngt$  are positively and significantly related to cumulative returns, suggesting that firms with higher ESG ratings have lower stock price declines.

In more detailed analysis (not shown here), we have also estimated the regression models using sub-scores of E, and S, and G separately, and find that cumulative returns for all these sub-score coefficients are all significant. Interesting enough, the E and G sub-scores are positive and significant while the S sub-score is negatively significant.

Finally, there is also a mild, negative relationship between ESG scores and stock return volatility of the 2-month period subsequent to the Wuhan lockdown. In other words, the higher ESG firms are less volatile during the COVID-19 period.

**Table 3 The Impact of ESG Performance on Stock Market Reactions and volatility to Covid-19**

This table provides the results on relationship between ESG scores of Mainland CSI300 firms and stock market reaction during the Covid-19 outbreak period.  $r[-1,1]$  refers to cumulative raw return (in percentage) over Jan 23–Feb 4, 2020.  $\ln(BM)$  is the logarithm of book to market ratio.  $\ln(Size)$  is the logarithm of the market value equity two weeks prior to the start of the pandemic. Leverage is ratio of total liability to total assets. All of the regressions include controls variables, and industry fixed effects (not reported for brevity). Coefficients T-statistics are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	$r[-1,1]$	$r[-1,1]$	$volat[-1,39]$
Variables	[1]	[2]	[3]
$ESG\_total$	Positively Significant		Positively Significant
$ESG\_mngt$		Negatively Significant	
Leverage	✓	✓	✓
$\ln(BM)$	✓	✓	✓
Constant	✓	✓	✓
Industry FE	✓	✓	✓
N	300	300	300
R-squared	0.125	0.152	0.310



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## Role of the Center

The Center for Economic Sustainability and Entrepreneurial Finance (CESEF) aims to act as a platform for pooling the school's inter-disciplinary research strengths, as well as its strong partnership with the industry, to generate strong impact in the Greater China region. The Center focuses on two core specializations; (1) Economic sustainability (ES) with a focused theme on ESG and Green Finance; (2) Entrepreneurial finance (EF) and innovation.

The success of CESEF draws upon (i) Hong Kong's strategic positioning as an international financial center to support Green Finance and an innovation-based economy; (ii) PolyU's reputation for applied research with focuses on science and technology, as well as its strong industrial partnerships; and (iii) the intellectual richness of the School of Accounting and Finance as the largest inter-disciplinary school in areas of accounting, finance, economics and law in the Asia Pacific region. CESEF is the first research and education center in Hong Kong dedicated to exploring issues of economic sustainability and entrepreneurial finance. Our goals are to benefit PolyU students and the wider society through knowledge transfer activities and partnership programs with industry.

## About SynTao Green Finance (STGF)



With its core team founded in 2009, STGF has been dedicated to provide ESG data and insights to institutional investors, make policy recommendations to regulators, and work with key stakeholders on sustainable finance solutions.

- STGF's **Star ESG database and ESG Radar System** cover domestic and overseas listed Chinese companies, as well as non-listed bond issuers, up to 3,000 entities in total. The first rating issued could be dated back to 2015 and the datapoints be tracked back to 2012.
- STGF keeps conducting researches on ESG information disclosure and key issues to support investment decisions, risk management, policy making, and sustainable finance product innovation.
- STGF is the first signatory of Chinese service provider joining UNPRI, member of the first Advisory Council of ICMA, founding member of China Green Finance Committee, certified consulting agency for UK Green Investment Bank, the first China based Climate Bonds Standard (CBS) approved verifier, and member of the National Association of Financial Market Institutional Investors (NAFMII).
- STGF initiated China Social Investment Forum (China SIF) in 2012, which has become one of the most influential platform to promote responsible investment and sustainable finance in China.

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This report is a synopsis of a working paper “The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China” ([https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3627439](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3627439)).

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