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RESEARCH CENTRE FOR ESG

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Research Impact Story

*The i-score and its impact on understanding
ESG performance of Hong Kong listed firms*

➤ *Research and impact time period: 2019 - 2024*

Prof. Louis Cheng

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1) Executive Summary

Prof. Louis Cheng began to explore ESG and green finance research in 2018. Through constantly engagement with the industry and the market, he identified an important industry need in ESG integration for asset management industry and listed firms in Hong Kong. Based on a 2019 working paper from the MIT team¹ on the ESG divergence, he began to develop the idea of i-score as an academic research issue while applying it in various industry engagement to create an impact for the professional community. In the story below, you can see how the i-score research journey and the industry engagement unfold.

2) Research Theme Background



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The term “ESG” (environmental, social and governance) first appeared in 2004, when the United Nations Global Compact (UNGC) promoted the idea of ESG integration in the investment decision process. In the past few years, ESG integration has become a main stream practice in the finance industry and the business sector in Hong Kong. At the same time, academic research began to pay attention on ESG measures and their effects on investments and firms’ performance. This impact story describes how Prof. Louis Cheng engaged ESG-related academic research and knowledge transfer activities to benefit the business community.

3) Research Chronicle and Industry Engagement

Research impact in finance relevant to society normally does not begin with ideas purely created from academic literature. For impactful research in finance, often times we need to constantly engage with the industry and the market to observe what are the needs first. Then we match with the latest literature and explore how to construct meaning research hypotheses that can lead to academic publications relevant to these impactful topics. Therefore, the impactful activities can start with explorative industry and professional engagement while the academic research is being conducted simultaneously. In other words, the time sequence of “Publication first – Impact later” may not be as distinctive in the fast-moving areas such as finance and investments. However, the research must begin first to produce the initial findings/products for the societal impact. In the case below, the research journey and the industry engagement occur in an interactive manner.

¹ Berg, F., Kölbel, J., and Rigobon, R. (2019). Aggregate Confusion: The Divergence of ESG Ratings”. Available at SSRN: <https://ssrn.com/abstract=3438533> ; the paper published at *Review of Finance* (2022).

a) Early development

Prof. Louis Cheng started to explore ESG and green finance research when he took over the Directorship of Center for Economic Sustainability and Entrepreneurial Finance (CESEF) at PolyU in 2018. He published (co-authored) his first green bond paper (Broadstock and Cheng, 2019) in the *Finance Research Letters* (FRL) (Q1 ranking) and a green bond chapter in a book published by Routledge (Broadstock, Cheng, and Wang, 2020) in the next two years. In addition, another coauthored paper titled “The role of ESG performance during times of financial crisis: Evidence from Covid-19 in China” published at *Finance Research Letters* in 2021 is well-cited as it was one of the earliest ESG paper under the Covid setting. The paper was listed as number one “Top cited” and second in “Most downloaded” articles at FRL. In addition, as October 12, 2024, the paper received 1,305 downloads at SSRN and cited by 1,210 papers under Google Scholar².

At the same time, he received a PASS grant as the project leader from the Commerce and Economic Development Bureau to educate accounting professionals in Hong Kong on green finance and ESG for 2019-2021 (project sum \$1.02 mil). This knowledge transfer project made a substantial impact to the accounting profession and business sector as it is one of the earliest government-funded training programs on ESG/green.



In short, the contribution of the academic research work and impact to society on ESG and green finance can be shown by publications, positive feedback from event participants, news media coverage, and creation of ESG award by Hong Kong Investor Relations Association³. These positive signals have provided confirmation for Louis to engage ESG research when he moved to HSUHK.

² See <https://www.sciencedirect.com/journal/finance-research-letters> and <https://scholar.google.com/citations?user=D89AgMQAAAAJ&hl=en>

³ See <https://www.acnnewswire.com/press-release/traditionalchinese/57066/2020%E5%B9%B4%E7%AC%AC%E5%85%AD%E5%B1%86%E9%A6%99%E6%B8%AF%E6%8A%95%E8%B3%87%E8%80%85%E9%97%9C%E4%BF%82%E5%A4%A7%E7%8D%8E%E7%8F%BE%E6%AD%A3%E6%8E%A5%E5%8F%97%E5%85%AC%E7%9C%BE%E6%8F%90%E5%90%8D> and <https://www.tkww.hk/epaper/view/newsDetail/1346327735185838080.html>

b) Developing a research focus on i-score⁴ and related society engagement



Shortly after Louis continued his academic research and knowledge transfer activities on ESG, an important working paper from the MIT team⁵ on the “aggregate confusion hypothesis” of ESG divergence emerged in 2019. The MIT paper has an interesting

conclusion on the fact that various data and consulting agencies provide very different ESG performance rating for firms, leading to a confusion phenomenon among corporate executives. While there is a debate on the value of ESG divergence in academic research, the implication of divergence to management and executives is clear: they need better guidance and solution for understanding the ESG performance of their own firms because ESG divergence creates confusion to make business decisions. Therefore, after moving to HSUHK in early 2021, Louis applied for the RGC IDS grant to conduct more academic research on ESG divergence and aimed to provide solutions for businesses while publishing in academic journals. With the financial resources from the successful IDS grant (HKD 4.09mil), the i-score was formally tested with various sets of commercial ESG data. The aim of i-score is to reduce the confusion from ESG divergence and to provide a better indicator for Hong Kong listed firms.



As publishing in academic journals takes a long time (normally 2 to 3 years from data analysis to paper acceptance by journals), Louis began to promote his i-score through public speeches and media interview (e.g., presentations to hedge fund (2021) and United Nations ESCAP (Dec 2021), keynote speech at ESG award (June 2022), and media interview (July 2022))⁶. In order to widen the societal impact of i-score, Louis applied for an Innovation and Technology Fund to conduct seminars and symposiums on using i-score and ESG sentiment under a big data analytical framework. The ITF grant was approved with a project sum of HKD 1.21mil for the 2023-24 period. These events with the dedicated website⁷ allow a better promotion of the i-score among the listed firms and asset management in Hong Kong.



⁴ For more information about the i-score, please visit the website: <https://www.myesgi.com/>

⁵ Berg, F., Kölbl, J., and Rigobon, R. (2019). Aggregate Confusion: The Divergence of ESG Ratings”. Available at SSRN: <https://ssrn.com/abstract=3438533> ; the paper published at *Review of Finance* (2022).

⁶ See “灼見名家第四屆財經峰會暨 ESG 大獎頒獎典禮 6 月 17 日舉行 (2022-05-27)” [https://www.masterinsight.com/%E9%84%AD%E5%AD%90%E4%BA%91%E6%95%99%E6%8E%88%EF%BC%9A%E5%BD%B0%E9%A1%AF%E4%BC%81%E6%A5%AD%e7%B2%BE%E7%A5%9E-%E6%8E%A8%E5%8B%95%E8%B3%87%E7%94%A2%E7%AE%A1%E7%90%86%E6%A6%82%E5%BF%B5%E6%94%B9/](https://www.masterinsight.com/%e7%81%bc%e8%a6%8b%e5%90%8d%e5%ae%b6%e7%ac%ac%e5%9b%9b%e5%b1%86%e8%b2%a1%e7%b6%93%e5%b3%b0%e6%9c%83%e6%9a%a8-esg-%e5%a4%a7%e7%8d%8e-%e9%a0%92%e7%8d%8e%e5%85%b8%e7%a6%ae-6-%e6%9c%88-17-%e6%97%a5/%e6%8e%a8%e5%8b%95%e8%b3%87%e7%94%a2%e7%ae%a1%e7%90%86%e6%a6%82%e5%bf%b5%e6%94%b9/) and “鄭子云教授：彰顯企業 ESG 精神 推動資產管理概念改革 (2022-07-23)” <https://www.masterinsight.com/%E9%84%AD%E5%AD%90%E4%BA%91%E6%95%99%E6%8E%88%EF%BC%9A%E5%BD%B0%E9%A1%AF%E4%BC%81%E6%A5%AD%e7%B2%BE%E7%A5%9E-%E6%8E%A8%E5%8B%95%E8%B3%87%E7%94%A2%E7%AE%A1%E7%90%86%E6%A6%82%E5%BF%B5%E6%94%B9/>

⁷ To know more about the project, please visit: <https://www.bigdata-esg.com/>

c) Some evidence of societal impact

In June and December 2021, Louis and his team were invited to make presentations by a Hong Kong hedge fund, to demonstrate the usefulness of i-score for possible ESG integration for real investment portfolios for their clients. Confidential and proprietary data were used to track ESG performance of portfolio assets. The group Chief Investment Officer and fund manager were impressed with the outcomes and acknowledged the usefulness of the i-score ratings⁸.



In 2022, Louis was approached by Hang Seng Investment Management Limited to consider organizing a university student ESG competition. The Hang Seng x Value Partners University Elite ESG Challenge 2023⁹ was successfully launched in September 2022 and completed in March 2023. The ESG Challenge employs ESG research finding including i-score for the student training and final round case competition. The impact to

Internship list	
Institutions	No. of places
Hang Seng Bank (2 months)	2
Value Partners (2-6 months)	2
Deloitte (1 month)	2
KPMG (2 months)	2
PwC (2 months)	2
EY (10 weeks)	2
Mirae Asset	1
Ascent Partners (2 months)	2
YoujiVest (1.5 months)	2
IFPHK (2 months)	2
HKIRA (2 months)	2
Research Centre for ESG (HSU)	2



society can be seen by 23 internship opportunities for students provided by well-known corporations and professional bodies, extremely positive feedbacks by industry executives and students involved in the Challenge, and the media coverage reporting the events.

On the other hand, Master Insight, an online news media, co-organized with the ESG Centre¹⁰ at HSUHK under the leadership of Louis to establish a scientific assessment framework based on i-score to evaluate ESG awardees. It is believed that this ESG award¹¹ earns the reputation of being the most difficult one among all awards in Hong Kong, promoting i-score as the industry norm for measuring ESG performance.



⁸ A letter of appreciation to indicate the research and presentation activities was kept for record. The hedge fund requests that we do not disclose their name in public document due to trade secret concern.

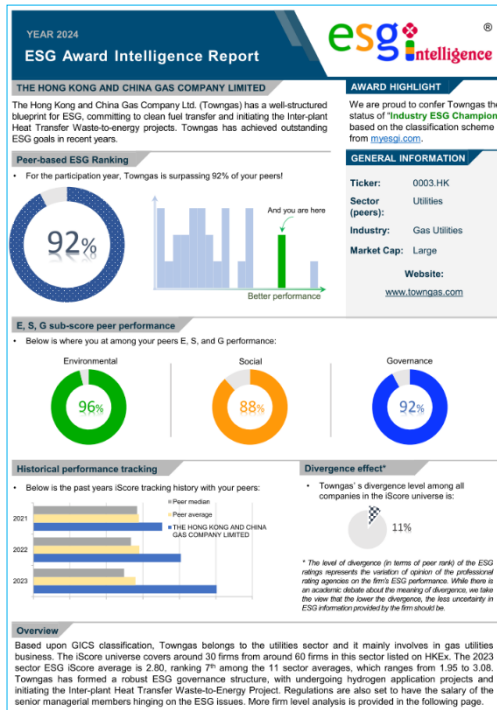
⁹ To know more about the Challenge, please visit: <https://info4925468.wixsite.com/std-esg-competition>

¹⁰ To know more about the Research Centre for ESG at HSUHK, please visit: <https://esg.hsu.edu.hk/>

¹¹ To know more about the award, please visit: <https://www.hk-esg-award.com/>. Examples of media coverage about the award: “舉辦一個具公信力的 ESG 大獎 (2022-07-15)” <https://www.master-insight.com/%e8%88%89%e8%be%a6%e4%b8%80%e5%80%8b%e5%85%b7%e5%85%ac%e4%bf%a1%e5%8a%9b%e7%9a%84esg%e5%a4%a7%e7%8d%8e/> and “2023 財經峰會 | 16 家企業、團體榮獲 ESG 大獎 G20 綠色金融推手馬駿膺年度翹楚 (2023-06-12)” <https://www.master-insight.com/2023%E8%B2%A1%E7%B6%93%E5%B3%B0%E6%9C%83%EF%BD%9C16%E5%AE%B6%E4%BC%81%E6%A5%AD%E3%80%81%E5%9C%98%E9%AB%94%E6%A6%AE%E7%8D%B2esg%E5%A4%A7%E7%8D%8E-g20%E7%B6%A0%E8%89%B2%E9%87%91%E8%9E%8D%E6%8E%A8/> and

4) Publication and Future Direction

The research of i-score started as early as 2021. After many rounds of data analysis, the direction of the academic paper on using i-score to measure ESG performance of HK listed firms using a machine learning approach was



Research in International Business and Finance
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 ELSEVIER In Press, Journal Pre-proof What's this?

The effect of ESG divergence on the financial performance of Hong Kong-listed firms: an artificial neural network approach

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determined. Eventually, the paper on i-score was accepted by *Research in International Business and Finance* (Q1 ranking) on October 4, 2024. Nevertheless, this is only the beginning of the i-score research. As i-score is one of the measures based on ESG divergence, Louis continues on academic research related to ESG divergence and industry research on alpha generation for asset management using i-score and ESG sentiment. Currently, Louis is exploring ESG research by integrating ESG performance ratings with media sentiment to improve the timeliness of ESG signals. It is hoped that the impact to the society will continue.

“灼見名家 x 恒生大學第三屆 ESG 大獎港交所隆重舉行 陸恭蕙榮膺 ESG 翹楚 4 人獲卓越領導獎 19 家企業機構獲嘉”
 (2024-07-29) <https://www.master-insight.com/%e7%81%bc%e8%a6%8b%e5%90%8d%e5%ac%b6%e6%81%92%e7%94%9f%e5%a4%a7%e5%ad%b8%e7%ac%e4%b8%89%e5%b1%86%e5%a4%a7%e7%8d%8e%e6%b8%af%e4%ba%a4%e6%89%80%e9%9a%86%e9%87%8d%e8%88%89%e8%a1%8c-%e9%99%b8/>

Research Related to ESG and Green Finance

➤ Paper published related to ESG/green/carbon:

Broadstock, D.C., and Louis T.W. Cheng. (2019). Time-varying relation between black and green bond price benchmarks: Macroeconomic determinants for the first decade. *Finance Research Letters*, vol. 29, pp.17-22. <https://doi.org/10.1016/j.frl.2019.02.006>

Broadstock, D.C., Cheng, L.T.W., and Wang, T. (2020) “Understanding Green Bond Challenges: A Stakeholder’s Perspective.” *Green Finance, Sustainable Development and the Belt and Road Initiative*, Routledge.

Cheng, L.T.W., Broadstock, D.C., Chan, K., and Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, vol. 38, 101716. <https://doi.org/10.1016/j.frl.2020.101716>

Cheng, L.T.W., Broadstock, D.C., and Sharma, P. (2023). Interactive effects of brand reputation and ESG on green bond issues: A sustainable development perspective. *Business Strategy and The Environment*, pp. 570-586. <https://doi.org/10.1002/bse.3161>

Cheng, L.T.W., Lee, S.K., Li, S.K., and Tsang, C.K. (2023). Understanding Resource Deployment Efficiency for ESG and Financial Performance: a DEA Approach. *Research in International Business and Finance*, vol. 65. <https://doi.org/10.1016/j.ribaf.2023.101941>

Cheng, L.T.W., Shen, J., and Wojewodzki, M. (2023). A cross-country analysis of corporate carbon performance: An international investment perspective. *Research in International Business and Finance*, vol 64. <https://doi.org/10.1016/j.ribaf.2023.101888>

Wojewodzki, M., Cheong, T.S., Shen, J., and Cheng, L.T.W. (2023). Does corporate carbon performance converge in the global market? Evidence from a distribution dynamic approach”, *Journal of Environmental Management*, vol 342, 118355. <https://doi.org/10.1016/j.jenvman.2023.118355>

➤ Research related to divergence:

Cheng, L.T.W., Cheong, T.S., Wojewodzki, M., and Chui, D. (2024). The effect of ESG divergence on the financial performance of Hong Kong-listed firms: an artificial neural network approach. *Research in International Business and Finance*, forthcoming.

Cheng, L.T.W., Pan, L., Shen, J., and Yu, Q. Understanding ESG pillar divergence and the effect of international disclosure: Evidence from China during COVID-19 outbreak. Working paper.