

# Chapter 15

## Environmental Performance and Capital Structure: Evidence From Asia

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### ABSTRACT

*This chapter aims to examine the effect of environmental performance (EP) on the capital structure of firms. Non-financial firms of 12 Asian countries over the period of 2007–2018 are used as the study sample. The results indicate that EP generally has a positive effect on the leverage of firms. When country-level variables such as financial system and legal system are considered, the results are more significant. Specifically, EP positively (negatively) affects leverage in civil (common) law countries. EP also positively (negatively) affects leverage in countries with bank-based (market-based) financial systems. A more in-depth analysis further reveals that the financial system plays a more important role than the legal system in determining the effect of EP on leverage.*

### INTRODUCTION

Climate change or global warming has been a rising concern worldwide. Although the reasons behind climate change are controversial, humans can always do something about it to mitigate its devastating impact. It has become a global consensus to tackle this problem altogether. Starting from late last century, Kyoto Protocol, the first international climate treaty, was first signed and ratified. It signifies global consensus and effort to combat climate change by setting the common goal to cut down on carbon emissions in the foreseeable future.

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Despite the global consensus to combat climate change, the extent of climate effort and its effectiveness vary across countries. Although some countries have made good improvements, others are lagging behind. Namely, environment performance (EP) varies depending on several factors, most of which are country-specific.<sup>1</sup> Improving EP clearly incurs cost, which is likely to be high for some industries or countries because they are less equipped to make related improvement. In addition to the costs incurred, compliance with climate-related regulations involves risks because firms tend to have lower profitability and become more indebted such that financial distress or bankruptcy become more possible under such circumstances. Given the costs and risks involved in improving EP, whether and how capital structure should be adjusted is worth exploring as it is one of key financial decisions of firms (Nosheen, *et al.*, 2016).

According to Mizutori and Guha-Sapir (2020), Asia tops the list in terms of the number of disasters during the period of 2000–2019, followed by Americas and Africa. Asia is the most affected continent for two reasons: it is the largest among all continents and its terrains are disaster-prone. High population density is also to blame. Most of the world's disasters over the last two decades are storms and floods, which are all related to climate change (Rafay, 2022) Asia is no exception. Given that Asia is the most affected continent by climate change, focusing on it to see whether any climate action or EP has bearings on capital structure of firms is worthwhile.

This chapter aims to examine whether and how EP improvement influences the capital structure of firms using non-financial firms in Asia as the study sample. The effect of EP improvement on the capital structure of firms is difficult to predict because several factors are at play (e.g., financing cost, risk, corporate governance (CG)). Nevertheless, this makes the research question all the more intriguing. For example, from the cost perspective, EP improvement entails higher costs for firms at least in the short run because of their compliance with climate-related regulations. As such, debt should reduce in response to rising cost, meaning that EP negatively affects the leverage of firms. However, in the long run, the positive effect of EP improvement on operating cost should be weaker or minimal because firms have sufficient time to make necessary adjustment to minimize the cost incurred. More importantly, as time goes by, financing cost should decrease because investors' consensus to combat climate change strengthens over time such that they are increasingly willing to invest. In addition, from the risk perspective, firms are expected to experience higher cash flow volatility at the early stage when they are required to comply with environmental laws and regulations. As firms invest increasingly more to improve EP though, the climate risk that they face will reduce. In sum, as costs and risks decrease over time, firms should be able to raise more debt as EP improves in the long run. EP should positively affect the leverage of firms under such circumstances.

Countries in Asia are diverse in terms of economic development, financial system, and legal origin, all of which are likely to influence EP's effect on the capital structure of firms. Hence, this chapter further investigates whether and how country variables such as financial and legal systems determine the effect of EP on the capital structure of firms. The study results provide important implications for Asian countries regarding whether and how to adjust capital structure in response to EP improvement.

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