Extended Abstract

Jingjing Wang (University of Liverpool)

Paper Title: Foreign Institutional Investors and Corporate Carbon Emissions: Evidence from China

Keywords: Qualified Foreign Institutional Investors (QFIIs); Carbon emissions; Chinese equity markets

Broad Research Area: 4. Economics/Accounting & Finance

Purpose of the paper:

Following the 2015 Paris Agreement, there is a growing concern about environmental pollution and sustainability issues such as climate change. As the negative externality of the greenhouse gas emissions makes it challenging for establishing a top-down cross-country climate cooperation, corporate governance is seen as an alternative strategy of addressing environmental issues, particularly slashing emissions. Foreign institutional investors, an important element of corporate governance and major players in global financial markets, are generally viewed as firms' value creators because they have considerable expertise in addressing corporate matters of investee firms, are more independent of a solo firm's incumbent management and are less tolerant to manager opportunism. The existing literature has documented the governance function of foreign institutional investors either derived from cross-country studies or mainly limited in the United States. Yet, the evidence of these foreign investors' role in emerging markets is relatively sparse. Given the growing prevalence of sustainable investment and ESG activism in the context of global warming in recent years, this paper investigates the influence of foreign institutions on dealing with a detailed cutting-edge issue, the reduction of carbon emissions embedded in the ESG governance.

China provides an ideal setting to study whether foreign institutions help investee firms reduce their carbon emissions for following two reasons. First, China has been one of the highest global carbon emitters and chronically experienced severe environmental pollution. To support the transition towards the net-zero emissions, policymakers take various initiatives to facilitate sustainable financing, one of which is attracting those experienced international institutional investors and promoting their engagement with local firms. Second, as a milestone of China's global financial integration, the launch of the Qualified Foreign Institutional Investor (QFII) scheme in 2002 has attracted a substantial number of international institutional investors piling into the Chinese capital markets. One important objective of this ongoing

reform is to expose domestic firms to international investment practices in the hope to improve firm-level governance structure. There is increasing evidence academically and anecdotally indicating that QFIIs as external monitors can be expected to reduce agency costs and lead to better governance practices in China. Since environmental issues relating to greenhouse carbon dioxide emissions are crucial aspects of corporate governance from the view of stakeholders, exploring the effectiveness of foreign investors on corporate carbon reduction is meaningful.

I hypothesize that QFIIs can exert their influences on Chinese firms' decarbonization for at least two reasons. The first reason is because of the financial implication of climate risk. As climate risk materializes, the values of firms within the portfolio managed by QFIIs are largely affected by the extent to which firms' business models are exposed to carbon risk. Compared with low-carbon firms, carbon-intense firms are more likely to have a higher downside risk. Through decarbonization, QFIIs can minimize their portfolios' economic losses arising from portfolio firms' exposure to cascading uncertainties induced by climate risk. Second, QFIIs have social incentives to drive investee firms' carbon reduction. Due to fiduciary responsibility, QFIIs typically coming from countries with higher social awareness and sustainability commitments are more likely to transplant their social consciousness to local firms they invest in. This in turn can strengthen their reputations and receive more investment quotas.

Using a panel dataset of 1,977 Chinese publicly listed non-financial firms with 13,839 firm-year observations for the period 2012-2018, I find that firms with QFIIs experience a reduction in future carbon intensity, which is consistent with the main hypothesis. A switch from firms without QFIIs to firms with QFIIs produces a 51.1% (40.9% and 53.9%) reduction in firms' annual carbon emissions in the following year. To address endogeneity issues, I consider using two strategies: an instrumental variable (IV) approach and a propensity-score-matching (PSM) approach. In terms of the IV approach, I choose the time-varying inclusion of firms in the Stock Connect scheme as an IV for the likelihood of QFIIs presence to run the 2SLS regression. Additionally, I repeat the baseline regression analysis based on two groups of firm-year with similar firm attributes after adopting the PSM approach. Overall, the result in the baseline regressions coupled with both strategies supports the interpretation that QFIIs facilitate reducing the carbon intensity of firms in their portfolios.

This paper contributes to the literature in at least two ways. First, it adds to a large growing body of literature on the economic outcomes of foreign institutional investors, particularly their influences on corporate governance practices (Luong et al., 2017; Bena et al., 2017; Dyck et al., 2019; Fang et al., 2015; Lel, 2019; Baba, 2009; Huang and Zhu, 2015; He et al., 2014; Kim et al., 2020; Li et al., 2021; Schuppli and Bohl, 2010). More specifically, it builds upon this

literature by shedding light on a social dimension of governance that differs from those traditional governance matters: the reduction of corporate carbon emissions. Prior literature largely fails to answer the question on the effectiveness of institutional investors' engagement in decarbonization. A notable exception is the study by Azar et al. (2021) who find that large institutional investors (the Big Three) engage with worldwide firms on environmental issues (i.e., carbon reduction). My work differs from theirs by focusing on the Chinese setting, where foreign investors have tightly restricted access to the local stock market and their involvement in environmental issues cannot be simply extrapolated from studies in western countries.

To the best of my knowledge, this is the first study using a large panel dataset investigating the role of foreign institutions in corporate carbon reduction in China. More generally, this paper also complements to the recent burgeoning studies on climate risk, particularly from the perspective of asset pricing (Bernstein et al., 2018; Murfin and Spiegel, 2020; Bolton and Kacperczyk, 2020; Bolton and Kacperczyk, 2021; Ilhan et al., 2021; Painter, 2020; Baldauf et al., 2020; Chio et al., 2020; Hong et al., 2019; Atreya and Ferreira, 2015; Alok et al., 2020).

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