

## FDI Halo vs. Pollution Haven Hypothesis

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### ABSTRACT

The paper examines the contradiction between the FDI Halo (Foreign Direct Investment Halo Hypothesis) and Pollution Haven Hypothesis and their implementation for explaining the effect of FDI on the environment. The article summarizes the existing empirical evidence and suggests further venues for future empirical research.

The environmental literature holds two conflicting hypotheses about the effect of FDI on the environment. FDI is hypothesized to have positive environmental spillovers very similar to its positive productivity spillovers. These positive externalities are largely due to the fact that FDI has the potential of transferring superior technologies from more developed to less developed economies. This hypothesis is oftentimes called the FDI “halo effect”.

There is, however, a contrary view, based on the assumption that multinational companies (MNCs) can bring harm to the environment, if they are seeking to exploit the existence of lax host countries environmental regulation and pursuing a “pollution haven”. This strategy is also known as the race-to-the bottom hypothesis. The empirical literature is yet to cast light over which hypothesis prevails.

A critical examination of the empirical literature reveals some evidence that supports both, the FDI halo and the Pollution Haven, hypotheses. Dissemination of environmentally clean technologies and environmentally friendly management practices is in part motivated by shareholder pressure in the MNC home countries and by environmental standards and practices established in the MNCs’ home countries (Garcia-Johnson, 2000). After MNCs open up a branch or a subsidiary in the host country economy, the newly trained workers can further spread the environmentally sound technologies to the domestic firms (Görg and Strobl, 2004). Alternatively, the motivation for acquiring this knowledge can come from a direct competition of domestic firms with foreign MNCs.

A number of case studies find reduction of greenhouse emissions of multinationals compared to domestic firms. In a study on the mining sector of Chile, Lagos (1999) finds that few foreign-owned companies implemented responsible environmental policies at a time when Chilean regulatory framework was not yet developed. Similarly, in a study on the Argentinean firms, Albornoz et al (2009) find that foreign-owned firms are more likely to implement environmental management systems compared to domestic firms. At the same time, firms that supply sectors with high concentration of MNCs, who \*City regularly meet with them, are more likely to adopt environmental management systems. Furthermore, the

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firms' absorptive capacity, ownership and export status also influence the extent to which they benefit from environmental spillovers.

On the other hand, there is plenty of evidence in support of the pollution haven hypothesis. When trade is liberalized, industries that pollute tend to shift from rich countries with tight environmental regulation to poor countries with weak environmental regulation. Conversely, clean industries tend to migrate towards rich countries. This is how Copeland and Taylor (1994) formulate the pollution haven hypothesis. The reasoning behind the hypothesis is that environmental regulation increases costs, which in turn makes exports of countries with strict regulation more expensive, relative to exports from countries with lax regulation (Grossman and Krueger, 1993; and Tobey, 1990).

Additionally, with opening to trade, the pattern of trade itself may be shifting towards pollution-intensive goods (Low and Yeats, 1992). A consideration is that since MNCs factor regulatory costs into their location decisions, high costs may deter MNCs from investing (List et al., 2004; Becker and Henderson, 2000).

Proponents of the pollution also state that there is not enough evidence of positive technological spillovers of FDI on the first place. There are studies that show that foreign firms do not display better environmental performance than the domestic firms (Hettige et al, 1996; Desgupta et al. 1997) and that they tend to underperform (Aden, et al., 1999).

A recently proposed new approach by Doytch and Uctum (2011) is to explore which hypothesis- FDI halo or pollution haven prevails based on a sector-level performance of FDI. When FDI is disaggregated into sectors (agriculture, mining, and manufacturing, total services, financial and nonfinancial services), and an Environmental Kuznets Curve is fit into the empirical model, the authors find that FDI flows into manufacturing support the pollution haven argument, while those flowing into services support the halo effect hypothesis.

In summary, the evidence of FDI halo vs. the pollution havens, at least in country-level studies, is very mixed. Sector-level approach may be needed to answer the question of which hypothesis holds: the FDI halo or the pollution haven. The mechanisms of capturing of the environmental spillovers are also not very well understood. There is a need for policies that prescribe how to better capture these spillovers and a need for policy recommendations of how to create incentives for generating more environmentally friendlier knowledge from FDI, such as environmentally friendly R&D activities and science and technology education.

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