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Article

# Revisiting the pollution-haven vs. porter hypotheses: Empirical evidence from Nigeria

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**Abstract:** Since the 1970s, the role of trade liberalization and foreign direct investment in promoting environmental sustainability has been a hot topic in academics. While some research supports the Porter hypothesis, others support the pollution-haven hypothesis. Accordingly, this study aims to determine whether the pollution haven hypothesis holds by examining how trade openness and foreign direct investment affect Nigeria's environmental sustainability for the period of 1981 to 2021. By deploying the dynamic ordinary least square (DOLS) estimation technique, the study outcomes indicate that trade openness and foreign direct investment have a negative and significant long-term effect on Nigeria's greenhouse gas emissions. Therefore, the results of this study support the Potter hypothesis, which holds that emerging nations become centers of advanced and cleaner technology as a result of trade liberalization and foreign direct investment. As a result, the study suggests that the Nigerian government should support the creation of compressed natural gas (CNG) stations and the switch to CNG-powered vehicles. The Nigerian government can also promote investment in the green energy industry by offering tax holidays and other benefits to companies in this field. Furthermore, there should be a widespread public education campaign on the threat posed by global warming and the necessity of planting trees to mitigate the effects of climate change and discourage tree-cutting.

**Keywords:** trade; environment; foreign direct investment
**JEL Codes:** F18; F21; P33

## 1. Introduction

The impact of trade liberalization and foreign direct investment on environmental sustainability has been hotly debated since the 1970s [1]. While some researchers support the Porter Hypothesis (PH), others argue for the Pollution Haven Hypothesis (PPH). The debate intensified in the 1990s as a result of the establishment of organizations that promoted trade openness, including the World Trade Organization (WTO), the United Nations Conference on Environment and Development (UNCED), the Uruguay Round of the General Agreement on Tariffs and Trade, and the North American Free Trade Agreement (NAFTA) [2]. The school of thought that supported the pollution haven hypothesis claimed that because developed countries have strict environmental regulations, developing countries, which are known for their lax environmental policies, become hubs for pollution from trade and foreign direct investment. In the meantime, the school of thought that supports the Porter Hypothesis contends that stringent environmental regulations in developed nations benefit developing nations through trade liberalization and foreign direct investment as these nations become the destination for cleaner, more advanced technology that preserves the environment.

By definition, foreign direct investment (FDI) is the process through which a national investor acquires a sizable share in a company operating in another nation. Foreign direct investment, as opposed to stock market investments, concentrates on long-term investments in companies where the investor actively manages the business and owns at least 10% of the company's shares [3]. Conversely, trade openness quantifies the proportion of a nation's GDP that comes from its total imports and exports. Trade openness is essential for capital accumulation, knowledge transfer, and the diffusion of technology from industrialized to developing nations. Similarly, FDI plays an important role in stimulating the economic growth of a country through capital provided by international investors. FDI inflow promotes economic growth since it can increase the stock of real capital, enhance knowledge and technology transfer, and widen global commercial networks [4]. Over the last ten years, Nigeria has seen a notable decline in trade openness and foreign direct investment despite the crucial role that FDI and trade openness play in the prosperity of developing nations. **Figure 1** below illustrates how Nigeria's foreign direct investment (FDI) fell sharply after reaching an all-time high in 2011. Similarly, **Figure 2** below demonstrates that since reaching its peak in 2007, trade openness has been steadily declining.

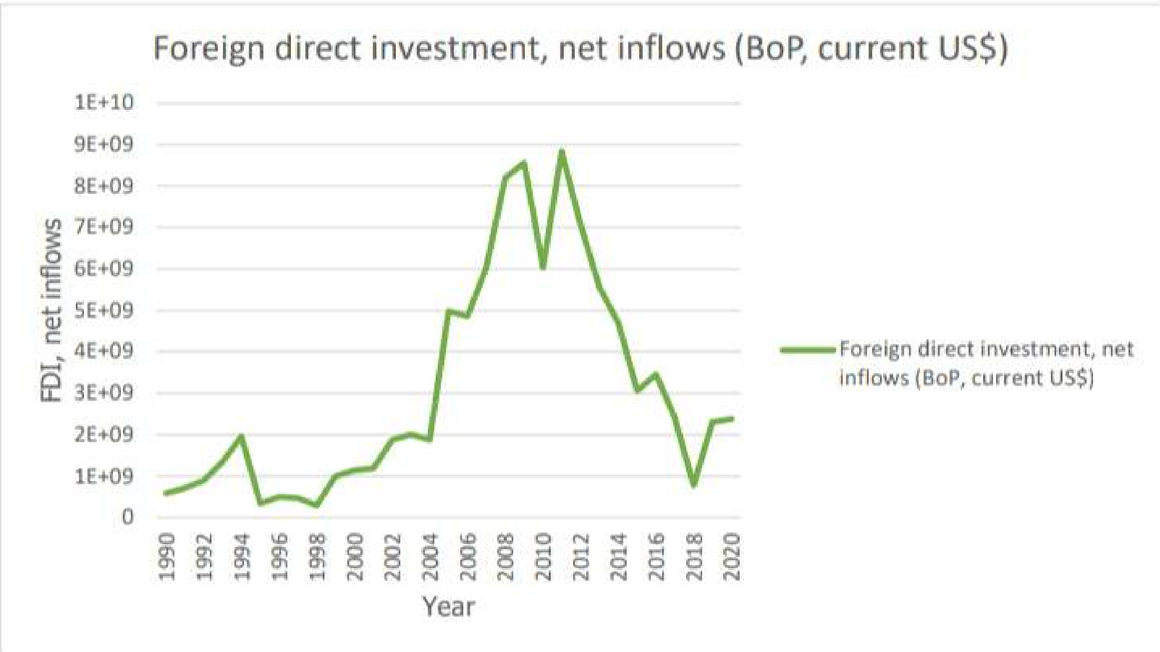


**Figure 1.** Foreign direct investment inflow in Nigeria.
Source: Authors' construct using data from World Development Indicators (WDI).