

1. Research outline diagram

Outline your research proposal using graphs, charts or other visual aids in the box below.

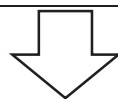
Research Subject	Effects of Foreign Trade and Foreign Direct Investment on Integrated Pollutant Discharge: Empirical Evidence from Vietnam
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Since the implementation of the open-door policy in the late 1990s, Vietnam has made significant progress in economic development, characterized by strong economic integration and flows of foreign direct investment (FDI). The annual GDP growth rate was 7.5% during 1990-2004, and reached 8.5% in 2007. At the same time, the volume of trade increased sharply, accompanied by a dramatic increase in FDI inflows from US\$ 0.34 billion in 1988 to US\$ 21.48 billion in 2009 (Anwar & Nguyen, 2011). Foreign trade and FDI have been considered as the main driving force behind Vietnam's rapid economic growth. However, the rapid expansion of foreign investment and trade is also associated with the deterioration in the quality of the environment, which is mainly manifested by a sharp increase in a number of different types of pollutant discharge in Vietnam. According to a survey conducted by Vietnam Environment Administration, in 2009 the total solid waste generation was 28 million tons, including 6.88 million tons of industrial solid waste (MONRE, 2011b), which was 1.7 times and 2.6 times higher than the figure for 2003, respectively. The total amount of solid waste was estimated to increase to 44 million tons in 2015 (MONRE, 2011b). The problem of air pollution is worsening with 0.66 million tons of sulfur oxides, 0.61 million tons of nitrogen oxides, and 6.8 million tons of carbon monoxide released annually in Viet Nam (MONRE, 2011a). Recognizing the weak environmental regulations in Vietnam, substantial concern has been raised over whether or not the expansion of trade accelerate environmental degradation due to less stringent standards. Additionally, that manufacturing sector accounts for 60% of FDI (Hung et al. 2008) also raises alarming questions about environmental impacts of FDI in Vietnam. Thus, a clear understanding of the impact of trade and FDI on the integrated pollutant discharge is of paramount importance, especially when developing policy interventions to improve the quality of trade and FDI expansion. Therefore, Vietnam can achieve the goal of sustainable development, while reducing the ecological footprint of economic activities.

The increasing deterioration of environmental quality has stimulated a growing number of studies investigating the environment problem in Vietnam. Previous papers, however, mainly approach the issue from a technical view, focusing on assessing its effects on living conditions of community and technological solutions to address the problem. Meanwhile, the empirical evidence on the relationship between foreign trade, FDI and the level of pollutant discharge is rather limited. Therefore, this proposed study aims at fulfilling this research gap by empirically assessing the impact of foreign trade and FDI on the environment which is indexed by the situation of pollutant discharge in Vietnam.

Research questions

1. How to calculate a comprehensive index representing the pollutant discharge situation in Vietnam?
2. Does the expansion of trade and FDI lead to an increase in the level of pollutant discharge in Vietnam?



Expected outcomes and contributions (2 international publications)

1. The first comprehensive indicator of pollution in Vietnam, which can be utilized for studying the case of other developing countries.
2. This proposed research provides an empirical analysis of the impact of foreign trade and FDI on integrated pollutant discharge in Vietnam, which allows the formulation of policy prescriptions relevant to Vietnam.
3. This research will test the cross-country environmental model within Vietnam, contributing to a clearer understanding of the relationship between economic growth and the environment