

# 「污染庇護所」之檢定 ——貿易自由化與環境管制之探討\*

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貿易自由化使一個環境管制較為嚴格的國家更專業於較為乾淨產品的生產，且增加污染性較高產品的進口，並將污染性產業移到國外去生產，進而改善國內的環境品質。自 1990 年以降，台灣對外貿易逐漸開放，國內的產業結構和貿易型態產生了很大的改變，本文的主要目的是探討台灣的貿易自由化是否將污染性產業移轉至較為落後國家生產，亦即檢定「污染庇護所假說」。本研究利用 1991 年至 2003 年期間台灣製造業二欄位產業別的 panel data，分別以固定效果和隨機效果模型進行實證，藉以探討環境管制對貿易型態的影響。實證顯示環境管制越嚴格的產業其進口和淨進口比率均越高，顯示過去十多年來我國的產業結構已朝向較為乾淨與污染性較低的型態。另外，在 1990 年代貿易管制逐漸減少，進口稅率的降低，高污染密集度產業的進口比率亦增加，不過這個「間接污染庇護所」效果並不顯著。我們進一步將各產業的進口來源區分成由 OECD 國家和由非 OECD 國家進口，發現不論是對 OECD 國家或對非 OECD 國家貿易，污染程度越高的產品其進口比率均較高，但只有在由非 OECD 國家進口方面的環境管制變數係數是顯著的。很顯然地，非 OECD 國家已經成為台灣高污染性產品的庇護所，而且隨著貿易的自由化、進口稅率之降低，台灣由非 OECD 國家所淨進口高污染性產品的比率也越高，但由 OECD 國家所淨進口高污染性產品的比率卻是減少的，貿易自由化的污染庇護效果在不同的貿易對象產生不同的效果。

關鍵字：污染庇護所假說、貿易自由化、環境管制、污染防治成本

# Examining the Pollution Havens Hypothesis: An Evidence on Trade Liberalization and Environmental Regulations

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## ABSTRACT

With trade liberalization, countries with strict environmental regulations can steer away from polluting industries and put greater emphasis on cleaner industries. They increase the import of the higher polluting products and move the polluting industry abroad, whereby improves their environmental quality. In this regard, Taiwan's trade regulatory policy has been gradually opened since 1990 and its domestic industrial structure and trade pattern have been greatly changed. The main purpose of this paper is to examine whether Taiwan's polluting industries have been transferred to production in the less developed countries while Taiwan itself goes toward liberalized trade. This assumption has been called the ***pollution haven hypothesis***. We use the 2-digit industry-level panel data of Taiwan's manufacturing from 1991 to 2003 to study the effect of environmental regulation on trade patterns by regressing panel fixed and random models. The evidence demonstrates that the stricter

environmental control the industries are under, the higher import portion they have. It shows that Taiwan's industrial structure has already moved toward the cleaner and lower polluting pattern in the last ten years. In addition, the import of polluting-intensive industries increased with the decreasing import tariff, yet this "indirect pollution haven effect" is not significant. When we separate the import of each industry by OECD countries and non-OECD countries, it is significant that the polluting industries have higher import portion in the regression for the non-OECD countries. Obviously, the non-OECD countries have become the haven of Taiwan's high polluting industries. With the trade liberalized and the import tariff reduced, Taiwan increases the net import of the higher polluting products from the non-OECD countries, while decreasing that from OECD countries. And there are different outcomes for different Taiwan's trade partner in the effect of trade liberalization on pollution havens.

**Key Words:** pollution haven hypothesis, trade liberalization,  
environmental regulations, pollution abatement costs