

# **Pollution Haven Hypothesis or Factor Endowment Hypothesis: Theory and Empirical Examination for the US and China\***

**Umed Temurshoev†**

CERGE-EI\*\*

## **Abstract**

This paper examines how free international trade affects the environment in the developed and less developed worlds. Using input-output techniques, tests of the pollution haven hypothesis (PHH) and the factor endowment hypothesis (FEH) for the US and China were empirically carried out. We found that China gains and the US lose in terms of CO<sub>2</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions from increased trade, and the US is not exporting capital intensive goods. Thus both the PHH and the FEH are rejected, which implies that explaining the trade of pollutants remains an unresolved puzzle.

## **Abstrakt**

Tato studie zkoumá, jak volný mezinárodní obchod ovlivňuje životní prostředí v rozvinutých a méně rozvinutých zemích světa. Testy hypotéz znečišťovacího ráje (PHH) a faktorového vybavení (FEH) byly provedeny empiricky pro USA a Čínu pomocí input-output technik. Zjistili jsme, že z rostoucího obchodu získává Čína, kdežto USA ztrácí co se týče emisí CO<sub>2</sub>, SO<sub>2</sub> a NO<sub>x</sub>. Kromě toho USA neexportuje kapitálově náročné statky. Tím pádem jsme obě hypotézy zamítli, což mimo jiné znamená, že mezinárodní obchod s emisemi zůstává nevyřešenou hádankou.

**Keywords:** International trade, Environment, Pollution haven, Factor endowment, Inputoutput analysis

**JEL Classification Codes:** F18, Q32, D57

\* I am indebted to Prof. Erik Dietzenbacher for his very helpful comments and suggestions. I am grateful to Mingtai Fan, Michael Lahr and Kakali Mukhopadhyay for providing necessary data. I thank Lawrence Smith for editing the paper. The work was supported by the CERGE-EI / World Bank Fellowship. All errors are mine.

\*\*A joint workplace of the Center for Economic Research and Graduate Education, Charles University, and the Economics Institute of the Academy of Sciences of the Czech Republic.

Address: CERGE-EI, P.O. Box 882, Politických vězňů 7, Prague 1, 11 21, Czech Republic.

Email: umed.temurshoev@cerge-ei.cz

†Faculty of Economics, University of Groningen, SOM Research School, PO Box 800, 9700 AV Groningen, The Netherlands. E-mail: u.temurshoev@rug.nl