



TRADE PATTERNS IN MAN-MADE FIBERS: AN APPLICATION OF THE EXTENDED TECHNOLOGY GAP MODEL

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The objective of this study is to investigate international trade patterns in man-made fiber industries using extended technology model. Hufbauer (1966) suggested the technology gap theory to explain man-made fiber industries. In his theory, a country where technical innovation occurs will export to other countries until innovation occurs in these countries. An innovating country with large production facilities can maintain its export advantage through economies of scale. Once the production technique is known, low wage countries can take export advantage due to low production costs. The extended technology model in this study includes domestic textile production to find the linkage effect between fiber export and textile production.

The sample consisted of 20 major exporting countries and the time periods concerned were 1977, 1982, 1987, and 1992. There were data for four industries-nylon, polyester, acrylic, and cellulosic fiber industries. The dependent variable was a country's exports. The independent variables were the imitation lag, economies of scale, wage rate, and domestic textile production. OLS regression was used to analyze the data.

Economies of scale and domestic textile productions are significant in three time periods while imitation lag is significant in two time periods. These results imply that the country who has economies of scale in production and can take advantage of linkages in the fiber-textile complex will increase the exports in man-made fibers. The wage rate is not shown significantly, which means the man-made fiber industry still depends on technology gap trade. The results of this study will be of use to industry analysts as well as to trade policy analysts who are concerned with changing trade patterns and factors affecting such changes.

Hufbauer, Gary C. (1966). Synthetic materials and the theory of international trade. Great Britain: Wheatsheaf.

Miller, R. I. (1982). Linkages: Missing link in world competitiveness. Textile World 132(2), 38-40.