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Tax-motivated transfer pricing and US intrafirm trade prices[☆]

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Abstract

This paper analyzes monthly data on US international trade prices between 1997 and 1999 in order to investigate the impact of tax influences on intrafirm trade prices. Results indicate that there is substantial evidence of tax-motivated transfer pricing in US intrafirm trade prices. There is a strong and statistically significant relationship between countries' tax rates and the prices of intrafirm transactions. Controlling for other variables that affect trade prices, as country tax rates are lower, US intrafirm export prices are lower, and US intrafirm import prices are higher. This finding is consistent with theoretical predictions regarding tax-motivated income shifting behavior.

Keywords: International taxation; Transfer pricing; Intrafirm trade

JEL classification: H87; F23

1. Introduction

Approximately 40% of all US international trade is intrafirm trade, or international trade that occurs within the firm. This paper utilizes monthly data from the Bureau of Labor Statistics (BLS) on international trade prices in 1997, 1998, and

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1999 to undertake an empirical investigation of US intrafirm trade prices. It finds important differences in the behavior of intrafirm trade prices when compared with arms-length trade.

Most importantly, the use of this hitherto unutilized data set allows for a direct test of the influence of tax-motivated income shifting on US intrafirm trade. Multinational firms can effectively shift income to more lightly-taxed locations by manipulating transfer prices on intrafirm transactions. There is a large literature that has considered indirect evidence of transfer pricing (see Hines (1997) for a review), relying on statistical relationships between country tax rates and affiliate profitabilities or tax liabilities. However, this is the first comprehensive study to consider *direct* evidence of how the prices of intrafirm transactions differ from those of non-intrafirm transactions.[1]

The paper finds evidence of tax motivated income-shifting that is consistent with theoretical expectations and robust to different approaches and specifications. As country tax rates are lower, US intrafirm international trade transactions exhibit lower export prices, and higher import prices, than non-intrafirm trade transactions. This is consistent with theoretical expectations regarding multinational firms' tax-minimizing behavior. These results are found using both statutory and effective tax rates as explanatory variables, and controlling for other influences that may affect trade prices.

2. Background

2.1. The behavior of intrafirm trade

It is useful to first discuss the theoretical reasons why one might suspect that intrafirm trade prices would be influenced by tax motivations. Following Horst (1971) and Kant (1995), one can produce a simple model that generates the prediction that intrafirm trade prices will be affected by the tax minimization strategies of multinational firms. Consider a multinational firm with some degree of market power that is operating in two countries. It produces and sells in each country, and also exports part of its output from the home country (1) to the affiliate abroad (2).[2] For now, assume that the affiliate is fully owned.[3]

Profit functions for operations in the two countries are given by the following equations:

[1]There are, however, two less comprehensive studies that use price data. Lall (1973) considers pharmaceutical import prices in Colombia. Bernard and Weiner (1990) consider oil prices between 1973 and 1984.

[2]It is straightforward to extend this model to consider trade that originates in the affiliate country. One can also consider this trade to be in intermediate products without affecting the basic insights developed here.

[3]The implications of relaxing this assumption are considered in Kant (1995) and briefly discussed below.