

# Product Bundling, Joint Markups and Trade Liberalization

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## Abstract

Product bundling is a frequent practice of multi-product firms used to increase firm-level profits. This paper examines how product bundling affects a firm's markups at various levels in international trade. Joint pricing decisions for product bundling pose a challenge in previous methods to estimate markups. Utilizing the linkages across prices in firms' profit maximization problem, I propose a method to estimate transaction-level markups incorporating multi-product firms' decision to bundle products. Focusing on Chinese exporters, multi-product firms that bundle products enjoy markups that are roughly 40% higher than firms without product bundling. The markup premiums that bundling firms enjoy are driven out partially when competition increases due to China's WTO accession.

*Keywords:* Joint markups, multi-product firms, product bundling, consumer valuation estimation, trade liberalization, pro-competitive effect

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