## Product Variety in Vertically Related Markets with Multiple Distribution Channels

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## **Abstract**

This paper discusses the retailer's variety order when facing the manufacturer's future encroachment. We develop a multi-product model with a vertical structure wherein the tailers order the variety(ies) of wholesale products from a manufacturer. The manufacturer may also employ a direct distribution channel by encroaching upon the resale market. We show that when the encroachment is inevitable, to deter the manufacture's encroachment with multi-products, the retailers may order one variety instead of many so as to induce the manufacturer's encroachment with one variety. The retailers thus benefit from a more mitigant competition. Moreover, in deterring the manufacturer's encroachment, one retailer may free-ride on the other retailer's effort. It is also possible that the retailers coordinate to make the deterrence mode more efficient.

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