

# Collusion under Product Differentiation

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## Abstract

*Real-world collusive agreements may not necessarily account for all the firms that are active in the cartelised industry. Often, cartels are formed by asymmetric firms offering differentiated products. This paper endogenizes the process of cartel formation and stability in a model where firms are asymmetric in marginal costs and produce vertically and horizontally differentiated products. The sustainability of collusion has been checked in an infinite-horizon, repeated game framework. Applicable to our setting, the two firms considered here, make decisions with respect to either restricting the quantity produced or the side payment made by one firm to another or both. The ability of firms to collude in making the above mentioned decisions is significantly impacted by the differentiability of the firms' product(s). For this, firms follow punishment strategies and we assume to follow Grim Trigger Strategy. Our findings suggest that for a given degree of horizontal product differentiation and higher levels of relative quality differences (net of marginal cost), cartel formation requires the more efficient firm to advance an optimal side payment to the less efficient one. In contrast, no such side payment is needed to necessitate formation of a cartel when this quality difference between the products begins to fall. .*

Keywords: Cartel Stability; Horizontal and Vertical product differentiation; Cournot competition.