

Abstract: In vertically related industries, antitrust agencies have a concern about the possibility that vertical integration facilitates collusion among upstream firms. However, at least theoretically, it is well known that vertical integration has two opposing effects on collusion. Vertical integration reduces integrated firms' incentive to collude by weakening punishment that unintegrated firms provide, because integrated firms continue to supply their downstream affiliates even in a punishment phase. On the other hand, vertical integration increases unintegrated firms' incentive to collude by reducing the number of outlets that they can supply when they deviate from collusion. This paper examines empirically whether vertical integration facilitates collusion among upstream firms, using the Japanese cement and concrete industries. The effect of vertical integration on collusion among cement firms is partially identified in the following two steps. First, the informative interval on the collusion probability is derived based on cartels detected by Japan's antitrust agency. Then, the lower and upper bounds on the effect of vertical integration on the collusion probability are identified. The estimated bounds indicate that vertical integration in the industries facilitated cement firms' collusion.