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# Cartel Stability: Determinants and International Evidence

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**Abstract** This special issue examines empirically the determinants of cartel formation, stability, and duration with the use of international evidence. Levenstein and Suslow examine the US experience; Zhou considers the problem of recidivism in cartel formation in Europe; Ghosal and Sokol examine both US and European experience with a focus on US policy changes; and Feinberg et al. analyze a recent entrant into strong antitrust enforcement: South Korea.

**Keywords** Cartel stability · International antitrust · Antitrust policy

Although Industrial Organization economists have studied the topic of cartel stability for many years [going back at least to Stigler (1964), Posner (1970), and Hay and Kelley (1974)], the relatively recent enforcement innovation of "leniency" or "amnesty" programs—which have spread worldwide over the past several decades—has led to more focus on the impact of these programs. However, while the effect of leniency on cartel stability is no doubt important, the broader topic of the determinants of cartel formation, stability, and duration remains of interest, and that is what is examined in this special issue of the *Review of Industrial Organization*.

As US-style antitrust has expanded to the rest of the world, it is important to evaluate evidence on cartel characteristics in other countries, so as to confirm that common determinants apply. The articles in this issue bring international evidence to bear on the topic.

First, however, it is worth considering some basic determinants of cartel stability and duration. These can broadly be grouped into several categories: (1) factors that

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affect the profitability of collusive activities relative to independent behavior; (2) factors that affect the difficulty of organizing and monitoring cartel members; and (3) government detection and prosecution [which of course could also be considered as part of category (2)].

Under the first category, inelastic demand implies a large gap between the collusive/monopoly price (and profits) and the competitive/independent levels; however, good proxies for this are often difficult to develop. More ambiguous is the effect of demand growth, which would increase both collusive and (at least short-run) competitive profits. What can be said is that we should expect differences across industries in incentives for cartel activity, and one might expect categories of industries (e.g., consumer versus producer; homogeneous versus differentiated) to matter.

The second category is more amenable to measurement: Numbers of actual and potential cartel members, the characteristics of certain cartel members that may help in enforcing an agreement (e.g., a foreign firm's role, asymmetries in firm size), and the geographic scope of the market in question may all be relevant in predicting cartel stability.

Finally, government detection and prosecution of cartels (which is often termed "enforcement")—measured in terms of changes in laws and penalties—would be expected to influence cartel duration. The factors that are considered here would include the levels of fines (and jail sentences) that are imposed, as well as the evolution of leniency/amnesty policies that are now prevalent in all major antitrust regimes.

If we turn to the articles that follow: Levenstein and Suslow examine the US experience, while Zhou considers the particular problem of recidivism in cartel formation, with the use of European Commission data. Ghosal and Sokol examine both US and European experiences, while Feinberg et al. analyze a recent entrant into strong antitrust enforcement: South Korea.

Levenstein and Suslow analyze 50 years of US price-fixing cases; they focus on time-varying determinants of cartel breakup. Using a hazard model approach, they find that proxies for firm rates of time preference and leniency policy implementation have the anticipated impacts: Financial indicators that suggest greater impatience and the adoption of leniency/amnesty policies both led to a higher likelihood of cartel collapse.

One issue that has not received much attention is that of recidivism in cartel activity, and the extent to which antitrust enforcement plays a role.[1] Zhou analyzes firms that were involved in more than one European Commission anti-cartel case, and examines the impact of enforcement in one cartel case on the delays with respect to a firm's entry into or exit from a "neighboring" or similar cartel. Specifically, he finds that an intervention in one case delays the relevant firm's entry into another cartel and hastens the decline of a second cartel—which is consistent with expectations.

[1] Marvao (2016), however, does examine how recidivism in cartel activity paradoxically tends to increase the extent of penalty reductions that are achieved through the EU Leniency Program.

Ghosal and Sokol look at the historical patterns of both US and European anti-cartel enforcement, though they focus on the US. They find several distinct policy regimes for the US, with differing characteristics of the annual numbers of cases, and of the magnitude and nature of the penalties that have been imposed. The more recent period has involved fewer cartel prosecutions, but far higher criminal sanctions on both firms and individuals; the explanation seems largely policy-based rather than due to political factors.

Finally, Feinberg et al. examine Korean anti-cartel cases from 1989 through 2013, so as to explain determinants of reported cartel duration. Their most robust result is that that the expected fine imposed (per month, per firm) seems to be viewed as a cost of collusion—limiting duration—while foreign company involvement in cartels generally has played a "ringleader" role in promoting greater cartel stability (though perhaps less so in recent years). The anticipated effect that a larger number of participating firms reduces cartel duration is often found, though that result is not always statistically significant.

The convergence of similar factors relevant to cartel stability across economies is not surprising given the increased interconnectedness of national economies in the WTO-era. As antitrust or competition policy has been adopted world-wide, data are becoming available on the impacts of these policies in countries other than the "usual suspects"; and economists should make use of these data in examining the validity of hypotheses that are related to oligopoly behavior.

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