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## Thinking outside the box: calculating damages

### REFLECTIONS ON MAJOR CARTEL CASES IN AUSTRALIA

*Explicit agreements among competitors that fix prices are illegal – and for good reason. If the collusion is successful, prices will be higher and output lower. But cartels are not always very successful. How can the effects be determined and the detriments measured? Frontier Economics has advised both plaintiffs and defendants in several recent cases in Australia where significant damages from cartel activities were sought or paid. This bulletin examines two major cases, looking at the challenges in modelling the effects of the cartels.*



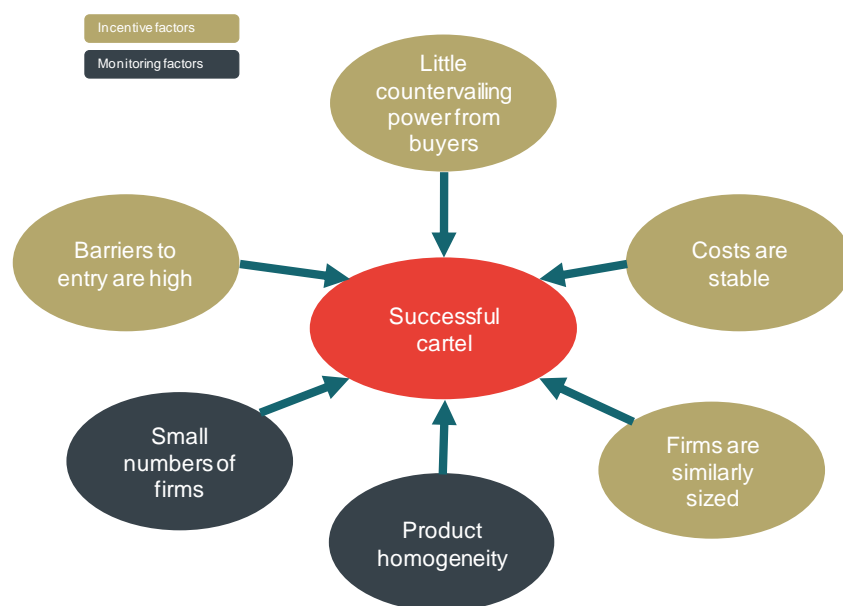
Australian competition law is enforced by the Australian Competition and Consumer Commission (ACCC) and the Federal Courts. The Courts have the authority to impose pecuniary penalties on cartel members when a cartel is discovered. Two of the highest fines in Australia for cases of this sort were in relation to vitamins – totalling A\$26 million - and cardboard boxes - A\$36 million.<sup>1</sup> In addition, the customers who were charged the inflated prices can form a class action and sue the cartel members for the damages suffered. On 10 March 2011, a class action led by Jarra Creek Central Packing Shed, which originally sought more than A\$1 billion in damages from cardboard box manufacturers, was settled out of court. The Federal Court hearing outlined a settlement sum of A\$95 million plus all costs. This is the largest payout for victims of a price-fixing cartel in Australia.

## MEASURING SUCCESS

Evidence that a cartel existed provides sufficient grounds for prosecuting firms. However, for damages claims, evidence that the cartel was *successful* is imperative.

While we often assume that collusion is in a firm's interest, cartels are often unsuccessful because there are powerful incentives for individual firms to cheat on the cartel. If the cheating firm can steal business by charging a little less than the agreed collusive price, it may well sell many more units with close to the monopoly profit margin on each unit.

So what determines a cartel's success? There are many potential factors. Some relate to the ability of firms to monitor each others' conduct, which is required to ensure agreements are being adhered to. Others change the balance of incentives to defect from or commit to the cartel. Some particularly important factors are highlighted in Figure 1. Rarely will they all be present at once.



This list of factors only gives a broad feel for likely cartel success in any one case. Ultimately, for damages claims, each case requires a careful analysis of the available data – making the estimation of damages caused by a collusion an empirical matter. Generalisations, whether from theory or from other empirical research, are of little help.

At this point the role of quantitative economic analysis becomes critical. Different techniques can be applied and models developed to estimate the effects of a cartel, and to quantify the size of any damages. Generally, the first step is to estimate what price would have prevailed in the absence of the cartel arrangements, known as the “but-for” price. This may be done in different ways, reflecting market characteristics and data availability. However, the vagaries of the real world make this task complex.

## CHALLENGES

In the cartel cases mentioned, what were some of the challenges Frontier faced in estimating “but for” prices?

- *Prices could be higher for reasons other than the cartel.* Changes in supply and demand conditions, unrelated to the cartel arrangements, could lead to higher prices during the cartel period and should therefore be included in the model. In the vitamins case, for example, we controlled for the effect on prices of the movements in exchange rates. Selecting only *relevant* price drivers, however, is imperative; otherwise the damage estimates will be misleading. To ensure that the included control variables did not lead to spurious results (i.e. that we did not wrongly infer causality from correlation), we modelled prices in a vector error correction framework. This modelling technique allowed us to account for the factors, other than the cartel arrangements, which had a genuine effect on the vitamin prices.
- *Major technological change could confound the effect of the cartel.* In the cardboard box case, the start of the cartel coincided with the opening of the defendant’s new kraft mill. Changing from recycled fibres to virgin (kraft) fibres increased the quality of boxes, but also had an effect on their cost. Ignoring this change in product mix, or limiting the analysis to recycled products only, would have led to biased estimates of the cartel effect. Our approach was to develop a cost variable that reflected the changes in operating costs over time brought about by the major change in the defendant’s product line.
- *Market conditions before a cartel’s commencement might not have been competitive.* It cannot be taken for granted that firms operated in a competitive environment before the cartel’s commencement. Measuring damages from an unrealistic base period (e.g. a period characterised by excessive competition which could not have been sustained in the long run) will lead to biased estimates of damages. In the cardboard box case, we showed how sensitive the results were to the selection of the base period; varying the base period by a single year changed the damage estimates by several multiples.

- *Affected products could be heterogeneous, making it difficult to generalise about the cartel effect.* In the cardboard box case, the defendant supplied a wide range of products, with product differentiation limited not only to physical characteristic of boxes (e.g. board grade, size, printing requirements), but also the provision of ancillary services (such as equipment and finance). Our approach was to use a “fixed effects” model. This model allowed us to estimate the change in prices over time, while controlling for differences in products for different customer.

Meeting the challenges that arose in estimating damages required the sound application of economic principles as well as the use of a variety of data analysis and modelling techniques. In addition, since the analysis was subject to challenge by the other side’s experts, it was vital for us to have a thorough understanding of any potential pitfalls in applying the various techniques.

## CONCLUSION

Litigation is always complex, and a cartel damages class action case is no exception. For such cases, the success of the collusion in raising prices must be proved because cartels are not always successful. Therefore, the critical issue in settling damages cases is reaching an agreement on what prices would have prevailed absent the collusive arrangements.

The textbook scenario of a perfectly competitive industry becoming a monopoly under a cartel would give us simple answers about the effects of a cartel that all would agree on. Unfortunately, these textbook scenarios are as common as Harry Truman’s one-handed economist! Thankfully, there are tools and techniques that enable us to deal with the vagaries of the actual context in which the cartel operated and to develop realistic estimations of its effects.

## NOTES:

- (1) *ACCC v Roche Vitamins Australia Pty Ltd and Others* totalling \$26 million (\$15 million to Roche, \$7.5 million to BASF and \$3.5 million to Aventis); and *ACCC v Visy Industries and Others* totalling \$36 million (all borne by Visy).

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