The Adverse Effects of Government Actions Against Cartels

Alan Moran
Julie Novak
Executive summary

Government intervention against cartels is seldom effective and sometimes counterproductive. Competitive firms may conspire to push up prices and profits, but this is difficult to achieve for a lengthy period of time. Firms have different costs, market prospects and objectives and price or market share agreements break down because of:

- ever-present incentives of the members to ‘cheat’ on their rivals by gaining market share through surreptitiously undercutting the agreed prices;
- the prospect of new entrants being attracted into the market by the high prices.

Instability of cartels has been shown in international markets for diamonds, coffee, freight liner shipping, mercury, electrical equipment, and many other industries. Some anti-cartel actions by competition authorities have backfired resulting in reduced levels of competitive rivalry. In this respect, an analysis of 25 cases in the United States showed that average prices of industries for indicted cartels actually increased after antitrust prosecutions.

Cost savings are often a goal of cartel participants and to the extent that these are achieved they may result in lower prices or better service. This is best seen with shipping cartels (“conferences”) where independent firms pool resources to economise on booking office costs and to ensure regularity of services.

Problems emerging from competition policy measures to combat inter-firm agreements are illustrated with the Australian cardboard box and petrol retailing industries.

Price increases during, before and after the alleged Visy/Amcor cardboard box cartel conspiracy (2000-2004) were significantly less for paper box container products than for pulp and paper products overall. After the end date of the alleged conspiracy, the products’ prices rose moderately. This perhaps reflects the cartel having been a veil behind which one of the two firms, Visy, disarmed its rival’s competitive response while continuing to seek to win market share.

In the case of petrol retailing, after the ACCC’s successful prosecution in late 2004 of independent petrol retailers in Ballarat, movements in petrol prices became more subdued and a number of the indicted retailers exited the industry. It is doubtful that this outcome was welcomed by the competition authorities, though it is difficult to assess if prices increased compared with those that might have prevailed under more active competition.

These examples and the vast literature on the behaviour of firms illustrate that intrusive government competition policy action is rarely an effective antidote to private arrangements designed to suppress commercial rivalry. Government measures that prevent and remove barriers to market entry and avoid imposing regulatory costs are the most effective means of ensuring low prices and other beneficial competitive outcomes.

The Commonwealth Treasury’s January 2009 Discussion Paper – *Meaning of ‘understanding’ in the Trade Practices Act 1974* - canvases measures designed to make it easier for the competition authorities to secure successful prosecutions of “understandings” that have a purpose or likely effect of substantially lessening competition.

The Treasury Paper responds to proposals by the ACCC following its failure to secure judgments in its favour in two cases concerning petrol retailing. The actions by the ACCC in those cases are shown
in this paper to have been intrusive and probably counter-productive in bringing about lower prices in non-metropolitan petrol retailing.

The powers of the ACCC in respect to prosecution of cartels are already excessive and have imposed unnecessary costs on Australian businesses. In seeking to further amplify those powers the proposed measures are moves towards reversing the onus of proof and replacing it with guilt based on suspicion. The paper suggests that guilt should be allowed to rest on an inference of a collusive understanding based on firms being observed to have acted in a similar manner. Such an approach was lampooned by Gleeson CJ in Rural Press vs ACCC when he pointed out, “If you open the door of a cage and all the mice leap it and head for the cheese, that does not mean they have an understanding.” Applying a test to firms that follow each others’ price setting up and down could result in endless and harmful litigation arbitrarily conducted by the regulatory agencies. In some cases, like fresh produce markets, where prices shift by the half hour in response to actions of market leaders, demand surges and other factors, litigation could be directed against those traders who most clearly epitomise fierce competition.

The proposal by the ACCC, as canvassed by Treasury, should be firmly rejected. It would give excessive power to the ACCC which in its litigatory zeal has a record of acting in misleading ways. Even if the ACCC were to be reformed into a more dispassionate analytical agency, the amendment it proposes would seriously deplete the meaning of the rules of evidence which are a cornerstone to the notions of law and individual liberty.

About the Authors

Dr Alan Moran, Director of the IPA's Deregulation Unit, is an economist who has made a specialty of regulatory matters, in particular covering energy, global warming, housing, transport, and competition issues. He has written three books on these matters delivered dozens of addresses and had over a hundred press articles published. Dr Moran has worked in a range of positions with the Federal Departments of Trade and Industry and Commerce. He headed up the Commonwealth's Business Regulation Review Unit within the Productivity Commission. He became the Research Director of the Tasman Institute (now ACIL Tasman) in 1990 where he worked on privatization and environmental economics. He joined the Victorian Department of Agriculture, Energy and Minerals, in 1994 as Deputy-Secretary of Energy.

Julie Novak is a Research Fellow with the Institute of Public Affairs. She has previously worked for Commonwealth and State public sector agencies, including the Commonwealth Treasury and Productivity Commission, and was previously economic advisor to the Queensland Chamber of Commerce and Industry. Julie has written over a dozen papers, articles and opinion pieces on issues ranging from social services reform to the philosophy of Friedrich Hayek.
Introduction

It is conventionally assumed that cartels cause significant economic damage, because they comprise a group of firms supplying similar goods or services which agree to refrain from acting in a competitive manner against each other. This could manifest itself in a number of ways, including price fixing, market sharing or supply restrictions. According to ACCC chairman Graeme Samuel, ‘cartel behaviour is, in reality, a form of theft and little different from classes of corporate crime that already attract criminal sentences.’

However, the nature of cartels, their durability and abilities to ‘price gouge’ are controversial matters in the industry economics theoretical and empirical literature. This paper examines the empirical data and case studies regarding the effectiveness of cartel arrangements, and the effect of competition policies in markets adjudged to be cartelised.

Cartel effectiveness

The conventional view aligns with the proposition that firms have every incentive to collude so that prices and profits are raised. Many invoke the father of modern economics, Adam Smith, who famously stated that ‘people of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.’ Legal matters aside, the reason they have not habitually done so are several fold.

First, every firm has a different cost base, a different set of market prospects and different ambitions. The lack of an identical shareholder base means firms will break agreements they reach when they no longer suit them and will do so in a clandestine manner where that pays off better. In addition, the firms’ markets change and evolve.

Firms will however have particular incentives to engage in forms of collusion where costs are falling with each increment of production – a not unusual condition in manufacturing industry. The economist’s model often assumes firms offer goods at their marginal costs but that competitive forces drives up prices so that all but the highest cost producer make adequate profits. In practice, pricing at full cost and above the marginal cost of production is normal. Even so, there is considerable attraction in discount pricing some portion of output if the firm is able to disaggregate the market and insulate the discounted part from other competitors. This would allow the winning of profitable business at the expense of a competitor.

Such actions often lead to price wars but we seldom move to a beggar-thy-neighbour level where marginal cost pricing becomes the norm. Game theory helps explain this. A business knows that if it starts charging at marginal costs and wins a larger share of the market its competitors will retaliate in kind resulting in a prolonged period of low prices. Moreover, it will often find it difficult to insulate the discounted output from other sales and will therefore see its own profit cannibalised.

Price wars are however not unusual. They often emerge from a period of reduced demand where the competitors are jockeying for the diminished market. The current economic downturn is already seeing profit margins being reduced across a range of industries as prices are trimmed.

Of course, if firms were to habitually price at marginal cost, the outcome would be massive price variability. Low marginal cost based prices would give way to very high prices as financially distressed firms exited the market; this and the resulting increased demand would call forth new
production causing prices to tumble again. Such patterns sometimes are seen in markets where outputs are heavily traded at spot prices. However the resultant price volatility is seldom in the interests of buyers or sellers and they will normally contract for future delivery at prices that reflect full costs rather than marginal costs. Hence the usual situation is prices that reflect full costs.

It is well known in the economics literature that cartel arrangements are fragile. As noted above, there are ever-present incentives for cartel members to ‘cheat’ on the arrangement, by gaining a greater share of the market and larger profits by undercutting the cartel’s price. The incentives to do this are all the greater where collusion has boosted prices. This and shifting costs and market aspirations on the part of the firms involved often brings an increase in the difficulties in coordinating a cartel, thereby further diminishing its prospects for long term stability. Finally, the stability of a cartel can be affected by market conditions, such as reductions in demand or the entry of other firms.

It is perhaps because of such considerations that Adam Smith in spite of his opposition to cartels (which in his era were trade guilds) went on to counsel against intervention by the authorities saying ‘in a free trade an effectual combination cannot be established but by the unanimous consent of every single trader, and it cannot last longer than every single trader continues of the same mind.’

As is illustrated below, economic history is strewn with cartel failures on account of their inherent instability.

**Diamonds**

The global diamond cartel controlled by South African company De Beers is an example of how conditions can undermine cartel stability. In the 1930s, De Beers established a central selling organisation (CSO) to influence prices through supply limitations. The CSO regulated the market through a network of ‘sightholders’, or hand picked producers of rough diamonds and dealers of finished diamonds, who were permitted to purchase unfinished diamonds at fixed prices. Those sightholders who refused the diamonds on offer were decertified by De Beers, with new sightholders selected.¹

The CSO arrangement enabled the De Beers syndicate to control, at one stage, at least 90 per cent of the world supply of rough diamonds. However, the cartel share had declined to about 45 per cent in 2004. This was driven by the exit of key market participants from the CSO, including the diamond entrepreneur Lev Leviev who sourced diamonds directly from Russia and Angola, and Australian producers in 1996 (with diamond production dominated by Rio Tinto).² The discovery of diamonds in Canada, and their distribution outside of the CSO, also weakened the global diamond cartel.³

Consumer demand had also changed over time, with the diamond market declining relative to other luxury goods despite ingenious marketing by De Beers in the past (for example, through its ‘diamonds are forever’ campaign). Government regulations tracking the origin of stones exported, in an effort to curtail the global sales of so-called ‘blood diamonds’, also affected the De Beers supply network.

The De Beers syndicate no longer sets the world market value of diamonds or decides who can manufacture and sell them. In effect, the cartel arrangement has been abolished. The company more

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³ Erez Yoeli, 2006, ‘Diamonds are De Beers’ Best Friend: The collapse of the world diamond cartel’.

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Free people, free society
recently adopted a strategy focused on selling its own branded diamonds in a more competitive market, as well as investing in exploration and new mines.4

**Coffee**

Another example of a longstanding cartel arrangement that could not withstand changing market conditions is that of the international coffee cartel.5 The International Coffee Organization (ICO) operated a quota system from 1962 to 1989, when member countries failed to agree on the distribution of quotas. The entry into the global coffee market of emerging nations, such as Vietnam, as well as an output glut played a major role in breaking down the cartel.

Coffee producers attempted to revive a cartel in 1993, forming the Association of Coffee Producing Countries.6 However by 2001 the cartel collapsed as declining coffee bean prices made it difficult for producers in poorer countries, particularly in Africa, to pay cartel member fees. The failure of certain members to comply with set production targets also contributed to the collapse.

**Liner shipping**

Liner shipping in many countries has been characterised by collusive arrangements, called shipping conferences, in some cases since the nineteenth century. These are formal arrangements of shipping lines operating on a route, that engage in either fixing prices, pooling profits or revenues, limiting supply or allocating routes. In a 1992 study, Fox measured the effect of the number of firms in a conference and its market share on freight rates.7 She found that freight rates fell when the conference market share falls, but also fell when the number of conference members rises. This result is consistent with the theory (first propounded by Stigler) that increased numbers in a cartel increase the cost of coordination and through it the risk of cartel failure.8

Shipping is in fact a highly contestable industry comprising hundreds of competitors. Liner shipping cartels (“conferences”) represent an attempt by different firms to organise regular sailings without risking too much exposure by one firm to a particular set of end points. Some conferences specify rates but where these are set above the costs, new players are attracted to the business and, within the cartel some members offer secret discounts etc. Companies’ price stipulations seldom have a long duration where excessive prices are set.

**Mercury**

MacKie-Mason and Pindyck (1987) referred to cartel arrangements in the international mercury industry from 1954.9 High prices struck by the cartel encouraged new entrants into the overall industry, and so after 1965 the cartel’s share of world output declined. The formal structure of the cartel was maintained, but it had a negligible impact in terms of an ability to raise prices above the competitive level. A renewed attempt at cartelisation was made in 1975 incorporating countries representing up to 80 per cent of global production, however ‘the new cartel was unsuccessful.’

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**South African cement cartel**

Leach (1994) studied the behaviour of the South African cement price fixing cartel, and the effect of antitrust prosecution on the industry. He describes the grounds upon which cartels may be efficiency-enhancing: ‘it is well known that cartels for monopoly are notoriously unstable … The longevity of these [cement] cartel arrangements suggests that they may be explained by reasons for efficiency and not by monopoly.’

Contrary to conventional notions, Leach found that free entry was possible in the South African cement industry which in turn implied that ‘no obvious monopoly rents are being earned.’ Yet, since supply and demand conditions were unstable in the cement industry, ‘large efficiency gains’ could be secured ‘from the price stability (and implied supply assurance) that a cartel can provide.’ Leach argued that ‘by stabilising price, a cartel is able to reduce uncertainty, thus allowing better planning, greater investment and assurance of supply. Reduced uncertainty thus brings about an increase in industry output and lower prices, not the decrease in output and higher prices predicted by the conventional cartel-for-monopoly theory.’

The cement industry showed modestly higher profitability (14.9 per cent) from 1982 to 1991, compared to the 13.9 per cent for manufacturing as a whole. Leach argued that this was not evidence of cartelised behaviour. Contrary to the notion that prices demonstrated monopolistic outcomes, Leach stated that ‘price increases … surely reflect increases in cost and not “abuse of market power”. It should also be noted that the … [official statistics] … do not reflect a range of discounts granted by the industry and the growing importance of cheaper blended cements.’

It was also found that the profitability of the South African cement industry was relatively modest. This led Leach to conclude that ‘the competitiveness of the South African cement cartel is ensured by the threat of domestic entry, the threat of imports and competition from substitutes.’

**US electrical equipment cartel**

Armentano (1990) examined in detail one of the most famous antitrust cases in US history, involving electrical equipment suppliers General Electric, Westinghouse, Allis-Chalmers, Federal Pacific, ITE Circuit Breaker and Carrier. Between 1956 and 1959, various representatives were charged with combining and conspiring to raise, fix and maintain the prices of insulators, transformers, power switchgear, condensers, circuit breakers and other electrical equipment. Official statistics showed substantial increases for various types of electrical equipment during the conspiracy period. However, these data masked the competitive practices taking place in the industry where, for example, switchgear was selling for as much as 45-50 per cent off the listed book price on occasions.

An examination of profit data from the four largest firms in the cartel by Armentano puts further doubt on the merits of the antitrust action. The conspiracy was alleged to have been in effect between 1956 and 1959, however the rates of return on capital and on sales were actually lower during the period of the alleged conspiracy than during the previous period (Table 1). Armentano suggested that ‘if the conspiracy were profitable, the price and rate of return behavior of some of the firms involved certainly does not reflect any great success. It will be maintained, instead, that the conspiracy was ineffectual from start to finish.’

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Table 1: Profits on capital and sales, electrical equipment antitrust case, per cent

<table>
<thead>
<tr>
<th></th>
<th>General Electric</th>
<th>Westinghouse</th>
<th>Allis-Chalmers</th>
<th>Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Profits on capital</td>
<td>Profits on sales</td>
<td>Profits on capital</td>
<td>Profits on sales</td>
</tr>
<tr>
<td>1950-55</td>
<td>20.5</td>
<td>5.9</td>
<td>10.8</td>
<td>5.1</td>
</tr>
<tr>
<td>1956-59</td>
<td>20.1</td>
<td>5.8</td>
<td>7.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>


Meta-analyses of cartel effectiveness

Dick (1993) explained that ‘industry cartels tend to be less stable, less recurrent and less likely to learn with experience than previous empirical research has suggested.’ Based on an examination of 111 cartel episodes over a fifty year period, the author finds that ‘studies of prosecuted and government-assisted cartels have tended to overstate average cartel lifespan and the frequency and stability of repeated collusion.’ Further, expired cartel arrangements tend to reorganise less frequently than the conventional literature assumes. This either reflects a breakdown in discipline on the part of cartel participants or where the cartel outlives its initial objectives.

It was also found that cartels do not grow more stable with tenure or experience, in other words becoming more susceptible to collapse over time. This is reminiscent of Stigler’s classic analysis that imperfect information and uncertainty threatens cartel stability by raising enforcement costs.

Green and Porter (1984) follow the Stiglerian analysis to suggest that price wars are a tool that cartels can use to promote stability. Specifically, cartel members refrain from cheating lest it provoke a price war among members. It has been suggested elsewhere that regular breakdowns in international sugar cartels were attributable to regular price wars between members. This contravenes the orthodox literature suggesting that cartels are a standardised conspiracy to raise prices.

In a survey article in 2006, Levenstein and Suslow examined the survival rates of cartels. They found studies which showed cartels surviving only up to 3.7 years; in one case, a cartel arrangement lasted less than one year. That said, the authors suggested that ‘it is difficult ... to pigeonhole cartel longevity ... cartel episodes may be long or short, or very long or very short.’ Other issues, such as the heterogeneity of firms, including those with dissimilar cost structures, as well as the number of firms in the arrangement can weaken the endurance and effectiveness of cartels (Table 2). As the authors suggest, ‘some cartels are very successful at increasing prices and profits, while others are dramatic failures.’

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14 Levenstein and Suslow, ibid.
Table 2: Causes of cartel breakdown in selected case studies

<table>
<thead>
<tr>
<th>Industry</th>
<th>Entry and Cartel’s Reaction*</th>
<th>Secret Cheating</th>
<th>War or Anti-Trust Prosecution</th>
<th>Technological Change</th>
<th>Other Bargaining Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Entry Occurred</td>
<td>Disrupted Cartel</td>
<td>Accommodated by Cartel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beer</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bromine</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Little</td>
<td>Yes</td>
</tr>
<tr>
<td>Cement</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diamonds</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Electrical Equipment</td>
<td></td>
<td></td>
<td>Yes</td>
<td>for turbines</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ocean shipping</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Parcel Post</td>
<td>Attempted</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Potash</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Railroad</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Railroad-Oil</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Rayon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Tea</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Entry indicates whether there was any entry during the period covered by the case study. “Disrupted cartel” indicates that there were instances in which the cartel responded to entry with punitive or predatory behavior. Entry which was followed by an invitation to join the cartel, but in which the firms could not reach a new distribution of quotas or rents, is classified as a *bargaining problem*, not an entry problem per se. “Accommodated” indicates that there were instances in which a new entrant was invited to join the cartel without a disruption in cooperative pricing. For the other columns, a “yes” indicates that such an event disrupted the cartel, not simply that it occurred. For example, there was technological change in the oil industry during the period of study, but that technological change did not disrupt collusion.

Regulatory effectiveness

It is also assumed that efforts to curtail price fixing arrangements by cartels by competition authorities always yield intended pro-competitive outcomes. The reality is that regulatory success cannot be taken for granted, with a number of high-profile cases revealing the counterintuitive impacts of cartel regulation.

US antitrust cases

Sproul (1993) studied the effects of antitrust prosecution on prices charged by firms indicted for price fixing. According to Sproul, if a cartel succeeds in raising prices then it would follow that prosecutions would lower them. However, if the cartel cooperated in areas such as advertising or R&D that saved costs then prosecutions could in fact raise prices.

In a survey of 25 cases between 1973 and 1984, average prices were found to rise to about seven per cent over the four years following an indictment (figure 1). As Sproul noted, 'there is little doubt that in the great majority of cases antitrust prosecution does not lead to lower prices. In general, an indictment for price fixing results in slightly higher prices.'

Figure 1: Effect of US antitrust indictments on average price

![Figure 1: Effect of US antitrust indictments on average price](image)


Sproul also found that prices rose even during investigations by antitrust authorities, but before the indictments took place. These findings led him to conclude that 'it would not be an exaggeration to say that the government has imposed antitrust laws, vigorously prosecuted them, and steadily extended their reach and severity, without every checking to see whether they work.'

US bread making cartel

In a study of the pricing activities of Bakers of Washington, a trade association of bakers based in Seattle, Newmark (1988) found that an antitrust indictment had no effect on the price of bread.\textsuperscript{16}

High prices between 1955 and 1964 were not attributable to price fixing, as was claimed by the antitrust authorities, but due to higher retail markups and labour costs as well as an above-normal rate of return along the west coast of the United States. Newmark suggests that ‘available information provides scant support for a regional collusion hypothesis. Explicit price fixing of bread was detected infrequently in the West [coast of the United States]. Seller concentration in western markets was not much greater than in other markets. And regression analysis indicates that seller concentration does not explain the western bakers’ higher price-cost margin.’

In 1964-66, the retail price of bread in Seattle declined relative to the US average price. This event has often been associated with the prosecution of Bakers of Washington by the FTC. However, Newmark found that prices for the leading brands of bread did not fall during 1965-66. Instead, ‘Seattle’s average bread price fell not because collusion ceased but because several inexpensive, lower-quality brands of bread began selling in Seattle during 1964-66.’ New entrants in the market also forced the leading bakers to change their marketing strategies in order to retain market share.

**Effectiveness of competition policies: Neoclassical and public choice perspectives\textsuperscript{17}**

As noted by Armentano (1990), price-fixing arrangements are tenuous and tend to break apart naturally in open markets. Therefore, the prohibition on any horizontal price agreement may encourage firms to create an alternative organisational structure, say, through a merger, which is less competitive than the activity prohibited. Prohibitions on price agreements may weaken the extent of non-price competition or cooperative behaviours that would otherwise lower costs and improve efficiency.

The empirical literature raises general questions about the effectiveness of actions by competition authorities. In a study of antitrust prosecutions of price fixing behaviours in the US, Asch and Seneca (1976) found that the authorities tended to target ineffectual cartels. The firms charged with participating in price fixing conspiracies were found consistently to be less profitable than a control sample of otherwise comparable firms not indicted. This led the authors to state that ‘the findings raise some question about the effects both of collusive conduct and of public policies to restrict such conduct.’

Asch (1975) examined antitrust case-bringing activities and found that they were not consistent with any particular hypothesis about the determinants of enforcement. Similar conclusions were found by Siegfried (1975) and McChesney and Shugart (1995).

The conventional consumer-welfare models fail to predict antitrust law enforcement activity, pointing to the notion that the enforcers of laws were motivated by something other than the welfare of consumers. According to public choice theory, antitrust enforcement activities are motivated by


political pressures unrelated to economic welfare. Firms could invest resources to help antitrust authorities to make prosecutions, for example, by supplying information of a possible law violation, to prevent price-cutting by aggressive rivals or to discipline a cheating cartel member. In other words, antitrust regulations can be characterised as a form of wealth redistribution.

A voluminous literature has been established pointing to the political drivers of antitrust authority actions, including Posner (1969), Stigler (1984), Baxter (1980), Faith, Leavens and Tollison (1982), Higgins and McChesney (1983), McChesney and Shugart (1995) and Shugart and McChesney (2007).
Two Australian case studies

As has been shown above, actions of competition authorities against cartels could have unintended consequences for competition within targeted industries. These issues with competition policy enforcement have also extended to a number of high-profile Australian cases.

The Australian cardboard box market

Compared to international standards, the Australian packaging industry is small and produces high-volume products at a low margin. It accounts for about 1 per cent of GDP, with industry turnover in the order of $11 billion. The packaging industry as a whole directly employs about 20,000 people.

The packaging industry comprises a range of producers and products (Table 3).

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Milk, other beverage and food</td>
<td>$1414 million</td>
<td>$744 million</td>
<td>$2024 million</td>
<td>$2993 million</td>
<td>$1665 million</td>
</tr>
<tr>
<td>Printed foil and film lamination</td>
<td>$467</td>
<td>$258 million</td>
<td>$584 million</td>
<td>$1013 million</td>
<td>$500 million</td>
</tr>
<tr>
<td>Electrical and electronic equipment, and automotive parts</td>
<td>135 units</td>
<td>51 units</td>
<td>38 units</td>
<td>58 units</td>
<td>425 units</td>
</tr>
<tr>
<td>Books and stationery</td>
<td>108 units</td>
<td>40 units</td>
<td>24 units</td>
<td>20 units</td>
<td>400 units</td>
</tr>
<tr>
<td>Tobacco</td>
<td>3600 units</td>
<td>2746 units</td>
<td>4700 units</td>
<td>3980 units</td>
<td>4580 units</td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td>3224 million</td>
<td>$171 million</td>
<td>$319 million</td>
<td>$312 million</td>
<td>$350 million</td>
</tr>
</tbody>
</table>


Two firms, Visy and Amcor, account for about 92 per cent of the paper/cardboard market, with Carter Holt Harvey, some smaller suppliers and imports accounting for the remainder. While the industry has been dominated by two firms, this has not meant an absence of competition. Though it has a small market share, some 4 per cent, Carter Holt Harvey is very strong in the fastest growing
similarly, there is a very rapid growth of imports at the cheapest end of the market for products like pizza boxes which are assembled on site.

In the 1980s the industry was marked by the emergence of Visy as the stronger firm seeking to take market share off its more established competitor. Visy, through cost cutting facilitated by new investment, had placed itself in a position to withstand a price war. Visy's share of the market rose to 46 per cent in 1999. Overall, prices of containers have been highly volatile over many years. The main groupings, corrugated paperboard and solid paperboard, have shown price changes that are highly correlated with those of paper goods in general, though trending below overall producer prices for manufacturing.

Between 1985 and 1992, the two packaging classes increased in price somewhat lower than general paper products and input prices in general. Between 1992 and 1999 the relative trends continued and again from 2000 and 2004 corrugated paper products rose at a rate lower than prices in general while solid paper containers continued to show no price increase (that is, showed a decline in real prices). This was the period during which the alleged cartel agreement between the two dominant suppliers, Visy and Amcor, was in operation. The long term trends of the two paper box categories and general pulp and paper products is derived from ABS data and shown below (Figure 2).

In a case led by the ACCC against Visy Paper Pty Ltd, the High Court found that the company had contravened Section 45 of the Trade Practices Act 1974 relating to alleged anti-competitive agreements struck with Amcor Ltd over the supply of corrugated fibreboard packaging. The ACCC alleged and the parties agreed that the conspiracy commenced between January and April 2000 and ended in late 2004. However, the prosecution and termination of the alleged cartel has not dampened prices.

Following the ending of all agreements on price and market sharing in 2004 prices have risen for corrugated products and continued to be flat for solid containers. That outcome is illustrated by examining the shorter term trends. Contrary to what might be predicted, following the termination of the agreement, prices actually rose (in nominal terms for solid paperboard and in relative terms
compared to the overall pulp and paper category). The data is shown in the following chart (Figure 3).

**Figure 3: Price indices for solid and corrugated paperboard products**

![Figure 3: Price indices for solid and corrugated paperboard products](chart1.png)

Source: Australian Bureau of Statistics.

Figure 4 shows price changes over the past 18 years. While prices for all manufacturing products have more than doubled over the period, the price increases for paper materials has been more attenuated by nature. In particular, since 1990 the general trend for these products has been stable.

**Figure 4: Prices for packaging and all manufacturing goods, 1985-2007**

![Figure 4: Prices for packaging and all manufacturing goods, 1985-2007](chart2.png)

Source: Industry Edge Pty Ltd.
Relative to general pulp and paper products prices both categories showed modest *increases* in price once the agreement was formally terminated at the end of 2004. This apparently incongruous outcome is unlikely to be due to the cartel actually having the intent of holding down prices. More likely it was due to the agreement representing an attempt by the weaker party, Amcor, to stem its progressive loss of market share to Visy. During the currency of the agreement Visy was clearly continuing to eat into the market of Amcor and was taking the latter’s more profitable customers: those that are geographically easier to service, have high volume and have a stable seasonal demand profile. The formal termination of the agreement appears to have been due to Amcor’s recognition of this.

In terms of market share, Industryedge, which gathers statistics for the sector, has estimated that from a near parity in market share between Visy and Amcor in 1999, by the end of the agreement in 2004 Visy had 55 per cent to Amcor’s 40 per cent and its increased market share trend has continued in the years since then.

**Ballarat petrol market**

Two recent cases concerning alleged cartel collusion in petrol retailing were Apco Services Station Pty Ltd vs ACCC (2006) and ACCC vs Leahy Petroleum Ltd & others (2007).

In the latter case the judge found the data collected by the ACCC on price exchange information and price setting did not provide the evidence in support of collusion that the ACCC claimed of it. Once the timing of the telephone calls between the alleged participants was measured against the price changes, the data showed that price changes often preceded the phone calls, which the ACCC contended were crucial in the cartel’s operations. The judge (Justice Grey) said, “the overall effect of the evidence ... is that it is more probable than not that none of the arrangements or understandings alleged by the ACCC in fact existed.” Indeed, with respect to the data collected, the judge said it was “at best equivocal, and in many instances more apt to refute than support the ACCC’s contentions.”

In late 2004, the ACCC won a price fixing case in the Federal Court against seven independent petrol retailers (Leahy Petroleum Pty Ltd, Triton 2001 Pty Ltd, J Chisholm Pty Ltd, Justco Pty Ltd, Apco Service Stations Pty Ltd and Balgee Oil Pty Ltd) in the Ballarat area. It was alleged that the corporate respondents, mainly small family-run businesses, were engaged in price fixing between June 1999 and December 2000.

During the time of the alleged price fixing arrangement, the Ballarat market was widely regarded as one of the more competitive retail fuel markets in Victoria. There existed a robust price cycle between the independent competitors who often reduced retail board prices to below wholesale prices. In 1999-2000 there were an average of between 40 and 60 price movements per month.

Subsequent to the price fixing case, all of the respondents other than Apco and Chisholm exited the industry. Even though Apco Service Stations Pty Ltd subsequently successfully appealed the initial finding that it colluded with its competitors to fix prices, several participants left the market. As at 2006, approximately ten sites that were previously owned by independent retailers are now operated by oil companies or by Coles Express. A current listing of petrol stations in the Ballarat area by Google shows only three of ten major service stations are owned by independent operators (Apco and United Petroleum). It is reasonable to expect that such an outcome would not have been anticipated by the ACCC.

There has also been a significant reduction in petrol price cycling. In 2006, there have been typically only one or two price movements per month. This subdued price movement effect has since been maintained. While it is not possible to conclude that this has brought higher prices, the outcome is doubtless not the competitive pattern that the ACCC would have been seeking.
A further issue raised from the Ballarat petrol case was that the ACCC originally sought a penalty of $11 million against Apco. According to the company, had this action materialised then it would have been rendered insolvent. This would have had the effect of further reducing competition in the Ballarat petrol market.

**Conclusion**

Returning to Adam Smith’s hostility to cartels (which in his day were trade guilds) and his counsel against draconian action by government, some basic guidelines can be set. Cartels regularly collapse under the weight of their own losses or through new entry, hence his caution readily applies to actions of the government’s competition authorities.

The key role of the state is to ensure competition remains open by denying businesses, and other organisations such as trade unions, the opportunity to prevent alternative supplies. It seldom makes sense for government to provide a more pro-active competition policy role whether this be fostering new suppliers, fixing prices or requiring firms not to cooperate with each other.

In fact, markets and the profit motive will always undermine agreements that result in excessive prices. They are far more effective than wire taps and a vast and intrusive bureaucracy, which can impose enormous costs on businesses and individuals and threaten individual liberties.