

Submission to the Trade Practices Act Review

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My submission is directed at two extant proposals for amendment to the Trade Practices Act:

v That the Act should be amended to allow criminal sanctions against firms that take part in price fixing:

“The Commission believes the time has come for serious consideration of criminal sanctions, including imprisonment, in relation to hard-core collusion... If the ACCC, as the competition law enforcer, is to effectively deter and properly punish this sort of behaviour in the future, it must follow the lead of several of our major trading partners and consider imprisonment as an additional sanction for executives who engage in these highly profitable, hard core breaches of the restrictive trade practices part of the Act, specifically, conduct that is caught by sections 45A (contracts, arrangements or understandings in relation to prices) and probably 4D (exclusionary provisions).” (Alan Fels, “Moving towards a criminal regime: ACCC proposals for criminal penalties for hard core collusion”, Competition & Consumer Protection Law Enforcement Conference, July 4-5 2002.)

v That the onus of proof should be reversed for some sections of the Trade Practices Act:

“The ACCC's submission reviews s.46's operation and says a reversal of onus of proof as to purpose would be preferable to the way current s.46 actions are proved before the courts. Such a change would mean that if corporation has a substantial degree of market power and has taken advantage of that power in an anti-competitive manner, it would have to show it did not use its power for one of the proscribed anti-competitive purposes.” (ACCC Press Release 20 February 2002 : “ACCC Supports Amendment to Misuse of Market Power Provisions of Trade Practices Act”)

As any lawyer is well aware, the imposition of criminal sanctions for an action should only occur if that action causes grievous harm, and that harm is intentional. The reversal of the onus of proof is an even more serious proposition, since one standard of the Common Law has been the presumption of innocence. Reversal of the onus could only be contemplated if innocence is almost certainly disproven by facts that cannot be disputed by the accused.

In order to decide whether to make these changes to the Act, this Review must therefore decide whether the evidence for the deleterious impact of collusive behaviour is so strong that it justifies criminal sanctions, and whether the indisputable fact of market power is sufficient to justify reversing the onus of proof in allegations of the abuse of market power.

In this situation, this Review is in an analogous situation to those legislators and judges who had to decide whether to the promotion of cigarette smoking by tobacco companies justified legal sanctions: it has to assess the evidence accumulated by the relevant

professionals—economists—that collusive behaviour and market power have significant deleterious effects upon the community (and that corporations are aware of these effects).

In the case of smoking, the evidence accumulated by medical researchers was overwhelming; and just as importantly, that evidence was assessed and found to be sound in a process of legal review via many court cases over many years.

Speaking as a professional economist, I have no doubt that the vast majority of my fellow economists are as confident of their case about the negative impact of collusive behaviour and market power on social welfare as medical scientists were about the causal link between smoking and cancer: I do not doubt the sincerity of their beliefs.

However, I also believe that if the courts subjected the evidence economists have accumulated to the same review they applied to medical evidence, the economic case would be judged insufficient. Far from justifying these proposals, the evidence would at best allow detailed case-by-case examinations of corporate behaviour, with no *prima facie* presumption that collusion or market power necessarily causes significant harm.

I can only briefly outline—and challenge—the economic evidence in a written submission, and I would welcome the opportunity to present the arguments below in more detail.

Briefly, the economic case can be criticised on two grounds: empirical evidence, and theoretical validity. Before I can outline the empirical case, I need to explain how economists believe that prices are set by competitive firms, and how this differs from price setting by firms with market power.

Price and Marginal cost

A key proposition in economic theory is that, ideally, the price charged for a product should be equal to the cost of producing the last item sold. Thus if increasing petrol output by one litre of petrol adds an additional 70 cents to the total costs of petrol production, the price of petrol should be 70 cents a litre. The firm makes no profit out of selling the last unit—its sale price equals its cost of production—but it makes money on the gap between 70 cents and the cost of producing all the previous litres.

This pricing policy—of setting price equal to the cost of producing the last unit sold, or “marginal cost”—is therefore only compatible with firms being able to make profits if the average cost of production is less than the cost of producing the last unit sold. The cost of producing the last unit sold, the marginal cost, must be greater than the average cost, and the average cost of production must also be rising.

If instead the cost of producing each additional unit did not change with output, then firms would make losses if price were equal to marginal cost. This is because the sale proceeds would not cover the firm’s fixed costs—the costs it has to incur simply to be in business, such as the costs of building a refinery. In this situation, average costs would fall as output rose, but would always be above marginal cost. Setting market price equal to marginal cost would send the firm bankrupt.

Economists firmly believe that the former situation is the typical case for most firms, while the latter is the exception, so that it is possible for most firms to price at marginal cost and still make a profit. This belief pervades all levels of economic practice, from introductory textbooks to OECD and Australian government officials, as the following representative quotes indicate.

Textbook:

“The competitive firm’s long-run supply curve is the portion of its marginal cost curve that lies above average total cost” (Gans, King & Mankiw, *Principles of Microeconomics*: 286)

OECD Working Paper:

“It is well known that competition brings about allocative efficiency gains by forcing price to converge to marginal cost” (Ahn, “Competition, Innovation and Productivity Growth: A Review of Theory and Evidence”, OECD 2002: 3)

OECD advisory body:

“Once price has been raised significantly above marginal cost, each oligopolist will have an incentive to shade its prices especially if it believes this will escape detection and retaliation.” (Committee on Competition Law and Policy, “Oligopoly”, 1999: 7)

“In addition to creating price differential problems, product differentiation can also foment dissension by causing firms to prefer different overall price levels, even if they have the same, but upward sloping, marginal cost curves.” (Committee on Competition Law and Policy 1999: 24)

ACCC Commissioners:

"Have these reforms delivered on their promises? Indications are that industrial and commercial customers benefited in the initial years from lower prices, especially in NSW and Victoria where electricity constantly traded close to the generators' marginal fuel cost." (Professor Allan Fels, 12 June 2000)

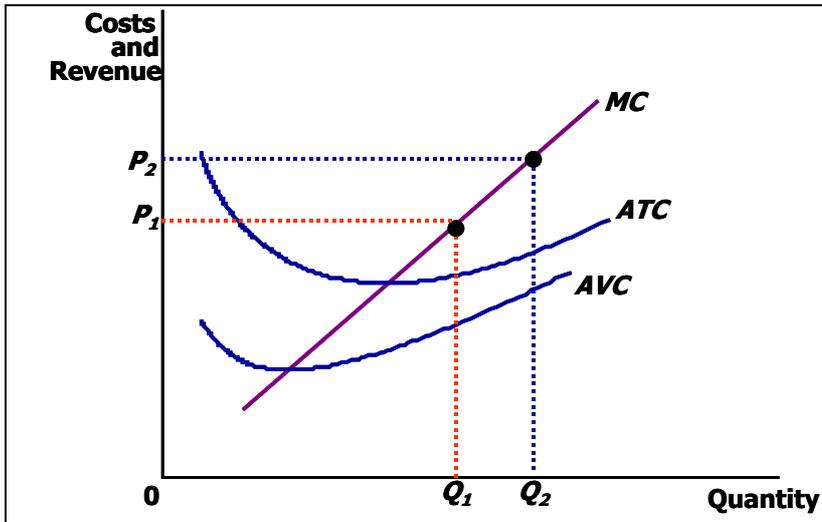
"At present spot market energy prices are set at reference nodes in each region. Prices between regions will vary according to the supply and demand of electricity in each region. While such prices will reflect the underlying supply and demand differences between the regional reference nodes, prices within the region do not reflect local supply and demand characteristics. Therefore, market participants in a given location within a given region will not face energy prices that accurately reflect the marginal costs of delivering electricity to that point. With efficient price signals masked, decisions by customers and generators become distorted." (Rod Shogren, 12 March 2002: 8)

The economic argument against monopolies—and, by extension, against collusive behaviour—is that their market power lets them set price above marginal cost. If these views about costs were justified, then the recommended changes to the Act would have merit.

Unfortunately, the empirical evidence does not support the economic belief about the cost structure that applies to modern corporations. Numerous studies have concluded that, for the vast majority of firms, marginal costs do not change with output, so that for the typical firm, the average cost of production exceeds marginal cost. The majority of firms therefore must set prices above marginal cost to avoid bankruptcy.

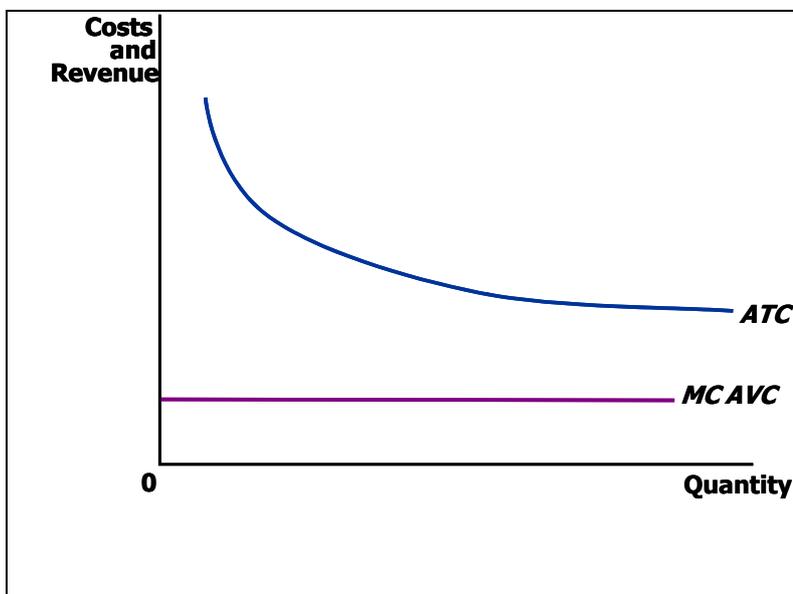
The most recent of the many empirical studies to reach this conclusion was conducted by, amongst others, Alan Blinder (Vice Chairman of the Board of Governors of the United States Federal Reserve System from June 1994 until January 1996). Their book *Asking About Prices* detailed the results of a structured random survey of 200 executives of US corporations that account for 7.6% of the USA's GDP. Over 88 per cent of the respondents indicated that their marginal costs “either declined or stayed constant with changes in output” (Downward and Lee 2001: 476).

Figure 1. Typical Economic Model of the Firm (Mankiw Figure 14.1); profits compatible with price equal to marginal cost



Similar studies abound in the last seventy years. One interesting study by Eiteman and Guthrie in 1952 involved showing factory managers a range of graphs, one of which fitted the model believed by economists where average and marginal costs rise (Figure 1). 5.4 per cent of respondents by corporation and 5.7 per cent by product (out of a survey of 316 firms producing 1020 products) selected this model as being representative of their industry. The remaining roughly 95 per cent chose graphs like that shown in Figure 2, in which firms would experience losses if price were set equal to marginal cost.

Figure 1. Costs as experienced by 95% of firms (Eiteman 1952); profits incompatible with price equal to marginal cost

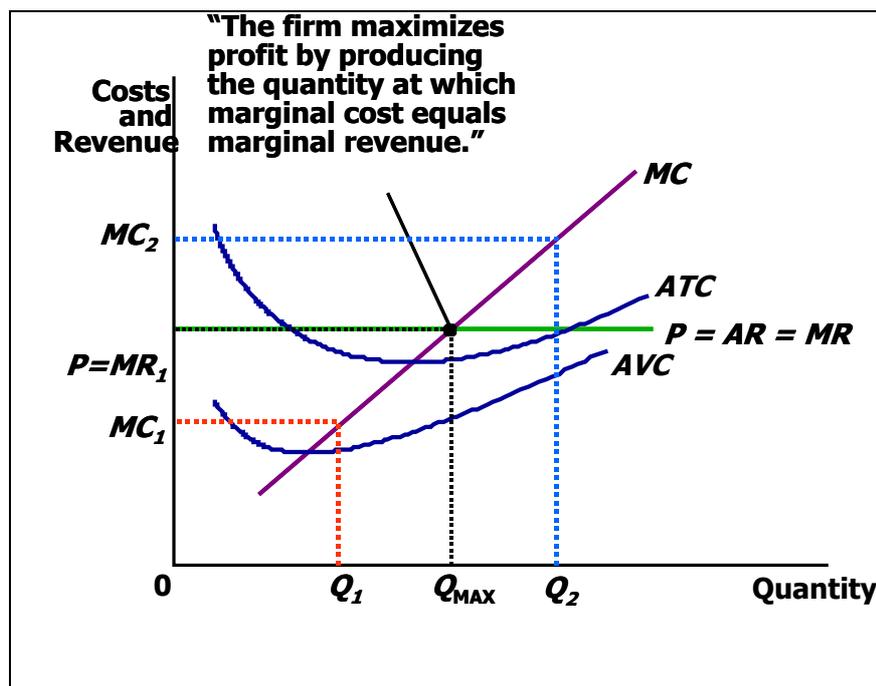


At the empirical level then, one of the key foundations of the theoretical economic argument against monopolies does not appear to be supported. This is because economists argue that competitive firms set price equal to marginal cost, whereas monopolies and collusive behaviour by oligopolies results in price being set above marginal cost. However, if the empirical evidence on the nature of firm costs is accepted, then all firms—regardless of

how many there are in an industry and whether or not they collude—must set price above marginal cost to avoid bankruptcy. Given that one attribute that economists argue distinguishes monopolies and colluding firms from competitive firms cannot apply in practice, the remainder of the economic argument against monopolies and collusion must be suspect.

However, economists pay little heed to this empirical evidence. One reason for this anti-empirical behaviour is that the empirical literature does not make sense in terms of the accepted theory of the firm and the market. According to this theory, firms in competitive industry can sell as much as they like at the prevailing industry price: they effectively face a horizontal demand curve, as shown in Figure 3.

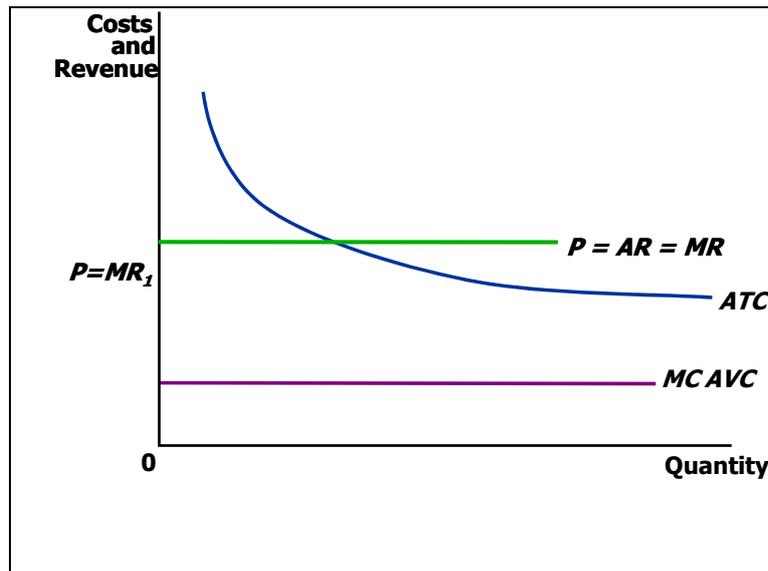
Figure 1. Economic theory argues firms in a competitive industry face a horizontal demand curve



If these firms had declining marginal costs, they would want to sell an infinite amount. Since in practice firms do not sell an infinite amount, economists conclude that there must be an error in the empirical evidence: though firms might believe they face constant or declining marginal costs, in fact they must face rising marginal costs. This is shown in Figure 4: if firms in general did face constant marginal and declining average costs, then every firm would want to produce an infinite amount, since the additional revenue earned from selling one more unit would always exceed the cost of manufacturing that unit, thus adding to profit. Since firms do not produce infinite levels of output, economists feel that the empirical data must somehow be wrong.

There is of course another alternative that this Review should consider: that perhaps the accepted economic theory of the firm is itself flawed.

Figure 1. With constant marginal costs, economic theory argues a competitive firm would want to produce an infinite output



Theoretical validity

This issue is the subject of new and continuing research which has not yet been subjected to peer review, so I will restrict myself just to research that is part of the literature.

The first issue here is the assumptions made by economists about the nature of firms and industries. The conventional model assumes that firms in an industry produce a homogeneous product, so that the only means of differentiating one firm's product from another is price. In the real world, firms in a given industry—say the automobile industry—produce a wide variety of products that fit the generic category of “automobile”. The main form of competition is not price but product differentiation, and the main constraint on a firm's sales is not its cost of production, but the difficulty of convincing consumers who are committed to another manufacturer's product to switch allegiance to theirs.

Firms tend to have substantial excess capacity, both because factories are built to have the ability to expand with demand over a number of years, and because excess capacity lets a firm react quickly when market conditions change, or when a competitor suddenly runs into difficulties. This excess capacity mitigates against the technical factor that economists believe causes marginal costs to rise, which is diminishing productivity as output expands.

Some economists have attempted to model this real-world situation (see Kornai 1979 and Kalecki 1937), and they have concluded that what constrains output is both rising costs of marketing (which is not a cost of production but a cost of distribution) and the rising debt costs associated with building a big enough plant to satisfy that level of demand.

The second issue is the economists' assumption that the demand curve facing the individual competitive firm is horizontal. Technically, this means that the change in revenue for a competitive firm that sells one additional unit is equal to the price of that unit. This is because the firm does not have to reduce the price at which it sells the previous units to sell the additional unit. The change in revenue is called “marginal revenue”, and to quote the most popular introductory economics textbook in Australia today, “For competitive firms, marginal revenue equals the price of the good” (Gans, King & Mankiw 2002: 280).

This proposition is erroneous, and was first shown to be so by the extremely influential economist George Stigler in the highly ranked journal the *Journal of Political Economy* in

1957. Using simple calculus, Stigler showed that marginal revenue for the competitive firm was less than price.

Stigler then attempted to re-interpret his discovery so that, in the limit as the number of firms in an industry rose, the conventional statement, while strictly false, became approximately true.

My new research indicates that Stigler's reinterpretation was erroneous, and his approximation process does not apply. This work however has not been published, so I will not include it in this submission. I note only the first point, that a belief that is still passed on to students and is held by most economists was shown to be false almost fifty years ago. This is not a good foundation on which to construct a penal code.

The now highly popular (with economists) area of game theory also provides arguments in favour of the economic *prima facie* argument against monopolies and collusive behaviour. In its simplest state, this theory argues that collusive behaviour lets firms select an agreed output level which equals the level a monopoly would produce, and thus restricts output below the competitive level while generating high profits for the colluders. However, competitive behaviour results in a "prisoners dilemma" in which the firms face individual incentives to "defect" into a situation that involves higher output and lower prices.

These results at the simplest level of game theory become more problematic at more realistic levels. Repeated games result in what economists allege is collusive behaviour dominating competitive behaviour. However it is also possible that what economists call collusion results from standard, non-collusive competitive profit seeking behaviour by firms.

Conclusion

Given the severity of the penalties and procedures being recommended by the ACCC to the Trade Practices Act, I believe it is incumbent upon this committee to either investigate in detail the basis on which economists support such extreme legislation, or to decide against recommending these changes at this time, pending further detailed examination of the issue in the future. Given the time constraints on the Committee, I believe that the second course of action is the only justified path.

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