Reflections on expert economic evidence

By Henry Ergas

I should note at the outset that I offer these comments from the perspective of an economist, and do not claim any real familiarity with the many complexities that seem to characterise the law of evidence, including its application to expert evidence. That said, economic evidence plays an important role in some areas of litigation, so it may be useful to consider, from the perspective of a practitioner, what it may or may not have to offer.

The purposes for which economic evidence is used

Economic evidence seems most frequently sought for four, somewhat different, purposes.

The first is that of providing an explanation of economic concepts as they appear in legislation, and most particularly in statutes related to economic regulation. Competition law, for example, relies on concepts such as a 'market', 'market power' and 'competition' that are terms of art in economics and whose application involves tools and methods that have been developed in economics. Courts that need to apply these concepts can benefit from access to understandable explanations of the underlying economic analysis.

A second purpose for which economic evidence is deployed is that of assisting in the application of those concepts to the relevant facts. While the concept of a 'market' is reasonably readily explained, the determination of the boundaries of the market in a particular instance can be complex. Equally, in cases involving price regulation, determining a 'reasonable rate of return' often involves difficult conceptual and practical issues whose resolution can greatly benefit from the evidence of financial economists.

A third purpose, that goes beyond the second in the range of evaluative considerations it involves, is that of providing an economic assessment and interpretation of a situation as a whole or of crucial elements within it. For example, a key component of section 46 of the *Trade Practices Act 1974* (Cth) ('the Act') is the notion of 'taking advantage of' market power. It has become common for economic evidence to be offered as to whether or not such 'taking advantage' has occurred, evidence which by necessity involves an economic evaluation of the relevant conduct as a whole. In practice, that evidence offers what amounts to an explanation of the conduct from an economic perspective and in the light of that explanation, assesses its pro- or anti-competitive nature.

A fourth and final purpose, about which I will say relatively little, is that of assisting in the assessment of damages. Central here is the use of economic models to determine the main parameters of a 'but for' world by reference to which a loss can be evaluated. While economists are heavily involved in the assessment of damages in North America (and to an increasing extent in New Zealand), loss assessments in Australia remain based on accounting, rather than economic, methodologies. Economists may play a part - for example, in setting out macroeconomic scenarios, or identifying the main features of industry demand and supply - but that part is still relatively limited in scope and significance.

The strengths and weaknesses of economic evidence

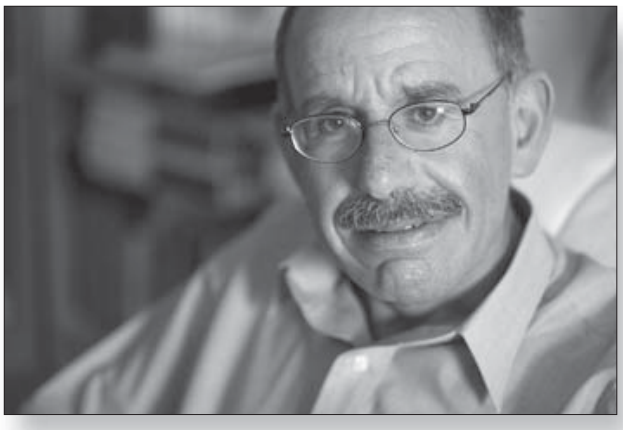
Set against these four purposes, economic analysis seems better placed to assist with some than with others.

In my experience, economists can, and usually do, make a substantial contribution to explaining the relevant concepts and to assisting in their immediate application - that is, to the first two of the purposes I have set out above. There may be disagreements as to precisely how a concept should be defined or applied, but usually, the areas of agreement are substantial relative to the range of points in dispute. I may come to the view that the relevant market is a Sydney-wide market for bread, while another economist believes that it is confined to Sydney's Eastern Suburbs and only includes rolls and bagels, but there are not likely to be material differences about the methods and facts that should be used in testing our respective views. Additionally, in most cases, the process of testing those views, and coming to a reasonable determination as to which opinion is most convincing, should be well within the capabilities of the judicial process.

Where matters necessarily become more complicated is when economists are called upon to make an evaluative assessment of entire courses of conduct. For example, in *Australian Competition and Consumer Commission v Baxter Healthcare Pty Ltd* [2005] FCA 581 (16 May 2005) ('Baxter'), was Baxter's conduct such that it would not or could not have been adopted by a firm that did not have a substantial degree of market power? To answer this question, an economist needs to develop an overall explanation of the conduct - a 'story' - that makes sense of a complex set of facts.

Those 'stories' are typically the verbal formulation of an economic model, where the term 'economic model' has a specific meaning. Such a model is a deductive structure, which starts from some elementary propositions as to the goals of identified economic agents and the resources at their disposal (including in terms of the range of actions they can take, the outcomes those actions can have, and the information on which each agent can draw). From those propositions the economist deduces courses of conduct that those agents will take, which are 'equilibria', where an equilibrium is typically defined as a situation in which no agent could do better by individually changing his or her behaviour, given some assumption about the behaviour of others. The identification of a course of conduct as such an equilibrium is then taken as an explanation of that course of conduct, in the sense and the resources at their disposal (including in terms of the range of actions they can take, the outcomes those actions can have, and the information on which each agent can draw). From those propositions the economist deduces courses of conduct that those agents will take, which are 'equilibria', where an equilibrium is typically defined as a situation in which no agent could do better by individually changing his or her behaviour, given some assumption about the behaviour of others. The identification of a course of conduct as such an equilibrium is then taken as an explanation of that course of conduct, in the sense that given the elementary propositions that underpin the model, it would be rational for agents to adopt that course of conduct.

A greatly simplified example may help. Consider a case where the issue is whether a 'meeting the competition' clause in a contract could have the effect or likely effect of substantially lessening competition, and hence contravening section 47 of the Act (and potentially section 46 as well). In thinking through that issue, an economist might draw on a model that runs along the following line:



- Assume that firm A (the firm that has engaged in the conduct) is a monopolist (the only firm that serves a particular market) but is faced with the threat of entry into its market by firm B, where for firm B to enter, firm B must make substantial investments that, once made, cannot be recouped should the firm choose to exit.
- Assume also that firm B can only be viable in the market if its unit costs are lower than firm A's, but that firm B does not know how low or high firm A's costs really are.
- In that event, it may be rational for firm A to persistently price below the monopoly level, *or* to intermittently set price very low, *or* to let it be known that it has entered into contracts which specify that should firm B come into the market, it will match firm's B price: this is because each of these forms of conduct can be taken by firm B to be a credible signal that firm A has low costs (since if it did not have low costs, it would be unprofitable for it to act in that way) and hence, will deter firm B from entering.

As a result, and given this analysis, the economist might opine that firm A's conduct - in entering into price-matching contracts - is *explained* by its desire to forestall competition, which implies that the conduct lessens competition, and perhaps substantially so. The model, and the opinion it led to, would then be set out in an expert witness statement in the form of a 'theory of the case' that elaborated on the chain of steps set out above.

A first issue this raises is whether such 'theories of the case', when advanced by an economist, are evidence, at least as conventionally defined (i.e., an assertion which, if true, increases the probability properly attached to a hypothesis) or rather, are a form of rhetoric. Without wishing to go into the legal questions this involves, it may be helpful to note the approach recently adopted to this issue by Allsop J. in *Australian Competition and Consumer Commission v Liquorland (Australia) Pty Ltd* [2006] FCA 826 (30 June 2006) where his Honour notes (at paragraph 842) that:

> The recognition of the place of expert economic assistance ...means that often the point of the expert opinion is to give a form or construct to the facts. It may appear to be an argument put by the witness. So it is. The discourse is not connected with the ascertainment of an identifiable truth in which task the court is to be helped by the views of the expert in a specialised field. It is not, for example, the process of ascertaining the nature of a chemical reaction or the existence of conditions suitable for combustion. The view or argument as to the proper way to analyse facts in the world from the perspective of a social science is essentially argumentative. That does not mean intellectual rigour, honesty and a willingness to engage in discourse are not required. But it does mean that it may be an empty or meaningless statement to say that an expert should be criticised in this field for 'putting an argument' as opposed to 'giving an opinion'.

Taking that as given, the 'argument' that is being put obviously needs to be assessed, both in terms of substantive correctness and in terms of the weight that can be placed on it. It is here that three important, but often not fully recognised, difficulties associated with relying on 'stories' of the type I have set out above become relevant.

The first is that the underlying models almost invariably rely on complex assumptions and are highly brittle relative to those assumptions - in the sense that small changes in the assumptions can reverse the modeled results. However, understanding these assumptions and the way they relate to the results usually requires a detailed understanding of the techniques used in this kind of analysis. For example, the price-matching model I have just described relies heavily on the way firm A thinks firm B interprets its conduct, the way firm B thinks firm A thinks firm B interprets its conduct, and so on.

Secondly, although the 'stories' are generally told as if the models yielded a single outcome (for example, it is rational for a monopolist to enter into price-matching contracts so as to deter competitive entry), in fact the models almost always generate multiple outcomes or equilibria. In the price-matching model, for example, it can be an equilibrium for the firm, instead of choosing a 'meet the competition' clause, to alternate probabilistically between low and high prices. It is not clear why one of those outcomes would have any particular status (in terms of being more likely) relative to the others.

Third and related, the mere fact that a model can be devised that generates particular conduct says nothing about whether, in the specific context at issue, that model is likely to be at work. For example, are A and B really engaged in a complex dynamic 'game', or are there other forces at work that occasionally lower A's costs? Is A's use of price-matching clauses really driven by a desire to deter entry or is it driven by the need to provide some degree of assurance to customers who enter into long-term purchase commitments that A, once it has those commitments, will not undercut them by offering better terms to those customers' competitors[1]? That a model can be constructed in which the effect of the clauses is to reduce competition neither eliminates these alternatives or helps to select among them.

This last point is of great significance, particularly in competition cases, and hence merits some elaboration. Three aspects of it are especially important.

First, as a matter of economic theory, it is possible to generate at least one model that 'explains' - in the sense specified above - any type of conduct. However, in and of itself, generating such a model tells us little about conduct, because we do not know whether it is that

model, or some other set of factors, that is actually giving rise to the conduct in any specific fact situation.

Second, this difficulty is accentuated by the fact that deductive economic models, especially those used in the competition area, are rarely subject to empirical testing. For example, we do not know whether, as an empirical matter, it is true that in circumstances that correspond to the assumptions of the simple entry-deterrence model set out above, we more frequently than not observe the conduct at issue and its associated harmful effects. Nor do we know whether, as an empirical matter, when we observe conduct such as that at issue, it is more often than not in circumstances where the assumptions of the model I have outlined (and its conclusion of harm to competition) hold. As a result, we cannot properly have any presumptions based on statistical likelihoods about the validity of the 'story' that has been advanced: we cannot, in other words, properly make any statements of the kind that say 'statistical analysis suggests that in 80 per cent of instances where we observe price-matching contracts, the effect is to deter entry'.

Third, given competing 'stories', at least as developed by competent practitioners, it is not usually possible to devise an empirical test that will adequately select among them in a particular fact situation, simply because there are too many variables and too few observations. While the economists may point to factors that seem 'more consistent' with one 'story' than the other, the inferences that can properly be drawn from those indications are usually very weak indeed.

In short, caution is needed in relying on economic evidence as a basis for inferring 'what it is that is happening here'. The kinds of models economists use can suggest possible explanations; but there are substantial risks involved in concluding (say) that a firm is acting anti-competitively merely because there exists an economic model in which conduct of that kind can be anti-competitive, or equivalently, that, because a competitive scenario can be constructed in which the conduct is not anti-competitive, it indeed is not.

The resulting tensions

This need for caution may seem obvious but it is far from being universally heeded. One significant factor here is the demands on economic analysis which have arisen from the interpretation placed on the 'taking advantage' limb of section 46.

At the centre of this interpretation is the so-called counterfactual test, which asks, in respect of the impugned conduct, whether that conduct could or would have been adopted by a firm that lacked a substantial degree of market power.[2] That test was most explicitly set out in *Queensland Wire*[3] where Mason CJ and Wilson J noted that:

> In effectively refusing to supply Y-Bar to the appellant, BHP is taking advantage of its substantial market power. It is only by virtue of its control of the market and the absence of other suppliers that BHP can afford, in a commercial sense, to withhold Y-Bar from the appellant. If BHP lacked that market power - in other words, if it were operating in a competitive market - it is highly unlikely that it would stand by, without any effort to compete, and allow the appellant to secure its supply of Y-bar from a competitor.[4]

In their Honours' view, BHP took advantage of its market power because it could not engage in the same conduct in a competitive market.

Dawson J likewise observed that the concept of 'take advantage of' requires comparison to a competitive counterfactual. Specifically, his Honour commented that:

> The words 'take advantage of' do not have moral overtones in the context of section 46. That being so, there can be no real doubt that BHP took advantage of its market power in this case. *It used that power in a manner made possible only by the absence of competitive conditions. Inferences in this regard can be drawn from the fact that BHP could not have refused to supply Y-bar to QWI if it had been subject to competition in the supply of that product.* BHP supplies all its other steel products without restriction and its practice with regard to Y-bar was not in accordance with its normal behaviour. If there had been a competitor supplying Y-bar, BHP's refusal to supply it to QWI would have eroded its position in the steel products market without protecting AWI's position in the fencing materials market.[5]

This approach then received further standing when it was endorsed by the Privy Council in *Telecom Corporation of New Zealand v Clear Communication Ltd*.[6] The key issue for the board was whether Telecom had 'used' its substantial market power ('use' being the New Zealand statutory equivalent of 'take advantage of' in relation to section 36 of the Commerce Act).

In concluding that Telecom had not so used its market power, the board said that the relevant test requires the court to:

> Consider how the hypothetical seller would act in a competitive market [but] attention must be directed to ensuring that (apart from the lack of a dominant position), the hypothetical seller is in the same position vis a vis its competitors as is the defendant ...
>
> ... it cannot be said that a person in a dominant market position 'uses' that position for the purposes of s36 unless he acts in a way which a person not in a dominant position but otherwise in the same circumstances would [not] have acted.[7]

Given this test, the court in section 46 proceedings is required to compare a factual world - in which the corporation has the substantial degree of market power needed for the section to apply - to a counterfactual world in which that power is absent. It is difficult to see how this comparison could be made without economic analysis,

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with the result that the task of devising and comparing factual and counterfactual worlds has become a staple part of the economic evidence adduced in proceedings under section 46.

However, this test probably asks both too much and too little.

It asks too much because in most cases it is not at all obvious that one could construct a meaningful counterfactual that abstracted from the features that give the firm its market power.

For example, both Telecom (in Telecom/Clear) and BHP (in Queensland Wire) operated in activities that involved substantial fixed costs and economies of scale - indeed, it was those features that caused them to have a substantial degree of market power. A world in which they lacked that power would necessarily be one in which those features were absent; but how could such a world - that removed the key elements of those firms' economic characteristics - usefully inform the interpretation to be placed on the conduct of firms which did have those characteristics? More specifically, why would the mere fact that absent those features, it would not be rational for a firm to do X or Y, imply that X or Y in some sense 'relied' on market power (rather than say, on the need to cover fixed costs and exploit economies of scale)?

At the same time, the test seems to do too little if it is interpreted as meaning that conduct that might be found even absent the market power is necessarily harmless. For example, it is all very well to say that the conduct in *Melway*[8] could reflect the protection of an efficient distribution system, but it would hardly provide a sufficient basis for an assessment of whether or not the section had been contravened if all that was being raised was a possibility (in other words, if there was no basis for concluding that the possibility was an actuality). Rather, what would need to be clear is that the conduct could reflect that objective and in *Melway* actually did. Many kinds of conduct can be found in competitive markets and if all that is needed to defeat a section 46 claim is to construct a competitive counterfactual in which a particular variety of conduct occurs, then the test would have as few teeth as it had economic meaning.

These difficulties notwithstanding, economists are commonly asked in section 46 proceedings to produce counterfactuals that cannot really be given a sound basis in economic theory. It is true that the High Court emphasised in *Melway* that counterfactual analysis must not be 'completely divorced from the reality of the market'; but quite what this means very much remains to be determined.

This is not a complaint about economic evidence as such, but rather about the current construction of section 46 and the issues it raises.[9] Nonetheless, the weight that has in some cases been given to implausible counterfactuals highlights the difficulties the courts face in properly testing economic evidence.

Testing economic evidence

There are, of course, many similarities between the forensic elements involved in testing economic evidence and those involved in testing other forms of expert evidence. That said, it is my impression that economic evidence does present some special challenges.

More specifically, it is in the nature of economic analysis, particularly when it is applied to complex problems, to rely on the kind of stylised deduction I described in respect of economic models. A relatively small set of assumptions, some of them highly technical in nature, are used to generate, by the repeated application of deductive processes, equilibrium outcomes. Few lawyers have the knowledge of economics required to understand either the lengthy chains of reasoning by which these outcomes are derived or their proper interpretation. Faced with that fact, economists tend to 'dumb down' the analysis into accounts that are little more than analogies to the underlying reasoning. While seeming to make the analysis more approachable, this risks further disguising the underlying assumptions and the specific nature of the dependence of the results on those assumptions.

One response to these risks has been the use of 'hot tubs' in which economists essentially question each other on the views they have presented. These 'hot tubs' can be useful, but they do have some important limitations.

To begin with, economists are not trained in, or at all familiar with, the forensic analysis involved in cross-examination, and rarely approach 'hot tubs' in a structured and systematic way. Additionally, the language in which economists assess each other's work is no less technical than that which underpins the analysis they undertake, and inevitably involves many terms of art, and references to the literature, which non-economists will find difficult to understand, much less assess. Moreover, 'hot tubs' are especially at risk of being dominated

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by those participants who are most confident or assertive - traits that may bear little relation to the merits of the analyses being presented. Finally, time constraints often mean that the discussion remains relatively superficial, further limiting its value.

Conclusions

Economic laws, such as the Trade Practices Act, rely on a number of concepts that are difficult to interpret and apply without extensive recourse to economic analysis. Expert economic evidence can be essential if that analysis is to be undertaken in a reliable way. However, the economic way of thinking has some unique features that create difficulties for the legal process.

Central among these is the fact that economics, uniquely among the social sciences, is an essentially deductive discipline, in which inferences are drawn from axiomatic reasoning. That reasoning itself involves long chains of analysis, often reliant on technical assumptions whose implications are not apparent from mere knowledge of the inference ultimately drawn. Those inferences are not usually intended as predictions or statements of likelihood; rather, they are the working out of the consequences of the assumptions originally made.

Accentuating the difficulties to which this gives rise is the fact that, especially in areas related to competition analysis, few of the inferences drawn from these models have been subjected to empirical testing on a scale sufficient to allow statements of likelihood to be made. Most of the model results are therefore statements of possibility, rather than of any kind of statistical tendency. Both understanding the results of these models, and assessing the relevance and weight to be attached to them, is therefore a challenging task.

Moreover, 'hot tubs' are especially at risk of being dominated by those participants who are most confident or assertive - traits that may bear little relation to the merits of the analyses being presented.

These difficulties will be most acute when economists are asked to provide an economic assessment of a complex fact situation - for example, to evaluate whether conduct would or would not occur in a competitive market; or whether a course of conduct is likely to lessen competition relative to the world as it might otherwise have been. These are questions economists may well be able to usefully address, but only if they can draw on theories and analyses that courts may find difficult to fully understand and properly evaluate.

Obviously, there are things economists can do to help address this problem - not merely through clarity of exposition, but also by carefully explaining the underlying thought processes involved in the analysis, and those processes' strengths and weaknesses. Equally obviously, however, matters would be improved were the legal profession in Australia more familiar with contemporary economics. Whether that will happen, and if so, how, is perhaps an interesting issue for further discussion.

1 Contrast, for example, Baker, J B 1996, 'Vertical Restraints with Horizontal Consequences: Competitive Effects of 'Most-Favoured Customer' Clauses', *Antitrust Law Journal*, vol. 64, pp 517-534, p528 with Hubbard, R G and R J Weiner 1991, 'Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Industry',3 *Journal of Law and Economics* 25-68.

2 See generally, Landrigan, M & Ergas, H, 2004, 'Not Another Article About Section 46 of the Trade Practices Act!',32 *Australian Business Law Review* 415 - 435.

3 *Queensland Wire Pty Ltd v BHP Pty Limited* (1989) 167 CLR 177.

4 n2, at 192.

5 ibid. at 202.

6 (1995) 1 NZLR 385.

7 ibid., at 403. The bracketed word [not] was inserted by the dissenting judges, Lord Scott of Foscote and Baroness Hale of Richmond, in *Carter Holt Harvey Building Products Group Ltd v The Commerce Commission* [2004] UKPC 37, para 74, noting that the omission of the word 'not' from the original judgment was an 'obvious mistake'.

8 *Melway Publishing Pty Ltd v Robert Hicks Pty Ltd* (2001) 205 CLR 1.

9 It is worth noting that similar issues frequently arise in proceedings under ss45 and especially 47, though perhaps in less acute form.